Assessment of Earthquake Damage to Properties in Selected Localities of Alaska with Special Consideration of the Turnagain Urban Renewal Area in Anchorage, Alaska

SUMMARY OF FINDINGS

1. Individual damage assessment reports were obtained for 946 residential properties located in five proposed urban renewal areas in four Alaska communities, Anchorage, Valdez, Seward, and Kodiak. Due to the concentration of housing damage in these areas, these residential properties comprise the great bulk of residential damage in Alaska.

2. Of these 946 surveyed properties, some 80 percent were located in Anchorage, and, in turn, four-fifths of the Anchorage residential parcels were located in the Turnagain area.

3. Sharp differentials exist between the values of Turnagain residential properties in Anchorage and those in Valdez, Kodiak, and Seward. The Turnagain properties represent, essentially, a modern, recently built, quality housing inventory, while those in the other areas constitute, for the greatest part, an historical accretion of underbuilt, underequipped and undersized structures.

4. Within Turnagain the modal value of properties is between $30,000 and $40,000 which is only moderately above the minimum $25,000 required to obtain minimum FHA-insurable single family housing in the area. Estimated equities generally are $5,000 in the properties valued between $25,000 - $35,000 and $10,000 for properties valued at $35,000 - $40,000.

5. Damage in the Turnagain area was bimodal in nature, with some 40 percent of the properties suffering damage of less than 30 percent and some 46 percent suffering damage of 60 percent or more, with only approximately 15 percent in the intervening categories of moderate-to-substantial damage.

6. Among the moderately damaged structures (less than 30 percent) somewhat less than one-fourth can be repaired on the basis that outstanding mortgage balance plus cost of repairs will not exceed original mortgage indebtedness. On the other hand, another 56 percent can be repaired on the basis that outstanding mortgage balance plus cost of repairs will not exceed by more than one-fifth the original amount of mortgage. The two categories cover approximately 80 percent of all moderately damaged properties in Turnagain. In the category of damage amounting to 60 percent or more, remaining balance plus cost of damage repair amounts to 160 percent or more of the original mortgage amount in practically all of the cases.

Assessment of Earthquake Damage to Properties In Selected Localities of Alaska with Special Consideration of the Turnagain Urban Renewal Area in Anchorage, Alaska

Introduction

In the following analysis an evaluation is made of damage sustained by residential properties in the four localities which were most severely affected by the March 27 earthquake. The principal intent of this evaluation is to ascertain the value and financial characteristics of the destroyed and damaged properties in order that appropriate measures of assistance can be developed for the affected property owners.

The analysis is based upon 1,369 individual damage assessment reports covering properties in five proposed urban renewal areas. Approximately 70 percent, or 946, of these properties were residential; 311 were nonresidential; and 112 parcels consisted of vacant sites. Total property damage in the five urban renewal areas amounted to some $36 million, and this is compared to a total real property damage estimate in Alaska (excluding damage to privately owned utilities) of some $57.5 million. The State-wide damage estimates were developed under the direction of Mr. Leevern Johnson, HHFA representative, and a copy of his final report is attached to this analysis. (Note: The attached Johnson damage assessment estimate establishes a State-wide 20 percent contingency factor to cover possible underreporting and underestimating, but this has not been considered in the foregoing comparison.) Damage, therefore, within the five urban renewal areas would amount to only somewhat less than two-thirds of all Alaska real property damage.

Several factors suggest that the urban renewal area coverage included the great bulk of damaged residential properties. First, the localities of Anchorage, Kodiak, Seward, and Valdez were the largest and most densely populated communities within the earthquake zone. In these localities the selected urban renewal areas contained the highest concentration of destroyed and damaged properties. Secondly, as will be pointed out in a subsequent section of this analysis, damaged residential properties in the localities of Seward, Kodiak, and Valdez were not only comparatively few in number, but their values were substantially below those which prevailed in Anchorage. In these localities, the ratio of nonresidential dollar damage to residential damage exceeded 8:1 -- and a similarly high ratio of nonresidential to residential damages would be expected in the other small communities and sparsely settled sections of Alaska which were affected by the earthquake.

In fact, the financial characteristics of Anchorage properties -- especially those in the Turnagain urban renewal area -- can be considered as providing the bases of development of appropriate relief measures. Residential properties in the two Anchorage urban renewal areas constituted

7. Eighty-six, or about 36 percent, of the 239 Turnagain area properties can be restored on the basis that outstanding mortgage balance plus cost of repair will not exceed the pre-earthquake value of the property. All but 8 of these 86 properties sustained damages of less than 30 percent. An additional 35, or 15 percent, can be restored on the basis that the combined obligations will not exceed by more than one-fifth the previous value of the property. Twenty-four of these 35 properties sustained damages under 50 percent. In one-fourth of the 239 cases, the old indebtedness plus damage repair costs will exceed by 50 percent the pre-earthquake value of the property, and in practically all of these instances the properties sustained 60 percent or more damage.

almost four-fifths of all residential units included within the urban renewal projects of all four localities. In turn, the 618 residential units in the Turnagain urban renewal area amounted to over four-fifths of all residential properties included in the two urban renewal projects proposed for Anchorage.

Refinement of May 9, 1964, Damage Estimate

The following table sets forth a refined summary of damage in the five proposed urban renewal areas, obtained from recomputation of the individual damage assessment reports transmitted to Washington. Recomputation yields very little additional precision with respect to gross damage estimates in the five urban renewal areas. However, this tabulation provides a clearer picture by identifying damage sustained by residential, nonresidential, and vacant land properties. These damages, also, are related to the before earthquake (BEQ) and after earthquake (AEQ) values of the properties.

This recomputation suggests that a high degree of reliability can be attributed to the attached Leevern Johnson damage estimate, with respect to both urban renewal area coverage and coverage outside of such areas.

Summary of Damage

To summarize briefly the foregoing table, Anchorage suffered the most severe (in dollar amounts) damage from the earthquake. The two urban renewal areas in Anchorage sustained two-thirds of the entire dollar damage suffered in all five urban renewal areas. Within Anchorage, damage to residential properties was some 2½ times greater than damage sustained by nonresidential properties despite the large-scale damages suffered by downtown commercial properties. This is largely attributable to the much greater number of residential properties (with typically high values) which were damaged, among which were 15 apartment house projects, four of which had combined pre-quake values of approximately $5.5 million.

In Valdez, Seward, and Kodiak, nonresidential property damage was about eight times greater than damage sustained by residential properties, some $8.5 million as compared to approximately $1 million. This can be attributed not only to the comparatively very high proportion of nonresidential properties which were damaged, but also -- as will be shown later -- by the very low values of the damaged residential properties.

Interestingly, even vacant ground suffered damage as a result of the earthquake. The heaving, sliding, and altered tidewater levels seriously impaired the future utility of many sites. These damages amount to somewhat under $1 million, with about 80 percent of this occurring among the high-priced residential acreage of Turnagain, in Anchorage.

Damage ($000) Sustained in Designated Urban Renewal Project Areas, Selected Localities in Alaska

Urban Renewal Area	Residential Properties				Non-Residential Properties				Vacant Land				Total			
	No.	BEQ Value	AEQ Value	Damage	No.	BEQ Value	AEQ Value	Damage	No.	BEQ Value	AEQ Value	Damage	No.	BEQ Value	AEQ Value	Damage
Anchorage Central Business District	117	$10,017	$5,098	$4,918	117	$31,417	$24,678	$ 6,739	8	$ 65	$ 6	$ 59	242	$41,498	$29,782	$11,716 *(12,923)
Anchorage, Turnagain	618	23,586	11,387	12,199	0	0	0	0	52	846	140	706	670	24,432	11,527	12,905 *(12,909)
Valdez	102	1,008	439	569	90	2,559	348	2,211	45	139	7	132	237	3,705	794	2,911 * (2,915)
Seward	73	625	357	268	37	7,183	2,909	4,274	0	0	0	0	110	7,809	3,266	4,543 * (4,549)
Kodiak	936	33,634	17,355	16,279	367	42,939	28,964	13,975	7	289	258	31	110	3,862	1,576	2,286 * (2,374)
Total	946	35,870	17,636	18,233	311	44,098	28,899	15,199	112	1,339	411	928	1,369	81,306	46,945	34,361 *(35,670)

* From Leevern Johnson report of May 9, 1964

Note: Very minor differences attributable to rounding

Pre-Quake Value of Residential Properties

The damage reports show very sharp differences between the values of Anchorage urban renewal area residential properties and values of residential properties in the urban renewal areas of Valdez, Seward, and Kodiak. These differences can readily be explained by the equally sharp distinctions among the economic bases of these localities. Anchorage constitutes the largest commercial center in Alaska, with a strong undergirding of its economic base by two of the largest military installations in the State. This relatively strong economic base has supported a vigorous homebuilding program, and in fact, of the four localities under consideration, Anchorage would be the only one containing a housing inventory in which modern-type, quality housing dominates. The other three localities, by contrast, have not been able to provide a broad enough middle-class housing market base to support significant amounts of new, quality construction. Their housing inventories are dominated by an historical accretion of marginal housing resources, built to needs and standards of a previous era.

The foregoing is illustrated in the following table which indicates the pre-earthquake value of residential properties in the five urban renewal projects.

Pre-Quake Value of Properties in
Five Urban Renewal Areas, Alaska

Pre-Earthquake Value of Property	Percent Distribution				
	Anchorage CBD UR Area	Anchorage Turnagain UR Area	Valdez UR Area	Seward UR Area	Kodiak UR Area
Under $20,000	34.2	2.1	89.2	93.2	61.1
$20,000-$24,999	11.1	3.4	7.8	6.8	19.4
25,000- 29,999	16.2	11.5		0	
30,000- 34,999	7.7	27.8	1.0	0	8.3
35,000- 39,999	4.3	23.1		0	
40,000- 44,999	9.4	13.1	0	0	8.3
45,000- 49,999	1.7	7.9		0	
50,000- 54,999	0.9	3.1	2.0	0	
55,000-59,999		2.4		0	
60,000- 64,999	1.7	1.1		0	2.8
65,000 - 69,999		2.4		0	
70,000 & over	11.9 1/	2.0		0	

1/ 15 properties, in all, of which 14 are apartment house structures.

It is seen that the Kodiak, Valdez, and Seward UR areas contained the highest proportions of low-value housing. The "under $20,000" category assumes significance when related to opinion from the FHA Insuring Office in Anchorage that new, modern detached single-family sales housing, meeting FHA minimum standards, cannot be marketed in Anchorage for less than $22,000. In smaller communities, prices would tend to be even higher in view of the increased materials transportation costs and smaller scope of building operations.

The heavy incidence of this under-$20,000 housing in Kodiak, Valdez, and Seward suggests a housing inventory dominated by underbuilt, undersized, and underequipped structures. As will be shown later, much of this housing falls in the under-$10,000 category, which, in effect, would represent basically "shack" construction, e.g., 400-500 square feet of living space, pier foundations, inadequate insulation, and less-than-complete plumbing facilities. To a lesser, but nonetheless significant degree, such poorer quality housing is also encountered in the downtown Anchorage urban renewal area.

On the other hand, the Turnagain housing inventory represents, essentially, modern postwar construction built to quality standards. It should be noted that although previous newspaper accounts identified Turnagain as an area of "luxury" homes, the great bulk of the structures were, in fact, represented by "middle-class" subdivision homes. Some 51 percent of the housing units in the Turnagain urban renewal area were valued between $30,000-$40,000.[1/] These values would provide little more than a single-story structure of approximately 1,000 square feet, with such possible extras as a garage, fireplace, and an additional bath or lavatory.

Damage by Pre-Quake Value of Property

Tables 1-a through 1-e provide a tabulation of damage sustained by residential properties in each of the five urban renewal areas, classified by pre-earthquake value of the property. Because of the previously described wide variations in the value of properties among the five urban renewal areas, no attempt was made to consolidate the results of all five tables. Instead, a brief summary of each follows:

Table 1-a, Anchorage Downtown Business District UR Area -- Data in this table are confined to structures containing 1-4 housing units; the great bulk would be represented by single-family housing. About one-fourth of the 102 housing units suffered less than 20 percent damage; some 43 percent sustained damage

1/ An August 1963 housing market analysis for the Anchorage area indicated a pre-Federal income tax median family income of approximately $10,100, with 24 percent of the families having incomes of over $15,000.

of 50 percent or more; and the remaining 31 percent suffered damage between 20 and 50 percent. Lower value properties suffered somewhat less proportional damage than did higher-price properties, but the differential is not especially marked.

Table 1-a(1), Anchorage Downtown Business District UR Area -- This table covers 15 properties containing five or more units, and these represent, essentially, the downtown-oriented apartment house facilities in Anchorage. These structures suffered proportionately much more greatly than did the structures with only 1-4 units. Eight, or over half of these properties, suffered damage of 50 percent or more, and these 8 properties had a pre-quake value of approximately $5 million.

Table 1-b, Anchorage Turnagain UR Area -- These properties were dominated by single-family structures, although there was a significant number of duplexes, in which owner-occupancy of one unit was prevalent. The area had no apartment house developments.

Some 28 percent of the 618 properties in the area suffered 20 percent or less damage. Within this group, moderate and lower-priced properties (for the area) fared comparatively well. Whereas $30,000-$40,000 properties constituted about one-half of the UR parcels, they constituted about two-thirds of the properties which sustained this comparatively minor degree of damage.

On the other hand, the more expensive properties appear to have suffered somewhat more heavily than did all others. To illustrate, some 11 percent of the Turnagain UR properties were valued at $50,000 or more; yet, among the 326 properties suffering 50 percent or more damage, 53, or some 17 percent, were valued at $50,000 and over. This may have been a result of location, since more expensive homes were located on the bluff overlooking Knik Bay.

Table 1-c, Valdez UR Area -- In line with previous comment regarding sub-standard housing in this locality, it is noted that some 30 percent of the 102 Valdez UR area residential properties had pre-quake values of under $5,000; almost 70 percent, in all, had values below $10,000; and some 89 percent, in all, were valued under $20,000. It is obvious that most of the damaged housing units were underbuilt, undersized, and underequipped.

Almost 40 percent of the 102 units suffered damage in excess of 90 percent, and some 60 percent, in all, suffered in excess of 50 percent.

Only 11 properties were valued in excess of $20,000, and by this price criterion, might be considered suitable for moving to the new townsite. Six of these units suffered damage of less than 40 percent, but 3 may be considered total losses.

Table 1-d, Seward UR Area -- Seward's UR area housing inventory is similar to that in the Valdez UR area. Almost 40 percent of the 73 units were valued below $5,000; almost two-thirds, in all, under $10,000; and approximately 93 percent, in all, under $20,000.

Only five project area properties were valued at $20,000 or more; 4 of these suffered damage of under 40 percent, and one additional unit suffered damage between 40 and 50 percent.

Of the 41 units suffering severe damage (50 percent or more), 25 were valued at less than $5,000; and 36, in all, had values of less than $10,000.

Table 1-e, Kodiak UR Area -- It should be noted that this table enumerates and classifies only 36 residential properties, although previous OEP estimates had placed the housing inventory loss at 158 units in the City of Kodiak. This discrepancy is largely explained by the fact that very many of the residential units destroyed and damaged by the two high water inflows which followed the quake were located on the second floor of downtown commercial properties. In this survey, such parcels were classified as nonresidential by virtue of the dominant first-floor commercial use.

As in the case of Seward and Valdez, the bulk of the affected residential properties were of low value. Some 30 percent of the 36 units had values below $10,000, and approximately 60 percent, in all, had values under $20,000. Not indicated by the table is the fact that many of the over-$20,000 properties were represented by small apartment house structures, where typical average per-unit value would be under $5,000.

Of the 14 parcels valued at $20,000 or more, 5 suffered damage in excess of 50 percent.

A Detailed Analysis of the Turnagain UR Area

Mortgage finance information, consisting essentially of original principal obligation and remaining mortgage balance, was available for 239 of 618 Turnagain UR area properties. For 199 of these properties, the Alaska State Housing Authority obtained mortgage information from homeowners and lenders. For the additional 40, original mortgage indebtedness and date of mortgage initiation information were obtained from title company records; utilization of standard rates of principal amortization based upon prevailing home financing terms in the area allowed approximate estimates of remaining mortgage indebtedness at the time of the earthquake. These 239 properties constitute a 38 percent sample.

The representativeness of the sample was examined with respect to two pertinent items: (1) pre-quake value of properties, and (2) degree of damage suffered. In both respects there was a high degree of coincidence between the 239 unit sample and the 618 unit Turnagain universe. The sample included a somewhat smaller percentage of lower value properties (under $30,000) and a somewhat lower percentage of higher value properties ($60,000 and over) than did the universe of Turnagain UR properties. However, at the modal value ranges of $30,000-$40,000, where 51 percent of the 618 Turnagain urban renewal area properties occurred, the two distributions were only 2.7 percentage points apart.

The pattern of damage in the Turnagain UR area showed a bimodal distribution, with heavy concentrations at damage categories of under 20 percent and 60 percent or over. In the former category, the differential between the sample and the Turnagain universe was only 3.3 percentage points, and in the latter category, the differential amounted to only 4.1 percentage points. In turn, these variations constituted only about one-tenth of the percentage point amounts contained in the universe.

Mortgage Coverage

The available mortgage information for damaged properties did not indicate the original sales prices of the damaged properties. It can be assumed, however, that the prevailing before-earthquake values did not differ too greatly from the original sales price of the property, plus those improvements which the homeowner might have made since date of purchase. Many of the properties were comparatively new, built within the last three-four years, which would have allowed little interval for value appreciation. Also, recent comparative slowdown in employment growth and net household increases in the Anchorage area, coupled with an acceleration in residential activity (attributable largely to an abundance of mortgage funds), had created a pre-earthquake situation of heavy oversupply in the rental inventory and a moderate surplus in the home ownership supply. This, as well, would have inhibited substantial value appreciations in ownership properties.

Table 2 shows the amount of original mortgage indebtedness compared to pre-quake value of residential properties in the Turnagain area for the 237 properties for which such information was available. Seventy percent of the original mortgage amounts were concentrated between $25,000-$35,000, with the latter figure approaching the top $37,500 limit insurable under the FHA single-family mortgage insurance program in Alaska. This is shown in the following distribution of original mortgage indebtedness, as extracted from Table 2:

under $20,000	6.0 percent
$20,000-$24,999	13.5
25,000- 29,999	32.9
30,000- 34,999	37.1
35,000- 39,999	8.0
40,000 and over	2.5

For those mortgage categories where there was a sufficient number of cases for statistical consideration, it is noted that, related to pre-quake value of the property, original mortgage indebtedness ranged from 79 percent to 87 percent, with ratios of 85 percent encountered in properties with mid point modal values of $32,500 and with 87 percent in properties with mid point modal values of $37,500.

Among properties valued at $20,000-$34,999, the typical equity involvement amounted to $5,000; for properties valued at $35,000-$39,999, the equity involvement amounted to $10,000.

For approximately 85 percent of Turnagain UR area homeowners, the equity involvements amounted to some $5,000 -- and this finding is supported by a $4,600 estimate for all Anchorage single-family properties, as obtained by the FHA Insuring Office Director in Anchorage from a survey of all area mortgage lenders and servicing agents.

Feasibility of Repair Measured in Terms of Resultant Financial Obligations Upon the Homeowner

Aside from the sheer physical limitations imposed by absolute damages to the housing structures, the ability of the homeowner to undertake extensive repair to his damaged home will be determined by his ability to work out, with the old mortgage holder and available new financing, an arrangement to discharge or recast previous mortgage indebtedness and accommodate new indebtedness required to carry out needed repairs.

In Table 3, a comparison is made of two factors. The first is represented by a ratio, i.e., the sum of owed balance on the outstanding mortgage plus total damage estimate, divided by original mortgage amount. The second is the percent of damage suffered by the structure, which is derived by dividing total damage by pre-quake value of the property.

The significance of the first factor rests with the assumption that the original mortgage indebtedness represented the top reasonable amount of mortgage debt which the homeowner could carry. (Note: The great bulk of Turnagain area mortgages were FHA-insured.)

An examination of Table 3 shows, as previously indicated, that there is a bimodal distribution of damage. Approximately 40 percent of the units suffered damage amounting to less than 30 percent, while some 46 percent of the units sustained damage of 60 percent or more.

Among the 92 properties with less than 30 percent damage, about one-fourth can be repaired on the basis that the resultant financial obligation (previous indebtedness plus cost of repairs) will not exceed original mortgage indebtedness. An additional 56 percent of these properties can be restored on the basis that outstanding indebtedness plus cost of repairs will exceed the original amount of mortgage by less than 20 percent. These two categories cover about 80 percent of the moderately damaged properties in the Turnagain urban renewal area.

In the category of damage amounting to 60 percent or more of pre-quake value, almost universally, the financial obligation plus amount of damage amount to 160 percent or more of previous mortgage indebtedness.

Feasibility of Repair Measured in Terms of Resultant Value of the Property

The value of any home rests essentially with its comparability with values of other homes in the community. Such value is expressed as a "price" at time the property is sold. Under conditions of extremely liberal loans for repair and restoration of damaged homes, it is possible that homeowners might assume the entire previous indebtedness plus cost of damage repair in a new loan. Homeowners thus may emerge with indebtedness that substantially exceeds the true value of the home -- when viewed in terms of other home values in the locality. For these homes with such a very high debt structure, there might emerge a problem with respect to resale. It is highly probable that many homeowners with debts exceeding housing value may wish, at some future date, to improve their housing conditions or move to a different locality. Continued fulfillment of these "lopsided" financing obligations can be maintained only via sales involving assumption of mortgage by the new purchaser. Several serious problems may be encountered in these circumstances:

1. The new homebuyer may not have sufficient equity to match that of the previous homeowner, in which case either total refinancing or junior liens must be initiated.

2. Unaware of the advantages of easy financing, the new homebuyer may reject a debt burden which substantially exceeds the value of the house.

3. The original homeowner may be leery of and hesitant to enter into any mortgage assumption sale which continues to bind him to the property, in turn making him responsible for possible defaults of the new homebuyer.

Table 4 introduces a comparison which deals with this element. Two factors are considered. The first is represented by a ratio wherein the outstanding balance of mortgage plus total damage costs is divided by the pre-earthquake value of the property. The second factor consists of the degree of property damage sustained. As in the previous tables, this latter factor is obtained by dividing total damage by pre-quake value of the property.

As in the case of Table 3, the same bimodal distribution of damages is noted, with comparatively heavy incidence at the two extremes, i.e., minor damage and substantial damage, with fairly light incidence in the moderate-to-heavy range. Here, it is noted that 86 of the 239 properties, or 36 percent, can be restored on the basis that old indebtedness plus damage repair cost will not exceed the pre-quake value of the property. All but 8 of these 86 properties sustained damage of less than 30 percent. An additional 35, or 15 percent, can be restored on the basis that old indebtedness plus damage repair cost will not exceed by more than one-fifth the pre-quake value of the property. Twenty-four of these 35 properties sustained damage under 50 percent. In one-fourth of the cases, the old indebtedness plus damage repair cost will exceed by 50 percent or more the pre-quake value of the property, and in practically all of these instances the properties suffered 60 percent or more damage.

In the above, wherein consideration is given to resultant indebtedness which will exceed the pre-quake value of the property, recognition is given to the fact that favorable financing can, to some extent, be capitalized in the sales price of the homes. Various formulas that take account of favorable financing will have to be devised to fit the cases under different conditions.

Alaska STATE HOUSING AUTHORITY

T. E. ELLIOTT
EXECUTIVE DIRECTOR

May 9, 1964

Mr. Dwight Ink
Federal Reconstruction & Development
Planning Commission
Room 1109
1815 H Street
Washington, D. C.

Re: Anderson Report
Submission #7
Final summary of Alaskan
Quake Damage to the Private
Sector

Dear Mr. Ink:

This report is a summary of all of the damage estimates that have been submitted to you. This concludes the findings of the survey in relation to the total damage in the area.

Data on characteristics of mortgage financing in relation to damage losses in the Turnagain area is being compiled and will be mailed as soon as it is completed. Similar data for the other urban renewal areas will also be submitted.

I wish to express my appreciation to all of the people who have helped in compiling this information and to all the state and federal agencies whose help was invaluable. Without the cooperation and help of these people the survey would have been impossible.

I have appreciated the opportunity of participating in the survey.

Sincerely yours,

Leevern Johnson

Leevern Johnson
HHFA Coordinator of Anderson Survey

LJ:smw

ALASKA REAL PROPERTY DAMAGE REPORT

FOR ANDERSON COMMITTEE

	Damage to Real Property other than Utility	Private Utility Damage	
Greater Anchorage Borough			
Downtown U. R. Area	$12,922,883		
Turnagain U. R. Area	12,909,100		
Anchorage Outside U. R. Projects	7,297,700		
Total in City of Anchorage except Utilities	$33,129,683		
Chugach Electric in City		$1,680,000	
Anchorage Natural Gas in City		700,000	
Damage Outside of City	$ 1,102,500		
Portage	262,000		
Girdwood	121,850		
Eagle River and Chugiah	54,750		
Basher	35,000		
Total Outside City of Anchorage except Utilities	$ 1,576,100		
Utilities Outside of City			
Chugach		$3,120,000	
Private Water Systems		236,000	
Anchorage Natural Gas		300,000	
Total Greater Anchorage Borough			$40,741,783
Matanuska Susitna Borough	$ 106,500		
Private Utilities-Matanuska Electric		10,000	
Borough Total			$116,500
Glenn & Richardson Highway Area	$60,850		
Private Utilities- Copper River Electric Assn.		25,000	
Total			$85,850
Kenia Peninsula Borough			
Homer	$1,113,300		
Hope	232,500		
Kenai	61,720		
Seldovia	1,040,000		
Soldotna	18,000		
Other	385,300		
Total			$2,850,820

Kodiak Borough			
Kodiak Urban Renewal Area	$2,374,400		
Vicinity of Kodiak City outside U. R. A.	275,900		
Other	5,658,560		
Total Kodiak Borough except Utilities	$8,308,860		
Private Utilities Trans.Alaska Tel.		$422,000	
Total Borough			$8,730,860
Prince William Sound Area			
Whittier	$2,396,400		
Cordova & Vicinity Excluding Canneries	683,395		
Canneries around Prince William Sound	1,019,275		
Total			$4,099,070
Seward Urban Renewal Area	$4,548,810		$4,548,810
Valdez Urban Renewal Area	2,915,045		2,915,045
	$57,595,738	$6,493,000	$64,088,738
Contingency			12,817,747
Total			$76,906,485

TABLE 1-a

Degree of Damage Sustained by 1 to 4 unit Residential Properties, Classified By Before Earthquake Value of Property, Downtown Central Business District Urban Renewal Area, Anchorage, Alaska

Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	TOTAL
Less than $5,000	0	( ) ( )	( ) ( )	0	( ) ( )	( ) ( )	( ) ( )	0	0	( ) ( )	( ) ( )
$5,000-7,499	0	(2) ( )	(1) ( )	0	(1) ( )	(1) ( )	(1) ( )	0	0	(4) ( )	(10) ( )
7,500-9,999	0	( )	( )	0	( )	( )	(0)	0	0	( )	( )
10,000-12,499	( ) (1)	( ) (0)	( ) (3)	( ) (3)	( ) (2)	( ) (3)	( ) (0)	0	0	( ) (4)	( ) (16)
12,500-14,999	( )	( )	( )	( )	( )	( )	( )	0	0	( )	( )
15,000-19,999	1	1	1	1	3	3	0	1	0	3	14
20,000-29,999	4	5	7	1	1	6	5	0	1	2	32
30,000-39,999	3	3	3	0	0	1	1	0	0	3	14
40,000-49,999	5	1	1	0	2	0	2	0	1	1	13
50,000-59,999	1	0	0	0	0	0	0	0	0	0	1
60,000-69,999	0	0	1	0	0	0	0	0	0	0	1
70,000 or more	0	0	0	0	0	1	0	0	0	0	1
Total	15	12	17	5	9	15	9	1	2	17	102

TABLE 1-a-(1) Degree of Damage Sustained by Residential Properties Containing 5 or More Units, Classified by Before Earthquake Value of Property, Downtown Central Business District Urban Renewal Area, Anchorage, Alaska

Actual ($000) Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	Total
	171.8	153.0	312.7		136.5	151.7	179.8	94.0	58.8	76.7	
	354.0	720.0					2,350.0			283.0	
	918.0									1,490.0	
Number	(3)	(2)	(1)	(0)	(1)	(1)	(2)	(1)	(1)	(3)	(15)
Total Value ($000)	1,343.8	873.0	312.7	0	136.5	151.7	2,529.8	94.0	58.8	1,849.7	7,349.3

Table 1-b

Degree of Damage Sustained by Residential Properties, Classified by Before Earthquake Value of Property, Turnagain Urban Renewal Area, Anchorage, Alaska

Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	TOTAL
Less than $20,000	2	7	1	0	0	0	0	1	0	2	13
20,000-24,999	1	5	3	3	2	1	0	4	0	2	21
25,000-29,999	7	5	12	4	6	8	7	13	5	4	71
30,000-34,999	31	30	14	6	6	12	19	14	20	20	172
35,000-39,999	33	23	4	13	3	18	12	8	10	19	143
40,000-44,999	10	11	5	9	6	9	9	9	6	7	81
45,000-49,999	3	4	0	3	5	5	12	9	1	7	49
50,000-59,999	1	1	1	4	3	7	5	1	0	11	34
60,000-69,999	0	0	1	0	3	7	0	0	1	10	22
70,000 or more	0	0	0	1	0	1	3	0	1	6	12
Total	88	86	41	43	34	68	67	59	44	88	618

TABLE 1-c Degree of Damage Sustained by Residential Properties, Classified by Before Earthquake Value of Property, Urban Renewal Area, City of Valdez, Alaska

Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	TOTAL
Less than $5,000	0	0	0	2	2	5	1	1	3	18	32
$5,000-7,499	0	3	1	5	3	3	0	0	0	11	26
7,500-9,999	0	2	2	4	0	1	1	1	0	3	14
10,000-12,499	0	2	0	0	0	0	1	0	1	2	6
12,500-14,999	1	1	1	1	2	0	0	0	0	1	7
15,000-19,999	0	2	0	1	0	0	0	1	0	2	6
20,000-29,999	0	2	1	2	0	1	0	0	0	2	8
30,000-39,999	0	0	0	0	0	1	0	0	0	0	1
40,000-49,999	0	0	0	0	0	0	0	0	0	0	0
50,000-59,999	0	0	( )	0	0	0	0	0	0	( )	( )
60,000-69,999	0	0	(1)	0	0	0	0	0	0	(1)	(2)
70,000-or more	0	0	( )	0	0	0	0	0	0	( )	( )
Total	1	12	6	15	7	11	3	3	4	40	102

TABLE 1-d

Degree of Damage Sustained by Residential Properties, Classified by Before Earthquake Value of Property, Urban Renewal Area, City of Seward, Alaska

Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	TOTAL
Less than $5,000	0	0	0	2	0	2	6	4	8	5	27
$5,000-7,499	0	0	2	1	0	0	0	0	3	4	10
7,500-9,999	0	3	2	1	0	0	0	1	2	1	10
10,000-12,499	0	3	1	2	0	0	1	0	0	1	8
12,500-14,999	0	1	1	0	1	1	0	0	0	0	4
15,000-19,999	3	1	0	2	1	1	1	0	0	0	9
20,000-29,999	0	0	1	3	1	0	0	0	0	0	5
30,000-39,999	0	0	0	0	0	0	0	0	0	0	0
40,000-49,999	0	0	0	0	0	0	0	0	0	0	0
50,000-59,999	0	0	0	0	0	0	0	0	0	0	0
60,000-69,999	0	0	0	0	0	0	0	0	0	0	0
70,000 or more	0	0	0	0	0	0	0	0	0	0	0
Total	3	8	7	11	3	4	8	5	13	11	73

TABLE 1-e Degree of Damage Sustained by Residential Properties, Classified by Before Earthquake Value of Property, Urban Renewal Area, City of Kodiak, Alaska

Value Before Earthquake	Total Damage as a Percent of Value Before Earthquake										
	Less than 10	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 or more	Total
Less than $5,000	0	0	0	0	0	0	0	2	0	3	5
$5,000- 7,499	0	0	1	0	0	0	3	1	0	0	5
7,500- 9,999	0	0	0	0	0	0	0	1	0	0	1
10,000- 12,499	0	0	1	0	0	1	0	1	0	1	4
12,500- 14,999	1	0	0	2	0	0	0	0	0	0	3
15,000- 19,999	0	0	0	1	1	2	0	0	0	0	4
20,000- 29,999	1	1	0	0	2	2	0	1	0	0	7
30,000- 39,999	0	0	0	1	1	0	1	0	0	0	3
40,000- 49,999	0	1	0	2	0	0	0	0	0	0	3
50,000- 59,999	0	0	0	0	0	0	0	0	0	0	0
60,000- 69,999	0	0	0	0	0	( )	0	0	0	0	( )
						(1)					(1)
70,000 or more	0	0	0	0	0	( )	0	0	0	0	( )
Total	2	2	2	6	4	6	4	6	0	4	36