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A PORTLAND RESIDENTIAL BLIGHT ANALYSIS

The information contained in this report was compiled by and intended for use by the staff of the City Planning Commission and the Portland Development Commission. It provides an initial survey of the entire City, using a composite scoring method of nine indices, and satisfies the need for a quick appraisal of the City's residential needs. In addition, the survey provides valuable information for estimating and allotting time on a possible Community Renewal Program.

PRELIMINARY FINDINGS

Table I and the following map depict the relative degree of blight within each census tract of the City. The highest penalty point score indicates the greatest relative presence of a blight index within that census tract. Congruently, the lower the score, the lesser the relative degree of blight.

The penalty ranges shown on the map are similar to those defined for each index in the following section. On the map, the total scores of the census tracts are grouped into six categories of increasing penalty range values. On the basis of acreage,* the map of total score discloses that:

1. 34.7 per cent of the City area is comprised of census tracts which are in the lowest one-third of the penalty scores, indicating relatively good residential status.

2. 47.1 per cent of the City area is comprised of census tracts which are in the middle one-third of the penalty scores, indicating living conditions that range from slightly above standard to slightly substandard.

3. 18.2 per cent of the City area is comprised of census tracts which are in the highest one-third of the penalty scores, indicating generally blighted residential conditions where existing circumstances limit residential livability.

The highest penalty point scores were recorded near the center of the City on both sides of the Willamette River. Within the downtown area on the west side of the river, the value score is inflated due to the limited, but blighted, residential use. East of the river, very high penalty point scores band the river from NE Fremont Street to SE Division Street.

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*Acreage, excluding the Willamette River, of tracts established at the time of the 1950 Census, April 1, 1950.

A tight ring of generally substandard area surrounds the highly blighted sections in the center. Three outlying substandard areas can also be noted: one on each side of the Willamette River in the northernmost part of the City, and one large area in the extreme southeast.

It is encouraging to find that the major portions of the City have relatively low penalty point scores. Specifically, the lowest scores were recorded in the Laurelhurst-Alameda, Eastmoreland, and King's-Cardinell Heights residential areas.

THE METHOD AND ITS APPLICATION

Selection of the Indices

The most critical consideration of this study was the selection of the indices to be used. The relevance and availability of each index required careful examination in terms of actual utility as an indicator of blight.

Since the Planning Commission's work is related to urban land units, it cannot help but become conscious of apparent blighted areas within the City. This "a priori" determination is primarily based on building and site characteristics. To apply a possible index with the objective of reaffirming preconceived blight is obviously a pitfall in determining the relevance of the index. However, this problem of relevant index selection may be overcome, in part, by gathering a large assortment of blight indices used in other cities, adding any others of possible value, and objectively questioning each index in light of its real utility as a blight indicator in this or any other city. Using this technique on a "raw list" of 48 accumulated indices, the staff arrived at a list of 22 blight indicators which appeared useful.

Availability then became the major consideration in selection from the 22 remaining indices. Two questions were asked concerning index availability. First, could the information be found? Second, could the information be translated within a reasonable length of time to a common land unit of sufficient size to be consistent with the scope of the study (i.e., neighborhood, census tract, etc.)? Of 22, only 12 were readily available in terms of access and time.

The staff then re-examined and contacted various city-wide agencies to ascertain the relevance of the remaining 12 indices. The list of 12 was narrowed to 9 indices, three being eliminated for the following reasons:

1. Tuberculosis rate: Occurrence is concentrated in only one small area with the rest of the City almost uniform in percentage. Since the object of the study is not only to locate blight but to find the degree of blight, the TB rate would not produce a significant pattern.

2. Traffic accidents: The pattern reflected the through streets principally used by vehicles rather than the routes used by pedestrians of the locality.

3. Renter occupancy: This index would tend to overweight occupancy characteristics since penalty scores were assigned. The patterns of renter occupancy concentration reflect not only poor rental areas but stable and high-quality apartment areas.

Evaluation of the Indices

The following pages include a detailed breakdown of the nine indices used in the study. Each index is individually discussed in terms of source, maximum penalty score, and penalty range. In each case, the penalty scoring includes six ranges roughly dividing the scores of each of the 61 census tracts into six units of ten census tracts. In this way, all penalty scores are relative to other penalty scores in the City.

A. Building Characteristics

1. Dilapidation of dwellings

Residential dilapidation is a principal indicator of residential deterioration and blight. The data used is derived from the 1950 U.S. Census and, because of the relative accuracy and lack of bias of this index, a maximum penalty score of 20 points was assigned.

Penalty Range

% Dilapidated	Penalty Score
0.0 - 2.4	0
2.5 - 3.9	4
4.0 - 6.4	8
6.5 - 10.9	12
11.0 - 24.9	16
25.0 +	20

2. Age of dwellings

The degree of blight of a dwelling is not necessarily related to age, but age does take on significance when related to the date of the establishment of housing regulation. The Housing Code was first enacted in Portland in 1919 and the U.S. Census has tabulated the number of dwellings built prior to 1920. For this reason, pre-1920 dwellings were selected and the index was assigned a maximum penalty of 15 points.

Penalty Range

% of Dwellings Built Prior to 1920	Penalty Score
0.0 - 22.9	0
23.0 - 31.9	3
32.0 - 43.9	6
44.0 - 59.9	9
60.0 - 79.9	12
80.0 +	15

3. Value of dwellings

The value of a dwelling reflects not only the condition of the structure but the lot size, nearby recreational and institutional facilities, and the surrounding socio-economic environment. Through interview, the F.H.A. reported that 1959 dwellings valued below $7,000 were generally considered poor loan risks. Using 1950 data from the U.S. Census, low-value housing was rather arbitrarily considered as housing valued below $5,000. Since the Census recognized only single-family dwellings, the value index was not assigned the highest maximum penalty score, but given a maximum penalty of 17.5.

Penalty Range

% of One-Family Dwellings Valued Below $5,000	Penalty Score*
0.0 - 4.9	0
5.0 - 7.9	3.5
8.0 - 13.9	7.0
14.0 - 21.9	10.5
22.0 - 29.9	14.0
30.0 +	17.5

*In three census tracts (51, 53, and 54) in the lower downtown area, no single-family dwellings were recognized. To obtain a uniform total penalty, these three tracts were assigned a factor score of value based on the percentage of maximum received in the eight other categories:

Census Tract	% of Maximum Score For All Other Indices	Assumed Penalty
51	96.0	17
53	86.0	15
54	98.0	17

B. Environmental Characteristics

1. Land use mixture

Commercial and industrial uses produce undesirable traffic, noise, odors, and space utilization when intermixed with residential use. From 1956-57 land use maps, three staff members utilized penalty points to evaluate the land use mixture within each census tract. The penalty points, individually assigned by each staff member, were averaged for final weight. Because of the direct bearing on blight and relative freedom from prejudice, the index was assigned the maximum penalty score of 20 points.

Penalty Range

Weight	Character of Pattern
0	Orderly pattern of land use; minimum amount of mixture with residential area clearly defined.
4	Mixture noticeable, located principally along major peripheral streets with little effect on residential areas.
8	Minor land use mixture along bisecting traffic routes or isolated mixture within residential areas.
12	Definite mixture both along bisecting traffic routes and pockets within residential areas.
16	Very apparent land use mixture; few self-contained residential areas with land use pattern becoming erratic.
20	Land use pattern completely disordered; maximum of mixture with isolated residential uses.

2. Park area

The amount of park area per person gives some indication of the recreational facilities available and the amount of public open space in residential areas. Each census tract touching a park received full credit for the area of that park. This inflated value, plus the lack of differentiation between developed and undeveloped park, led the staff to assign the index only 5 points as a maximum penalty score.

Penalty Range

Park Acres Per 1,000 Population	Penalty Score
0.0	5
0.1 - 0.9	4
1.0 - 1.9	3
2.0 - 3.9	2
4.0 - 14.9	1
15.0 +	0

3. Crime rate

A large number of crimes occurring in an area is an indicator of inadequacies in the social environment. Although important and compiled without bias from 1958 police records, the data indicates only the place where the crime was committed and not the residence of the offender. Accordingly, the crime rate index was assigned a maximum penalty score of 10.

Penalty Range

Felonies and Misdemeanors Per 1,000 Population	Penalty Score
0.0 - 28.9	0
29.0 - 37.4	1
37.5 - 41.9	2
42.0 - 49.9	3
50.0 - 89.9	4
90.0 +	5

C. Occupancy Characteristics

1. Monthly rent

This index relates directly to living desirability in terms of location and structural condition. The data was derived from the 1950 Census at a time in which rent controls were in effect and several low-rent war housing projects were still in use. The penalty scores were not corrected for these irregularities since time would not permit the extensive research that such correction would entail. Because of these and other inadequacies in the index, the maximum penalty score was lowered to 12.5 points.

Penalty Range

% of Rentals Below $40.00 Per Month	Penalty Score
0.0 - 26.9	0.0
27.0 - 35.9	2.5
36.0 - 41.9	5.0
42.0 - 56.9	7.5
57.0 - 69.9	10.0
70.0 +	12.5

2. Family income

Inadequate family income will, in the majority of cases, not provide for building and yard maintenance nor for the betterment of all-around living conditions. Low incomes, in part, reflect seasonal

employment and a general mobility of the population which increases the presence of vacancy. Family income does not, however, take into account the size of the family or the efficiency of income use. The 1950 U.S. Census placed the average annual income in the City at $3,051. Accordingly, the staff recognized those incomes below $3,000 as substandard and assigned a maximum penalty score of 12.5 to the index.

Penalty Range

% of Families With Annual Incomes Below $3,000	Penalty Score
0.0 - 33.9	0.0
34.0 - 37.9	2.5
38.0 - 44.9	5.0
45.0 - 49.9	7.5
50.0 - 61.9	10.0
62.0 +	12.5

3. Persons per room

Overcrowding is prevalent in blighted areas, particularly in older apartments and conversions. Yet, the number of persons per room cannot be fully equated with the degree of crowding since room size varies considerably from dwelling to dwelling. Being limited to the categories of the 1950 U.S. Census, the staff assigned a maximum penalty of 7.5 to the index.

Penalty Range

% of Dwellings With More Than One Person Per Room	Penalty Score
0.0 - 2.4	0.0
2.5 - 3.9	1.5
4.0 - 4.5	3.0
4.6 - 6.4	4.5
6.5 - 9.9	6.0
10.0 +	7.5

Dot Pattern of Low-Value and Dilapidated Dwellings

While penalty weighting compares statistically the degree of blight between census tracts, it does not convey a picture of actual blighted areas or "trouble spots". Because of this lack of refinement, an entire census tract could be assigned a relatively high penalty score resulting from a single blight concentration within the tract. For this reason,

the staff combined a dot map of the actual pattern of two principal indices with the qualitative breakdown by census tract. Dilapidation and value of housing which received the maximum weight of those indices available by block were selected and mapped by block. One dot was assigned to each block in which 20 per cent or more of the dwellings were dilapidated and to each block in which the average value of single-family dwellings was below $5,000.

The resultant map (Plate I) shows both the relative degree of blight by census tract and indicates a more accurate distribution pattern for low-value and dilapidated dwellings.

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Table 1

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 1	2	3	4	5	6	7	8
Total Score	0-120	65.0	44.5	16.0	45.0	77.5	76.0	36.0	44.0
Building Characteristics	0-52.5	35.0	24.5	7.5	20.5	35.0	38.5	17.5	17.0
Dilapidation of Dwellings	0-20	12.0	8.0	4.0	4.0	12.0	12.0	4.0	4.0
Age of Dwellings	0-15	9.0	6.0	0.0	6.0	9.0	9.0	3.0	6.0
Value of Dwellings	0-17.5	14.0	10.5	3.5	10.5	14.0	17.5	10.5	7.0
Environmental Characteristics	0-35	12.0	11.0	2.0	10.0	19.0	10.0	9.0	15.0
Land Use Mixture	0-20	8.0	4.0	0.0	7.0	8.0	5.0	3.0	11.0
Park Area	0-5	0.0	1.0	0.0	3.0	3.0	1.0	4.0	2.0
Crime	0-10	4.0	6.0	2.0	0.0	8.0	4.0	2.0	2.0
Occupancy Characteristics	0-32.5	18.0	9.0	6.5	14.5	23.5	27.5	9.5	12.0
Monthly Rent	0-12.5	7.5	5.0	5.0	7.5	10.0	10.0	5.0	2.5
Family Income	0-12.5	7.5	2.5	0.0	2.5	7.5	10.0	0.0	5.0
Persons per Room	0-7.5	3.0	1.5	1.5	4.5	6.0	7.5	4.5	4.5

Table 1

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 9	10	11	12	13	14	15	16
Total Score	0-120	52.5	87.0	106.5	62.0	78.0	71.0	7.5	33.5
Building Characteristics	0-52.5	21.0	38.0	46.0	24.5	38.5	35.0	0.0	14.0
Dilapidation of Dwellings	0-20	8.0	12.0	20.0	12.0	16.0	16.0	0.0	4.0
Age of Dwellings	0-15	6.0	12.0	12.0	9.0	12.0	12.0	0.0	3.0
Value of Dwellings	0-17.5	7.0	14.0	14.0	3.5	10.5	7.0	0.0	7.0
Environmental Characteristics	0-35	21.0	23.0	32.0	22.0	19.0	22.0	5.0	9.0
Land Use Mixture	0-20	14.0	14.0	18.0	14.0	11.0	11.0	0.0	5.0
Park Area	0-5	3.0	3.0	4.0	4.0	4.0	5.0	5.0	0.0
Crime	0-10	4.0	6.0	10.0	4.0	4.0	6.0	0.0	4.0
Occupancy Characteristics	0-32.5	10.5	26.0	28.5	15.5	20.5	14.0	2.5	10.5
Monthly Rent	0-12.5	2.5	10.0	10.0	5.0	7.5	5.0	2.5	2.5
Family Income	0-12.5	5.0	10.0	12.5	7.5	10.0	7.5	0.0	5.0
Persons per Room	0-7.5	3.0	6.0	6.0	3.0	3.0	1.5	0.0	3.0

Table 1

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 17	18	19	20	21	22	23	24
Total Score	0-120	55.0	47.0	4.0	66.0	107.0	116.0	105.0	37.0
Building Characteristics	0-52.5	28.5	21.0	0.0	31.5	49.0	52.5	48.5	17.0
Dilapidation of Dwellings	0-20	12.0	8.0	0.0	12.0	20.0	20.0	16.0	8.0
Age of Dwellings	0-15	6.0	6.0	0.0	9.0	15.0	15.0	15.0	9.0
Value of Dwellings	0-17.5	10.5	7.0	0.0	10.5	14.0	17.5	17.5	0.0
Environmental Characteristics	0-35	12.0	17.0	4.0	23.0	32.0	31.0	28.0	15.0
Land Use Mixture	0-20	5.0	12.0	3.0	14.0	20.0	18.0	14.0	9.0
Park Area	0-5	3.0	5.0	1.0	1.0	2.0	3.0	4.0	2.0
Crime	0-10	4.0	0.0	0.0	8.0	10.0	10.0	10.0	4.0
Occupancy Characteristics	0-32.5	14.5	9.0	0.0	11.5	26.0	32.5	28.5	5.0
Monthly Rent	0-12.5	7.5	2.5	0.0	2.5	10.0	12.5	10.0	0.0
Family Income	0-12.5	2.5	5.0	0.0	7.5	10.0	12.5	12.5	5.0
Persons per Room	0-7.5	4.5	1.5	0.0	1.5	6.0	7.5	6.0	0.0

Table I

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 25	26	27	28	29	30	31	32
Total Score	0-120	15.0	11.0	16.0	14.0	12.0	10.0	30.5	34.0
Building Characteristics	0-52.5	3.0	0.0	3.0	3.0	3.5	3.5	16.0	17.0
Dilapidation of Dwellings	0-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
Age of Dwellings	0-15	3.0	0.0	3.0	3.0	0.0	0.0	9.0	6.0
Value of Dwellings	0-17.5	0.0	0.0	0.0	0.0	3.5	3.5	7.0	7.0
Environmental Characteristics	0-35	12.0	11.0	13.0	11.0	7.0	5.0	12.0	12.0
Land Use Mixture	0-20	5.0	2.0	5.0	8.0	4.0	3.0	5.0	5.0
Park Area	0-5	5.0	1.0	4.0	3.0	1.0	2.0	5.0	5.0
Crime	0-10	2.0	8.0	4.0	0.0	2.0	0.0	2.0	2.0
Occupancy Characteristics	0-32.5	0.0	0.0	0.0	0.0	1.5	1.5	2.5	5.0
Monthly Rent	0-12.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5
Family Income	0-12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Persons per Room	0-7.5	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0

Table 1

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 33	34	35	36	37	38	39	40
Total Score	0-120	79.5	81.5	57.0	38.5	38.5	42.0	42.5	56.0
Building Characteristics	0-52.5	37.5	38.0	27.5	14.0	11.0	15.0	10.5	25.5
Dilapidation of Dwellings	0-20	8.0	12.0	8.0	4.0	8.0	8.0	0.0	12.0
Age of Dwellings	0-15	12.0	12.0	9.0	3.0	3.0	0.0	0.0	3.0
Value of Dwellings	0-17.5	17.5	14.0	10.5	7.0	0.0	7.0	10.5	10.5
Environmental Characteristics	0-35	20.0	26.0	15.0	14.0	16.0	18.0	7.0	7.0
Land Use Mixture	0-20	7.0	13.0	9.0	6.0	7.0	9.0	4.0	2.0
Park Area	0-5	5.0	5.0	2.0	2.0	1.0	3.0	1.0	3.0
Crime	0-10	8.0	8.0	4.0	6.0	8.0	6.0	2.0	2.0
Occupancy Characteristics	0-32.5	22.0	17.0	14.5	10.5	11.5	9.0	25.0	23.5
Monthly Rent	0-12.5	7.5	5.0	5.0	5.0	7.5	5.0	12.5	10.0
Family Income	0-12.5	10.0	7.5	5.0	2.5	2.5	2.5	5.0	7.5
Persons per Room	0-7.5	4.5	4.5	4.5	3.0	1.5	1.5	7.5	6.0

Table 1

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 41	42	43	44	45	46	47	48
Total Score	0-120	61.5	88.0	75.5	49.5	91.5	18.5	57.5	71.0
Building Characteristics	0-52.5	25.5	42.5	36.5	21.5	39.0	10.0	28.5	31.5
Dilapidation of Dwellings	0-20	8.0	16.0	16.0	4.0	16.0	4.0	16.0	16.0
Age of Dwellings	0-15	0.0	9.0	3.0	0.0	9.0	6.0	9.0	12.0
Value of Dwellings	0-17.5	17.5	17.5	17.5	17.5	14.0	0.0	3.5	3.5
Environmental Characteristics	0-35	11.0	18.0	9.0	13.0	25.0	6.0	14.0	19.0
Land Use Mixture	0-20	4.0	7.0	9.0	5.0	15.0	0.0	6.0	8.0
Park Area	0-5	1.0	3.0	0.0	0.0	0.0	0.0	4.0	5.0
Crime	0-10	6.0	8.0	0.0	8.0	10.0	6.0	4.0	6.0
Occupancy Characteristics	0-32.5	25.0	27.5	30.0	15.0	27.5	2.5	15.0	20.5
Monthly Rent	0-12.5	12.5	12.5	12.5	0.0	12.5	0.0	5.0	7.5
Family Income	0-12.5	5.0	7.5	10.0	7.5	7.5	2.5	10.0	10.0
Persons per Room	0-7.5	7.5	7.5	7.5	7.5	7.5	0.0	0.0	3.0

Table I

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores								
	Penalty Range	Census Tract 49	50	51	52	53	54	55	56
Total Score	0-120	85.0	98.5	115.5*	83.5	103.5*	117.5*	98.0	94.5
Building Characteristics	0-52.5	42.0	49.0	52.0*	35.5	50.0*	52.0*	52.5	42.5
Dilapidation of Dwellings	0-20	16.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Age of Dwellings	0-15	12.0	15.0	15.0	12.0	15.0	15.0	15.0	12.0
Value of Dwellings	0-17.5	14.0	14.0	17.0*	3.5	15.0*	17.0*	17.5	10.5
Environmental Characteristics	0-35	24.0	31.0	31.0	22.0	25.0	33.0	16.0	25.0
Land Use Mixture	0-20	11.0	16.0	17.0	9.0	13.0	19.0	5.0	13.0
Park Area	0-5	5.0	5.0	4.0	5.0	2.0	4.0	5.0	4.0
Crime	0-10	8.0	10.0	10.0	8.0	10.0	10.0	6.0	8.0
Occupancy Characteristics	0-32.5	19.0	18.5	32.5	26.0	28.5	32.5	29.5	27.0
Monthly Rent	0-12.5	7.5	2.5	12.5	7.5	10.0	12.5	12.5	10.0
Family Income	0-12.5	10.0	10.0	12.5	12.5	12.5	12.5	12.5	12.5
Persons per Room	0-7.5	1.5	6.0	7.5	6.0	6.0	7.5	4.5	4.5

*Includes factor score for value of housing.

Table I

CITY-WIDE ANALYSIS OF RESIDENTIAL BLIGHT

Portland, 1960

Index	Penalty Scores					
	Penalty Range	Census Tract 57	58	59	60	61
Total Score	0-120	114.5	30.5	85.5	31.0	37.0
Building Characteristics	0-52.5	52.5	17.5	39.5	14.0	15.5
Dilapidation of Dwellings	0-20	20.0	8.0	16.0	4.0	12.0
Age of Dwellings	0-15	15.0	6.0	6.0	3.0	0.0
Value of Dwellings	0-17.5	17.5	3.5	17.5	7.0	3.5
Environmental Characteristics	0-35	31.0	0.0	16.0	4.0	6.0
Land Use Mixture	0-20	17.0	0.0	10.0	2.0	1.0
Park Area	0-5	4.0	0.0	0.0	0.0	5.0
Crime	0-10	10.0	0.0	6.0	2.0	0.0
Occupancy Characteristics	0-32.5	31.0	13.0	30.0	13.0	15.5
Monthly Rent	0-12.5	12.5	5.0	12.5	10.0	10.0
Family Income	0-12.5	12.5	5.0	10.0	0.0	2.5
Persons per Room	0-7.5	6.0	3.0	7.5	3.0	3.0

Plate I.

RESIDENTIAL BLIGHT

Total Penalty Scores By 1950 Census Tracts And Block Distribution Of Dilapidation And Value Of Dwellings, Portland, Oregon, 1960

INDICES OF BLIGHT

dilapidation of dwellings
age of dwellings
value of dwellings

land use mixture
park area
crime rate

monthly rent
family income
persons per room

Penalty Range

0	–	24.9	
25	–	39.9	
40	–	56.9	
57	–	76.9	
77	–	96.9	
97	–	120.0	

Dot Pattern

• Each dot represents a block 20% or more dilapidated or block in which one-family dwellings average less than $5,000.

0 20 40 80
hundreds of feet

PORTLAND CITY PLANNING COMMISSION

AUGUST 1960