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University of Hawaii, Ph.D., 1976
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CONTROL AND CONSEQUENCE:
THE IMPLEMENTATION OF HAWAII'S LAND USE LAW

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN POLITICAL SCIENCE AUGUST 1976

By
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ABSTRACT

America is in the midst of a land boom. The consequences of this boom have raised important issues about the adequacy of the present practices by which the uses of land are managed.

At the center of this controversy is the structure of traditional land use control as administered by municipalities. Responding to "spill-over effects" of local land use management and to a variety of environmental and energy concerns, a number of states are reclaiming some land use regulatory authority previously reserved to local governmental units. At the national level, the Coastal Zone Management Act and the Federal Water Pollution Control Act Amendments are examples of the many pieces of national legislation that have important implications for land use planning and regulation. Taken together, changes in land use management at the local, state and national level are potentially so far-reaching as to constitute what has been called a "quiet revolution in land use control."

This "revolution" began in Hawaii. Hawaii enacted a state Land Use Law in 1961 that reclaimed land use authority that had previously been granted to the counties. Hawaii's fifteen years of experience with state land use control provide a useful context for examining some of the assumptions about land use management upon which current regional, state and federal reforms are premised.

Hawaii's Land Use Law was intended to preserve the state's prime agricultural land from urban encroachment and to prevent scattered urban subdivisions. The law divides the state into four districts:
Agriculture, Rural, Conservation and Urban. A nine member commission, appointed by the governor, reviews petitions by private landowners and state and county agencies to change the district designation of particular land units. The commission has adopted specific criteria to govern their decisions about the appropriateness of such redesignations.

The first portion of the dissertation focuses on the commission's urban growth policies in the period between the adoption of district boundaries and the revision of the law in 1975. The derivation of commission urban growth policies were based on an analysis of all petitions for which redesignation to urban use was requested—a total of 218 petitions. The decision criteria for each petition were coded on the basis of information contained in the docket. Discriminant analysis, a multivariate statistical technique, was used to identify the decision criteria that distinguished petitions that were approved from those that were denied or approved in part.

The analysis revealed that:

(1) Contrary to the explicit legislative purposes embodied in the Land Use Law, neither the high agricultural productivity of a land unit nor the possibility of promoting scattered urban development have been critical elements in commission policy.

(2) The critical element in commission policy has been to insure that there exists sufficient reserve areas of undeveloped land to accommodate new urban growth.
(3) A number of petitions--less than 10 per cent, but involving more than 5,000 acres--violated most of the Commission standards, but were approved either wholly or in party anyway.

(4) Certain "informal" criteria have been influential in commission decisions, occurring most frequently with respect to petitions which violated one or more key decision criteria.

The second portion of the analysis is based on the premise that the critical tests of the success of any policy are in the consequences of that policy. This portion of the analysis focusses on the commission's role in preserving prime agricultural land; in locating new areas for urban development; in dealing with environmental protection issues and in assuring the availability of low-cost housing.

The analysis revealed that the implementation of the law has substantially departed from legislative goals; that allocation among competing uses has been based on ad hoc considerations; and that state allocative authority over land use has proved to be a crude instrument for growth guidance and the achievement of social objectives such as low-cost housing.

Hawaii's fifteen-year experience with a state land use authority suggests that much more than centralization of control is required to deal with the problems of urban growth guidance, environmental protection and community development.
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CHAPTER I

Decisions about how land is to be used in Hawaii, like those made in other capitalist economies, involve private market transactions within a framework of governmental control. What makes Hawaii unique is that the amount of available public control under existing law that can be brought to bear on private market transactions is greater than in any other American jurisdiction of comparable size. At the top of the pyramid of control is the authority for direct state allocation of land among urban and non-urban uses.

This is a study of how that control has been exercised. Three major themes are dealt with here: land use, public control over land use and policy evaluation. The three themes are integrated in the examination of the implementation of state control over land use.

Land Use

Conflicts over the allocation of land among competing uses are a continuing theme in the changing patterns of social and political relations. Throughout recorded history control over land has been the moving force in many revolutions, the rationale for inter-tribal and international conflicts. In the United States, the current conflicts engendered by sprawling suburbs, polluted waterways, obstructed vistas and great gouges in the earth left by strip mining are but the latest chapters in a history that includes conflicts between nomadic hunters and European cultivators and between ranchers and sheepmen.

Land is caught in a tangled web of history, custom and law. It is both a form of private property and a public resource and many of the current conflicts over land involve the issue of what the balance is
between the two.

As an economic resource, land differs in several important respects from other resources, differences which contribute to its role as a source of conflict. A land unit is fixed in location and, practically speaking, in size. Because a unit of land cannot be enlarged or moved in response to supply and demand forces, its economic value is uniquely determined by the uses to which it can be put \textit{in situ}. Potential land uses, in turn, depend on a number of factors including fertility of the soil, topography, mineral content and relative location or accessibility to transportation networks.

Traditionally, most land uses have been dictated in large part by intrinsic characteristics of the land unit such as fertility of the soil and topography. Hence, most of the early American land use conflicts revolved around which \textit{agricultural} use of land was to dominate. The outcome of such conflicts was not final: land converted from ranching to cultivation could be re-converted to ranching – at least in principle.

In the United States agriculture remains the predominate consumer of land in terms of sheer numbers of acres, but, when measured in economic or social costs, conflicts involving the \textit{urban} use of land are of greater consequence. Decisions about what urban use is to be made of a land unit are usually reversible only at great expense. A superhighway is not easily converted to pasture land, nor a subdivision site to pineapple cultivation. Such decisions depend less on natural characteristics of the land unit and more on a single extrinsic factor: location.

Urban land use conflicts involve a relatively small proportion of America's land resources. Seventy-three \textit{per cent} of the population lives on two \textit{per cent} of the total land area, according to 1970 estimates.\(^1\) All indications are that the population is becoming even more concentrated
in urban areas. It has been estimated that by the year 2000, eighty-three per cent of the population of the United States will be living in the ten largest urban regions, occupying approximately seventeen per cent of the total land area of the country.\(^2\)

These new urban dwellers increase the demand for more intensive land uses within and near urban areas: land for housing, services, employment, roads, schools and the like. There are economic pressures to re-cycle existing urban land for more intensive uses; to build apartment houses, for example, where single family dwellings once were predominant. The greatest pressures for changes in land uses are occurring on the urban frontier - in suburbia. At the urban fringe, Americans continue to fill marshes, clear forests, level hills and valleys and divert streams at an unprecedented rate. The landscape is increasingly covered with housing in ways that are often expensive, monotonous, environmentally damaging and wasteful of both land and energy.

"Development" is the generic term that has come to be used to describe this conversion process from less intensive to more intensive urban land uses. It is not a neutral term. To some it connotes positive change and evolution; a process of bringing out the full capability or potentiality of a land unit. To others it is synonymous with greed and despoilation; a verbal sneer that condemns as it describes.

This analysis is concerned with the public role in guiding the development process. Some attention to the issues of how private property rights are to be balanced with community needs is inevitably a part of such an analysis. The legal principle that governments do have authority over the use of private land is a well-developed doctrine. The issue of how far that authority extends, however, is a continuing source
of litigation and the grist for scores of law journal articles. The main emphasis, however, is not on conflicts between private ownership and public control of land, but rather on the changing nature of public control. Nationally, there have been a variety of legislative initiatives in land use control, some new and some made to look new. These initiatives amount to, in Bosselman and Callies' phrase, a "quiet revolution in land use control."\(^3\) The "revolution" has to do primarily with level of government authority at which controls over land use are to be exercised. State governments are reclaiming some of the powers granted to local governments under enabling legislation and consolidating these powers at higher levels of government. This "revolution" involves much more, however, than the issue of who is going to exercise public controls. Much of the emphasis to date has been on the faults of traditional controls exercised by local governments. Relatively less attention has been directed to an examination of the changing purposes for which control over land is being exercised and the means applied to achieve these purposes.

**Public Control over Land Use: The Traditional Structure**

The traditional structure of public control over land use is based on the premise that controls are best exercised locally. The ideology of local control assumes that the residents of a community have to live with the consequences of their land use decisions and are therefore in the best position to make those decisions. The principal means of local control under the traditional structure are the police power, eminent domain and the real property tax.

Zoning is the oldest of these means of control dating back to the time of the Romans who used it to restrict the location of certain
businesses and buildings. Zoning in America was practiced in colonial times as a means of regulating "nuisances" such as the storage of gunpowder, but zoning, as it is practiced today, is a twentieth century product.

America's first comprehensive zoning provision was enacted in New York in 1916, following a nine year campaign by the Fifth Avenue Association. The Association had fought for zoning as a means for blocking the encroachment of garment industries on the fashionable Fifth Avenue shopping district.

In the 1920's, the Department of Commerce wrote model legislation, the Standard Planning Enabling Act and the Standard Zoning Enabling Act which, when enacted by state legislatures, delegated to local communities the power to plan and zone. After the Supreme Court decision in Village of Euclid v. Ambler Realty Co. established the legality of the technique, zoning became the backbone of local public control over land use.

Zoning ordinances were intended to regulate nuisances by segregating land into use categories, thus separating the noxious effects of smoke-belching factories, foul-smelling slaughterhouses and midnight merriment of tavern clientele from most residential dwellers. Zoning, as Mandelker notes, "is built on the premise that the private market for land use, in an urban society, cannot be permitted to make land use allocations without creating severe diseconomies in the urban development pattern. Because land pricing mechanisms do not take account of externalities resulting outside the site, zoning is thought to be needed to curb and, if necessary, prohibit land development decisions that produce externalities considered undesirable."

Modern zoning ordinances not only establish use categories, but
also seek to control population density and to regulate facets of the physical design of buildings. The ordinance may also have specifications regarding the lot (minimum size, front footage and ratio of width to depth), the structure (minimum height and architectural standards), the relationship of structure to lot (percentage of lot coverage, floor area ratio, and land use intensity) and the placement of structures on the lot (setback requirements).

In theory, the zoning ordinance is the means for implementing a community land use plan. The plan provides the rationale for public control. The original model enabling legislation for zoning provided that the power to zone must be exercised in "accordance with a comprehensive plan." In practice, in many communities the zoning ordinance has taken on greater importance that the community land use plan.

The typical zoning ordinance, then exercises control over the private determination of land by regulating the distribution of types of land uses within the community, the density of development within districts, and aspects of the physical design and placement of structures. Hence, the zoning ordinance, at least in theory, determines where and how much development is permitted and sets guidelines as to what kind of development is to occur.

A second police power exercised by local communities over private land use is subdivision regulation. Subdivision regulation is intended to promote efficient neighborhood development and to insure a minimum level in the quality of public facilities. Subdivision regulations typically govern the registration of plats and provide for the design, dedication, grading and paving of streets. Some subdivision regulations also require curbs, gutters, improvements to insure good drainage and the
 provision of utilities. In Hawaii, for example, county subdivision regulations are quite specific about design requirements for such things as curbs, gutters and streets, even to the point of specifying the types of materials to be used. Subdivision regulations, then, provide the means for direct community control over the quality of public areas of subdivisions.

Similar qualitative controls are implemented through building, sanitary and fire codes. Such codes, enacted as part of the community's exercise of its police power, provide minimal design standards that must be met before construction occurs.

Zoning, subdivision regulation and building codes are the three most prominent examples of controls exercised under the "police power", that is, the community's authority to regulate the use of private property to protect the "health, safety and welfare" of community residents. The line between a community's authority under the police power and the rights of private owners to use and develop their land is difficult to draw with any certainty. An owner whose land is regulated under a valid exercise of the police power is not entitled to compensation no matter how economically injurious the regulation may be. But just what constitutes "a valid exercise of the police power" is constantly being litigated by the courts. The police power is a dynamic regulatory concept and, while the ideology of governmental non-interference in property rights remains strong, in practice the balance seems to have swung in favor of the institutional agents of the government. 9

Occasionally, urban land use control requires more than the mere restraint of a landowner. Under the power of eminent domain governments have within their authority the actual taking of private land provided
that the taking is for some public purpose and "just compensation" is paid. The great difficulty with eminent domain proceedings is that they are extremely expensive. When negotiations between the government and the private landowner fail and the issue of "just compensation" is adjudicated before a jury, the compensation paid to the landowner is often well beyond what the governmental authority represented as "just compensation."

Taxation is generally more an instrument of inducement than control. Taxation operates to "persuade the economic man (or the economic corporation) to pursue his self-interest in the public interest by injecting avoidance opportunities for behavior which is in the public interest." While other taxes play a role in land use allocation, the real property tax is the principal tax device for exerting leverage on the private land market. In principle, taxation can be used in one of two ways for the implementation of community land use goals. First, exemptions can be offered either to induce certain land use activities (such as light industry) to move from one locale to another or to preserve certain land units in their present use (such as open space preservation provisions). Secondly, certain classes of use (or non-use) can be taxed at a higher rate so as to encourage a change in use status.

This traditional structure of local land use control is being challenged on several grounds. One of the primary criticisms of local control with its emphasis on the zoning ordinance is that it assumes that a community has a clear vision of the future physical design of the city. The zoning ordinance, with its use districts and density controls, suggests a static, end state concept of land use control. Such a vision is often impossible in regard to the separation of conflicting uses, such as slaughterhouses and schools, but there may be serious future problems with allowable densities. In practice, communities often do not have a
clear vision of what the community will look like twenty years hence. More seriously, communities often find that they have "over-zoned": that the densities allowed under a zoning ordinance written a decade or two previously are in excess of the population levels that can be accommodated in a particular area without causing serious strains on public facilities and services and environmental deterioration.

A second criticism of the structure of local land use control relates to the broad discretion enjoyed by many local authorities in the application of land use controls, making it possible to accommodate changing conditions with a minimum of community disruption. Or it can be the means for ill-planned developments that lavish huge financial gains on developers and financial burdens on the public. Many communities avoid judicial or political challenge to their regulation of land uses through zoning or other techniques by permissive application of the technique, either in the original zoning ordinance or in processing changes in the ordinance. For example, Honolulu's original zoning ordinance, which allows for about 68,000 hotel rooms in Waikiki and an oil refinery in Kahaluu, is generally regarded as having been developed on the basis of a landowners' "wish list". A more serious problem is that the administration of land use controls in many communities is administered by those who stand to gain most from permissive application of controls. Or officials may administer changes in exchange for bribes, campaign contributions or other forms of payoff. Leonard Downie has described this process in Santa Clara county, California:

Speculating in land also meant speculating in official planning and zoning decisions that allowed agricultural land to be developed with houses, stores, and factories. Determined officials could have used their power over these decisions to carefully stage the valley's development, shape it along the lines of a regional master plan, and conserve more of its open space, orchards, and natural assets. A
fierce struggle between these officials and the greedy land speculators and developers should have occurred. But it never did, because they were never really opposing interests. With a few exceptions the land officials were also involved in real estate speculation, had other vested interests in the rapid development of the valley, or, like Karl Belser (once chief planner for the county), as he later admitted, simply were unable to make a strong stand against the powerful development interests and their allies in local government.

Belser remembered how his county planning office was overwhelmed with requests for its preliminary approval for zoning changes all over the county. "Everyday, someone would come in and say; Karl, you have to approve this because it's good for the county." What was "good for the county" was what was most profitable for its speculators, developers, realtors, and merchants, who contributed heavily to the political campaign funds of local officials supporting rapid growth.

Continuing breakneck development also meant windfall profits for many of the local government officials themselves. The Stanford researchers found from city records that four of the five members of the planning commission in San Jose from 1950 to the early 1960's had financial interests in the development boom: One was a realtor, another a general building contractor another an electrical contractor, and the fourth a two-time president of the San Jose Merchants Association, a vociferous booster of continued San Jose population and business growth.

Critics of locally-administered land use controls argue that what happened in Santa Clara County is different in degree, but not in kind from what continues to occur in many American cities. Suburban development remains an enormously profitable industry; an industry whose bounties go not just to landowners and developers, but also to contractors, local businessmen, lawyers, mortgage bankers and a host of others. It is not coincidental that "housing starts" are an important indicator of national economic trends.

A third criticism of the traditional land use control apparatus is that it is insufficiently sensitive to "spillover effects" of local land use decisions. Granting (or denying) development permission may have important consequences beyond the borders of a community; consequences that must be borne by residents of neighboring communities. The construction of an airport or a chemical plant, for example, may result in
important benefits to a particular community while distributing "costs" for which there is no compensation among adjacent communities. This "spillover" problem has led some to argue that at least some use controls should be exercised at a regional scale.

A fourth criticism raised about traditional land use controls is that they are not flexible enough to respond to changing public concerns. One consequence of what has been called the "environmental movement" has been a heightened public awareness that land is a resource that can be degraded or depleted like other resources. Many laymen have begun to recognize that land use decisions can have profoundly adverse consequences on air and water quality. Across the nation environmental groups have sought to assert a public say over the use of private property, particularly environmentally fragile or scenic lands. If, as they have argued, land is both private commodity and public resource, where is the line to be drawn between public and private rights? Drawing such a distinction in practice involves establishing priorities and making tradeoffs among competing uses. Critics of the traditional structure of local control argue that that traditional structure, rooted in the nuisance doctrine, is simply not flexible enough to be useful in settling current land use conflicts. Local regulators, it is argued, lack the expertise to evaluate the environmental consequences of some proposed land uses, the political will to take tough stands against the development industry and, often, the legal means to do so even if they could be persuaded that they should.

The increasingly rapid depletion of agricultural lands has provided additional ammunition to the critics of local land use control. In many areas of the country land speculators have bought up agricultural
land at agricultural prices on the fringes of rapidly urbanizing areas and then leased it back to farmers until the city expands and low density subdivisions can be thrown up on fertile farmland.

Many of these practices have long been regarded as inevitable, if regrettable, consequences of the preferences of many Americans for detached housing on large lots away from the ills of the city. More recently, the energy "crisis" has made pattern of urbanization costly not only in terms of land resources, but in terms of energy resources as well. Sprawling, low density developments, often twenty or more miles from the central city, result in enormous energy costs. Great savings, it is argued, could be achieved by promoting higher density developments closer to cities.

This brief list of criticisms of the traditional structure of land use controls is by no means exhaustive, but it provides some basis for understanding why a "quiet revolution" in land use control might occur. The traditional notion that a few lines on paper, however expertly drawn, can prescribe the future growth pattern of the community is giving way to a variety of new approaches to land use control.

The Emerging Structure of Land Use Control

Many of the innovations in land use control are occurring at the local level in response to the sort of criticisms outlined above. Many, indeed most of the new controls and other techniques are rationalized on the basis of the community's need to control or guide growth. "Growth control" has become the popular catch-all phrase that describes a range of associated activities designed to preserve the environmental amenities of a community, to control the size and shape of the community, to keep the costs of public facilities and services within manageable limits, to
preserve the particular character of the community and achieve other related purposes. One study of growth controls estimates that as many as a hundred cities and regions have considered slowing or stopping growth as a matter of public policy.\textsuperscript{14}

Local growth control measures have taken a variety of forms, but four basic types of control have been paramount: (1) more flexible types of zoning; (2) controls over the timing of new development; (3) development moratoria; and (4) land preservation measures.

Compared to other traditional land use controls zoning has undergone the most extensive change, both in response to broadened community objectives and to changing conceptions of the balance between public and private rights in land. The concepts of contract zoning and incentive zoning for example involve bargains between local legislative authorities and private developers in which local authorities often allow greater densities in exchange for other restrictions or land dedication. Perhaps the most important innovation in this category, however, is the planned unit development ordinance (PUD). The PUD is a cross between zoning and subdivision regulation. The planned unit development can take several forms, as it does in Honolulu, but the basic purpose is to allow large scale, multi-use, clustered developments. Such discretionary developments, it is argued, promote cost efficiencies in public utilities and facilities. Planned unit developments can also make possible site designs that are less likely to have deleterious environmental effects on land units, portions of which are environmentally fragile.

Measures designed to control both the location and pace of development are the second type of new local growth control devices. Ramapo, New York, is perhaps the most prominent example of a community
that has sought to control its growth by phasing development. Ramapo, a bedroom community about twenty-five miles from New York, was experiencing rapid, uncontrolled urban sprawl. The development phasing technique adopted by the community used public facilities and services as a means of timing new development. Ramapo adopted an eighteen year capital improvements program which set forth the community's capabilities to provide public facilities over three six-year periods. All areas of the community are to be served by the end of the eighteen year period. It then enacted a zoning ordinance which made new development conditional upon the provision of adequate municipal services. The ordinance is implemented by a series of special permits. Permits are awarded on the basis of "developmental points" accumulated by the developer based upon the availability of (1) public sanitary sewers; (2) improved parks and recreational facilities; (3) drainage facilities related to adequate run-off capacity at maximum development; (4) improved major secondary and collection roads; and (5) fire houses within appropriate distances. The ordinance provides for variance relief if the developer agrees to provide the necessary facilities.

The concept of development timing contained in the Ramapo ordinance directly addresses another common criticism of local governmental administration of land use controls; namely, that such controls are often uncoordinated with other governmental activities such as the provision of public facilities and services. Development timing measures have been adopted or are being considered by Boulder, Colorado; San Diego, California; and Portsmouth, New Hampshire.

The most extreme growth control measure is development moratorium of one form or another. Most "stop-growth" moratoria are interim measures
intended to give a community an opportunity to plan for longer-term development and to assign techniques to implement such a plan. Courts have rarely upheld a total prohibition on development unless it is short-term and planning is occurring for the post-moratorium period. Moratoria have involved freezing sewer hookups (Milpitas, California); building permits (Dade County, Florida and Waikiki (Hawaii); subdivision approvals (Boca Raton, Florida) and rezoning (Fairfax County, Virginia).

Land preservation measures have been undertaken by local communities to reduce flood or other natural hazards, provide for public uses, protect historic sites, minimize urban sprawl, or curb land speculation. The techniques used to preserve land include land banking, flood plain zoning, development easements, and development rights transfer (TDR). The selection of one or more of these techniques depends on the land use problem faced by the community.

While this list by no means exhausts the growth control measures that are being tried in various locales, it is indicative of the range of controls being used. Many of these growth control techniques face judicial challenge. These challenges have usually been based either on the grounds that some growth control measures constitute a "taking" of private property for a public purpose without just compensation or that they are exclusionary in their effects and thus violate the equal protection clause of the Fourteenth Amendment. In general, the courts have been willing to uphold a community's exercise of controls where it can be shown that land use restrictions are based on the capacity of public facilities and services, particularly when it can be shown that the restriction is a temporary one and the community has some long-range plan for providing urban services.
Numerous federal activities affect land use. A list of federal agencies with land use responsibilities begins to convey a sense of the breadth and diversity of federal land use activities: Department of Housing and Urban Development; Department of Transportation; Federal Aviation Agency; Forest Service; Park Service; Bureau of Land Management; Bureau of Sport, Fisheries, and Wildlife; Atomic Energy Commission; Federal Power Commission; Soil Conservation Service; Bureau of Reclamation; Corps of Engineers; Department of Defense; General Service Administration; Council on Environmental Quality; Water Resources Council and River Basin Commission; Regional Development Commissions; and Environmental Protection Agency.

While the role of the federal government in influencing the national distribution of urban growth has been enormous, its influence has been largely indirect. Huge sums have been spent on public works such as the interstate highway system and the manned-space center in Houston. Such facilities are growth stimulators in the sense that they guide development to particular locales. Federal procurement policies also serve to concentrate development. The awarding of a major defense contract can cause employment—and hence development—in the environs of the fortunate contractor. Federal credit management and taxation policies also serve to stimulate or deflate development. There is, in short, a whole range of federal financial activities which have both direct and indirect implications for urban growth management.

The principal focus at this point in this analysis, however, is on federal activities that are part of the "quiet revolution in land use control" discussed above; that is to say, those activities which result in a different distribution of authority over land use decisions or a
change in that bundle of "rights" associated with privately owned real property.

Federal initiatives which have implications for the distribution of land use regulatory authority and private property rights can be grouped into three categories: (1) direct federal regulatory activities; (2) indirect federal regulation of land use; and (3) federal incentives to engage in regional or statewide land use planning and/or management.

Most federal influence occurs indirectly as a result of federal financial incentives or by means of performance standards administered by states. The National Environmental Protection Act is an exception in that it requires detailed environmental impact statements on any proposed federal project or legislation "significantly affecting the quality of the environment." There are also a few examples of existing or proposed direct federal regulator authority over private real property.

The federal government, for example, is seeking to curb some of the worst abuses in land speculation. There has been a "land boom" in the sale of recreation lots in "vacation communities", particularly in Florida, California and the Southwest. Many of these lots are sold by means of a variety of promotional techniques that combine free meals, trips and entertainment with high pressure sales techniques. In New Mexico, for example, one big firm, AMREP, owns a one-hundred square mile subdivision named Rio Rancho, where many of the lots have been sold sight unseen to New Yorkers at sales dinners. Much of this land is dried out, over-grazed range.

In 1970 alone, the recreation lot sales industry sold 650,000 lots for about 5.5 billion dollars. In part because the states refused to take measures against some of these speculative practices, Congress
enacted the Interstate Land Sales Full Disclosure Act. This Act requires a developer or agent of more than fifty acres who directly or indirectly promotes sales through interstate commerce to furnish the purchaser or lessor a statement of record on the lot prior to signing a contract. The seller must also refrain from fraudulent devices and misinformation in dealing with the seller. More than 3,500 recreation land developers are registered under the Act.\(^\text{17}\)

In 1974 Congress enacted the Real Estate Procedures Act intended "to insure that consumers throughout the nation are provided with greater and more timely information on the nature and costs of the settlement process."\(^\text{18}\) Congressional hearings have also been held on several measures to deal with some of the problems and abuses occurring in the condominium market.

Much, indeed most federal land use regulatory activity has been indirect in the sense that the federal government has set minimum standards for activities that result from land uses, but has charged states with the responsibility for developing procedures for insuring that these standards are met. The Clean Air Act Amendments of 1970, the Noise Pollution Control Act of 1972 provide examples of federal regulation by means of setting federal standards for state or local implementation.

The clean Air Amendment of 1970 are characteristic of recent federal legislative efforts that have the effect of controlling land uses indirectly. Under the provisions of the Amendments, the federal Environmental Protection Agency sets primary and secondary national ambient air quality standards for various air pollutants. The states are charged with preparing plans for the implementation of air quality
standards; plans which must be approved, disapproved or modified by EPA. In addition to ambient air quality standards, the law provides for emission standards for designated pollutants emitted by new sources such as power plants or parking garages. Land use controls are authorized "where necessary to achieve and maintain air quality standards." State are also authorized to grant some statewide, regional or local agency authority to prevent construction or modification of any new pollutant source which will interfere with the attainment or maintenance of air quality standards.

Finally, there are those federal programs that offer substantial incentives to states or regions to engage in regional or statewide land use planning or management. Such programs include the Coastal Zone Management Program, the National Mass Transportation Assistance Act of 1974, the National Flood Insurance Program and the so called "Section 208" program of the Federal Water Pollution Control Act Amendments of 1972.

These programs share several significant features. All the programs require planning although they vary in the degree of specificity as to what the planning should include. Second, all except the National Flood Insurance Program are based on the assumption that planning should occur at a regional or statewide level. The National Mass Transportation Assistance Act of 1974, for example, adds state governors as participants in meeting the planning requirements of the act in order to insure greater coordination between local, regional and state transportation planning. The Section 208 program requires governors to designate planning areas for the development and implementation of areawide waste water treatment management plans. Similarly, the national CZMA places the responsibility
for developing a coastal zone management program in the hands of the state government.

Third, most of the laws in this group leave substantial discretion to states to set priorities within rather broad legislative guidelines. The CZMA, for example, requires each participating state to designate coastal zone boundaries. Under the act, the marine boundary is set at the limits of the U. S. territorial jurisdiction, but the terrestrial boundary is to be set by the state. The only stipulation is that the inland boundary be sufficiently inl...*o "control the shorelands, the uses of which have a direct and significant impact on coastal waters." 19 The law also requires the designation of permissible uses and "priority of uses" as well as the organizational and legal structure required for management of the coastal zone, but leaves the actual development of these elements up to the state.

Closely related to the priority-setting aspects of these laws is their emphasis on the processes by which these priorities are to be set. The CZMA and the Transportation Assistance Act in particular place great emphasis on the need for wide-ranging inter-governmental consultation and the importance of citizen participation in plan-making and program development. Section 208 of the Federal Water Pollution Control Act Amendments, for example, requires state governors to designate wastewater planning area and to designate for each such area "a single representative organization, including elected officials from local governments or their designees, capable of developing effective areawide waste treatment management plans for such an area." 20 Both the Mass Transit Assistance Act of 1974 and the Office of Management and Budgeting Circular A-95 contain similar requirement for inter-governmental coordination and planning.
While the federal government's role in determining direction of growth has been enormous, there has been no consistent national growth policy. As this brief review makes clear the recent federal role has largely been one of providing a framework within which state and regional agencies could plan for the physical growth of communities. Such growth management as has been mandated by the federal government has promoted land use planning only to the extent that it bears on the achievement of some environmental, transportation, or health goal.

The Quiet Revolution in Land Use Control

The "quiet revolution in land use control" is not one battle, but many. The many specific issues can be grouped under several broad questions:

--How is land to be allocated among competing uses?
--What are the public interests in land market allocations among private owners?
--Where should the dividing line be between public and private "rights" in land use allocations? Or between competing publics?
--What level of government is best suited to promote the publics' interests in land use allocation?
--What techniques of public intervention are likely to be the most "efficient?"

Few of these issues are being resolved, either philosophically or in practice. In fact, several of the key issues in land use control are not resoluble, if "resolution" means broad agreement on such normative issues on how land units should be allocated or what the scope of public authority over private transactions in land should be. There is also little agreement about how the broad range of current land use controls
Most of the academic writing on land use controls is either descriptive or prescriptive. The descriptive component is usually limited to discussions of new techniques or recent court actions. Law journals, in particular, are filled with articles and notes describing recent judicial decisions regarding the application of land use controls. A smaller proportion of articles are prescriptive in the sense that they outline new control techniques that might be applied to ameliorate particular features in current practices that are posited to be in need of remedy.

Between these two extremes there are relatively few studies that are descriptive of the implementation phase of land use controls. Still fewer studies are explicitly evaluative in the sense that they seek to relate the performance of an implementing agency to some standard or norm, usually the goals set by policy makers.

This study departs from the traditional academic writing on land use controls in its explicit emphasis on the identification of land use policies and the explicit evaluation of those policies. The focus for empirical analysis is Hawaii's pioneering Land Use Law; a law which pre-dates many of the new initiatives in land use control contained in this chapter. This study of the implementation of that law is an attempt to determine, in systematic fashion:

--How the implementing authority has defined "the public interest" in the disposition of cases before it;

--How the purposes of the law were reflected in its implementation;

and

--What some of the consequences of direct state control in the
land allocation process in Hawaii have been.
FOOTNOTES FOR CHAPTER I


5. 272 U. S. 365, 1926.


8. A 1969 Hawaii Supreme Court Case would suggest that this is not the case here. In Dalton vs. City and County of Honolulu (Supreme Court #4852, November 26, 1969) the court held that the City Council could not initiate or adapt a zoning ordinance unless it conforms to and implements the plan.


12. Hawaii uses both techniques. The tax laws allow for dedications of agricultural land in agricultural use for periods of ten or twenty years, making such land units eligible for reduced property taxes so long as the land remains in agricultural use. In addition, Hawaii's graded rate structure is intended to encourage development.
of properties in urban areas by imposing relatively high taxes on undeveloped properties and relatively lower tax burdens on developed properties.


17. Ibid.

18. PL 93-533.

19. PL 92-500, Sec. 208(2).

20.
CHAPTER II

The Context of Control in Hawaii

Four facts neatly summarize the context of land use planning and control in Hawaii: (1) the boundaries of local jurisdictions (the counties) are conterminous with island boundaries; (2) usable land is scarce; (3) ownership is highly concentrated; and (4) the state has a history of centralized government.

Conterminous Boundaries

Each of the major islands in Hawaii has its own local government. Given the physical separation of the islands, there are none of the sort of environmental or growth spillovers from one jurisdiction to another that have prompted initiatives for greater centralization of authority in other areas. The legislation of State land use control was a response to the perceived weakness of the counties in land use management.

Land Scarcity

Land is scarce in Hawaii, but it is a scarcity that is only partly conveyed in the conventional statistical indicators by which land use is measured. The state has a land area of about 4 million acres. One island, Hawaii, accounts for two-thirds of the total area.

Nor do population density figures adequately convey land scarcity in Hawaii. Hawaii's population growth has been more rapid than the rest of the country's—the results of migration as well as of births—but it is not dramatic.

There are vast areas of open space in the state. In 1968, of the total land area of over four million acres, 1,200,000 acres were in forest reserve; about 1,500,000 acres were in grazing lands and half a
million were pali or barren lands. In addition, some 3.8 million acres were in agricultural or other open space uses.  

While it may be difficult to argue that land is scarce in an absolute sense, there can be little argument with the proposition that most residents of Hawaii regard it as scarce. Land price is perhaps the best indicator of these perceptions of scarcity. Urban lands are two and three times as expensive as in comparable mainland areas. Land is also a critical factor in Hawaii's chronic housing problem. According to some estimates, land costs represent forty-seven per cent of the sales price of new houses and forty per cent of the sales prices of existing housing--more than double the national average. As a result of these land costs--and building and related costs that exceed costs in most mainland areas by thirty per cent--the average price of a new single family dwelling in Honolulu in 1972 was $85,190. This figure represents about a fourteen percent increase over the previous year. Given the four to one income to mortgage payment ratio required by most mortgage bankers, the median-priced family home in 1974 was out of reach of about seventy per cent of all island families. It is perhaps not surprising that Hawaii has one of the lowest home ownership rates in the nation.

The cost of land has had a dramatic impact on home ownership in Hawaii. Table 2.1 summarizes changes in residential tenure over the past two decades:
Table 2.1
Residential Tenure in Hawaii

<table>
<thead>
<tr>
<th></th>
<th>All Occupied Units</th>
<th>Owner Occupied</th>
<th>Renter Occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Own Land</td>
<td>Lease Land</td>
</tr>
<tr>
<td>1950</td>
<td>112,290</td>
<td>30,373 (27%)</td>
<td>1,502 (1%)</td>
</tr>
<tr>
<td>1960</td>
<td>153,064</td>
<td>49,798 (32%)</td>
<td>6,247 (4%)</td>
</tr>
<tr>
<td>1970</td>
<td>203,088</td>
<td>68,422 (34%)</td>
<td>20,802 (10%)</td>
</tr>
<tr>
<td>1973*</td>
<td>251,180</td>
<td>78,878 (31%)</td>
<td>26,776 (11%)</td>
</tr>
</tbody>
</table>


*Contains some vacant housing.

Hawaii has experienced a gradual increase in home ownership, but the more dramatic increase has been in the number of homes constructed on leasehold property. Of the more than 26,000 owner-occupied leasehold homes, more than 10,000 were built since 1967.

The tendency of large landowners to lease their land for housing rather than to sell it in fee contributes to the perceptions of scarcity and the hunger for land ownership. This hunger for a piece of land is not simply a desire for a place to live. It transcends the fundamental search for shelter. Nor is it simply a desire for the quick financial gains that are to be made in the Hawaiian real estate game, although that is an important enough motive for at least some of the participants.

Land ownership seems to be an important element in the self-identity of Hawaiian residents. For the sons and daughters of the immigrants who
were brought to the islands in the 19th century to work the sugar and pine plantations, land represents tangible evidence of having "made it"; of having achieved a degree of economic and social success. Real estate was also an important vehicle of social mobility for Orientals who, prior to the nineteen-sixties were excluded from many leadership roles in Caucasian-dominated businesses. For more recent in-migrants from the mainland, land represents a sinecure as well as an investment; a tenuous but tangible handhold on island life. Land ownership is a claim to a piece of paradise.

The physical and social climate of Hawaii contribute to its attractiveness—and to the insecurity of island residents who fear being bid out of the land market by wealthy refugees from the mainland. The popular local expression, "lucky you live Hawaii," is not just an expression of small-town boosterism or Hawaii Visitor's Bureau propaganda, but a deeply-felt preference for those physical and social characteristics that make Hawaii unique among the fifty states.

This emphasis on the subjective component of land scarcity is not meant to suggest that the "scarcity" is not real, but rather that it is yet another force that contributes to the social and political climate in Hawaii that legitimates an active state role in land use control.

Land Tenure

An important objective factor which contributes to the subjective perceptions of scarcity is Hawaii's land tenure system, particularly the concentration of ownership. Taken together, land owned by the federal and state government and by the "major landowners" (i.e. those owning more than 5,000 acres) constitutes 93.7% of the land area of the state. Put another way, all the land owned by small farmers, businessmen and
homeowners constitutes only 6.3% of the total state land area.

This concentration of land ownership is the axis around which much of Hawaii's social and political history has revolved. Western concepts of proprietary rights were unknown to the Hawaiians who occupied the islands at the time of Captain Cook's arrival in 1778. Their property system of interdependence and mutual obligation between alii (royalty) and makaainana (commoner) was more closely akin to that which characterized medieval European feudalism. That Hawaiian system had begun to decay by the time of the arrival of American missionaries in 1820, and the influence of the missionaries and traders further eroded the system with the introduction of their concepts of property and profit. The missionaries and traders who advised Hawaiian royalty on governing the islands pushed a number of "reforms," chief among which were various land rights for foreigners. This pressure resulted in the Great Mahele of 1848, under the terms of which King Kamehameha III, heir of the fabled unifier of the islands, divided the land. Nearly 1,600,000 acres were divided among 250 alii, while a million acres was to be devoted to the support of the royal family and another 1.5 million acres were to support the operation of the government. Title to less than 30,000 acres was vested in the commoners. When the monarchy ended, the remaining royal lands were merged with the public lands.

The Great Mahele represented the replacement of land tenure system based on cooperative use with a system based on title and unitary tenury. So alien was the concept of ownership that Hawaiians freely surrendered their newly acquired land titles to foreigners, often for small fees, loans, gifts and favors. By 1936, only a little more than 6% of the nearly 30,000 acres originally granted to commoners was still in the
possession of Hawaiians and part-Hawaiians.12

To the foreigners, the legal opportunity to acquire fee title to
land provided sufficient incentive to acquire land for agricultural purposes.
And agriculture at that time meant sugar. Sugar was—and is—a plantation
crop requiring vast acreage. Sugar production had doubled in the ten years
prior to the Great Mahele and afterwards, with land available from the
government under favorable lease agreements as well as through outright
purchases from the alii. The prospects for sugar were highly favorable.

In the 1870's the sugar planters lobbied successfully for a reciprocity treaty with the U. S. which removed the tariff from sugar and
sent sugar fortunes soaring. The number of plantations grew from twenty
to sixty-three between 1875 and 1880.13 Sugar was a labor intensive crop
and the growth of the industry soon exhausted the local supply of labor.
As the fortunes of the planters grew so did the numbers of laborers who
had to be imported from China and Japan to work the fields under various
sorts of contract agreements.

Sugar was a highly competitive industry involving not only careful
supervision of the growing and harvesting cycle, but complex shipping and
marketing arrangements as well. In the late 1880's the trading companies
which had equipped the sugar planters as well as arranging much of their
shipping began to take over the plantations, first through bankruptcy
proceedings and later through purchase. Fuchs reports that by 1930, five
companies, four of which were originally trading companies, handled 90%
of the sugar tonnage shipped from Hawaii.14

Through the control of the sugar industry, these five companies--
the so-called "Big Five"—controlled Hawaii's economic life and dominated
its politics. Staunchly conservative in their political and economic
views, the men who controlled the Big Five also controlled the land and the uses to which it could be put.

Taken together, the acquisition of land for plantation purposes, the concentration of large holdings in the hands of the descendants of the ali'i and the accumulation of land units for military and other governmental purposes has resulted in a pattern of highly concentrated land ownership. Table 2.2 summarizes land ownership and tenure by island in 1968.

Table 2.2
Land Ownership or Tenure, by Island: June 30, 1968

<table>
<thead>
<tr>
<th>Island</th>
<th>Total Area</th>
<th>Federal Government</th>
<th>State Government</th>
<th>Major Private Owners</th>
<th>Other Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>State total</td>
<td>4,128,263</td>
<td>355,769</td>
<td>1,584,715</td>
<td>1,916,560</td>
<td>270,219</td>
</tr>
<tr>
<td>Hawaii</td>
<td>2,584,320</td>
<td>241,858</td>
<td>1,106,126</td>
<td>1,052,583</td>
<td>183,753</td>
</tr>
<tr>
<td>Maui</td>
<td>566,539</td>
<td>26,478</td>
<td>204,895</td>
<td>221,223</td>
<td>13,753</td>
</tr>
<tr>
<td>Kahoolawe</td>
<td>28,800</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lanai</td>
<td>89,280</td>
<td>8</td>
<td></td>
<td>87,832</td>
<td>1,440</td>
</tr>
<tr>
<td>Molokai</td>
<td>167,104</td>
<td>78</td>
<td>53,019</td>
<td>110,444</td>
<td>3,563</td>
</tr>
<tr>
<td>Oahu</td>
<td>388,923</td>
<td>56,241</td>
<td>64,810</td>
<td>221,820</td>
<td>56,057</td>
</tr>
<tr>
<td>Kauai</td>
<td>354,112</td>
<td>2,306</td>
<td>153,305</td>
<td>176,953</td>
<td>21,548</td>
</tr>
<tr>
<td>Niihau</td>
<td>56,720</td>
<td></td>
<td>2,560</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other islands</td>
<td>2,560</td>
<td></td>
<td>2,560</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Includes fee simple and ceded land.

2Includes State land managed by the County governments and various State agencies, and Hawaiian Homes Commission lands.

3Land owned by private landowners with less than 1,000 acres in fee simple and County land acquired by purchase or gift in the name of the Counties.

4Kaula, Lehua, and the Northwestern Hawaiian Islands.

Centralization of Governmental Authority

Hawaii has a long history of centralized governmental authority. When the islands were annexed by the United States in 1898, the Organic Act authorized, but did not require, county and municipal governments. The effect was to perpetuate a centralized government.\(^\text{15}\)

Meller suggests that Hawaii's distinctive tradition of government is the result of a number of formative causes. He cites a tradition of near-absolute power invested in Hawaiian royalty, superceded by haole paternalistic leadership, a pattern of Oriental subservience in the years prior to World War II and the concentration of population on Oahu.\(^\text{16}\)

Under the traditional Hawaiian kapu system Hawaiian royalty had absolute authority over commoners. Kamehameha further consolidated this authority when he brought all the islands (except Kauai) under unified control in the late eighteenth century.

By the 1820's the kapu system had begun to weaken somewhat, but the decline of Hawaiian authority coincided with the establishment of the Hawaiian mission. By the end of the nineteenth century, Caucasians exerted both economic authority through the plantations and moral authority through the mission. This combination was sufficient to give them a predominate political role. Moreover, the structure of the church and concentration of plantation ownership increased the centripetal tendencies.

The concentration of governmental and economic power in Honolulu was not just an efficient means of exercising Caucasian dominance. Diffusion of governmental authority to smaller governmental units might have opened the way to the acquisition of some power on the part of Oriental immigrants. Whatever their feelings about Caucasian domination of the islands, it was a pattern to which most immigrants acquiesced prior
to World War II. Even after the plantation workers were unionized, the pattern of central control over union affairs exercised from Honolulu was maintained. As Meller puts it, "centralized government under Republican direction supplied a neat solution to the entire problem of Island political and ethnic diversity."17

A final factor that has contributed to central control is the concentration of population on Oahu. Honolulu still accounts for about three-fourths of the state's population. Even ardent home rule advocates on the Neighbor Islands acknowledge that a centralized government makes possible a more advantageous distribution of revenues and public investment than might be the case under more independent county governments.

This legacy of centralized government has meant that the state government performs a number of functions that are left to local jurisdictions in most American states. Health, education and welfare are almost wholly administered by the state. Agriculture, forestry, airports and harbors are state functions in Hawaii. Even real property taxes are collected by the state, although each county sets the tax rate.

It is against this background of scarce land, concentrated land ownership and a tradition of centralized government that Hawaii's system of state control must be viewed.
FOOTNOTES FOR CHAPTER II

1. Maui County includes the islands of Lanai, Molokai and Kahoolawe in addition to Maui. Kauai County includes Kauai and Niihau. The City and County of Honolulu includes the Northwestern Hawaiian Islands.

2. State of Hawaii, Data Book (Honolulu: Department of Planning and Economic Development, November, 1975), Table 85, p. 89.

3. Ibid, Table 89, p. 91. Pali refers to cliffs and steep mountain slopes.


5. Ibid. p. 66.

6. The average price of single units on Oahu was $54,580, while townhouse units averaged $48,700. Michael Lee, Housing Program Analysis, Technical Report #2 (Honolulu, Department of General Planning, City and County of Honolulu, March, 1974) p. 22.

7. Ibid.


12. Ibid, p. 16.


16. Ibid.

17. Ibid, p. 103.
CHAPTER III

Hawaii's Land Use Law is a product of unique geographical, historical and socio-economic forces outlined in the previous chapter. The enactment of the law in 1961 was not a radical break from existing practices, but the culmination of several legislative trends. Four important laws enacted by the 1957 legislature, set the stage for the Land Use Law.

Act 35 established the Land Study Bureau at the University of Hawaii. The Bureau was mandated to:

1. collect existing data on land, develop additional data, and integrate such data into a basic land classification study for the entire Territory;

2. study current problems involving land use in the Territory as these problems arise;

3. keep informed of changes in technology and in economic conditions affecting land use so as to be able to recommend alternative uses for land;

4. supply the governor, legislature, and other territorial and county agencies with data and impartial advice on land use; and

5. make its findings generally known through its publications and, to the extent that is facilitates permit, by supplying additional information on land use in reply to inquiries received from residents of Hawaii or others.

A second piece of legislation, Act 234, was important in two respects. First it mandated the Board of Commissioners of Agriculture and Forestry (the predecessor to the Department of Land and Natural Resources) to examine and redefine boundaries already existing water reserve and forestry zones and to set up regulations for land use within these zones. The second important feature was the provision authorizing counties to plan and zone rural as well as urban land uses "in accordance with a long range general plan."
Act 150 established the Territorial Planning Office and directed it to perform a twenty-year comprehensive state general plan to guide the physical and economic development of the Territory. Poirier describes Act 150 as having "...established the necessary groundwork for the authoritative assignment of all lands in the state to major use categories..."\textsuperscript{4}

The state general plan mandated by Act 150 was nearing completion in 1961 when Frank Lombardi, the director of the State Planning Office, the successor to the Territorial Planning Office, retained Donald Wolbrink of the planning firm of Harland, Bartholomew and Associates to make recommendations as to how the plan might be implemented. According to Poirier Wolbrink was asked to deal specifically with two problems: (1) How could the state control and protect the booming tourist industry on a state-wide basis; and (2) what significant facts in support of a bill for an act relating to state-wide zoning could be presented to the first state legislature.\textsuperscript{6}

Wolbrink prepared two reports: \textit{Facts Pertaining to the Protection and Development of Tourist Facilities Within all Counties} and \textit{Facts Pertaining to the Protection and Zoning of Rural, Agricultural and Urban Lands Within all Counties}. The report also included a draft of proposed legislation for what amounted to state zoning.

Since the draft legislation was to be the basis of the Land Use Law, the twelve "facts" which provided the rationale for the law are worth quoting in full.\textsuperscript{7}

1. The economy of the State is dependent upon four major activities, with great emphasis upon agriculture.

2. The limited land area in Hawaii demands maximum utilization to protect the State's general welfare and economic stability.
3. The island of Oahu contains more than 60 percent of the State's prime agricultural land.

4. Of Oahu lands intensively and moderately suited for agricultural use, only 11,500 acres are not yet developed for agricultural production. These lands require protection.

5. The State's general plan envisions the need for between 30,000 and 34,000 additional acres for urban purposes on the island of Oahu by 1980.

6. The State of Hawaii's food production, although increasing slightly, has fallen far behind total consumption.

7. Currently programmed urban developments on Oahu by private subdividers will remove about 7,000 from the prime agricultural lands.

8. The conversion of waste or marginal lands to urban use instead of productive agricultural lands realizes significant benefits to the general economy of the State.

9. Taxes realized from the conversion of marginal or waste lands to urban uses as described in 8 above, represent virtually net gain to the tax accounts of the State.

10. As a result of urban encroachment, increased taxes on the adjacent agricultural lands lead to uneconomical agricultural operations.

11. The State's highly productive agricultural lands are jeopardized by normal economic laws which encourage land owners to place their own particular piece of land to the most profitable current use for which they can find a market.

12. There can be no doubt that one of the most serious problems in the State today is the situation created by scattered housing subdivisions, or sprawl, depleting our best agricultural lands, and requiring expensive community services and facilities.

Wolbrink had provided the 1961 legislature with both a rationale for statewide land use regulation and the draft of an act that would provide the means for such regulation.

Even before it had convened, the legislature had already been
dubbed a "land legislature" by the press. Three measures led the agenda of land reform: The Maryland Land Law which dealt primarily with leasehold lands; the Pittsburg Tax Law which was a graded land tax measure; and the Land Use Law, also known as the Greenbelt Law.

Governor Quinn, a Republican, had sought to introduce the Wolbrink/Bartholomew Land Use Law as an administrative measure, but the Democratically-controlled legislature would have none of that. Under the leadership of House Speaker Cravalho, the Democrats introduced their own measure, but they added to it a tax dedication provision. This tax feature allowed small farmers and ranchers to receive tax breaks for dedicating their land for specific agricultural uses for a stipulated time period.

This tax dedication provision was added to soften the opposition of Neighbor Island representatives who had felt that the 1957 tax law was unjust. This law had provided for taxation on the basis of "highest and best use" as determined by the assessor.

Neither the Maryland Land Use Law nor the Pittsburg Tax Law was passed by the legislature, but the Land Use Law was enacted after some adroit political maneuvering. The Pittsburg Tax Law was subsequently adopted in 1963. In the 1963 session Senator George Ariyoshi cast what was regarded as the decisive vote in the defeat of the Maryland Land Law. A law based on the principal of the Maryland Land Law was enacted in 1967, but neither Governor Burns nor his successor--George Ariyoshi--has moved vigorously to implement the law. Both have cited possible Constitutional problems with the law as their rational for not taking action.
The Provisions of the Land Use Law

Under the provisions of Section 1 of the original Land Use Law, the Land Use Commission consisted of nine members, six of whom were appointed by the governor from each of the state senatorial districts, while a seventh was appointed at large. The Directors of the Department of Land and Natural Resources and the Department of Planning and Economic Development served as ex officio voting members. The Commission is located in the Department of Planning and Economic Development for administrative purposes.

Classification of Lands

Act 187, the original Land Use Law established three land use districts: Urban, Agricultural and Conservation. Section 2 required the Commission to set standards for determining the boundaries of each district, provided that:

"(1) In the establishment of boundaries of urban districts those lands that are now in urban use and a sufficient reserve area for foreseeable urban growth shall be included;

(2) In the establishment of the boundaries of agricultural districts the greatest possible protection shall be given to those lands with a high capacity for intensive cultivation; and

(3) In the establishment of the boundaries of conservation districts, the "forest and water reserve zones" provided in section 183-41 are renamed "conservation" districts: and, effective as of July 11, 1961, the boundaries of the forest and water reserve zones theretofore established pursuant to section 183-41, shall constitute the boundaries of the conservation districts; provided that thereafter the power to determine the boundaries of the conservation districts shall be in the commission."8

Act 205, passed in 1963, amended this section to allow for a fourth district designation: Rural. The amended section stated:
"In the establishment of boundaries for rural districts, areas of land composed primarily of small farms mixed with very low density residential lots, which may be shown by a minimum density of not more than one house per one-half acre and a minimum lot size of not less than one-half acre shall be included."

The rationale for the creation of rural districts by Act 205 is expressed in House S. C. Report No. 656:

"The Land Use Commission in establishing its recommended permanent districts has found a problem in the districting of areas where a pattern of small farms intermixed with larger residential units exists. While many of these areas are in transition to urban uses, others particularly on the neighbor islands are likely and would be desirable to continue in this open country-like atmosphere for indefinite periods. They do not need a full level of urban services and cannot bear a full level of urban costs. Providing regulations in agricultural districts to recognize their special circumstances opens the way for the urban infringement on fully agricultural lands that the Act was designed to prevent. The creation of the fourth "rural" district provides the mechanism for the recognition of this existing situation."

Act 205 also made a number of other changes in this section of the Act, one of which required the Commission to "give consideration to the master plan or general plan of the county" in establishing boundaries of the districts in each county.

Commission Decision Procedures

The Land Use Commission's primary responsibility is to rule on the appropriateness of proposed changes in land use district boundaries. The original law established two procedures for changing district boundaries: the petition process and the periodic boundary review.

Under the petition process "any department or agency of the State or county, or any property owner of lessee may petition the Land Use Commission for a change in the boundary of any district." The petition is then forwarded to the planning commission of the county where the land
unit is located for review and recommendation. Section 4 requires two Commission hearings on each petition. The first must be held in the county in which the subject land unit is located after sixty days, but within one hundred and twenty days of the original receipt of the petition. Within a period of not more than ninety days and not less than forty-five days after the hearing, the commission is required to act on the petition. Six affirmative votes are required to approve a change. This process is summarized in Figure 3.1:

Figure 3.1: Petition Review Process Under Land Use Law
As noted above, the law as originally written provided for another means of boundary amendment, the "periodic review of districts." The law states that "irrespective of changes and adjustments that it may have made, the Land Use Commission shall make a comprehensive review of the classification and districting of all lands and of the regulations at the end of each five years following the adoption thereof."12 The first boundary review was held in 1969, the second was completed in December of 1974.

The law also provides for allowing "certain unusual and reasonable uses within agricultural and rural districts other than those for which the district is classified."13 To secure a special permit for such a use, application must be made to the county planning commission of the county in which the land unit is located. The decision of the planning commission is subject to review by the Land Use Commission. Act 136 enacted in 1970 amended this section of the law to include the provision that "the Land Use Commission may impose additional restriction as may be necessary or appropriate in granting such approval, including the adherence to representations made by the applicant."14

Substantive Bases of Commission Decision-Making

The law itself provides little substantive basis to guide the Commission in its decisions on the appropriateness of specific petitions. As noted previously, the "Findings and Declarations of Purpose" section of the law suggests that the purposes of the law are to prevent "scattered subdivisions with expensive, yet reduced public services" and "the shifting of prime agricultural lands into non-revenue producing residential uses when other lands are available that would serve adequately urban needs."
The law states that "no change shall be approved unless the petitioner has submitted proof that the area is needed for a use other than that for which the district in which it is situated is classified, and either of the following requirements has been fulfilled:

1) The petitioner has submitted proof that the land is usable and adaptable for the use it is proposed to be classified; or

2) Conditions and trends of development have so changed since the adoption of the present classification, that the proposed classification is reasonable."\textsuperscript{15}

The two requirements above are changes brought about by the adoption of Act 205. The original language was as follows:

a) The petitioner has submitted proof that the land is not usable or adaptable for the use in which it is classified; or

b) Conditions and trends of development have so changed since the adoption of the present classification, that the present classification is unreasonable."

The amended language puts the burden on the petitioner to prove the worthiness of his proposed land use rather than merely allowing him to try to establish the unreasonableness of the present use.

As this section indicates, need has been the primary legal test for ruling on the appropriateness of proposed amendments to the district boundaries. However, need was not defined. It is not clear whether need should have been interpreted as a private need for economic return or some public requirement for land uses not adequately met under existing boundary arrangements.

While there is slight statutory guidance over the substance of Commission decisions, the Commission is empowered to "prepare regulations relating to matters within its jurisdiction."\textsuperscript{16} The Commission's "State Land Use District Regulations" includes a section entitled "Standards
for Determining District Boundaries." According to the "Regulations" these standards:

"(S)hall be used in establishing the district boundaries. They shall also be used as guides for the periodic review of district boundaries, for the granting of amendments to the district boundaries and for other changes and amendments."17

The standards for Urban districts include such considerations as "proximity to centers of trading and employment," "goals and objectives of the state and county," "proximity to basic service such as sewers, water sanitation, schools, parks, police and fire protection," "satisfactory topography," and the like. (The full list is set forth in chapter 6.)

Taken together the statutory language governing changes in district boundaries and the standards set forth in the Regulations provide the policy base for Commission decision-making. Such explicit guidance as the Commission had during the period 1964-1975 was to be found in this statutory language and the Commission's standards.

The Land Use Law and Urban Growth Management

In its conception Hawaii's Land Use Law is closely related to that oldest of land use controls, zoning. That is to say, the Land Use Law sets up four broad "use" categories of land. In fact, the law describes each of the land use districts in terms of the uses allowed therein. Beyond this rather superficial similarity, however, there is very little similarity between the Land Use Law and the modern local zoning ordinance. Approval of a land use district boundary change by the Commission does not confer development permission upon the petitioner, nor does approval necessarily imply what the density or quality of the development will be.

What the Land Use Law does do is to give a government authority a
larger direct role in allocating land among alternative uses than is available to any other American governmental unit. The Land Use Law makes the Land Use Commission primarily responsible for what Mandelker suggests is the most fundamental planning decision to be made regarding new urban growth, namely the determination of the spatial limit of growth. This determination of how much growth is to be allowed is critical. If the boundaries are too loosely drawn the result may be an irregular, discontinuous pattern of growth. Such a pattern of growth can result in much higher costs for public services and facilities, such as roads and sewers. Tightly drawn boundaries, on the other hand, increase the competition for development approvals and increases land costs as developers compete for developable land units.

The second major category of planning decisions delegated to the Commission are those involving the determination of where new development is to occur. Should Honolulu expand toward Ewa with all that that may imply in terms of encroaching on plantation agricultural land? Will more urban expansion occur in Windward Oahu where small farms and low density development are now prevalent? Decisions about the location of urban expansion have critical implications for the direct public costs of growth; the provision of water, roads, sewers and schools. They also have important social implications. A tight urban-limits policy in which growth is allowed to occur only in carefully selected locations lessens the public costs of development and protects certain existing land uses such as plantation agricultural or small farms, but increases the costs of housing to the individual consumer.

Hence, in making these decisions about where and how much land is to be added to the Urban district, the Land Use Commission is making
important trade-offs. The Commission has been delegated the responsibility for the broad determination of which land uses are more socially valuable. In changing the district designation of agricultural land to urban district designation for example, the Commission is in effect making a policy decision that the urban use of that land is more valuable to the community than the agricultural use of that same land or, at least that the political costs of denying a more intensive use are greater than the benefits that would flow from such an action.

From a planning perspective, then, the primary impacts of the Commission are on the direction of urban development, the size of the urban district resulting from Commission boundary changes, the trade-offs between urban and other uses, particularly agriculture, and the extent to which the Commission has sought to protect environmentally fragile areas from uses that would degrade or deplete the land. Each of these potential impacts has secondary and tertiary implications for costs of providing public services, potential agricultural revenues, open space, scenic values and environmental degradation.

From a political perspective the issues include who is served by particular allocative patterns, whether or not the allocation is consistent with some standard of equity and what the ideology is that serves to rationalize a particular pattern of allocation. These points are worth re-emphasizing. Because there has been no explicit legislative statement of policy beyond the broad goals stated in the law's preamble, the Commission has been making state land use policy in the process of ruling on individual petitions. This is, of course, not new, either in land use control or in many of the other areas in which governmental control is exercised in America. What we call regulation is often, in practice,
allocation; a process of conferring benefits on some, denying them to others, and all without the benefit of an explicit plan or well-developed set of criteria indicating why the allocative process should occur as it does rather than in some other way.

This process of allocation has special meaning in Hawaii. Because the ownership of land is so concentrated, the Commission in effect regulates competition among a relatively small number of landowners. Secondly, the Conservation, Agriculture and Rural districts serve as holding zones in which land units are taxed at relatively low rates. A Commission decision to place such land in an Urban district therefore often confers large financial benefits to the landowners. The financial advantages of this arrangement may explain why there has never been a major political or judicial challenge to the Land Use Law by the corporate interests.

It should be remembered that Hawaii's state Land Use Law is supplemental to, rather than a substitute for, local land use development authority. The Land Use Law adds an additional level of land use control to existing local controls. Approval of a boundary change by the Commission is merely the first step in a maze of regulatory authority that stands between private initiation of a development proposal and ultimate change in a land unit's use.

Once land is placed in the Urban district by the Commission, it is subject to a broad range of county controls: the county general plans, the zoning and subdivision ordinances, the grading ordinances, building permits and the like. In short, the counties exercise substantial authority including the authority to substantially alter or even deny private proposals for urban development.
The primary role exercised by the counties in public management of the land conversion process is in determining how much growth is to occur at specific sites. The amount and distribution of growth is regulated by controlling population densities through the zoning and subdivision ordinances. Both of these ordinances, and the building code, also affect the quality of the development by establishing minimum aesthetic and construction standards.

The process by which public authority over land conversion in Hawaii is exercised is summarized in Figure 3.2.

The land conversion process outlined in Figure 3.2 does not include many additional requirements, such as an environmental impact statement, a shoreline management permit or a grading permit, all of which may be required depending on the type of proposed development and its location. Recent interviews with developers have indicated that acquiring the required development permits for a land unit not in the Urban district takes about thirty-six months.20
Figure 3.2 Public Review of Land Conversion Process in Hawaii

1. Act 35, SLH, 1957, Sec. 2.


3. Ibid.


6. Ibid.


9. HRS 205-2 (2).

10. HRS 205-2.

11. HRS 205-4.

12. HRS 205-11.

13. HRS 205-6.


15. HRS 205-4.


17. Land Use Commission, State Land Use District Regulations, Sec. 2.6.


19. A new study The Costs of Sprawl confirms this in detail. See Real Estate Research Corporation, Environmental and Economic Effects of Alternative Development Patterns, prepared for the Council on Environmental Quality, Department of Housing and Urban Development and Environmental Protection Agency.
CHAPTER IV

A commentator, writing in a recent issue of Planning, branded the Land Use Commission "a group of men who have consistently failed to represent the majority of the people . . ."\(^1\) In his article, "Hawaii Had a Good Idea ... But It Failed," the author listed several reasons for this alleged failure: 1) between the years 1964-1973 the Land Use Commission (LUC) and its staff agreed only 77 per cent on the time on petitions before the Commission; 3) there were only five instances between the years 1964-1973 in which the counties and the commission staff agreed but were over-ridden by the Commission; 4) the LUC, its staff and the counties agreed on only 51 per cent of all petitions; 6) several commissioners have served past the expiration of their terms; 7) there have been several cases of alleged conflict of interest; and 8) "the end results of Commission actions did not always follow the original intention of the law."

The issue was joined by three correspondents to the same journal. These writers suggested that the inferences drawn in the original articles were seriously misleading.\(^2\) It was suggested that some of the allegations represented "rather paranoidal approaches to planning criticism."\(^3\) Noting that a 76 per cent degree-of-agreement would hardly be branded as "failure" by many planning directors, one writer suggested that a "less naive set of assumptions would produce more valid evaluation measures, such as the extent to which certain interests are excluded from the decision process, the extent to which more effective professional planning approaches could be applied to land use decision making, or the extent to which the impacts of land use classification decisions
The comments on the original article were not universally negative. The Chief Planning Officer of the City and County of Honolulu wrote that the author of the original article had "developed some good points." He emphasized that the implication that the Land Use Commission was the decisive actor in the urbanization process in Hawaii was not correct, noting that urban development proposals must be consistent with both the County General Plan and the zoning designation.

This exchange illustrates both the specific difficulties associated with evaluative statements about Hawaii's Land Use Commission actions and the general problem of determining the "success" or "failure" of any policy, program or series of public actions. One of the primary characteristics of non-academic political discourse is the emphasis on evaluative statements. Social and political criticism is a thriving industry not just because there are substantive differences about, say, the sort of energy policies, health care system or land use controls we ought to have, but also because so little is known about how "successful" our present policies, systems and controls are. What standards of "goodness" should be applied and how are they to be determined? These are pressing questions for policy-makers and their critics alike.

Academic Policy Analysis

Traditional academic policy analysis, on the other hand, has long been characterized by an emphasis on the determinants of public policy; by the social, psychological, political, institutional, demographic and economic factors which best explain why certain policies are selected among the total range of policy options. Simply put, the basic research equation has been:
Missing in this formulation—and the research which it summarizes—is an empirical focus on the effects of the policy outputs on the conditions they are meant to remedy. A brief review of this literature is indicative both of its value and its limits.

Most contemporary research on public policy focuses either on the processes by which choices are made among competing policy alternatives or upon the decisions themselves as a function of the political, social or economic characteristics of the system. In both approaches decisions or public policy choices are the dependent variables. A number of separate approaches can be identified under each of the two broad headings.

A. Process Orientation

The predominant orientation is on the intellectual activities of perception analysis and choice—activities which are most often subsumed under the rubric of decision-making. The decision-making literature is large, complex and not easily summarized. There are, however, two interdependent threads which bear on policy-making. One thread emphasizes how risk, limited time, incomplete information and ignorance reduce the limits of human cognitive capacity. The effect of this limited cognitive capacity on policy is to restrict the range of options that are considered and to ensure that such changes in policy that do occur will be little more than marginal adjustments of previous policies.6

The other contemporary approach in decision-making recognizes the limits of "rational" decision-making by individual participants in the policy process, but seeks to augment personal experience and intuition with systems analysis, simulation models, gaming, planning-programming-
budgeting systems and cost-benefit analysis.\textsuperscript{7} The impact of technical rationality on policy has been limited to date, both because the techniques are unfamiliar to many policy-makers and because there remains the suspicion that "quantitative data are rarely interpreted by participants independently of their role perceptions, subjective expectations, pre-conceived interests, and ideological predispositions."\textsuperscript{8}

A second process approach focuses on who makes decisions on public policy; on the characteristics of authoritative actors, the political or social roles they occupy, the interests they represent and their selection and socialization. Research on "community power" has led to two diverging interpretations of the distribution of power in American communities and the consequences of that distribution for public policy. The "power elite" interpretation is that power is concentrated in a relatively few organizations, individuals or roles.\textsuperscript{9} The interpretation holds that this concentration of power has the effect of insuring that decisions on important public policy issues will be consistent with the values of the "power elite."

Advocates of the other predominant interpretation of how power is distributed in American communities—the "pluralist" group—holds that policy is formulated and implemented through highly fragmented structures of semi-independent groups and organizations in both the public and private sector and through a complex system of formal delegation of responsibility and control. Each group pursues its own perception of its interests and its own conception of the public interest. Since power is diffuse no single individual or interest group is believed likely to dominate in decision-making on all important policy issues.\textsuperscript{10}
B. The Decision Environment and Public Policy

Another line of comparative research on urban public policy has focused on public policy as a function of demographic characteristics of the community. Such variables as "per cent homeowners," "per cent ethnic minorities," and "per cent low-income" are correlated with "policy outputs" measured in terms of per capita budget expenditures from municipal budgets or expenditures in specific policy areas such as public health, education and welfare. The theoretical premise of this work is that varying levels of social cohesion—as indicated by demographic characteristics—would cause varying types of demands or pressures for public expenditures. Several studies have found strong statistical relationships between demographic characteristics and budget expenditures. Typical were Dye's findings with respect to educational expenditures in 67 school systems. He found that "wealth" as measured by median family income and property value per pupil was highly correlated with educational expenditures while "non-white population" was inversely correlated to educational expenditures.

Other studies have focuses on governmental characteristics such as "type of executive arrangement," "electoral system" or "degree of reform" either as intervening variables between demographic characteristics of cities and their level of expenditure or as the primary independent variables predicting to levels of expenditure. Typical of this body of research is the analysis of 200 cities by Lineberry and Fowler which indicated that "reformed cities" characterized by such political attributes as non-partisan, at-large elections and council-manager executive arrangements spend less and tax less than unreformed cities characterized by partisan, ward-council elections and mayor-council
None of these approaches to the study of policy-making is exclusive. One finds in each the recognition that the influences which shape the perception of public problems and determine the range of possible responses are multiple. While they differ with respect to the emphasis on what constitutes the major or primary determinant of public policy, they are alike in their emphasis on the selection of policy outputs as the phenomenon which is to be explained.

Figure 4.1 summarizes the current emphasis:

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>policy preludes</em></td>
<td><em>policy output</em></td>
</tr>
</tbody>
</table>

1. Demographic Characteristics
2. Structural Characteristics
3. Leadership Characteristics
   a. Power Elite Focus
   b. Pluralist Focus
4. Decision Process Characteristics
   a. Human Rationality/Incrementalist
   b. Technical Rationality

Figure 4.1: *The Normal Model of Policy Analysis*

Emphasis on public policy outputs as the dependent variables in empirical policy studies, ignores or de-emphasizes an important part of the policy process. Relatively little attention has been given to the substantive effects of the conditions they were designed to correct. The empirical questions of what dilemmas and impacts arise from trying to implement policy; of how purposes and results are related to each other remain not so much unanswered as unasked. This alternative emphasis in policy analysis involves extending the normal model:
These questions imply a conception of policy outputs as the independent variables in policy analysis. While few would disagree with the idea that this is an interesting conception of policy; that it is important to understand the impact of policies and programs, the question remains, how does one do it? How does one undertake, for example, a comparative evaluation of the impact of Model Cities programs? Of alternative crime control measures?

The Analysis of Policy Impacts

The analysis of impacts begins with some agreement about what is meant by concepts such as "policy" and "impact".

The term "policy" as Dolbeare notes, is used rather indiscriminately to describe a number of government activities:

We may speak of government policies in the sense of general goals (prosperity in a peacetime economy, equality of opportunity), or broad statutes associated with general goals (the Employment Act of 1946, the Civil Rights Act of 1964), or in terms of specific provisions (particular titles or sections of statutes, court decisions). At the same time, "policy" may mean the actual practices of officials whose discretionary behavior may be more determinative of what is actually done than is framing legislation or voting for its enactment. Examples of the foregoing readily come to mind: desegregation guidelines formulated by HEW, investigative practices regarding violations, criteria for prosecution of violations, and so on. Or "policy" may take the form of the creation of new forms of governmental organization (new agencies, reapportioned legislatures) or new jurisdictions for establishing units of government (new rights and remedies enforceable in courts). Or "policy" may be seen in durable patterns of government expenditure--supplemented by specific inducements, grants-in-aid, withdrawals, etc. which may in turn be conditioned on specific circumstances.\textsuperscript{15}
Policies can and have been classified according to institutional sources (e.g., "congressional policy"), content (e.g., housing policy), and functional type (e.g., Lowi's distributive, re-distributive and regulative types) and in a variety of other ways. While myriad classifications of policy are possible, the fundamental distinction to be made in this analysis is between "policies" as goal statements embodied in official statements of governmental institutions or programs and "policies" as reflected in the discretionary behavior of governmental officials charged with administering institutions or implementing programs. The former are referred to as "official" policy; the latter as "manifest" policy.

Official policies are the publicly stated purposes for explaining governmental action. Such policies may be embodied in statements of purpose in the enabling legislation establishing a governmental institution or program or statements by authoritative political actors or administrators. A Presidential declaration of a "war on poverty" or a legislative statement of purpose to "preserve prime agricultural land" represent examples of "official" policies.

The notion of "official" policy suggests the conscious selection of certain actions (including inaction) to achieve some public goal. In the normal model of policy research (see Figure 4.2) the analysis ends with the selection of the public goal and the means to implement it. For example, Daniel Moynihan's account of the Nixon administration's attempt to revamp the family assistance program ends, after more than 400 pages of analysis, with the Congressional defeat of the administration's legislative proposal.

The difference between "official" and "manifest" policy was neatly
summarized by former Attorney-General John Mitchell's injunction to Washington reporters to "watch what we (the Nixon administration) do, rather than what we say." A focus on "manifest" policy requires just such an emphasis. The analysis of manifest policy requires the systematic scrutiny of the discretionary behavior of agencies, administrators and other officials to determine what goals or purposes are manifest in the way they allocate resources, enforce air and water quality standards, distribute television licenses or prosecute anti-trust violators. Manifest policies, then, are the policies implied by the aggregation of discrete actions of a particular agency, commission or program. Manifest policies are purposive actions directed toward articulated or unarticulated goals but not random behaviors. The analysis of "manifest" policy is, in large part, a search for hidden public agendas.

Policy Impacts

The normal model of policy research focuses on why official policies have the form they do. The extended model of policy research is organized around the question of what difference an official or manifest policy makes and to whom. In order to determine what differences policies make, the policy analyst focuses on what impacts (or consequences, or effects) result from particular policies.

The concept of "impact" implies that there are measurable attitudinal, behavioral or structural changes in society as a whole or some sub-population. The primary difficulty in impact analysis, as Dolbeare has noted, is that "every policy is but a limited intervention into an ongoing and dynamic social context, in which a large number of powerful forces (mostly private, some public) are operative". Hence, policy impacts lie in a multi-causal nexus, effected directly or indirectly by
program activities and other forces. The impacts of a policy may be direct, or indirect, intended or unintended, immediate or long-term. How broadly the analyst casts the net over potential impacts depends on the purposes of the inquiry. Particular types of impact analysis can be classified according to how the analysis is bounded.

Many types of research activities focus on impacts in one way or another, but for this discussion two broad types of analysis have been identified: traditional evaluation research and policy impact analysis. There are few neat divisions to be made among these types of research, but there are general characteristics which provide for making some useful distinctions. Traditional evaluation research, as used here, refers to the "relatively structured, systematic analysis of operating programs designed to assess their impact of effectiveness in attaining their stated objectives, or to assess their efficiency."19 Most evaluative research activities are attempts to determine whether or not official policy or program goals have been achieved. The traditional evaluative model is shown in Figure 4.3:

![Figure 4.3: The Traditional Evaluative Model](image)

In the traditional evaluative model the basic empirical question is "are the program goals being achieved?" While this model appears quite simple, there is great variability in the scope and methods of such research. Evaluative research activities may be as specific as the analysis of a single curriculum change in a particular classroom or as general as a national evaluation of the community action program. The
methodologies employed in such evaluative efforts range from the purely quantitative based on experimental or quasi-experimental designs to purely qualitative forms of analysis such as case studies.

Literally thousands of such evaluative research efforts have been conducted.20 Most of these efforts have in common a focus on specific public programs or projects, an emphasis on the extent to which the program achieved the stated goals of the program or project and a client group responsible for making policy or for modifying programs in action. Many, indeed most of the traditional evaluative research efforts are government funded evaluations of temporary social programs or projects.

Not all the traditional evaluative efforts fit the goal attainment model described in Figure 4. Some such efforts focus on the management of on-going programs. Such management evaluations take several forms, but two of the most common are accountability audits and administrative audits. Accountability audits typically involve reviews of the consistency, dependability and accuracy of records of program expenditures. Administrative audits are usually reviews of the consistency of staff practices with designated divisions of responsibility and function. The emphasis of such studies is usually on the consistency of administrative practice with generally-accepted norms of "good" management rather than the effectiveness of the agency in meeting its substantive goals.

The principal feature that distinguishes policy impact analysis from the traditional evaluative efforts is the scope of the inquiry. Policy impact analysis asks not simply whether or not the goals of the program were achieved, but more generally, what happened in the implementation of a policy, why did it happen and what difference does it make.
While the term "policy impact analysis," as used here, covers a wide variety of research efforts there seems to be a shared emphasis on one or more elements not usually included in traditional evaluative efforts: namely the socio-political context of policy implementation; the manifest rather than the official policy; and a wider range of impacts.

Policies are implemented in a socio-political context. This context includes all those factors that enhance or impede the policy or program operation; factors such as official policy goals, the skills and energy of program administrators, community acceptance of the program, and other program activities that impact those groups or individuals at whom the policy under examination is directed. These socio-political factors are situational variables in the policy process.

Situational variables are to be distinguished from policy variables. Policy variables are those aspects of program implementation subject to manipulation. For example, in assigning security guards to a high school campus as a means of reducing violence in school, the policy variable is the choice of security personnel rather than some other means of controlling violence, such as isolating alleged troublemakers. This policy process is outlined in Figure 4.4:

![Figure 4.4: A Model of the Policy Process](image)
Some policy studies focus on the relationship between situational variables and policy variables. While political scientists, in particular, have long been interested in what is called "organizational" or "administrative" behavior, the specific concern in this type of analysis is with the mutual interaction of agency characteristics and practices in shaping specific policy contents. For example, in their study of the implementation of the Selective Service Law, Little Groups of Neighbors, Davis and Dolbeare focused on the organization and activities of local draft boards in Wisconsin and how their activities determined who was conscripted for military duty. Similarly, Philip Selznick's classic study, TVA and the Grassroots, represents an early attempt to examine the consequences of citizen participation in a national government agency.

A second sub-set of studies in the policy impact group emphasize manifest policy and the effects of such policy. The assumption around which this research is organized is not just that the means by which policies are implemented are as important as the ends, but rather that the means are the ends; that the real policy content is to be found in the day to day actions by which policies or programs are implemented.

The Supreme Court's Miranda decision, for example, was intended to safeguard the rights of suspects in criminal cases against self-incrimination by forcing police to inform suspects that they have a right to remain silent and to consult with counsel prior to questioning. The impact of the Miranda decision was to set up standards of behavior for the police in dealing with suspects. The objective was the protection of a civil right of suspects and the behavior of police constitutes the means for implementing that goal. An emphasis on manifest policy of police
would involve an analysis of what standards of behavior police were following in dealing with suspected criminals after the Miranda decision. Some such studies of manifest policy of police have been conducted. Examples from other fields include Anderson's study of urban renewal and Jacob's study of wage garnishment.23

A third set of studies under the policy impact rubric focus almost exclusively on impacts of policies. In these studies, the emphasis is on how policies affect certain individuals or groups. In political science, judicial impact studies are perhaps the most prominent example of this genre. As Dolbeare notes, judicial impact studies "involve a discrete policy stimulus (a court decision), identifiable objects (parties to the case or official charged with enforcement responsibilities) and readily dichotomizable responses (compliance or non-compliance)."24 Impact studies can also be found in economics. Representative examples include Bonnen's study of the distribution of benefits from cotton price supports and Hansen and Weisbrod's study of higher education in California.25

The Hansen and Weisbrod study is illustrative of some of the characteristics of this type of study. First out of the total range of impacts that might have been chosen, the authors had to limit their study in some way. In this study the authors focused on the distribution of costs of higher education among economic classes and the question of which economic class benefits most directly from public higher education. This issue of how impacts are chosen and measured is central to the conduct of policy impact analysis.

Problems in Policy Impact Analyses

Policy impact analyses are methodologically and conceptually messy,
a fact which may account for the dearth of studies conducted under this rubric. Such studies involve a number of research dilemmas, of which five are paramount: 1. the value dilemma; 2. the dilemma of research scope; 3. the dilemma of identifying situational variables; 4. the dilemma of choosing impact indicators; and 5. the causality dilemma.

Perhaps the most difficult dilemma is that of determining which among the potential myriad impacts of a policy are worthy of detailed scrutiny. If one of the objectives of policy impact analysis is to assess the value of particular policies, which values should be analyzed? Where does one draw the line between the official values or goals of a policy as a basis for identifying policy outcomes and an altogether arbitrary, investigator-centered selection of values or other criteria. The question here is not just one of which criteria are to be applied, but upon whose criteria will the analysis rest.

A closely-related dilemma is that of research scope. Here the issue is how to bound the inquiry. Should the analysis focus on the direct, intended effects of an official or manifest policy? Should the analysis include unintended, but direct consequences? Secondary and tertiary consequences? There is, in short, no bounding rule; no generally accepted criterion for limiting the scope of the inquiry except those imposed by general norms regarding evidence requirements and plausibility. This issue has to be resolved in the context of the particular research enterprise.

Many of the research efforts cited in the previous section include explicit recognition to what has been called here the dilemma of situational variables. That is to say, most such studies recognize that official policies are transformed into manifest policies and then into
policy outcomes as they are implemented by government agencies. These situational variables include the social and political environment in which policies are implemented and organizational practices and ideologies. Characteristics or organizations and styles of administration are difficult to measure. Whether and to what extent such characteristics should be part of the analysis of impacts also depends on the purposes of the inquiry. However, if the purpose of policy impact analysis is to improve subsequent policy decisions, then a strong argument can be developed that every effort should be made to introduce statistical controls that "partial out" the policy impact of situational variables. The so-called authors of the "Coleman Report" in equality of educational opportunity took great methodological pains to control for the impact of family background, a situational variable, on educational achievement.26

Once it has been determined in the context of a particular study which potential policy impacts are to be examined among the total class of impacts that might be studied it is necessary to determine how those impacts are to be assessed. The assessment of impacts involves the selection of empirical indicators for each potential impact. An indicator makes it possible to determine the degree to which an impact has occurred. The distinction between impacts and impact indicators is important. The selection of potential policy impact is, in large part, a value question; a statement that some policy consequences are, for reasons that may or may not be made explicit, more important than other potential impacts. An indicator, on the other hand, is, or should be, neutral. The important issue is whether or not the indicator is a valid measure of the particular impact under scrutiny. Whether or not
the degree a particular policy impact is "good" or "bad" according to some evaluative norm is a separate issue.

Finally, attempts to impute causality in policy impact analysis presents an important research dilemma. The importance of establishing causal relationships depends on the nature of the particular research enterprise. Whether or not a crackdown on high-speed drivers, for example, is the causal factor in reducing automobile accidents and fatalities is less important than the policy outcome of reduced accidents. With respect to many policy issues, the problem of causality is important. But in the context of vague or shifting policies, numerous intervening variables and poorly defined impacted groups, it is extremely difficult to control for the effects of the policy or program being assessed. The application of experimental or quasi-experimental controls which would allow some basis for rigor in the testing for effects is often simply not possible. Even a comparative analysis of similar policies or programs in other locales may have limited utility because the implementation procedures may not be standardized.

Taken together these dilemmas provide a framework for discussing the problems of analyzing the implementation of Hawaii's Land Use Law.

Policy Analysis of the Land Use Law

Commission decisions on specific petitions before it depend on several factors or what might be called "decision inputs." These "inputs" include not only the specific characteristics of the land unit under petition as they relate to the goals of the Land Use Law, but also the recommendations of the County Councils (or planning commissions), those of the Land Use Commission's own staff and other social and political forces. Figure 4.6 illustrates this process.
The first part of the analysis that follows focuses on county and Commission staff recommendations as factors in the Commission's decision environment. At issue is the degree of discretion exercised by the Commission in adhering to county and staff recommendations. The focus is on the degree of agreement between county recommendations and Commission decisions, by county and by time period; between staff recommendations and Commission action by county and time period; and between the Commission staff and the Commission in regard to petitions involving large land units.

This issue of discretion provides a useful, albeit limited basis for the evaluation of Commission action. In part, this perspective on the degree of discretion speaks to one of the issues associated with municipal practices in administering zoning changes; namely that zoning administration is characterized by a high degree of arbitrariness and inconsistency; practices that most commentators ascribe to a lack of standards or rules to guide decisions or to political chicanery—or both.
Two types of discretionary behavior are examined here. The first type is political. The question is whether or not Commission actions in regard to boundary amendments are consistent with the recommendations of elected county officials. The second type of discretionary behavior has to do with the Commission's response to professional planning expertise. To what extent are Commission decisions consistent with the recommendations of its professional staff?

A third factor in the decision environment are the characteristics of the land unit under petition. The Commission must determine whether or not the attributes of a land unit such as its location, topography and suitability for cultivation are consistent with whatever factors govern the determination of whether or not a petition should be approved, either wholly or in part, or denied.

A fourth type of situational variable consists of other social, political or economic factors that enter into Commission decision processes. Such "informal" decision criteria might include the political influence of the petitioner, the amount of opposition mounted against a particular petition, secret "deals" between Commissioners and the petitioner or any of a host of other factors.

In this analysis, no attempt has been made to construct a causal model of Commission decision procedures that would combine all these decision inputs such that it might be possible to examine the relative importance of each input in predicting Commission decisions. Rather, the emphasis has been on patterns of associations between specific decision inputs, and Commission decisions. The primary objective has been to reconstruct Commission policies for determining whether or not to approve or deny a petition and on the impacts of those policies.
Decision Outputs: The Analysis of Manifest Commission Policy

Since eighty-six per cent of the petitions before the Commission between 1964 and 1974 involved requests to redistrict land from Conservation, Rural or Agriculture to Urban designation, the analysis of Commission policies deals exclusively with those petitions for Urban designation. The Commission's decisions on those petitions are the critical state growth management decisions.

How are these policies to be identified? As indicated in the previous chapter, the Commission's Land Use District Regulations sets forth several standards that a particular land unit is expected to meet before it can be redistricted Urban. Is the slope of the land unit greater than twenty per cent? Is it agriculturally productive land? Is the land unit adequately served by public facilities and services? Taken together the answers to these and other questions provide a description of the attributes of the land unit under petition. By analyzing which attributes have consistently been associated with a decision to approve a particular petition and which have led to denial, it should be possible to identify a Commission policy or set of policies, if the Commission has been somewhat consistent.

The standards governing changes to Urban designation have been examined not in terms of their content, but as decision criteria. In this context the operative question, then, is not whether the standards themselves are "good" according to some set of values, but rather whether or not particular decisions are warranted given the criteria that the Commission has adopted and applied.

The data and the methodological technique used in the delineation of manifest Commission regulatory policy is discussed in Chapter 6.
Several research questions are addressed in that section: Which decision standard or combination of standards best distinguish between those petitions that were approved wholly or in part and those that were denied? Has Commission policy changed during the history of the Commission? Are there differences in Commission policies in dealing with urban Oahu as opposed to the more rural Neighbor Islands? Is it possible to identify specific petitions that were approved or denied in spite of rather than because of Commission policy; that is to say petitions to which Commission policy does not apply? Finally, based on an analysis of all petitions, is it possible to infer what other criteria may have entered into the decision-making processes of the Commission?

Several potential impacts of the Land Use Law will be examined. If, as was suggested in the analysis of the Land Use Law, the primary impacts of the implementation of the Land Use Law are on the supply and location of new urban land two important empirical indicators of Commission performance are the amount and regional distribution of urban land. Is the supply of urban land sufficient to meet the needs for developable land for Hawaii's growing population? Has the supply of new urban land been allocated to regional growth centers on the basis of historical growth patterns or has the Commission sought to guide urban expansion in some other directions?

One of the official goals of the Land Use Law was to preserve prime agricultural land. Hence, another important indicator of Commission performance is the extent to which prime agricultural land has been reserved for agricultural uses. How much agricultural land has been converted to Urban designation? What is the impact of such conversions on the agricultural industries?
Certain types of land units are more environmentally suitable for urban uses than others. A land unit's slope, soil characteristics, drainage and other attributes may be such that development of that unit will result in serious environmental damages. Whether and to what extent the Commission has been sensitive to these environmental issues is a third important indicator of Commission performance.

Finally, an allocative authority such as the Land Use Commission develops a political "style": a pattern of balancing conflicting demands. In the case of the Commission the basic conflict has been between satisfying the demands of the development industry, land owners, construction firms, bankers, building trade unions and housing consumers on the one hand, against those seeking to preserve agricultural lands for agricultural uses, and those seeking to preserve open spaces and other environmental amenities on the other. How has the Commission sought to reconcile these conflicting demands? Is it possible to identify implicit or explicit decision criteria have been developed by the Commission to legitimate their decisions?

Taken together these issues related to the official goals of the Land Use Law, to the Commission's actual role in land management and to broad social goals provide a well-rounded perspective for gauging the effectiveness of Hawaii's Land Use Law.
FOOTNOTES FOR CHAPTER IV

1. David Meckler, "Hawaii Had a Good Idea...But It Failed," Planning (September, 1973), p. 28


3. Ibid., p. 4

4. Ibid.

5. Ibid.


The Analysis of Commission Discretion

The Land Use Commission adopted permanent boundaries in 1964. The law provides for the amendment of these boundaries by two means: 1) during the boundary review process which must be conducted every five years; or 2) by favorable action by the Commission on petitions submitted by landowners, holders of development rights, counties, state agencies or the Commission itself.

This section focuses on these so-called "interim" decisions; that is to say, petitions acted upon by the Commission between boundary reviews. The Commission has acted upon 257 such petitions in the ten year period from the adoption of permanent boundaries until June, 1974. Table 5.1 presents the distribution of petitions among the islands.

Table 5.1

<table>
<thead>
<tr>
<th>Island</th>
<th>Number of Petitions</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>105</td>
<td>40.9%</td>
</tr>
<tr>
<td>Kauai</td>
<td>42</td>
<td>16.3%</td>
</tr>
<tr>
<td>Maui</td>
<td>46</td>
<td>17.9%</td>
</tr>
<tr>
<td>Oahu</td>
<td>64</td>
<td>24.9%</td>
</tr>
<tr>
<td>Total</td>
<td>257</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The law stipulates that a petition for a boundary change must be forwarded to the county in which the land unit under petition is located for recommendations and comments by the county planning agency and/or county legislative body. The Land Use Commission staff also makes
recommendations on each proposed boundary change.

This section focuses on the extent to which Land Use Commission decisions on specific petitions follow the recommendations of county officials and its own professional staff. The specific questions to be answered in this portion of the analysis are these: How rigidly have the permanent boundaries been enforced? What is the degree of agreement between county recommendations and Commission action?

As noted in the previous section, data was collected on each of the interim boundary petitions. Only petitions that were acted upon by the Commission have been included. None of the petitions that was withdrawn before final Commission action was included. How rigidly have the permanent boundaries adopted in 1964 and amended in 1969 been enforced?

Act 187, as amended, stipulates that "(N)o .boundary change shall be approved unless the petitioner has submitted proof that the area is needed for a use other than that for which the district in which it is situated is classified and either of the following requirements has been fulfilled: a) the petitioner has submitted proof that the land is usable and adaptable for use it is proposed to be classified, or b) the conditions and trends of development have so changed since the adoption of the present classification that the proposed classification is reasonable."

"Need" is therefore the primary legal test for approving a boundary change. While need is nowhere expressly defined, data on how strictly the boundaries have been enforced provides some indication of the Commission's perspective on this criteria. Table 5.2 summarizes Commission actions.
Table 5.2

<table>
<thead>
<tr>
<th>Island</th>
<th>Approved</th>
<th>%</th>
<th>Partial Approval</th>
<th>%</th>
<th>Denial</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>63</td>
<td>60.0%</td>
<td>15</td>
<td>14.3%</td>
<td>27</td>
<td>25.7%</td>
</tr>
<tr>
<td>Kauai</td>
<td>25</td>
<td>59.5%</td>
<td>10</td>
<td>23.8%</td>
<td>7</td>
<td>16.7%</td>
</tr>
<tr>
<td>Maui</td>
<td>31</td>
<td>67.4%</td>
<td>6</td>
<td>13.0%</td>
<td>9</td>
<td>19.6%</td>
</tr>
<tr>
<td>Oahu</td>
<td>34</td>
<td>53.1%</td>
<td>14</td>
<td>21.9%</td>
<td>16</td>
<td>25.0%</td>
</tr>
<tr>
<td>Total</td>
<td>153</td>
<td>53.1%</td>
<td>45</td>
<td>21.9%</td>
<td>59</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

For the state as a whole, three-fourths of the petitions submitted to the Commission were approved either wholly or in part during the ten year period since the adoption of permanent boundaries. The rate of approval was even higher on Kauai and Maui.

Of the 257 petitions acted on by the Land Use Commission 250 involved requests for more intensive land uses. Some petitions proposed multiple amendments involving several districts. Cases involving multiple amendments were tabulated according to primary proposed use. More specifically, if a petition involved a downzoning of a minor portion of land in conjunction with an upzoning of a larger unit, the downzoning was not tabulated. Table 5.3 summarizes types of petitions according to the requested district classification:
Table 5.3
Proposed District Classification of Interim Boundary Petitions
1964-1974, by Island

<table>
<thead>
<tr>
<th>Island</th>
<th>To Urban</th>
<th>To Rural</th>
<th>To Agriculture</th>
<th>Downzones</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>97</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>Kauai</td>
<td>28</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td>Maui</td>
<td>35</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>Oahu</td>
<td>61</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>64</td>
</tr>
<tr>
<td>Total</td>
<td>221 (86.0%)</td>
<td>23 (9.0%)</td>
<td>6 (2.3%)</td>
<td>7 (2.7%)</td>
<td>257</td>
</tr>
</tbody>
</table>

Eighty-six percent of all petitions involved requests for changing a district classification from Agriculture, Conservation or Rural district classification to Urban. Another nine percent of the petitions involved requests for Rural district classification—a use classification applicable only to the Neighbor Islands that allows for large lot subdivisions.

Whether or not such a high approval rate of lands to be used primarily for urban purposes is consistent with the intent of the Land Use Law is difficult to determine without examining the substantive merits of each case. On the surface the approval rate suggests at least the following: 1) the boundaries were badly drawn in 1964 and therefore in need of amendment; or 2) that "conditions and trends of development" have changed so rapidly as to make such amendments necessary; or 3) the Land Use Commission is rather permissive in acting on petitions.\(^3\)

Comparing Commission decisions with the recommendations of County officials and the Commission's professional staff provides other perspectives on how justified Commission actions have been.
What is the degree of agreement between county recommendations and Commission action: Is the Commission more "change oriented" than the counties?

One of the standard arguments in favor of centralized land use control authority at the metropolitan, regional or state level is that such authorities would be less responsive to the political pressures that are characteristic of local zoning processes.

The question of whether or not Commission decision-making processes are more or less political than the typical zoning decision-making process cannot be answered by focusing solely on Commission decisions or voting patterns of the Commissioners. Political pressures can be mobilized by groups with different goals, by anti-development groups as well as pro-development forces. Such pressures are likely to be case-specific in their intensity and in the direction of the pressure. Without inquiring into the substance of each case, one cannot make inferences about the process on the basis of the decision reached unless what is meant by "political decisions" is all decisions with which the analyst disagrees.

If, however, we understand "political" decisions to mean seemingly arbitrary ones, decisions that do not conform to the applicable rules, guidelines or criteria that are intended to govern regulatory decision-making, then it is possible to provide one perspective about the degree to which "politics" is a part of the decision-making process by conducting a case-by-case analysis of the extent to which decisions conform to such guidelines. Such a perspective is offered in a subsequent section (see the analysis of manifest policy). In this
section a different perspective on "arbitrariness" of Land Use Commission
decision-making is offered. Here the focus is on the extent to which
Land Use Commission decisions are consistent with the recommendations
of 1) county planning authorities and 2) its own staff.

Such a perspective has two advantages. First, it indicates the
sensitivity of the state authority to local preferences. Secondly, it
provides a limited basis for determining which of the two authorities is
more permissive in the control process; that is to say, which authority
is more likely to approve requests for more intensive land uses. Data
on the latter perspective must be interpreted with caution. To say that
the counties are more permissive because they are more likely to approve
amendments to the Land Use Commission boundaries (as the data indicate)
may not be accurate. Land which is redistricted urban passes from state
control to county control. Hence, without data on what uses are
permitted on redistricted urban land by the counties, it would be
presumptuous to infer that in fact the counties are more permissive.
Similarly, whether or not Commission decisions have been wholly
consistent with County recommendations does not, by itself, indicate the
degree to which Commission decisions have been arbitrary. It is merely
one of several perspectives which, taken together, provide a basis for
evaluative judgments.

The data have been organized as follows: The eleven year history
of the Commission since the adoption of permanent boundaries has been
divided into three periods corresponding to the tenure of the Executive
Officers of the Commission staff. The basis of this division is that
to the extent that there have been policy shifts in Commission actions,
they are more likely to be reflected in the choice of an executive officer rather than in specific time segments. The first period corresponds to the period after the adoption of permanent boundaries in which Ray Yamashita was still the Executive Officer (until April 15, 1965) and that period in which George Moriguchi served as Executive Officer (from July 1965 to July 1966). The second period corresponds to the tenure of Ramon Duran (February, 1967 to March, 1971); the third to that of Tatsuo Fujimoto (March 1971 to 1975). Secondly, the data on recommendations and decisions was arranged by island for each time period.

The county recommendations and Commission actions were then organized as illustrated in Figure 5.1.

```
<table>
<thead>
<tr>
<th>County Recommendation</th>
<th>Denial</th>
<th>Partial Approval</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>Denial</td>
<td>G</td>
<td>H</td>
<td>I</td>
</tr>
</tbody>
</table>
```

Figure 5.1: County Recommendations and Land Use Commission Action

Those petitions located in cells G, E and C are the petitions on which there was agreement between the County and the Commission about the appropriate action, whether it be approval, partial approval or denial. The percentage of the total number of cases for a specific island and time period falling in these three cells represents the
"degree of agreement" between recommendations by the County (or Land Use Commission staff) and Commission action. Cases in cells H, F, and I represent instances in which county or state recommendations were less permissive than Commission action; that is to say those cases in which the County (or Commission staff) recommended a less intensive land use than approved by the Commission. Those cases located in cells A, B, and D represent instances in which Commission action was less permissive than County or Commission staff recommendations.

Data indicating the relationship between County recommendations and Commission action are shown in Table 5.4. Only those petitions which requested a more intensive land use are included here.
Table 5.4
Degree of Agreement between County Recommendations on Interim Boundary Petitions and Land Use Commission Action, by Island and Time Period

<table>
<thead>
<tr>
<th>Island/Time Period</th>
<th>County/Commission Agreement</th>
<th>%</th>
<th>Commission Permissive</th>
<th>%</th>
<th>County Permissive</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hawaii</strong></td>
<td>(G, E, C)</td>
<td></td>
<td>(H, F, I)</td>
<td></td>
<td>(A, B, D)</td>
<td></td>
</tr>
<tr>
<td>Yamashita/Moriguchi</td>
<td>15</td>
<td>65.2</td>
<td>1</td>
<td>4.4</td>
<td>8</td>
<td>34.8</td>
</tr>
<tr>
<td>Duran</td>
<td>25</td>
<td>64.1</td>
<td>0</td>
<td>-</td>
<td>14</td>
<td>35.9</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>29</td>
<td>74.4</td>
<td>2</td>
<td>5.1</td>
<td>8</td>
<td>20.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>69</td>
<td>67.6</td>
<td>3</td>
<td>2.9</td>
<td>30</td>
<td>29.4</td>
</tr>
<tr>
<td><strong>Kauai</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamashita/Moriguchi</td>
<td>7</td>
<td>100</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Duran</td>
<td>22</td>
<td>78.6</td>
<td>2</td>
<td>7.1</td>
<td>4</td>
<td>14.3</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>4</td>
<td>80</td>
<td>1</td>
<td>20</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>33</td>
<td>82.5</td>
<td>3</td>
<td>7.5</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td><strong>Maui</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamashita/Moriguchi</td>
<td>2</td>
<td>40</td>
<td>0</td>
<td>-</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Duran</td>
<td>21</td>
<td>81.5</td>
<td>1</td>
<td>3.7</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>12</td>
<td>85.7</td>
<td>2</td>
<td>14.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>77.7</td>
<td>3</td>
<td>6.7</td>
<td>7</td>
<td>15.5</td>
</tr>
</tbody>
</table>
### Table 5.4 (continued)
Degree of Agreement between County Recommendations on Interim Boundary Petitions and Land Use Commission Action, by Island and Time Period

<table>
<thead>
<tr>
<th>Island/Time Period</th>
<th>County/Commission Agreement</th>
<th>%</th>
<th>Commission Permissive</th>
<th>%</th>
<th>County Permissive</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oahu</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamashita/Moriguchi</td>
<td>6</td>
<td>60</td>
<td>1</td>
<td>10</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Duran</td>
<td>22</td>
<td>70</td>
<td>3</td>
<td>6.7</td>
<td>6</td>
<td>23.3</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>14</td>
<td>75</td>
<td>2</td>
<td>12.5</td>
<td>2</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42</td>
<td>71.2</td>
<td>6</td>
<td>10.2</td>
<td>11</td>
<td>18.6</td>
</tr>
<tr>
<td><strong>All Islands</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamashita/Moriguchi</td>
<td>30</td>
<td>65.2</td>
<td>2</td>
<td>4.3</td>
<td>14</td>
<td>30.4</td>
</tr>
<tr>
<td>Duran</td>
<td>90</td>
<td>72.6</td>
<td>6</td>
<td>4.8</td>
<td>28</td>
<td>22.6</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>59</td>
<td>72.6</td>
<td>7</td>
<td>9.2</td>
<td>10</td>
<td>13.7</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>179</td>
<td>73.0</td>
<td>15</td>
<td>6.0</td>
<td>52</td>
<td>21.0</td>
</tr>
</tbody>
</table>
The data in Table 5.4 indicate a strikingly high degree of agreement between county recommendations and Commission action. Across islands the "degree of agreement" was about 65 per cent for the first time period, 72 per cent for the second and 76 per cent for the third time period. There is a second striking feature about these data: the degree of agreement has increased over time. Thirdly, the counties have become less permissive in their recommendations relative to Land Use Commission action over time. In the first time period, County recommendations would have allowed for more intensive land uses than allowed by the Commission in about 30 per cent of the petitions before the Commission. In the second time period, County recommendations were more permissive with respect to about 22 per cent of the petitions; while in the third period the figure was only 13 per cent.

A county-by-county inspection of the data indicates that the highest "degree of agreement" has been on Maui and Kauai. However, Hawaii and Oahu have had larger numbers of petitions before the Commission.

What does all this indicate about state and county relations in land use control? Bearing in mind that "degree of agreement" usually means agreement that a petition should be approved or partially approved, an increasingly high "degree of agreement" between the Commission and the counties indicates implicit agreement about how lands should be allocated among uses. It may also be that through the years the Commission has become increasingly sensitive to the same political forces that influence local land use regulatory authorities.
What is the degree of agreement between Land Use Commission Staff recommendations and Commission action? Is the Commission more "growth oriented" than the staff?

In this portion of the analysis Land Use Commission staff recommendations on each petition before the Commission are substituted for county recommendations in the previous section. Data on the degree of agreement between staff recommendations and Commission actions are presented in Table 5.5. Again, only petitions for more intensive land uses are included in these data (250 out of a total of 257 petitions).
Table 5.5
Degree of Agreement between Land Use Commission Staff Recommendations on Interim Boundary Petitions and Land Use Commission Action by Island and Time Period

<table>
<thead>
<tr>
<th>Island/Time Period</th>
<th>County/Commission Agreement</th>
<th>County/Commission Permissive</th>
<th>County/Commission Permissive</th>
<th>%</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hawaii</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yamashita/Moriguchi</td>
<td>20</td>
<td>3</td>
<td>12.5</td>
<td>1</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>Duran</td>
<td>28</td>
<td>9</td>
<td>22.5</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Fujimoto</td>
<td>37</td>
<td>2</td>
<td>5.1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>85</td>
<td>14</td>
<td>13.6</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>Kauai</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yamashita/Moriguchi</td>
<td>4</td>
<td>3</td>
<td>42.9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duran</td>
<td>24</td>
<td>3</td>
<td>10.7</td>
<td>1</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Fujimoto</td>
<td>5</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>33</td>
<td>6</td>
<td>15</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Maui</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yamashita/Moriguchi</td>
<td>4</td>
<td>1</td>
<td>20</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duran</td>
<td>19</td>
<td>7</td>
<td>26.9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fujimoto</td>
<td>13</td>
<td>1</td>
<td>7.1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>9</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 5.5 (continued)

Degree of Agreement between Land Use Commission Staff Recommendations on Interim Boundary Petitions and Land Use Commission Action by Island and Time Period

<table>
<thead>
<tr>
<th>Island/ Time Period</th>
<th>County/ Commission Agreement</th>
<th>Permissive %</th>
<th>County Permissive</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oahu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamashita/ Moriguchi</td>
<td>8</td>
<td>2</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Duran</td>
<td>21</td>
<td>9</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>19</td>
<td>0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>11</td>
<td>18</td>
<td>2</td>
</tr>
</tbody>
</table>

| All Islands        |                             |              |                  |   |
| Yamashita/ Moriguchi| 36                          | 9            | 19.6             | 1  | 2.2 |
| Duran               | 92                          | 28           | 22.6             | 4  | 3.2 |
| Fujimoto            | 74                          | 3            | 3.8              | 2  | 2.5 |
| Totals              | 202                         | 40           | 16               | 7  | 3   |
The degree of agreement between the Land Use Commission staff and the Commission is even higher than that between the Counties and the Commission. During the tenure of the first two Executive Officers of the staff, Yamashita and Moriguchi, the "degree of agreement" across islands was about 78 per cent, although the Commission allowed a more intensive land use than recommended by the staff in about 20 per cent of the petitions before the Commission in that period. The "degree of agreement" during the tenure of Executive Officer Ramon Duran was similar to that in the first period: 74.2 per cent. During Duran's tenure the Commission approved more intensive land uses than recommended by the staff in about 23 per cent of the petitions before the Commission.

During the tenure of the current Executive Officer, Tatsuo Fujimoto, the degree of agreement has jumped to nearly 94 per cent. The Commission approved more intensive land uses than recommended by the staff in only 6 per cent of the petitions before the Commission.

On the surface, these data suggest either a remarkable consensus among staff and commissioners on both the intent of the law and its application to particular petitions, or, at the very least, widely shared beliefs about how the law should be implemented, irrespective of its intent.

In spite of this apparent consensus there have been large divisions between the staff and the Commission that are not reflected in the simple output measure of consensus that has been examined here. The decision category "partial approval" masks one such possible difference. In the data above, if the staff recommended partial approval and the Commission partially approved the petition, such
decisions were counted as "agreeing" even if the actual acreage approved by the Commission was substantially greater than that recommended by the Commission staff.

A second, more fundamental objection to the sort of simple decision analysis employed above is that all decisions are given equal weight in the analysis. Critics of the Land Use Commission have argued that the Commission is frequently faithful to the intent of the law when it acts on petitions involving small land units, but that is more permissive in its dealings with large landowners. The empirical question of whether or not "significant" petitions--significant in terms of size and location--results in a higher rate of approval is examined below.

Are petitions involving large land units more likely to be favored by the Commission than petitions involving small land units?

Behind this question lies the suspicion that there is an identifiable class of landowners or developers that is systematically treated more favorably by the Commission than other landowners or developers. In posing this question, then critics are suggesting that size of a land unit is a useful surrogate for that ephemeral commodity political influence.

Thirty one petitions requesting Urban or Rural district designation were identified that involved land units of more than 150 acres and were submitted by private owners and developers. No petitions by state agencies or county authorities were included in this group. Fourteen of the petitions involved land units on Oahu; eleven were on Hawaii; six were on Maui; and none was on Kauai. The data are summarized in Table 5.6.
<table>
<thead>
<tr>
<th>Land Use Commission Actions</th>
<th>Denial</th>
<th>Partial Approval</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Petitions</td>
<td>5</td>
<td>0</td>
<td>116</td>
</tr>
<tr>
<td>Land Use Commission Staff</td>
<td>0</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>Recommendations</td>
<td>53</td>
<td>13</td>
<td>25</td>
</tr>
</tbody>
</table>

**Small Petitions**

<table>
<thead>
<tr>
<th>Land Use Commission Actions</th>
<th>Denial</th>
<th>Partial Approval</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>5</td>
<td>0</td>
<td>109</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>0</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Denial</td>
<td>48</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Sums</td>
<td>53</td>
<td>30</td>
<td>134</td>
</tr>
</tbody>
</table>

**Large Petitions**

<table>
<thead>
<tr>
<th>Land Use Commission Actions</th>
<th>Denial</th>
<th>Partial Approval</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>0</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Denial</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Sums</td>
<td>5</td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

Figure 5.2: Commission and Staff Agreement on Small and Large Petitions
With the data in Figure 5.2 it is possible to make several interesting comparisons. Note that the Commission was more likely to approve more intensive uses involving large land units than small units. The rate of approval for large petitions was about 84 per cent as opposed to nearly 76 per cent for small petitions. There was also more agreement between the Commission staff and the Commission regarding small petitions than large. The Commission allowed a more intensive use with respect to nearly 26 per cent of the large petitions as compared to about 16 per cent of the small petitions. Since this analysis includes all petitions for more intensive land uses acted on by the Commission, these differences are statistically significant.

These data indicate that large land units are more likely to be approved by the Commission than small units. It is possible to infer on the basis of approval rates that there are some political forces at work that accounts for these differences, but a more suitable test of such a hypothesis requires more data than are presented here.

The significance of the Commission's decisions to approve more intensive land uses than recommended by the staff becomes more clear when one looks at the amount of acreage involved. Table 5.6 below focuses on those petitions in which the Commission approved a more intensive land use than recommended by the staff.
### Table 5.6

Acreage Involved in Differences Between Staff Recommendation and Commission Action on Petitions Larger than 150 Acres

<table>
<thead>
<tr>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Number of Petitions</th>
<th>Acres Recommend/Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staff</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>Partial Approval</td>
<td>11</td>
<td>2271.3</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>Approval</td>
<td>2</td>
<td>1100.0</td>
</tr>
<tr>
<td>Denial</td>
<td>Partial Approval</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Denial</td>
<td>Approval</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>19</td>
<td>3371.3</td>
</tr>
</tbody>
</table>

1 The Lanai Company petition (A72-349) accounts for 3,140 acres of this total.
2 The Boise Cascade petition (A68-194) accounts for 3,415 acres of this total.
These data indicate that in spite of the fact that the Commission and its staff were in apparent agreement about the disposition of nearly three-fourths of the petitions involving large land units, their differences resulted in more than ten thousand acres being districeted Urban or Rural over staff recommendations.

One implication of this finding is that focusing on the "degree of agreement" between Commission decisions and the recommendations of counties or the Commission staff is an insufficient basis for making inferences about whether or not Commission actions lack a planning rationale. The rather high "degree of agreement" suggests that there is some consensus about the petitions. The substantial differences between staff recommendations and Commission actions with respect to large petitions suggests, at the very least, rather large divisions of opinion regarding land allocation.

Has there been any discernible change over time in the Commission's willingness to grant petitions?

There has been a great deal of discussion nationally about a "new mood" in land use control. The suggestion is made that public consciousness about environmental affairs has led to a greater willingness to support tighter controls on land use. The question here is whether or not this "mood" is reflected in a willingness to deny petitions before the Commission. The focus here is on Commission decisions only. The substantive merits of decisions and new legislation affecting the Commission—as well as other possible manifestations of such a mood—are not a part of this portion of the analysis.

Table 5.7 sums up the rate of approval for each time period on petitions for more intensive land uses.
Table 5.7
Approval Rate for Petitions for More Intensive Land Uses by Island and Time Period

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Petitions Requested</th>
<th>Petitions Approved</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yamashita/Moriguchi</td>
<td>46</td>
<td>33</td>
<td>71.7</td>
</tr>
<tr>
<td>Duran</td>
<td>124</td>
<td>97</td>
<td>78.2</td>
</tr>
<tr>
<td>Fujimoto</td>
<td>79</td>
<td>61</td>
<td>77.2</td>
</tr>
</tbody>
</table>

It is apparent from these data that if there is a "new mood", it is not reflected in the petition approval rate. The differences in the approval rate for each time period as indicated in Table 5.7 above are not practically significant.

The focus on Commission decisions on interim boundary petitions indicated that:

1) The Commission approved or partially approved 77 per cent of the petitions.

2) The "degree of agreement" between County authorities and the Commission with respect to petitions for more intensive land uses was high and seems to be increasing over time. In general, the county councils recommended more intensive land uses than permitted by the Commission.

3) The "degree of agreement" between the Commission staff and the Commission was even higher than between the counties and the Commission. However, the Commission was more permissive than the staff with respect to the land uses it allowed.
4) The approval rate for large petitions was higher (84 per cent) than for small petitions (76 per cent). In spite of what appears to be a high level of consensus between the Commission and its staff, a more detailed analysis of the actual acreage represented by their differences indicated that more than ten thousand acres were involved.

5) There was no discernible change in the rate of approval of petitions over time sufficient to warrant inferences about a "new mood" that would be manifested in tighter land use controls.
1. The decisions made during the 1969 and 1974 boundary reviews were not included in the decision-making analysis described in Chapters five and six. The information on the 1969 boundary review was not accessible at the time data for this study was collected. In any case, data on land units considered in both boundary reviews were not as complete as those collected for petitions nor were they in a format that allowed for the same sort of statistical analysis described in this and succeeding chapters.

2. Withdrawals involved about three per cent of the total number of petitions acted on by the Commission.

3. While there is little evidence the Commission files to indicate the extent to which the Commission sought to analyze "conditions and trends of development" using objective criteria it is possible to develop such a test. One possible test might involve calculating land absorption rates for units such as census tracts or tax districts. Building permits or grading permits might be used to develop such a test.

4. Since some of the cells have zeros no tests for association were calculated on these data.
CHAPTER VI

The analysis of manifest Land Use Commission Policy examines the commission decisions in terms of the criteria for urban zoning set forth in the Commission's Rules of Practice and Procedure.\(^1\)

In determining to what extent Commission decisions have been faithful to the criteria, the initial analytical step is to determine whether or not the facts of a particular petition warrant the application of a particular standard or criterion. If, for example, a petition for a boundary change to Urban designation involving an agricultural parcel that is rated "prime" in terms of potential productivity, obviously the standard enjoining the re-districting of prime agricultural land applies. Other standards are somewhat more ambiguous, even contradictory. Hence, some judgment is necessary as to whether a particular standard or criterion applies to a particular petition.

How are these judgments to be made? In the absence of wholly independent data on the applicability of the standards to each petition, other data sources have to be relied upon. As noted above, the County Councils make recommendations on each petition within their jurisdiction, but they are not legally obligated to base their recommendations on the Commission's standards. The Land Use Commission's staff is, however, obligated to base their recommendations on each petition on the Commission's standards. Each petition file contains a staff report which reviews the applicability of the standards to the particular petition. The judgmental classifications in this step of the analysis are based on the assumption that the staff report contains an accurate representation of the applicability of the standards to each case.
This assumption is based on the empirical premise that the standards or criteria have objective correlates in the particular land unit under petition; that wholly different interpretations of the standards as they apply to particular petitions are not likely. This assumption weakens the validity of the data, but given the large number of petitions being analyzed it seems likely that most of the idiosyncratic bias introduced by this assumption would "wash out" in the analysis.

Decision criteria are meant to be guides to decision-making. Their application to particular land use petitions involves judgments by the Commissioners about the probable consequences resulting from adhering to or ignoring particular criteria in particular cases.

While it would be extremely difficult to divine the motives that moved individual Commissioners to apply or ignore particular criteria in particular cases, it is possible to determine empirically which criteria the Commission has systematically chosen to emphasize or ignore. Those criteria which the Commission has repeatedly emphasized or ignored can be said to constitute Commission policy regarding the re-districting of land units to Urban designation.

The primary tasks of the second step in the analysis, then, is to determine Commission policy by identifying those criteria or standards that the Commission has repeatedly emphasized in deciding on specific petitions.

How, for example, has the Commission reconciled the potential conflict between insuring a "sufficient reserve" for urban growth with "preserving prime agricultural land" when these two decision criteria conflict in a particular petition?

If it is possible to identify a Commission policy regarding land
use district boundary changes to Urban from an empirical analysis of all such petitions before the Commission, then it should also be possible to "predict" the outcome of individual cases on the basis of this policy. This post hoc classification of individual petitions is both a test of the consistency with which Commission policy has been applied and a means of identifying individual cases in which other decision criteria were paramount. For example, given the intent of the Land Use Law, one might expect to find that the Commission has emphasized those decision criteria that place particular emphasis on not taking prime agricultural land out of production and ensuring that changes in district boundaries will not contribute to scattered urban development. If these criteria do constitute Commission policy then an important part of the analysis is to identify particular petitions that do not meet this policy test, but were approved nonetheless.

The third step of the analysis that follows examines in detail a sample of petitions that are not representative of the Commission's policy emphasis. What characteristics do these petitions have, if any, that set them apart from the majority of petitions processed by the Commission? What decision criteria did the Commission appear to emphasize in these cases? What criteria did they ignore?

The Data

The first stage of the data collection involved making a short narrative synopsis of about thirty petitions. After spending several weeks getting a feel for the data, a coding scheme was developed and revised for those petitions involving proposals to change boundaries from Agricultural, Conservation or Rural district designation to Urban. All petitions involving changes to Urban—including the original thirty—
were examined and coded. In addition, a brief synopsis was prepared for each petition including those that did not involve changes to Urban districts. All 218 petitions involving changes to Urban district in the ten year period from 1964 upon which the Commission took some final action are included in this section of the analysis.

Petitions acted upon prior to 1964 when permanent boundaries and the Rules and Regulations governing boundary changes were adopted were not included in this analysis. Also dropped from the analysis were those petitions that were withdrawn by the petitioners. Although the number of petitions that were withdrawn is small, they represent a class of Commission "actions" that deserve a brief comment. The decision to withdraw a petition often appeared to be a result of an unfavorable County recommendation or LUC staff report. Hence, the class of "denials" is actually somewhat larger than would appear to be the case if one examines only those petitions upon which formal Commission action was taken. Finally, none of the decisions made by the Commission during the five year boundary reviews are included in this analysis. The data on the boundary reviews are too sparse for systematic analysis.

The dependent variables in this analysis are the three categories of Commission action: approval, partial approval or denial. Each of the 218 petition falls into one of these three categories.

The independent variables are the decision criteria cited in the Rules and Regulations. Nineteen such criteria may have been abstracted from that citation. Since several of the petitioners were represented by prominent attorneys an additional variable indicating whether or not the petitioner had legal counsel was included. Table 6.1 indicates the decision criteria that were included:
Table 6.1
Standards for Determining Urban District Boundaries
(AND DATA CODE) Decision Standard

Petitioner represented by legal counsel (LAWYER)

It (the Urban district) shall include land characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses. (CITYCON)

It shall take into consideration the following specific factors:

Proximity to centers of trading and employment facilities except where the development would generate new centers of trading and employment. (PROX)

Substantiation of economic feasibility by the petitioner. (ECONEA)

Proximity to basic services such as, water, (WATER)

(electricity), (ELEC)

sewers, (SEWER)

(roads), (ROAD)

schools, (SCHOOL)

parks, (PARK)

sanitation, police and fire protection.

Goals and objectives of the State and County.

Sufficient reserve areas for urban growth in appropriate locations based on a ten (10) year projection.2 (SUFRES)

It shall include plantation camps that are characterized by residences, school, businesses, and other related uses. (PLACAM)

Lands included shall be those with satisfactory topography (TOPOG)

and drainage (DRAIN)

and reasonably free from the danger of floods, tsunami (FLOOD)

and unstable soil conditions. (SOIL)

In determining urban growth for the next ten years, or in amending the boundary, lands contiguous with existing urban areas shall be given more consideration than non-contiguous lands, particularly when indicated for future urban use on State or County General Plans.2

It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on State or County General Plans.3 (CNGPLN)

Lands with a high capacity for intensive cultivation shall not be included in this District when other lands are available that can adequately serve the urban needs. (PRIMAG)

Lands which do not conform to the above standards may be included within this District:

When surrounded by or adjacent to existing urban development; and (URBDEV)

Only when such lands represent a minor portion of this District.

It shall not include lands which will contribute towards scattered urban developments. (SCATTER)

It may include lands with a general slope of 20% or more which do not provide open space amenities and/or scenic values if the Commission finds that such lands are desirable and suitable for urban purposes and that official design and construction controls are adequate to protect the public health, welfare and safety, and the public's interest in the aesthetic quality of the landscape.

1 Not included in the Commission's list of standards.
2 Consolidated in the "sufficient-reserve" indicator.
3 There is not state land use plan as such; only the district designation of the Land Use Commission.
All the variables in this portion of the analysis are qualitative. For all but one of the variables a "1" was recorded if the petition met the criteria; a zero indicated that it did not.

The resultant data matrix is illustrated in Table 6.2.

Table 6.2
Truncated Data Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>LAWYER</th>
<th>CITYCON</th>
<th>PROX</th>
<th>ECNEA</th>
<th>WATER</th>
<th>ELEC</th>
<th>SENER</th>
<th>ROAD</th>
<th>SCHOOL</th>
<th>PLACAM</th>
<th>TOPOG</th>
<th>DRAIN</th>
<th>FLOOD</th>
<th>SOIL</th>
<th>SUARES</th>
<th>CNPLAN</th>
<th>PRIMAC</th>
<th>PRDEV</th>
<th>SCATTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petition Number</td>
<td>64-073</td>
<td>1 0 0 0 1 1 1 1 1 0 1 1 1 1 0 0 0 0 1 0</td>
<td>Denial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>71-293</td>
<td>1 1 1 1 0 1 1 1 1 1 0 1 1 1 1 1 0 1 1</td>
<td>Partial Approval</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>73-345</td>
<td>1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 0 1 1</td>
<td>Approval</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The Analysis

The analytical tasks, as indicated above, are to determine whether or not Commission policies as manifest in these twenty decision indicators can be identified: policies that are sets of decision criteria that describe those petitions that were approved, those that were partially approved and those that were denied. The second task is to determine the extent to which the decision criteria of each petition in each group is consistent with the profile of decision criteria that describes each group.

The determination of policy involves trying to identify a subset of the original twenty criteria that accounts for the variation in the
dependent variable, Commission decisions. Normally, multiple regression would be an appropriate multi-variate technique to determine the minimum number of independent variables that account for the variation in an independent variable. However, the problem here is not "normal" in the sense that the dependent variable scores are nominal categories rather than continuous variables. The multivariate statistical technique, discriminant analysis, is appropriate for this sort of statistical case.  

Discriminant analysis has been applied to research problems in personnel administration, education, marketing and psychology. The typical research problem to which the technique is applied involves distinguishing among two or more groups on the basis of profiles of characteristics of individuals in those groups.

In the application of discriminant analysis, groups, usually groups of individuals, are defined a priori on the basis of some common characteristic such as ethnicity, occupation, FM station listening audience, drug treatment groups, consumer preferences or academic major. Each individual in each group receives a score on each of several independent variables. These independent variables may be selected socio-economic characteristics (e.g. Massy), attitudinal characteristics (e.g. Tatsuoka, Kennedy and Robertson), psychiatric characteristics (e.g. Overall) and the like. The discriminant analysis identifies the independent variable or variables that maximally distinguish one group from another. This variable or constellation of variables constitutes a profile for each group. These profiles can then be examined to see how well they discriminate among the groups.

While the mathematical solution to the multiple discriminant problem is quite complicated, it is conceptually easy to convey by means of an
example. Individuals from two groups can be located on two hypothetical variables, $x_1$ and $x_2$ as illustrated in Figure 6.1

![Figure 6.1: Scores of Individuals in Group A and Group B on Two Variables](image)

The two groups appear to occupy different areas of the same space although there is some overlap. By calculating the average score for each group on each variable it is possible to locate the centroid (C) of each group about which the points for individuals balance in all direction as shown in Figure 6.2:

![Figure 6.2: Centroids and Areas of Scatter for Groups A and B on Variables $x_1$ and $x_2$](image)
Ulmer has described the application of the discriminant technique to this problem as follows:

...The discriminant function is not only concerned with separating two clusters of scores but also with the scatter of those scores in each group. The sum of squares may be used to measure scatter—chance or otherwise. If we take two groups—each by itself—and consider the deviation of individual scores from the group means, the resulting calculation is referred to as the within groups sum of squares, WSS, or error sum. It reflects the variation due to chance. If we utilize the mean of the total distribution and the deviation of all scores from it, we derive the total sum of squares. The difference between the two calculations provides the between groups sum of squares, BSS. That is, deviations are those of group means from the mean of the total distribution. BSS provides a measure of the forces responsible for differences among the groups proportional to all the factors producing differences among individual scores. The straight line function of N variables which maximizes the ratio of BSS to WSS or the forces responsible for group differences to chance factors is the discriminant function.9

The discriminant solution differentiates between members of the two groups by combining the information on the two variables in a linear discriminant function:

\[ Y = a_1 x_1 + a_2 x_2 \]

Where:

- \( Y \) = individual scores on the discriminant function
- \( x_1, x_2 \) = individual scores on the variables; and
- \( a_1, a_2 \) = weights for the variables.

After applying the weights \( a_1 \) and \( a_2 \) to each individual in both groups a new score, \( y \), for each individual is created. These scores can then be plotted. Figure 6.3 illustrates how the linear discriminant function discriminates between the two groups:
As can be seen in Figure 6.3, the means of the groups are farther apart on the discriminant function than in the original variable space. Hence, the discriminant function, \( y \), serves to condense the discriminatory information on the two variables. The dotted lines from the variable centroids, \( C_A \) and \( C_B \) are classification functions. The classification function equation for the two variable example here is:

\[ C_i = c_{i1}V_1 + c_{i2}V_2 + c_{i0} \]

where \( C_i \) is the classification score for group \( i \), the \( c_{ij} \)'s are classification coefficients with \( c_{i0} \) being the constant, and the \( V \)'s are the raw scores on the discriminating variables. There is always a separate equation for each group.\(^{10}\)

Having computed the discriminant function, it is now possible to determine which variable discriminates most clearly between the two groups. This is a trivial matter with two groups and two variables, but with multiple groups and/or multiple variables it becomes much more important. Most authors emphasize a strategy of examining the relative magnitude of
the weighting coefficients, in this case $a_1$ and $a_2$, to interpret the relative power of the discriminating variables.

The variables that emerge as maximally discriminating among the three groups constitute one representation of manifest Commission policy: those standards that have been consistently applied with respect to one group, (e.g. "approvals") but not necessarily with either of the other two. To recapitulate, if the Commission has been faithful to the express purposes of the law, then the variables dealing with prime agricultural land and scattered subdivisions might be expected to discriminate maximally among the three groups.

Having identified a variable or set of variables that discriminate among those petitions that were approved, those that were partially approved and those were denied, the next step of the analysis involves the classification of each petition. The classification problem involves determining which group each petition "resembles" the most in terms of the variables identified as constituting Commission policy. The "typical" classificatory problem to which discriminant analysis is applied involves determining a set of characteristics that differentiates among a particular set of well-defined groups and then assigning an individual whose group membership is unknown to one of the groups on the basis of his individual characteristics. For example, job placement in a large organization might be aided by matching an individual's placement test scores (characteristics) to the job profiles until the best "fit" between the individual's profile and a particular job profile is obtained.

The classification problem is somewhat different in this analysis. First of all, there is no attempt to predict how future petitions will be ruled upon. Rather the emphasis is on identifying those petitions that
depart from Commission policy as manifested in those variables that
maximally discriminate among the three groups. Secondly, the analysis
deals with the **total population** of petitions for Urban district designa-
tion rather than a sample of petitions.

The particular discriminant program being used in this analysis
computes two classification measures: chi-square and posterior probabili-
ty. The chi-square is a measure of distance or dissimilarity. The higher
the chi-square value of a particular petition, the further away is the
point representing the score of an individual petition from the centroid
of that group. Conversely, the lower the chi-square value, the closer
the petition is to the "average" petition in that group. The second
classification measure is the posterior probability of group membership.
The posterior probability is the probability that a particular petition,
X, belongs to a particular group, H_k. Both the chi-square and posterior
probability result in the same classifications.\(^{12}\)

The discriminant technique, then, presents a **theoretical** decision on
each petition before the Land Use Commission. These theoretical decisions
are based on Commission policy as manifested in the standards that they
have consistently emphasized. Such theoretical decisions can then be
compared to **actual** Commission decisions as illustrated in Figure 6.4:
Theoretical Decisions

<table>
<thead>
<tr>
<th></th>
<th>Denial</th>
<th>Partial Approval</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial Approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denial</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6.4: A Classification Matrix for Comparing Theoretical and Actual Land Use Commission Decisions

This matrix is a way of checking how consistently the Commission policy has been applied. The larger the proportion of petitions located in the shaded diagonal, the more consistent the application of a single Commission policy.

Since the computer program calculates and displays the theoretical and actual decisions for each petition it is possible to identify each of the petitions in the off-diagonal cells and to inquire into what Commission norms and standards were operative regarding those petitions. This in-depth examination of particular petitions is the third part of the analysis.

In the fourth part of the analysis, Commission policies for each of the major phases of Commission history are identified and compared.

The Results

If the Land Use Commission has ruled on petitions before it in a manner consistent with the official goals of the Land Use Law, one would expect that the variable describing prime agricultural land and those describing land units which, if developed, might result in "scattered
subdivisions with expensive, yet reduced public services" would emerge as the variables that account for the maximal amount of discrimination among petitions that were approved, those that were partially approved and those that were denied.\textsuperscript{13}

Since the findings that emerge from the application of the discriminant technique to the data on standards are to be the bases for evaluative judgments about Commission actions, there is an important preliminary issue: Is the evaluative procedure valid? Does the discriminant analysis technique applied to Commission decision criteria provide an empirical basis for inferences about what Commission "policy" has been?

There is no single test of validity. However, three tests for probable validity have been constructed by focusing initially on Commission staff recommendations. First of all, do the findings of staff recommendations "make sense"? Are the findings consistent with what those who have followed Land Use Commission activities would expect to find? Secondly, are the variables that emerge consistent with the official goals set forth in the Land Use Law? To the extent that these goals have operational content, one would expect to find that the staff would be more likely to seek to enforce those goals. Thirdly, do these same variables "predict" a sizeable proportion of staff recommendations? To the extent that the application of the technique to staff recommendations meets all three tests there is a strong basis for inferring the validity of this procedure for determining Commission policy. Table 6.3 summarizes the findings of the discriminant program applied to staff recommendations.
Table 6.3

Key Decision Criteria in Staff Recommendations

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Standardized Discriminant Function Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient reserve for 10 years growth</td>
<td>.38</td>
</tr>
<tr>
<td>Will not contribute to scattered urban developments</td>
<td>.17</td>
</tr>
<tr>
<td>Satisfactory drainage</td>
<td>.14</td>
</tr>
<tr>
<td>Consistent with County Plan</td>
<td>.11</td>
</tr>
<tr>
<td>Proximity of electricity</td>
<td>-.10</td>
</tr>
<tr>
<td>Percentage of Variation Explained by this function:</td>
<td>93.2</td>
</tr>
<tr>
<td>Percentage of cases correctly grouped:</td>
<td>82.6</td>
</tr>
</tbody>
</table>

Table 6.3 includes only a portion of the relevant information about the discriminant solution. In the interests of parsimony, only those variables having a value of .1 or more have been included. Secondly, only the values for these variables on the first of two functions have been reported inasmuch as this function accounts for 93.2% variance explained by these discriminating variances.\(^{14}\) Table 6.3 also indicates that 82.6% of the cases were correctly classified by the two functions. This is somewhat analogous to saying that 82.6% of the variance has been explained by a particular regression equation.\(^{15}\)

Standardized discriminant coefficients for each of the variables have been computed. The absolute value of each coefficient represents the relative contribution of its associated variable to that function. These coefficients are analogous to the interpretation of beta weights in multiple regression.\(^{16}\)
Even though the variable referring to prime agricultural land does not contribute to that linear combination that best discriminates among the three groups, the findings do lend strong support to the validity of the discriminant procedure. Two of the five variables are measures of location. The variable referring to the requirement to prevent scattered urban developments and the one promoting consistency with county general plans are both locational variables. Both indicate the degree of importance that the Commission staff attaches to approving only those land units that will result in orderly urban development; development that is contiguous or in close proximity to existing urban development. The relative importance of the "county planning" variable suggests that the staff was sensitive to county land use planning preferences or, at the very least, that county land use plans represented an orderly pattern of urban growth.

By far the most powerful variable in the linear discriminant function was the criterion requiring that there be a "sufficient reserve for urban growth in appropriate locations based on a ten year projection." This criterion is both an indication of the appropriateness of the location and adequacy of supply of urban land. As interpreted by the staff, the primary purpose of this standard was to insure that the supply of land not exceed that which could reasonably be expected to be required to accommodate projected urban development. This criterion was thus applied as a prohibition against approving many land units because the amount of land located in the Urban district was already sufficient to accommodate anticipated growth.

The criterion requiring "satisfactory drainage" is one of several that refer to the environmental suitability of particular land units for
urban uses. The staff consistently recommended denial of land units susceptible to periodic flooding or other adverse environmental characteristics irrespective of the suitability of the land unit for urban purposes otherwise.

There is no substantively obvious explanation of why the criterion referring to the availability of electricity should have a negative value when the other criteria are positive. It may be that this value can be explained by the number of petitions involving large land units where electric hookup was not immediately available, but where the staff felt that the economies of scale of a large development made the provision of facilities less expensive than they might otherwise be.

In general, then, the application of the discriminant technique to the application of standards by the Land Use Commission staff in its recommendations to the Commission meets the subjective validity test of "making sense". With the exception of the standard which refers to the official goal of not rezoning prime agricultural land, the criteria that best discriminate among the three types of recommendation are as hypothesized.

The second part of the validity test was the predictive power of the empirically-determined staff policy. Is it possible to predict staff recommendations on the basis of the criteria that were identified as constituting staff policy? As was noted above, the discriminant technique compares the characteristics of each petition with the modal characteristics of each group and calculates two measures of goodness of fit. Assuming that the staff policy was consistently applied one might expect that each and every petition would be placed in its correct group; that is to say the theoretical recommendations calculated by the discriminant
technique would match the actual recommendation made by the staff.

Such a perfect match is an unreasonable assumption for several reasons. There may be some errors of interpretation that would lead to a less than perfect match. Secondly, and more importantly, it assumes that there was no room for discretion; that some land units that met all the explicit standards were still not suitable for urban purposes on the basis of other values or vice versa. Finally, requiring a perfect match assumes that each executive officer in the history of the Commission attached the same priority to the same criteria. A perfect match between theoretical and actual classifications seems like an unreasonably stringent requirement. The relevant issue, then, is what degree of consistency is required in order for one to be confident of the validity of the application of the discriminant technique?

The analytical problem here is somewhat different from the typical problem to which discriminant analysis is applied in that usually one is dealing with some sample of cases and generalizing to a larger population. Here the total population of cases is being analyzed. Hence, the relevant criterion is whether or not the percentage of petitions correctly classified is better than could be achieved by chance. Since just over half the petitions were recommended for approval, any percentage level that improves on the chance model is therefore substantively significant. The higher the percentage of correctly classified petitions the greater the confidence with which one can infer that the relevant dimensions of staff or Commission policy have been identified. In this instance nearly 83 per cent of the petitions were correctly grouped, as Table 6.3 indicates.
Commission Policy

We turn now to the question of what the Commission's policy has been. Table 6.4 indicates the results of the discriminant analysis of Commission decisions. Note that in the case of staff recommendations, most of the information about which criteria were most important was contained in one linear function. In the case of Commission decisions about eighty per cent of the total variance in the discriminating variables is accounted for by the first function as compared to ninety-three per cent in the case of the first function describing staff recommendations. Hence, both functions are reported in Table 6.4.

Table 6.4


<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Standardized Discriminant Function Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Proximity to Employment and Commerce</td>
<td>.24</td>
</tr>
<tr>
<td>Proposal is economically feasible</td>
<td>.19</td>
</tr>
<tr>
<td>Satisfactory topography</td>
<td>.10</td>
</tr>
<tr>
<td>Satisfactory drainage</td>
<td>.18</td>
</tr>
<tr>
<td>Sufficient reserve for ten years</td>
<td>.19</td>
</tr>
<tr>
<td>Consistent with county plan</td>
<td>.23</td>
</tr>
<tr>
<td>Will not contribute to scattered urban development</td>
<td>.18</td>
</tr>
<tr>
<td>Petitioner is represented by counsel</td>
<td></td>
</tr>
<tr>
<td>Land unit is characterized by city-like concentrations of people, structures and streets</td>
<td></td>
</tr>
<tr>
<td>Proximity to parks</td>
<td></td>
</tr>
<tr>
<td>Prime agricultural land</td>
<td></td>
</tr>
<tr>
<td>Suitability of soil for development</td>
<td></td>
</tr>
</tbody>
</table>

Percentage of Variation accounted for by each function: 80.2 19.2

Percentage of cases correctly classified: 69.
Table 6.4 indicates that the Commission had two policies rather than one. The major policy was largely consistent with the intent of the law. As was the case with staff policy, several measures of location emerge as being important variables in explaining Commission decisions including one that did not emerge in staff policy, namely the criterion that new urban land units be in close proximity to existing center of trading and employment. As additional measure of environmental suitability, the requirement that land units not be characterized by steep slopes, also emerged as part of the dominant policy.

There were two major differences between staff policy as revealed in the discriminant analysis and Commission policy. First of all, no single criterion dominated in Commission policy as did the criterion relating to over-zoning (sufficient reserve) in the staff policy. Secondly, the criterion related to the economic feasibility of proposed development appeared to be of greater importance to the Commission than to the staff.

The minor policy described by the second discriminant function is almost the opposite of the major policy. Again, criteria having to do with the location of new urban development are important in terms of their contribution to the linear function as are criteria related to the environmental suitability of the land units, but the coefficients are negative, indicating, in this function, that they are describing land units not characterized by these attributes. In addition some of the land units described by this function were highly productive agricultural units as indicated by the negative value of that criterion.

Four criteria had positive coefficients on this function. The largest coefficient was the familiar "sufficient reserve" criterion
which seems to indicate that the justification for approving the petitions described by this function was to insure sufficient land for new development. Petitions described by this function were also characterized by stable soil types that make them suitable for development. The criterion having to do with the proximity of the land units to parks was also positively associated with this function. Since park dedication by the developer is sometimes promised by petitioners who are seeking a change in district boundaries for large land units, this coefficient might be interpreted to mean that this function describes petitions involving large land units. This interpretation is supported by the variable indicating that petitions described by this function were represented by legal counsel.

How is this "minor" Commission policy, which represents an almost total rejection of both the major policy and the official goals of the law, to be interpreted? A possible explanation can be inferred from inspection of the means for each of the three groups—approval, partial approval, and denial—on each of the functions. Comparing the group means on each function indicates how far apart the groups are along that dimension.

Table 6.5
Group Means on Each of Two Discriminant Functions Describing Commission Policy

<table>
<thead>
<tr>
<th>Group</th>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial</td>
<td>-.91</td>
<td>-.11</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>-.11</td>
<td>.33</td>
</tr>
<tr>
<td>Approval</td>
<td>.37</td>
<td>-.07</td>
</tr>
</tbody>
</table>
Table 6.5 indicates that the major Commission policy (Function I) differentiates among the three groups as might be expected. Function II, however, groups both denials and approvals together in the discriminant space, but set petitions that were partially approved apart with a positive value. The minor Commission policy, then, seems to describe a special policy that was applied to some petitions before the Commission. This policy resulted in decisions to "partially approve" some land units that would not have been approved had the major Commission policy been applied.

The Classification of Petitions

In the previous section, a Land Use Commission "policy" regarding petitions to redistrict land units to Urban designation was identified. The policy consisted of several decision criteria that maximally discriminated among those petitions that were approved, those that were approved in part and those that were denied.

With those criteria it is possible to explain the Commission's decisions with respect to about 69% of the petitions acted upon by the Commission. But what of the other 31% of the petitions before the Commission? How are the decisions on those petitions to be explained?

The classification matrix on page 123 which compares the theoretical decisions predicted by matching characteristics of a particular petition with manifest Commission policy with actual decisions indicates that there were two basic types of departures from the identified Commission policy: 1) those theoretical decisions that would allow a more intensive land use than actually granted by the Commission (about 14% of the total number of petitions); and 2) those actual decisions that allowed for a
more intensive land use than would have been allowed by the theoretical decisions (17% of the total decisions). Figure 6.5 compares actual Commission decisions with those predicted by the two discriminant functions.

<table>
<thead>
<tr>
<th>Theoretical Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial</td>
</tr>
<tr>
<td>Approval</td>
</tr>
<tr>
<td>Partial Approval</td>
</tr>
<tr>
<td>Denial</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Figure 6.5: Theoretical Decisions Compared with Actual Commission Decisions

The empirical delineation of Commission policy provides a valuable global perspective on the bases for Commission decision-making in the past ten years. In this section the focus is on individual petitions that cannot be explained with reference to that policy; that is to say those petitions in the cells off the main diagonal in Figure 6.5 above. While it is not possible to account for all the factors that motivated Commissioners to react positively or negatively to particular petitions, it may be possible to identify some of the substantive bases for departing from the primary Commission policy.

A. Permissive Mis-classifications

The first set of petitions to be examined involves those petitions in which the "theoretical" decisions would have allowed for more
intensive land uses than actually allowed by the Commission. There are three sub-sets of petitions to be examined under the heading of "permissive mis-classifications:" 1) those petitions which were statistically classified approval, but were actually denied by the Commission; 2) those petitions that were classified partial approval but were actually denied by the Commission; and 3) those petitions that were classified approval, but were partially approved by the Commission.

The shaded cells in Figure 6.6 indicate the "permissive mis-classifications":

<table>
<thead>
<tr>
<th>Theoretical Decisions</th>
<th>Actual Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial</td>
<td>Approval, Partial Approval, Approval</td>
</tr>
<tr>
<td>Approval</td>
<td>Partial Approval</td>
</tr>
<tr>
<td>Partial Approval</td>
<td>Approval</td>
</tr>
<tr>
<td>Denial</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6.6: Permissive Mis-classifications

A.1 Petitions Denied by the Commission but Classified as Approved

Table 6.6 summarizes information about the six petitions that were classified "approval" by the discriminant technique but were actually denied by the Commission. The final column in the table is the posterior probability that the particular petition belongs with the group with which it was classified. The higher the probability estimate, the more the particular petition resembles other petitions in this group. In this instance, these six petitions resemble other petitions that were approved.
### Table 6.6

**Petitions Denied by Commission but Classified Approved**

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-82</td>
<td>Hilo Sugar Company</td>
<td>H</td>
<td>11</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>D</td>
<td>.408</td>
</tr>
<tr>
<td>69-231</td>
<td>Kealakekua Ranch</td>
<td>H</td>
<td>11.9</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>.408</td>
</tr>
<tr>
<td>69-236</td>
<td>Kawaiiani Place Inc.</td>
<td>H</td>
<td>40</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>.604</td>
</tr>
<tr>
<td>70-252</td>
<td>Ikeno Inc.</td>
<td>H</td>
<td>15.01</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>.756</td>
</tr>
<tr>
<td>73-369</td>
<td>Katsumi Nii</td>
<td>H</td>
<td>10.89</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>.408</td>
</tr>
<tr>
<td>68-199</td>
<td>Joseph S. Brun</td>
<td>K</td>
<td>6</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>.756</td>
</tr>
</tbody>
</table>
Several things are striking about these petitions. First of all, five of six petitions involved land units on the Island of Hawaii. All involved relatively small agricultural parcels adjacent to or in close proximity to urban areas. Each land unit was served by facilities and services. The proposed changes were consistent with the county general plan in each case.

In the denying the Kealakekua Ranch petition (69-251) the Commission cited the petitioner's failure to develop a parcel that had previously been re-districted. The implication was that the land was being held for speculative purposes. The land unit under petition by Kawailani Place, Inc. (69-236) was located about a thousand feet from an existing urban district. In denying the petition the Commission held that an approval would constitute "spot zoning." In denying the Hilo Sugar Co. petition (65-82) the Commission seemed to agree with the staff suggestion that the petitioner had not established that there existed a need for additional urban land. The commission staff recommended approval of the Ikeno petition (70-252) upon submittal of a development plan for the land unit by the petitioner. No development plan was submitted and the petition was denied by the Commission.

The denial of Katsumi Nii's petition seems to have been a case of Commission pique. The commission had previously sought to re-district an area of South Hilo of which this land unit was a part. The petitioner had strongly opposed the Commission's initiative at that time. Finally, the denial of the Kauai petition (68-199) seems to have been largely an artifact of the requirement that six of the nine Commissioners must agree before an approval can be granted. Only six Commissioners were
present at the meeting at which the vote was taken. Five of the six Commissioners seemed to agree with the staff judgment that the redistricting would have resulted in a "logical extension of the urban boundary." The sixth member, Commissioner Wung, voted to deny. He said he feared that an extension of the urban boundary would result in a loss of the slaughterhouse situated on the land unit.

The denial by the Commission of these six petitions points to one of the sources of tension between the state and the counties in land use planning matters. Each of these petitions was consistent with the county's general plan and each was recommended for approval by the county. Each met most of the relevant standards for an urban district. And yet, the Commission's denials were not wholly capricious: the failure of a petitioner to develop a previously re-districted parcel; the failure to establish the need for additional urban land; or a petitioner's unwillingness to submit a development plan for a land unit each represent a legitimate basis to deny a petitioner. On the other hand, the denial of these six petitions does justify a charge of inconsistency on the part of the Commission. As subsequent analysis will indicate, the Commission has approved petitions involving several similar land units.
A.2 Petitions Denied by Commission, but Classified as Partial Approval

As with the previous subset of cases, there are some striking similarities among those petitions that were denied, but were classified partial approval. All but one of the petitions involved land units on Oahu. Seven of the eleven involved land units designated Conservation. The Commission staff had recommended denial of each petition. Honolulu planning authorities had recommended denial of eight of the ten petitions under their jurisdiction. The Planning Commission had approved the two Bishop Estate petitions over the recommendations of the planning staff.
<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-150</td>
<td>Fukunaga</td>
<td>H</td>
<td>1.2</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>.371</td>
</tr>
<tr>
<td>65-97</td>
<td>Bishop</td>
<td>0</td>
<td>12.6</td>
<td>Con</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>.562</td>
</tr>
<tr>
<td></td>
<td>Estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65-116</td>
<td>Schuler</td>
<td>0</td>
<td>2.4</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.477</td>
</tr>
<tr>
<td>66-129</td>
<td>Badenhop</td>
<td>0</td>
<td>.7</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.841</td>
</tr>
<tr>
<td>69-229</td>
<td>Griggs</td>
<td>0</td>
<td>1.7</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.562</td>
</tr>
<tr>
<td>70-266</td>
<td>WADCO</td>
<td>0</td>
<td>11.2</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.539</td>
</tr>
<tr>
<td>71-283</td>
<td>Bishop</td>
<td>0</td>
<td>620.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>.371</td>
</tr>
<tr>
<td></td>
<td>Estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72-326</td>
<td>Pereira</td>
<td>0</td>
<td>4.04</td>
<td>Ag</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.562</td>
</tr>
<tr>
<td>72-330</td>
<td>Int'l</td>
<td>0</td>
<td>30.0</td>
<td>Con</td>
<td>-</td>
<td>D</td>
<td>D</td>
<td>.562</td>
</tr>
<tr>
<td></td>
<td>Dev. Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73-359</td>
<td>White</td>
<td>0</td>
<td>.14</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.562</td>
</tr>
<tr>
<td>73-363</td>
<td>Clegg</td>
<td>0</td>
<td>5.156</td>
<td>Ag</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>.772</td>
</tr>
</tbody>
</table>
How could such unanimity among county planning authorities, the Commission staff and the Commission have resulted in any classification other than denial? In part, these misclassifications are an artifact of the discriminant technique. The application of the technique to all petitions for urban designation in the 1964-1974 period revealed an overall Commission policy for deciding on petitions in that period. The petitions under examination here represent a sub-set of petitions to which that policy does not apply. These petitions were classified partial approval on the strength of the second discriminant function, it should be recalled, suggested a secondary Commission policy of approving in part petitions for large land units or petitions involving environmentally fragile land units some portion of which might be made suitable for development.

One of the Bishop Estate petitions (65-97), the Schuler petition (65-116), the Badenhop petition (66-129), the Griggs petition (69-229), WADCO (70-266) and the White petition (73-359) all involved land units that met all or most of the standards governing urban designation except those relating to topography. Each of these land units involved some steep slopes which, if graded and developed, would have increased the possibility of flooding and slides in the area. The issues of slope and/or flooding also figured in the decisions to deny the Pereira petition (72-330), International Development Co. petition (72-330) involving a portion of the Salt Lake development and the Clegg petition (73-363). However, in these petitions, the environmental consequences of the proposed developments were only one of several considerations.

Neither the Fukunaga petition (67-150) nor the large Bishop Estate
petition (71-283) resembles the other petitions in this group—or in any other group for that matter. The staff recommended denial of the Fukunaga petition because the land use they proposed could have been accomplished without urban designation. The Bishop Estate petition involved a 620 acre land unit on the Central plain of Oahu known as Waiawa. Most of the similar land units in Central Oahu were partially approved.

A.3 Petitions Partially Approved by the Commission but Classified as Approved

![Theoretical Decisions Diagram]

Partial approvals constitute the most interesting—and perhaps the most important—class of decisions made by the Land Use Commission. By definition a partial approval decision is somewhere between a decision to approve and a decision to deny a change in the district designation of a land unit. In distinguishing between partial approvals and denials on the one hand and partial approvals and approvals on the other, the Commission has exercised a great deal of discretion. The proportion of
mis-classifications involving partial approval is much higher than that involving other types of decisions. The overall Commission policy described in the previous section is not adequate to explain the circumstances surrounding this class of decisions.

What gives this class of decisions special importance is understanding the role of the Commission in land use guidance is the foot-in-the-door character of these decisions. Partial approvals represent several special classes of approval. A partial approval can be a tentative "green light" to further urban development in a particular area. It is a signal that some urbanization is likely to take place. It may create pressures on both the petitioner to develop the initially-approved portion in a way that is likely to gain favor with the Commission so as to allow total development of the land unit at some future time. A partial approval, like an approval, may also create development pressures on adjacent landowners whose taxes may increase as urban development moves in the direction of this land unit.

This sub-section deals with a particular class of partial approval decisions involving land unit that were partially approved by the Commission, but were classified approval on the basis of overall Commission policy.

It is significant that each of the petitions in this category involves a land unit on one of the neighbor islands. As Table 6.8 indicates, in eleven of the fourteen petitions in this category the Commission staff also recommended partial approval. In ten of the eleven cases in which the staff recommendation matched the Commission decision, the amount of acreage recommended by the staff for approval was the same as actually approved by the Commission. In these eleven
petitions, the Commission appears to have used the partial approval decision as a means of maintaining some control over the supply or urban land available for urbanization as well as the pace of development and the character of the development. Few questions were raised either by the staff or by the Commission about the appropriateness of the land unit for urbanization.
<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-87</td>
<td>Hawaiian Homes</td>
<td>H</td>
<td>119.0</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>66-126</td>
<td>Shipman</td>
<td>H</td>
<td>112.0</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>68-188</td>
<td>Imaizumi</td>
<td>H</td>
<td>32.4</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.604</td>
</tr>
<tr>
<td>68-198</td>
<td>Ikeda</td>
<td>H</td>
<td>2.95</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.604</td>
</tr>
<tr>
<td>70-255</td>
<td>Matsuyama</td>
<td>H</td>
<td>7.8</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.408</td>
</tr>
<tr>
<td>70-264</td>
<td>Lanihau Corp.</td>
<td>H</td>
<td>64.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.408</td>
</tr>
<tr>
<td>72-325</td>
<td>Gentry Hawaiiana</td>
<td>H</td>
<td>314.0</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>72-327</td>
<td>Liliuokalani Trust</td>
<td>H</td>
<td>100.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.408</td>
</tr>
<tr>
<td>68-203</td>
<td>Villabrille et. al.</td>
<td>K</td>
<td>32.43</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>69-241</td>
<td>LUC</td>
<td>K</td>
<td>65.0</td>
<td>R</td>
<td>P.A.</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>69-243</td>
<td>LUC</td>
<td>K</td>
<td>12.0</td>
<td>R</td>
<td>P.A.</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.604</td>
</tr>
</tbody>
</table>
Table 6.8 (continued)

Petitions Partially Approved by Commission but Classified as Approval

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>69-216</td>
<td>Puahala Co.</td>
<td>K</td>
<td>800.0</td>
<td>Ag</td>
<td>P.A.</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.604</td>
</tr>
<tr>
<td>69-222</td>
<td>C. Brewer</td>
<td>M</td>
<td>437.0</td>
<td>Ag</td>
<td>P.A.</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
<tr>
<td>71-293</td>
<td>Hana Ranch</td>
<td>M</td>
<td>60.0</td>
<td>Ag</td>
<td>P.A.</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.756</td>
</tr>
</tbody>
</table>
Three petitions did not resemble the other petitions in this group as indicated by the rather low posterior probabilities. In each of these three petitions--Matsuyama (70-255), Lanihau Corp. (70-264) and Liliuokalani Trust (72-327)--the principal objection raised by the staff was that the need for additional urban land had not been substantiated by the petitioners. Otherwise, the land units met most of the standards required of land units requested for urban designation.

B. Restrictive Mis-Classifications

The second major sub-set of petitions that are not explained by the Commission policy are those in which the theoretical decision was more restrictive than the actual decision reached by the Commission. This sub-set includes the following: 1) petitions approved by the Commission, but classified partial approval; 2) petitions that were partially approved by the Commission, but classified denial; and 3) those petitions that were approved by the Commission, but classified denial.

B.1 Petitions Approved by the Commission, but Classified as Partial Approval

Figure 6.9: Petitions Approved by the Commission, but Classified as Partial Approval
As Table 6.9 indicates, eighteen petitions were approved by the Commission, but were classified partial approval according to the global Commission policy. Twelve of the eighteen petitions involved changes that would not have been in compliance with the county general plan. Nine of the twelve petitions involving land units on Oahu led to land use classifications inconsistent with Oahu's general plan. Four of the petitions—Lihue Plantation (66-124); Eagle County Development (70-261); Amity Developers (65-88) and HKH Ventures (71-273)—involved land units some portion of which had steep topography. Two of the petitions—Sakamoto (71-276) and Polynesian Cultural Center (71-281)—involved land units with a high agricultural productivity. In short, most of the petitions in this sub-set did not meet one of the "critical" standards and therefore received a more restrictive classification than that granted by the Commission.
### Table 6.9

Petitions Approved by Commission but Classified as Partial Approval

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>Present County Recommendation</th>
<th>Present Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
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<td>65-80</td>
<td>Dillingham Investment</td>
<td>H</td>
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<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.371</td>
</tr>
<tr>
<td>71-272</td>
<td>D.L.N.R.</td>
<td>H</td>
<td>45.59</td>
<td>Ag</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>66-124</td>
<td>Lihue Plantation</td>
<td>K</td>
<td>4.5</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.662</td>
</tr>
<tr>
<td>70-261</td>
<td>Eagle County Dev. Co.</td>
<td>K</td>
<td>1.25</td>
<td>Con</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.841</td>
</tr>
<tr>
<td>71-276</td>
<td>Sakamoto</td>
<td>M</td>
<td>.55</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.571</td>
</tr>
<tr>
<td>72-349</td>
<td>Lanai Co.</td>
<td>M</td>
<td>1620.0</td>
<td>Ag</td>
<td>-</td>
<td>P.A.</td>
<td>A</td>
<td>.371</td>
</tr>
<tr>
<td>65-88</td>
<td>Amity Developers</td>
<td>O</td>
<td>20.22</td>
<td>Ag</td>
<td>P.A.</td>
<td>A</td>
<td>A</td>
<td>.662</td>
</tr>
<tr>
<td>65-99</td>
<td>Lewers &amp; Cooke Dev.</td>
<td>O</td>
<td>25.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>66-123</td>
<td>Oceanic Properties</td>
<td>O</td>
<td>48.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>67-163</td>
<td>Episcopal Church</td>
<td>O</td>
<td>6.6</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.571</td>
</tr>
</tbody>
</table>
Table 6.9 (continued)

Petitions Approved by Commission but Classified Partial Approval

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>68-197</td>
<td>Robinson Trust et. al.</td>
<td>0</td>
<td>316.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.371</td>
</tr>
<tr>
<td>69-211</td>
<td>Inscon Dev.</td>
<td>0</td>
<td>220.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>71-273</td>
<td>HKH Ventures</td>
<td>0</td>
<td>9.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.662</td>
</tr>
<tr>
<td>71-281</td>
<td>Polynesian Cultural Center</td>
<td>0</td>
<td>7.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>71-285</td>
<td>Keystone Investment</td>
<td>0</td>
<td>50.8</td>
<td>Ag</td>
<td>–</td>
<td>D</td>
<td>A</td>
<td>.371</td>
</tr>
<tr>
<td>71-316</td>
<td>Hawaiian Homes</td>
<td>0</td>
<td>76.5</td>
<td>Ag</td>
<td>–</td>
<td>D</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>72-324</td>
<td>Dept of Acct'g &amp; General Services</td>
<td>0</td>
<td>6.12</td>
<td>Ag</td>
<td>–</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
<tr>
<td>72-344</td>
<td>Headrick Dev. Inc.</td>
<td>0</td>
<td>228.56</td>
<td>Ag</td>
<td>–</td>
<td>A</td>
<td>A</td>
<td>.536</td>
</tr>
</tbody>
</table>
However, there were four petitions that do not seem to match the other twelve petitions in this group. These petitions had posterior probabilities of .371, indicating that the degree of association between these four petitions and the group to which they were classified is quite low. These petitions—Lanai Co. (72-349); Dillingham Investment (65-80); Robinson Trust (68-197) and Keystone Investment (71-285) involved four of the largest land units in this sub-set.

According to staff reports, approval of the Dillingham Investment petition was not justified on the basis of need for additional land nor was it consistent with the County general plan. In addition, the staff held that there was sufficient urban land in the area and that approval would result in "scattered urban development." The Lanai Corporation petition involved thousands of acres that were not even minimally served by public services or facilities. In addition, the staff held that there existed "sufficient reserve" for urban development on the island. The Robinson Trust petition involved a land unit in central Oahu which the Commission staff felt violated both the "sufficient reserve" standard as well as that standard suggesting a prohibition against rezoning land units that would result in "scattered urban developments." The staff made similar arguments against the Keystone Investment petition involving a land unit in the Waianae area of Oahu. In addition the land unit lacked roads, schools and parks.

In short, these four petitions were more comparable to those land units that were approved either wholly or in part by the Commission, but were classified denial.
B.2 Petitions Partially Approved by the Commission, but Classified as Denial

Theoretical Decisions

Actual Decisions

Figure 6.10: Petitions Partially Approved by the Commission, but Classified as Denial

The Commission's use of "partial approvals" to control the supply of urban land and the timing of development was discussed in the previous section. In those petitions, there was a high degree of agreement between the Commission staff and the Commission regarding how much land should be re-districted.
## Table 6.10

Petitions Partially Approved by Commission but Classified Denial

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>66-109</td>
<td>Mauna Kea Sugar</td>
<td>H</td>
<td>43.4</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.476</td>
</tr>
<tr>
<td>68-194</td>
<td>Boise Cascade</td>
<td>H</td>
<td>5850.0</td>
<td>Ag, Con</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.807</td>
</tr>
<tr>
<td>68-208</td>
<td>Kid McCoy</td>
<td>H</td>
<td>146.4</td>
<td>Ag</td>
<td>P.A.</td>
<td>D</td>
<td>P.A.</td>
<td>.657</td>
</tr>
<tr>
<td>69-219</td>
<td>Hedemann</td>
<td>H</td>
<td>20.8</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>P.A.</td>
<td>.845</td>
</tr>
<tr>
<td>69-215</td>
<td>Munoz et. al.</td>
<td>M</td>
<td>1185.0</td>
<td>Ag</td>
<td>A</td>
<td>P.A.</td>
<td>P.A.</td>
<td>.927</td>
</tr>
<tr>
<td>69-225</td>
<td>Mililani Town</td>
<td>O</td>
<td>2500.0</td>
<td>Ag</td>
<td>P.A.</td>
<td>D</td>
<td>P.A.</td>
<td>.807</td>
</tr>
</tbody>
</table>
The six petitions listed in Table 6.10 represent a different use of the partial approval technique. There is apparent agreement between the staff and the Commission on only one of the petitions—Munoz-Tokunaga (69-215)—but in that petition the staff recommended approval of only 6.5 acres and the Commission actually approved 699 acres.

Three of the Commission's decisions appear to be in direct contradiction to the purpose of the Land Use Law: Boise Cascade (68-194); Munoz-Tokunaga (69-215) and Mililani Town (69-225). All three petitions involved large undeveloped and unimproved land units in areas in which the staff held that there was already a "sufficient reserve" or urban land. Both the Mililani petition and the Munoz-Tokunaga petition involved land with a high potential for agricultural productivity. All three petitions were partially approved in a period from late 1968 until late 1969 when the Land Use Commission was very active in approving a number of petitions involving large land units.

The Mililani Town petition was a request for an expansion of the existing Mililani Town development in Central Oahu. The original petition to approve the development of what was to be a "new town" on the highly productive land stretching up from Pearl Harbor occurred after the passage of the Land Use Law but before the adoption of "permanent" boundaries by the Commission in 1964. The staff report on the 1969 petition referred to the original petition as "the most significant decision in the history of the Commission." In recommending denial of this petition, the staff noted that "of the 1,763 acres of prime agricultural land rezoned on Oahu since 1964, 1,228 acres or 70% were rezoned in the last eight months." The Commission approved 339 acres of the amount requested by the petitioner.
Finally, thirteen petitions listed in Table 6.11 were classified denial but were approved by the Commission. None of the thirteen petitions met the "sufficient reserve" standard. That is to say, in the judgment of the staff, approval of each of these petitions would result in more urban land than required to meet anticipated ten-year population growth. Hence, in approving these petitions, the Commission was violating that standard that was the basis of the Commission's overall policy.
<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-103</td>
<td>Bishop Estate</td>
<td>H</td>
<td>31.5</td>
<td>Con</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.604</td>
</tr>
<tr>
<td>66-141</td>
<td>Hawaii Pacific Land Co.</td>
<td>H</td>
<td>40.95</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.807</td>
</tr>
<tr>
<td>67-153</td>
<td>Kuwage et. al.</td>
<td>H</td>
<td>32.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.657</td>
</tr>
<tr>
<td>67-169</td>
<td>Smart</td>
<td>H</td>
<td>120.0</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.657</td>
</tr>
<tr>
<td>67-175</td>
<td>Brown</td>
<td>H</td>
<td>170.0</td>
<td>Con</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.845</td>
</tr>
<tr>
<td>68-207</td>
<td>Hancock et. al.</td>
<td>K</td>
<td>4.3</td>
<td>Ag</td>
<td>P.A.</td>
<td>D</td>
<td>A</td>
<td>.641</td>
</tr>
<tr>
<td>69-238</td>
<td>Kawakami et. al.</td>
<td>K</td>
<td>22.19</td>
<td>Ag</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>.657</td>
</tr>
<tr>
<td>68-176</td>
<td>Phillips</td>
<td>M</td>
<td>14.3</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.657</td>
</tr>
<tr>
<td>65-84</td>
<td>Estate of George Holt</td>
<td>O</td>
<td>65.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.845</td>
</tr>
<tr>
<td>65-101</td>
<td>Honokai Dev.</td>
<td>O</td>
<td>30.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.807</td>
</tr>
</tbody>
</table>
Table 6.11 (Continued)

Petitions Approved by Commission but Classified Denial

<table>
<thead>
<tr>
<th>Petition Number</th>
<th>Petitioner</th>
<th>Island</th>
<th>Acreage Requested</th>
<th>Present District Classification</th>
<th>County Recommendation</th>
<th>Staff Recommendation</th>
<th>Commission Decision</th>
<th>Posterior Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>66-140</td>
<td>Wiliwililnui Ridge</td>
<td>0</td>
<td>10.0</td>
<td>Con</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.641</td>
</tr>
<tr>
<td>67-160</td>
<td>Uyeda</td>
<td>0</td>
<td>4.8</td>
<td>Con</td>
<td>D</td>
<td>D</td>
<td>A</td>
<td>.641</td>
</tr>
<tr>
<td>67-165</td>
<td>Chock</td>
<td>0</td>
<td>10.0</td>
<td>Ag</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>.641</td>
</tr>
</tbody>
</table>
Approval of nine of the thirteen petitions resulted in a land use designation inconsistent with the general plan in the county in which the land unit was located.

Three of the petitions—Bishop Estate (65-103), Hawaii Pacific Land Co. (66-141), and Francis H. Brown (67-175)—involved land units on the Big Island that the staff stated would result in scattered urban development, if approved. The Hancock petition (68-207), the Wiliwili Nui Ridge petition (66-140), Ken Uyeda (67-160), and the Chock petition (67-165) all involved land units with steep slopes and possible drainage or flooding problems. A number of the other petitions also involved land units lacking basic services and facilities such as water, roads, sewers and the like.
FOOTNOTES FOR CHAPTER VI

1. Set forth below.


11. Overall and Klett, however, note that this can be hazardous "because the magnitude of the coefficients are dependent on the units of measurement which may be different for the original measures." They argue that the effect of differences in units of measurement can largely be removed by multiplying each discriminant function coefficient by the standard deviation of the particular variable to which the weight is applied. See Overall and Klett, op. cit., p. 292.
12. To paraphrase Rao, if a petition is characterized by values on 20 standards, then we need a division of 20 dimensional space into three regions such that when the point representing the 20 standards of a particular petition falls into Region 1, the petition is assigned to that group rather than to either two. See C. R. Rao, Advanced Statistical Methods in Biometric Research (New York: John Wiley and Sons, 1952), p. 287.

Some authors have argued that the use of a packaged computer program results in a classification matrix in which the proportion of correctly classified cases is too large. This upward bias occurs because the program uses all n cases to calculate the discriminant function and then classifies the same n cases with this function. Since the emphasis in this portion of the study is on identifying those cases which do not fit Commission policy, the research strategy that gives the greatest benefit of the doubt to the Commission is one that does not make adjustments for upward bias. See Ronald E. Frank, William F. Massy and Donald G. Morrison, "Bias in Multiple Discriminant Analysis," Journal of Marketing Research, II (August, 1965), pp. 250-258.


14. As Klecka notes, "The eigenvalue is a special measure computed in the process of deriving the discriminant function. It is a measure of the relative importance of the function. The sum of the eigenvalues is a measure of the total variance existing in the discriminating variables. When a single eigenvalue is expressed as a percentage of the total sum of eigenvalues we have an easy reference to the relative importance of the associated functions." William R. Klecka "Discriminant Analysis" in Nie, Hull, Jenkins, Steinbrenner and Dent, eds., Statistical Package for the Social Sciences, 2nd ed. (New York: McGraw Hill, 1975), p. 442.


CHAPTER VII

The analysis presented in the previous chapter presents a single Commission policy for deciding on petitions for Urban district designation. The Commission was treated as if it was a static institution, as unresponsive to changing political circumstances or unaffected by changes in membership. That assumption, as useful as it is for analytical purposes, deserves closer scrutiny. The empirical question is whether or not there have been changes in Commission policy over time.

There is no precise point at which it can be said that one Commission ended and another began. Such watersheds as have occurred in Commission history correspond roughly to the departures of the Commission's executive officers. In this analysis three periods in Commission history have been identified corresponding with the tenure of the three executive officers who served since the Rules and Regulations were adopted in 1964. Table 7.1 summarizes these three periods.

Table 7.1

<table>
<thead>
<tr>
<th>Executive Officers</th>
<th>Tenure</th>
<th>Number of Petitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raymond Yamashita/George Moriguchi</td>
<td>1964-66</td>
<td>40</td>
</tr>
<tr>
<td>Ramon Duran</td>
<td>1967-71</td>
<td>109</td>
</tr>
<tr>
<td>Tatsuo Fujimoto</td>
<td>1971-75</td>
<td>69</td>
</tr>
</tbody>
</table>

Raymond Yamashita was executive officer when the Commission's Rules and Regulations and permanent district boundaries were adopted in 1964. He was succeeded by George Moriguchi who served one year. Because the
number of petitions acted on by the Commission was rather small, the
tenure of these two executive officers is here analyzed as a single
period in Commission history.

Table 7.2 summarizes the results of the discriminant analysis of
the forty petitions acted upon in this period.

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent with county plan .............</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>Proposed development is economically</td>
<td>.43</td>
<td></td>
</tr>
<tr>
<td>feasible ...............</td>
<td>.28</td>
<td>-.30</td>
</tr>
<tr>
<td>Proximity to parks ......................</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>Satisfactory drainage ....................</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>Prime agricultural land ...............</td>
<td>-.13</td>
<td>.65</td>
</tr>
<tr>
<td>Susceptibility to flooding .............</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The dominant policy described by Function I appears to have been one
of trying to insure that a proposed development was economically feasible
and that it was consistent with county planning preferences as expressed
by a county planning commission or county council. (The Neighbor Island
counties did not have general plans at that time). It is also interest-
ing to note that during this period shortly after the passage of the
Land Use Law, the Commission was still somewhat sensitive to the
agricultural productivity rating of land units requested for urban
designation as evidenced by the coefficient of .20 on Function I. The
second function describes a minor Commission policy of approving some
land units, at least some portion of which were susceptible to flooding.
The tenure of Ramon Duran as executive officer was the most controversial in Commission history. During his tenure 109 petitions for urban designation were acted upon by the Commission. It was also during this period that the 1969 boundary review was conducted. Duran was an outspoken advocate of retaining prime agricultural land in agricultural districts rather than convert it to urban use. His frequent criticisms of Commission policy led to his resignation under pressure in 1971.

Table 7.3 describes the results of the discriminant analysis of the 109 petitions acted upon by the Commission during his tenure as executive officer.

Table 7.3

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity to employment and commerce</td>
<td>.30</td>
<td>- .10</td>
</tr>
<tr>
<td>Susceptible to flooding</td>
<td>.24</td>
<td>-.11</td>
</tr>
<tr>
<td>Satisfactory sewerage</td>
<td>.19</td>
<td>-.18</td>
</tr>
<tr>
<td>Petition was represented by counsel</td>
<td>.11</td>
<td>.18</td>
</tr>
<tr>
<td>Sufficient reserve for 10 years growth</td>
<td>.11</td>
<td>-.14</td>
</tr>
<tr>
<td>Proximity to parks</td>
<td>-.15</td>
<td>-.15</td>
</tr>
<tr>
<td>Proximity to roads</td>
<td>-.16</td>
<td>.19</td>
</tr>
<tr>
<td>Satisfactory drainage</td>
<td>-.18</td>
<td>.38</td>
</tr>
<tr>
<td>Land unit is characterized by city-like concentrations of people, structures, etc</td>
<td>.15</td>
<td>.19</td>
</tr>
<tr>
<td>Soil suitability</td>
<td>.18</td>
<td>.18</td>
</tr>
<tr>
<td>Consistent with county plans</td>
<td>.16</td>
<td>.17</td>
</tr>
<tr>
<td>Prime agricultural land</td>
<td>.17</td>
<td>.17</td>
</tr>
</tbody>
</table>

Percentage of Variation accounted for by each function .................................. 72.7 27.3
Percentage of petitions correctly classified .................................................. 68.8

Function I in Table 7.3 describes a policy of approving land units that were in reasonably close proximity to existing urban nodes and were not subject to flooding, but some of which were not wholly suitable in
other respects such as the availability of parks and good roads. Function II, on the other hand, describes a policy of approving land units that were well-drained, not prime agricultural land, in close proximity to existing roads and consistent with county plans.

Several factors stand out in the analysis of Commission policy in this period. First of all, taken together the two functions describe somewhat inconsistent policies. By itself this is not too surprising inasmuch as there is always likely to be some sub-set of petitions that are not well-described by the dominant policy. What is surprising is that the first function describes only about 69 per cent of the variation. Secondly, a rather large number of variables enter into the discriminant functions, a fact that suggests more complex decision processes involving more variables. Perhaps most interesting, however, is that only 69 per cent of the petitions were correctly classified by the two discriminant functions. This suggests that either the two policies described above have been inconsistently applied or that other factors not reflected in the decision criteria being used for this analysis have played an important role in the decisions on nearly thirty per cent of the petitions in this period.

Tatsuo Fujimoto, the most recent Commission executive officer, has served since 1971. Table 7.4 describes the results of the discriminant analysis of the 69 petitions decided during his tenure.
Table 7.4

Key Commission Decision Criteria During the Fujimoto Period

<table>
<thead>
<tr>
<th>Decision Criteria</th>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient reserve for 10 years growth</td>
<td>.30</td>
<td>-.13</td>
</tr>
<tr>
<td>Will not contribute to scattered urban development</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>Satisfactory sewerage</td>
<td>-.13</td>
<td>.15</td>
</tr>
<tr>
<td>Adequate electricity</td>
<td></td>
<td>-.24</td>
</tr>
<tr>
<td>Satisfactory for urban development in spite of other shortcomings</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>Satisfactory topography</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>Adequate water</td>
<td>.11</td>
<td></td>
</tr>
</tbody>
</table>

Percentage variation accounted for by each function     | 88.0       | 12.0        |
Percentage of cases correctly classified                 | 92.8       |             |

In contrast to the urban period, one policy dominated during the tenure of Tatsuo Fujimoto as executive officer. That policy was comprised of the first three criteria as indicated in Table 7.4 above. Most Commission actions in this period can be explained in terms of the Commission's concern for maintaining what it regards as a sufficient land inventory for development, but keeping a relatively tight control over the location of new urban development also emerges as an important decision element in this period. This policy was applied with much more consistency than were the policies in the previous period as evidenced by the correct groupings of nearly 93 per cent of the petitions.

In short, the analysis of changes in Commission policy over time indicates that:

1) The early Commission policy was to emphasize the economic feasibility of proposed development; the recommendations of county officials with respect to those development and the agricultural suitability of the land unit, as well as other factors.
2) During the second period of Commission history, there appears to have been no coherent Commission policy regarding urbanization, but rather a more ad-hoc approach to Commission decision-making.

3) Since late 1971, the Commission has begun to focus on a single policy of preventing scattered subdivisions while insuring that there are sufficient vacant lands to accommodate projected urban growth.

The Analysis of Policy Differences Between Oahu and the Neighbor Islands

Nearly eighty per cent of Hawaii's population live on Oahu. This concentration of population on the island with most of the best agricultural land in the state raises the question of whether or not there have been discernible differences in Commission growth management policies toward Oahu and the Neighbor Islands.

Table 7.5 describes the results of the discriminant analysis for the 157 Neighbor Island petitions.

Table 7.5

<table>
<thead>
<tr>
<th>Key Commission Decision Standards in Neighbor Island Petitions</th>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic feasibility of proposed development</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Proximity to employment and commerce</td>
<td>.26</td>
<td></td>
</tr>
<tr>
<td>Proximity to roads</td>
<td>-.15</td>
<td>-.11</td>
</tr>
<tr>
<td>Proximity to schools</td>
<td>-.11</td>
<td></td>
</tr>
<tr>
<td>Sufficient reserve for 10 years growth</td>
<td>.11</td>
<td>.18</td>
</tr>
<tr>
<td>Consistency with county plan</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Petitioner was represented by counsel</td>
<td></td>
<td>.14</td>
</tr>
<tr>
<td>Land unit is characterized by city-like concentrations of people, structures, etc</td>
<td>-.24</td>
<td></td>
</tr>
<tr>
<td>Proximity to parks</td>
<td></td>
<td>.22</td>
</tr>
<tr>
<td>Satisfactory drainage</td>
<td></td>
<td>-.24</td>
</tr>
<tr>
<td>Prime agricultural land</td>
<td></td>
<td>-.10</td>
</tr>
<tr>
<td>Percentage Variation Accounted for by each function</td>
<td>78.9</td>
<td>21.1</td>
</tr>
<tr>
<td>Percentage of petitions correctly classified</td>
<td>75.8</td>
<td></td>
</tr>
</tbody>
</table>
Once again there at least two Commission policies. The dominant policy was one of approving land units are economically feasible, in close proximity to existing urban development, consistent with county plans or the recommendations of county planning officials. Such land units were seen as a means of maintaining adequate supplies of vacant urban land even though they were not close to existing schools or well-developed roads. The minor policy is a justification for partial approvals, usually involving large land units. The developers of such large land units could provide parks and related amenities while assuring the Commission that such land units were needed to maintain land inventories sufficient for contained growth. The two policies resulted in the correct classification of only seventy-six per cent of the petitions which indicates that other un-accounted for factors are also important in Commission decisions.

Commission policies in acting on Oahu petitions were somewhat different as Table 7.6 indicates.

Table 7.6
Commission Decision Standards on Oahu Petitions

<table>
<thead>
<tr>
<th>Function I</th>
<th>Function II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of water</td>
<td>-.20</td>
</tr>
<tr>
<td>Satisfactory sewerage</td>
<td>.30</td>
</tr>
<tr>
<td>Proximity to roads</td>
<td></td>
</tr>
<tr>
<td>Proximity to schools</td>
<td>.19</td>
</tr>
<tr>
<td>Suitable topography</td>
<td>.46</td>
</tr>
<tr>
<td>Consistency with county plans</td>
<td>.25</td>
</tr>
<tr>
<td>Stability of soil</td>
<td></td>
</tr>
<tr>
<td>Prime agricultural land</td>
<td>-.11</td>
</tr>
<tr>
<td>Will not contribute to scattered urban development</td>
<td>.32</td>
</tr>
<tr>
<td>Percentage variation accounted for by each function</td>
<td>81.2</td>
</tr>
<tr>
<td>Percentage of petition correctly classified</td>
<td>77.0</td>
</tr>
</tbody>
</table>
As was the case with the Commission's Neighbor Island policies, there were two Commission policies regarding urban development on Oahu. The dominant policy, indicated by Function I in Table 7.6 emphasized consistency with county plans and insuring that new development is in reasonably close proximity to existing urban development. These criteria are comparable to criteria emphasized in the Commission's Neighbor Island policy. The largest coefficient, however, is that requiring that new development occur on land units not characterized by slopes of more than twenty per cent. The other criteria have to do primarily with Commission emphasis on provision of public services and facilities prior to development.

Function II describes a minor Commission policy of approving some petitions involving land units that are inconsistent with county plans and characterized by steep slopes although suitable for development in other ways. Note in particular that agricultural productivity of land units is negatively related to both functions, but the larger coefficient is associated with the second function. Again, analysis of the group means on each function indicates that the second function describes petitions that were partially approved. In other words, while the Commission generally is sensitive to criteria regarding the orderly expansion of urban nodes to include sufficient lands in appropriate locations for new urban development there are several petitions in which the Commission has approved for development portions of land units that do not meet several important tests for development.

Informal Decision Criteria

It is difficult to explain the approval or partial approval of a
number of petitions by referring to the formal criteria governing Commission decision-making. How, then, are they to be explained? What "informal" criteria govern Commission decision-making? In answering this question one can construct a plausible argument on the basis of a few clues and reasoned guess.

The need for housing, or more specifically, the need for low-cost housing, is generally cited as the primary rationale for most of the decisions listed above. The need for low cost housing is a constant theme echoed by almost all of the developers or landowners whose land unit would not qualify for urban designation if the Commission rules and regulations were consistently enforced.

On Oahu, in particular, some of the land most suitable for development in terms of location, topography has also been the most agriculturally productive. Faced with what on the surface appears to be a choice between preserving this land for agriculture and re-districting for what a developer promises will be low-cost housing, how is the Commission to decide? The case for development becomes more compelling when those with the largest stakes in agriculture argue for development. Some of the corporate managers of the agricultural interests have argued that rising labor costs, new technologies and foreign competition have made Hawaii's pineapple and sugar less competitive in a world market. The closing of several mills and processing plants seems to have under-scored their arguments.

While it is possible to discount the arguments of corporate managers as being somewhat self-serving attempts to realize the greater corporate profits that can come from land sales or a development package, when they are joined by leaders of the unions that represent the agricultural
workers, the case for development becomes politically viable.

The remarks of Commissioner Eddie Tangen, also a vice-president of the ILWU, the union that represents most of the agricultural workers, convey some of the flavor of the dilemma facing the Commission. An ILWU local had changed its position on a petition to re-district more than 300 acres of prime agricultural land from opposition to support. In seeking to explain the switch of the local, Tangen argued:

"It may be that some of our people didn't have all of this correct information to begin with, but as far as the ILWU people are concerned, we find that there is no jeopardy as far as that agricultural land is concerned. It's not going to have any effect on agricultural workers or the general public—any adverse effects. On the other hand, if we can get housing of the kind Mr. Horita said he is going to have and our people believe him in that, I'm inclined to believe him, too, based on what he said here today that it will not only have an adverse effect agriculturally, but it will have a good effect in terms of solving some of these housing problems in that area. That is my position and that is the position of the ILWU." 4

The other side of the argument was summarized by Ramon Duran, Executive officer of the Commission staff:

"I think that this is fine that we have housing for the people. These are the workers of the sugar industry and we'll continue to provide low-cost housing on prime agricultural land. I wonder if we're going to have any workers if the sugar industry goes out." 5

This formulation of the informal decision criteria guiding Commission actions tends to make it appear that the Commission has often faced a simple dichotomous choice that involves weighing the value of prime agricultural land against the social desirability of low-cost housing. However, the Commission has also designated land urban even when the petitioner failed to make good on previous promises to provide low-cost housing.
Perhaps the most prominent example of a developer who promised low-cost housing on prime agricultural land was Oceanic properties. Appearing before the Commission in 1963, before the adoption of permanent district boundaries, Oceanic's president, Fred Simpich, stated:

"We freely concede that there is sufficient urban land now available for housing at prices in excess of $25,000. We freely concede no necessity or need to meet needs of people who can afford housing at that price. We contend that there is no urban land on Oahu today to meet the urgent need for fee simple housing for people whose incomes are between $5,000 and $10,000."\(^6\)

The Commission approved 705 acres for development of the first phase of Mililani Town.

In 1969, Oceanic Properties requested urban designation for 2,500 acres. In recommending denial, the LUC staff pointed to the developer's failure to produce low-cost housing. Out of 14,265 units developed only 75 could be termed "low-cost."\(^7\)

In assessing Oceanic's performance, Duran stated that "(the petitioner) has not performed. The Land Use Commission has been duped. They should now recognize their mistake and not correct a mistake by repeating it. They have not kept faith with the Commission and should be willing to accept the consequences."\(^8\)

"Low-cost housing", then, is not the only value against which the preservation of prime agricultural land has been weighed. At least two other factors can also be cited to explain Commission departures from their policy of maintaining some loose control over the supply or urban land and its location relative to other urban areas.

One of these important actors seems to be the scale of a proposed development. A petition for several hundred acres--or several thousand--
often creates a certain dynamic in the form of high-priced lawyers, slick brochures, feasibility studies and endorsements from community groups and elected officials. In reviewing the Commission's decision to partially approve the original Mililani Town petition, Executive Officer Duran commented that "(T)he Commission was undoubtedly overwhelmed by the fact that $500,000 was spent in planning and economic feasibility studies, three separate housing studies, three different architectural teams all submitting supporting data justifying $15,000 to $20,000 housing packages."9

Commissioner Choi put it somewhat differently. In explaining the Commission's decision on Boise Cascade's controversial Big Island petition, he stated that "when you have the land area you have in Kona (Kohala) and somebody comes in with a project large enough to justify creating a new town, it doesn't meet the criteria--but we're taking a chance on creating a new town."10

Closely related to the importance of scale in explaining otherwise difficult-to-explain decisions is what seem to be certain value premises shared by Commissioners about the use of land. Among these value premises that seem to guide the Commission in its decision-making is a conception of land as primarily a commodity; an economic resource. The Commissioners are not alone in this orientation toward land. It is, in fact, widely shared.

This orientation toward land as first and foremost an economic resource does lead to some interesting interpretations of the Land Use Law by both Commissioners and petitioners. Many petitioners before the Commission have interpreted the "need" standard to argue that they have
a personal (or corporate) economic need to have the land rezoned rather than try to construct a rationale for the re-districting of the land based on an interpretation of community need. More than one lawyer has argued before the Commission that he represents a hui of small investors who have staked their modest fortunes on a petition for re-districting.

It is difficult to determine whether or not some of those Commission decisions that contravene the purposes of the Land Use Law actually represent a belief that a developer will provide low-cost housing, a respect for large-scale investment, a feeling that investors and landowners are entitled to the "highest and best use" of their land so long as those uses do not violate too many public purposes. It is, however, possible to construct a plausible ideology that would account for what otherwise appear to be aberrations in Commission decision-making; to impute this ideology to the various Commissioners and, thus, explain all the Commission's decisions in a large, but tidy package.

Ideology is of course just one of several possible lines of inquiry to explain the seemingly inexplicable. One of the arguments to explain Commission decisions with which one disagree is to suggest that they represent "political payoffs." Historically, the zoning process in America has been rife with subtle and less-than-subtle forms of influence peddling. There is no reason to think that Commissioners in Hawaii have been wholly immune to the pressure of powerful political forces or to the favors that a favorable land use decision can bring.

Several of the petitions that violate the explicit purposes of the Land Use Law involved state legislators or county councilmen either as owners or as lawyers for the landowners or developers. Other favored
petitioners have been prominent financial backers of Governor Burns faction of the Democratic party. Finally, two Commissioners were themselves active in re-districting land in which they had a financial interest.

Several observers of the Commission have used these examples to serve as a basis for inferences about the processes that led to a wider range of Commission decisions. Charges of political favoritism or corruption are often advanced as convenient explanations for land use decisions that are difficult to explain with reference to the standards that are supposed to govern such decisions. The process of gaining a favorable Commission decision is, however, often more subtle and complex, involving elements of merit, shared ideology, and cronyism. Such a process is more difficult to evaluate by the sorts of "objective standards" of which ethics laws are constructed.

Whether or not decisions that violate the intent of the Land Use Law have, in Commissioner Tangen's words, "no adverse consequences" is an issue to be examined in a subsequent section.
FOOTNOTES FOR CHAPTER VII

1. Ibid.


3. Ibid.


5. Ibid.

6. Ibid.

CHAPTER VIII

Impacts of the Land Use Law

The critical tests of the success of any policy are in the consequences of that policy. A focus on consequences responds to several policy issues:

1. How and to what extent are the public problems to which the policy is addressed ameliorated by the implementation of the policy?

2. Are there identifiable groups who have gained or lost substantially from the policy?

3. Are these gains or losses consistent with the intent of the policy?

4. Are there unanticipated benefits or burdens imposed by the policy?

These are among the many questions that an emphasis on policy consequences may help to answer.

As was discussed in chapter four, there are no simple criteria for determining which set of consequences one should focus on in seeking to determine the effectiveness of a policy. The selection of potential consequences of policy is, in the extent to which it departs from official policy goals, a normative process. It involves choosing among the myriad possible impacts of a given policy or program those possible consequences which are, according to some norm or criterion, "more important" than unanalyzed consequences.

This section focuses on several broad questions about possible consequences of the Land Use Law:

1. How has the Commission reconciled the requirements of the law with the political pressures for favorable treatment of some landowners in instances in which the two conflict?
2. What is the Commission's record in preserving prime agricultural land?

3. What impact has the Commission had on the supply and location of new urban land?

4. What is the Commission's record in dealing with conservation issues?

5. What impact has the Commission had on the availability of low cost housing?

These questions were chosen for several reasons. The question on prime agricultural land provides a means of assessing the extent to which the Commission has been faithful to the original purposes of the law. Second, the analysis of the Commission's manifest policy revealed that the provision of low cost housing was an important justification for several Commission decisions. Hence, the role of the Commission in providing such housing is an important evaluative issue. Third, the discussion of the role of the Land Use Commission in the land conversion process in Hawaii indicated that the Commission is primarily responsible for determining the supply and location of new urban land. A determination of how much land has been added to the Urban district and in what locations provides an important perspective on the Commission's role in urban growth management. Finally, questions relating to the Commission's role in preserving conservation land and the Commission's political style were chosen from the many questions that might be raised about the Commission's role in responding to broad social goals.

How has the Commission reconciled the requirements of the law with the political pressures for favorable treatment of some landowners in instances in which the two conflict?

The exercise of direct state control in the allocation of land
among alternative uses has resulted in a profound political dilemma for the Land Use Commission. In principle and in law, the Commission can either approve or deny a petition. An either or choice provides no room to seek some political compromise. The Commission is thus faced with a zero-sum situation in which "winning" and "losing" are absolute.

The Commission has responded to this dilemma by creating a third class of decisions: partial approval. In principle, a decision to approve only a portion of a petition might indicate that only the portion of the land unit is suitable for development because of steep slopes or some environmental constraint. Or a partial approval might be a form of "incremental zoning," a practice of making permission for further development of some land unit contingent upon meeting some performance standard such as the provision of some proportion of low or medium-income housing. In practice, however, many of the decisions to approve partially a petition has also been used as a political device to strike a compromise in conflictful cases.

Forty-three petitions, nearly twenty percent of the total, were partially approved. Table 8.1 shows the distribution of those petitions by county.
Table 8.1

Petitions for Urban District Designation that were Partially Approved, 1964-1974, by County

<table>
<thead>
<tr>
<th>County</th>
<th>Petitions Partially Approved</th>
<th>All Petitions for Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>14</td>
<td>94</td>
</tr>
<tr>
<td>Kauai</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>Maui</td>
<td>6</td>
<td>35</td>
</tr>
<tr>
<td>Oahu</td>
<td>15</td>
<td>61</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>218</td>
</tr>
</tbody>
</table>

Of the fourteen petitions involving land units in Hawaii County, twelve of the petitions could be regarded as compromises between the requirements of the law and the demands of a particular petitioner. The Commission staff argued that in all twelve cases the need for additional land had not been demonstrated. In fact, the staff recommended denial of six petitions, and in several instances in which the staff recommended "partial approval," the acreage recommended for approval by the staff was substantially less than that approved by the Commission.

On Kauai, action on all but two of the petitions represented a compromise. Some portion of each of the other two petitions were on a flood plain and were approved in part for that reason. Regarding the six Maui petitions, the staff recommended partial approval on each petition. In each case, the partial approval appeared to be an attempt to allow for some development, but not on the scale requested. Five of these petitions involved major landowners or lessees including Maui Land and Pine, C. Brewer, Hana Ranch, and Mike McCormick. Two politically active Maui residents, Frank Munoz and Donald Tokunaga, submitted the other petition.

The fifteen petitions that were partially approved on Oahu
indicate most dramatically the alternative purposes for which the partial approval technique has been used. Six of the petitions involved relatively small land units, all but one of which was on the windward side. All six petitions involved land units some portion of which was regarded as too steep for development. And in each case, some steep land was designated Urban.

Six of the other petitions involved large agricultural land units in Central Oahu: three petitions by Bishop Estate, two by Mililani Town and one by Robinson Trust. None of these petitions met the critical tests of suitability for urbanization as set forth in the Land Use Law: close proximity to existing Urban districts, existing facilities or services, land unsuitable for other purposes. And yet, in each of these cases, the initial decision to approve a petition in part was merely the first step in a process of phased development permissions.

On the surface, these petitions offered large opportunities for incremental zoning, for making subsequent permissions contingent upon the achievement of some public purpose in the first phase of development. In fact, at least one developer, Mililani Town, had promised to provide housing for the "gap group" in the first phase of development. Only a small amount of such housing was actually provided. County and state planners argued against approving a subsequent petition on the grounds that this promise had not been kept. Ramon Duran, the Executive Officer of the Commission, went so far as to argue that the Commission had "been duped."1 The Commission partially approved the petition in spite of his protestation.

In part, the Commission's early unwillingness to attach conditions to the approval of a petition may have stemmed from a feeling that to
do so was illegal. In the 1972 legislative session, the Land Use Law was amended to include a provision that:

"...the commission shall...act to approve the petition, deny the petition or to modify the petition by imposing conditions necessary to uphold the intent and spirit of this chapter and to assure substantial compliance with representations made by the petitioner in seeking a boundary change. Such conditions, if any, shall run with the land and be recorded in the bureau of conveyance."\(^2\)

The Commission has been reluctant to use this authority to impose conditions as a prerequisite to granting a district change.

In summary, it appears that the Commission has used the partial approval technique in two ways:

1) to disallow development on some environmentally fragile portions of land units that are otherwise suitable for development.

2) to minimize political or judicial assault by employing incremental designations where the land for which redistricting was requested does not meet most of the critical policy tests of land suitable for urbanization.

What is the commission's record in preserving prime agricultural land?

Hawaii has historically been an agricultural state. Even though tourists and national defense expenditures have surpassed agriculture as the mainstays of the Hawaiian economy in recent years, agriculture is still the main industry in many areas of the state. Arguments for agricultural preservation in Hawaii focus on four main needs: 1) protection of an important source of export and employment; 2) preservation of open space; 3) maintenance of agricultural options; and 4) preservation of the rural character of much of the state.
Hawaii has two agricultural economies: plantation operations and small-holding operations. Table 8.2 summarizes the relationship between size of agricultural operations and farm sales in Hawaii.

Table 8.2
Agricultural Units and Unit Size by Economic Class, Hawaii, 1969

<table>
<thead>
<tr>
<th>Farm Sales</th>
<th># of Units</th>
<th>% of Total</th>
<th># of Acres</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000 &amp; over</td>
<td>142</td>
<td>6.2</td>
<td>1,880,207</td>
<td>93.0</td>
</tr>
<tr>
<td>$20,000 - 99,000</td>
<td>453</td>
<td>19.9</td>
<td>52,867</td>
<td>2.6</td>
</tr>
<tr>
<td>$5,000 - 19,999</td>
<td>931</td>
<td>40.8</td>
<td>52,372</td>
<td>2.6</td>
</tr>
<tr>
<td>$2,500 - 4,999</td>
<td>758</td>
<td>33.2</td>
<td>35,329</td>
<td>1.7</td>
</tr>
</tbody>
</table>


As Table 8.2 indicates, six per cent of the agricultural operations control 93 per cent of the land. The average size of these units was 13,240 acres. Most of these large agricultural operations produce Hawaii's traditional export crops, sugar and pineapple, although some of the units with large sales volumes are poultry, dairy, or beef cattle producers for local consumption.

By way of contrast, more than seventy per cent of the farm operations controlled less than five per cent of the total land area in the state involved in agriculture. Many of these small operations are involved in the production of what might be called Hawaii's emerging export crops, such as papaya, macadamia nuts and ornamental flowers, or in the production of fruits and vegetables for the local market.

Because preserving prime agricultural lands was one of the expressed
purposes of the Land Use Law, one might hypothesize that, other things being equal, petitions involving land units with a high agricultural productivity rating would be more likely to be denied by the Commission than petitions involving marginal land. The analysis of the Commission's manifest policy indicated, however, that agricultural productivity has not been a significant factor in Commission decision-making; that land units involving prime agricultural land were almost as likely to be approved as non-prime land units. Table 8.3 indicates the Commission decisions on petitions involving agricultural land units generally.

Table 8.3

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Petitions</th>
<th>Number Approved Wholly or in part</th>
<th>Approval Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kauai</td>
<td>28</td>
<td>23</td>
<td>82%</td>
</tr>
<tr>
<td>Maui</td>
<td>52</td>
<td>43</td>
<td>83%</td>
</tr>
<tr>
<td>Oahu</td>
<td>54</td>
<td>44</td>
<td>81%</td>
</tr>
<tr>
<td>Hawaii</td>
<td>111</td>
<td>82</td>
<td>74%</td>
</tr>
</tbody>
</table>

Source: Compiled from Land Use Commission records.

Focusing on the amount of agricultural land redistricted provides a limited perspective on the Commission's effectiveness in preserving agricultural land. Table 8.4 indicates the amount of land requests for approval and the amount actually approved for interim petitions, as well as the amount approved during the two boundary reviews.
Table 8.4
Land Use Commission Decisions on Petitions to Change Land from Agricultural to Urban District Designation, by County 1962-1975

<table>
<thead>
<tr>
<th>County</th>
<th>Interim Petitions</th>
<th>1969 &amp; 1974 Boundary Reviews</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres Requested</td>
<td>Acres Approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% Approved</td>
<td></td>
</tr>
<tr>
<td>Oahu</td>
<td>21,022</td>
<td>8,908</td>
<td>4,931</td>
</tr>
<tr>
<td>Kauai</td>
<td>542</td>
<td>380</td>
<td>1,967</td>
</tr>
<tr>
<td>Maui</td>
<td>7,423</td>
<td>5,030</td>
<td>1,951</td>
</tr>
<tr>
<td>Hawaii</td>
<td>13,553</td>
<td>7,430</td>
<td>4,309</td>
</tr>
<tr>
<td>Total</td>
<td>42,540</td>
<td>21,748</td>
<td>13,158</td>
</tr>
</tbody>
</table>

*aCompiled from Land Use Commission records
*bProvided by the Land Use Commission staff and calculated from data in Report to the People, State Land Use Commission, Second Five Year District Boundaries and Regulations Review, February, 1975.

As Table 8.4 indicates, nearly 35,000 acres of agricultural land has been added to Urban districts since the establishment of the Land Use Commission. Nearly 14,000 acres of agricultural land have been added to Urban districts on Oahu alone. During the past fourteen years, slightly over half the agricultural acreage requested for urban designation has been approved by the Commission.

Only a small portion of these land units involved prime agricultural land. Table 8.5 indicates the amount of land classified "A" or "B" in terms of agricultural productivity that was requested and approved in the petition process. Note that these figures do not include land units acted upon during the boundary reviews.
Table 8.5


<table>
<thead>
<tr>
<th>County</th>
<th>Acres Requested</th>
<th>Acres Approved</th>
<th>% Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oahu</td>
<td>7,108.2</td>
<td>2,127.2</td>
<td>29.9</td>
</tr>
<tr>
<td>Kauai</td>
<td>62.9</td>
<td>29.1</td>
<td>46.2</td>
</tr>
<tr>
<td>Maui</td>
<td>1,394.5</td>
<td>771.2</td>
<td>55.0</td>
</tr>
<tr>
<td>Hawaii</td>
<td>314.3</td>
<td>263.4</td>
<td>83.8</td>
</tr>
<tr>
<td>Totals</td>
<td>8,879.9</td>
<td>3,190.9</td>
<td>35.9</td>
</tr>
</tbody>
</table>

Source: Compiled from Land Use Commission Records

Table 8.5 indicates that about a third of the land units in petitions involving prime agricultural land were approved. These figures must be interpreted with some caution. In the first place, whether or not a particular land unit is "prime" is a matter of some dispute. The Land Study Bureau's productivity designations, which had been followed here, are not universally accepted among agriculturists. For example, non-prime units may be regarded as prime if water for irrigation is available. Secondly, some of the petitions involved both prime and non-prime land units. It was not always possible to determine the precise amount that was prime. Third, and most importantly, Table 8.5 does not include those land units that were approved during the boundary reviews. More than ninety per cent of the total amount of prime agricultural land requested for urban designation on Oahu, Maui, and Hawaii was requested in 1968 and 1969. Some of these land units were approved for urban use in the 1969 boundary review.

Evaluative inferences about the effectiveness of state control
require, at the very least, information about the demand for urban land relative to the supply created by the Commission, about the location of new urban land relative to existing urban nodes and the direct consequences on agriculture of the redistricting of agricultural land.

No study of the impact of the Commission on agriculture has been done, but it is possible to make some tentative generalizations on the bases of a few case studies that have been conducted or are in progress. A study of small agricultural holdings near Wailua, Kauai, illustrates the Commission impact on the small holding sector of the agricultural economy.

In 1966, the Agricultural district near Wailua included about 427 acres divided into thirty-four individual parcels. This agricultural area was in close proximity to land units that had been previously assigned Rural classification by the Commission. By 1971, 293 acres of this agricultural land had been sold at prices averaging about $8,000 per acre, nearly two and a half times the fair market value of the land in agricultural use. These prices reflected a perception of Commission willingness to redistrict the land. The Commission did redistrict a portion of the land to allow for urban uses. The Land redistricted included the most agriculturally productive land. Mounting tax assessments resulting from the Commission action further increased the pressures to urbanize the remaining agricultural land. To date only a portion of the subject land had been developed for urban uses.

In this case, the sequencing of Commission approval was such that a discontinuous pattern of urban development was made possible. Because there was no apparent pattern to Commission approval, there was an incentive for farmers to sell their land to developers while they could
still get good prices rather than to continue to farm until the Urban
district expanded to them. Secondly, the most agriculturally productive
land was rezoned first. Thirdly, the mixed pattern of urban and
agricultural units not only put tax pressure on the remaining farmers,
pressure that might have been offset by dedicating their lands to
agricultural use, but it also raised the possibility that remnant
agricultural uses might be regarded as "nuisances" in newly developed
areas. Finally, much of the urban land that was created has remained
vacant.

The conversion of large land units that have been a part of plan­
tation operations, on the other hand, typically begins with an announce­
ment that a particular plantation is being closed. Such closings have
occurred with increasing frequency over the last decade, in part because
sugar and pineapple can be produced more profitably in Taiwan or the
Philippines, often by the same companies using low-wage labor. A
petition to the Land Use Commission follows, based on the claim that the
former agricultural use is "no longer economically feasible" and the
proposed urban uses will provide both housing and enjoyment.

Central Oahu is a case study in the conversion of former plantation
lands. This broad level expanse between the island's major mountain
range is controlled by a handful of major landowners who issue long-term
leases for cultivation or manage operations through subsidiaries. Fully
forty per cent of the state's prime agricultural land is located in this
area. By virtually any standard, Central Oahu is the agriculturist's
dream, as well as the developer's.

In Central Oahu more than 8,500 acres have been requested for
urban designation and more than 5,000 acres have been approved. Some of the land units that have been added to the Urban district were the subject of several petitions before being approved wholly or in part. Most significantly, of the more than thirty requests to convert land from agricultural to urban in Tax District 9, which comprises much of Central Oahu, only two have been turned down more than once. All others have been approved either wholly or in part.

What impact has the Commission had on the supply and location of urban land?

The Land Use Commission rules on proposed changes in the State's Land district boundaries. In so doing, it is determining how much land will be made available for urban development as well as where that land is located. Taken together, these decisions constitute the Commission's implicit growth management policy.

The analysis of the Commission's growth policy requires both an identification of what that policy has been and the development and application of criteria by which that policy can be evaluated. For purposes of this analysis, the emphasis is on the Commission's policy with respect to urban development on Oahu, where most urban growth is occurring.

To identify how much land has been added to the Urban district and how that land is distributed, the Commission's approvals of petitions to change land to Urban designation on Oahu were summarized for each tax district. These additions to the Urban district are indicated in Table 8.6.
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Petitions</td>
<td>Acres</td>
<td>Petitions</td>
<td>Acres</td>
</tr>
<tr>
<td>1. West Central Honolulu</td>
<td>2</td>
<td>10.2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>(Airport to Nuuanu)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. East Central Honolulu</td>
<td>3</td>
<td>3.5</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. Kaimuki-Kokohead</td>
<td>6</td>
<td>2334.9</td>
<td>5</td>
<td>15.0</td>
</tr>
<tr>
<td>4. Windward-Kailua-Waikane</td>
<td>6</td>
<td>121.0</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>5. Kaaawa-Kahuku</td>
<td>6</td>
<td>237.0</td>
<td>13</td>
<td>266.3</td>
</tr>
<tr>
<td>6. Wailua</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7. Wahiawa</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. Waianae</td>
<td>7</td>
<td>2156.1</td>
<td>5</td>
<td>305.9</td>
</tr>
<tr>
<td>9. Leeward-Central</td>
<td>16</td>
<td>2178.2</td>
<td>7</td>
<td>1427.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>46</td>
<td>7040.9</td>
<td>3715.7</td>
<td>34</td>
</tr>
</tbody>
</table>

aDoes not include 1969 boundary review additions. Source: Compiled from Commission files.
As Table 8.6 indicates, with two notable exceptions, most of the Commission's additions to the Urban district have been in the Ewa-Central Oahu area, the agricultural plain that surrounds Pearl Harbor. Of a total of 14,554 acres added to the Urban district on Oahu, at least 5,113 acres or 35 per cent were in the Ewa-Central Oahu area. The two large exceptions were the additions of 1,370 acres in Makaha proposed by Chinn Ho's Capital Investment Company in 1966 and the addition of 2,300 acres in Hawaii Kai proposed by Kaiser Aetna and approved by the Commission before the adoption of permanent boundaries in 1964. It appears, then, that there has been a rather consistent policy of allowing urban growth to occur at the western fringe of Honolulu in Central Oahu.

There are several possible tests of the appropriateness of these policy decisions regarding the supply and location of new urban land but two evaluative criteria, in particular, have been used in this analysis:

1. Does the urban growth policy meet the statutory tests for urban changes set forth in the Land Use Law; and

2. Is the policy consistent with other official growth policies?

The Statutory Tests for Urban Changes

The purposes of the Land Use Law, it should be recalled, were to preserve prime agricultural land and to prevent scattered urban subdivisions. In addition, 1964 amendments to the law set forth another test governing boundary changes:

"No change shall be approved unless the petitioner has submitted proof that the area is needed for a use other than that for which the district in which it is situated is classified, and either of the following requirements has been fulfilled:

1) The petitioner has submitted proof that the land is usable and adaptable for the use it is proposed to
be classified, or

2) Conditions and trends of development have so changed since the adoption of the present classification, that the proposed classification is reasonable.6

In the section of this chapter focusing on the Commission's effectiveness in preserving prime agricultural land, it was shown that the Commission has re-districted about 8,908 acres of agricultural land on Oahu, some 2,127 acres of which were rated "prime" in terms of their agricultural productivity. In this section, the primary emphasis is on the other statutory test: the "Need" for urban land. While the law states that "need" for new urban land is the primary test of appropriateness of a proposed boundary change, "need" is not explicitly defined in the law. The law does contain, however, an implicit definition of "need":

"In the establishment of boundaries of urban districts those lands that are now in urban use and a sufficient reserve area for foreseeable urban growth"7

The State Land Use District Regulations adopted by the Commission further define that "sufficient reserve" as "...areas for urban growth in appropriate locations based on a ten (10) year projection."8

The "sufficient reserve" requirement has two elements. One element prescribes making a specific amount of land available for urban development based, presumably, on an extrapolation of past growth trends. The other element prescribes that such reserves be made available in "appropriate locations." Further guidance as to what locations might be deemed "appropriate" is provided by other criteria set forth in the Regulations, such as the one stating that:

"In determining urban growth for the next ten years, or in amending the boundary, lands contiguous with existing urban areas shall be given more consideration than non-contiguous lands, particularly when indicated for future
While urban zoned land is required for commercial and industrial uses, by far the largest proportion by newly created urban land is consumed by residential development. Hence, the principle impact of the requirement that there be a "sufficient reserve" for urban growth is on the available supply of land for residential development. Residential land requirements depend on the rate and volume of residential construction and the type of housing units being constructed. Table 8.7 indicates the number of single family and multi-family dwelling units added to the housing stock since the passage of the Land Use Law in 1961.
Table 8.7
Housing Stock on Oahu, 1961 to 1974

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>3,412</td>
<td>2,362</td>
<td>5,774</td>
<td>1,501</td>
<td>125,795</td>
<td>5,812</td>
</tr>
<tr>
<td>1962</td>
<td>3,654</td>
<td>4,246</td>
<td>7,900</td>
<td>1,879</td>
<td>131,607</td>
<td>2,457</td>
</tr>
<tr>
<td>1963</td>
<td>3,354</td>
<td>3,081</td>
<td>6,435</td>
<td>856</td>
<td>134,064</td>
<td>7,591</td>
</tr>
<tr>
<td>1964</td>
<td>3,671</td>
<td>2,958</td>
<td>6,629</td>
<td>919</td>
<td>141,655</td>
<td>4,077</td>
</tr>
<tr>
<td>1965</td>
<td>4,512</td>
<td>5,687</td>
<td>10,199</td>
<td>1,054</td>
<td>145,732</td>
<td>6,347</td>
</tr>
<tr>
<td>1966</td>
<td>2,943</td>
<td>6,373</td>
<td>9,316</td>
<td>1,431</td>
<td>152,079</td>
<td>6,007</td>
</tr>
<tr>
<td>1967</td>
<td>3,005</td>
<td>3,205</td>
<td>6,210</td>
<td>902</td>
<td>158,086</td>
<td>5,302</td>
</tr>
<tr>
<td>1968</td>
<td>3,683</td>
<td>6,373</td>
<td>10,056</td>
<td>3,164</td>
<td>163,118</td>
<td>5,032</td>
</tr>
<tr>
<td>1969</td>
<td>3,569</td>
<td>7,563</td>
<td>11,130</td>
<td>1,232</td>
<td>168,158</td>
<td>5,040</td>
</tr>
<tr>
<td>1970</td>
<td>3,809</td>
<td>4,172</td>
<td>7,981</td>
<td>642</td>
<td>174,742</td>
<td>6,584</td>
</tr>
<tr>
<td>1971</td>
<td>3,771</td>
<td>4,087</td>
<td>7,858</td>
<td>1,596</td>
<td>182,588</td>
<td>7,846</td>
</tr>
<tr>
<td>1972</td>
<td>3,352</td>
<td>7,064</td>
<td>10,617</td>
<td>669</td>
<td>187,719</td>
<td>5,231</td>
</tr>
<tr>
<td>1973</td>
<td>3,008</td>
<td>10,057</td>
<td>13,065</td>
<td>874</td>
<td>193,767</td>
<td>6,048</td>
</tr>
<tr>
<td>1974</td>
<td>1,626</td>
<td>11,534</td>
<td>13,160</td>
<td>703</td>
<td>202,292</td>
<td>8,525</td>
</tr>
</tbody>
</table>

Average (No./Yr.) 3,384 5,640 9,024 1,102 5,464

1Construction in Hawaii, 1975, Bank of Hawaii, p. 8 & 33 (See note in text on modifying permit authorizations to arrive at net housing stock.)

2Construction in Hawaii, 1971, Bank of Hawaii, p. 31

3Housing Supply and Demand in Hawaii, 1975, Department of Planning and Economic Development, 1975, Table 2.

Table 8.7 indicates that an average of 3,384 single family units and 5,640 multi-family units are added to the housing stock annually. There has been a significant change over the years in the mix of single-family and multi-family units constructed each year. In 1961, 59% of the units constructed were single-family dwellings, but by 1974 the proportion of such units constructed was only 12%.

What are the implications of these trends for the availability of urban land? In order to determine whether or not the supply or urban land is "sufficient" one needs to know, at a minimum, the stock and distribution of vacant urban land the rate at which land is being absorbed for each of the major uses. A more complete determination of the adequacy of the land supply requires information about the environmental suitability of specific land units for development, the location of specific urban designated land units relative to existing urban facilities and services and the willingness of the land owner to make the land available for development.

Information on even the most basic criterion of adequacy--the existing supply and distribution of vacant urban land--is incomplete and uneven. In spite of its drawbacks, the City and County data collected as part of the General Plan Revision Program represents the most complete information of vacant land available for the island of Oahu. A portion of these data are reported in Table 8.8.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. West Central Honolulu</td>
<td>500.72</td>
<td>213.11</td>
<td>0</td>
</tr>
<tr>
<td>(Census tracts 46-72)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. East Central Honolulu</td>
<td>391.94</td>
<td>52.29</td>
<td>0</td>
</tr>
<tr>
<td>(Census tracts 18-27, 29-45)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Kaimuki-Kokohead</td>
<td>2,046.84</td>
<td>385.56</td>
<td>15</td>
</tr>
<tr>
<td>(Census tracts 1-17, 28)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Windward</td>
<td>4,339.22</td>
<td>361.70</td>
<td>9.2</td>
</tr>
<tr>
<td>(Census tracts 103-113)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Kaaawa-Kahuku</td>
<td>957.56</td>
<td>322.9</td>
<td>348.30</td>
</tr>
<tr>
<td>(Census tracts 101-102)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Waialua</td>
<td>636.21</td>
<td>39.17</td>
<td>0</td>
</tr>
<tr>
<td>(Census tracts 99 &amp; 100)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Waialua</td>
<td>125.77</td>
<td>11.10</td>
<td>0</td>
</tr>
<tr>
<td>(Census tracts 90-95)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Waianae</td>
<td>1,681.26</td>
<td>490.53</td>
<td>475.9</td>
</tr>
<tr>
<td>(Census tracts 96-98)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Leeward</td>
<td>3,797.22</td>
<td>640.37</td>
<td>2,934.4</td>
</tr>
<tr>
<td>(Census tracts 73-89)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>14,469.0</td>
<td>2,516.7</td>
<td>3,782.8</td>
</tr>
</tbody>
</table>
Table 8.8 indicates both where vacant land was located as of 1973 and additions to the land supply by the Land Use Commission. As noted above, whether or not this supply of vacant land is sufficient depends, in part, on the rate and amount of land being absorbed for residential and other urban uses. One crude way to calculate the rate and amount of land absorption is to determine the number of new dwelling units in each tax district and to estimate the amount of land absorbed by each new dwelling unit and its ancillary off-site improvements such as roads. Residential land absorption rates also depend on the mix of single-family dwellings and multi-family units constructed and the number of acres required for each type of unit.

Table 8.7 listed the number and type of new dwelling units for which building permits were authorized from 1961 to 1974. From 1970, an annual average of 7,382 units were authorized for multi-family dwellings and 3,113 units were authorized for single-family dwellings. Table 8.9 indicates the implications of this growth rate in terms of land absorption for Oahu as a whole, based on proposed maximum densities per acre proposed by the City and County of Honolulu.
### Table 8.9

Annual Land Requirements for Residential Needs on Oahu Based on Proposed Densities

<table>
<thead>
<tr>
<th></th>
<th>Units/Acre</th>
<th>Annual # of Units</th>
<th>Annual Land Requirements</th>
<th>10-year Total</th>
<th>1973 Vacant Urban Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Single Family Detached</td>
<td>4.4</td>
<td>3,113</td>
<td>707.5</td>
<td>7,075.0</td>
<td>14,469.0</td>
</tr>
<tr>
<td>2. Single-Family Semi-Detached</td>
<td>14</td>
<td>3,113</td>
<td>222.36</td>
<td>2,223.6</td>
<td>14,469.0</td>
</tr>
<tr>
<td>3. Multi-Family Suburban High-Rise</td>
<td>90</td>
<td>7,382</td>
<td>82.02</td>
<td>820.2</td>
<td>2,516.0</td>
</tr>
<tr>
<td>4. Multi-Family Urban High-Rise</td>
<td>150</td>
<td>7,382</td>
<td>49.21</td>
<td>492.13</td>
<td>2,516.0</td>
</tr>
</tbody>
</table>

Calculated using population densities set forth in City and County of Honolulu Residential Requirements, Objectives and Alternatives, General Plan Revision Program, July, 1972, Appendix C.
Given these assumptions about densities and the average annual number of new units constructed, the amount of residential land required for new construction each year in recent years on Oahu is somewhere between 272 acres and 790 acres. These figures suggest that Oahu has more than a twenty year supply of urban-zoned land to accommodate new development. Actually, the number of new units constructed is less than the number of building permits authorized so the annual averages stated over-state the amount of construction actually taking place. The amount of construction actually taking place has been estimated to be about 60% of permits authorized. Moreover, more than a thousand permits for demolition of dwelling units are issued each year so one can assume that some of the authorized construction of new units is occurring on parcels where old units have been demolished rather than on vacant land. Since the amount of vacant urban land may also be over-stated, the magnitude of difference between "need" based on a projection of ten year growth and "supply" based on vacant land inventories are probably similar to those indicated in Table 8.9.

How is this supply of land distributed among areas of Oahu? More specifically, is the supply of land in each district sufficient to accommodate foreseeable growth "based on a ten year projection?" To answer this question, data were gathered on the number of new dwelling units constructed in each tax district from 1970-1974. As originally reported these data were aggregated; no distinction was made in these data between single family units and multi-family units. Hence, in order to arrive at the average annual number of new single family units and multi-family units an assumption was made that the proportion of
each type of new unit was the same as the proportion reported for each
district in the 1970 Census. Once estimates of the average number of
each type of dwelling unit constructed were compiled, it was possible
to estimate the number of years' growth that could be accommodated in
each district.

These "growth years" are presented for each tax district in
Table 8.10 on the following page.
Table 8.10
Vacant Land in Oahu's Tax Districts
Computed in "Growth Years," 1973

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Honolulu 1, 2, 3</td>
<td>2,939.5</td>
<td>1,251</td>
<td>10.3</td>
<td>651</td>
<td>1,438</td>
<td>13.6</td>
</tr>
<tr>
<td>Windward</td>
<td>4,339.2</td>
<td>747</td>
<td>25.5</td>
<td>361.7</td>
<td>117</td>
<td>92.7</td>
</tr>
<tr>
<td>Kaaawa-Kahuku</td>
<td>957.6</td>
<td>128</td>
<td>32.03</td>
<td>323</td>
<td>10</td>
<td>968.8</td>
</tr>
<tr>
<td>Wailua</td>
<td>636.2</td>
<td>50</td>
<td>56</td>
<td>39.2</td>
<td>10</td>
<td>118.8</td>
</tr>
<tr>
<td>Wahiawa</td>
<td>125.8</td>
<td>137</td>
<td>4.4</td>
<td>11.1</td>
<td>118</td>
<td>2.6</td>
</tr>
<tr>
<td>Waianae</td>
<td>1,681.3</td>
<td>178</td>
<td>41.56</td>
<td>490.5</td>
<td>31</td>
<td>476.2</td>
</tr>
<tr>
<td>Leeward/Central</td>
<td>3,797.2</td>
<td>1,722</td>
<td>9.7</td>
<td>640.4</td>
<td>634</td>
<td>30.3</td>
</tr>
</tbody>
</table>

1. Tax Districts 1, 2, and 3 have been combined here.
3. Based on density of 4.4 units per acre for single family dwellings and 30 units per acre for multi-family units of the garden apartment type. Where average annual increase in number of dwelling units did not differentiate between single and multi-family units in reporting new housing units, the distribution of single and multi-family units reported in the 1970 census was assumed.
If one assumes that new residential development will continue at its present rates and at densities close to those used in the calculations in Table 8.10, then the reserve of urban land is sufficient to meet demand for single family dwelling units in all but two districts—Wahiawa and Central Oahu. Significantly, Central Oahu had the highest average annual rate of construction of new single family dwellings on Oahu. The reserve of urban-designated land for multi-family units was adequate to meet the ten-year reserve test in all but one district—Wahiawa.

It is also noteworthy that the Central Oahu area had the highest annual rate of construction of single family units on Oahu and the second-highest rate of construction of multi-family units. It is significant that the fastest growing residential area on Oahu is also the same area where much of the state's prime agricultural land is located; significant because much of this growth was made possible as a result of deliberate public policy choices. Between 1961 and 1969, nearly 2,200 acres were added to the Urban District in Central Oahu. These 2,200 acres represented a third of all the additions to the Urban district on Oahu in that time period. Since 1970, nearly 3,000 acres have been added to the Urban district in Central Oahu—77% of all additions to the Urban district in that time period. More than 3,000 acres are not included in the vacant land calculations reported by the City and County of Honolulu and shown in Table 8.8, having been added after the vacant land study was completed.

Given these land supplies, why does the Commission continue to receive—and grant—additions to the Urban district on Oahu. What is
the "need" to which the Commission is responding? A survey of housing industry representatives conducted in conjunction with the Land Use Commission's Five Year Boundary Review suggest some possible answers.

1. The housing industry seeks larger sites, generally at peripheral locations.

2. These larger sites permit the industry to spread the risk over a longer investment period as well as over a larger piece of real estate.

3. Many of these larger sites are beyond the effective service areas of existing public facilities and services. As such, there is a sharing of developmental risks with public agencies in the developmental process. New public expenditures--off-site costs--are carried by the community at large. In some instances, the initial burden is assumed by the industry but eventually transferred to the public, either through consumer purchases of real estate or the assumption of control and management of the service system.

4. The nature of land ownership in Hawaii lowers the entry cost, somewhat, by the trend towards less-than-free acquisition of interests in real property. However, this lower entry cost does not lead to lowering of the cost of land or permitting more firms to participate in the developmental process. The costs remain high since more lands are acquired at sites which may not be planned or serviced by public facilities and services. In effect, this trend drives out the smaller entrepreneur, who in his undercapitalized status, lacks the capacity to get into the developmental game.

5. New developmental organizations are coming into being. These organizations are somewhat vertically integrated firms, from land acquisition and development, through construction and sales. Three of the larger developmental companies have this integrated real estate capability.

6. Developmental leadtime is beginning to stretch out. While the industry seeks to shorten the developmental process through a number of organizational devices and marketing techniques, the developmental process is becoming longer due to supply or labor problems, as well as the growing complexity of the developmental process itself.
In short, from the perspective of the private sector it is not the supply of urban land that is the critical variable but the availability of that land for development. From this perspective "need" refers to the private need of industry members to maintain a sufficient stock of land.

The data presented above suggest that the Commission has accommodated the private sector by maintaining a large reserve of urban land. The data suggest that the Urban district boundaries are very loosely drawn on Oahu; that such control as has been exercised works to insure broad developer discretion about the location of new development within a loose framework of governmental control. Secondly, they suggest that the Commission has allowed the bulk of new development to occur on the agricultural lands of Central or Leeward Oahu rather than directing it to other locations. To re-direct development, the Commission would have had to deny petitions for Urban designation involving land units well suited for agricultural purposes.

Commission Consistency with Official Growth Policies

The second broad criterion for evaluating the Land Use Commission's growth policy is the consistency of that policy with other "official" growth policies. For Oahu, these "official" growth policies include (in chronological order):

The City and County's 1964 General Plan
The State of Hawaii's Central Oahu Planning Study
The City and County's General Plan Revision Program
The State of Hawaii's Growth Policies Plan
The City and County's 1964 General Plan

The 1964 General Plan for Oahu—the plan still legally in force—consists of a map of Oahu and a statement of development objectives, standards and principles with respect to the "most desirable" use of land within the city. The plan is based in large part on a series of sectional maps compiled by the Planning Department and a Honolulu consulting firm in the 1960's. Why the particular pattern of land use illustrated by the maps is preferable to some other pattern is unclear. There was no apparent evaluation of alternative growth patterns and no explicit linking of community goals to the maps.

There is no explicit growth pattern policy evident in the 1964 General Plan. In developing the plan, planners estimated the future population by district and, since the plan was envisioned to be a general plan, a single density figure was adopted for use as opposed to a range of densities. On this basis the amount of land required to support the estimated population was computed. The resulting estimate of density and acreage requirements then became the "most desired" density and distribution of population.17 The 1964 General Plan does not provide a convincing policy statement from which to make evaluative inferences about the appropriateness and consistency of Commission actions on Oahu.

The Central Oahu Planning Study

The State's Central Oahu Planning Study (hereinafter referred to as COP study) begins with the assumption that some urban growth is inevitable, but that state and county agencies must "contend creatively" with that growth.18 The COP study states that urban growth is nowhere
more evident than in Central Oahu where urbanization is already occurring and where "several proposals call for extensive urban development which would necessitate the transfer from the agriculture land use district to the urban district." The study argues that "the decisions of the State Land Use Commission on these proposals will have significant impacts not only on the people and institutions of Central Oahu but also the island of Oahu and the state as a whole." The COP study attempts to predict some of these impacts as a means of evaluating alternative growth patterns on Oahu.

The COP study assumes that between 50,000 and 55,000 housing units will be required to meet projected population growth on Oahu until the year 1990. The study then evaluates four alternative scenarios for distributing these new units over the island of Oahu: 1) development as proposed; 2) incremental sprawl; 3) contained growth; and 4) contained growth with mass transit. These alternative scenarios are evaluated in terms of their impacts on public service requirements and costs, agriculture, natural resources and the housing "crisis."

The COP study concluded that "no further urban encroachment on agricultural lands beyond the present urban land use districts should be allowed at this time (1972), and secondly, that a strategy of containing growth within the present urban land use districts should be adopted as a State policy for urban growth on Oahu." According to the Director of the Department of Planning and Economic Development, those recommendations were based on the study's findings that "1) the present urban land use districts have the capacity to meet Oahu's requirements for urban residential land for about eighteen more years
at the densities now allowed by the Comprehensive Zoning Code of the City and County of Honolulu; and 2) it is advantageous from the standpoint of costs to agriculture, public service capital costs for transportation, schools and sewer and water services, and impacts on the physical environment to contain growth within the present urban land use district rather than allow it to extend into Central Oahu under present proposals."\(^2^2\)

The City and County's General Plan Revision Program

The City and County of Honolulu's Department of General Planning has, since 1970, been in the process of revising the 1964 Oahu General Plan. The revised plan was completed in 1974 and submitted to the City Council for adoption. To date, the Council has rejected the plan so it has no legal status. However, inasmuch as the plan is an expression of the professional judgement of planners charged with planning for Oahu, it provides another basis for evaluating the Commission growth policy.

The revised General Plan is not a land use plan, but "a statement of the objectives to be achieved for the general welfare of the people of the City through government action and the policies through which such objectives are to be achieved."\(^2^3\) In contrast to the 1964 General Plan, which focused on where urban activities were to occur, the revised plan, in the view of its authors, "is primarily concerned with 'what' the community seeks to achieve and 'how' this is to be accomplished."

Like the COP study, the revised plan posits a certain amount of population growth for Oahu and examines several alternative scenarios
for distributing that growth around Oahu. There were four major groups of scenarios: 1) intensive development; 2) directed growth; 3) moderate expansion; and 4) private sector initiative. The intensive development scenario was roughly comparable to the contained growth alternatives in the COP study; the moderate expansion scenario was comparable to incremental sprawl in COP study. The directed growth scenario provided for expanding the Urban district into Central Oahu, specifically toward the Ewa plain.

The analysis of alternative scenarios conducted in the course of the General Plan Revision Program (GPRP) was methodologically more sophisticated than that conducted in conjunction with the COP study. The major difference in the two studies, however, was that in the GPRP one basic criterion was used to evaluate the alternative scenarios: the impact on housing. According to the authors of the GPRP this focus was chosen "after an initial review of problem areas in terms of their urgency, existing efforts toward attaining solutions, impact on land use, degree to which the City can influence solutions, importance to the City, possibility of visible improvement in the near term, and whether a significant study can be done within the time and resources available."24

After extensive analysis, the report concluded that "the greatest potential for meeting the community's long range housing needs with the least direct government involvement and with less costly housing programs lies with the directed growth alternative."25 It adds that "(i)f the community adopts the Intensive Development alternative (that is to say, development within the existing Urban district) and desires
to meet housing needs, then it must be willing to accept an unprecedented level of government activity in the housing market.\(^\text{26}\) In other words given the values of maximizing housing opportunities for all economic groups in society with a minimum of government involvement in the housing market, the City and County's evaluation concludes that converting agricultural land in Central Oahu is most likely to result in the realization of these values.

**The State's Growth Policy Plan**

In 1974, the State Department of Planning and Economic Development published its *Growth Policies Plan: 1974-1984* as part of its general plan revision program. Emphasis was placed on policies and actions that affect: 1) the rate of population growth; 2) distribution of population growth among Oahu and Neighbor Islands; 3) the role and significance of agriculture, tourism and other employment bases; 4) transportation; and 5) housing. The study indicates that there are four fundamental growth policy choices for the state: 1) continuing existing growth policies; 2) no growth; 3) slowed growth and 4) accelerated growth. Policies for each alternative were evaluated in terms of their impact on the state's economy, environmental quality, and "the community's ability to support adequate facilities, housing and auxiliary services."\(^\text{27}\)

The study's selection of the "slowed growth" alternative is of less interest than some of the specific policies that are recommended to implement that alternative. More specifically, the report calls for the location of population growth in compact urban development. A number of actions are proposed as a means of encouraging compact...
urban growth including:28

---restrict redistricting of land to urban use especially land not adjacent to existing urban land districts;

---restrict intra-island transportation development so as not to encourage urban sprawl;

---concentrate CIP and housing resources in a limited number of areas;

---develop state parks and agricultural parks that block urban expansion into prime agricultural land.

The study also emphasizes support for the agricultural industry by means of land use actions including:29

---assist in the development of agricultural parks in areas where economic efficiency and environmental compatibility can be demonstrated;

---encourage dedication of land to agricultural use.

Similarly, the study suggests that growth in tourism should be slowed and directed to the Neighbor Islands by actions such as:30

---apply restrictive standards in state redistricting of land to be used for resorts and hotels, especially on Oahu;

---apply extremely restrictive standards in prohibiting the use of conservation land for resorts and hotels, especially on Oahu;

---encourage the counties to apply restrictive standards for resort and hotel zoning, especially on Oahu.

Surveying these four expressions of official land use policy for Oahu, it is apparent that the manifest Commission growth policy is more consistent with the policies of the City and County's General Plan Revision Program than with either of the state's growth policy statements.

In somewhat over-simplified terms the value choice that emerges from these reports is between growth policies that result in lower
public facility costs, preservation of agricultural land, and protection of environmental resources versus policies that increase the housing options to Oahu's population while minimizing governmental participation in the housing market. In practice, the policy dilemma the Commission faces is more complex for two reasons. First there are analytical problems which make it difficult to specify precisely the public costs or savings associated with a particular growth option or the environmental effects of different land use patterns. The state and county analyses, for example, differed widely on these points. Secondly, the ad hoc nature of Commission decision-making tends to lend itself to the sort of planning analysis necessary to support housing values. In general an emphasis on using land use policy to support a broader range of agricultural options, reduced public facility costs or environmental protection requires more sophisticated analysis. One must be able to examine cumulative impacts of land use changes, such as the increased sedimentation and consequent degradation to marine life resulting from land-disturbing activities. The impacts of a change in land use designation on housing stock, on the other hand, are, at least relatively, much easier to calculate. One has only to calculate the number and price of housing units to be delivered by approval of a particular petition.

The effects of housing policy are tangible and easily measurable and, in that sense, easier to defend than a set of policies designed to prevent a range of consequences that may occur at some unspecified future time. A land use policy that emphasizes housing over other public goals is likely to be politically appealing for this very
reason. Clean air, clean water, open space and lower public facility costs are undifferentiated public values. No one individual is likely to benefit more than any other from the realization of those values. Moreover, rarely is a decision-maker faced with a single proposed land use change that presents such a clear threat to those values that substantial political benefit flows from denying that change.

A land use policy that is primarily a housing policy, such as the City and County's "directed growth" strategy has substantial short-run political benefits. Some portions of the population such as those who would be able to afford the lower cost housing would probably be built on agricultural land would realize some tangible benefit from the strategy. A few landowners, developers and contractors--would enjoy substantial economic benefits from such a policy.

Given these planning and political perspectives, it is not surprising that in determining the supply and location of new urban land, the Commission has made housing the key consideration.

What is the Commission's record in dealing with conservation issues?

The basic conservation policy of the state is set forth in Article X of the state constitution. Section 1 of that article states that:

"The legislature shall promote the conservation, development, and utilization of agricultural resources, and fish, mineral, forest, water, land, game and other natural resources."32

The activities implied by the language of this article range from preservation for its own sake to uses of non-renewable resources in ways that could conceivably reduce the possibility of their future availability. The choices of what resource-use activities are to be allowed is left to a variety of boards, agencies and commissions, but the cornerstone of the
state's conservation policy is the Land Use Law.

More than half the land area of the state is in the Conservation District. The percentage of each county's land area in the Conservation District is summarized in Table 8.11.

Table 8.11

<table>
<thead>
<tr>
<th>County</th>
<th>Land Area</th>
<th>Percentage of Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>1,310,573</td>
<td>51%</td>
</tr>
<tr>
<td>Oahu</td>
<td>154,907</td>
<td>40%</td>
</tr>
<tr>
<td>Kauai</td>
<td>198,758</td>
<td>56%</td>
</tr>
<tr>
<td>Maui</td>
<td>310,456</td>
<td>41%</td>
</tr>
<tr>
<td>Total</td>
<td>1,974,694</td>
<td>48%</td>
</tr>
</tbody>
</table>

The state's policies with respect to land and water uses in Conservation Districts is expressed in two ways: 1) by the changes in Conservation District boundaries acted upon by the Commission; and 2) by the uses permitted within Conservation Districts by the agency responsible for the administration of such districts, the Department of Land and Natural Resources. In its analysis of these policies, the state's consultant on the 1969 boundary review stated that they "found more confusion and friction throughout the state over the purposes and administration of the Conservation Districts than any other single element in the Land Use Law."33

By law, Conservation Districts include "areas necessary for protecting watersheds and water sources, preserving scenic resources, providing parklands, wildlife, preventing floods and soil erosion,
forestry and other related activities; and other permitted uses not detrimental to a multiple use conservation concept."  

In practice the Conservation District is also a residual land use category for lands that do not fit easily in any other category such as those which are too poor for even the least intensive agricultural uses.

The Land Use Commission has acted on thirty-four interim petitions involving requests to place more lands in the Conservation District into some other district. Table 8.12 summarizes those petitions:

Table 8.12
Interim Land Use Commission Petitions Involving Conservation District Lands, 1964-1975, by Island

<table>
<thead>
<tr>
<th>County</th>
<th>Petitions Requested</th>
<th>Acres Requested</th>
<th>Petitions Approved</th>
<th>Acres Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>8</td>
<td>1,163.851</td>
<td>8</td>
<td>1,163.85</td>
</tr>
<tr>
<td>Kauai</td>
<td>3</td>
<td>966.252</td>
<td>3</td>
<td>966.25</td>
</tr>
<tr>
<td>Maui</td>
<td>4</td>
<td>23,372.333</td>
<td>4</td>
<td>23,372.33</td>
</tr>
<tr>
<td>Oahu</td>
<td>19</td>
<td>5,298.944</td>
<td>11</td>
<td>82.19</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>30,801.37</td>
<td>26</td>
<td>25,584.62</td>
</tr>
</tbody>
</table>

1 Includes 317.1 for agricultural uses  
2 Includes 965 acres for agricultural uses  
3 For one petition by the Lanai Co., 18,000 acres of conservation lands were approved for agricultural uses, 2,700 acres were put in the Rural District and 1,620 acres were put in the Urban District  

Source: Compiled from Commission files

As Table 8.12 indicates, all the petitions involving Conservation District lands on the Neighbor Islands were approved. The number of acres of land approved amounted to roughly one percent of the total acreage in the Conservation District. While these figures seem to
indicate a general willingness on the part of the Commission to withdraw lands from the Conservation District, a careful retrospective identification of Commission policies requires some discussion of the purposes to be achieved by including lands in the Conservation District and the Conservation values, if any, that are sacrificed by taking particular land units from the Conservation District.

On Maui and Kauai most of the boundary changes involving Conservation District lands were to allow some agricultural use of the land units. Some of these changes represented boundary adjustments, changes that were made because the original boundary lines were thought to be arbitrary in distinguishing between lands suitable or desirable for agriculture and those that were not. Most of these changes would permit uses that would not significantly degrade most resource values of the land unit although grazing or cultivation may pose some threats to endangered plant species. The major petition in this group was one involving more than 22,000 acres of Conservation District lands on Lanai. The implications of this petition for the state's conservation policies are difficult to determine. It is not clear why this land was originally placed in the Conservation District. The scanty evidence available from the public record seems to indicate that the original Conservation District designation was regarded as a "holding zone" rather than an attempt to exercise control over specific resources. The designation of 1,620 acres of this land for urban use and the placement of an additional 2,720 acres in the Rural District is also difficult to explain. No significant urbanization of this land has occurred since 1972 when the petition was granted. Slightly more than 3,000 acres of Agriculture
District land was returned to the Conservation District during the 1975 boundary review by the Commission.

Three of the eight petitions involving Conservation lands on the Big Island were land units requested for Agriculture District designation. In each instance the Commission staff stated that the re-designation posed no threat to conservation values. Three other petitions involved re-designation to permit some urban use of land units. The Commission staff recommended that all three petitions be denied. Two of these petitions involved land units on or near the shoreline. At issue was resort-type development in areas with significant community and historic values. In approving the re-designation of one of the petitions, the Commission stipulated that a Hawaiian fishpond be preserved. A third petition, that of Boise Cascade, resulted in Commission re-designation of a large land unit in the vicinity of a large lava flow in West Hawaii. Here again, the issue was not so much that there were significant conservation values to be upheld, but rather that the location of the development was such as to be totally isolated from urban facilities, services and amenities.

All nineteen of the petitions proposing re-designation of Conservation District lands on Oahu were for Urban District designation. Thirteen of the nineteen petitions involved land units that were placed in the Conservation District because of steep terrain. Eight of the petitions were approved either wholly or in part.

The Commission's record in dealing with such environmentally fragile land units indicates that it has been more likely to allow resource-degrading activities than to encourage preservation. The
The Commission's record raises several issues:

- What attributes of a land unit give it conservation value?
- What is the appropriate scale at which resource planning or management should occur?
- Are control techniques likely to be effective in achieving conservation objectives?

The critical issue in the formulation and implementation of any conservation policy is the determination of what to conserve. What is it that distinguishes a particular historic site or natural feature and therefore makes it more worthy of conservation than some other, similar sites? In practice, it is often possible to determine, if only by the strength of public opposition to a particular resource use, the conservation 'values' attached to particular resources. For some resources, however, the determination of what uses are or should be allowable is more difficult.

Ridgeline development raises one such important conservation issue. Several of Honolulu's most attractive residential developments are located on rather steeply sloping or irregular terrain. Some were built years ago before the environmental consequences of such developments were widely recognized. The Land Use Commission has since re-designated other such units for urban use.

Steeply-sloped land units do not necessarily have any amenity value that makes their preservation in a natural state highly desirable. It is, rather, the environmental consequences that may be associated with urban use of land that is steeply-sloped—loss of ground cover, accelerated water runoff, sedimentation, the increased possibility of
floods or slides—that makes preservation policies desirable.

There appears to be no fixed criteria for distinguishing developable from non-developable steeply-sloped land units. The Commission regulation state that the Urban District;

"...may include lands with a general slope of 20% or more which do not provide open space amenities and/or scenic values if the Commission finds that such land units are desirable and suitable for urban purposes and that official design and construction controls are adequate to protect the public health, welfare and safety and the public's interest in the aesthetic quality of the landscape."35

The Commission, as noted previously has often found that "such lands are desirable and suitable for urban purposes." In making such decisions the Commission has tended to focus on characteristics of the land unit itself and less on the off-site environmental consequences of such development.

In 1966, for example, the Commission approved the re-designation of ten acres of land from Conservation to Urban on Wiliwilinui Ridge above Aina Haina in Honolulu. Three years later, a heavy rainstorm resulted in flooding and several damaging slides in the area below the re-designated site.

These re-designations raise the issue of what the appropriate scale is for conservation planning and management. Clearly, the choice of the appropriate planning scale depends on the conservation objectives. If the objective is the achievement of certain scenic objectives, such as the preservation of the slopes of Diamond Head or the Capitol scenic district, the scale has to be large enough, both horizontally and vertically, that new construction will not dominate or block the visual resources for which protection is sought. If the conservation issue is
one of achieving certain environmental objectives the problem of choosing the appropriate management scale is somewhat more difficult. One has to know over what area and in what degree adverse environmental consequences are likely to be distributed. While it is usually possible to determine the appropriate management area, the degree of impact resulting from a proposed use is more difficult to predict, not simply because the net impact cannot be calculated, but more importantly because it is the cumulative environmental consequences of additional development that may be of concern.

The judicial approval of the exercise of community land use control was originally based on considerations of the public's right to control the negative externalities flowing from the use of a particular land unit. But conservation policies based on the achievement of some environmental objectives do raise equity problems. A certain amount of urban development may occur without causing unacceptable levels of environmental stress, but there may be some threshold above which there is an exponential increase in the level of stress. In such instances, the exercise of community controls to prohibit further development penalizes landowners who have not already developed their land and rewards those who already have.

In these circumstances, the strict application of controls may be judicially defensible, but in practice many authorities exercising controls will succumb to the equity arguments, as has the Land Use Commission. In pristine, undeveloped areas it is possible to avoid this equity problem by planning for an entire area, a watershed for example, and by budgeting development "rights" over the entire area and
allowing the market to work out the distribution of those rights. In partially developed areas the control problem is more difficult. In these contexts, the either-or choices implicit in the traditional framework of control are less appropriate. Here, several strategies may be more appropriate: 1) re-defining permissible uses so as to allow only those uses with the least harmful environmental consequences; 2) developing performance criteria or standards which must be met in order for development to occur; 3) combine performance standards with performance bonds subject to forfeiture as a consequence of violating standards; or 4) permitting virtually any development but making the development "taxable" with the level of "tax" or "fine" contingent upon the net environmental damage caused by the development.

The Commission's conservation record, in short, is one that suggests a need for a better definition of conservation objectives and the rationale for achieving those objectives, some sensitivity to the necessity of choosing the appropriate management scale for achieving those objectives, and a need to design more flexible techniques to achieve conservation objectives.

Conservation Policies Within the Conservation Districts

The Land Use Law assigns responsibility for managing uses within the Conservation District to the Department of Land and Natural Resources. Land Use Management Regulation #4 is the instrument which sets forth the department's management policies for Conservation Districts.

Regulation #4 was adopted in 1964, a month after permanent Conservation District Boundaries were adopted. Regulation #4 divided the
Conservation District into two districts with two sets of permitted uses: a Restricted Watershed Conservation subzone and a General Use subzone. Ten general types of permitted uses are allowed in the General Use subzone subject to approval of an application to the Board of Land and Natural Resources. Such uses include cabins, recreational trailers, resort and related residences, country clubs, target ranges and small boat harbors.

In 1968 three special subzones were created to accommodate Hawaii Loa College, Valley of the Temples Cemetery and Kapakahi Ridge Convalescent Home—all on Oahu. Boundary changes to accommodate the convalescent home has been before the Land Use Commission twice and denied twice. The Board of Land and Natural Resources twice denied use applications before a temporary variance was issued in 1967.

The implementation of Regulation #4 has been a source of conflict between the counties and the department. The counties are allowed only minimal pariticpation in the administration of the regulation. Moreover, the wide variety of uses permitted by Regulation #4 and the permissive- ness with which use applications have been granted strains the meaning of the term "conservation." On the Big Island, for example a major airport was constructed in the Conservation District as was a major highway. Another major highway is proposed for an area districted Conservation on Oahu. In its brief review of the administration of Regulation #4, the consultants to the Land Use Commission in its 1969 boundary review made this observation regarding the choice of the airport site:

"If asked, most people would concur in the use of Keahole Point as an airport site. But this also raises the question of how
it is that the area is in a Conservation District if it is so suitable for a major airport and urban use."  

A revised draft of Regulation #4 was completed in late 1973. The draft expands the number of conservation subzones to five. According to legislative testimony, the five subzones are:

1. Protective subzone to protect valuable areas such as restricted watersheds, fish and wildlife sanctuaries, natural area reserves, significant historic and archaeologic sites, and unique areas such as the Alakai Wilderness Preserve.

2. Resource subzone to develop and manage areas to ensure prolonged use or enjoyment of natural resources of those areas such as lands for a) existing and future state and national parks; b) hunting, fishing, hiking, camping and picnicking; 3) fishponds and off-shore and outlying islands.

3. Limited use subzone to limit uses where natural conditions suggest constraints on human activities such as a) lands susceptible to floods and soil erosion, b) lands with general slope in excess of 20% which provide open space or scenic value, and c) shoreline lands.

4. Submerged land subzone to use and sustain shore and marine resources including lands below the mean high water together with appurtenant reefs and territorial waters; and

5. General Use subzone to designate open space where specific conservation uses may not be programmed but where urban, agriculture and rural use would be premature. This would include lands suitable for aquaculture, farming, flower growing, operation of nurseries or orchards, and grazing and lands with topography, soils, climate or other related factors that may not be normally adaptable or presently needed for urban, rural or agriculture.

Public hearings were held on the draft regulation in early 1974. While there seemed to be general agreement that the revisions represented a considerable improvement over the previous document, planning staff members from several counties testified that the revisions still
did not provide for more than minimal county participation in decision-making on allowable uses in the Conservation District. They also testified that the vagueness of several definitions in the revised draft left substantial discretion to the Land Board with the possibility that the same pattern of permissive approval of uses incompatible with the concept of conservation would occur.

The status of the revised Regulation #4 is still uncertain. It has yet to be formally adopted by the Land Board. Even with the revised Regulation #4 there is no guarantee that conservation management as practiced by the Land Board will be any less permissive than it has been.

What impact has the Commission had on the availability of low-cost housing?

Changes in land use districts have both short and longer-term consequences. Residential development creates employment and adds to the housing stock; it also alters existing communities in ways that may be regarded as positive or negative, depending on one's values. Most often, the social consequences wrought by changes in land use districts are regarded as the incidental by-products of the physical expansion of urban areas, not as a central rationale for making land use changes.

Occasionally, however, the social consequences predicted to follow a district boundary change become the principal justification for approving (or denying) a particular boundary change. The provision of low-cost housing and the creation of employment opportunities are the primary social objectives that have been used to justify approval of boundary changes. The preservation of a particular area's rural
character or of a particular form of lifestyle are the main social arguments that have been marshalled against proposed changes.

Of these social goals, none has been invoked as often as the necessity of providing low-cost housing. The lack of livable housing at affordable prices is one of Hawaii's major social welfare problems. A 1971 study indicated that, while housing production had increased markedly in the prior decade, the state still lacked 50,000 housing units for low and moderate income residents. Housing indicators are uniformly unfavorable: low income ownership and widespread rentership; the highest sales prices for new homes of any state, save Alaska; disproportionate shares of family income for housing; low interior space per unit and high residential densities, and the like. A state housing program instituted in 1970 will provide 5,000 units, largely for moderate-income families, and has committed nearly 7 per cent of the state's constitutionally-limited debt to housing construction.

Clearly, public development cannot meet Hawaii's housing needs. An often reiterated private industry solution is to use agricultural lands for residential needs. Farmland is available in large tracts, and developer costs are generally lower than in urban areas. In this interpretation (which is not without support from planners and public officials) some loss of fertile land and a low-density urban pattern may be necessary costs in meeting housing needs.

The Land Use Commission has been under particular pressure to release Agricultural district lands for urban residential development. Repeatedly, landowners, developers and their lawyers have justified their requests on the basis that favorable Commission action will
result in "moderate-cost," moderate-income," gap-group," or "low-income" housing. The approval of particular petitions was based on developer's promises to provide needed low and moderate-income housing.

Despite these developer's promises, little housing was built at prices affordable by more than 25 percent of Oahu's households. Perhaps more significantly, the Commission, while less likely now to approve petitions largely on the basis of housing price claims, still appears to perceive itself as indirectly responsible for production of low-cost housing.

A 1963 petition to the Commission to create a "new town" on Oahu is a case in point. Despite the fact that the land unit petitioned for was far from existing Urban boundaries, poorly served by public facilities, and on prime agricultural land, the petition was approved. A strong representation on delivery of low-cost housing was made by the president of the land development firm proposing the project:

"We strongly concede that there is sufficient urban land now available for housing at prices in excess of $25,000. We freely concede no necessity to meet needs of people who can afford housing at that price. We contend that there is no urban land on Oahu to meet the urgent need for fee simple housing for people whose incomes are between $5,000 and $10,000." 40

He presented consultant reports outlining housing packages priced at between $15,000 and $20,000.

Six years later, developers returned to the Land Use Commission for re-zoning of additional acreage. In recommending denial of the petition, the Commission staff noted that the developer had failed to make good on the earlier promises. Less than six percent of the more than 1,200 units sold or under development at that time could have been
defined as "low cost." The petition was approved anyway.

This particular sequence of promise, rezoning and lack of fulfillment has been repeated several times. A 1971 central Oahu petition by a large developer promised "a planned community to meet the needs of families in the housing gap-group." Under questioning by Commissioners, the developer indicated that residential units would be accessible to families with incomes of under $10,000 per year. The Commission approved the petition without attaching any performance conditions.

The analysis of ultimate sales prices in this subdivision indicates that what was delivered was decidedly not "low-cost" or "moderate-income" housing. Based on a maximum income standard for federally-assisted home ownership, families earning less than $10,450 per year would have been classified at that time as being in the low or moderate-income groups. Given that income standard, none of the units sampled could have been financed under conventional or federally-assisted mortgages by low or moderate-income families. Even had a lending institution issued a mortgage, housing expenditures would have amounted to between 29 and 35 percent of gross monthly income. Hence, seventy percent of Oahu's families were priced out of the subdivision entirely.

In both cases, the Commission was under considerable pressure to grant rezonings. Labor unions, community groups and elected officials endorsed both petitions, and the business community, the construction industry and its unions and the media have supported low-cost housing. Polished presentations and elaborate consultant studies are persuasive, and commissioners' comments on the record indicate a belief that approval of such petitions could "do something" about the housing
shortage.

The Land Use Commission has had only limited success in achieving social welfare objectives such as housing through land allocation decisions. The Commission, while having the power to impose conditions on any rezoning action, has not yet done so to any great degree, nor does it have sufficient staff to monitor and enforce housing price claims. Even if the Commission did actively enforce price conditions, it would have little leverage on market forces, housing delivery systems and large numbers of units produced in existing urban areas.

The Commission, in supporting "low-cost" housing, has approved petitions which otherwise failed to meet key criteria of the Land Use Law, notably the preservation of prime agricultural land and prevention of scattered urban development. Furthermore, the Commission, the legislature and the state administration evidently still feel that housing price claims should weigh in rezoning decisions.
Summary

In Summary:

1. The Land Use Commission appears to have had some influence over the rate at which prime agricultural land has been converted to urban uses, but it has not prevented the conversion of 34,906 acres of agricultural land of which 3,191 acres were rated as having high agricultural productivity.

2. In fact, in determining the location of new urban areas, the cumulative impact of Commission decisions has been to permit urban expansion in those areas of Oahu, in particular, where most of the prime agricultural land is located.

3. In general, large landowners and developers have benefited in two ways from Commission policy. First, Commission actions have insured that there has been a substantial reserve of undeveloped urban land, much of which is owned by large landowners. This policy of insuring that there is always a large reserve of urban land allows the private sector more flexibility in determining the rate and location of new development. Second, large landowners have enjoyed substantial tax advantages by having some of their land in the Agricultural and Conservation districts until they are ready to seek Urban district designation.

4. Some small farmers have benefited from agricultural dedication provisions of the Land Use Law which have served to reduce the tax pressures on their operations.

5. County Planning departments have benefited in some ways from
the implementation of the Land Use Law. The law has allowed
them to focus much of their attention on planning within the
Urban districts.

6. Particular land owners and developers have benefited from
the permissive administration of Regulation 4 by the Depart­
ment of Land and Natural Resources in the Conservation
district. These benefits must be weighed against the social
and environmental consequences these actions have caused.
The major argument for the Land Use Law is that it bought
time for the counties and the state to fashion programs and
policies for guiding urban growth on each of the islands and
for identifying particular resources requiring special
management. The major unanticipated consequence of the Land
Use Law is that regulation by the Commission became a
substitute for planning. The Land Use Law established a
process for making critical decisions, but the decision
guides, particularly at the state level, have never been
well-developed. State land use management has not really
been "management" in the sense of coordinated decision-making
following a set of decision guidelines. Rather, the Commis­sion
continues to make ad hoc, un-coordinated decisions
without the benefit of a planning framework that identifies
critical growth decisions and the means to achieve them.
FOOTNOTES FOR CHAPTER VIII


2. HRS 205-4. This section was further amended by the 1975 revisions of the law discussed in the next chapter.


4. This assumes, of course, that the counties also provide the required development permissions.

5. The precise amount added to the Urban district in Central Oahu in the 1969 boundary review is difficult to determine. Hence, the total for Oahu includes lands added to the Urban district during the boundary review, but the land added in each tax district was not available.

6. HRS 205-4.

7. HRS 205-2(i).


9. Ibid.

10. There are a number of discrepancies between the data on vacant land reported by the City and County in Land Use Alternatives, Technical Report #3 of the General Plan Revision Program conducted in 1973 and data for a similar time period reported in Hawaii State Department of Planning and Economic Development, Central Oahu Planning: A Summary Report, 1972 and 1973 data reported by the Department of Taxation in the 1974 Hawaii State Data Book. The city data is based on an update of the Oahu Transportation Study data. Analysis conducting the Central Oahu study use the OTS data as a point of departure, but found in field-checking the data that there were serious errors in those data. However, a number of limiting assumptions by the Central Oahu analysts, such as their self-imposed requirement that there must be firm development plans for land units before they would include it in their vacant category, precluded the use of those data in this analysis. The Tax Department data was coded somewhat differently from the other vacant land data. Their vacant land figures are based on the Pitt code category "unimproved residential."


14. This assumption is contrary to reports of the relative proportion of single-family and multi-family dwellings authorized by new building permits for the period. See Table 8.7 for indications of a shift away from construction of single-family dwellings to multi-family units.

15. Statistics for single-family land consumption rates were computed according to the following formula:

\[
\text{annual land consumption for single-family units} = \frac{\text{number of acres of vacant land zoned for single-family use}}{\text{average number of single family units constructed annually}} \times 4.4 \text{ units per acre}
\]

for multi-family units:

\[
\text{annual land consumption for multi-family units} = \frac{\text{number of acres vacant land zoned for multi-family use}}{\text{average number of multi-family units constructed annually}} \times 30 \text{ units per acre}
\]


19. Ibid., p. 2.

20. Ibid.

21. Ibid., I.

22. Ibid., II

24. Ibid., p. 4

25. Ibid., p. 159

26. Ibid.


28. Ibid., p. 64.

29. Ibid., p. 66.

30. Ibid., p. 68.


32. Hawaii State Constitution, Article X, Section 1.


34. HRS 205-2.


37. Testimony by Christopher Cobb, Chairman, Board of Land and Natural Resources, before the Senate Committee on Ecology, Environment and Recreation, October 20, 1975.


40. Ibid.

41. Land Use Commission Petition #69-225, Mililani Town, Inc.

42. Land Use Commission Petition, #71-273, H.R.H. Ventures.
The Revision of the Land Use Law

The state legislature has enacted several minor changes in the Land Use Law since 1964. In the past three years, however, major substantive changes have been proposed. Some of these changes were enacted in the 1975 legislative session.

In the 1972 and 1973 legislative session the state administration proposed a revision of the Land Use Law. While the proposed law, dubbed House Bill 808, had a number of interesting features that would have wrought important changes in the state planning process, the portion of the bill that drew the greatest attention was the provision that made it possible for the state to designate "areas of critical state concern" and to exercise state development controls in these areas. Whatever the merits of the critical areas concept as a means of coordinating state activities in well-defined geographic areas, county planning authorities perceived the concept to be an attempt by the state to usurp county planning and regulatory authority in areas that were already districted Urban. The county administrators lobbied hard against the bill and it was defeated in two successive legislative sessions.

The 1975 legislature enacted two pieces of legislation which could have a major impact on state planning in general and the conduct of the Land Use Commission, in particular. Act 189 mandated development of a "state plan" which it defined as a "long range, comprehensive plan and policies...which should serve as a guide for the future long-range development of the state and contains inter-related statements of the general social, economic, environmental, physical and design objectives
to be achieved for the general welfare and the prosperity of the state. Such plan shall include, but not be limited to a statewide land use guidance policy.¹

Section 1 of the act, the "findings and purposes" contain expressions of legislative frustration with current planning in the state:

"The legislature finds that comprehensive planning is the key to the enactment of a general plan or plans. To plan adequately the State must first know where it wants to go. This should be embodied in policies which all plans and decisions must conform to and implement. The process should be an ongoing one with periodic review, and should involve close county-state cooperation.

The legislature finds that all too often programs shape planning, instead of policy determining planning and programs conforming to those policies and plans. The dependence on the private automobile to move people and goods is at least partly the result of generous spending for highways and land use decisions encouraging sprawl, in spite of our state goal of preserving agricultural lands from urban development. Thus, the decisions of one specialist agency in building highways have not been related either to a state goal or to the decisions of other agencies such as the one fostering agriculture. Such failures of several state agencies, or of state and county agencies, to work effectively together toward common goals demonstrate the need for overall state policies to govern planning and programs."²

The act originally required the Department of Planning and Economic Development to prepare and submit the plan to the legislature not later than January 1, 1977 but that deadline was extended one year during the 1976 legislative session. Upon completion the Act requires that "all State agencies, and the respective counties, shall comply with implementing the State plan, and the policy council (composed of the county planning directors and the directors or chairmen from the Departments of Planning and Economic Development, Education, Land and Natural Resources, Hawaii Housing Authority, Transportation and Land Use
Commission) shall monitor and recommend solutions to the governor, in all cases of dispute over conformity with the plan or coordination between different agencies.”

The 1975 legislature also revised the Land Use Law. These revisions were both substantive and procedural. In setting forth the rationale for the procedural changes in the implementation of the law, Section 1 states:

"The legislature finds that although the purposes of Hawaii's land use law remain as valid today as they were at the time of its enactment in 1961, the procedures through which these purposes must be realized have proved inadequate and unworkable. Under existing procedures the land use commission has been unable to reconcile in an orderly and rational manner the increasingly hostile and conflicting points of view which surround land use decisions."  

Under the new law the Commission will still have nine members, appointed by the governor. One member is to be appointed from each of the four counties and the other five are appointed at large. Hence, under the new law, neither the Directors of the Department of Planning and Economic Development nor the Department of Land and Natural Resources are ex officio voting members as they previously were.

One of the revisions in the law requires the Commission to conduct hearings in accordance with the provisions of the Hawaii Administrative Procedures Act. The section was added largely as a result of a 1974 court case, Town vs. Land Use Commission. The court held that proceedings for boundary changes are quasi-judicial "contested cases" and the provisions of the Administrative Procedures Act governing such cases should be applied in re-districting proposals before the Commission. In the particular case which brought this ruling, appellant Town has held to be entitled to the right of cross-
examination and the right to submit rebuttal evidence.

The practical effect of this court ruling could have been to greatly expand Commission proceedings; making it possible for example, for community or environmental groups opposed to specific petitions to cross-examine developers or their representatives. The new law, however, may have effectively thwarted this possibility by narrowly defining "parties" who may intervene in Commission proceedings. As set forth in the law those who may intervene include:

1. The petitioner, the department of planning and economic development and the county planning department...

2. All departments and agencies of the State and of the county in which the land is situated shall be admitted as parties upon timely application for intervention;

3. All persons who have some interest in the land, who lawfully reside on the land, or who otherwise can demonstrate that they will be so directly and immediately affected by the proposed change that their interest in the proceeding is clearly distinguishable from that of the general public shall be admitted as parties upon timely application for intervention;

4. All other persons may apply to the Commission for leave to intervene as parties...."6

However, this section makes clear that the Commission can deny a petition for intervention under point 4 above if (1) "the position of the applicant for intervention concerning the proposed change is substantially the same as the position of a party already admitted to the proceeding; and (2) the admission of additional parties will render the proceedings inefficient and unmanageable...."7

The major substantive changes in the Land Use Law had to do with the policy bases of Commission decisions. The earlier tests for boundary amendments which emphasized the "need" for the development
or changes in the "conditions and trends of development were dropped in favor of the following statutory test:

"No amendment of a land use district boundary shall be approved unless the Commission finds upon the clear preponderance of the evidence that the proposed boundary is reasonable, not violative (of the statutory definition of the uses and activities allowed in land use districts) and consistent with the interim policies and criteria established (in the revised law) or any State plan enacted by the legislature which plan shall supercede any interim guidance policies."8

The revised Land Use Law contains a section setting forth an interim land use guidance policy" until such time as a State plan, discussed above, can be developed. The law requires the Commission to "observe and comply" with these guidelines "except when the land use commission finds that an injustice or inequity will result."9

The interim policies are:

1. Land use amendment shall be approved only as reasonably necessary to accommodate growth and development, provided there are no significant adverse effects upon agricultural, natural, environmental, recreational, scenic, historic or other resources of the area.

2. Lands to be reclassified as an urban district shall have adequate public services and facilities or as can be so provided at reasonable costs to the petitioner.

3. Maximum use shall be made of existing services and facilities, and scattered urban development shall be avoided.

4. Urban districts shall be contiguous to an existing urban district or shall constitute all or a part of a self-contained urban center.

5. Preference shall be given to amendment petitions which will provide permanent employment, or need housing accessible to existing or proposed employment centers, or assist in providing a balanced housing supply for all economic and social groups.

6. In establishing the boundaries of the districts in each county, the Commission shall give consideration to the general plan of the county.
7. Insofar as practicable conservation lands shall not be reclassified as urban lands.

8. The Commission is encouraged to reclassify urban lands which are incompatible with the interim statewide land use guidance policy or are not developed in a timely manner.10

As now constituted the Land Use Commission establishes a process for determining the amount and location of new urban land. As the analysis of the Commission's first fourteen years indicated, it is a process that is largely unconnected to a set of policy goals that defines where and how Hawaii's urban areas should expand or what lands should be protected from urban encroachment. In its conception, the Land Use Law was visionary, but in its implementation, that vision of Hawaii was greatly altered.
FOOTNOTES FOR CHAPTER IX

1. HRS 225, Section 1(5).

2. Act 189, Session Laws of Hawaii, 1975. This section was dropped when the statute was printed.

3. HRS 225, Section 21(c).

4. Act 193, Session Laws of Hawaii, 1975. This section was dropped when the statute was printed.

5. Hawaii State Supreme Court Case No. 5388 (June 19, 1974).

6. HRS 205, Section 4(d).

7. Ibid.

8. HRS 205, Section 4(g).

9. Ibid.

10. HRS 205, Section 16.1.
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