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Review and Evaluation  
**Comprehensive Zoning Code**  
City and County of Honolulu, Hawaii

MUNICIPAL REFERENCE & RECORDS CENTER  
City & County of Honolulu  
City Hall Annex, 553 S. King Street  
Honolulu, Hawaii 96813

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REVIEW AND EVALUATION

**COMPREHENSIVE ZONING CODE  
(CZC)**

City and County of Honolulu, Hawaii

Prepared for the  
DEPARTMENT OF LAND UTILIZATION

Prepared by  
HARLAND BARTHOLOMEW & ASSOCIATES, INC.

October, 1980

MUNICIPAL REFERENCE & RECORDS CENTER  
City & County of Honolulu  
City Hall Annex, 558 S. King Street  
Honolulu, Hawaii 96813

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# HARLAND BARTHOLOMEW & ASSOCIATES, INC.

PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE

Eldridge H. Lovelace  
Chairman of the Board

October, 1980

Mr. Tyrone T. Kusao, Director  
Department of Land Utilization  
Honolulu Municipal Building  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Kusao:

In accordance with our agreement of April 16, 1980, we are pleased to submit our report reviewing and appraising the Comprehensive Zoning Code (CZC) of Honolulu.

Both broad and general as well as detailed and specific proposals for improvements in the CZC are included. The recommendations incorporate public policies as outlined in the general plan as well as anticipate proposals of the development plans. The interconnection and interdependence of planning and zoning is no longer a wistful hope; it is now an accepted mandatory requirement. We are started on a new road, as we relate planning and zoning; it will not be surprising if we stumble a bit along the way.

Personnel of our office working on the project included: Thompson A. Dyke, manager of our Chicago office, and John I. Cofer, of our Richmond office.

We worked closely with the several city-county departments involved in the control of land use on Oahu including, of course, most of the personnel of your department. We talked with 50 of the developers, architects, engineers, officials, and citizens concerned with the CZC. We have seldom encountered such a high degree of cooperation based upon a widespread concern for the protection of the extraordinary environment of the Honolulu area, from citizens and officials alike. While all do not agree on what is being done or on what should be done, this central concern is common to all and, we believe, may form the basis for significant improvements in the island's land use control system.

Our firm has been associated with developments in Hawaii for 33 years. The assignment to review and appraise the CZC was one of the most interesting that we have had. We look forward to this report being the basis for a revised zoning code for Honolulu.

Yours sincerely,

HARLAND BARTHOLOMEW & ASSOCIATES, INC.

By

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## SUMMARY

The review and evaluation of the Comprehensive Zoning Code of Honolulu described in this report concludes that:

1. The basic structure and most of the regulations of the CZC are satisfactory. The CZC can best be amended to overcome inadequacies and remove ambiguities; it should not be replaced by a complete new ordinance.

2. Many additional zoning districts should be added to better adjust regulations to the complexities of conditions on Oahu and to the proposed Development Plans. This need not lengthen the code.

3. The code should be streamlined and reorganized.

4. Administrative procedures of the code are excellent, as good as any in the United States. This enables use of unusually sophisticated site plan and design reviews.

5. A major problem is presented by the Historic-Cultural-Scenic and Design Districts which now include most of the central developed parts of Honolulu. These add a completely unnecessary complexity to the code making it difficult to understand, administer or enforce. The term "historic" is a misnomer as the districts provide no particular protection to historic buildings or sites. The report proposes substantial protection for these in a different manner. The major element introduced by special districts is design review and this is needed in other parts of the island more desperately than in the central areas. Here is what should be done:

A. The two types of districts should be combined with the "enabling provisions" in the CZC so that there is only one type of "special district."

B. Such provisions as the "use precincts" in Waikiki and Kakaako should be transferred to new zoning districts and incorporated in the body of the ordinance.

C. A special height of buildings map should replace all of the special district height

regulations. This would be incorporated in the body of the ordinance.

D. All provisions of the ordinance relating to **public** actions (such as street paving, street trees, etc.) should be removed. The general and development plans are the place to coordinate **public** actions, not the zoning code.

E. When a "design plan" for the island is completed and adopted, design review should be extended from the central areas to the remainder of the island. At this point, it would be desirable to eliminate the special districts entirely.

6. Lot area per dwelling unit and minimum average floor area per dwelling unit requirements should be added to all of the apartment districts.

7. Many detailed improvements are listed in the report including:

A. A better method of measuring building height

B. Simplifying the use regulations

C. Increasing rear yard requirements

D. Combining the "cluster" and "planned development" provisions; making these permitted uses subject to site plan review

E. Introducing six new "planned districts" providing for a variety of uses to be applied on a voluntary basis

F. Adding 52 definitions and rewriting many of the existing definitions

8. The report proposes a voluntary growth management system for Honolulu to be accomplished by granting of density bonuses and provision of public assistance for development or redevelopment projects of a desirable character locating in the right place at the right time.

Approval of the recommendations of the report would enable work to begin on the drafting of a revised CZC needed to respond to the recommendations of the development plans and to make the regulations easier to understand, administer and enforce.

## INTRODUCTION

### Scope of Study

The assessment of the comprehensive zoning code (CZC) of Honolulu is in two parts. The first part (prepared separately) studies the changes in the code required by the Development Plans that have been adopted by the Planning Commission. The second part (described herein) analyzes the CZC as an instrument of land use control and suggests changes that should be considered to improve the effectiveness, the operation, and the public understanding and support of the code as the basic element in the community's land use control system.

This assignment included: a general analysis of the code, a summary of emerging land use control concepts and their applicability to Honolulu, a review of administrative procedures, a special study of density control techniques, a study of the advantages and disadvantages of applying "growth management" and specific proposals for changes in the zoning code.

The analysis included herein is based upon:

1. Experience of other cities,
2. Field review of the effect of the ordinance in securing a superior environment on the ground, and
3. Interviews with 48 local and state officials, architects, engineers and developers and concerned citizens regarding operations under the code.

### Why Do We Have Public Control of Land Use?

We build our communities by a partnership (an uneasy partnership most of the time) of private developers and public agencies. Neither can build the community alone. Our republic was founded upon a belief that the individual should be free to do as he pleases so long as he does not harm his neighbor and we have carried this principle into public land use control. The degree of control varies from

virtually none at all (Houston, Texas for example) where the developer has few restraints on his exercise of judgment, to highly complex and sophisticated controls carried to the extent of almost precluding any development whatsoever. The Honolulu experience is obviously some place between these two. Protection of the public interest and a viable development industry are both needed. We need to chart a careful course between the two.

It is well to review the eight primary objectives for public control of land use:

1. To carry out the general plan, the basis for the provision of public services such as sewer, water, schools, parks, streets, etc. If the islands were uninhabited, land use control would not be necessary. It is the people, their wants and needs that occasion the controls.
2. To protect existing property values. This is particularly important; 45 percent of the housing is owner-occupied and sizable segments of the population look upon individual property ownership as a prime objective.
3. To provide adequate light, air, open space, recreation area, view protection and solar access.
4. To enhance safety in the street by control of access locations and adequate parking facilities.
5. To enhance the economy of the community by protecting its unique beauty and character and its agricultural areas.
6. To protect scenic, historic and cultural values.
7. To foster efficient energy use.
8. To encourage an adequate supply of housing for low- and middle-income families.

## Unique Features of Oahu Affecting Land Development and the Land Use Controls

Oahu is the third largest of the Hawaiian Islands and contains 79 percent of the state population.

### Natural Features

The 600 square mile area contains two mountain ranges running in a northwest-southeast direction (Koolau and Waianae Ranges) with the highest elevation (4,040 feet)--that of Mt. Kaala. The wide central valley separates the two ranges. Other developable areas are along the ocean, and the concentrations of urban development have been in these coastal areas in the vicinity of the two harbors--Pearl Harbor and Honolulu Harbor. Areas of more gentle topography formed the sites for the two major agricultural products--sugar cane and pineapples.

The climate is unusually salubrious, varying with the elevation. Most of the time a trade wind blows in a southwest direction. Passing over the ocean the trade wind picks up moisture which is released when the wind reaches the mountains and is pushed up to higher elevations. Heavy rainfall in the mountains penetrates the porous lava rock and settles in a lens of fresh water above the salt water from which it may be removed by wells. On the leeward side rainfall decreases until the environment is almost arid.

With the mild climate, with every day a growing day, and with moisture either natural or supplied, the vegetation responds with a spectacular variety of tropical plants including truly gigantic trees.

A feature of the island is the wide variety of conditions. All are pleasant, yet the variations in rainfall and temperature are marked. Skillful application of microclimatology is essential to good design of buildings. Views are spectacular and development has gone up the hillsides and brought forth numerous high-rise towers in part to take advantage of these views. In some instances the man-made development itself is a part of spectacular views.

### Economic Aspects

Three principal economic activities characterize the economy: military, agriculture and tourism. Tourism (including retirement population) has been growing rapidly with the twin development of jet aircraft and hotels. Both tourism and agriculture, however, are characterized by demands for unskilled labor.

### Land Ownership

The land ownership pattern is a factor of importance in the land control system. Of the island's 600 square miles, about half is pri-



*Higher densities are more reasonable when ample public open space is available.*

vately owned and the remainder divided fairly equally between state and local public ownership and federal ownership (mostly military). At the end of the Hawaiian monarchy, land was owned by members of the royal family, many of whom left their holdings in trusts with restrictions on sale of the land. About three-fourths of the privately owned land on Oahu is owned by 12 owners and 90 percent is owned by less than 100 owners. About 10 percent of the land pays 90 percent of the real estate taxes. Because of the land ownership pattern, development of large tracts is common practice.

### **Population Characteristics**

The 1980 resident population of Oahu was 761,000 persons. Visitors add about 50,000 persons on an average day. Persons of oriental descent form the largest segment of the population--Japanese, 25 percent and Chinese, four percent. Caucasians constitute 26 percent, Hawaiians and part Hawaiians, 20 percent, and persons of Philippine descent 10 percent. Persons of different descent frequently follow different life styles and this, in turn, is reflected in desires for varied types of housing and housing occupancy. The General Plan foresees an Oahu population of 1,039,000 by the turn of the century.

### **Ambience**

Despite the many man-made features, and sometimes because of them, the environment of Oahu is one of the most delightful anywhere. The moderate climate, the scenic beauty, the luxuriant vegetation and the varied and colorful population all contribute. Growth of population occasioned by this ambience needs to be accommodated in such a manner as to contribute to, and not detract from, the environmental quality. The CZC plays an important part in accomplishing this purpose.

### **Place of the CZC in the Land Use Control System**

#### **State-Local Relationships**

Hawaii is unique in the simplicity of its government. There are only four units of local

government in the state--the four counties. With four-fifths of the population on Oahu and with the state capital at Honolulu, there is an obvious state interest in Oahu affairs and what might, in other places, be a purely local land use problem, may become a matter of state concern and the subject for state legislative action.

#### **State Planning and Zoning**

Hawaii became the first state to pass a statewide zoning regulation in 1961. Based upon a statewide plan, this law was primarily designed to protect agricultural lands from displacement by other uses. It divides the state into four districts: conservation, agricultural, rural (suburban), and urban. There are only conservation, agricultural and urban districts on Oahu.

The land use law is administered by a land use commission charged with passing on proposals to change district boundaries or regulations. The laws are enforced by the counties except for the regulations of the conservation district which are enforced by the state. Counties may enact and enforce more stringent regulations in the agricultural district, and the entire responsibility for control of the use of land within the urban district is that of the city-county.

The state carries on a continuous planning program. The state plan is reviewed and brought up to date from time to time. In 1980 the state is preparing 12 functional plan for adoption by the legislature. It is important to note that:

1. Local plans (counties) are required by law to be in accordance with state plans.
2. State zoning districts are to be in accordance with the state plan.
3. Local zoning regulations are required to be in accordance with local plans.

#### **State Enabling Act for Zoning**

Hawaii has a broad and simple enabling act for county zoning (@ 46-4). This requires that

zoning be accomplished "within the framework of a long range, comprehensive general plan." Counties are allowed to establish their own administrative structures and procedures. Lawful nonconforming uses must be continued unless voluntarily discontinued, except that a new state law allows amortization of some nonconforming uses and signs.

### **Other State Land Use Controls**

Four other state acts affect land use control on Oahu:

1. **Coastal Areas.** A special management area is established adjacent to the shoreline, extending a minimum of 100 yards inland. This is enforced by the city-county with minor permits issued without a public hearing and significant developments requiring a public hearing--and sometimes an Environmental Impact Statement (EIS).

2. **Environmental Impact Statements.** An EIS assessment is required for:

- (1) All public projects
- (2) Private projects:
  - a. In Waikiki
  - b. In shoreline setback area
  - c. In state conservation district
  - d. In official historic site
  - e. In a site that has had a land use policy change

The EIS is an information document describing probable environmental effects of a project and of alternatives to a project. This law is administered and enforced by the city-county.

3. **Park Dedication.** Land is required to be set aside for park use, or a payment made, at the time land is subdivided or when there are developments of three or more dwelling units.

4. **Public Access.** Public access is required to be provided to beach and mountain areas. Some mountain areas are privately owned.

### **City-County Charter**

The city-county government operates under a "home rule" charter. A charter commission in 1972 proposed a charter which was passed by referendum and became effective in 1973. It has since been amended but not significantly. The charter is substantially a "strong mayor" form although there is a "managing director" who supervises and coordinates the administrative departments. Of direct relationship to the CZC are:

1. **The Department of General Planning.** The Department of General Planning is charged primarily with preparing the "General Plan" and bringing it up to date at five-year intervals. The General Plan is to contain "the city's broad policies for long-range development." The General Plan is adopted by the City Council and approved by the Mayor. All public projects and subdivision and zoning ordinances are required to conform with the plan. The General Plan was adopted on January 18, 1977 and approved by the Mayor on February 2, 1977. Development plans are "relatively detailed schemes for implementing and accomplishing the development objectives and policies of the general plan within the several parts of the city." These are also adopted by Council and approved by the Mayor and, being in greater detail, would have a greater and more intimate impact on the CZC which must conform to an adopted development plan. In order to carry out its responsibilities, the Department of General Planning has a staff of 39 persons.

2. **The Planning Commission** advises the mayor, council and officials on planning matters; reviews the general and development plans; and reviews and makes recommendations on zoning and subdivision ordinances and amendments thereto.

3. **The Department of Land Utilization (DLU):**

- (a) Prepares zoning and subdivision ordinances, maps, amendments
- (b) Establishes procedures for review of applications for permits, etc.

- (c) Administers the zoning and subdivision ordinances, and the state regulations for shoreline management and environmental impact statements.
- (d) Acts as the central coordinating agency for development projects.

The director of the department functions as a "zoning administrator" and conducts public hearings and approves or disapproves proposals as specified in the CZC and in the state laws administered by the DLU, all in accordance with the standards outlined in the laws to guide his decisions.

4. **The Zoning Board of Appeals** of five persons is empowered in the charter to determine appeals from a decision of the director and to vary the application of the CZC in specific and unusual instances where otherwise an unnecessary hardship would result. The Board of Appeals is not given the power to grant special permits in exceptional circumstances ("exceptions"), a common practice in other states.

5. **Neighborhood Boards.** Seeking to broaden and make more effective citizen involvement in public affairs, the 1972 charter commission established a "Neighborhood Board" and enabled individual neighborhoods to each elect its own board, prepare a neighborhood plan and make recommendations regarding public actions affecting their neighborhood such as the general and development plans, changes in zoning, approval of conditional and special permit uses, etc. Neighborhood boards are notified of all public actions that would affect them and given time to take a position and express it concerning the proposal. It is too early to determine the success of the neighborhood program. It is bringing about a greater citizen involvement. The program is more successful in some neighborhoods than in others.

6. **Comments on Charter Provisions.** While it is unusual to have both a Department of General Planning and a Department of Land Utilization, many mainland communities of comparable size and complexity divide their planning departments into divisions of "current problems" and of "long-range plans" which is

virtually the same thing. Major construction projects which can be expected to last 50 to 100 years obviously affect the future as well as the present so that it is functionally difficult to separate the present and the future. The separation in the charter, however, between establishing general policy and carrying out general policy is an important one. The general plans, the development plans and approval of amendments to zoning and subdivision ordinances are the province of the general planning department, the planning commission and the council. Administering these, applying them to the ground, becomes the province of the Department of Land Utilization and its director with the Board of Appeals. Viewed from the standpoint of function, the organization makes sense. Some overlap is inevitable, however.

#### **Local Land Use Controls**

The land use control system includes:

**Building Code.** The building code requires minimum construction standards to insure public safety and safety of the occupants.

**Housing Code.** The housing code establishes the minimum size and number and type of facilities provided in each dwelling unit.

**Subdivision Ordinance.** The ordinance regulating land subdivision is concerned with the arrangement of streets and lots and with the street and utility systems to be provided in the subdivision, at the cost of the subdivider. After the land is subdivided and the improvements provided, buildings may be erected on the lots in accordance with the zoning regulations and in accordance with any private restrictions put into effect at the time of the subdivision.

**Airport Height Regulations.** These regulations protect the approaches to airport runways.

**Exceptional Tree Ordinance.** This unusual legislation identifies exceptional trees in the city-county and provides for their protection.

## Comprehensive Zoning Code

The CZC divides the urban and agricultural districts on Oahu into 24 zoning districts. There is one preservation district, two agricultural districts, seven residential districts, four apartment, one resort hotel, four business and three industrial districts. There is one planned district and a flood hazard district. Within each district, regulations are included for use of land and buildings, height and bulk of buildings, density, yards, parking and signs. Each district lists permitted uses, conditional uses (approval or disapproval by director after hearing), and special permits (approved by director without hearing).

There should be close interrelationships between the CZC and the subdivision ordinance and the state EIS and coastal management laws. Elements of flexibility in the CZC include "clustering" and planned developments in residential and apartment areas granted by the director after public hearing.

In addition to the basic 24 zoning districts, the CZC provides for establishing "design" districts and "historic, cultural and scenic districts." Both of these are "overlay" districts either supplementing or, in some cases, replacing the usual zoning district regulations. There are two design districts: Waikiki and Kakaako and five historic, cultural and scenic districts: Chinatown, Diamond Head, the Capital District, Punchbowl and Thomas Square. Three of the districts: Diamond Head, Punchbowl and Thomas Square primarily establish new height limits. The Waikiki and Kakaako design districts establish new use and height regulations. All require special design approval of all major projects. The districts in total occupy practically all of the central Honolulu developed area.

The CZC enables a major amount of administrative discretion with the requisite guidelines and standards to keep this discretion from being arbitrary or capricious. The DLU has a staff of 60 persons. It includes a "central coordinating agency" basically to guide projects (and their sponsors) through the applicable regulations and obtain the necessary departmental reviews. The DLU includes three divisions: design, zoning and land use

control. A major amount of filing and record-keeping is involved.

## Strengths and Limitations of Zoning Power

Zoning originally started with "a place for everything and everything in its place." The problem was not so simple, however. The character of an individual use many times is more important than its location. Further, if such great community assets such as views of Punchbowl or of Diamond Head are to be protected, for example, something more than a simple regulation is needed. Thus we have moved from a simple districting to a more complex system with conditional and special permits and design reviews. Yet, regulations never built a city. The code can say what may be done but cannot do more than encourage its accomplishment. The CZC is dependent for its success upon carefully worked out general and development plans which, particularly in Honolulu, need to include a **design plan** element, all to guide the determination of the appropriateness of a proposed building or building complex.

The CZC is the basis of the land use control system which could be visualized as being similar to an artichoke. After all of the layers of regulation are peeled away, we come to the heart of the system--the CZC.

## Federal Land Use Controls

Two federal land use controls should be mentioned:

**Wetlands** may be occupied only after receiving a permit from the Corps of Engineers under Section 404 of the Federal Water Pollution Control Act (PL 92-500) and a **federal EIS** is required for all projects with an environmental impact of any significance that is funded with federal money, including large residential projects that utilize federal mortgage insurance.

## Private Land Use Control

Private land use controls seem to be used much less in Hawaii than in other states. Leaseholds, a common means of property development in Hawaii, frequently include re-

restrictions on just how the land might be used. Reputedly the enforcement of these by the landowner is not very strict. Condominiums and the requirements in the CZC for maintenance of common open space in clusters and planned developments have brought about establishment of numerous homeowner associations but these do not seem to have been active in the enforcement of building or use restrictions. Nor do public agencies in Hawaii enter into the enforcement of private restrictions as is the case in Texas and occasionally in Florida and Missouri. Weak private land use control requires a greater dependence upon the public controls and particularly the CZC.

### **Pending Land Use Controls**

Pending land use controls now under consideration include:

1. **The Development Plans.** These have been prepared by the Department of General Planning for the eight community areas which together include the entire island. The Planning Commission has approved the plans. When adopted by the Council and approved by the Mayor, these will have a major impact on the CZC. This is the subject of a separate analysis and report.

2. **The Urban Design Plan.** The city charter states that the development plans "shall contain...statements of urban design principles and controls." A preliminary urban design plan has been prepared. This needs to be refined and put into a form more usable in the approval of specific projects.

3. **Design District for Kakaako.** The state is preparing extensive studies and proposals for Kakaako under the Hawaii Community Development Authority which designated Kakaako as the First Community Development District assigned to the authority. In the meantime, Kakaako has been placed in a design district in order to provide a development

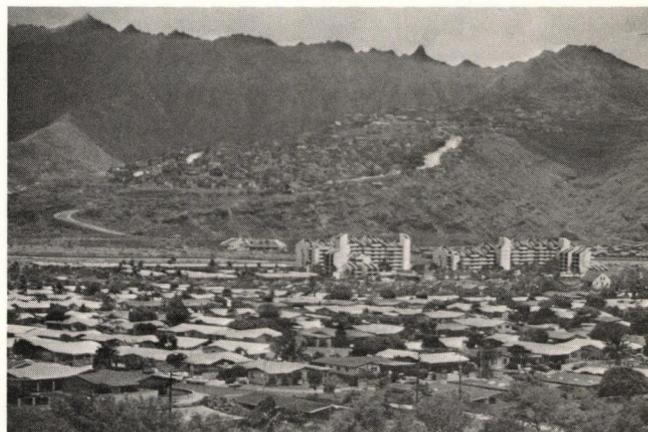
that would not impair values in Waikiki on one side or in the central business district on the other.

4. **Inclusionary Zoning.** An ordinance has been prepared to provide for inclusionary "zoning." This would require that a portion of the units in larger residential developments be made available for low- and moderate-income families. This type of regulation has been enacted and is operating in a handful of other cities.

5. **Additional Agricultural District.** A proposal has been made for an additional agricultural district with a minimum lot area of five acres to provide a greater protection for agricultural uses and a firmer control over urban development.

6. **Time Sharing.** An ordinance has been prepared to control the location of time sharing condominiums which can have more of the character of a hotel than an apartment building.

7. **Incremental Development.** An amendment to the CZC has been prepared to allow construction of large projects over a nine-year period.



*Planned mixture of types of dwelling units--  
Hawaii Kai.*



**PART I--GENERAL ANALYSIS  
OF THE CZC**

**Recent History of the CZC**

The present CZC was enacted in 1969 and replaced and consolidated the original zoning ordinance of 1922. The CZC was based upon the "Land Use Intensity System" which set up rather complex formulas to determine density with bonuses for open space and recreation area. The system is difficult to understand and to apply and, in experience, proved to be susceptible to interpretations overly favorable to developers. It had too many loopholes. Major amendments were made in 1978 (Bills 48 and 84) which removed the land use intensity system and replaced it with a simpler regulation. It is difficult to take an ordinance based upon a system such as this, take the basic system out, and then have an effective regulation remaining. Further, yet lesser difficulties, many unnecessary, result from the revised CZC.

**District Classifications**

**Zoning Districts**

The zoning district classification is a fairly standard one. (See Exhibit A.)

The "Preservation District" is somewhat unusual. It is applied to the areas of steep topography and to public and semi-public uses. Its regulations effectively prevent occupancy by any typical urban uses. The word "preservation" is an awkward one. It usually means "historic preservation" in most zoning ordinances which would call the district "conservation." However, this would conflict with the name of the state zoning district.

The two agricultural districts differ in the lot area required (two or three acres) and in whether or not swine are allowed.

Of the seven "residential" districts, the first three provide for single-family homes on fairly large lots (one acre, one-half acre, 10,000 square feet, or one-fourth acre). The remaining four permit various types of two-family dwellings as well, on lots of smaller area, down to 3,500 square feet.

There are four apartment districts, all with about the same use regulations. Floor area ratios gradually increase from a FAR of 0.4 to 2.8. At 850 square feet of gross floor area per dwelling unit, the floor area ratios may be translated into dwelling units per net acre and per gross acre as follows:

<u>Floor Area Ratio</u>	<u>Units per Acre-Net*</u>	<u>Units per Acre-Gross</u>
0.5	25	17
1.0	50	34
1.5	75	51
2.0	100	67
2.5	125	83
2.8	140	93

\* Net acreage estimated at two-thirds of gross acreage.

In two of the apartment districts, buildings 350 feet high are allowed.

There is one "resort hotel" district applied to hotels in more isolated locations.

There are four business districts: a neighborhood business district, a community business district with a wide variety of permitted uses, a district combining residence and business, and a central business district. In three of the four districts, 350 foot buildings are allowed.

The arrangement of the industrial districts is unusual. Much of the indigenous "heavy" industry consists of sugar mills in the agricultural areas. Others are found at the Barbers Point heavy industrial area or at Sand Island. The largest "heavy" industry is the shipyard at Pearl Harbor and is not regulated. The I-1 and I-2 Districts have about the same use regulations but industries are required to meet different performance standards. The I-3 District is a waterfront industrial area which is restricted to specialized uses.

There is one "planned district" (PD-H) for housing with a minimum of a one-acre project

EXHIBIT A  
SUMMARY OF DISTRICT REGULATIONS  
Honolulu CZC

District	Use	Height	Front	Side	Rear	Lot Coverage	FAR	Min. Lot Area	Min. Lot Width	
P-1	Wide variety of open space uses. No residential uses but vacation cabins	15'	50'	50'	50'	1% - 10%	None	5 Acres	200'	
AG-1	One-family dwellings, Agricultural uses, Public uses.	15'	25'	15'	15'	2% - 20%	None	2 Acres 3 Acres with livestock	150'	
AG-2	Same as AG-1, raising of swine	15'	25'	15'	15'	2% - 20%	None	3 Acres	150'	
R-1	Single family dwellings - Agricultural and Public uses	15'	30'	15'	15'	50%	None	1 Acre	125'	
R-2	Same as R-1 except Stables Prohibited	15'	30'	10'	10'	50%	None	1/2 Acre	100'	
R-3	Same as R-2, guest houses and servants' quarters prohibited	15'	15'	6'	6'	50%	None	10,000 sq. ft.	65'	
R-4	Same as R-3, duplexes	15'	10'	5'	5'	50%	None	7,000 - 7,500	35' - 65'	
R-5	Same as R-4	15'	10'	5'	5'	50%	None	5,500 - 6,000	35' - 65'	
R-6	Same as R-5	15'	10'	5'	5'	50%	None	3,500 - 5,000	30' - 50'	
R-7	Same as R-6	15'	10'	5'	5'	50%	None	3,500	30' - 50'	
A-1	Dwellings, Public, Semi-Public uses	15'	10'	10'	10'	None	0.3 - 0.9	7,500 lot	70'	
A-2	Same as A-1, dormitories, homes for aged, etc.	40'	10'	10'	10'	None	0.4 - 1.9	10,000 lot	70'	
A-3	Same as A-2, Clubs	350'	10'	10'	10'	None	0.4 - 1.9	10,000 lot	70'	
A-4	Same as A-3	350'	10'	10'	10'	None	0.6 - 2.8	15,000 lot	70'	
H-1	Resort Hotel - Hotel, Parks	70'	25'	20'	20'	None	0.4 - 1.4	15,000 lot	70'	
B-1	Neighborhood Business, Commercial uses - no residential uses	40'	None except adjacent to residential district			None	2.5	5,000 lot	50'	
B-2	Community Business - Wide variety of Commercial uses	2 times distance to street & or 350'	None except adjacent to residential district			None	2.5 plus bonuses	5,000 lot	50'	
B-3	Residential Business - B-2 with exceptions + residences	Same as B-2	10'	10'	10'	None	2.5 - Commercial 1.5 - Residential	5,000 lot	50'	
B-4	Central Business District, Commercial, Hotels, Apartments	65° angle from street & or 350'	None except adjacent to residential district			None	4.0 plus bonus	5,000 - 15,000 lot	50' - 70'	
I-1	Few Restricted Industries, Hotels, Clubs	Similar to B-2	None except adjacent to residential district			None	2.5 plus bonuses	7,500 lot	60'	
I-2	Heavy Industry all I-1 uses	Same as I-1	None except adjacent to residential district			None	Same as I-1	10,000 lot	70'	
I-3	Waterfront Industrial, Specialized Waterfront uses	Same as I-1	Same as I-1			None		Same as I-1		
PD-H	Same as A-1 planned development housing	No specific requirements						0.13 - 3.0	1 Acre Lot	
	Flood Hazard District									

area. This is an unusual district because a change in the district map is not required. The use is allowed by decision of the director after public hearing. The CZC outlines objectives for these districts. The PD-H has its own use regulations but the density regulations, expressed as floor area ratios, vary and depend upon the underlying zoning district. The planned developments from one point of view are a separate type of district. From another they are an overlay district such as a design district. Yet they do not have to appear on the zoning map or require a change in the zoning map. They are not found in other zoning ordinances in this form, although many permit "planned developments" that are not mapped.

### Appraisal of Zoning Districts

Considering the wide variety of conditions on Oahu from complete rural, through small villages to a major city with high densities, the number of zoning districts in the CZC is not excessive. To the contrary, the code would be more effective with more, rather than fewer, zoning districts. For example, San Francisco with no rural areas and very little low-density development has 22 zoning districts in its code.

The ordinance does not include an office district or an historic district (except for the special districts which really are not historic districts, such as those in Santa Fe or New Orleans), nor is there a public or semi-public district except that the preservation district could serve the same purpose.

### District Regulations

Examination of the various district regulations can best be approached by the type of regulation involved.

**Agricultural Regulation** is difficult because of the two different purposes: (1) to protect and encourage agriculture, and (2) to prohibit urban development, i.e., prevent urban sprawl. Some type of agriculture can take place on very small lots such as the raising of orchids on a half-acre lot, yet requiring an occupant to engage in "agriculture" or to receive the major part of his income from "agriculture" is

an enforcement nightmare. It will be necessary to decide which of the two is the more important purpose. A comprehensive analysis of the problems of the protection of agricultural land is beyond the scope of this report. Zoning is but one of several measures required.

**Questions on Permitted Uses** arise in a number of the districts such as:

1. Educational institutions in agricultural districts
2. Family care homes in residential districts
3. Over-complicated treatment of various types of two-family homes in several residential districts
4. Homes for aged, convalescents and nursing homes in the A-2 Apartment District (should be conditional uses)
5. Wholesaling operations in the B-2 Community Business District
6. Permission for a wide variety of inappropriate uses to locate in the I-1 District including: banks, restaurants, trade schools, auditoriums, offices, hotels, and clubs, except when used for service facilities for employees. (Generally speaking, because of the unique needs of industry for such things as truck access and 24-hour operation, ex-

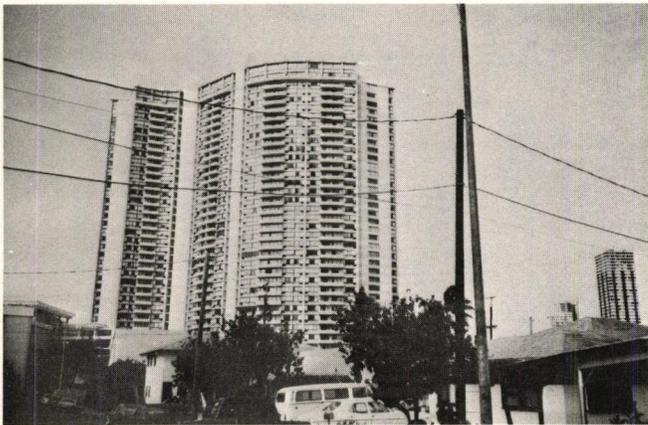


*A result of the height measurement system in the CZC.*

clusive industrial areas should be reserved. Industry should not be a part of mixed use developments with residential, commercial and institutional uses.)

**Questions on Height Regulations** include:

1. The possibility of regulating height by feet above sea level or above the ground level with a special height map based upon an urban design plan was examined but discarded as being too difficult to devise and enforce.
2. Height regulations should be changed so that height is measured from the average level of the finished grade around the building and **not** from the highest point on the lot. This is the usual method of height measurement.
3. In all districts with a height limit of 40 feet or less, the number of stories as well as the number of feet of height should be regulated.
4. In the first 11 districts, building height should be limited to two and one-half stories or 35 feet instead of by the complex system presently in use.
5. Two new zoning districts should be added to apply the B-2 and B-3 Districts in outlying areas and yet require buildings of lower height. The proposed development plans may require a number of additional districts for this purpose.



*High-rise buildings that are too wide block the view.*

6. The building height allowed in the A-3 District is excessive.
7. High-rise buildings need to have a width control. Where buildings are more than 10 stories in height, their width should not be allowed to be more than two-thirds of their height.
8. Generally the 350 foot maximum height has been established. So many buildings have conformed to it, that it should not be changed. However, the exception for elevator machinery and other mechanical equipment (and antennas) on the roof should be removed. The maximum height for **everything** should be 350 feet.

**Bulk regulations** present only one question. The sliding scales for the floor area regulations require a lower FAR for a small lot than for a large lot. This was put into the ordinance to encourage assembly of larger parcels of land--as a type of bonus system. It has had a limited impact in this connection. A single FAR should apply to all uses in a district irrespective of lot area, despite the fact that in some cases the yard and height regulations may prohibit a building of the maximum FAR.

**Density regulations** provide that, in the first 10 districts the lot area is regulated, but not the minimum lot area **per family**. In the apartment districts, there is no regulation of density but of the amount of floor area--FAR. This is discussed in detail in Part V. Where a lot is of adequate area, a second house is allowed on the back of the lot by the creation of a "flag lot" under certain restrictions--one being that the area of the flag lot exclusive of the access drive be at least 80 percent of the required lot area. By lowering lot area requirements, permission could be granted to build second houses on the backs of many existing lots. Care should be exercised that this not allow buildings to be so closely spaced as to cause fire hazards--the yard requirements should be observed.

**Lot areas** are regulated as to area and width. There should be minimum lot depths required as well as widths. There should be a clearer system for measuring the widths (and depths) of flag lots.

**Yard regulations need major improvement:**

1. Different front yards should not be required for different uses. Front yards should be uniform.
2. The deepest front yard should be the requirement where a frontage (or block) is divided among districts with differing front yard requirements.
3. Rear yards are much too shallow and should be doubled or tripled in depth.

**Parking requirements** generally are satisfactory. However, the requirements for the number of spaces for various uses needs a very careful review. For example, parking requirements for hotels are probably too high because an increasingly smaller number of hotel occupants do not rent cars. On the other hand, the one-space per each 400 square feet for commercial uses such as shopping centers is too low, most shopping centers provide 5-1/2 spaces for each 1,000 square feet of gross leasable area. Off-street parking requirements in the apartment districts relate the requirements to the floor area of the dwelling units and thus encourage developers to provide small dwelling units. Parking requirements include allowances for compact cars and permission to use "tandem" parking in certain instances. Provisions for tandem parking might be extended to facilities for employees and to facilities with attendants.

**Sign regulations** are excellent, probably the best of any major American city. No changes are proposed.

**Special District Classifications and Their Regulations**

**General Description.** The CZC contains two sections giving enabling legislation for two types of special districts: (1) historic, cultural and scenic districts, and (2) special design districts. In these parts of the code (Articles 12 and 13), procedures, objectives, and standards for the special districts are outlined. This procedure is unusual and probably of little real consequence. It is similar to a person telling himself how he proposes to do something.

**For the historic, cultural, and scenic districts** the Director of DLU first makes basic studies of the area and proposes boundaries, prepares an ordinance establishing the district and its standards. Upon adoption of the ordinance, after review by the planning commission, there is a design review of significant projects within the district. Three categories of design criteria are applied: precise, conceptual and general. The "enabling legislation" does not describe the types of areas to be included in these districts except in a general way.

**For the special design districts** the enabling legislation is quite similar except that there is a preliminary review by Council, the types of areas to which the district should be applied are more specifically identified, and the categories of design criteria are omitted. The district is to be applied only to:

- New satellite communities
- Underutilized urban areas
- Areas adjoining open space and recreational uses
- Areas lacking public services
- Impact areas of proposed rapid transit stations
- Restoration and redevelopment areas

The "special design district" is somewhat similar to the "planned district" in many other zoning ordinances. However, the planned district is almost always applied to vacant land prior to development. Design review is limited to significant projects.

**Historic, cultural and scenic districts** that have been established include:

1. **The Hawaii Capital District** which identifies 31 historic places and prominent vistas, protects trees, landscape planting and historic structures and controls appearance and grading.
2. **The Diamond Head District** which preserves the natural appearance of this prominent feature primarily by preventing buildings from intruding on

views. The ordinance identifies the vantage points (and thus the views) which are to be protected by establishing special height districts which are mapped.

3. **The Punchbowl District** which also establishes special height regulations and establishes special landscape planting and open space requirements. Historic structures and vistas are identified (and protected).
4. **The Chinatown District** establishes five different general criteria precincts based upon the redevelopment plan for this area. This district is one of the means used to carry out this plan.
5. **The Thomas Square-Academy of Arts District** which identifies significant views, establishes four general criteria districts, maps (in three dimensions), special building envelopes to control height and bulk, and which specifies street planting in considerable detail.

**Special Design Districts** that have been established include:

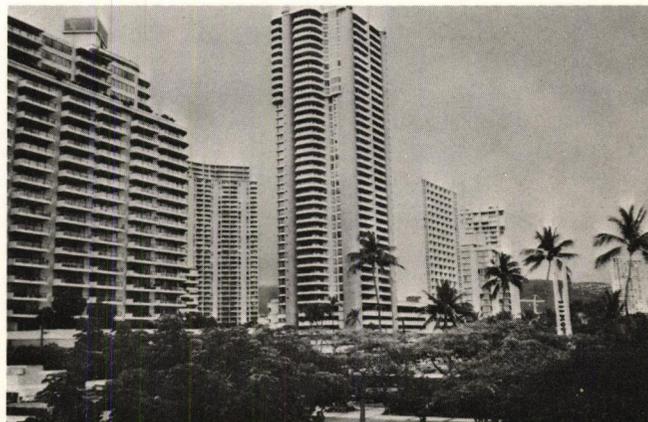
1. **Waikiki District**, the ordinance for which is almost a completely separate zoning ordinance for Waikiki. This area is subject also to state EIS requirements (administered by the city-county) and to shoreline management regulations. The ordinance establishes four new use districts completely replacing the use districts of the underlying ordinance. Similarly, new FAR requirements on a sliding scale with bonuses are included.
2. **Kakaako District** the ordinance which is almost a completely separate zoning ordinance, also with new use districts and detailed height and setback regulations.

The Chinatown and Kakaako areas are redevelopment programs in which the objective is to transform the current uses into something substantially better. Consideration should be given to passage of legislation that grants tax

incentives to rebuilding programs similar to the Missouri Redevelopment Law which forgives taxes on improvements totally for a period and then partially for another period. This might be a powerful incentive for private redevelopment.

**Appraisal of the Special Districts.** The special districts include the major developed areas between Diamond Head and Chinatown with the exception of the central business district. Their establishment is a belated recognition that development of this significant area had gotten out of hand, that views of Diamond Head, Hawaii's trademark, were being ruined, that the same was true of views to and from Punchbowl, as well as views of the ocean from the State Capitol. The special districts were the device chosen to do this. Generally they have been effective. There are several problems with them:

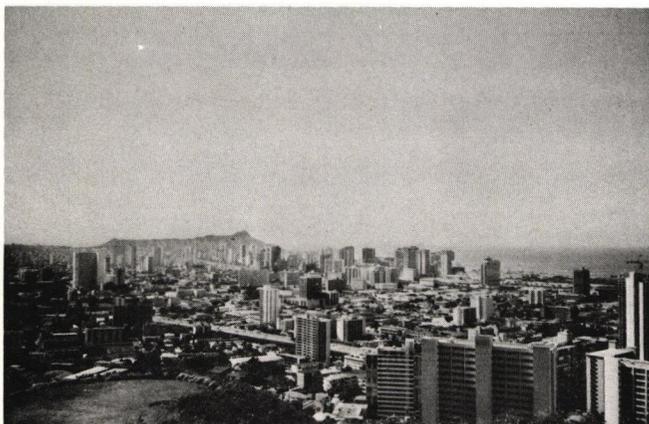
1. They are difficult to understand and apply because the relation of each to the underlying CZC regulations is not clear. They are not even included in the CZC, although the "enabling legislation" is. If these are not zoning regulations, what are they?
2. There is a considerable duplication between the "enabling" provisions (Articles 12 and 13) and the special district regulations and in the regulations of the seven districts.
3. While there are some very specific standards such as the height and bulk



*High-rise buildings in Waikiki.*

regulations around Thomas Square and the height regulations on Diamond Head, many of the standards and objectives are vaguely expressed and appear to be "pious hopes" rather than specifications. All of the specific standards and such matters as the Waikiki and Kakaako use regulations could, and should, be incorporated in the body of the CZC by the creation of new zoning districts.

4. The height regulations incorporated in several of the special districts could go into the CZC as "supplementary height regulations." All could be consolidated on one map and the map incorporated into the ordinance.
5. To some extent, the special districts represent a "locking of the barn door after the horse has been stolen." There are other areas on Oahu equally in need of design controls. In fact, it is difficult to see why all of the island should not be subject to such controls.
6. Lack of an approved and adopted overall design plan for Oahu makes it difficult to administer design controls in an understandable manner and to bring community approved objectives into reality.



*High-rise buildings between Punchbowl and Diamond Head.*

## **Two Alternatives for the Special Districts Are:**

1. The special districts and the enabling legislation could be greatly simplified by combining the two types of districts, i.e., Historic-Cultural-Scenic and Design and then by placing specific regulations in other parts of the ordinance. The rewritten "enabling legislation" and the special district regulations could then become a single article in the CZC. Finally, many of the provisions of the special districts affect public actions or activities by the city-county or the state. These have no place in a zoning ordinance and should be removed. Public agencies can either do or not do these things without being told so by a zoning ordinance. The City Charter requires that all public improvements conform to the adopted general or development plan but does not establish any procedure to see that they do. The relationship of the special districts to the development plans is not clear. Will they carry the development plans into greater detail, or should the development plans conform with them? When one is amended will both have to be amended? Certainly the proposals in the special districts for public infrastructure such as street paving or street trees or for public buildings should be in the development plans or in the "functional plans"--not in the zoning code.

2. Repeal the present special district system after adoption of a design plan and replace it with islandwide design review. Difficulties have been encountered in preparing an island-wide "design plan" for Oahu that is both inspiring enough to generate public support and definitive enough to tell a property owner, developer or administrator what should or shouldn't be done on a given piece of property. These difficulties have been overcome elsewhere and can be here. As in Alternate 1, basic use, height and FAR regulations should be incorporated in the usual places in the

CZC first. The following then should be subject to design review:

- (a) Individual buildings more than 35 feet high
- (b) Combinations of two or more related buildings (except accessory buildings) regardless of size
- (c) Any building on a slope of more than 20 percent
- (d) Any building in the coastal management area
- (e) Any building fronting on a public park, except single-family dwellings
- (f) Any building within 200 feet of an historic district
- (g) Any building fronting on certain designated boulevards
- (h) Large parking lots or garages, i.e., 50 or more cars
- (i) Public buildings

**The design review** would consist of:

- (a) Conformance with development plan, design plan, circulation plan, etc.
- (b) Impact on public services
- (c) Orientation
- (d) Impact on natural features and amenities
- (e) Site plan
- (f) Distribution of bulk of building on the site in relation to its neighbors, including any shading of windows or solar systems
- (g) Appearance of mechanical equipment on roofs.

The design review, as proposed above, would be an integral part of the CZC, not a separate ordinance.

### **Protection of Historic and Landmark Buildings and Places**

Oahu contains a great number of historic structures and places. There are gardens and natural features, not all of which are publicly-owned. There are buildings of distinguished architecture, not yet historic, which should be protected. While many are in the "historic-cultural-scenic" districts; many are not. Nor do the regulations of these districts really protect them.

The Hawaii Historic Preservation Law provides some protection for privately-owned properties on the Hawaii Register of Historic Places. It provides a 90-day review of any construction (or demolition) affecting the appearance of such a structure and enables state acquisition if the historic building is deemed adversely affected by the proposed construction. Further protection could be afforded in the CZC and extended to buildings of significance which might not be on the register.

There could be an historic district (or landmark designation) for each of these identified buildings and places. Changes in outward appearance or demolition of such structures would be further prohibited by the CZC.

Where maintenance of a privately-owned historic or landmark building or place can be demonstrated to be uneconomic, in addition to the time allowed for purchase in the state law, the CZC could provide for a trade or lease of development rights to make the maintenance more economic by the private owner.

### **General Code Regulations**

The following are comments on general features of the CZC.

**The typical section outlining how the ordinance is applied** and what it is applied to is missing.

**The administrative section** is sketchy and needs strengthening.

**Nonconforming use** regulations need to more clearly state the status of buildings that do not conform and to eliminate the need to search out the status of buildings under previous ordinances.

**Definitions** have a number of problems. First, there are not enough of them. The CZC defines 103 terms. The El Paso ordinance, for example, defines 179 terms. Second, too many definitions include regulations which should go in other parts of the CZC. For example, see definitions of "duplex," "residential kennel," "nonconforming use of land," or "nonconforming use of structure." Third, definitions of very important terms such as "lot," "lot of record," "two-family dwelling," "kitchen," and "dwelling unit" need to be improved. Finally, there is no definition, or regulation, of "home occupations" in the CZC.

**Fees** charged to administer the CZC are low.

**The conditional zoning** section should be removed. With the more extensive design reviews proposed and with the conditional and special (administrative) permits required, conditional zoning is not necessary. It is of doubtful legality also.

**The "plan review" section** should be removed also. Only one use, hospitals, is included and these could be made conditional uses. The standards required for hospitals are incomplete and need to be reviewed and expanded.

**Conditional uses and special permits** should be retained substantially as they are except that special permits should be called administrative permits in order to more clearly identify their nature. Some changes should be made including:

1. Omit union meeting halls and medical offices from the conditional uses in certain residential districts. These are not unusual uses and do not justify this categorization.
2. All conditional uses and administrative permit uses should be accompanied by statements of standards. Only part of them are now.

3. Permission for the use of areas in adjacent districts for off-street parking should be a conditional use and not an administrative permit, and most certainly not both as is the case now.

**Transitional uses** should all be removed. These have not been successful in accomplishing their purpose and cause large areas to be adversely affected when very small commercial districts are established.

**Performance standards** in the CZC should be retained. These are quite similar to performance standards for noise and vibration that have been enacted by the state. Neither are enforced; in fact, the city does not have the equipment necessary for their enforcement or personnel trained in its use. Separate standards for residential, commercial and industrial districts for noise and vibration should be used and presented more clearly in the ordinance. The CZC should provide that all uses including nonconforming uses must conform to the performance standards. Performance standards should include additional subjects such as glare, for example.

#### **Cluster and Planned Development Regulations**

The CZC has three provisions to encourage flexibility of residential design. Oahu presents many opportunities to provide improved living conditions by the imaginative design of groups of residential buildings. Originally, zoning regulations were designed to be applied on a lot-by-lot basis which inhibits such desirable projects. The three provisions are:

1. **Permission** to locate up to six dwelling units on a zoning lot after the Director approves the site development plan.
2. **"Clusters"** are allowed in residential districts and in apartment districts with approval by the Director after public hearing. The minimum project size must be equal to three zoning lots in the zoning district. Density regulations generally must be observed. The site plan must be approved. This section of the ordinance has been reasonably successful although neighborhood disapprovals have resulted in the rejection of a number of projects. Because of the

definitions of various types of two-family dwellings in the CZC and permission for these to go into "clusters," it is possible for typical townhouse condominium projects to be built in the single-family districts with the Director's approval.

3. **Planned developments** for housing on sites of more than one acre are permitted in any location by a separate district, the PD-H. These may be approved by the Director after public hearing. Density requirements are included and related to the basic residential or apartment district in which the development would be located. The "planned developments-housing" do not differ too much from the "clusters."

**Proposals.** The system described above is cumbersome. To simplify it, the first two provisions should be combined and "clusters" made permitted uses subject to administrative approval of the site plan and a design review. The minimum area should be increased to seven times the lot area. Uses permitted would be those in the zoning district and in the district that followed, i.e., R-5 clusters could contain R-6 uses; R-7 clusters could have A-1 uses, etc. Density and height regulations of the district would have to be observed except that a 10 percent density bonus would be given:

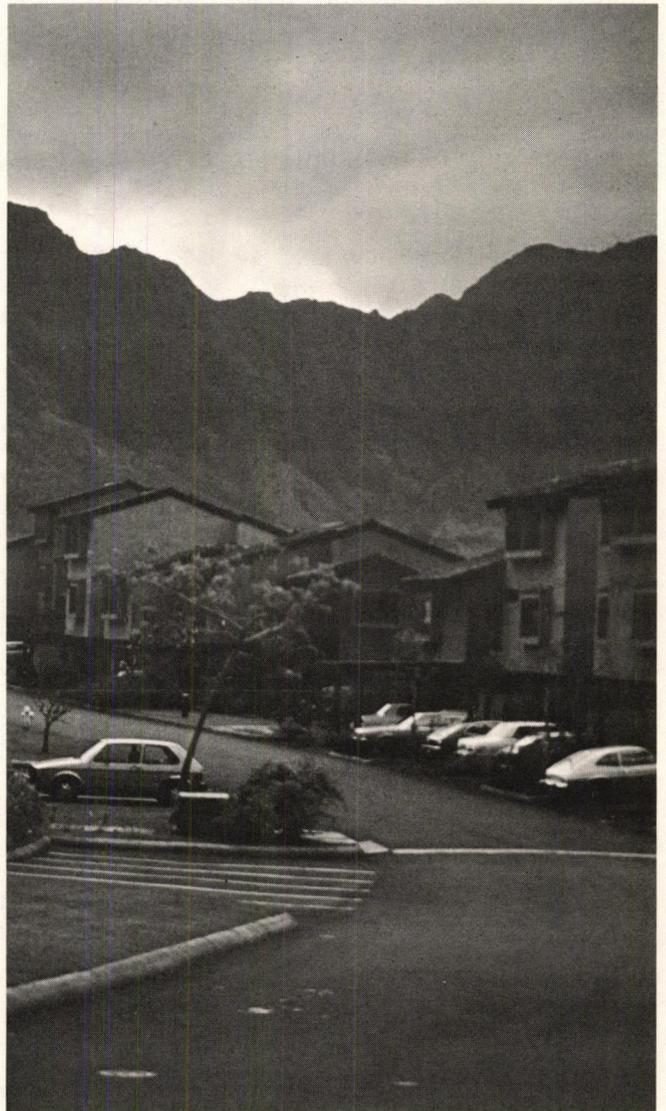
- A. When 75 percent or more of the units have views of mountains or ocean from the living room, and
- B. When 75 percent or more of the required parking spaces are placed within buildings, and
- C. When 25 percent or more of the dwelling units are provided for low-or moderate-income families.

The above increases would be cumulative so that the total density bonus if all three were used would be 30 percent.

With the provisions for the "clusters" revised as suggested above, there would be no reason to retain the present PD-H District and

it could be removed from the ordinance. There is needed, however, some better way of dealing with large projects on Oahu, both from the standpoint of the city and the developer. City approvals should not be a series of actions on several clusters, a planned development or two mixed in with some rezoning--the process used to deal with large projects in the past.

Assuming approval of a set of development plans for the island, the basic land use pattern would be shown on the map accompanying the development plan, and the zoning maps (a part of the CZC) would correspondingly reflect the same basic land use pattern, as would any



*Setting and the views are extraordinary for this project.*

large development project. Any departure from this pattern would require amending the CZC and the Development Plan and, according to Hawaii Supreme Court decisions, this would require studies and investigations comparable to those that formed the basis for the Development Plan. This is a procedure not to be lightly undertaken.

Even though the basic land use arrangement is established, there is merit in considering a planned development procedure that would be on a voluntary basis. The procedure would require detailed design and site plan approval on the part of DLU. These reviews and approvals could bring the following public benefits:

1. Better relationships between land uses and provision of effective buffer areas where land uses are not compatible.
2. More efficient street arrangements and better relationships with adjacent areas.
3. Provision of pedestrian and bicycle systems.
4. Improved urban design.

In order to interest the developer in such a process, it would be worthwhile to be able to:

1. Offer an assurance that approval of a planned development could not be rescinded.
2. Enable reasonable modifications of plans as development proceeds.
3. Provide the same residential bonus as proposed under the cluster system (see above).
4. Permit the total number of dwelling units allowed to be distributed over the project area in the optimum manner, irrespective of the location of zoning district boundaries.
5. Enable parking and loading requirements to be modified when this is supported by traffic engineering studies.

6. Modify street standards in residential areas by using a 15 or 20 mph standard instead of a 25 mph standard.
7. Provide public financing of 10 to 25 percent of the street, sewer, and water systems where planned developments provide a reasonable amount of low-or moderate-income housing or where more than the required amount of land is dedicated for parks, open space, or public or community use. Because public funds for such a purpose would be limited and would have to be included in a capital improvement program, they could be directed to the most advantageously-located projects by some type of rating system and a voluntary growth management program result.

Planned developments could be applied for as:

1. A general planned district with a variety of uses with 30 acres or more.
2. A residential planned district with 10 acres or more.
3. A planned resort district with 10 acres or more.
4. A planned commercial district with two acres or more.
5. A planned office district with 10 acres or more or a smaller area if buildings did not exceed two stories in height.
6. A planned industrial district with a minimum of 20 acres or 10 acres if buildings did not exceed two stories in height.

#### **Organization of the Zoning Code**

The organization of the CZC differs from that of the usual code by placing the district regulations at the end instead of close to the beginning. Many of the district regulations in the CZC incorporate "back references," i.e., referring back to the previous district or districts.

No ordinance arrangement is ideal. Each one has its own difficulties. None are written for easy public understanding. No matter which arrangement is chosen, in the end there will be perhaps 25 to 50 city-county staff people and an equal number of architects, engineers and developers who are able to fully understand the document and apply it, and these persons will soon become accustomed to any arrangement of the ordinance material.

In the interests of clarity and brevity, a tempting organizational system is to place all of the use regulations in one section, all of the height in another, all of the yards in another, etc. This, however, requires that the entire code be read before it may be applied to a single property.

The proposed organization of the code (see Exhibit B) differs from the present arrangement by placing the supplementary regulations and the administrative-procedural matters after rather than before the district regulations. The major difference, however, would be in the district regulations. Appropriate districts would be grouped in single sections with as much as possible of the material put into tabular form. There would be 11 articles for the 31 or so proposed districts. For each article, the organization would be:

- Legislative Intent
- Permitted Uses
- Administrative Permit Uses
- Conditional Uses
- Accessory Buildings and Uses
- Sign Regulations
- Height Regulations
- Bulk and Lot Coverage Regulations
- Density Regulations
- Yard Regulations

A sample text has been prepared for Section 5-3, District Regulations, in the R-1, R-2 and R-3 Districts. (See Exhibit C.)

### Code Format

The code should be put on word processing equipment so that updated copies may be made available easily. Each article should begin on a new page.

The present appendix which lists amendments to the code is of little public interest and should be removed from the distributed copies of the code.

A tabular list of uses showing the districts in which each use is a permitted, administrative permit, or conditional use should be prepared and put into the appendix of the code.

The CZC should be completely indexed and the index placed in the appendix.

The present looseleaf form should be retained with a better cover provided. The public now may subscribe to a service keeping the code up to date.

All requirements difficult to understand should have a chart, diagram, or sketch to illustrate the provision. There should be a great number of these. The San Francisco and New Haven, Connecticut ordinances are particularly good examples.

The article number and subject, and the section number and subject should be repeated in the upper right corner of every page to aid in locating subject matter.

## EXHIBIT B

### PROPOSED REORGANIZATION OF THE CZC

#### ARTICLE 1. TITLE, APPLICATION, PURPOSE, INTERPRETATION

Section	1.1	Title
	1.2	Application
	1.3	Purpose
	1.4	Interpretation

#### ARTICLE 2. DEFINITIONS

Section	2.1	General rules
	2.2	Definitions

#### ARTICLE 3. DISTRICTS AND DISTRICT MAPS

Section	3.1	Establishment of districts
	3.2	District maps
	3.3	Interpretation of boundaries

#### ARTICLE 4. GENERAL PROVISIONS-NONCONFORMING USES

Section	4.1	General provisions
	4.2	Nonconforming uses

#### ARTICLE 5. DISTRICT REGULATIONS

Section	5.1	Preservation district
	5.2	Agricultural district
	5.3	R-1, R-2 and R-3 residence districts
	5.4	R-4, R-5, R-6 and R-7 residence districts
	5.5	Apartment districts
	5.6	Resort district
	5.7	Business districts
	5.8	Industrial districts
	5.9	Planned districts
	5.10	Flood hazard district
	5.11	Historic district

#### ARTICLE 6. SUPPLEMENTARY REGULATIONS

Section	6.1	Supplementary use regulations (including standards for conditional uses and administrative permits)
	6.2	Performance standards
	6.3	Off-street parking and loading regulations
	6.4	Supplementary sign regulations
	6.5	Supplementary height, yard, bulk and density regulations
	6.6	Supplementary regulations for fences, walls and accessory buildings

#### ARTICLE 7. ADMINISTRATION

Section	7.1	State and local administrative bodies and related agencies and regulations
	7.2	Board of Appeals
	7.3	Relevant planning documents
	7.4	Content of applications for planned districts, conditional use, administrative permits, design approvals, and changes and amendments
	7.5	Procedures for: changes and amendments planned district approvals conditional uses administrative permits design approvals appeals to Board of Appeals
	7.6	Notice and procedure for public hearing

#### ARTICLE 8. ENFORCEMENT

Section	8.1	Enforcement
	8.2	Permits and licenses
	8.3	Plans required
	8.4	Certificates of occupancy and compliance
	8.5	Agreements and bonds
	8.6	Fees
	8.7	Penalties for violation

EXHIBIT C

SAMPLE DRAFT OF "DISTRICT REGULATIONS  
IN THE R-1, R-2, AND R-3 DISTRICTS"  
FOLLOWING THE PROPOSED CZC FORMAT

Section 5.3 District Regulations in the R-1, R-2, and R-3

C-3

Residential Districts

5.301 Legislative Intent

The purpose of the R-1, R-2, and R-3 residential districts is to provide for single-family residential areas of relatively low density affording open space and privacy.

5.302 Permitted Uses

In the R-1, R-2, and R-3 districts, the following uses are permitted:

- (1) Agricultural and horticultural uses and structures; provided that uses and structures relating to the keeping of livestock, poultry or bees shall not be allowed, except as set forth in the provisions relating to accessory uses
- (2) Churches, but any new church shall be on a site of one acre or more
- (3) Dwellings, one-family detached
- (4) Parks, playgrounds and community centers, botanical and zoological gardens and other public buildings and uses
- (5) Public elementary, intermediate and high schools and private schools having similar academic curriculums
- (6) Cluster developments on properties of
  - (a) More than seven acres in the R-1 district
  - (b) More than three-and-one-half acres in the R-2 district
  - (c) More than 70,000 square feet in the R-3 district

where these consist of single-family dwellings and the site plan is approved by the director.

5.303 Administrative Permit Uses

The following uses are allowed after an administrative permit is granted by the director in accordance with the provisions of Sections 6.1 and 7.5(d):

- (1) Carnivals, circuses, luaus and fairs
- (2) Joint use of parking facilities
- (3) Private piers and boathouses
- (4) Temporary structures and uses incidental to land development or building construction.

5.304 Conditional Uses

The following uses may be allowed by the director in accordance with the provisions of Sections 6.1 and 7.5(c):

- (1) Colleges and universities, business colleges (but not trade schools); day nurseries in connection with public or private elementary schools or churches
- (2) Public utility installations and substations, excluding offices, provided that:
  - (a) Utility substations, other than individual transformers, shall be surrounded by a wall, solid except for entrances and exits, or by a fence with a screening hedge; and
  - (b) Transformer vaults for underground utilities and like uses shall be surrounded by a landscaped screening hedge, solid except for access opening.
- (3) Family care home, provided the occupant has a valid Care Home Certificate from the Hawaii State Department of Health and the home is for not more than four patients. Such family care home shall be considered a dwelling use for purposes of lot area, width and setback requirements.
- (4) Cemetery, columbarium, crematory and mausoleum
- (5) Extractive industries, including the removal of sand, rock, soil and gravel

- (6) Facilities for the production of live theatre and allied purposes including education in the theatre arts
- (7) Fraternity and sorority houses, student dormitories and student centers; provided, however, that the same shall be located within a one-mile radius of the intersection of University Avenue and Dole Street
- (8) Homes for the aged, disabled or handicapped, including convalescent or nursing homes; maternity homes; child care centers, other than those covered under permitted or principal uses and structures hereinabove, when not operated by a public agency
- (9) Sanatoriums, other than public
- (10) Monasteries and convents
- (11) Museums and art galleries when not operated by a public agency
- (12) Off-street parking for uses in adjoining apartment, hotel, business or industrial districts; provided that the zoning lot on which the off-street parking use is utilized is adjacent to and within 200 feet of such district boundaries; provided further, that the said zoning lot is not separated from the said apartment, hotel, business or industrial district by a street
- (13) Private marinas, including facilities for storage and repair of boats and sale of boating supplies and fuel
- (14) Non-profit recreation and amusement facilities of an outdoor nature, other than as specified under permitted principal uses and structures
- (15) Television or other broadcasting stations and line-of-sight relay devices
- (16) Private and public non-illuminated golf courses, with a minimum area of 150 acres, together with such uses which are incidental to golf courses.

5.305 Accessory Buildings and Uses

Uses and buildings customarily accessory to the above permitted, administrative permit and conditional uses are allowed, including:

- (1) Detached guest houses and servants' quarters on lots containing not less than 1/2 acre in area
- (2) Stables for horses in the R-1 district, provided that no stable shall be within 300 feet of any property line
- (3) Roomers accessory to a family composed of persons related by blood, adoption, or marriage, provided that such roomers may not exceed a total of three persons.
- (4) Private utilities, including temporary sewage treatment plants, shall also be permitted as accessory uses, provided such use is approved by the Director of Land Utilization. Private utilities so approved shall be permitted notwithstanding the location on a non-contiguous zoning lot or in another zoning district of the principal use or uses served thereby, and paragraph (1) of the definition of "accessory use" in Section 2.2 shall be inapplicable thereto.
- (5) Honeybees, provided they shall be maintained in movable frame beehives and they shall be placed at least 25 feet from the nearest property line, or, they shall be placed 8 feet or more above adjacent ground level, or they shall be placed behind a solid fence or hedge at least 6 feet in height parallel to any property line within 25 feet of the beehive(s) and extending 15 feet beyond the beehive(s) in both directions.

All beehives shall be properly shaded from adjacent night lighting on adjoining properties.
- (6) Kennel, residential.

5.306 Sign Regulations

Only one sign in connection with a non-dwelling permitted use, which shall not exceed 12 square feet in area for golf courses and 6 square feet in area for any other permitted non-dwelling use. No such sign shall be directly illuminated or located in any required yard area or erected to exceed a height of 8 feet above ground elevation.

5.307 Height Regulations

No building higher than 2-1/2 stories or 35 feet shall be allowed in the R-1, R-2, and R-3 districts.

5.308 Lot Coverage Regulations

The maximum lot coverage by all buildings in the R-1, R-2, and R-3 districts shall not exceed 50 percent of the lot area.

5.309 Density and Lot Dimension Regulations

There shall be the following density regulations:

Lot area per family - land slope less than 40 percent

- In R-1 district - one acre
- In R-2 district - one-half acre
- In R-3 district - 10,000 square feet

Lot area per family - land slope more than 40 percent

- In R-1 district - two acres
- In R-2 district - one acre
- In R-3 district - one-half acre

Lot area per family for cluster developments shall be the same as above, except that the number of permitted dwelling units may be increased 10 percent:

- (a) If 75 percent or more of the dwelling units provide a view of mountains or ocean from the living room
- (b) If 75 percent or more of the required parking is within a building
- (c) If 25 percent or more of the dwelling units are made available for occupancy by families of low or moderate income.

Minimum lot dimensions (width and depth) shall be:

- For a two acre lot - 150 feet
- For a one acre lot - 125 feet
- For a one-half acre lot - 100 feet
- For a 10,000 square foot lot - 65 feet

Section 5.310 Yard regulations

The following yards shall be provided except as modified by Section 6.5:

	<u>R-1 District</u>	<u>R-2 District</u>	<u>R-3 District</u>
One front yard of	30 feet	30 feet	15 feet
Two side yards of	15 feet	10 feet	6 feet
One rear yard of	30 feet	20 feet	12 feet

Section 5.311 Parking regulations

Off-street parking shall be provided in accordance with the requirements of Section 6.3.



## PART II--EMERGING LAND USE CONTROL CONCEPTS AND REGULATIONS

How does the CZC compare with emerging land use control concepts and regulations being used or considered elsewhere? There is some chance that a proposal new to Honolulu may be old somewhere else, but it is more likely that such an analysis will turn up little that is useful because Hawaii and Honolulu have already tried so many of the "new" land use control approaches. However, no appraisal of the CZC would be complete without such a comparison.

In making this study, we have looked for proposals or procedures having immediate application to the CZC or worthy of an immediate research project by city staff or under city direction. This assignment was not to prepare a new textbook covering the entire field of land use control concepts and regulations, yet some of those concepts and regulations which we do not believe merit further exploration for Honolulu, are included to make the discussion more complete.

### **The Quiet Revolution: Entry of Upper Levels of Government Into the Land Use Control Field**

In 1971, Fred Bosselman and David Callies prepared a book, The Quiet Revolution in Land Use Control, for the Council on Environmental Quality.<sup>(1)</sup> This very well-written work described the comparatively unheralded entry of the states into the field of land use control. "It all began in Hawaii" were the first words of the first chapter. The book received wide publicity and many believed the beginning of a new era had indeed arrived and that more and more states would recognize the deficiencies of the purely local land use control systems. This has not happened. Aside from the early efforts of such states as Hawaii, California, Florida and Vermont, the Oregon program, and some less ambitious efforts by Massachusetts, Maine and Wisconsin and a number of other states interested mainly in shoreline protection, the emphasis on land use control has remained with local government. If anything, the position of local government has been strengthened by rumors, some with a basis in

fact, of the nightmares of conflict and delay reported from the pioneer states where land use controls are being tried on a statewide basis.

Having failed to produce anything like a national land use policy bill, the advocates of higher levels of control relied heavily on the National Environmental Policy Act, the National Water Pollution Control Act Amendments of 1972, and the Coastal Zone Management Act to develop the sense of regional awareness believed necessary in a rational land use control process. This did not happen either. While NEPA should be credited with engendering a much needed awareness of environmental problems, it has also produced unnecessary delay for valid projects and a staggering mass--of useless or near useless paperwork--and it has not proven to be a planning tool at all. The National Water Pollution Control Act produced little if anything in the way of regional land use controls and those enactments prepared by states under the Coastal Zone Management Act have influenced local land use controls minimally, if at all.

Regional cooperation in land use control has received so little support nationwide that it certainly cannot be called an emerging concept. Unless the several local governments agree to a complete consolidation, as had happened in a few notable cases, land use controls remain strictly local. Even where practically all other public services are shared regionally, land use control is reserved to local government as most essential to the citizens' control of their own environments. At least Honolulu does not need to worry about fragmented land use control by multiple political jurisdictions in the same region. Except as limited by the State Land Use Law, the CZC covers the entire island.

While it is significant that no architect, developer, or public official we interviewed even mentioned the State Land Use Law as having bearing on our assignment to review the CZC (except as a part of the problem of

delays in processing development applications), we did not talk to everyone, most importantly we did not talk to the citizens at large, and it is evident that the state of Hawaii has demonstrated a greater interest in the environment and a greater willingness to participate extensively in land use controls than any other state. If the counties fail to cope with development pressures, if tall buildings become too numerous or too tightly spaced, or if the mountain slopes are too greatly violated, it is quite possible--nay probable--that the people of the state, especially those residents on Oahu, may decide to place more reliance on the state legislature than on the City Council.

Of the two main original objectives of the State Land Use Law, one has failed and the other has diminished in importance. First, land reform using the coupled power of land use control and taxation has not made land more cheaply available for development of housing. Housing remains frightfully expensive on Oahu. Second, protection of the agricultural element of the Hawaiian economy is no longer of paramount importance, agriculture having been superseded by tourism in importance to the economic base of the island and of the state. The environmental protection aspects of the State Land Use Law may prove most important of all.

### **The Planning Background and Consistency Requirements**

Surprisingly, one of the concepts most discussed in recent times is one of the oldest zoning controversies, the requirement for a "comprehensive plan" as background for land use regulations and the need for "consistency" between the regulations and the plan. Elsewhere, this new interest in the connection between planning and regulation has been generated by state enabling legislation, such as that in Oregon, which requires that a comprehensive plan be prepared and that the zoning ordinance be consistent with it and by court decisions, such as Fasano<sup>(2)</sup> and Baker,<sup>(3)</sup> which require consistency. In Honolulu, the question is made pertinent by the City Charter which provides that the Council shall "enact zoning ordinances which shall contain the necessary provisions to carry out the purpose of

the general plan and development plans." The proposed development plans would require that "all zoning shall be in conformance with the development plan within a reasonable period of time."

The standard Zoning Enabling Act published in 1926 served as a model for most state zoning enabling statutes. It required that the zoning ordinance be prepared "in accordance with a comprehensive plan." Since the Zoning Enabling Act preceded the standard Planning Enabling Act (1928) and since comprehensive plans as separate documents were rare in the early days of zoning, most courts decided that the requirement for a comprehensive plan could be met by the comprehensive nature of the zoning ordinance itself and no separate planning document was required. For years the plan took a back seat; zoning was not considered to be a tool of anything but was accepted as a planning and regulatory system within itself. This worked fairly well until rapid growth in the 50s and 60s began to spread beyond central city limits and beyond any jurisdiction's ability to foresee and manage its configuration.

Some of the newer state laws (Oregon and Florida, for example), or amendments to old ones, require that local jurisdictions prepare comprehensive plans. Only a few of these laws require that zoning be consistent with the plan. Partly because of general public awareness of abuses in zoning where reasonable plans have been ignored, future state laws may well contain additional requirements of this



*Difficulties encountered in building on steep slopes.*

## The Zoning Map

kind. Some of these new state laws might even contain some advice as to what "consistency" should amount to. In the meantime, we will need to rely on planners and court decisions for this definition. On the mainland, such requirements will have little meaning in most larger metropolitan areas unless the state legislature is able to cope with the problem of political fragmentation and the inability of any agency to prepare an enforceable metropolitan or regional plan. The American Law Institute model code, designed to provide a new basis for state planning laws, proposes that this problem be handled by reference of major development projects to a state agency. The ALI approach has so far been followed closely only in Florida. The problem of multiple jurisdictions is much simpler in Hawaii.

On Oahu, the general plan--development plan--zoning consistency approach currently under development is certain to cause problems. The General Plan is so general as to give practically no guidance in approving or disapproving a specific development proposal, even a very large one. The development plans now under review are highly detailed and provide little latitude for development flexibility without an amendment. This may be appropriate for a fully developed area, but will surely require amendment after amendment in undeveloped areas unless the development plans are able to foresee future development detail with a higher degree of accuracy than is usually possible. Requiring zoning consistency to a detailed plan merely shifts the emphasis from the zoning map to the plan map, a shift which may be considerably complicated in Hawaii by the Dalton<sup>(4)</sup> decision, which decision seems to require the same kind of comprehensive planning study to be made for an amendment as was made for the original plan.

Many proposals have been made over the years for plan preparation and more effective implementation of plans.<sup>(5)</sup> The Charter Commission of 1972 no doubt reviewed many of these when the current system was designed.<sup>(6)</sup> Although recommendations for system revision are clearly beyond the scope of this assignment, we feel compelled to emphasize that the relationships between the plans and the CZC deserve much additional study.

In the English system, there is nothing to be called a zoning map, although there are planning maps showing land use arrangements. Requests for development permission are judged administratively directly against (comprehensive) plans and development standards. Perhaps this is the direction in which we are being moved by this emerging trend toward requirements of "consistency." As more and more communities have carefully worked out comprehensive plans and fewer and fewer legislative bodies are willing to make provision for future growth on the zoning map prior to actual development applications,<sup>(7)</sup> the zoning map and zoning districts as we know them may become unnecessary. For the immediate future, however, we are concerned with means for improving the usefulness of the CZC with its zoning districts and its maps. To eliminate the zoning map is certainly a possibility in Honolulu if the detailed land use maps in the Development Plans, as now proposed, are adopted. Essentially, these could replace the zoning map. Restructuring of the zoning districts would be necessary.

In Oregon, all local jurisdictions are required to have a comprehensive plan, approved by the state, and conforming with 14 statewide planning goals. The planning goals establish criteria for approval of local plans. Generally the goals are broadly expressed and are reminiscent of much of the material in the Honolulu General Plan. The "comprehensive plans" prepared by local jurisdictions in Oregon then become functionally comparable to the Development Plans in Honolulu. The Oregon goals are adopted by the state Land Conservation and Development Commission--seven citizens appointed by the Governor. The Oregon approach is somewhat similar to that in Hawaii although the state, as such, does not do any zoning on the state level. Nor does Hawaii have as direct a connection between state goals and local plans as is the case in Oregon.

To provide guidance for the many local jurisdictions in Oregon, the Bureau of Governmental Research and Service of the University of Oregon has prepared "A Model Land Development Ordinance Format"<sup>(8)</sup> which, among

many other things, suggests replacing the typical zoning map in part with the comprehensive plan map. In a manner very similar to the CZC, applications for permits are submitted with more complex procedures and reviews required as the project's impacts become more pronounced. Guidance as to land use would be provided by the comprehensive plan. The jurisdiction would be divided into:

Established Districts (urban and rural)  
Redevelopment District  
Urban Developing District  
Rural Developing District

There would be special purpose districts for environmentally sensitive areas. A separate ordinance would establish all of the standards--parking, yards, siting of buildings, building height, etc. An appeal procedure is provided. Land subdivision and zoning regulations are combined. District boundary lines would be changed administratively when the facts changed--i.e., when a "developing" area became "developed," for example.

Consideration should be given to utilizing the Oregon approach in Honolulu, particularly if the Development Plans are adopted in substantially their present form. The advantage would be elimination of the zoning maps as they now are. The disadvantage would be the vast and sweeping extent of the change, the difficulty in the transition and the potential chaos that would be likely. One possibility would be to phase into a new system five or ten years after adoption of the Development Plans and a revised CZC.

#### **Shifting Responsibility for Decisions and the Search for Flexibility**

Working within the traditional concepts of plans and zoning ordinances as laid down by the old standard enabling acts, communities across the country have experimented with all sorts of divisions and delegations of authority in an effort to find just the right balance between policy making and administration, and all sorts of so-called "particularized" devices to add flexibility to a system that was once, or at least thought to be, quite inflexible in meeting complex problems of development and

environmental protection.<sup>(9)</sup> Honolulu has done more than its share of experimentation along these lines. Very few legislative bodies in our experience have experimented so extensively in administration of zoning regulations as the City Council, or in turn delegated so much zoning power to an administrative agency, the DLU. In addition, practically all of the particularized flexibility devices have been tried or are now in use under the CZC.

With respect to the General Plan and the Development Plans, the City Charter has chosen to make these plans official legislative enactments rather than of advisory documents, as would be the case for a plan adopted by a planning commission instead of a legislative body. There is certainly nothing wrong with major planning policies being established by the legislative body. This is where such decisions should be made. On the other hand, if the legislatively adopted policies become too detailed, the legislature will find itself forced to consider numerous detailed proposals for change. The correct balance between legislative plan policy making and detailed implementation has not yet been reached in Honolulu.

#### **Hearing Examiners**

One approach which has been given considerable attention recently is that which utilizes a professional hearing examiner to perform many of the functions now performed by the legislative body, the planning commission, the Zoning Board of Appeals and the staff. This system is used with variations in Maryland, Indiana, and Washington. In Indianapolis, the hearing examiner holds public hearings and makes recommendations to the Metropolitan Development Commission on requests for rezoning. In Seattle, the hearing examiner has been given authority to decide variances, conditional uses, and special exceptions, subject to appeal to the Zoning Board of Appeals. In Maryland, the hearing examiner can make decisions on rezoning subject only to appeal to the governing body. In Maryland particularly, the procedure before the hearing examiner has become highly judicialized with all sides, staff, applicant, and protestors making careful presentations for the record. The decision of the hearing examiner is seldom overturned either by the legislative body or by the courts.

So much responsibility has already been delegated to the staff (the Director of DLU) in Honolulu that adoption of a hearing examiner system would amount to a relatively small step toward greater administrative authority. Already authority to make final decisions on cluster and planned development, conditional use permits, special permits and significant and nonsignificant projects in historical, cultural and scenic districts and special design districts are delegated to the Director of DLU.

### **Planned Development**

The special requirements of particular projects and the difficulties of fitting them into a conventional zoning district structure have been recognized since the earliest days of zoning. As the zoning devices to handle such problems became more numerous and were more widely applied, they were subject to increasing criticism as government by and for individuals and not by law. Yet the complexities of urban development continued to increase and the devices flourished. Special districts tied to project development plans are now quite common. Most notable early developments were the planned unit development devices whereby an entire development containing a complex of residential, commercial and industrial and public uses could be approved as a single unit completely superseding the confines of the zoning district regulations and map. The device is currently in use in two forms in Honolulu, both flawed, we think: one called "cluster development" and the other called "planned development." Elsewhere in this report, we have recommended that cluster development be permitted as a matter of right but limited in its application and that planned development be made voluntary. A voluntary growth management system is also possible.

### **Conditional Uses, Variances, Special Exceptions**

Conditional uses and variances are presently authorized by the CZC. Ordinances elsewhere tend to categorize conditional uses as major uses, such as airports, which require special location and design review but with decision at planning commission or legislative policy level since they tend to impact a wide area of the

jurisdiction. Other uses which require individual review but impact only neighboring and nearby properties are called "special exceptions" and assigned to the Zoning Board of Appeals for decision. Special yard exceptions may also be assigned to the board as special exceptions and approved without a showing of hardship if specified conditions exist. Under the very limited power assigned the Zoning Board of Appeals under the Honolulu City Charter, such minor matters must be handled as variances, with a quite liberal definition of "hardship." Consideration might be given to handling such minor adjustments by the DLU staff rather than the Zoning Board of Appeals; however, this would require an amendment to the City Charter.

### **Conditional Zoning**

Conditional zoning, although not specifically authorized by state law, is authorized by the CZC. It is yet another way to cope with the peculiarities of individual projects. Although unquestionably popular with citizens in some sections of the country, in Virginia, for example, where new legislation authorizes a "proffer" system, conditional zoning tends to be subject to abuse. All zoning becomes conditional zoning and inconsistency of exactions leads to uncertainty in development. Also, a massive problem of recordkeeping and of enforcement can result.

### **Special Districts**

Special overlay districts are being given increasing attention as a device to recognize the special land use control and design needs of particular sections of the city. The historic districts of Charleston and New Orleans were the pioneers, but since then special districts have been adapted to a wide range of purposes, most notably in New York City. While the basic purposes of the special districts in the CZC are certainly laudable, careful control of development can be accomplished equally well without the complexities of the special district system.

### **Other Techniques**

The basic structure of a zoning ordinance can provide flexibility in coping with a great

variety of special development problems. The land use intensity system which was in force in Honolulu prior to 1978 was intended to introduce new elements of flexibility into the CZC. Studies done some years ago for New York City and Dade County, Florida offered a "use group" system which could be combined in various ways with conventional districts to control density, open spaces and height. Some of the oldest zoning ordinances (New York, Baltimore) were "three map" ordinances which permitted various combinations of use districts, height districts, and "area" districts for yards, lot sizes and the like.

Sedway/Cooke and Aotani & Associates proposed "building block zoning" as a means for implementing urban design studies. This system provides use units, development units, and special area units which can be combined to meet the special needs of a particular section of the city. The use unit defines the uses which are permissible, development units provide specifications on variables such as density, lot size, building form, floor area, height, coverage, setback, and open space, and special area units apply to sites that have geologic, topographical, biological, scenic, or other unusual characteristics which require additional standards. With enough units in each category, an almost unlimited variety of regulations can be delineated for a given community. This unlimited variety may create unlimited confusion and unforeseen combinations of regulations not in the public interest.

### **Severe Restrictions on Development, Open Space Zoning and Growth Management**

Designed to protect critical environmental areas, agriculture and historic or architecturally valuable land and structures, or to provide for rigorous control of the rate and location of development, severely restrictive systems and devices have evoked numerous books and technical papers, several interesting court decisions, and the flood of articles and newspaper accounts. Planners, of course, see the light of total land use control at the end of the tunnel. Property owners and developers see the end of property rights and the free enterprise system, and lawyers see a busy future.

The advantages and disadvantages of applying growth management techniques to Honolulu in implementing development plan guidelines are found in Part VI.

### **Open Space Zoning**

The ultimate negative land use control is to prohibit all use and development. Long thought to be infeasible for legal reasons, there is a growing conviction that under a proper set of circumstances this lies within the power of local government, i.e., to impose such a control without compensation to the land owner.<sup>(10)</sup> It is seldom necessary to prohibit all use, or even all development, to accomplish the public purpose. Even so, any truly severe limitation on development was believed impossible. This is being changed rapidly by new state laws and by court decisions.

The new state laws have been applied first to those areas most widely accepted by the public as deserving special treatment, mainly beaches, vegetated wetlands and flood plains. Based on this experience, it is likely that special consideration will also be given to protection of steep hillsides and other unique natural features. (In this discussion, we are not talking about imposing land use control in order to preserve property for future public acquisition. This nasty trick has been uniformly held to be illegal.) So long as the unique areas are well described in the law or carefully mapped in accordance with an overall plan, we can expect severe restrictions on use to be sustained. To an extent, Hawaii has



*Visitors enjoy view from the Pali.*

undertaken such restrictions under the Land Use Law.

Hawaii was the pioneer in regulation at the state level to protect agricultural land. On the mainland, preservation of agricultural land has received a great deal more talk than action. Where a minimum lot area requirement of one acre has been fairly effective in Hawaii, a similar large lot requirement on the mainland is usually ineffective. Only recently have the restrictions on development in some agricultural areas been raised to the point of real effectiveness, either by means of a very large lot requirement, 40 acres and up, or by application of exclusive agricultural districts which flatly prohibit nonfarm dwellings in the countryside. The trouble with all this on the mainland (and perhaps on Oahu) is the failure to properly consider alternatives. The alternative to use of prime agricultural land around many urban areas is to stop growth before it gets there. It does no good to talk about higher densities and increased use of mass transit as a means of protecting agricultural lands.

The agricultural districts in the CZC are currently under study. As an alternative to the large lot approach, which is actually no more than a means of economic discrimination excluding the poor but not the rich, the exclusive district approach might be applicable if a severe restriction on development is desired.

### **Impact Studies**

Another technique which has the effect of a severe restriction on development is the requirement for impact statements, studies or reviews. These studies may be required to examine all manner of environmental, financial, and social impacts of development and may be used either to delay development for long periods or prohibit it for failure to comply with standards. These techniques have been given a variety of names, such as impact zoning, land capacity zoning, fiscal impact analysis, environmental zoning, and performance zoning, but all contain the element of placing a burden on the applicant to produce a study which justifies his proposal. Often these studies are self-serving and inaccurate, albeit expensive. The studies which support the

comprehensive plan (general plan), development plans and prepared by public agencies should form an adequate base for land use controls and development decisions. The administrator charged with making decisions on granting of permits should be able to relate proposals to the environmental, economic and social conditions which formed the basis for the general and development plans. It should not be the responsibility of the developer to provide such information.

### **Compensatory Systems**

A few systems have been proposed which are designed to compensate land owners for the burdens of severe restrictions on land use. The simplest of these involve tax advantages such as those available in the Hawaii or Oregon agricultural districts. The more complex systems propose that income from windfall profits which result from public action (such as construction of an interchange convenient to one's property) will be redistributed to property owners who have been damaged by public actions (the garbage dump next door).<sup>(11)</sup> Other systems propose separation of development rights from property ownership so that these can be either purchased by the public (in return for keeping land open or in agricultural use, for example) or purchased by other individuals to be used to increase their own development potential. Only limited applications of such systems have been experienced so far. There is probably nothing wrong with such compensatory systems in legal theory, but the complexities of their administration, the high cost to the public of purchase of development rights, and the difficulties of creating market conditions, such as will give value to the rights for private purchase or exchange, should remove them from serious consideration. Such systems have application only in a very narrow range of circumstances.

### **Growth Management**

It may not be proper to discuss growth management systems in connection with severe restrictions on development, yet this has been the consequence (or the threat) for most of these much publicized land use control efforts. Ramapo, New York, and Petaluma, California have received the most publicity

because they were the subject of important court decisions which sustained them. The systems in Boulder, Colorado, and Boca Raton, Florida are famous for court decisions which upset them.<sup>(12)</sup>

In practically every case where such a system has been put into effect, the community believed that growth was proceeding too rapidly to be managed by customary means or that total indicated growth would exceed limits the community considered desirable. The new growth management systems differed from past efforts in that the whole plan was written out and enacted in ordinance form for application impartially to all development proposals.<sup>(13)</sup>

Some systems set fixed limits to growth by limiting the total number of dwelling units to be permitted in the community (Boca Raton) or limiting the number of building permits to be issued in a given period of time (Petaluma). Others established point systems based on location, design and availability of infrastructure to aid in selection between applicants. Others established stringent environmental standards in addition to these limitations on growth.

The beneficial effect of all this is subject to question. While some communities established a breathing spell for themselves and put the fear of planning in the minds of the development community, the systems seldom recognized regional growth pressures as a factor to be considered or that slowing growth in one place might simply shift growth pressure to another.

Deliberately stopping or slowing regional growth is not considered a topic suitable for reasonable discussion. Also there is no indication that the systems have stimulated local or regional provision of infrastructure, streets, utilities, and other public facilities, so that necessary growth could occur in an orderly and timely fashion to meet market demands. As noted in a study of urban growth management systems by the Planning Advisory Service<sup>(14)</sup>, the unique contribution many of the growth management systems have made is in integrating traditional control elements.

## Design Review

Until fairly recently, design review was not believed to have a place in zoning administration. The zoning ordinance established certain standards for development, use, yards, setback, heights, and if an applicant met the standards he got his building permit. How he met the standards, how the project looked, or how it related to its surroundings or what its impact on the environment might be were not considered the public's business. Gradually this began to change.<sup>(15)</sup> The regulations became more complex, particularly for large projects, so that something of a design review was required to make sure the project met code standards.

A few communities became bold enough to require minimum usable open spaces and a little landscaping. A somewhat more careful plan review was required to administer these requirements. Urban renewal project areas offered another opportunity for public design review. Then along came planned unit development where design review was an absolute must. In addition, historic district zoning became more widespread and this necessitated a careful architectural review in which the exterior appearance of the structure became a matter of public concern.

Although some property owners and designers tend to bristle at the advance of regulation into the realm of aesthetic judgment, the expansion seems to have strong public support and increasingly strong judicial support.<sup>(16)</sup>



*Open space in a townhouse project.*

Honolulu has undertaken design review primarily by means of the historic, cultural and scenic district and the special design district. This approach involves the establishment of a general statement of objectives for the future maintenance or development of a particular section of the city, establishment of a list of some general, some conceptual, and some specific design standards, and review of development plans against these standards. The special district approach presumes that design review is more important (or more acceptable) in some sections of the city than in others.

While many communities have developed detailed design plans for special areas, relatively few have attempted to assess urban design factors community-wide. Some of the earliest attempts at city planning in America, such as those of the "City Beautiful" movement and Daniel Burnham's 1909 plan for Chicago, contained strong urban design elements, but for many years the most comprehensive of comprehensive plans concentrated on order and efficiency rather than beauty and harmony. The Urban Design Plan for the city of San Francisco adopted as a part of the city's master plan in 1971 was a major advance in the field and has since formed the basis for extensive planning code amendments. Together with California environmental laws, the Urban Design Plan forms the basis for a comprehensive urban design review program.

Again, Honolulu is in the vanguard of communities seeking to prepare comprehensive urban design plans. The current General Plan calls for preparation of such a plan and work is in progress. When the plan is completed and adopted, it may form the basis for a comprehensive urban design review program capable of replacing the special district approach. The intense public interest in the beauty of Honolulu justifies an island-wide approach, not just concentration on those parts of the city most heavily stressed.

The limits of the public interest must be carefully defined in any design review program. While the review may include both architectural elements and site plan relationships, the reviewing agency should not be allowed to impose its taste at a given moment on that of the project designer. Establishing

these limits is a task of major importance. The scope of review may need to be narrowed to a level below that for which the public agency believes itself capable in order to avoid arbitrary and harmful meddling. The DLU has worked with a committee of the Hawaii Chapter of the AIA to define, in detail, just what these limits are.

### **Miscellaneous Ordinance Arrangements and Regulations**

Many people are engaged in improving local systems of land use control and some of the best efforts never appear in the literature, which itself seems to expand beyond the review capability of any agency, or individual. Suffice it to say, that new techniques are emerging all the time and the staff of DLU (and its consultants) must make a continuing effort to review as many of these as possible. One never knows when a useful gem will turn up. A few areas to watch and study are discussed below.

### **Special Formats**

Numerous ways have been tried to present complex zoning regulations in clear and understandable form, from straight narrative, to tabular form, or to a combination of the two. Some newer ordinances in tabular form enable a given use to be found in a long alphabetical list with applicable zoning district information, where and how permitted. Yards, lot area, density, and height may also be presented in tabular form. The use list may be presented as an appendix rather than a part of the ordinance.

Of particular interest is an increasing trend toward use of illustrations to assist in interpretation of regulations. These are particularly important for more complex setback regulations and control of building form and for demonstration of important design principles. The zoning ordinances of San Francisco and New Haven, Connecticut, contain numerous illustrations. The New Haven ordinance includes a perspective drawing of typical construction for each residential district. The CZC contains no illustrations at all.

## **Height and Bulk Controls; Daylighting of Buildings**

The variations in this category of regulations are almost as numerous as zoning ordinances. New techniques are being studied constantly. The most extensive studies have been done in New York City where complex height and bulk controls have been developed for high bulk buildings, including "daylighting" regulations which control the spacing of walls in which there are windows. The San Francisco Planning Code contains height and bulk regulations based on the city's urban design studies. One bulk control in this code which merits consideration is a system of maximum permitted plan dimensions for buildings--lengths and diagonal--which encourage slim towers rather than broad slabs. Long, tall slab buildings are most damaging to view and should be prohibited in Honolulu.

Bonus provisions are also incorporated in height and bulk controls by means of which additional floor area or height may be granted in return for provision of certain desirable design features such as recreation area and ground level open space. The CZC contains a limited application of such bonus provisions at present and has had more extensive experience with them in the past. The study of bonus provisions should be reopened. The important thing is to be sure that the bonus provisions actually produce a beneficial outcome, which may require a series of experiments.

## **Controls on Steep Slopes**

Recent construction in Honolulu and elsewhere indicates that construction on steep slopes must be dealt with more forcefully. A great many problems have developed from building on hills on the mainland, particularly in the western states. Already these most valuable, scenic assets have been scarred on Oahu. An emerging trend is toward very strict control of construction on slopes. First a determination must be made of those slopes which should not be substantially reshaped for construction and those slopes which should neither be reshaped nor built upon. Following this determination, standards for permitted reshaping and slope construction should be established. Current grading ordinances do

not go far enough in limiting reshaping, and height measurements under the CZC permit tall buildings in inappropriate locations relative to slopes.

## **Mixed Use Development**

Although many older city zoning ordinances permitted commercial use at street level in apartment districts, mixed use possibilities were banned in the suburbs. Within the central cities, small commercial establishments withered in the face of competition from the supermarkets and shopping centers, and non-conforming use regulations make sure they would not reopen. Now suddenly we are aware that many urban areas, both central and suburban, are less attractive than they might be because there are no people living in them. A new concept of mixed use was introduced in the skyscraper with vertically layered uses, floors of residence above floors of offices, above floors of retail. New developments in the suburbs introduced apartments and offices into the formerly pure retail environment of the shopping center.

The conventional zoning code may be adopted to mixed use development. Once the concept is accepted, an existing district can be modified or a new district created to allow appropriate mixture of uses. The district can be designed to function either as a conventional district and apply to a section of the city with all standards established in advance, or it can be designed as a "planned" or "floating" district awaiting placement and design review in accordance with a development application. However, handled, the makeup of the district needs the planning background of the general plan, the development plans, and the urban design plan.

Great care must be exercised if industrial uses are to be a part of the "mix." Industry requires truck access, special street design, sometimes 24-hour operation, and similar features incompatible with residential use. Exclusive areas for industry are much better.

## **Time Limit Zoning and Downzoning**

Time limit or "reversion clause" zoning provides that, after a specified period of time, a

zoning change or approval of a conditional use or of a planned district would automatically revert to its original classification unless the proposed development was underway. This is done frequently in the St. Louis area, for example. While there are drawbacks to this, including uncertainty in planning and in real estate transactions and questions of compliance with enabling statutes that require public hearings before zoning changes, there are nevertheless some advantages. A principal advantage is the ability to correct mistakes. If Developer A does not move quickly enough, shift the zoning to Developer B rather than deny B, or be stuck with zoning for both A and B. It is also possible that the passage of time and a new map plan will indicate that the zoning change is in the wrong location. We place time limits on approval of planned development, clusters and the like. To do the same thing on the zoning map, selectively on rezoning, might simplify some tough downzoning decisions.

Downzoning, usually by reduction of the range of permitted uses by changing the zoning map, is an old concept. Increasing use of downzoning, and judicial support therefore, is emerging as an active planning tool, especially as the result of a comprehensive review of the zoning regulations and maps. A court fight often follows a downzoning, but if it is part of a comprehensive review, backed up by careful studies, and not piecemeal, the city usually wins.

#### **Amortization of Nonconforming uses**

Ridding the city of nonconforming uses in accordance with a schedule is not a new concept; neither is it emerging with new importance. We comment on it only because "removal" of incompatible, nonconforming uses is recommended by the Development Plans. In this instance, we agree with the ALI Model Code<sup>(17)</sup> that amortization of noncon-

forming uses should be undertaken only after a comprehensive inventory is made of all uses proposed to be amortized. This will prove to be a difficult task. The rules for the list will probably change several times while it is being made. At the same time, preparation of the inventory will prove that caution should be exercised in implementing any amortization program. The ALI Code recommended strongly that amortization of non-conforming uses only be done when it is necessary to protect a neighborhood the character of which is to be maintained over a considerable period of time. The public policy to so maintain a neighborhood should be clearly expressed in the Development Plan. Even so, condemnation, as permitted by Illinois law, might be a better approach.

#### **Solar Access**

The placement of buildings and vegetation can be regulated so as to preserve sunlight for energy conservation purposes. Recent research indicates there are a number of fairly simple techniques that can be applied to low density, low height development. Tall buildings are a problem.

#### **Inclusionary Zoning**

This is a term used to describe a requirement that developers include provision for low- and moderate-income housing in their development proposals, usually as a percentage of total units. The developer, of course, will pass on his extra costs to the purchasers (or renters) of the more expensive units. Subsidized housing is a responsibility of the public at large, not the occupants of a particular project. At least one court has held that inclusionary zoning is not authorized under a conventional zoning enabling statute. We do not recommend inclusionary zoning for Honolulu. As a bonus incentive device, however, it might be on firmer ground, and should be considered.



## **PART III--ADMINISTRATIVE PROCEDURES**

### **Existing Procedures**

Procedures outlined in the CZC in Section 21-1.13 are four in number.

The first procedure is for changes in the zoning ordinance or map including establishment of special districts and of flood hazard districts. This procedure is established by law and not susceptible to change or "streamlining."

The second procedure is for the plan review uses. These are proposed to be eliminated and to become conditional uses.

The third and fourth procedures are for permits granted by the director. Clusters, planned developments, conditional uses and significant projects in the special district require a public hearing. For the other permits given by the director, no hearing is required. In general, the procedures required by the CZC are simple and the time limits for review quite short. No changes in the procedures or time limits are necessary.

### **Departmental Reviews**

Before permits are issued, the neighborhoods are consulted (or notified) and other city departments asked for their opinion. Some time might be saved by establishing a "technical committee" composed of representatives of all of the affected departments and having weekly meetings to review proposals. Such a committee has been operating successfully in the approval of subdivisions.

### **Permit Moratoriums**

In the past, some harm has been done unnecessarily by proposed building plans being rushed through the permit process in order to beat a pending change in the regulations. A moratorium system should be incorporated in the CZC procedures to stop this. For example:

1. No permit should be granted or application accepted for any building or project in any area affected by a zoning

map change between the time the petition or proposal for change was filed and the time that the petition or proposal was withdrawn or approved or disapproved by the City Council, and

2. No permit should be granted or application accepted for any building or project that would violate the provisions of a proposed amendment to the CZC between the time the director of DLU submitted the proposed amendment to the Planning Commission and the time that the proposed ordinance was approved or rejected by the City Council.

### **Time Limits for Reapplications**

The CZC should provide that if a proposed zoning change, conditional use, planned development, or similar application is disapproved, one year must elapse before there is a resubmittal of the same, or substantially the same, proposal.

### **Postponed Hearings**

No request for postponement of a public hearing should be allowed after notice has been published. Petitions and requests for permits may be withdrawn. If they are withdrawn, one year should elapse before they are resubmitted in the same or substantially the same form.

### **Large Institutions and Large Projects**

Large institutions or other complexes of buildings that require conditional use permits should be allowed to obtain approval of a "blanket" permit for a master plan and then to receive an administrative permit for individual projects that are in accordance with the master plan. This same procedure should be followed in the planned districts.

### **Variations for Illegal Uses**

The CZC should make it very clear that it is not possible for the Board of Appeals to grant a variance to "legalize" an illegal use. This pernicious practice should not be allowed.



## PART IV--AREAS NEEDING RESEARCH

The analysis of the CZC indicated a number of places where there was a need for further research. In general, there are a considerable number of characteristics of land use practices where there is a lack of information, so many as to warrant consideration of a research section or a land use information section in the DLU. These would include:

### 1. Study of Tall Buildings

An analysis of tall buildings, i.e., those over three stories in height, should be undertaken to show:

- a. Where they are
- b. The amount and types of population accommodated
- c. The population density of each
- d. The spacing in relation to views
- e. The economics of the high rise in Honolulu

### 2. Nonconforming Uses and Buildings

An inventory should be made of all nonconforming uses and buildings including those nonconforming in regard to the height, yard or FAR requirements. Needed here is solid data on how many of these there are, where they are, in which zoning districts they are located, a classification of nonconforming uses, and an appraisal of the adverse effects, if any, of the various categories of land use.

### 3. Parking Requirements

Actual counts of the number of automobiles parking at peak periods should be made for various types and combinations of land uses. This study could be made in coordination with the Department of Transportation Services. It should be directed particularly to the parking requirements in the CZC where compliance is unusually expensive, where compliance has had poor social impacts, or where the requirements have occasioned difficulties such as

spillover parking in residential areas resulting from inadequacies in on-site parking. This study would be prepared by making actual counts of parked cars at a representative group of facilities and comparing the results with the CZC requirements. Following the study, the requirements should be modified. At the same time, a study should be made of the proportion of parked cars that are compacts to see if modifications should be made of this part of the regulations. The 25 percent limitation might be raised.

### 4. Transitional Uses

An analysis should be prepared of the number of times the transitional use provisions have been used and of the impact of these. In other words, how successful has this provision been in actual practice?

### 5. Conditional Use Provision

A similar analysis should be made of the times contracts have been entered into prior to granting permits. Contents of these contracts should be examined and the extent of compliance on the ground checked.

### 6. Illustrative Charts and Sketches

Using the San Francisco, New Haven and El Paso ordinances as guides, illustrative sketches should be prepared interpreting the



*Spacing of these high-rise structures is accidental.*

CZC requirements. Some of these are available at DLU but have, to date, been primarily for internal use. These should be placed in appropriate locations in the printed version of the CZC. The sketches and charts would be for the purpose of explaining the application of the code. They would not be a legal part of the CZC.

### **7. Analysis of Review Time**

An analysis should be prepared of the past six months to one year to indicate the actual amounts of time required to process:

- Clusters
- Planned developments
- Significant projects in special districts
- Conditional uses
- Special permits

From this analysis, recommendations would be made for changes in procedures as required to make the review process more efficient.

### **8. Social Impact of the Size of Dwelling Units**

Not much is known of the actual social impact of dwelling units by size, i.e., the effect on crime, family structure, divorce, etc. The relation of these to small units would be significant to the control of unit size and density. Sample interview surveys would be the method used.

### **9. Social Impact of Tall Buildings**

This would be an analysis of the family characteristics and of social impacts, crime, etc--of occupancy of high-rise buildings.

### **10. Performance Standards**

Necessary equipment should be purchased and the performance standards monitored, particularly in commercial and industrial areas. The purpose would be to critically examine the validity of the standards and to train the staff in the use of the equipment.

### **11. Use Compatibility**

Utilizing existing examples, a study should be made of the features of uses that make them incompatible with other uses such as noise, traffic, emissions of odors or smoke, hours of operation, size, appearance, etc., and the degrees to which these make a given use incompatible with other uses. A "degree of incompatibility" index would result showing which other uses are affected and to what extent. The study should include beneficial as well as harmful impacts. This would be useful in approving "mixed use" developments.



*Honolulu Central Business District.*

**PART V--COMPARATIVE MERIT  
OF TECHNIQUES TO CONTROL  
APARTMENT DENSITIES**

**The Problem**

The Comprehensive Zoning Code provides for four apartment districts. Generally they could be described as:

1. A "low" density district with a one-story height limit and a floor area ratio of 0.3 to 0.9 (the A-1 District). This permits densities of up to 70 units per net acre, depending upon the size of the unit.
2. A "medium" density district with a 40 foot height limit and a floor area ratio of 0.4 to 1.9 (the A-2 District) which permits densities twice that of A-1.
3. A "high-rise medium density" district in which 350-foot buildings are allowed but the density requirements (FAR) are the same as the A-2 District.
4. A "high-rise high density" district (A-4) in which 350 foot high buildings and densities of 200 units or so per acre would be allowed, depending, again, on the size of the unit.

In all of the apartment districts and in the Planned Development-Housing (PD-H) district, the same technique is used to control density--the floor area ratio. The difficulty with a sole reliance upon this technique to control density is that it is not accompanied by a control of apartment dwelling unit sizes and, consequently, really does not control population density. The total floor space is controlled but the number of dwelling units and their size and, thus, the resulting number of households and people is not controlled.

Sole reliance on the floor area ratio to control density may be a serious weakness of the CZC.

A major and most unusual problem with the consideration of density in Honolulu is the tendency to equate high rise buildings with high density in the public mind. This is not so.

There can be high densities with buildings not over two or three stories. There can be very low densities with very high buildings. The discussion of density should not be mixed up with that of building height. Each is an important subject of its own.

**Purposes of Density Controls**

There are four reasons to control density:

**1. To Enable Public Services Planning**

Long-range planning and construction of needed public facilities and services is expedited by, and the costs of such facilities and services reduced by, a reasonably reliable forecast of the future density of population in a given area, either the total number of households (families) or the total number of persons. Thus when the CZC divides the island into zoning districts, if each district established a maximum density, then we know the maximum load to be placed on the sewer system, or the water system in that particular area. (That is, we know this so long as we don't make too many changes in the zoning regulations or maps as we go along.)

Such population levels are established in the general plan or in the development plans. However, it is the CZC that puts them into effect, lot by lot, project by project.

Obviously, it is foolish and wasteful to plan, or zone, for population levels far greater than may be reasonably expected. Thus, the general and development plans and the CZC should have a relationship to reality. It is also unfair to allow a few property owners to over-develop their property while others cannot develop at all. The available development quota should be spread around.

**2. To Provide Healthful Housing**

Density is controlled to assure the provision of healthful housing. Unfortunately the exact place where housing begins to be "unhealthful"

is difficult to determine. The only analysis available is "Standards for Healthful Housing" published by the Committee on the Hygiene of Housing of the American Public Health Association in 1948. This study indicated the need for a dwelling unit to have a minimum floor area of 750 square feet and also recommended desirable and maximum densities for residential buildings of various heights. The report has been criticized as being based on inadequate methodologies. There have been other studies also that indicated that the problems resulting from high densities had been greatly exaggerated. The Housing and Urban Development Department has standards, and some minimum standards have been established in the Housing Code.

Obviously, standards for healthful housing could not be very exact. Furthermore, these could be expected to change with changes in climate and with changes in population characteristics. We have learned a few principles from experience such as that learned from the Pruitt-Igoe public housing project in St. Louis--i.e., that low-income families with many small children should not be living in high-rise, high-density developments.

The density limit resulting from the accommodation of the estimated future population would probably be a more severe limitation than that imposed by healthful housing standards.

Light, air, and open spaces are attributes of healthful housing also and are of sufficient importance to be a separate objective, discussed below.

### **3. To Insure Adequate Light, Air and Open Space**

Natural daylight, adequate ventilation and open space, some for recreation, are important environmental attributes resulting in part from control of density. Views of mountains or ocean fall in the same category.

### **4. To Limit Building Bulk**

Control of the bulk of buildings is primarily an aesthetic control, yet also may be important in providing light, air and open space.

## **Techniques of Density Control**

There are five available techniques of density control. Each has its advantages and disadvantages in relation to the four purposes for such controls cited above. Usually several of these (but seldom all of them) are used in the same ordinance.

### **1. Dwelling Units/Land Area Ratio**

Regulation of the maximum dwelling unit-land area ratio is the most common technique of density control. This is either expressed as the maximum number of dwelling units on an acre of land or as the minimum square feet of lot area per dwelling unit. These regulations require two firm understandings:

- A. **Land area involved** should be the lot area, the net density, not the gross density. Net densities in a zoning regulation may be translated into gross densities for public services planning purposes. However, gross densities may not be so easily translated into net densities.
- B. **Dwelling unit** should be carefully defined so that there is no looseness in interpretation. The CZC definition is:

*"A 'dwelling unit' is a room or rooms connected together, constituting an independent housekeeping unit for a family, and containing a single kitchen."*

This is similar to a typical definition in another ordinance (Clayton, Missouri):

*"One or more rooms in a dwelling occupied or intended to be occupied as separate living quarters by a single family as defined herein, with facilities which are used or intended to be used for living, sleeping, cooking and eating."*

Or to the New York City resolution which is:

*"A 'dwelling unit' consists of one or more rooms in a residential building, residential portion of a building, or non-profit hos-*

pital staff dwelling, which are arranged, designed, used or intended for use by one or more persons living together and maintaining a common household, and which include lawful cooking space and lawful sanitary facilities reserved for the occupants thereof."

Or to the San Francisco code, which is:

"A room or suite of two or more rooms that is designed for, or is occupied by, one family doing its own cooking therein and having only one kitchen. A housekeeping room as defined in the Housing Code shall be a dwelling unit for purposes of this Code."

The CZC definition is satisfactory. That of New York is better, however.

Definition of dwelling unit depends upon the definition of "family." In the CZC this is complex:

"The term 'family' shall mean one or more persons, all related by blood, adoption, or marriage, occupying a dwelling unit or lodging unit; provided that domestic servants employed only on the premises, may be housed on the premises and included as part of the family; provided further, that in lieu of the above family and domestic servants no more than five unrelated persons may occupy a dwelling or lodging unit. With reference to domestic servant it is the intent of the Council that when one member of the family of domestic servants is employed full time as domestic servant, such domestic servant's spouse need not be employed full time as a domestic servant for the same employers."

For comparison:

"A group of one (1) or more persons occupying a premises and living as a single housekeeping unit as distinguished from a group occupying a boardinghouse, lodging house or hotel, as defined herein,

provided that a group of three (3) or more persons shall not be construed to be a 'family' unless all of the members thereof, exclusive of domestic servants, are related by blood or marriage, provided, however, that in living units in multiple dwellings having (3) or more bedrooms, a group of four (4) or more persons shall not be construed to be a family unless all of the members thereof exclusive of domestic servants are related by blood or marriage." (Clayton, Missouri)

"A single and separate living unit, consisting of either:

(a) One person, or two or more persons related by blood, marriage or adoption or by legal guardianship pursuant to court order; plus necessary domestic servants and not more than three roomers or boarders; or

(b) A group of not more than five persons unrelated by blood, marriage or adoption or such legal guardianship.

A group occupying group housing, or a hotel, motel or any other building or portion thereof other than a dwelling, shall not be deemed to be a family." (San Francisco)

"A 'family' is either:

(a) A single person occupying a dwelling and maintaining a household, including not more than one 'boarder, roomer or lodger' as defined in Section D26-2.2 of the Multiple Dwelling Code, or

(b) Two or more persons related by blood or marriage, occupying a dwelling, living together and maintaining a common household, including not more than one such boarder, roomer, or lodger, or

(c) Not more than four unrelated persons occupying a dwelling, living together and maintaining a common household.

A common household shall be deemed to exist if all members thereof have access to all parts of the dwelling." (New York)

The San Francisco definition is preferable to that in the CZC.

The advantage of the dwelling unit per land area control is that it is simple and effective and relates to population density. It encourages larger dwelling units. The disadvantages are difficulty of administration and enforcement problems. It is fairly easy to surreptitiously convert a large unit into two or more separate units or to have several families occupy a single unit, although these problems are common to all density control systems.

## 2. Bedroom/Land Area Ratio

In a manner similar to that used in the above described dwelling unit/land area ratio, the maximum number of bedrooms per acre could be regulated. This would be a more direct control of population density as obviously a four bedroom dwelling unit contains more people than a one bedroom dwelling unit. The difficulty here is that of definition: i.e., what is a bedroom? and the ease with which "dens," "family rooms," etc. may become bedrooms in actual practice. Most apartments provide for small families and small units predominate.

Dallas, Texas regulates density by a bedroom/land area ratio and its ordinance provides a definition of "bedroom," as follows:

*"A room in an apartment other than a kitchen, dining room, living room, bathroom or closet. This item shall include extra kitchens, dining rooms, living rooms, and all dens, gamerooms, sunrooms or similar extra rooms."*

The density standards recommended for the Primary Urban Center in the proposed development plan ordinance may be translated into land area per bedroom ratios. Net density at two thirds of gross density is assumed; also assumed is an average of two bedrooms per apartment unit. With these assumptions:

1. The low density apartment area with a net density of 30 units per acre is the equivalent of 726 square feet of lot area per bedroom;

2. The medium density apartment area with a net density of 90 units per acre is the equivalent of 242 square feet of lot area per bedroom; and
3. The high density apartment area with a net density of 140 units per acre is the equivalent of 156 square feet of lot area per bedroom.

## 3. Room/Land Area Ratio

In the New York resolution, the number of rooms per unit of land area is the method of density control. Here again, this requires an even more involved definition of what a "room" or a "zoning room" might be. Rooms then need to have minimum areas. (See Exhibit D for excerpts from New York resolution.) This is a more indirect control of population density than the bedroom/land area ratio. There is a further difficulty, similar to that experienced in the past, in the treatment of the lanais, so common in Honolulu, and the ability of the ingenious developer to change matters by judicious placement of partitions.

## 4. Floor Area Ratio

The floor area ratio (FAR) is the means used to control density in the apartment districts in the CZC. The FAR is the square feet of floor area divided by the lot area. A building with 20,000 square feet of floor area located on a lot of 10,000 square feet has a floor area ratio (FAR) of 2.0. The FAR could be replaced by a "building cubage ratio" (BCR) regulating the cubic feet of building to the square feet of lot area. The result would not be too different, and particularly if a minimum ceiling height is established as is done in the building and housing codes.

Here again, it is the definition that is the key. In the CZC "floor area" is:

*"'Floor area' is the area of the several floors of a building excluding unroofed areas measured from the exterior faces of the exterior walls or from the center line of party walls separating portions of a building. The floor area of a building, or portion thereof, not provided with surrounding exterior walls should be the us-*

# EXHIBIT D

## Excerpt from New York City zoning resolution - Lot area per dwelling unit and per room.

### RESIDENCE DISTRICTS

### Bulk Regulations

#### 23-20 DENSITY REGULATIONS — REQUIRED LOT AREA PER DWELLING UNIT, LOT AREA PER ROOM, OR FLOOR AREA PER ROOM

##### Definitions

#### 23-21

##### Definitions (repeated from Section 12-10)

##### Dwelling unit

A "dwelling unit" consists of one or more rooms in a residential building, residential portion of a building, or non-profit hospital staff dwelling, which are arranged, designed, used or intended for use by one or more persons living together and maintaining a common household, and which include lawful cooking space and lawful sanitary facilities reserved for the occupants thereof.

In counting the number of rooms in a dwelling unit for the purpose of determining the lot area requirements, no rooming unit shall be counted as part of the dwelling unit.

##### Floor Area per Room

"Floor Area per Room" is the amount of the residential floor area required for each room in determining the number of rooms allowed in a residential building or the residential portion of a building.

The maximum residential floor area allowed by the applicable district regulations on such zoning lot shall be divided by the required floor area per room to determine the number of rooms, except for community facility buildings or mixed buildings.

For community buildings or mixed buildings, the "maximum residential floor area" is either:

(a) the maximum floor area permitted for residential uses or

(b) the floor area permitted for the entire building, minus the floor area used for non-residential uses, whichever of (a) or (b) is less.

Such floor area on the zoning lot shall be divided by the required floor area per room to determine the number of rooms.

##### Lot area per dwelling unit

"Lot area per dwelling unit" is that portion of the

lot area required for each dwelling unit located on a zoning lot.

##### Lot area per room

"Lot area per room" is that portion of the lot area required for each room located on a zoning lot.

##### Room

The number of "rooms" in a dwelling unit, for the purpose of complying with the lot area requirements, is computed in the following manner:

(a) The number of "living rooms," as defined in Section 4 of the Multiple Dwelling Law, is determined, except that:

(1) Kitchens or other cooking spaces (without limit as to size) shall not be counted as "living rooms."

(2) Dining alcoves, dinettes, or other dining spaces (without limit as to size) when not separated by walls or doors from other "living rooms" or cooking spaces, shall not be counted as "living rooms."

(3) Dining rooms in dwelling units containing three or more bedrooms, and one or more other living rooms as herein computed shall not be counted as "living rooms," except that such dining rooms may be counted in determining the degree of non-compliance under the provisions of Section 54-31 (General provisions).

(b) The number of rooms to be counted in computing lot area requirements is then determined from the following table:

Number of "living rooms," as computed in (a) above	Rooms to be counted
1	2½
2	3½
3	4½
4	5½
5	6½
6	7½
Additional	1 each

The number of rooms in a rooming unit shall be counted as: 2.

able area under the horizontal projection of the roof or floor above, including but not limited to balconies, lanais and stairways. Excluded from the floor area are parking facilities including their driveways and accessways, basements, and attic areas with head room less than seven feet."

In the Clayton, Missouri ordinance, there is a shorter definition:

*"The gross horizontal areas of the several floors including basements, cellars, and penthouses (but excluding such areas within a building which are used for parking) measured from the exterior faces of the exterior walls of a building."*

The San Francisco ordinance is much more complex (see Exhibit E), as is the New York resolution (see Exhibit F).

In some instances a floor area regulation inhibits provision of common recreation rooms, tenants' car wash facilities or tenants' hobby and indoor recreation facilities. The FAR tends to bring the most direct and intense use of the permitted floor space. The fundamental difficulties are twofold: (a) reliance on the FAR alone does not provide a control of population density, and (b) reliance on the FAR alone encourages small rooms, small dwelling units, and minimum amenities. The temptation to crowd as many dwelling units as possible into the maximum allowable floor space during periods of high costs defeats a public purpose of density control.

## 5. Yard, Height, Lot Occupancy

Many other regulations in the CZC result in a control, although an indirect one, of density. Yard regulations provide light, ventilation and open space and keep buildings apart. Lot occupancy maximums provide open space. When coupled with height regulations, these provide an additional floor area control and particularly so in ordinances that regulate the number of stories as well as the feet of height.

Provision of off-street parking is an indirect control over density also. Parking require-

ments in square feet approximate two-thirds of the square foot floor area in the apartments. This is an indirect relationship, however, and the exact amount that the density is affected varies widely and is difficult to estimate.

Some ordinances, and the Honolulu ordinance at one time, required provision of recreation areas and landscaped open space. Provisions such as these have a similar, but difficult to calculate, impact on the density of development.

## Comparative Merits of the Techniques

No one of the five techniques can best accomplish all four purposes. (See Exhibit G.) To enable planning of public services, the bedroom/land area ratio or the dwelling unit/land area ratio would be the best. The poorest technique is the floor area ratio. To provide healthful housing and particularly light, air, ventilation, etc., the density controls exercised by the yard, height and lot occupancy regulations are the most effective density control and particularly so when the maximum height regulations are expressed in stories rather than just in feet. These regulations are the best control to insure adequate light, air and open space also. The floor area ratio is the best control of building bulk.

## Analysis of Examples

In order to analyze the existing density controls, 24 existing apartment projects recently built or proposed were studied.

## Criteria for Appraisals

Before individual projects may be analyzed, there needs to be a means whereby they may be appraised.

On Oahu, the type of housing provided is:

	<u>Percent</u>
Single-Family	58
Duplex and Townhouse	9
Apartment or condominium	<u>33</u>
	100

## EXHIBIT E

### San Francisco planning code definition of floor area.

**Sec. 102.8. Floor Area, Gross.** The sum of the gross areas of the several floors of a building or buildings, measured from the exterior faces of exterior walls or from the center lines of walls separating two buildings. Where columns are outside and separated from an exterior wall (curtain wall) which encloses the building space or are otherwise so arranged that the curtain wall is clearly separate from the structural members, the exterior face of the curtain wall shall be the line of measurement, and the area of the columns themselves at each floor shall also be counted.

(a) Gross floor area shall include, although not be limited to, the following:

1. Basement and cellar space, including tenants' storage areas and all other space except that used only for storage or services necessary to the operation or maintenance of the building itself;

2. Elevator shafts, stairwells, exit enclosures and smoke-proof enclosures, at each floor;

3. Floor space in penthouses except as specifically excluded in this definition;

4. Attic space (whether or not a floor has been laid) capable of being made into habitable space;

5. Floor space in balconies or mezzanines in the interior of the building;

6. Floor space in open or roofed porches, arcades or exterior balconies, if such porch, arcade or balcony is located above the ground floor or first floor of occupancy above basement or garage and is used as the primary access to the interior space it serves;

7. Floor space in accessory buildings, except for floor space used for accessory off-street parking or loading spaces as described in Section 204.5 of this Code, and parking spaces to which access may be credited as a development bonus under Section 126(b)3 of this Code if located on the same lot as the subject building, and driveways and maneuvering areas incidental thereto; and

8. Any other floor space not specifically excluded in this definition.

(b) Gross floor area shall not include the following:

1. Basement and cellar space used only for storage or services necessary to the operation or maintenance of the building itself;

2. Attic space not capable of being made into habitable space;

3. Elevator or stair penthouses, accessory water tanks, or cooling towers; and other mechanical equipment, appurtenances and areas, necessary to the operation or maintenance of the building itself, if located at the top of the building or separated therefrom only by other space not included in the gross floor area;

4. Mechanical equipment, appurtenances and areas, necessary to the operation or maintenance of the building itself, if located at an intermediate story of the building and forming a complete floor level;

5. Space open to the general public in observation decks, restaurants and similar features when located at or above the 20th story of a building in a C-3 district;

6. Outside stairs to the first floor of occupancy at the face of the building which the stairs serve, or fire escapes;

7. Floor space used for accessory off-street parking and loading spaces as described in Section 204.5 of this Code, and parking spaces to which access may be credited as a development bonus under Section 126(b)3 of this Code if located on the same lot as the subject building, and driveways and maneuvering areas incidental thereto;

8. Arcades, plazas, walkways, porches, breezeways, porticos and similar features (whether roofed or not), at or near street level, accessible to the general public and not substantially enclosed by exterior walls; and accessways to public transit lines, if open for use by the general public; all exclusive of areas devoted to sales, service, display, and other activities other than movement of persons; and

9. Balconies, porches, roof decks, terraces, courts and similar features, except those used for primary access as described in Paragraph (a) (6) above, provided that:

(A) If more than 70 per cent of the perimeter of such an area is enclosed, either by building walls (exclusive of a railing or parapet not more than three feet eight inches high) or by such walls and interior lot lines, and the clear space is less than 15 feet in either dimension, the area shall not be excluded from gross floor area unless it is fully open to the sky (except for roof eaves, cornices or belt courses which project not more than two feet from the face of the building wall).

(B) If more than 70 per cent of the perimeter of such an area is enclosed, either by building walls (exclusive of a railing or parapet not more than three feet eight inches high), or by such walls and interior lot lines, and the clear space is 15 feet or more in both dimensions, (1) the area shall be excluded from gross floor area if it is fully open to the sky (except for roof eaves, cornices or belt courses which project no more than two feet from the face of the building wall), and (2) the area may have roofed areas along its perimeter which are also excluded from gross floor area if the minimum clear open space between any such roof and the opposite wall or roof (whichever is closer) is maintained at 15 feet (with the above exceptions) and the roofed area does not exceed 10 feet in depth; (3) in addition, when the clear open area exceeds 625 square feet, a canopy, gazebo, or similar roofed structure without walls may cover up to 10 per cent of such open space without being counted as gross floor area.

(C) If, however, 70 per cent or less of the perimeter of such an area is enclosed by building walls (exclusive of a railing or parapet not more than three feet eight inches high) or by such walls and interior lot lines, and the open side or sides face on a yard, street or court whose dimensions satisfy the requirements of this Code and all other applicable codes for instances in which required windows face upon such yard, street or court, the area may be roofed to the extent permitted by such codes in instances in which required windows are involved.

*(Amended Ord. 443-78, Approved 10/6/78)*

## EXHIBIT F

### New York zoning resolution definition of floor area.

#### Floor area

"Floor area" is the sum of the gross areas of the several floors of a *building* or *buildings*, measured from the exterior faces of exterior walls or from the center lines of walls separating two *buildings*. In particular, *floor area* includes:

- (a) *Basement* space, except as specifically excluded in this definition
- (b) Elevator shafts or stairwells at each floor
- (c) Floor space in penthouses
- (d) Attic space (whether or not a floor has been laid) providing structural headroom of eight feet or more
- (e) Floor space in *galleries*, *covered plazas* and interior balconies, mezzanines, or bridges
- (f) Floor space in open or roofed terraces, exterior balconies, bridges, breezeways or porches, if more than 50 percent of the perimeter of such terrace, balcony, breezeway, or porch is enclosed, and provided that a parapet not higher than three feet, eight inches, or a railing not less than 50 percent open and not higher than four feet, six inches, shall not constitute an enclosure
- (g) Any other floor space used for dwelling purposes, no matter where located within a *building*, when not specifically excluded
- (h) Floor space in *accessory buildings*, except for floor space used for *accessory off-street parking*
- (i) Floor space used for permitted or required *accessory off-street parking* spaces located more than 23 feet above *curb level*, and floor space in excess of 250 square feet per parking space used for required *accessory parking* within a *residential building* not more than 32 feet in height in R4 and R5 districts.
- (j) Floor space used for *accessory off-street loading berths* in excess of 200 percent of the amount required by the applicable district regulations -
- (k) Any other floor space not specifically excluded.

However, the *floor area* of a *building* shall not include:

- (a) *Cellar* space, except that *cellar* space used for retailing shall be included for the purpose of calculating requirements for *accessory off-street parking* spaces and *accessory off-street loading berths*
- (b) Elevator or stair bulkheads, *accessory* water tanks, or cooling towers
- (c) Uncovered steps
- (d) Attic space (whether or not a floor actually has been laid) providing structural headroom of less than eight feet
- (e) Floor space in open or roofed terraces, exterior balconies, bridges, breezeways or porches, provided that not more than 50 percent of the perimeter of such terrace, balcony, breezeway, or porch is enclosed, and provided that a parapet not higher than three feet,

eight inches, or a railing not less than 50 percent open and not higher than four feet, six inches, shall not constitute an enclosure

(f) Floor space used for permitted or required *accessory off-street parking* spaces located not more than 23 feet above *curb level*, except where such floor space used for *accessory off-street parking* spaces is contained within a *public parking garage*.

However, in a *residential building* not more than 32 feet in height in an R4 or R5 district, floor space used for *accessory off-street parking* occupying in excess of 250 square feet per required parking space shall not be excluded from the definition of floor area.

(g) Floor space used for *accessory off-street loading berths*, up to 200 percent of the amount required by the applicable district regulation

(h) Floor space used for mechanical equipment

- (i) Except in R4 and R5 districts, the lowest *story* (whether a *basement* or otherwise) of a *residential building*, provided that:

- (1) Such *building* contains not more than two *stories* above such *story*, and
- (2) Such *story* and the *story* immediately above it are portions of the same *dwelling unit*, and
- (3) Such *story* is used as a furnace room, utility room, auxiliary recreation room, or for other purposes for which *basements* are customarily used, and
- (4) Such *story* has at least one-half its height below the level of the ground along at least one side of such *building*, or such *story* contains a garage.

- (j) The lowest *story* (whether a *basement* or otherwise) of one, two, or three-family residences not more than 32 feet in height in R4 and R5 districts which received a certificate of occupancy prior to December 1, 1972.

#### Floor Area per Room

"Floor Area per Room" is the amount of the *residential floor area* required for each room in determining the number of rooms allowed in a *residential building* or the *residential* portion of a *building*.

The maximum *residential floor area* allowed by the applicable district regulations on such zoning lot shall be divided by the required *floor area per room* to determine the number of rooms, except for *community facility buildings* or *mixed buildings*.

For the purposes of room count for *community facility buildings* or *mixed buildings*, the "maximum residential floor area" is either:

- (a) the maximum *floor area* permitted for *residential uses*, or
- (b) the *floor area* permitted for the entire *building*, minus the *floor area* used for non-*residential uses*, whichever of (a) or (b) is less.

Such resulting *residential floor area* on the zoning lot shall be divided by the required *floor area per room* to determine the number of rooms.

**COMPARATIVE MERITS OF  
TECHNIQUES TO CONTROL APARTMENT DENSITIES**

Technique	Purpose			
	To Enable Public Services Planning	To Provide Healthful Housing	To Insure Adequate Light, Air and Open Space	To Limit Building Bulk
1. Dwelling Unit/ Land Area Ratio	2	2	2	4
2. Bedroom/ Land Area Ratio	1	3	3	4
3. Room/Land Area Ratio	3	4	4	3
4. Floor Area Ratio (FAR)	5	5	5	1
5. Yard-Height* Lot Occupancy Regulations	4	1	1	2

Note--Techniques are ranked in order, best (1) to worst (5).

\* When expressed in stories, not just feet.

Thus, the apartment districts provide housing for about one-third of the households.

The Honolulu housing market is very tight; the housing is very expensive. New housing is usually sold before it is built. Pressures are severe to reduce size of dwelling units; build the maximum allowed; to increase density. To obtain housing and to mount a defense against inflation, homes or condominiums are purchased with the price more a determining factor than the suitability of the unit to the family size or characteristics. Occupancy of units too small for the family needs is common. Such families will be building up an equity in a unit while awaiting the time that it may be "traded in" on a larger and more desirable one. Many participate in the real estate market. Costs of shelter become an increasingly larger segment of the family budget.

"Planning for Oahu" in 1974 indicated that land acquisition costs amounted to:

15.6 percent of low-rise housing  
13.8 percent of mid-rise housing, and  
13.0 percent of high-rise housing.

To the degree that they prohibit higher densities, land use regulations affect the cost of housing except that the land price immediately responds to the permission for higher densities, and allowing higher densities is not likely to reduce costs of housing. The greater impact on costs comes from reducing the size of the dwelling units. Under current market conditions, it is likely that most developers would provide small units. Study of recent apartment projects reveals few units with three or more bedrooms, for example.

**Size of Dwelling Units**

In its "Residential Standards Study" for the Kakaako area, the Hawaii Community Development Authority made a "calculation of living-unit size ranges." (See Appendix II, page 155.) The lower range was from the Housing and Urban Development Departments' Minimum Property Standards. The higher range was developed by the Authority. The results were:

	HUD Minimum Standards	Authority Standards
Studio Units	414	600
One Bedroom Units	550	650
Two Bedroom Units	650	800
Three Bedroom Units	900	1,100
Four Bedroom Units	1,050	1,300

(Numbers are square feet of net floor space.)

After analyzing the population characteristics of groups who might be interested in occupying new units in Kakaako, the authority proposed the following "mix" for units:

Studio	13 percent
One Bedroom	32 percent
Two Bedrooms	30 percent
Three Bedrooms	16 percent
Four or More Bedrooms	9 percent

This distribution is probably reasonable for apartment (and condominium) construction

EXHIBIT H

EXAMPLES OF APARTMENT DENSITY RELATIONSHIPS

Honolulu, Hawaii

<u>Project</u>	<u>Site Area<sup>(A)</sup></u>	<u>Gross Floor Area<sup>(B)</sup></u>	<u>FAR<sup>(E)</sup></u>	<u>Dwelling Units</u>	<u>Gross Floor Area Per Unit</u>
A	77,197 (F)	252,372	3.3	149	1,694
B	322,581	69,321	0.2	44	1,576
C	2,374,020	648,037	0.3	545	1,189
D	30,914	129,405	4.2	169	766
E	26,400	76,945	2.9	99	777
F	81,696	194,400	2.4	160	1,215
G	21,165	75,658	3.6	48	1,576
H	8,156	12,104	1.5	15	807
I	16,515	26,733	1.6	19	1,407
J	30,370	38,441	1.3	72	534
K	22,344	74,651	3.3	80	933
L	32,831	113,556	3.5	114	996
M	50,000	171,585	3.4	280	613
N	84,656	126,520	1.5	114	1,110
O	31,627	82,715	2.6	66	1,253
P	50,144	97,435	1.9	296	329
Q	109,088	128,032	1.2	134	955
R	108,805	76,619	0.7	78	982
S	29,835	34,006	1.1	63	540
T	22,919	30,668	1.3	44	697
U	53,654	70,000	1.3	78	897
V	9,120	19,270	2.1	28	688
W	38,249	47,061	1.2	70	672
X	177,513	276,826	1.6	310	893

Units Per Acre

COMPARATIVE THEORETICAL RELATIONSHIPS

10	43,560	8,500	0.2	10	850
25	43,560	21,250	0.5	25	850
30	43,560	25,500	0.6	30	850
40	43,560	34,000	0.8	40	850
90	43,560	76,500	1.8	90	850
125	43,560	106,250	2.4	125	850
140	43,560	119,000	2.7	140	850
250	43,560	212,500	4.8	250	850

(A) In square feet.

(B) In square feet of gross floor area including corridors, etc.

(C) Average of 1.9 bedrooms per unit--see text.

(D) Sum of 2.5 x number of units plus number of bedrooms.

(E) Maximum FAR in A-1 District is 0.9

Maximum FAR in A-2 District is 1.9

Maximum FAR in A-3 District is 1.9

Maximum FAR in A-4 District is 2.8

Projects with higher FAR's were built before Bill 84 amended the CZC.

(F) Site area adjusted for a church and school on the property.

<u>Lot Area Per Unit</u>	<u>Number of Bedrooms</u>	<u>Average No. of Bedrooms Per Dwelling Unit</u>	<u>Lot Area Per Bedroom</u>	<u>Number of Rooms(D)</u>	<u>Lot Area Per Room</u>
518	251	1.68	308	624	124
7,559	110	2.50	3,023	220	1,512
4,356	1,469	2.70	1,616	2,833	838
183	193	1.14	160	309	100
267	128	1.29	206	264	100
511	320	2.00	255	465	176
411	96	2.00	220	211	100
544	18	1.20	453	46	177
869	38	2.00	435	94	176
422	72	1.00	422	173	176
279	160	2.00	140	223	100
288	190	1.67	173	228	144
178	320	1.14	156	1,020	49
743	314	2.75	270	599	141
479	170	2.58	186	335	94
169	296	1.00	169	1,036	48
814	375	2.80	291	710	154
1,395	234	3.00	465	429	254
474	63	1.00	474	221	135
521	65	1.48	353	175	131
688	234	3.00	229	424	127
326	28	1.00	326	98	93
546	70	1.00	546	245	156
573	880	2.84	202	1,655	107
4,360	19(C)	1.89	2,290	44(D)	990
1,750	48	1.89	907	111	392
1,450	57	1.89	764	132	330
1,090	76	1.89	573	176	248
485	171	1.89	255	396	110
350	238	1.89	183	551	80
310	266	1.89	164	616	70
175	576	1.89	92	1,102	40

throughout Oahu. Higher density projects usually do not provide so high a portion of larger units which are more common in lower density projects. However, the "mix" as proposed by the Authority for Kakaako would be socially desirable and as such can be used as a basis for project evaluation.

Utilizing the HUD minimum square foot floor area per unit shown above, a 100 unit project with the desirable mix of dwelling unit sizes would have a net floor area of 66,332 square feet and a gross floor area (adding 30 percent for corridors, lobbies, managers' offices, game rooms, etc., a percentage derived from a sample of 10 projects) of 86,232 square feet. The term "gross floor area" is as defined in the CZC. The average gross floor area per dwelling unit would be 862 square feet or, say, about 850 square feet per unit. The average number of bedrooms per unit would be 1.89. The average net floor area per unit would be 663 square feet, lower than the 750 square feet of the APHA.

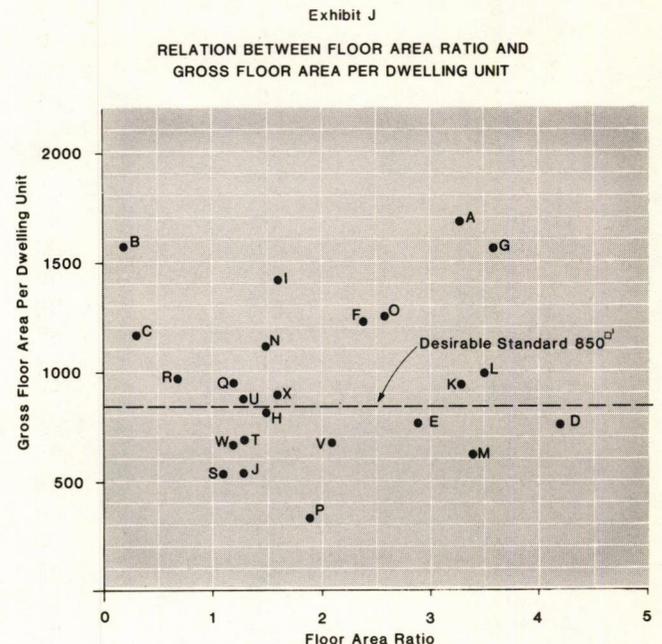
The actual maximum density to be allowed, as previously indicated, would be established by the General Plan and the Development Plans. With an average of 850 square feet of gross floor area per dwelling unit, the Floor Area Ratio is converted to dwelling units per acre by multiplying the FAR by 50. For example:

- A FAR of 0.2 equals a net density of 10 dwelling units per acre
- A FAR of 0.5 equals a net density of 25 dwelling units per acre
- A FAR of 1.0 equals a net density of 50 dwelling units per acre, etc.

### Analysis of Examples

Twenty-four examples of recent projects built on Oahu were analyzed for their floor area ratios, average square feet of floor space per dwelling unit, square feet of lot area per unit, per bedroom and per apartment room and for the average number of bedrooms per dwelling unit in the project. (See Exhibit H.) There are a wide variety of projects, from 15 to 545 dwelling units, floor area ratios of between 0.2 and 4.2, and with site areas of 8,000 to over two million square feet.

**Floor Area per dwelling Unit** varied from a maximum (gross) of 1,694 square feet to a minimum of 329. Of the 24 examples, 14 provided more than the "desirable" 850 square feet. There was no relationship between the FAR and the average floor area per dwelling unit. By increasing or decreasing the FAR, you do not affect the size of the dwelling unit that would be built. (See Exhibit J.)



**Lot area per dwelling unit**, as would be expected, related much more closely to the floor area ratio. (See Exhibit K.) Each example stayed very close to the desirable standard calculated on Exhibit H, and only six of the 24 were below standard. Thus, the addition of a reasonable lot area per family requirement to the CZC would not have an adverse impact on typical projects being built.

**Lot area per bedroom** corresponded almost exactly with the desirable standard with all examples very close to the standard. (See Exhibit L.) Only six were in violation.

**Lot area per apartment room** exceeded the desirable standard for all but six of the examples. (See Exhibit M.)

**The average number of bedrooms** provided per dwelling unit (see Exhibit N) was the characteristic that departed the most from the preferred standard. Only half of the 24

Exhibit K  
RELATION BETWEEN FLOOR AREA RATIO  
AND LOT AREA PER DWELLING UNIT

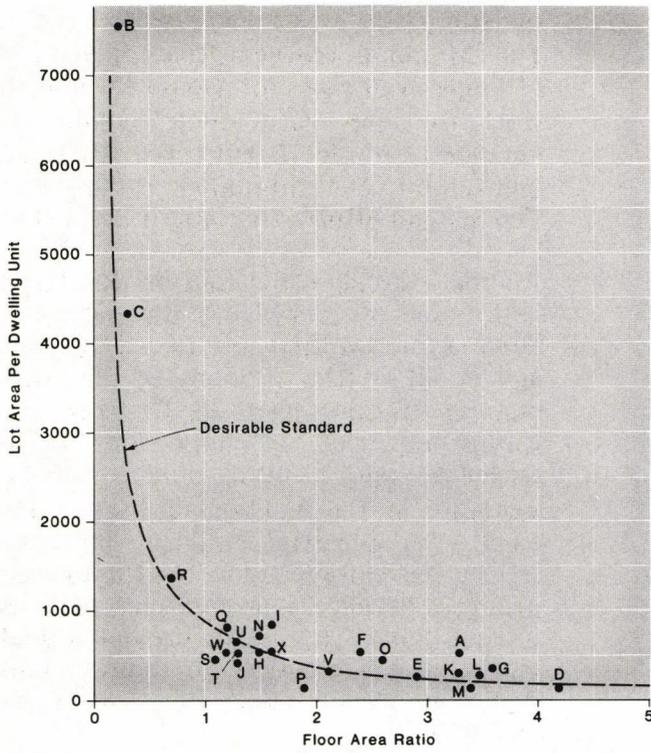


Exhibit M  
RELATION BETWEEN FLOOR AREA AND LOT AREA PER ROOM

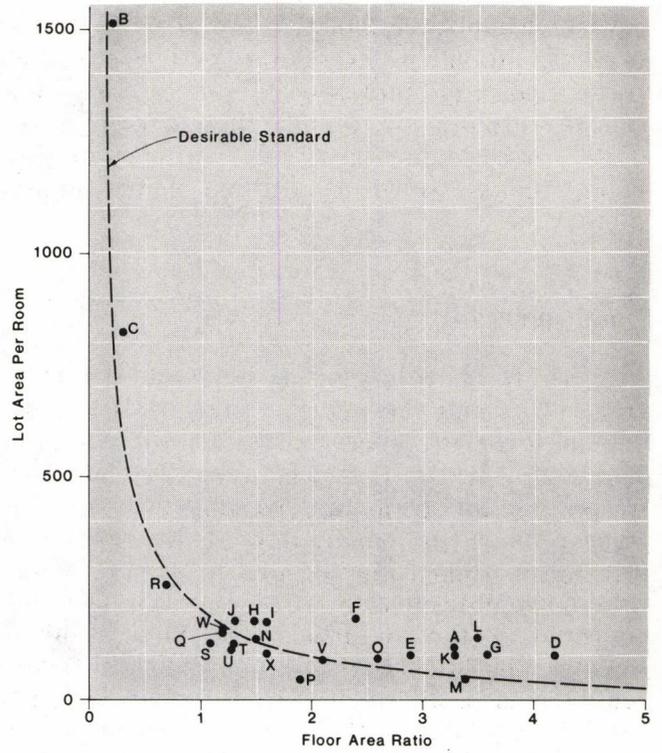


Exhibit L  
RELATION BETWEEN FLOOR AREA RATIO  
AND LOT AREA PER BEDROOM

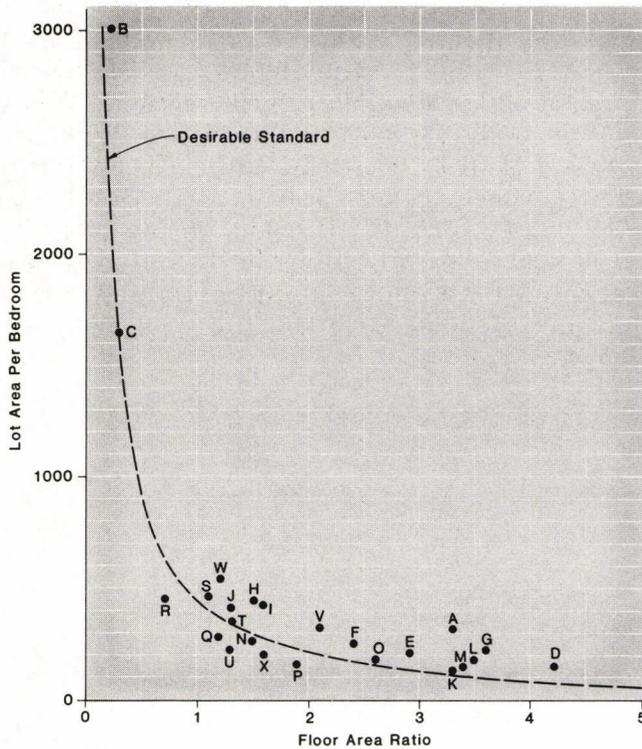
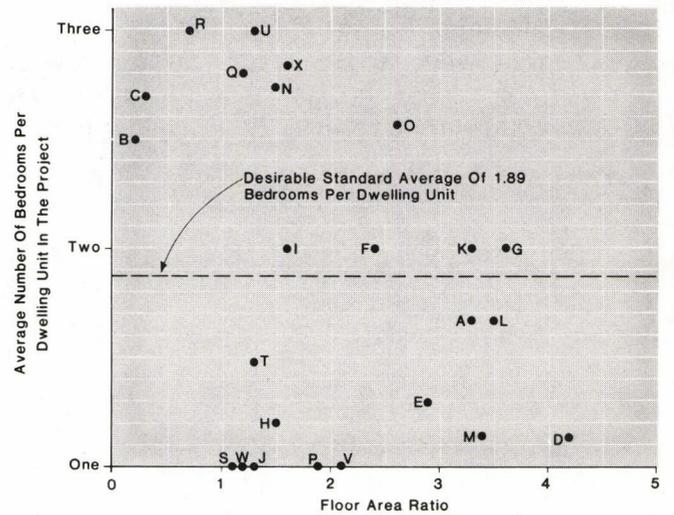


Exhibit N  
RELATION BETWEEN FLOOR AREA RATIO AND  
AVERAGE NUMBER OF BEDROOMS PER DWELLING UNIT



projects met the 1.89 bedrooms per unit average. This results from the inclusion in the "mix" of nine percent of the total units with four bedrooms (or more). Very few of the 24 projects included any units with more than three bedrooms and five of the projects consisted entirely of studio and one bedroom units. A desirable "mix" of dwelling unit sizes is not likely to result without some inducement.

## Conclusions

There is no relationship between the floor area ratios and the average size of the dwelling units or the average number of bedrooms provided. While there is a relationship between the lot area per dwelling unit and the floor area ratio, one-fourth of the examples fall below a desirable standard. This relationship does not change when the lot area per bedroom or the lot area per room is studied. Because the latter two would be more difficult regulations to administer than the lot area per family regulation, there would seem to be little merit in considering them. While present regulations do a fair job of regulating density, they do a very poor job in insuring a good "mix" of apartment sizes or in providing a minimum standard of floor area.

## Recommendations

The sample of 24 should be reasonably conclusive. Expansion of the sample to 50 or even 100 projects is not likely to change the results. It would be worthwhile, therefore, to consider:

1. Adding a lot area per family requirement and an average square feet of floor space (gross) per dwelling unit requirement to the CZC. This is neces-

sary to relate the CZC to the density standards prepared in the Development Plans. Recommended lot area per family standards are shown on Exhibit H. The minimum average gross square feet of floor area per unit would be 850, or the Housing Ordinance could be amended to incorporate the HUD requirements for minimum room sizes. The second alternative might be better.

2. Adding a bonus provision: (a) for larger units such as increasing the permitted number of dwelling units by a percentage equal to the percent of the total number of dwelling units that provided three bedrooms or more, or (b) for larger average dwelling unit areas. For example, if the 850 square feet is used as a base, densities could be increased by the percentage by which the average gross floor area per dwelling unit exceeded 850. This bonus provision could work the other way--i.e., smaller units could be permitted if the density was reduced.

While regulations as outlined above can be criticized as contributing to further increases in the already exorbitant cost of housing on Oahu, they are directly responsive to a demonstrated social need and to proposals of the general plan. While current cost pressures seem permanent to us, history is littered with "boom and bust" cycles in real estate. It is far more likely for current conditions to be temporary than to be permanent. We just do not know when they will end, that is all. The buildings erected will be in service for 50 to 100 years. We will all be better off if they are erected for a more lasting purpose than that of an expedient response to a temporary whim in the economy.

## PART VI--ADVANTAGES AND DISADVANTAGES OF APPLYING GROWTH MANAGEMENT TECHNIQUES

What are the advantages and disadvantages of applying "growth management techniques" to Honolulu in implementing development plan guidelines?

First, a definition of "growth management" is needed. The term "growth management" has struck such a responsive chord in the planning and legal professions that it has become fashionable to label rather conventional zoning programs as "growth management." For example, establishment of a tough agricultural district to stop sprawl can be called "growth management," or the requirement for reference of zoning amendments and land development proposals to a comprehensive plan can be called "growth management." However, as the term is used here, growth management goes beyond traditional planning and zoning to provide some combination of land use control and a schedule for provision of public facilities which is capable of controlling the rate, amount and quality of development as well as its type and location.

Most communities are long experienced in control of the type and density of development, particularly private, residential, commercial and industrial development by means of zoning. Control of the location of development is old hat for zoning, though sometimes the location may not be too well coordinated with an overall plan. Control of the quality of development is also quite possible under zoning.

The main dimensions added to conventional land use control systems by "growth management" are the elements of control of rate, timing and sequencing of development, and the element of amount, in the sense that an upper limit may be pre-set for some aspects of development in a given area, a population limit, for example. Some of the newer systems also contain a fiscal element designed to insure that new development will not add new burdens for the taxpayers.

### Plan Implementation Generally

Our country has a long history of preparing plans and of efforts to implement plans, not so long as the European history, but longer than the lives of most planners living today. The term "growth management" seemed to appear almost overnight, perhaps as a euphemism for growth control, but the problems of managing (or controlling) growth are not new. The following paragraphs describe problems which affect the new systems as well as the old.

### The Change After World War II

When Edward M. Bassett (better known as the Father of Zoning) published his small but pioneering volume, The Master Plan, in 1938, he noted that, "The master plan is rapidly becoming an important feature of planning, whether local, state, or national."<sup>(18)</sup> By this time we had had a standard planning enabling act for ten years and a number of larger cities had actually prepared master plans distinct and separate from the zoning ordinance and map. At this time Mr. Bassett believed that the master plan should be advisory, adopted only by a planning commission charged with the duty of advising law-making bodies regarding the coordination of public improvements. He considered a master plan to be "nothing more than the easily changed instrumentality which will show a commission from day to day the progress it has made." In discussing what he believed to be the seven essential elements of a master plan, Mr. Bassett mentioned zoning as the land use element. He did not mention a separate, long-range plan for land use, perhaps because he assumed that zoning would be long range, and in many cases it was, or was thought to be. He even noted that some critics held that zoning ought not to be one of the elements of planning because it had mainly to do with private land and the master plan was intended to guide public activity.

This has all changed now. We have comprehensive development plans which contain long-range land use plans but not many long-range

zoning ordinances. Our recognized failures to foresee all of the future have somehow inhibited our efforts to foresee any of it. During the rapid growth years after World War II, land development outstripped the public ability to plan in advance with growth tumbling to the suburbs beyond the reach of even the most farsighted city zoning ordinance. The ordinances (and plans, if any,) covering areas developing most rapidly soon fell behind until the standard technique was to hold the zoning of most vacant land to agricultural or low density residence and react to requests for zoning change after zoning change in order to accommodate more intense use. This situation set the scene for all kinds of experiments and produced numerous proposals for improvement of the planning system.<sup>(19)</sup>

### **Approaches Within "Conventional Zoning"**

The suburbs and counties developed a number of useful devices designed to cope with rapid and seemingly unpredictable growth. One of the first flexibility devices was a "conditional use" approach called a "community unit plan" for locating apartments in the suburbs. This went back to the late '30s. Then there were floating zones and special districts designed for specific purposes, and, finally (before growth management), planned unit development, planned districts, site plan review, design review, etc. Highway construction and utility extension policies, often handled on a regional basis, were linked with conventional zoning to provide a "yes" or "no" to an application for change in the zoning map. More recently, we have the "consistency" requirements in state law (or city charter) which enforce the connection between a comprehensive plan and the zoning ordinance, a connection which was supposed to have been there all along.

A great difficulty for plan implementation by zoning has been the well known "zoning dilemma" where zoning, in accord with a long-range plan, and in advance of need, tends to drive up land prices in the more intensive districts to an extent that developers seek additional intensive zoning on less expensive land--less expensive because it was not planned for more intensive use,<sup>(20)</sup> so the leapfrogging goes on and on. Shifting legal

emphasis (and thus land value emphasis) from the zoning map to the plan map (by a consistency requirement) does not eliminate the dilemma. Even so, the existence of the dilemma has not meant the end of planning or the end of the need to implement planning by means of more or less conventional zoning. There are zoning maps that bear a striking resemblance to a future land use plan for both developed and undeveloped territory.

### **Legal Questions**

Apprehension regarding legal obstacles has been a major handicap. First, is the widely held view that a man has a legal right to use his property any way he sees fit so long as he does not harm his neighbors, usually taken to mean his nearby neighbors, not those who share the responsibility for running the community or who live on the other side of it. With all the regulations which have been placed on property over the years, this myth should have been dispelled long ago, yet it still exists. Another myth has to do with the "taking issue," the belief that if a regulation severely restricts the use of property and thus reduces its value, it will be called a "taking" for which compensation must be paid under the constitution.<sup>(21)</sup> A third major legal question has to do with the regulation of appearance. A number of court decisions gave the impression that regulation of aesthetic factors, actually at the root of many of our regulations, was not allowed because it would amount to imposing the taste of a few on that of many.

The problems with all of these ideas have shrunk to manageable proportions. Modern living in the regulated world is taking care of the first one and state courts are taking care of the other two, with some help from the U.S. Supreme Court. State courts have sustained regulations which resulted in severe diminution of property values. The U.S. Supreme court in such cases as Berman v. Parker and Penn Central v. City of New York have given encouragement to public efforts to judge aesthetic factors and have offered some support in the recent Agins v. Tiburon decision that a severe restriction on the use of property is not invalid on its face but must be judged in the context of its reasonableness as applied in a particular situation.

## Failure of Regional Planning

The much discussed "failure" of regional planning in the United States is irrelevant. The Honolulu City Council has planning and zoning jurisdiction over the entire island "region" except as this power is limited by the State Land Use Law. This law is a supraregional control for planning all the island regions of the state. The power to build public facilities, streets, water systems and sewers can be managed on a regional basis and coordinated with land use planning without additional authority from the state. In short, Hawaii and Honolulu already have in place the planning implementation system that can only be a wistful goal on the mainland. The distribution of plan implementation powers is better in Hawaii than in any of the other 49 states.

## Rise of Interest in Environmental Quality

In 1973, The Use Of Land: A Citizen's Policy Guide To Urban Growth claimed to have discovered "a new mood in America" within which citizens gave new respect to the land and questioned "the way relatively unconstrained, piecemeal urbanization is changing their communities and are rebelling against the traditional processes of government and the marketplace which, they believe, have inadequately guided development in the past."<sup>(22)</sup>

There is no question of the rise in citizen interest in the environment and in the nature and outcome of plans and planning. Although programs have not yet fully matured, both the schools and the media have begun environmental education programs which will result in a greatly increased level of public understanding of environmental issues.

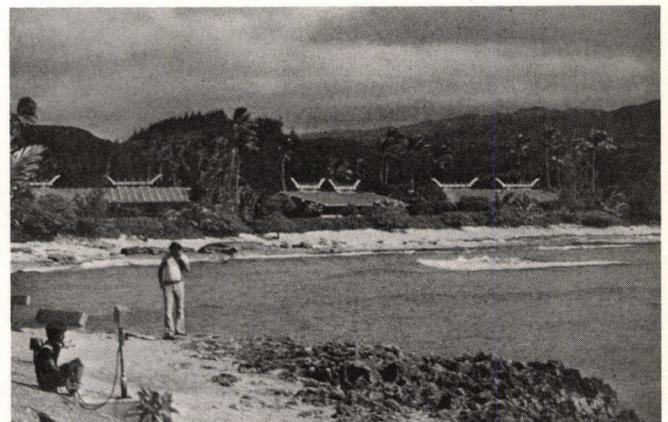
## From Citizen Interest to Citizen Control

With increasing citizen interest in plans and planning, the pendulum has swung too far the other way. While each participant in the process feels he is acting in the public interest, the results have too often been to cut off growth, to drive up the cost of housing and to deny construction of facilities needed by the public at large.<sup>(23)</sup> Citizen participation has made land use the political issue in many

communities with well over one-half the legislative body's time spent in the mediation of land use controversies. The neighborhood association, whether or not established by charter as in Honolulu, has become a strong force in planning matters. The objectives of the associations and the neighborhood groups are very often aimed at preserving the status quo, which may or may not be advantageous to the community as a whole.<sup>(24)</sup> Developers are forced to negotiate with the associations; politicians ignore their views at the peril of being voted out of office.

## Slow Growth to No Growth to Growth Management

With citizen input and political weight increasingly negative toward growth, all sorts of means have been developed to slow growth, or stop it, or at least push it into someone else's neighborhood. Under a traditional zoning approach, the large lot is a favorite. If the minimum lot size is made large enough, usually in the name of environmental protection, the market will be sufficiently narrowed to inhibit growth. Refusal of apartment zoning will also keep out undesirables. Then there are "interim" controls, such as the simple moratorium, whereby issuance of construction permits or sewer connection permits is stopped for a period of time while other planning and growth management arrangements are made. The new arrangements may include complex impact analysis and pacing elements which can be almost as effective as the moratorium in slowing or stopping growth.



*Kuilima Resort at Kahuku.*

These slow growth and no growth programs have occurred in rural areas as well as in the developing fringes. In the rural areas, there may be considerably more justification for such controls if the valuable resource of agricultural land is severely threatened. Most of these systems have developed only a clumsy balance between the need to preserve prime agricultural land and the desire for housing in the countryside. In the suburbs, the more enlightened communities have accepted responsibility for at least some share of regional growth, but the problem of providing affordable housing for a growing number of households is far from solved.

### **The Threats of Exclusion and Dullness**

A long history of programs to achieve citizen interest in planning and plan implementation has brought a high level of citizen involvement, highly detailed plans, and highly sophisticated and very powerful regulatory systems available to implement the plans. What we hear from the citizens is "protect our neighborhood," yet what we hear from the planners is "exclusion," and what we hear from the designers is "dullness." The developers, of course, are saddened as they always have been by further impediments to a more profitable life. Has progress really been made?

The desire to preserve environmental quality without properly considering the needs of a growing population, the urge to preserve the status quo by resisting necessary change, to strive for uniformity in developed and unde-



*Luxuriant landscape planting overcomes many environmental problems.*

veloped areas, has produced planning and plan implementation problems as serious as any we ever had when development seemed out of control. Surely there must be some way to use our new found powers effectively. The integrated growth management systems are believed by many to provide this.

### **The New Integrated Growth Management Systems**

Growth management by definition is more than conventional zoning. It attempts to integrate the various system elements into an overall functioning program. Some of the key elements which appear in the new systems are discussed below, along with a brief reference to a few examples of management systems now in operation.

#### **Timing and Sequencing**

Because most of the growth management systems came into being in situations where growth pressures were acute, timing and sequencing of development is an important element. Land development is tied to a schedule, usually dependent upon provision of public facilities such as water and sewers, and sometimes major thoroughfares. The schedule may begin after a breathing period for planning as afforded by a development moratorium. An urban boundary may be defined and approached in stages (Salem, Oregon). Some systems allow the schedule to be speeded up if the developer is willing to provide utilities at his own expense (Ramapo, New York).

The schedule may include the kinds of development which will be given priority--residential, commercial or industrial--and a sequence of locations to be developed in order. The consequences of failure by the public to provide facilities on schedule is not usually spelled out, but may be a serious weakness if the system is challenged.

#### **Optimum Growth**

Some sort of pre-judgment of optimum growth is a characteristic of a number of the plans, either in the form of an established growth rate, so many permits a year, etc. (Petaluma, California), a total growth limit, a

maximum total number of people or dwelling units (Boulder, Colorado and Boca Raton, Florida), or a combination of the two. The limit may be set on the basis of an environmental land carrying capacity concept (Sanibel Island, Florida) or by agreed upon density concepts such as large lot single family.

An individual community seldom can be completely objective and fair in establishing optimum growth rates or population "caps" in a metropolitan setting where growth pressure is dependent on events happening outside the individual community. A region cannot set growth rates or population caps unless it is willing and able to control the factors which influence its growth. Is Honolulu ready and able to limit the number of visitors to the island? Or, to ask Washington to lower federal employment? Is the state of Hawaii ready and able to distribute visitors among several islands? The answers to these questions demonstrate that management of total growth is not an objective for Honolulu.

### **Newcomers Must Pay**

A particularly intriguing element of some growth management systems is the objective of holding down taxes for residents previously arrived by shifting all or most of the costs of new public facilities to the developer, and hence through his cost to newcoming residents (Loudoun County, Virginia). Customarily the cost of local streets and lateral sewers and similar facilities have been borne by the developer, but such facilities as schools were financed by the public at large. Should newcomers be required to pay for their own schools?

### **Measuring Impacts**

Some growth management systems require careful measurement of environmental, fiscal and socio-economic impacts of major developments. Performance standards may be established for new development (Bucks County, Pennsylvania). The measurement of impacts may be made to determine cost to the developer necessary to modify impacts, or it may be used to modify his development design. These requirements may produce information useful to the locality in scheduling provision of

public facilities but produce some problems as well. In the first place, careful impact analysis is time consuming and expensive. If it is to be performed by the developer, as it usually is, the results are likely to be self-serving. In any event, to take all of the impacted groups properly into account is difficult. Can the interests of the tourist, the industrial worker, the industrial worker's boss, the landowner, the future developer, and the homeowner all be taken properly into account in assessing the impact of a major development in Kakaako? This is the kind of thing planners deal with all the time, but to apply it development-by-development can result in a senseless numbers game.

### **Legal Aspects**

Legal aspects of growth management are the subject of Constitutional Issues Of Growth Management by David R. Godschalk, et al. The revised edition published in 1979 contains an interesting update on 12 case studies chosen for the original publication of this work, some of which are the same as those studied in the previous publications and some of which are not. This volume contains an extensive analysis of the constitutional principles that apply to growth management. It provides a framework for testing each of the case studies against potential constitutional challenges.

The courts are likely to continue to apply the traditional test of reasonableness to any growth management plan that Honolulu may develop. As noted by Godschalk, et al, that the legislative branch had a rational basis for the regulation may be established by showing: (1) that the objective sought is a legitimate objective of the police power; (2) that the means employed are reasonably necessary for the accomplishment of the purpose; and (3) that the means are not unduly oppressive upon the individual.

### **Is This the Way to Build Cities?**

The investigation of growth management systems used to date indicates a total emphasis on the growing urban fringe, mostly a fringe growing at relatively low densities. The total city and the total problem is avoided. Is

there anything in the growth management experience that applies to the central city, to an area like Waikiki or Kakaako, or the Honolulu central business district, or for that matter, all of the primary urban center of Honolulu?

### **Advantages and Disadvantages of Growth Management**

#### **Advantages of Growth Management**

1. Honolulu is subject to outside growth pressures; there may be a limit to growth; growth should go in the most advantageous locations.
2. Honolulu has a great stake in the environment and the affluence to protect it.
3. Much development on Oahu is large-scale and amenable to growth management procedures.
4. The entire region (island) is under a single jurisdiction.
5. It may be required under law (the system described in the City Charter).

#### **Disadvantages of Growth Management**

1. To reach the ideal system of land use management may be impossible and may cause a lot of trouble by trying elaborate systems which might fail. A growth management system does not make easier the formulation of planning objectives.
2. Growth management tends to be anti-urban.
3. It will not ensure timely provision of infrastructure.
4. It may be only a screen behind which to hide from the real responsibility of planning.
5. It tends to be exclusionary.
6. Under current conditions, it is not a practical device for use in slowing growth.

### **Conclusion**

The Honolulu population is expected to grow from 761,000 in 1980 to 1,039,000 in the year 2000 (General Plan). There is no need for a program to limit growth although the state may be trying to direct more of it to other islands. Growth management is the process to be used to direct the growth into the most advantageous place.

A basic question is whether or not it is possible for the city to stop a partly completed project where the developer has invested considerable money in such facilities as sewer or water lines with larger capacities than now used and where the city had given approval (or tacit approval) to a master plan for the total project only part of which has been built. There are a number of large projects in this circumstance. The population capacity of these, if they were all to be completed, is not known. It should be calculated. The total unused capacity of such projects may be greater than a realistic estimated increase in additional households. If this is true, the "growth management" question is moot. It may have already been decided if these large projects are all to be completed.

If this is not the case, what type of a growth management system should be used? Probably some type of a "carrot/stick" plan which uses public money to put sewer and water service to the areas that should be developed while preventing growth in areas which should not be developed through agricultural zoning.



*Landscape planting completely hides the buildings at Waiālae Kahala.*

For example, the General Plan indicated a population distribution scheme. This can be converted to a household or dwelling unit distribution scheme. The urban areas on the island can be mapped to show availability of public services:

1. Sewer
2. Water
3. Schools
4. Fire protection
5. Police protection
6. Major street capacity
7. Park and recreation facilities

The quality of service now provided could be placed in three categories:

- A. All services available
- B. Most services available
- C. Requires major expenditures to be served

At this point it would be advisable to compute the population capacity of each of these categories in each of the sectors of the island and to compare this with the proposed distribution of households. It might be advantageous to change the distribution scheme.

As a second consideration, the areas currently served may not constitute the most desirable development pattern for the island. If this is the case, the capital improvement program should be redirected to serve the desirable development areas not now served. This would place some category B or C areas in category A, for example.

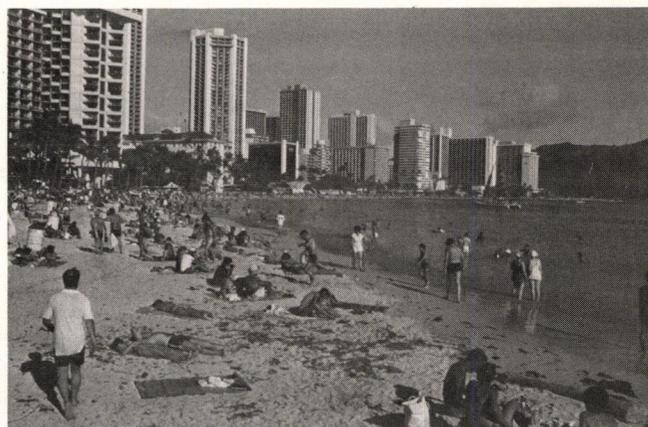
For each part of the island, there should be a leeway of 25 to 33 percent in the program. For example, if the overall distribution scheme, as adjusted, called for 10,000 dwelling units in a section of the island, the plan could provide for 12,500 to 13,500 units.

Inducements could then be provided for growth to go into the category A area. For example, there could be a density bonus, such

as 10 percent, or better, a grant payment of part of the cost of the sewer, water and street improvements. To keep growth from going into less desirable areas is reasonably simple. This may be accomplished by placing the areas in one of the agricultural zones.

At some point, however, to be fully effective, there would need to be a stopping of major development and restriction to limited in-filling and replacement within the planning sector. If the areas of the residential and apartment zoning districts and their densities have been carefully related to the maximum household level, and if the remaining areas have been placed in an agricultural district, the "end of the line" could occur with little or no difficulty. If this is not the case, public compensation of land owners of undeveloped land in residential or apartment districts may be necessary.

To see that development goes into the most desirable location is not too difficult to accomplish. To see that it stops when a sector has reached the optimum limits would require far more careful monitoring, planning and management. It would not be difficult to amend the CZC to introduce a growth management system of the type described above. It could logically be attached to the previous recommendations for voluntary planned district regulations.



*Waikiki Beach.*



## PART VII--EFFECTIVENESS OF CERTAIN CODE REGULATIONS

### a. District Regulations

Previous tasks have outlined certain proposals for the zoning districts, including:

1. The new Agricultural District
2. A new B-2A and B-3A District with lower buildings
3. Replacement of all of the "Use Precincts" in the special districts with new zoning districts. (Some of these could be combined.)
4. Combining the I-1 and I-2 Industrial Districts.
5. Replacing the PD-H District with six new "planned districts."

In addition, detailed requirements of the development plans may require additional districts to adjust height or density regulations in certain areas.

Development plans show areas devoted to public and quasi-public uses as a separate category called "public facilities." Only existing uses are so shown; there are no proposals for such uses on the development plans. Usual zoning practice permits semi-public uses to locate in zoning districts as conditional uses or sometimes by right. Separate zoning districts are not established for them; nor should they be. The city charter requires all public uses to conform with the development plans. Thus, there is no need for the CZC to be concerned with these uses. For the semi-public uses such as private schools, churches and institutions, these are controlled by conditional use provisions. If the semi-public use is abandoned, the land may be used for any of the other purposes permitted in the zoning district in which the use is located. They could not be required to continue their semi-public use in perpetuity if they could not do so or if the service they provide is no longer needed. Thus a separate zoning district for them would be useless.

### Use Regulations

Changes proposed in the use regulations in each existing zoning district may be summarized as follows:

#### AG-1 and AG-2 Agricultural Districts

Public schools should be a conditional use not a permitted use.  
Colleges and universities should not be allowed at all; nor should fraternities, sororities or dormitories  
Golf courses, homes for aged, etc., sanitariums, monasteries, art galleries, outdoor recreation facilities, and private recreation camps should not be permitted even as conditional uses.

#### R-1, R-2 and R-3 Residential Districts

Family care homes should be conditional uses.  
Home occupations should be added to accessory uses (see following discussion in "definitions")  
Medical and dental offices should be removed from conditional use list  
Golf courses should be required to have a minimum area of 75 acres.

#### Apartment Districts

Move consulates and sanitariums from list of permitted uses to list of conditional uses.  
Remove convenience establishments, meeting halls for labor unions, and medical offices and clinics from list of conditional uses.  
Require golf courses to have minimum area of 75 acres.

#### Resort-Hotel District

No change proposed.

### B-1 Neighborhood Business District

Change automobile service stations and eating and drinking establishments from permitted to conditional uses.

### B-2 Community Business District

No change proposed.

### B-3 Business Residential District

No change proposed.

### B-4 Central Business District

No change proposed

### I-1 and I-2 Industrial Districts

Remove from the list of permitted uses: banks, eating and drinking establishments, public buildings and grounds, offices, child care nurseries, greenhouses and plant nurseries, hotels, private clubs and lodges, eleemosynary establishments and athletic clubs. Nor should any of these be allowed as conditional uses. These are uses that are not appropriate in industrial districts.

### I-3 Waterfront Industrial District

No change is proposed.



Results of the inadequate rear yard regulations.

### Yard Setbacks

Yard setbacks in the CZC are generally satisfactory except that their application could be made more uniform insofar as the front yards are concerned. The most serious difficulty is with the shallowness of the rear yards. The following changes are recommended in the rear yards:

<u>District</u>	<u>From</u> <u>(feet)</u>	<u>To</u> <u>(feet)</u>
P-1	No Change	
AG-1	15	50
AG-2	15	50
R-1	15	40
R-2	10	30
R-3	6	30
R-4	5	25
R-5	5	20
R-6	5	20
R-7	5	15
A-1	10	20
A-2	10	20
A-3	10	20
A-4	No change	
H-1	20	40

No changes proposed in the remaining districts.

### Project Design Standards

Under the CZC, a design review takes place for all significant projects in the special design districts, for the clusters and the planned housing developments and for the conditional and special (administrative) permit uses. The right to grant or not grant such a permit on the part of the Director is limited by both general standards that apply to all such permits and specific standards that apply to particular uses to be allowed.

The general standards are similar to those found in most ordinances as the granting of conditional use permits has been a common practice in most urban areas for many years. The general standards include:

1. **Conformity** with general and development plans.
2. **Adverse effects** to be no greater than those of permitted uses.

3. **Safeguards** (additional requirements) to be imposed by the Director.
4. **Factors that must be considered** by the director include a long list of items such as traffic, parking, drainage, buffers, site arrangement, and hours of operation. The list does not include appearance or landscape planting and could be rewritten to be positive rather than negative.

In fact, all of the standards in this part of the CZC should be rewritten to be positive rather than negative.

Conditional uses and administrative permit uses are those that are: (a) infrequent and unusual, and (b) may or may not have an adverse effect on the neighborhood depending upon how they are designed and operated. Conditional uses should never be uses which could go into a neighborhood via a change in the zoning map. Convenience establishments and medical offices are examples of uses that should not be conditional uses.

The "standards" in the ordinance are those needed to mitigate any adverse effect on its neighborhood from a conditional use. These may be simplified by removal of the inappropriate conditional uses as previously recommended. The Director has the power to reject a conditional or special permit use when obviously inappropriate to the proposed location.

Generally, the standards in the CZC are unusually complete and need no basic changes except to rewrite them as positive rather than negative statements and make them clearer and easier to understand.

One additional requirement should be added. Each conditional or administrative permit use should be inspected at least each two years to make certain that it is conforming to the conditions and requirements of the permit. The Director should have the authority to stop use of the property should there be violations of the requirements.

**Open Space** requirements are not a part of the project design standards as currently outlined in the CZC. A major purpose of the

cluster and planned development proposals is to provide more usable open space. The Honolulu Central Business District is an excellent example of the benefit of a bonus system for open space. Such a system could be extended to the apartment districts. Consideration should also be given to permitting an increase in the allowable floor area of, say, one square foot for each square foot of landscaped area at ground level and for each square foot of indoor recreation area such as club rooms, hobby rooms, car washing areas, etc.

**Building placement relationships** may best be controlled by an urban design plan reflected in some detail in the CZC such as, for example, the height and setback requirements of the Kakaako Design District.

**Performance criteria** of the CZC have been previously discussed. These could be strengthened and rewritten. The Dallas, Texas performance standards could be a model. (See Exhibit O.) Of more importance, however, is the application of the standards to the existing uses. There are violations of performance standards in residential areas, for example. The nonconforming use section should be rewritten to make it clear that no nonconforming use is given the right to violate performance standards. Both the state and city have enacted performance standards. There is a conflict on the hours of the day when these are applied. Both should have the same regulations, or better, the city should just enforce the state rules. Extension of the rules to



*Landscaped open space in the Central Business District.*

# EXHIBIT O

## Exerpts from the Dallas, Texas zoning ordinance relating to performance standards

**DIVISION 10-400. PERFORMANCE STANDARDS**

**Section 10-401**

ALL USES IN ALL DISTRICTS SHALL CONFORM IN OPERATION, LOCATION AND CONSTRUCTION TO THE PERFORMANCE STANDARDS HEREIN SPECIFIED FOR NOISE; ODOR; TOXIC AND NOXIOUS MATTER; AND GLARE.

ALL USES ESTABLISHED IN THE I-1, I-2, I-3 AND PD DISTRICTS SHALL CONFORM IN OPERATION, LOCATION AND CONSTRUCTION TO THE PERFORMANCE STANDARDS HEREIN SPECIFIED FOR NOISE; ODOR; TOXIC AND NOXIOUS MATTER; GLARE; SMOKE, PARTICULATE MATTER AND OTHER AIR CONTAMINANTS; FIRE AND EXPLOSIVE OR HAZARDOUS MATTER; AND VIBRATION.

**SUBDIVISION 10-410 GENERAL PROVISIONS**

**Section 10-411**

Any use established after the effective date of this ordinance shall comply with all of the Performance Standards applicable to the district in which it is located.

**Section 10-412**

All regulations of the City of Dallas or the State of Texas applicable to such matters as the emission of toxic, noxious or odorous matter, particulate material, radiation or the storage, manufacture, handling or transportation or use of explosive, inflammable or radioactive material shall be observed, and nothing specified in this section shall be interpreted as authorizing any practice or operation which would constitute a violation of a statute, ordinance, rule or regulation of the City of Dallas or State of Texas.

**SUBDIVISION 10-420 NOISE**

**Section 10-421**

Measurement of noise shall be made with a sound level meter and octave band analyzer meeting the standards prescribed by the American Standards Association. The instruments shall be maintained in calibration and good working order. Octave band corrections may be employed in meeting the response specification. A calibration check shall be made of the system at the time of any noise measurement. Measurements recorded shall be taken so as to provide a proper presentation of the noise source. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured noise. A windscreen for the microphone shall be used when required. Traffic, aircraft and other transportation noise sources and other background noises shall not be considered in taking measurements except where such background noise interferes with the primary noise being measured. Times when the level of the primary noise being measured does not exceed that of the background noise in all octave bands shall be considered as "off times" of the primary noise in determining the corrections from Table 5, Section 10-426(b).

**Section 10-422 Permissible Noise Level: I-1 and I-2, Planned Development Districts (Industrial)**

(a) At no point at the bounding property line of any use in the I-1, I-2 or PD District shall the sound pressure level of any operation or plant exceed the decibel limits specified in the octave bands designated in Table 1, nor shall the sound pressure level at any I-1, I-2 or PD District boundary line adjacent to a residential, retail or commercial district exceed the decibel limits specified in the octave bands designated by Table 3 for Residential Districts and Table 4 for Retail and Commercial Districts.

(b)

**TABLE 1**

**Maximum Permissible Daytime Octave Band Decibel Limits at the Bounding Property Line of a Use in the I-1, I-2, Planned Industrial (PD) District**

Octave Band (cps)	37	75	150	300	600	1200	2400	4800	A Scale
Decibel Band Limit (db re 0.0002 Microbar)	86	76	70	65	63	58	55	53	65

NOTE: A Scale levels are provided for monitoring purposes only.

**Section 10-423 Permissible Noise Level: I-3 District**

(a) At no point at the bounding property line of any use in the I-3 District shall the sound pressure level of any operation or plant exceed the decibel limits specified in the octave bands designated in Table 2, nor shall the sound pressure level at any I-3 District boundary line adjacent to a residential, retail or commercial district exceed the decibel limits specified in the octave bands designated by Table 3 for Residential Districts and Table 4 for Retail and Commercial Districts.

(b)

**TABLE 2**

**Maximum Permissible Daytime Octave Band Decibel Limits at the Bounding Property Line of a Use in the I-3 District**

Octave Band (cps)	37	75	150	300	600	1200	2400	4800	A Scale
Decibel Band Limit (db re 0.0002 Microbar)	90	80	74	69	65	62	60	58	70

NOTE: A Scale levels are provided for monitoring purposes only.

**Section 10-424 Permissible Noise Level: Residential Districts**

(a) At no point at the bounding property line of any use in any residential type district shall the sound pressure level of any operation, use or occupancy exceed the decibel limits specified in the octave bands designated in Table 3.

(b)

**Table 3**

**Maximum Permissible Daytime Octave Band Decibel Limits at the Bounding Property Line of a Residential District**

Octave Band (cps)	37	75	150	300	600	1200	2400	4800	A Scale
Decibel Band Limit (db re 0.0002 Microbar)	80	68	61	55	51	48	45	43	56

NOTE: A Scale levels are provided for monitoring purposes only.

**Section 10-425 Permissible Noise Level: Retail and Commercial Districts**

(a) At no point at the bounding property line of any use in any retail or commercial type districts shall the sound pressure level of any operation, use or occupancy exceed the decibel limits specified in the octave bands designated in Table 4 nor shall the sound pressure level at any retail or commercial type district boundary line adjacent to a residential district exceed the decibel limits specified in the octave bands designated by Table 3 for residential districts.

(b)

**Table 4**

**Maximum Permissible Daytime Octave Band Decibel Limits at the Bounding Property Line of a Retail or Commercial District**

Octave Band (cps)	37	75	150	300	600	1200	2400	4800	A Scale
Decibel Band Limit (db re 0.0002 Microbar)	84	73	67	62	58	55	52	50	63

NOTE: A Scale levels are provided for monitoring purposes only.

Section 10-426 Special Noise Level Corrections

(a) Corrections shall be made to the basic octave band levels specified in Tables 1, 2, 3 and 4 for the specific conditions listed in accordance with Table 5.

(b)

Table 5  
Corrections Permitted to Basic Octave Band Levels

-----		
Noise is present at nighttime. . . . .		Subtract 7db
-----		
Noise contains strong pure-tone components or is impulsive (meter reading changes at a rate greater than 10 decibels per second. . . . .		Subtract 7db
-----		
Noise Has An "On Time" Of No More Than:	And an "Off Time" Between Successive "On Times" Of At Least:	
0.5 Minutes	1/2 Hour	/
5.0 Minutes	1 Hour	/ Add 10 Decibels
10.0 Minutes	2 Hours	/ to permitted level
20.0 Minutes	4 Hours	/

Section 10-427.

A unitary air-conditioning unit placed in a side yard which complies with the requirements set out in Section 15-405 of this chapter is exempt from the requirements of this Subdivision.

SUBDIVISION 10-430. ODORS

See Chapter 5A of the Dallas City Code.

SUBDIVISION 10-440. TOXIC AND NOXIOUS MATTER

Section 10-441

No operation or use permitted in any district shall emit a concentration across the bounding property line of such operation or use of toxic or noxious matter which will exceed 10 percent of the concentration (exposure) considered as the threshold limit for an industrial worker as such standards are established by Texas State Department of Health or as they may be amended in "Threshold Limit Values, Occupational Health Regulation No. 3", a copy of which is hereby incorporated by reference and is on file in the office of the City Secretary of the City of Dallas.

Section 10-442

The storage, use and transportation of hazardous chemicals, poisonous gases, acids or radioactive material in the I-1, I-2, I-3 or PD Districts shall be subject to approval of the Fire Marshal and the Health Officer of the City of Dallas and in accordance with all applicable ordinances and laws.

SUBDIVISION 10-450. GLARE

Section 10-451

No use in any district shall be operated so as to produce intense glare or direct illumination across the bounding property line from a visible source of illumination of such intensity as to create a nuisance or detract from the use or enjoyment of adjacent property. All outside lights shall be made up of a light source and reflector so selected that acting together the light beam is controlled and not directed across any bounding property line.

SUBDIVISION 10-460. SMOKE, PARTICULATE MATTER AND OTHER AIR CONTAMINANTS

See Chapter 5A of the Dallas City Code.

Section 10-461. VISIBLE EMISSIONS

See Chapter 5A of the Dallas City Code.

Section 10-462. SULFUR DIOXIDE

See Chapter 5A of the Dallas City Code.

Section 10-463. PARTICULATE MATTER

See Chapter 5A of the Dallas City Code.

Section 10-464. HYDROCARBONS AND CARBONYLS

See Chapter 5A of the Dallas City Code.

SUBDIVISION 10-470. FIRE AND EXPLOSIVE OR HAZARDOUS MATTER

Section 10-471

Any use established or operated in the I-1, I-2, I-3 or PD Districts shall comply with the Performance Standards herein specified for the storage, manufacture and use of flammable, explosive or hazardous matter.

Section 10-472. I-1, I-2 AND PD DISTRICTS

(a) No use involving the manufacture or storage of compounds or products which decompose by detonation shall be permitted in the I-1, I-2 or PD Districts except that chlorates, nitrates, perchlorates, phosphorous and similar substances and compounds in small quantities for use by industry, schools, laboratories, druggists or wholesalers may be permitted in accordance with the provisions of the Fire Protection Code of the City of Dallas.

(b) The storage and use of all flammable liquids and materials such as pyroxylin plastics, nitrocellulose film, solvents and petroleum products in the I-1, I-2 and PD Districts shall be in accordance with the provisions of the Fire Protection Code of the City of Dallas for the storage and handling of such materials and liquids, except that no high hazard flammable liquid having a flash point below 100°F shall be stored above ground in the I-1, I-2 or PD District except by special approval of the Fire Marshal and when the use and storage of such liquid is located a safe distance from adjacent uses and buildings.

Section 10-473. I-3 DISTRICT

(a) Operations or uses involving the manufacture, storage or use of compounds which decompose by detonation except those specifically prohibited by the Fire Protection Code of the City of Dallas are permitted in the I-3 District, but only when such operations and uses are approved and a permit for same is issued by the Fire Marshal.

(b) The storage in bulk or use of flammable liquids or materials and of liquefied petroleum gas are permitted in the I-3 District subject to the requirements and safeguards concerning the location, use and special precautions specified by the Fire Marshal for such storage or use.

Section 10-474

All uses and operations involving the use, storage or handling of explosive or flammable and hazardous matter shall be in compliance with the Fire Protection Code of the City of Dallas as it exists or as it may hereafter be amended and shall be subject to approval by the Fire Marshal and nothing herein specified shall mitigate, interfere with or alter any provision of the Fire Protection Code of the city of Dallas as it may apply to the use, storage or handling of explosives or flammable and hazardous material.

SUBDIVISION 10-480. VIBRATION

Section 10-481

No operation or use in the I-1, I-2 or PD Districts shall at any time create earthborn vibration which when measured at the bounding property line of the source operation exceed the limits of displacement.

Table 6  
Allowable Displacement Earthborn Vibrations I-1, I-2, and PD Districts

Frequency in Cycles per Second	Displacement in Inches
0 to 10	0.0010
10 to 20	0.0008
20 to 30	0.0005
30 to 40	0.0004
40 and over	0.0003

Section 10-482

No operation or use in the I-3 District shall at any time create earthborn vibrations which when measured at the bounding property line of the source operation exceed the limits of displacement.

Table 7  
Allowable Displacement Earthborn Vibrations I-3 District

Frequency in Cycles Per Second	Displacement in Inches
0 to 10	0.0020
10 to 20	0.0016
20 to 30	0.0010
30 to 40	0.0006
40 and Over	0.0005

DIVISION 10-500. DEFINITIONS AND STANDARDS APPLICABLE TO SECTIONS 10-401 THROUGH 10-482

Section 10-501

The following definitions and explanatory notes supplement, restrict and define the meaning and intent of words and terms used in the Performance Standards provisions, Sections 10-401 through 10-482 inclusive.

- (1) Background Noise - noise from all sources other than that under specific consideration including traffic operating on public thoroughfares.
- (2) Frequency - the number of oscillations per second in a sound wave.
- (3) Octave Band - a term denoting all the frequencies between any given frequency and double that frequency.
- (4) Octave Band Filter - an electrical frequency analyzer designed according to the standards formulated by the American Standards Association and used in conjunction with a sound level meter to take measurements in specific octave intervals.
- (5) Daytime - the hours between sunrise and sunset on any given day.
- (6) Bounding Property Line - the far side of any street, alley, stream or other permanently dedicated open space from the noise source when such open space exists between the property line of the noise source and adjacent property. When no such open space exists the common line between two parcels of property shall be interpreted as the bounding property line.
- (7) Residential District - refer to the R-1, R-1/2, R-16, R-13, R-10, R-7.5, R-5, D, TH-1, TH-2, TH-3, TH-4, MF-1, MF-2, MF-3, MF-4, MH and A Districts.
- (8) Retail or Commercial Districts - refers to the P, O-1, O-2, NS, SC, GR, LC, and HC Districts.
- (9) Atmospheric Pollution - the discharging from stacks, open storage, chimneys, exhausts, vents, ducts, openings, or open fires of such air contaminants as visible emissions, sulfur dioxide, particulate matter, hydrocarbons, fumes or similar material or gases.
- (10) Atmosphere - The air that envelops or surrounds the earth. Where air contaminants are emitted into a building not designated specifically as air pollution control equipment, such emission into the building shall be considered emission into the atmosphere.
- (11) Combustion - the rapid exothermic reaction of any material with oxygen.
- (12) Containing Device - any stack, duct, flue, oven, kettle or other structure or device containing a gas stream which may contain an air contaminant, and which is designated to prevent the gas stream from entering the atmosphere, except through such openings as may be incorporated for that purpose in the containing device; and excluding equipment used for air pollution abatement operations, or any other device which significantly changes the nature, extent, quantity or degree of air contaminants in the gas stream or in which such change does or has a natural tendency to occur.
- (13) Emission - the act of passing into the atmosphere an air contaminant or a gas stream which contains or may contain an air contaminant or the material so passed to the atmosphere.
- (14) Emission Point - the location (place in horizontal plane and vertical elevation) at which an emission enters the atmosphere.
- (15) Exhaust Gas Volume - the total volume of gas emitted from an emission point.
- (16) Odor Threshold - the concentration of odorous matter in the atmosphere necessary to be perceptible to the olfactory nerve of normal persons.
- (17) Operation - any physical action resulting in a change in the location, form or physical properties of a material, or any chemical action resulting in a change in the chemical composition or chemical or physical properties of a material. The following are given as examples, without limitation of the generality of the foregoing: heat transfer, calcination, double decomposition, fermentation, pyrolysis, electrolysis, combustion, material handling, evaporation, mixing, absorption, filtration, fluidization, screening, crushing, grinding, demolishing, shoveling, bagging, etc.
- (18) Particulate Matter - any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions when released into the atmosphere.
- (19) Person or Operation - any person, firm, association, organization, partnership, business, trust, corporation, company, contractor, supplier, installer, user or owner or any state or local government agency or public district or any officer or employee thereof. It includes the owner, lessor, lessee, tenant, licensee, manager and operator, or any of such, of an emission point or any source operation which may constitute a source of atmospheric pollution related thereto, or any interest in such emission point or operation source.
- (20) ppm (vol) - parts per million by volume.
- (21) Process Weight - the total weight of all materials introduced into a source operation, including solid fuels, but excluding liquids and gases used solely as fuels and excluding air introduced for the purposes of combustion.
- (22) Process Weight Rate - a rate established as follows:
  - (a) For continuous or long run steady state source operations, the total process weight for the entire period of continuous operation or a typical portion thereof, divided by the number of hours of such period or portion thereof.
  - (b) For cyclical or batch source operations the total process weight for a period which covers a complete operation or an integral number of cycles, divided by the number of hours of actual process operation during such period.
- (23) Significant Dimension - of an area means the square root of the numerical value of the area.
- (24) Source Operation - the last operation preceding the emission of an air contaminant, which operation:
  - (a) results in separation of air contaminants from the process materials or in the conversion of the process materials into air contaminants, as in the case of combustion of fuel; and
  - (b) is not an air pollution abatement operation.
- (25) Standard Conditions - a pressure of 14.7 pounds per square inch absolute, and a temperature of 60° F.
- (26) Type "A" Emission Point - an opening of reasonably regular geometry, preceded by a containing device which has a minimum length six times the significant dimension of the emission point and within such minimum length; has a reasonably straight gas flow channel; has smooth interior surface; has area and geometry essentially constant and equal to the emission point; and does not cause a significant change in the gross direction of gas flow.
- (27) Type "B" Emission Point - any emission point not qualifying under (26) above.

include glare, for example, should be undertaken. The state enacts and enforces the air pollution regulations.

Use of reflective glass may adversely affect use of adjacent property because of heat or glare (or both) and such reflections may blind drivers of automobiles and be dangerous. A provision similar to that in the Dallas ordinance should take care of this problem.

#### b. General Code Regulations

##### Definitions

At various places in preceeding parts of this report comments have been made regarding definitions in the CZC. There are two difficulties: (1) some definitions include regulations, and (2) some definitions, such as lot area, lot width and flag lots are not in the definition section but instead are found in other parts of the ordinance. The list of definitions might be more easily used if, for example, all definitions relating to signs were together. The following is needed:

**Accessory building**--definition should be added  
**Accessory use**--satisfactory  
**Administrative permit use**--to be added  
**Alley**--to be added **All-weather surface**--satisfactory  
**Arcade**--satisfactory  
**Automobile service station**--satisfactory but very complicated; could be simplified  
**Basement**--should be added  
**Boarding house**--should be added, exclude "time sharing"  
**Boundary wall**--satisfactory  
**Buildable area**--satisfactory  
**Buildable area boundary line**--satisfactory  
**Buildable width**--should be added  
**Building**--should be rewritten  
**Building area**--satisfactory  
**Building coverage**--should be added  
**Building frontage**--satisfactory  
**Building, height of**--it is most important that this term be redefined--see previous discussion  
**Building, main**--should be added  
**Business sign**--satisfactory  
**Carport**--satisfactory  
**Cemetery**--should be added  
**Child care center**--satisfactory

**Church**--to be added  
**Clinic**--satisfactory  
**Club**--to be added  
**College or university**--to be added  
**Conditional use**--to be added  
**Convalescent, nursing or rest home**--to be added  
**Convenience establishments**--satisfactory but might be removed if these are taken from the conditional use list as recommended  
**Cross slope**--satisfactory  
**Decibel**--satisfactory  
**Design flood**--satisfactory  
**Developer**--satisfactory  
**Development plan**--to be added  
**Director**--satisfactory  
**District**--to be added  
**Duplex dwelling**--to be deleted--to be replaced by "dwelling, two family"  
**Dwelling**--to be added  
**Dwelling, attached**--delete  
**Dwelling, detached**--delete  
**Dwelling, multiple-family**--satisfactory  
**Dwelling, one-family**--satisfactory  
**Dwelling, semi-detached**--delete  
**Dwelling, two-family**--satisfactory  
**Dwelling unit**--to be rewritten--see previous discussion, exclude "time sharing"  
**Extractive industries**--satisfactory  
**Family**--could be improved--see previous discussion  
**Fence**--to be added  
**Flashing sign**--satisfactory  
**Flood plain**--satisfactory  
**Floodway**--satisfactory  
**Floor area**--satisfactory  
**Floor area ratio**--satisfactory  
**Freeway**--satisfactory  
**Frequency**--satisfactory  
**Frontage**--to be added  
**Garage, parking**--satisfactory  
**Garage, private**--satisfactory  
**Garage, repair**--satisfactory  
**Garage, storage**--might be deleted. There probably aren't any of these.  
**Garden sign**--satisfactory  
**Ground elevation**--satisfactory  
**Ground sign**--satisfactory  
**Guest house**--satisfactory  
**Hanging sign**--satisfactory  
**Historic landmark**--to be added  
**Home occupation**--to be added. This is a serious omission in the CZC and is needed to prevent obnoxious uses pene-

trating residential areas. A typical definition is:

*"Any occupation or profession carried on by a member of a family residing on the premises, provided that in connection therewith no sign is used other than one nonilluminated name plate attached to the building entrance which is not more than one square foot in area; provided that no commodity is sold upon the premises; provided that no person is employed other than a member of the immediate family residing on the premises; provided that no mechanical equipment is installed except such that is normally used for purely domestic or household purposes; and provided that not over twenty-five (25) percent of the total actual floor area of any story is used for home occupation or professional purposes."*

Home occupations would then be identified as a specific permitted accessory use in the residential and apartment districts.

**Hospital**--satisfactory  
**Hotel**--satisfactory  
**Identification sign**--satisfactory  
**Illuminated sign**--satisfactory  
**Impact vibrations**--satisfactory  
**Incremental development**--to be added  
**Indirectly illuminated sign**--satisfactory  
**Institution, educational**--to be added  
**Institution, philanthropic**--to be added  
**Kennel, commercial**--satisfactory  
**Kennel, residential**--satisfactory  
**Kitchen**--satisfactory  
**Landscaped**--satisfactory  
**Loading berth**--to be added  
**Loading space**--to be added  
**Lodging unit**--see Boarding house  
**Lot**--is referred to in the CZC as a "zoning lot," an awkward term which should be replaced. The definition of "lot" should read:

*"A parcel of land occupied or intended for occupancy by one main building together with its accessory buildings, including the open spaces*

*and parking spaces required by this Ordinance and having its principal frontage upon a street or upon an officially approved place."*

Following the definition of "lot," the following terms should be defined also:

**Lot, corner**  
**Lot, depth of**  
**Lot, double frontage**  
**Lot, flag** (or "panhandle")  
**Lot, triple frontage**  
**Lot of record**--this should replace the term "nonconforming lot." The CZC uses the term "nonconforming" in too many connections.  
**Lot width**--to be added  
**Major thoroughfare**--satisfactory  
**Marquee**--satisfactory  
**Marquee facia sign**--satisfactory  
**Moving sign**--satisfactory  
**Nonconforming lot**--see "lot of record"  
**Nonconforming structure**--satisfactory  
**Nonconforming use**--to be added  
**Nonconforming use of land**--and  
**Nonconforming use of structures**--are both satisfactory definitions except that the references to being previously lawful under former regulations should both be deleted. This requires an inordinate amount of administrative time to check out. There are probably very few uses that can be demonstrated to be "illegal" insofar as the application of a nonconforming regulation is concerned.  
**Nonilluminated sign**--satisfactory  
**Octave band filter**--satisfactory  
**Open spaces**--to be added  
**Open space-common use**--to be added  
**Owner**--satisfactory  
**Parking lot**--to be added  
**Parking space**--to be added  
**Passenger car**--to be added  
**Performance standard**--to be added  
**Plan**--satisfactory  
**Planned development project**--satisfactory  
**Portable sign**--satisfactory  
**Premises**--to be added  
**Private utilities**--satisfactory  
**Projecting sign**--satisfactory  
**Public open space**--satisfactory but should be located with the other open space definitions  
**Retaining wall**--satisfactory

**Roof level**--satisfactory  
**Roof sign**--satisfactory  
**School**--to be added  
**Servant's quarters**--regulations should be removed from definition  
**Setback**--to be added  
**Shopping center**--to be added  
**Sign**--satisfactory  
**Sign area**--satisfactory  
**Slope**--see "cross slope"  
**Sound level meter**--satisfactory  
**Steady state vibrations**--satisfactory  
**Story**--to be added  
**Story, half**--to be added  
**Street**--satisfactory  
**Street centerline**--to be added  
**Street clock**--satisfactory  
**Street frontage**--satisfactory  
**Street line**--to be added  
**Street, major**--satisfactory  
**Street, minor**--satisfactory  
**Street, secondary**--satisfactory  
**Street setback line**--definition is satisfactory but regulations should be relocated to a different part of the ordinance  
**Structure**--satisfactory  
**Student center**--omit as unnecessary  
**Student dormitory**--omit as unnecessary  
**Substantial conformity**--to be added  
**Temporary use**--to be added  
**Three-component measuring system**--satisfactory  
**Time sharing**--to be added  
**Townhouse or rowhouse**--to be added  
**Use**--satisfactory  
**Utility installation**--satisfactory  
**Vacation cabin**--satisfactory  
**Veterinary hospital or clinic**--to be added  
**Wall**--to be added  
**Wall sign**--satisfactory  
**Warehouse**--to be added  
**Windmill**--to be added  
**Wind sign**--satisfactory **Yard**--satisfactory  
**Yard, front**--satisfactory  
**Yard, rear**--satisfactory  
**Yard, side**--satisfactory  
**Zoning lot**--delete

### Nonconforming Use Provisions

An unknown, but probably large, number of existing property uses do not conform with the zoning regulations and particularly with the regulations of the special districts. As recom-

mended previously, it is important to know the location and characteristics of these "nonconforming" properties.

There are four categories of these:

1. **Land** the use of which does not conform to the use regulations of the district in which the land is located.
2. **Buildings** the use of which does not conform to the use regulations of the district in which they are located.
2. **Buildings** which have been built higher, with shallower yards, with greater density, or with greater bulk than permitted by the district regulations of the district in which they are located.
4. **Lots of record** which are smaller than the minimum required for any use allowed in the district in which they are located and which were under a separate ownership on the day on which the minimum lot size was established.

Only the buildings and land in categories 1 and 2 above are usually termed "nonconforming uses." Regulations affecting all four categories should distinguish between them very carefully as, obviously, each should be treated somewhat differently.

Before final nonconforming regulations are written, the extent of existing nonconformities needs to be known. It is likely that changes in the zoning maps or in the regulations themselves would eliminate a part of the number of nonconformities.

The above principle is in the state enabling act for zoning, i.e., that "no ordinance...shall prohibit the continuance of the lawful use of any building or premises...at the time this...ordinance takes effect." The basic theory is that the nonconforming uses and buildings will grow old, become worn out, will be removed and be replaced by conforming uses.

The CZC regulates the four categories listed above:

**For nonconforming uses of land** the CZC prohibits enlargement; provides for discon-

tinuance if abandoned and prohibits any transfer.

**For nonconforming uses of structures** the CZC prohibits enlargement or extension; requires discontinuance if the use is abandoned; regulates any changes in use; and controls the amount of repairs (or remodeling).

**For nonconforming structures** the ordinance prohibits any enlargement or alternation that increases the nonconformity; prohibits reconstruction if the building is more than half destroyed and regulates relocations.

**For nonconforming lots** the ordinance permits a reasonable use to be made under carefully controlled circumstances.

**Recommendations.** A number of improvements should be made in the nonconforming use regulations, including:

1. Discontinuance of nonconforming use of land should be required with a five-year time limit.
2. The requirement in relation to abandonment of the nonconforming use of land should be repealed. To enforce this would require proof of intent to abandon and the five-year limit would be more effective.
3. For the nonconforming uses of structure, the "discontinuance" section should be removed because of the probable inability to enforce this. (See item 2 above.) The second part of the "change in use" paragraph should be deleted as being vague and unenforceable. A section on "damage or destruction," the same as now applied to nonconforming structures, should be applied to the nonconforming use of structures.
4. The "relocation" provision under the nonconforming structure section should be deleted. This is controlled by other sections of the CZC.
5. No change need be made in the section on the use of nonconforming lots.

A recent change in the zoning enabling act would allow amortization (or a phasing out) of nonconforming uses or signs in commercial, industrial, resort, and apartment districts. Advantage should be taken of this new provision insofar as signs are concerned. It would be of more importance to be able to eliminate nonconforming commercial and industrial uses in the residential districts, however, and the enabling act should be broadened to allow this to be done in the CZC.

A number of non-conforming provisions may cause difficulties in administering the ordinance. For example, a building may provide just the minimum number of parking spaces required. Yet these may be arranged in an awkward or even dangerous manner. A new owner may want to remodel the parking lot to make it safer, more convenient and more attractive at the sacrifice of a few of the spaces. The CZC should provide that the Director of DLU may allow this after report by the Department of Transportation Services provided that the reduction not be more than ten percent.

A provision should be added to the nonconforming use section making it clear that no nonconforming use is allowed to violate the performance standards, which are to be applied to all uses retroactively.

### **Off-Street Parking and Loading Requirements**

Previous recommendations call for a field study of parking and loading in Honolulu following which revisions would be made in the CZC requirements.

The CZC specifies general requirements for off-street parking such as arrangement, landscape planting, size of spaces, etc. and then established the requirements for the various uses in the individual district regulations. The general requirements are good; no change is recommended except that the percent of compact car spaces might be increased from 25 to 35 percent. Here again, a survey of actual conditions would be useful.

All of the off-street loading requirements are in one place in the ordinance. These are satisfactory and no change need be made.

For comparative purposes, requirements of the CZC were compared with those of the Dallas, Texas ordinance. (See Exhibit P.) There are significant differences. The Dallas requirements are much more stringent for multiple dwellings, for hospitals, hotels and similar uses. The greatest difference is in the commercial, retail and office use requirements where Dallas frequently requires twice as much parking.

This reinforces the recommendation to critically reappraise the parking requirements in the CZC.

### General Urban Design Principles

Urban design principles cited in the CZC include:

*"The development is designed to produce an environment of stable and desirable character, consistent with the intent and purpose of the cluster development regulations to promote public health, safety and general welfare, and not out of harmony with its surrounding neighborhood;"*

*"The location, size, nature, and topography of the open areas make them suitable for use as common areas for park, recreational purposes and buffer areas between groups of homesites;"*

The above provisions are for clusters.

In the Planned District-Housing, the following statement is all that provides "urban design principles":

*"The site planning shall provide among other things for:*

- (1) Grouping of structures and uses;*
- (2) Vehicular and pedestrian access;*
- (3) Protection of views;*
- (4) Creation of buffer zones where the Planned Development-Housing district adjoins a one-family residential district without an intervening*

*secondary or major street or a permanent open space at least 100 feet;*

- (5) Screening of off-street parking areas and service areas for loading and unloading vehicles and areas for storage and collection of trash and garbage."*

Each special district is to contain a "statement of objectives and design principles."

Neither the Kakaako or Waikiki special districts contain a statement of design principles. The Hawaii Capitol District contains a statement of objectives but no statement of design principles. This is true also of the Diamond Head District, the Thomas Square District, the Chinatown and the Punchbowl Districts.

Review of other ordinances reveals a similar paucity of urban design principles. The only one in the San Francisco ordinance relates to preservation of "landmark sites" although the City Planning Commission, in approving projects, relates them to the city's adopted design plan.

New York City's resolution contains the following statement in its special regulations for large-scale residential developments:

*"For such developments the regulations of this Chapter are designed to allow greater flexibility for the purpose of securing better site planning for development of*



James Campbell Industrial District.

# EXHIBIT P

## COMPARATIVE OFF-STREET PARKING

### REQUIREMENTS - HONOLULU AND DALLAS ORDINANCES

Use	Requirement in Spaces	
	Honolulu	Dallas
Botanical/Zoological Gardens	1 per 10,000 sq.ft. lot area	1 per 600 sq.ft. lot area
Golf course	3 per hole	5 per green
Animal hospital/kennel	1 per 400 sq.ft. floor area	1 per 300 sq.ft. floor area
Church	1 per 5 seats	1 per 4 seats
Dwelling-single family	2	2
Elementary school	1 per 15 seats	10 + 1 per employee
Fraternity/Sorority/dormitory	1 per 2 units	1 per 3 beds
	1 per 3 occupants	
High school/college/university	5 per classroom	20 per classroom
Hospital/nursing home	1 per 4 beds	1 per bed
Lodging units	1 per 2 units	1 per unit
Museum/art gallery	1 per 300 sq.ft. floor area	1 per 100 sq.ft. floor area
Nursery school	1 per 10 children	1 per 10 children
Consulate	1 per 400 sq.ft. floor area plus 1 per dwelling unit	NR
Two-family dwellings	1 per unit	2 per unit
Multiple dwellings		
600 sq.ft. floor area or less	1 per unit	1 space per 500 sq.ft. floor area
600 sq.ft. to 800 sq.ft. floor area	1½ per unit	Not to exceed
800 sq.ft. or more	1½ per unit	3 per unit
Homes for aged, etc.	1 per 4 beds	1 per 6 beds
Nurses' homes/institutional housing	1 per 3 units	1 per unit
Hotels	1½ per dwelling unit plus 3/4 per hotel room	1 per room
Eating/drinking establishments	1 per 100 sq.ft. floor area	1 per 100 sq.ft. floor area
Meeting rooms	1 per 20 seats	No comparable requirement
Utility installations	1 per 3 employees	1 per 1000 sq.ft. floor area
Offices and services	1 per 400 sq.ft. floor area	1 per 300 sq.ft. floor area
Clubs, lodges, etc.	1 per 100 sq.ft. floor area	1 per 100 sq.ft. floor area
Theatres	1 per 100 sq.ft. floor area	1 per 4 seats
Automobile service stations	1 per 3 employees	No comparable requirement
Bowling alley	3 per alley	
Funeral home	1 per 5 seats	1 per 300 sq.ft. floor area plus 1 per 2 seats
Furniture and automotive stores	1 per 900 sq.ft. floor area	1 per 500 sq.ft. floor area
Service establishments, printing, etc.	1 per 3 employees	1 per 300 sq.ft. floor area
Wholesaling	1 per 2 employees	1 per 500 sq.ft. floor area
Offices and stores in CBD	1 per 600 sq.ft. floor area	None required
Manufacturing/industrial establishments	1 per 2 employees	1 per 500 sq.ft. floor area
Retail stores not in CBD	1 per 400 sq.ft. floor area	1 per 200 sq.ft. floor area

Note: The Honolulu requirements sometimes vary with the zoning district or location. The above table shows the most stringent requirement. The Dallas ordinance applies parking requirements uniformly except in the two central area districts.

vacant land and to provide incentives toward that end while safeguarding the present or future use and development of surrounding areas, and specifically: to achieve more efficient use of increasingly scarce land within the framework of the overall bulk controls, to enable open space in large-scale residential developments to be arranged in such a way as best to serve active and passive recreation needs of the residents, to protect and preserve scenic assets and natural features such as trees, streams and topographic features, to foster a more stable community by providing for a population of balanced family sizes, to encourage harmonious designs incorporating a variety of building types and variations in the siting of buildings, and thus to promote and protect public health, safety, and general welfare."

The New York ordinance has 30 special districts. These each incorporate a "statement of general purposes" in sufficient detail to provide guidance in a site plan or design review, for example:

*"The 'Special Clinton District' established in this resolution is designed to promote and protect public health, safety, general welfare and amenity. Because of the unique geographical situation of the Clinton community situated between the Convention Center and its related activities and the waterfront on the west and by a growing central business district on the east it becomes necessary to propose specific programs and regulations which will assure realization of community and City-wide goals. These goals which are part of the plan for the Clinton Area include, among others, the following:*

- (a) *To preserve and strengthen the residential character of the community.*
- (b) *To permit rehabilitation and new construction within the area in character with the existing scale of the community and at rental levels which will not substantially alter the mixture of income groups presently residing in the area.*

- (c) *To preserve the small-scale character and variety of existing stores and activities and to control new commercial uses in conformity with the existing character of the area.*
- (d) *To provide amenities such as public open space and street trees to improve the physical environment.*
- (e) *To restrict demolition of buildings that are suitable for rehabilitation and continued residential use.*
- (f) *To promote the most desirable use of land in the area and thus to conserve the value of land and buildings, and thereby protect the City's tax revenues, consistent with the foregoing purposes."*

Design requirements in the El Paso, Texas ordinance for large-scale residential projects are reasonably specific. (See Exhibit Q.) The Dallas, Texas ordinance in its large-scale development provisions does not include a statement of design principles.

In Honolulu, the statement of urban design principles should refer back to the General Plan and the Development Plans. It would be best for them not to be repeated in the CZC because of the potential for confusion and the need to make two changes when the statements were revised. The Development Plans and the Urban Design Plan which is to be a part of them should be specific enough to enable them to be applied by the Director of DLU and his staff in reviewing the conformity of specific projects.

### **Recreation Standards**

Previous recommendations have indicated the advisability of a bonus provision for recreation facilities in apartment districts. The requirement of dedication of lands or payment of a fee to provide between 110 and 350 square feet of recreation lands for each dwelling unit (depending upon the zoning district and the type of residential use) should be adequate for the provision of recreation area and particularly with the additional requirement that the recreation area be developed and made usable. A previous section of this report has suggested a density bonus where a

## EXHIBIT Q

### EXCERPT FROM THE EL PASO, TEXAS ZONING ORDINANCE OUTLINING URBAN DESIGN PRINCIPLES IN THE SPECIAL DEVELOPMENT DISTRICT

#### Design Requirements

1. **Open Space and Recreation Area.** The amount and arrangement of open space and recreation area should be in accord with standards of the comprehensive plan and the purposes of the design of the development, including preservation of natural landscape, active recreation, passive recreation, and improvement of view as may be appropriate to a particular case. Both private and common use open space are to be encouraged. Open space proposed for common or general public access shall be so designated on the DSD plan and subdivision plat. Satisfactory provision for the maintenance of common open space shall be provided in accordance with procedures in Section 25-67.
2. **Preservation of the Environment.** In all P-R developments, the elements of natural environment including existing vegetation, arroyos, flood prone areas, mountains, steep slopes and other features shall be considered in planning the design and layout of buildings, location of streets and preservation of open spaces, in order to further the preservation of the natural environment.
3. **Perimeter Treatment.** The perimeter of the planned development shall be designed to insure compatibility with adjacent existing or potential development by provision of compatible uses and structures; setbacks; masonry walls; landscaping or other treatment; except that a minimum setback of 10 feet plus 2 additional feet of separation for each additional story above two, shall be maintained between any structure and the outside boundary line of the Planned Residential Development.
4. **Distance Between Buildings.** The distance between buildings shall be a minimum of 10 feet, plus 2 additional feet of separation for each additional story above two.
5. **Private Streets.** Where authorized by the Commission in approving a subdivision plat, streets may be permitted to remain in private ownership provided they meet city standards for design and construction of streets taking into consideration the needs of the project and adjacent uses and are approved by the City Engineer. Satisfactory provision for maintenance shall be provided in accordance with procedures in Section 25-67.
6. **Height Regulations.** No building shall exceed 2½ stories in height or 35 feet except that the City Plan commission may recommend and the City Council may approve height limits in excess of those mentioned above, except as provided in Section 25-64.1.
7. **Right-of-Way and Pavement Widths.** The right-of-way and pavement widths for internal ways, streets and alleys serving garden apartments, multi-family dwellings and town house clusters shall be determined from standards contained in the Subdivision Ordinance and in conformity with the estimated needs of the full development proposed and the traffic to be generated thereby, and shall be adequate and sufficient in size, location and design to accommodate the maximum traffic, parking and loading needs and the access of fire-fighting equipment and police vehicles.
8. **Off-Street Parking.** The minimum requirements for off-street parking set forth in Section 25-60 for specific uses shall be provided for all uses permitted within a planned unit development.
9. **Utilities and Public Services.** Every planned residential development shall be adequately served by essential utilities and public services such as water, sanitary sewer, storm drainage, police, fire and other similar services.

greater area was set aside for recreation. No further requirements need be imposed.

**c. Cluster and Planned Housing Developments**

Previous sections of this report have recommended that "clusters" be permitted uses in the residential and apartment districts and that the "planned housing developments" be replaced by a system of voluntary planned districts. Standards and design criteria were included in these recommendations.

**d. Conditional Use Permits, Special Permit Uses and Plan Review Uses**

These have been the subject of previously described recommendations. The plan review uses would be eliminated and would become conditional uses. The first part of Task IV listed recommendations for permitted, conditional, and special (administrative) uses, the related standards and the criteria for review of these.



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