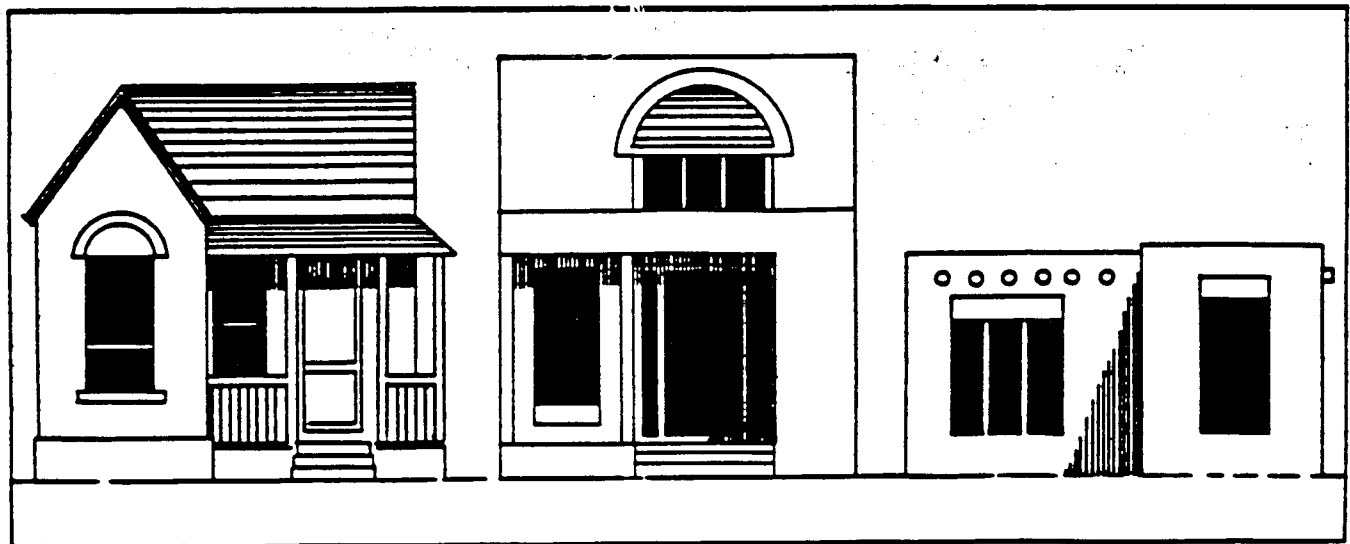
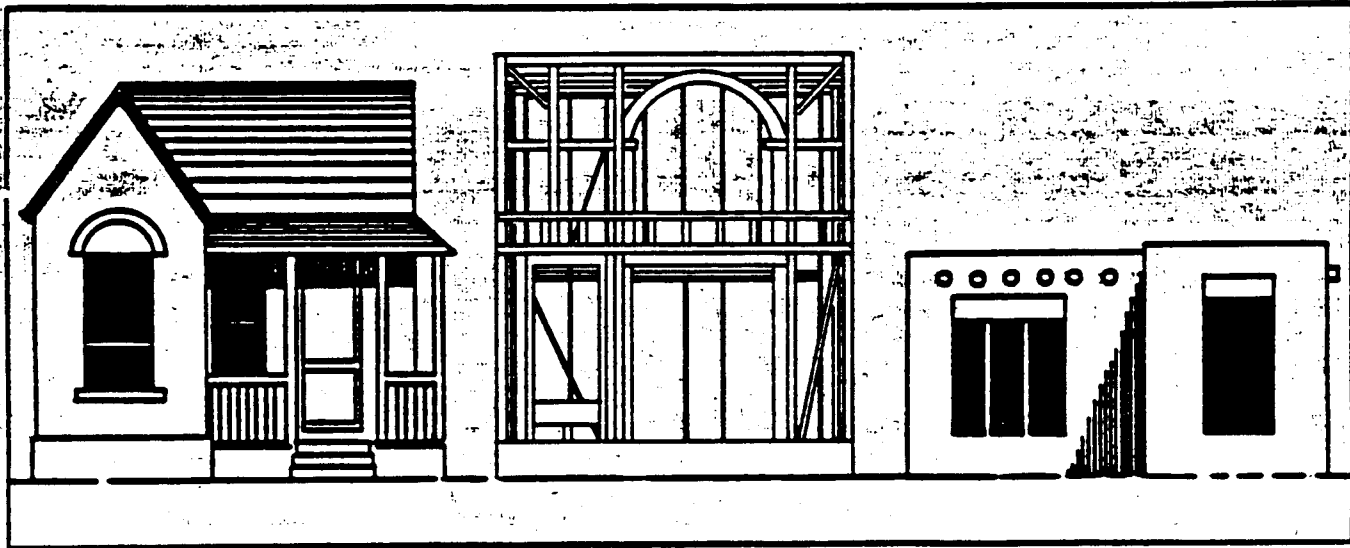
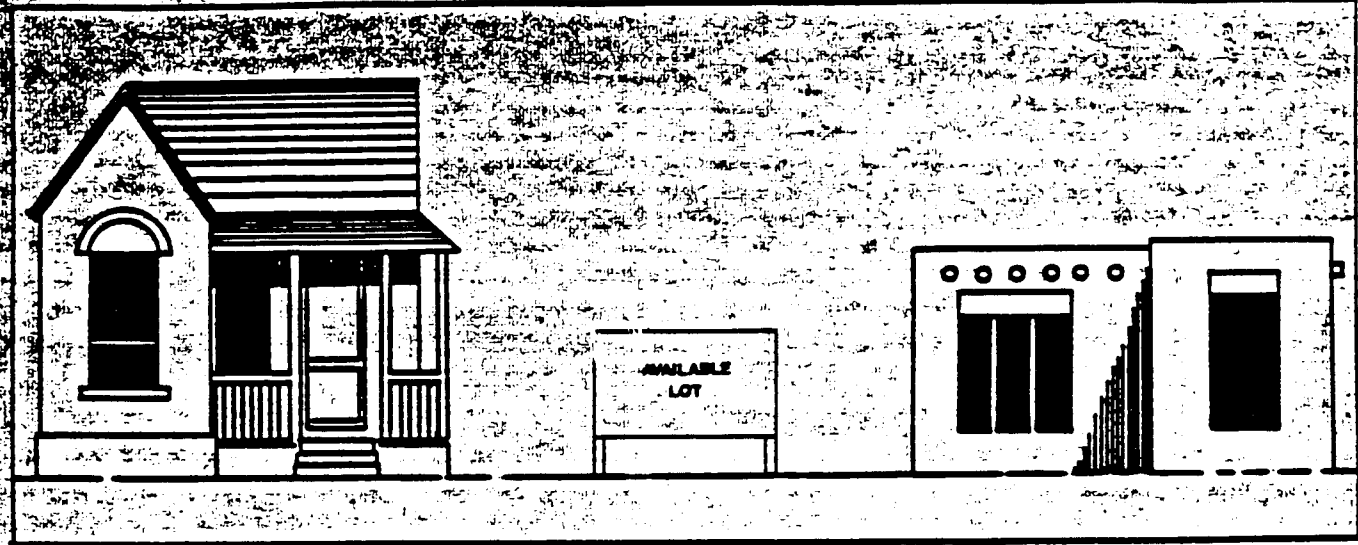


Infill Development Study



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INFILL DEVELOPMENT STUDY

Prepared by Southwest Land Research, Inc.
for the Planning Department
City of Albuquerque
March 31, 1988

The opinions expressed in this study are those of the consultant and are not necessarily those of the Planning Department or the City of Albuquerque.

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EXECUTIVE SUMMARY

Infill development is development which occurs on vacant tracts in established areas that are served by utilities and surrounded by urban development. Putting these parcels to productive use has been considered one means of helping cities to reduce infrastructure investment, improve the local tax base, and maintain or restore the viability of existing neighborhoods.

The purpose of this study is to identify the extent to which infill has occurred in Albuquerque over the past ten years -- its character and location; to compare development costs of infill and fringe projects; to identify barriers to infill in Albuquerque; and to suggest strategies for overcoming these barriers.

The area selected for study, as shown in Figure 1, has been substantially developed for ten years or more. The vacant tracts within the study area have been bypassed in the normal course of urban development.

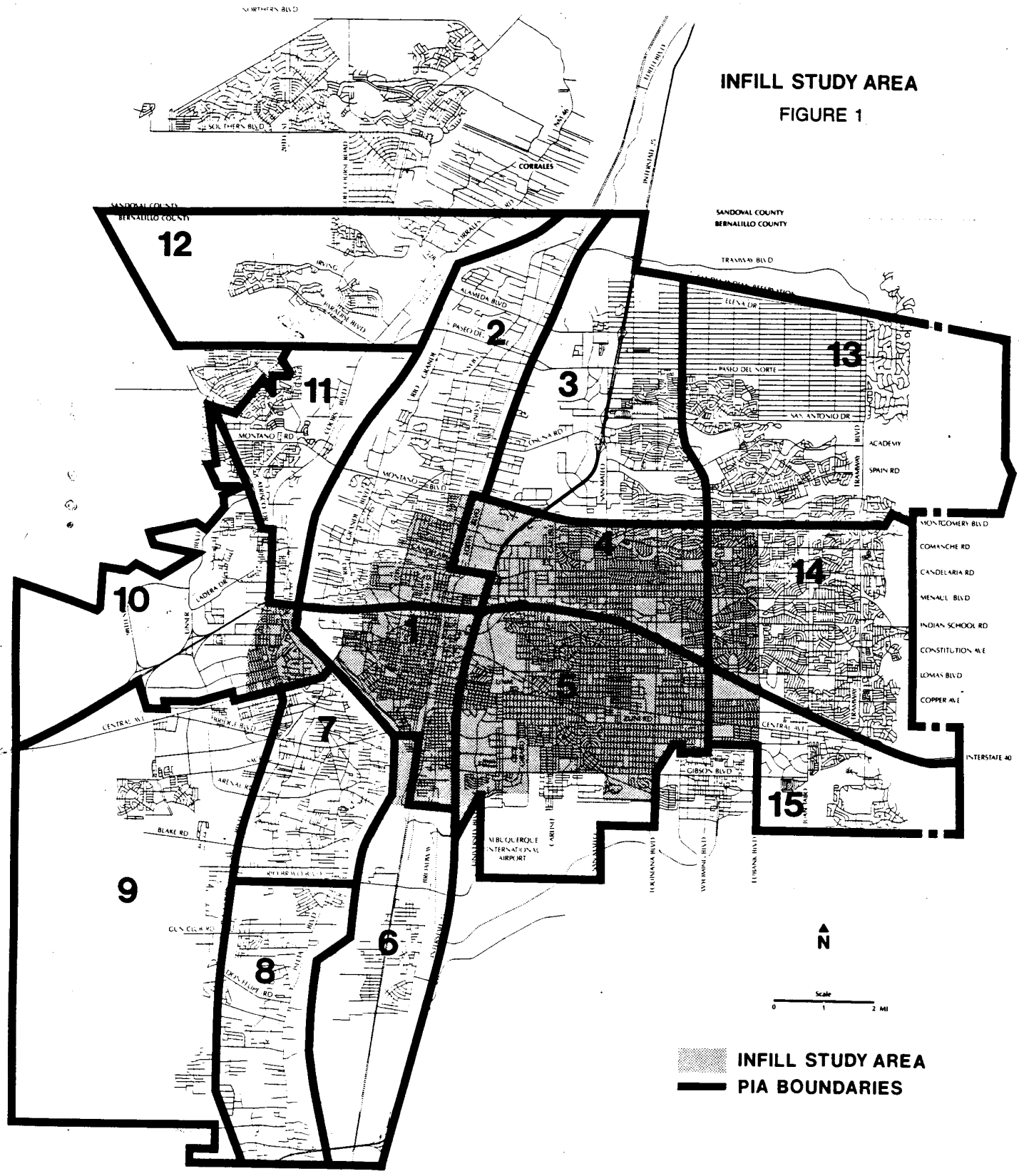
The study found that approximately 2,200 acres of vacant land remain in the study area. Since 1982, approximately 600 acres of vacant land have been built on, accommodating nearly 3,300 housing units and nearly 6,000,000 square feet of non-residential construction.

While this is a relatively small proportion of total city development, representing 15 percent of all residential construction and 27 percent of all non-residential construction, current City policies, the local economy, and local development patterns have fostered infill. For much of the study area, the rate of infill appears to be acceptable. In other areas, very little infill has occurred, in spite of a substantial supply of vacant land.

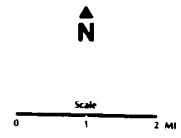
While the City has formal policies which encourage infill in a general way, these policies have not systematically addressed specific barriers to infill. The City's most successful strategies for encouraging infill over the past 10 years have included special financing incentives for housing and businesses in metropolitan redevelopment areas; the concept of urban centers, which enhances the value of land by encouraging intense land uses; and requirements that developers pay a substantial share of the cost of infrastructure at the fringe.

Barriers to infill still exist which prevent development from occurring in certain areas or on certain sites. These barriers are:

INFILL STUDY AREA
FIGURE 1



 **INFILL STUDY AREA**
 **PIA BOUNDARIES**



1. Land prices which are high in relation to the sale or lease value of new infill development.
2. High land development costs on sites which have irregular topography, drainage problems or inadequate infrastructure.
3. Higher construction costs. Economies of scale, which are possible with some types of development, cannot be achieved with individual buildings. Permit and utility fees, financing costs, and other expenses are set at scales which favor larger projects. Lower expenditures on landscaping and design compensate somewhat for higher land and construction costs. As a result, more stringent landscaping and design requirements, one technique for satisfying neighborhood concerns regarding infill, eliminate the major area in which developers can adjust expenses.
4. Uncertainty in obtaining development approvals if a change in platting or zoning is required, as it has been in over one-third of recent infill projects.
5. Generally lower profit margins for infill developers. Major builders tend not to engage in infill development.
6. A lack of appropriately zoned sites of a suitable size for the types of development which are generally feasible in infill areas.
7. The absence of a market for infill in declining or depressed neighborhoods.

The City cannot affect each of the above barriers, but it can provide assistance which will offset some of the extra expense of infill. Each infill project is different. Both development type and location contribute to the uniqueness of each project. It is, therefore, difficult to generalize project characteristics. While each project will have unique opportunities and constraints, the following general strategies are recommended to encourage infill:

1. Make information concerning topography, infrastructure, and drainage easily available through the Planning and Public Works departments. This will allow both owners and developers to make informed judgments of probable infrastructure costs/requirements for subareas of the city. Information systems currently being developed within the city will help in this regard.

2. Designate "infill specialists" in the Planning and Public Works Departments. These staff members would be responsible for assisting developers in meeting all requirements for project approvals. Staff who are familiar with infill issues and special problems associated with infill are needed because infill developers tend to be small volume builders who may be unfamiliar with City procedures. In addition, site constraints may make City requirements difficult to meet, and designated staff can expedite review of atypical plans.
3. Provide public sector support for infrastructure upgrades in areas which have deficiencies of some type, and where infill will contribute to City objectives such as upgrading neighborhoods, distributing employment opportunities, and achieving a population distribution which supports neighborhood services and businesses. City objectives should be defined in Sector Development Plans, which will identify areas for infrastructure upgrades.
4. Waiving or reducing fees. Examples include waiving the utility expansion charge for infill projects which meet City objectives as defined in Sector Development Plans and crediting standby charges against water and sewer system improvements. The use of financial incentives is recommended for target areas which have been identified as having a weak infill market. Metropolitan Redevelopment Area designation may be appropriate for these areas, and tax increment financing or other public financing may be used to pay fees. While City fees are a very small proportion of total development cost, reduction of fees would allow increased expenditures for landscaping and design.
5. Reduce uncertainty related to development approvals in infill areas through Sector Development Plans and neighborhood and developer education about infill. When appeals are filed, they should be heard and decided expeditiously. The City's policy requiring early discussions with neighborhood representatives for major development projects is a positive step in this direction.

6. Through Sector Plans and working with neighborhood groups, identify sites which may be appropriately developed for a use other than current zoning would allow. The shortage of available sites for apartments in an area where 75 percent of the historical residential infill has been apartments is an immediate issue of concern.
7. Directly intervene in the market in areas where no demand for infill exists. Public acquisition of scattered residential parcels for resale to a developer of affordable housing, tax deferments in redevelopment areas, and assembly of contiguous tracts in multiple ownership are examples of public intervention.

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I. INTRODUCTION

Infill is defined as development on bypassed parcels of land within the established areas of the city. Because of the public costs associated with extending infrastructure and serving sprawled development, the idea of making better use of bypassed land has gained favor with municipalities; and many, including Albuquerque, have established policies and programs to encourage infill.

The purpose of this Infill Development Study is to evaluate the extent to which infill occurs in Albuquerque, the nature of infill, the potential for further infill, and strategies which could work in Albuquerque to increase the utilization of bypassed parcels through infill development.

The study area, as shown in Figure 1, was substantially developed by 1978. Vacant parcels have been bypassed during the normal course of urbanization, and are surrounded by development which is 10 or more years old.

The study includes the following components:

1. A review of development city-wide and within the study area since 1978. Since 1978 over 6,000 housing units and 13,000,000 sq. ft. of non-residential space were built, with multifamily housing comprising 75% of residential construction and office, service commercial, and warehouse construction dominating non-residential construction.
2. An analysis of the rate at which vacant land is being absorbed within the study area. Since a study of vacant land was conducted by the City in 1982, twenty-three percent of total land has been absorbed. For the most part, the rate of infill appears to be satisfactory. However, in some areas, very little infill has occurred, indicating a need for targeted public intervention.
3. An assessment of vacant available land and its character. Over 2,200 acres of vacant land are scattered throughout the study area. Over 90% of all vacant parcels are less than one acre in size. The larger parcels tend to be zoned for non-residential uses and located along I-25 and I-40.
4. A summary by Planning Information Area (PIA) of infill trends and opportunities. The market for infill is assessed, and the amount and character of vacant land are discussed.

5. An analysis of public attitudes toward infill, based on a survey of 260 households and 26 neighborhood associations within the study area. Survey results indicate that, in general, most respondents do not have strong feelings about infill development. However, respondents do believe that infill projects should be compatible with surrounding development in use, style, materials and scale.
6. Identification of barriers to infill development in Albuquerque based on interviews with developers and a review of national trends. Barriers identified by developers of infill projects are: a) high land costs, b) parcel sizes which may be inconsistent with the market, c) uncertainty in obtaining development approvals, d) high on and/or off-site infrastructure costs, e) high construction costs because of a lack of opportunities for economies of scale, f) difficult site conditions, and g) lack of a demand for infill in some areas.
7. Pro forma analyses of hypothetical infill and fringe projects for five typical project types based on developer interviews. Single family detached, 2-4 unit multifamily residential, office, retail, and office-warehouse projects were used. The analysis shows that of all costs to the developer, land prices and construction costs most significantly affect the difference between infill and fringe project costs. Cost savings tend to be in architectural fees and landscaping, which can negatively affect the design of infill buildings.
8. Recommended strategies for overcoming barriers to infill.

II. DEFINITION OF INFILL AND STUDY AREA BOUNDARIES

The Infill Development Study is the second phase of a three-part effort by the City to develop an infill strategy. This study builds upon past efforts and provides data and analysis to be used in delineating an implementation plan.

Prior Local Studies

During the past five years the City has conducted two other studies which have dealt with infill issues. A report completed in 1983, Infill Prototype: Informational Study, looked in detail at the area around the San Mateo/Central intersection as a representative area for analysis of infill development possibilities. The study recommended that follow-up studies should: define an infill boundary, compare the costs of infill development projects to similar projects on the urban fringe, analyze vacant land and determine other appropriate target areas for infill. In response to those recommendations a major, three-phased infill study was designated and approved in the Multi-Year Planning Program.

The first phase, the Land Absorption Potential Study, was conducted in 1985-86. It provided a survey of all vacant land in the urban area based on December 1982 aerial photographs. This information, which was compiled by small geographic area, is the benchmark from which to gauge land absorption since 1982.

The current report, the Infill Development Study, represents the second phase of the three-part effort. It fulfills recommendations of the Infill Prototype study by identifying target areas and comparing infill project costs to those of fringe area developments. It also uses city-wide vacant land and construction activity databases to quantify the extent and nature of recent infill activity. In the future the third phase of the study will delineate an infill implementation plan.

Definition of Infill

Infill land consists of vacant parcels that are served by utilities and are surrounded by urban development. These parcels have been by-passed in the normal course of urbanization.

As defined in the Infill Prototype study, reasons for an interest in encouraging infill development stem from:

- a desire for control of sprawl and efficient allocation of resources for public services and facilities

- efficient use of existing infrastructure
- regeneration of older "passed-over" areas of the city (with concomitant improvement of the tax base)
- reduction of travel needs
- environmental protection
- slowing of demand for conversion of raw land at the city's periphery

The study further states:

"If infill development is to satisfy the objectives noted by City officials and plan/policy documents, it must result in stabilization and even regrowth of the population in older areas. Commercial infill alone is not enough to revitalize older areas, make urban centers work, reduce travel needs and urban sprawl. The market itself, i.e., the population base in each area targeted for infill, must be made healthy first."

The Infill Prototype study considered residential development only. Maintaining a stable, economically viable population base in older areas was considered to be the primary goal of residential infill. The current study looks at non-residential development as well, since commercial, office, industrial and other non-residential uses provide jobs and services to benefit a neighborhood's economy.

The 1975 Albuquerque/Bernalillo County Comprehensive Plan contained policies to encourage infill. Policies affecting infill are contained in Appendix A. In addition, the policies which encourage concentrating activities within "urban centers" and local redevelopment policies constitute incentives for special types of infill in designated areas.

Boundaries

A study area boundary for the purpose of evaluating historical infill development was defined with input from a City staff committee.

Boundaries for the study area are shown in Figure 1. These boundaries represent an area which was substantially developed by 1979, for which development since that time can be considered "infill" as opposed to some stage of the normal development process. During the normal development of residential areas, single family residential development occurs first, and higher density residential and non-residential uses follow to meet emerging market demand. In employment

centers, users of low cost land move in first followed by additional employment, support businesses, and possibly housing. Boundaries were established through discussion with a staff committee representing a number of City departments.

Boundaries were drawn to follow Data Analysis Subzone boundaries to facilitate data analysis. Study area boundaries are as follows:

- Eubank Boulevard on the east.
- On the south, Kirtland Air Force Base as far west as Girard. The boundary then continues south to the Albuquerque International Airport; west along the airport to University; southeast along an abandoned AT & SF Railroad spur to I-25; then north to Woodward Road; then west to the Rio Grande.
- The western boundary follows the Rio Grande northwest to Central Avenue; then west to Coors Boulevard; then north to I-40; then east to the Rio Grande; then south to Central Avenue; then north along Central Avenue to the Alameda Drain; then north along the Alameda Drain to Mountain Road; then east on Mountain Road to Rio Grande Boulevard; then north along Rio Grande Boulevard to I-40; then east along I-40 to the Alameda Drain; then north along the Alameda Drain to Indian School Road; then east along Indian School Road and the Menaul Extension, to 12th Street; then north on 12th Street to Candelaria Road; then west on Candelaria Road to the Griegos Lateral; north on the Griegos Lateral to Valle Alto; east on Valle Alto to Grande Drive; north on Grande Drive to Griegos Road; east on Griegos Road to 4th Street; and north on 4th Street to Montano Road.
- The northern boundary follows Montano Road and Montgomery Boulevard east to Eubank Boulevard.

This boundary encompasses land which was served with public infrastructure and for which the normal development cycle was substantially complete prior to 1978 - the beginning year of this infill analysis. That is, single family residential, higher density residential uses, and non-residential development were all in place by 1978. In the Downtown area, near North Valley, and near South Valley, the 1975 Comprehensive Plan Redeveloping Urban Boundary is used as the approximate boundary because much of the surrounding land is developed with rural or agricultural uses.

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III. HISTORICAL INFILL DEVELOPMENT

Historical data regarding infill was analyzed in several different ways. Initially, using the 1982 vacant land inventory as a base, absorption of vacant land since the last quarter of 1982 was analyzed. Secondly, new development from 1978 to August 1987 was analyzed by Planning Information Area to determine the nature of infill by area. The locations of vacant land and infill since December 1982 are shown in Figure 2 (see map pocket).

The City conducted a city-wide inventory of vacant land in 1985 based on December 1982 aerial photographs. Of 16,000 acres of vacant land within the Established and Redeveloping Urban Areas, approximately 2,700 acres were located within the study area boundary as shown in Table 1.

From late 1982 through June 1987, approximately 23 percent of the vacant land in the study area was absorbed. Annual absorption for residential land was approximately four percent and for non-residential land, approximately five percent. Approximately 17 acres of commercially zoned land were developed with residential uses, primarily apartments, which received conditional use approvals.

Redevelopment (clearance and new construction) and new construction on developed sites (i.e. sites not considered vacant in the 1982 survey) accounted for 2,200,000 square feet of non-residential construction.

It is clear that vacant land within the core of the city is being absorbed over time, and, to a lesser degree, older sites are being redeveloped. In some areas, almost all vacant land has been absorbed, and in others, steady infill is providing new housing and business growth at a reasonable rate. However, areas with a weak market for infill are experiencing very little new development, even though there is vacant land in the area.

The following section describes the characteristics of infill development by area.

TABLE 1. LAND ABSORPTION 12/82 - 6/87 BY PIA

PIA	1982 VACANT ACREAGE			ABSORPTION FROM 8/82-6/87 (AC.)			APPROXIMATE VACANT ACREAGE, 6/87			% ABSORBED ANNUALLY		
	TOTAL	RESI- DENTIAL	NON- RESIDENTIAL	TOTAL	RESI- DENTIAL	NON- RESIDENTIAL	TOTAL	RESI- DENTIAL	NON- RESIDENTIAL	TOTAL	RESI- DENTIAL	NON- RESIDENTIAL
1	431	181	250	109	58	51	322	123	199	5.1	6.5	4.1
2	397	108	289	49	20	29	348	88	260	2.5	3.8	2.0
4	516	144	372	228	21	207	288	123	165	9.0	3.0	11.3
5	980	364	616	172	45	127	808	319	489	3.6	2.5	4.2
6	34	*	34	4	1	3	*	*	*	*	*	*
10	221	184	37	35	25	10	186	159	27	3.2	2.8	5.5
14	60	41	19	26	15	11	34	26	8	6.8	7.4	11.8
15	8	3	5	20	3	17	*	0	*	*	*	*
TOTAL	2647	1025	1622	643	188	455	2004	837	1167			

*Not available due to discrepancies in vacant land survey and building permit acreage figures.
Sources: City of Albuquerque Land Absorption Potential Study
Southwest Land Research Building Permit Data Base

Characteristics of Infill Development

Location

Infill parcels are geographically distributed throughout the study area. Figure 2 indicates the location of all land which was vacant in 1982 and land which has been built on from 1982 through June 1987.

Parcel Size

Nearly 60 percent of all infill parcels were less than a quarter-acre in size as shown in Table 2. Residential enclaves, which were larger tracts subdivided for development, are included in Table 2 based on their size prior to subdivision. Nearly 90 percent of all parcels absorbed were less than one acre in size. Lot size by zoning is shown in Appendix B, Table B-1.

Commercially and industrially zoned parcels were typically larger than residential tracts. One-third of all commercially zoned sites and 36 percent of all industrially zoned sites were larger than one acre. Only three percent of residential parcels were larger than one acre.

Small parcel size results in small scale projects which cannot take advantage of the economies of scale which reduce per unit prices at the fringe.

Platting and Zoning

In over one-third of infill projects, the zoning or configuration of the vacant parcel was not appropriate for its ultimate use. A sample of 165 permits was reviewed to determine the extent to which replatting, rezoning, and/or a conditional use approval was required for infill projects. Special exceptions were not considered. Current platting and zoning was compared to the platting and zoning of the property in 1979. For 56, or 34 percent of the permits reviewed, a zone change, conditional use or platting action occurred prior to development, as shown in Table 3.

Of the sample, 20 percent were rezoned; 27 percent were platted or replatted; and 15 percent were both rezoned and replatted. Three percent involved the conditional use of a residential use in a commercial zone. One permit was for a conditional non-residential use in a residential zone.

Of the zone changes, 27 percent were from a lower to a higher density residential zoning; 24 percent were from a higher density to a lower density residential zoning (through Sector Development Plans); 16 percent were from a non-residential to

TABLE 2. LOT SIZES FOR INFILL SITES, PERMITS ISSUED BETWEEN JANUARY 1978 AND JUNE 1987

ZONING	NO ACREAGE REPORTED*	0.01- 0.25	0.26- 0.50	0.51- 0.75	0.76- 1.00	1.01- 2.00	2.01- 5.00	5.01- 10.00	>10.00	TOTAL
TOTAL	1292	908	330	81	103	86	69	16	8	2893
% OF TOTAL	44.7%	31.4%	11.4%	2.8%	3.6%	3.0%	2.4%	.6%	.3%	100.0%
% OF TOTAL WITH REPORTED ACREAGE		56.7%	20.6%	5.1%	6.4%	5.4%	4.3%	1.0%	.5%	100.0%

*Acreage is not available for permits issued in 1978 and 1979.
Source: Southwest Land Research

TABLE 3. PLANNING AND PLATTING ACTIONS ON A SAMPLE OF INFILL PROJECTS, 1983 THROUGH JUNE 1987
(N=173)

Planning or Platting Action	New Development	Redevelopment	Existing Site
<u>Total Permits</u>	162	3	8
<u>No Action</u>	132	2	6
<u>Plat or Replat</u>	44	--	--
<u>Zone Change</u>	33	1	2
Sector Plan	3	1	2
Increased Resi- dential Density	9	--	--
Reduced Residen- tial Density	8	--	--
Non-residential to Residential Use	6	--	--
Residential to Non-residential Use	0	--	--
Change of Resi- dential Zone, Equivalent Dens- ity	5	--	--
Change of Commer- cial Use	5	1	2
<u>Conditional Use</u>	5	--	--
Residential Use in Commercial Zone	4	--	--
Other	1	--	--

SOURCES: City of Albuquerque Zone Atlas, 1979 and 1987; City of Albuquerque Building Permits.

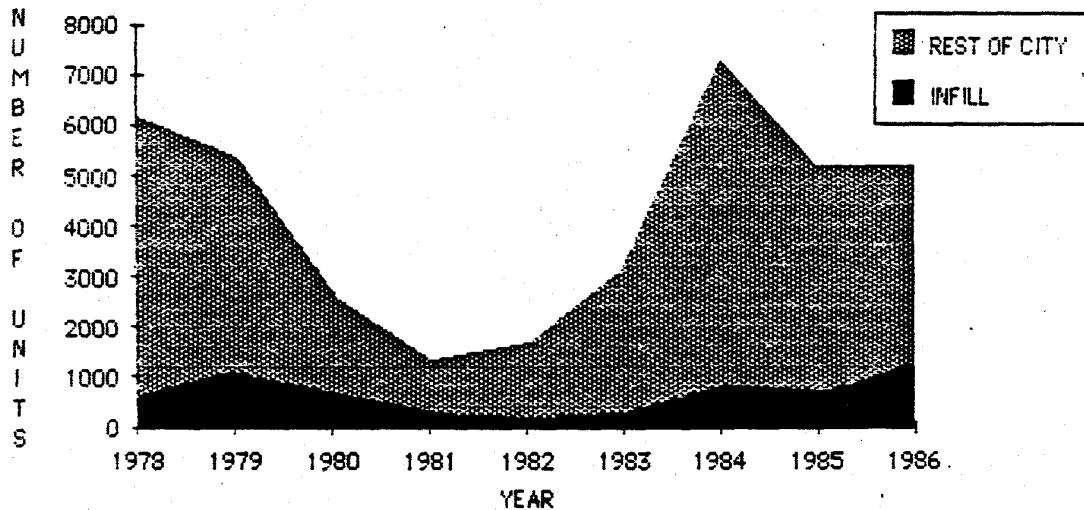
a residential zone (6 percent through Sector Development Plans), and no zone changes were made from a residential to a non-residential zone.

The fact that as many as one-third of infill projects require rezoning and/or replatting means that infill projects which tend to be small have extra cost in obtaining development approvals.

Residential Infill, 1978-1987

From January 1, 1978, to June 30, 1987 over 6,000 housing units were built within the study area boundary. During that same time period, 39,900 units were built in the entire city. Infill has comprised 15.5 percent of all residential construction in the city. Infill accounted for seven percent of single family housing and 16 percent of multifamily housing. The level of activity for single family and multifamily infill is shown in Figure 3 through Figure 5.

FIGURE 3. RESIDENTIAL DEVELOPMENT, 1978-86, STUDY AREA AND REST OF CITY



Over 40 percent of residential infill occurred in PIA 5 (the near southeast heights). The portion of the study area which lies in PIA 10 was an active area for single family detached construction. Two subdivisions -- Vista Magnifica and Palisades -- accounted for much of the activity.

Areas which experienced little residential infill included the South Broadway area in PIA 1 and the neighborhoods immediately north of downtown.

Approximately 75 percent of housing units built in the study area were in multifamily projects as compared to 48 percent city-wide. Twenty-five percent, or 1,560 units, were in small multifamily buildings of two to four units and 50 percent, or 3,100 units, were in apartment buildings of five or more units. Fifteen percent, or 900 units, were single

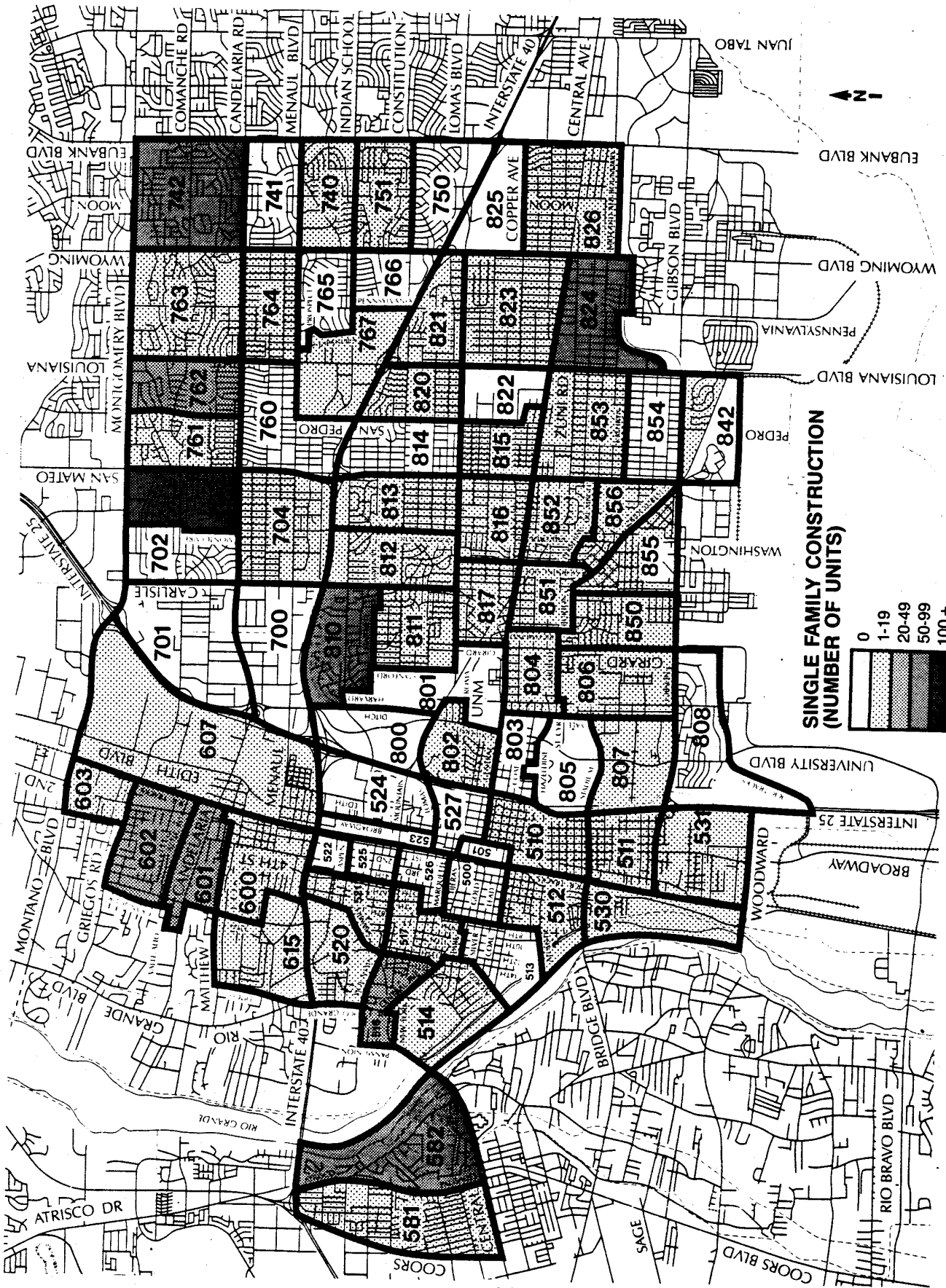


FIGURE 4

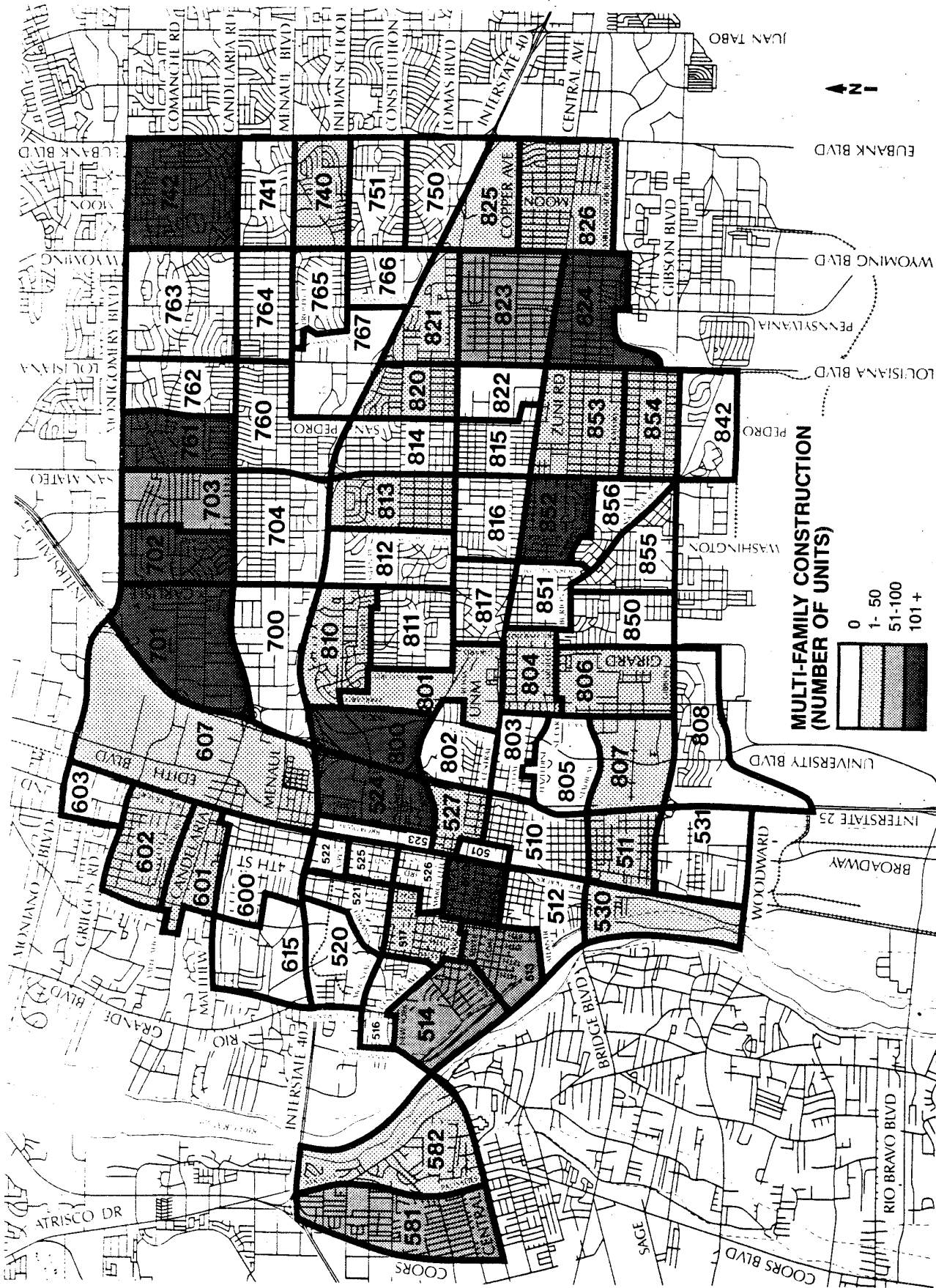


FIGURE 5

family detached homes and ten percent, or 620 units, were townhouses*.

Infill construction activity tends to follow city-wide residential construction cycles, although the peaks for infill tend to lag city-wide peaks by one to two years, as shown in Figure 5 and Appendix B, Tables B-2 and B-3. In general, the conditions which foster demand for new construction at the fringe (an increase in employment, low interest rates) make infill more attractive as well.

Residential Enclaves

Since 1980 much of the housing built in the study area has been in enclaves - parcels which are aggregates of residential lots or larger than an individual lot and are either subdivided into smaller lots or built out with multifamily projects. A total of 58 such projects were identified as shown in Appendix B, Table B-4. Most were townhouses and apartment buildings, although a substantial number of single family detached units were built in new subdivisions in PIA 10. Approximately 25 percent of single family detached units were built in new residential subdivisions developed on larger parcels. The remainder were built on individual lots scattered throughout the study area.

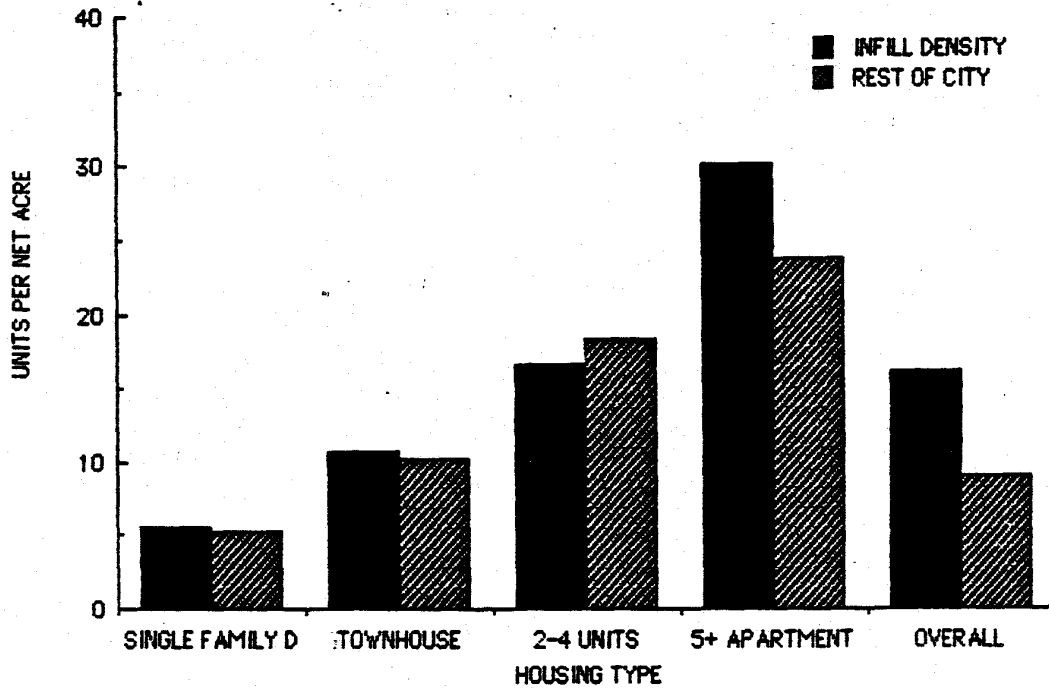
The most active areas for townhouse subdivisions were in PIA 1 near Old Town, in PIA 5 near UNM, and in PIA 5 near Kirtland Air Force Base. These were areas where vacant land existed, existing zoning or a rezoning allowed townhouse construction, and major employers were located nearby.

Residential Densities

Net residential densities as a whole are higher within the study area than in the rest of the city, as shown in Figure 6 and Table B-5. Single family densities are only slightly higher. Multifamily densities are 25 percent higher for complexes of five or more units. For buildings of 2 to 4 units, densities in the study area are less than in the rest of the city.

* In 1978 and 1979, townhouses were not distinguished from single family detached houses in building permit files. Therefore townhouses are undercounted, and single family detached homes are overcounted.

FIGURE 6. RESIDENTIAL DENSITY BY TYPE



For single family dwellings and 2-4 unit apartments, lot sizes have been established by existing plats. There is no opportunity for a replat if the existing lot size is at or below the limit established in the zoning code. New housing built in enclaves is also subject to the regulations of the zoning code, so that lot sizes are comparable to townhouse subdivision lot sizes in the rest of the city.

Multifamily projects tend to be smaller in the study area than in the rest of the city, reflecting the limited availability of larger vacant tracts. In older neighborhoods, high density zoning of land platted for single family housing is common. As a result, small scale apartments are being built on small lots. The average apartment building within the study area has 54 units, compared to 218 units in the rest of the city. The average site size in the study area is 1.8 acres, as compared to a 9.2 acre average site size in the rest of the city.

Builders

Builders of infill projects tend to be small volume builders. Albuquerque's major builders, particularly single family, multifamily, and retail builders, tend not to build infill projects. There were 250 different builders involved in single family infill from 1983 through 1987. These 250

builders built a total of 800 houses and townhouses over a four-and-a-half-year period. The fact that most infill is accomplished by individuals or small builders means that few economies of scale are achieved. Small builders cannot pay high costs for land improvements, which discourages the use of difficult sites.

Land Costs

Residential land costs for infill sites are a barrier to development for two reasons. First, single family lot prices tend to be set based on the price of fringe lots. This may set the land cost above the cost a builder can pay to deliver a house which is competitively priced with surrounding development and reduces profits. Secondly, single family lot sizes within the infill area tend to be somewhat larger than comparable fringe lots because older subdivisions were platted before lot prices in general were so high. Prices for apartment land tend to be based on land prices for large high amenity complexes. As with single family lots, these prices often result in land costs which are above the cost a developer can pay and maintain rents that are competitive with surrounding projects. Land costs for specific project types are discussed in Section VII.

Non-Residential Infill, 1978-87

Vacant Land Absorption

Over 13,000,000 square feet of non-residential construction took place on vacant land in the study area, 27 percent of the total floor area built city-wide, as shown in Appendix B, Tables B-6 and B-7. Over half of the city's office space and service business space were built within the study area. Other major land use categories in the study area were wholesale/warehousing (40 percent of the city total) and retail (23 percent of the city total). The Uptown, Downtown, and Airport areas experienced the most non-residential construction in the study area, as shown in Figure 7.

Lot Sizes and Floor Area Ratios

Floor area ratios (F.A.R.s), or the ratio of building area to site area, for development within the study area and in the city as a whole are shown in Tables B-8 and B-9, Appendix B.

F.A.R.s from 1983 through June 1987 building permits were summarized for both the study area and the remainder of the city. In general, lot sizes in the study area are smaller than in the rest of the city. Exceptions are buildings for service businesses, which have the same average lot size, and manufacturing sites which were larger in the study area.

F.A.R.s were much higher in the study area for office buildings and recreational buildings. For other land use categories, F.A.R.'s are approximately the same. Buildings with the highest F.A.R.'s are located within the Downtown and Uptown urban centers, both of which are within the study area.

Redevelopment and Existing Sites

In addition to construction on vacant land was construction on parcels which were cleared for redevelopment and construction on developed sites. These types of development were analyzed for 1983-1987 based on the 1982 vacant land inventory. Thirty acres were redeveloped with 890,000 square feet of offices, retail businesses and services. Public projects accounted for nearly 300,000 square feet.

Construction on existing developed sites -- new buildings on a site not considered vacant in 1982 and not redeveloped -- accounted for 1,650,000 square feet of construction. Retail buildings and public buildings accounted for 80 percent of construction in this category. Projects included new stores added to Coronado and Winrock malls, the City/County government center, and new construction at public schools, TVI, and UNM.

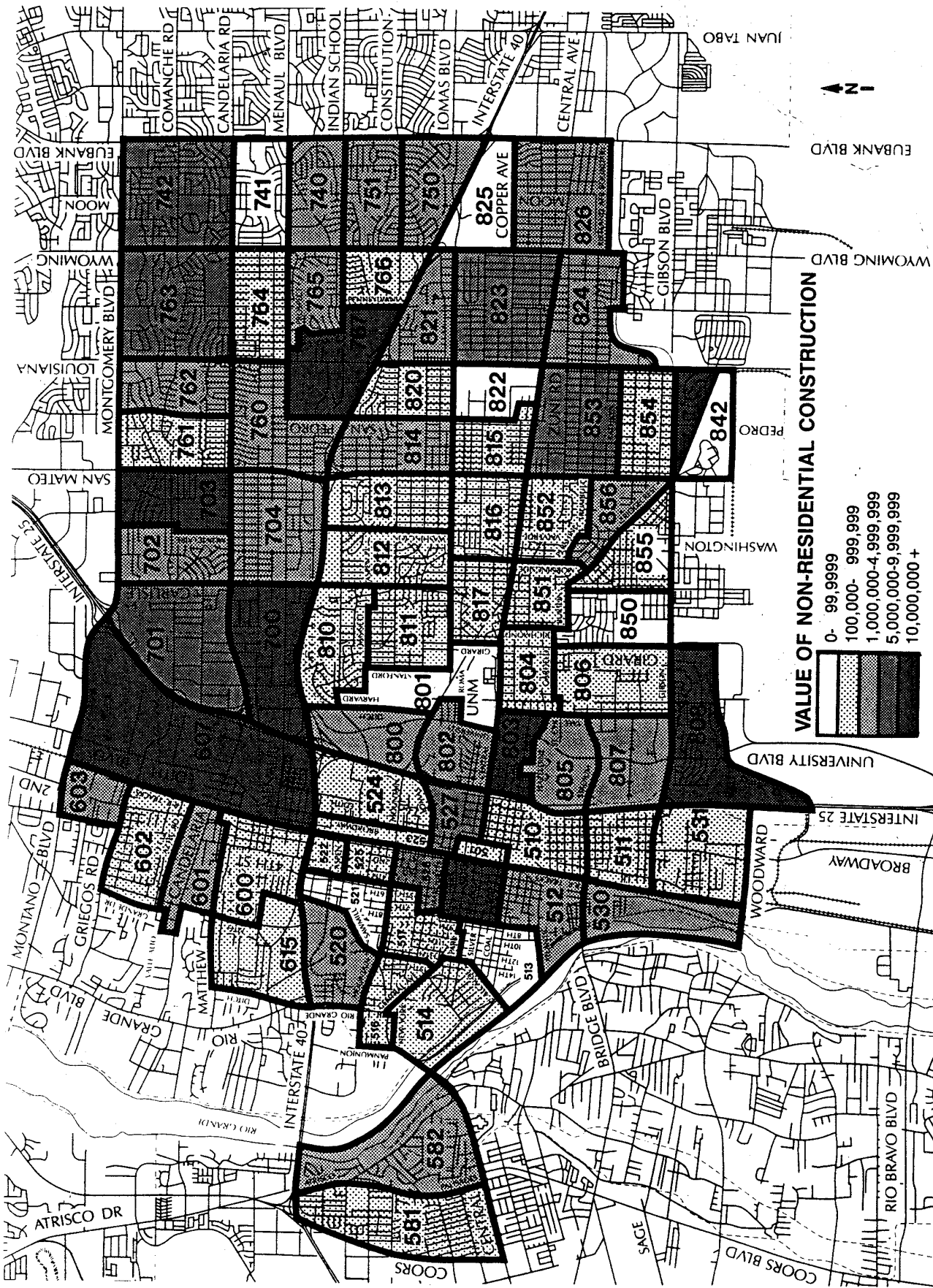


FIGURE 7

IV. VACANT LAND

Current vacant land information from the City's land use inventory is available for approximately one-half of the study area. Acreage is documented for 88 percent of the parcels in the portion of the study area covered by the land use inventory. (See Figure C-1 in Appendix C).

In addition, a sample of 200 parcels from throughout the study area was analyzed to determine lot sizes, contiguous groups of vacant parcels, ownership, zoning and access. The results of this analysis are summarized below.

Parcel Size

According to the land use inventory, 73 percent of vacant parcels are less than 0.25 acre in size. These small parcels account for 25 percent of the vacant acreage. Only 0.5 percent of the parcels are ten acres or more in size, but these account for 21 percent of the vacant acreage.

The average parcel size within the study area is 0.46 acre. Parcels zoned for single family detached housing average 0.28 acre in size; townhouse parcels average 0.09 acre; and multi-family parcels average .22 acre. There are very few appropriately zoned parcels which are large enough to accommodate a large apartment project or a new townhouse subdivision. There are a number of parcels zoned for low density residential use which could be subdivided if rezoned.

Non-residential tracts are larger, with a few tracts large enough to accommodate major projects. However, over 80 percent of vacant non-residential parcels and 28 percent of all non-residential acreage are in parcels of less than one acre.

Two-thirds of the sample parcels are contiguous with other vacant parcels. While the average size of individual parcels was 0.7 acre, the average acreage encompassed by a group of contiguous parcels was 2.53 acres. The distribution of parcels by size is shown in Table 4.

TABLE 4. SAMPLE VACANT PARCELS BY SIZE

	Parcel Size (Ac.)							
	<.25	.26-.50	.51-.75	.76-1.00	1.01-2.00	2.01-5.00	5.01-10.00	>10
Individual Parcels	117	14	5	5	5	6	1	1
Contiguous Tracts	45	28	16	9	19	19	7	6

Zoning

Residential land accounts for 28 percent of total vacant land in the study area. The relative proportions of vacant land zoned for residential use are very different from absorption figures. While 45 percent of residential land absorbed from 1980-June 1987 was developed with apartments, only twelve percent of vacant residential land is zoned for apartments. Nine percent of vacant residential land is zoned for town-houses, and 79 percent of residential land is zoned for low density residential use, primarily R-1 lots.

The largest category of non-residential land is that zoned for industrial use. Industrial parcels tend to be large, with an average parcel size of over an acre.

Commercially zoned land accounts for 16 percent of all vacant land. All other categories include less than 4 percent of the total.

Location

Most large tracts of vacant land are located along I-40 and I-25. In many cases, these parcels have access problems and drainage or other utility limitations. The City is presently working on a computerized model of its water and sewer system. When complete, this model will provide data which can be used to identify specific areas with inadequate utility systems. Smaller parcels are located throughout the study area, as shown in Figure 2.

The amount and character of vacant land are shown in Figure 8. The amount of vacant land is expressed in acres. The character of vacant land includes the size of individual

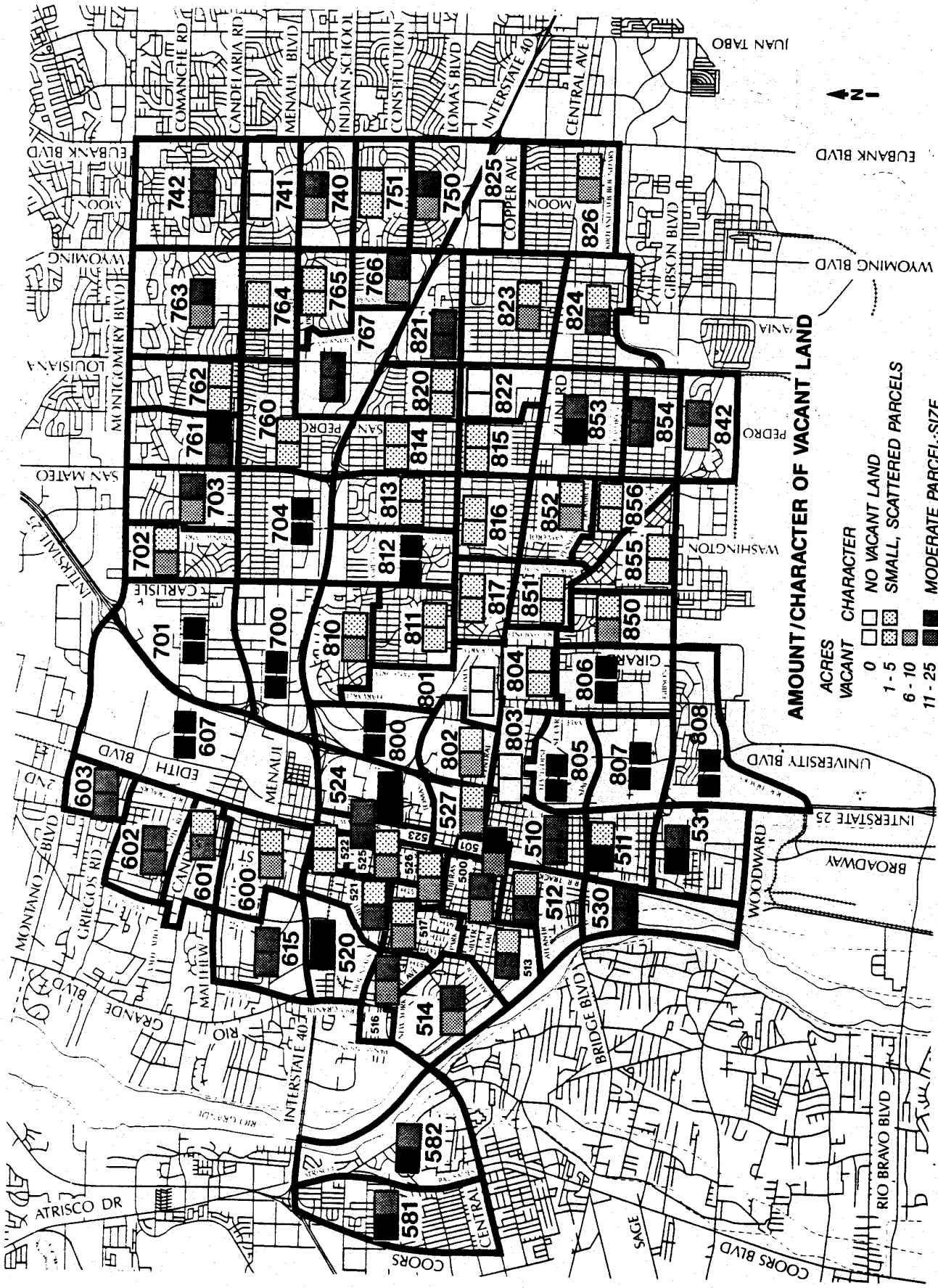


FIGURE 8

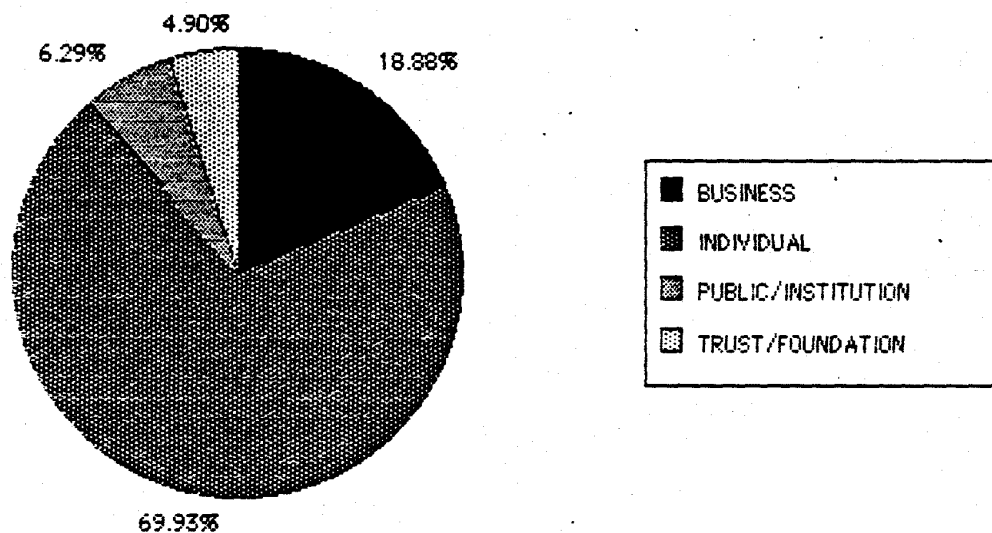
parcels, as well as whether parcels tend to be contiguous or scattered.

Ownership

Ownership of sample tracts from throughout the study area was obtained. Nearly 70 percent of all parcels are owned by individuals, and 18 percent by businesses (including developers), as shown in Figure 9. Eleven percent are owned by a public agency, institution, trust or foundation. Only six percent of owners live outside of Albuquerque.

The proportion of vacant land which is owned by development companies is low -- only five percent. This is land that is currently being developed. Land owned by trusts or foundations, public agencies or institutions may be held off the market longer than tracts held by individuals.

FIGURE 9. VACANT PARCELS BY TYPE OF OWNERSHIP

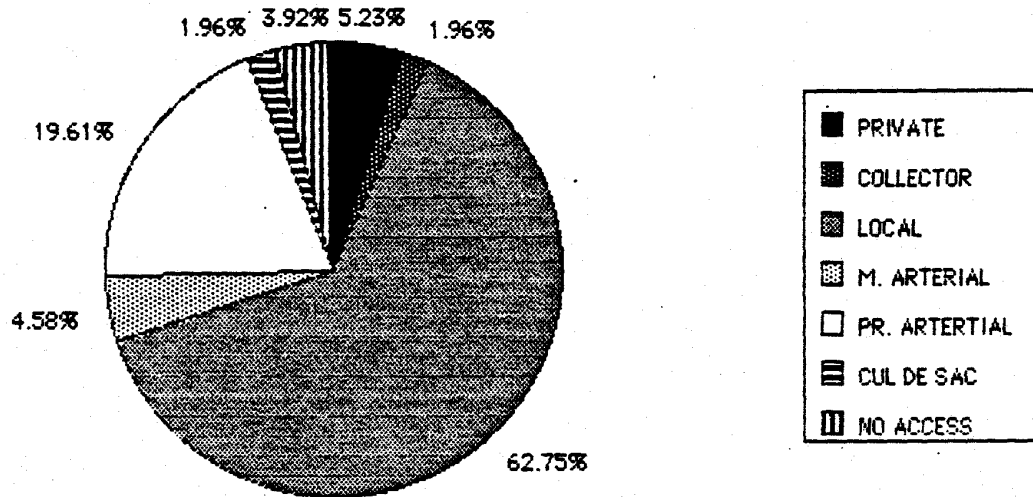


Access

Over 60 percent of all parcels are located on local streets, as shown in Figure 10. Twenty percent of all parcels are located on principal arterials. Over half of commercial properties are located on local streets or collector streets, making the properties less attractive for some commercial uses.

Nearly four percent of the parcels in the sample are land-locked -- that is, no road or easement to the properties were indicated. These parcels tend to be located in the South Valley or along I-40 or I-25 where the interstates were built through platted areas.

FIGURE 10. VACANT PARCELS BY TYPE OF ACCESS



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see following page

V. SUMMARY BY PLANNING INFORMATION AREA*

Information about historical development and the remaining vacant land within the study area is summarized by PIA. The summaries apply only to the portion of each PIA which falls within the study area.

PIA 1

PIA 1 includes Downtown and Old Town, which have experienced a significant amount of development activity since 1978. It also includes the South Broadway neighborhood and other Downtown fringe neighborhoods which have had very little residential development. Public redevelopment activities have been a factor in attracting development to Downtown.

PIA 1 has had a significant amount of private investment as well. The government/financial employment base and historic neighborhoods are an attraction for this area.

From 1978 through June 1987, over 100 acres, or 25 percent of vacant acreage, were absorbed.

Residential Development. Within the portion of PIA 1 in the study area, which includes Downtown, Old Town, and several historic neighborhoods, nearly 1,500 units were built over the past nine and a half years. Three-quarters of these were apartments, as shown in Figure 11. Major multifamily projects include Alvarado Apartments, a housing project built on land cleared by the City under urban renewal, and Sun Village, a private 572-unit project. There were 12 townhouse developments ranging in size from less than one-quarter acre to 2.3 acres and from two units to 23 units.

New Downtown housing includes 250 single family detached homes and townhouses. Peak building years for single family homes were 1979 and 1980. This type of development has slowed considerably over the past five years, while a few multifamily projects have increased the amount of Downtown housing since 1980.

The permit valuation of single family detached housing built in Downtown is the lowest of any PIA, except for the small portion of PIA 6 which lies within the study area just south of PIA 1.

* Planning Information Areas are shown in Figure 1, page 2.

FIGURE 11. RESIDENTIAL INFILL BY TYPE, 1978-JUNE 1987
(FOR STUDY AREA PORTION OF PIAs)

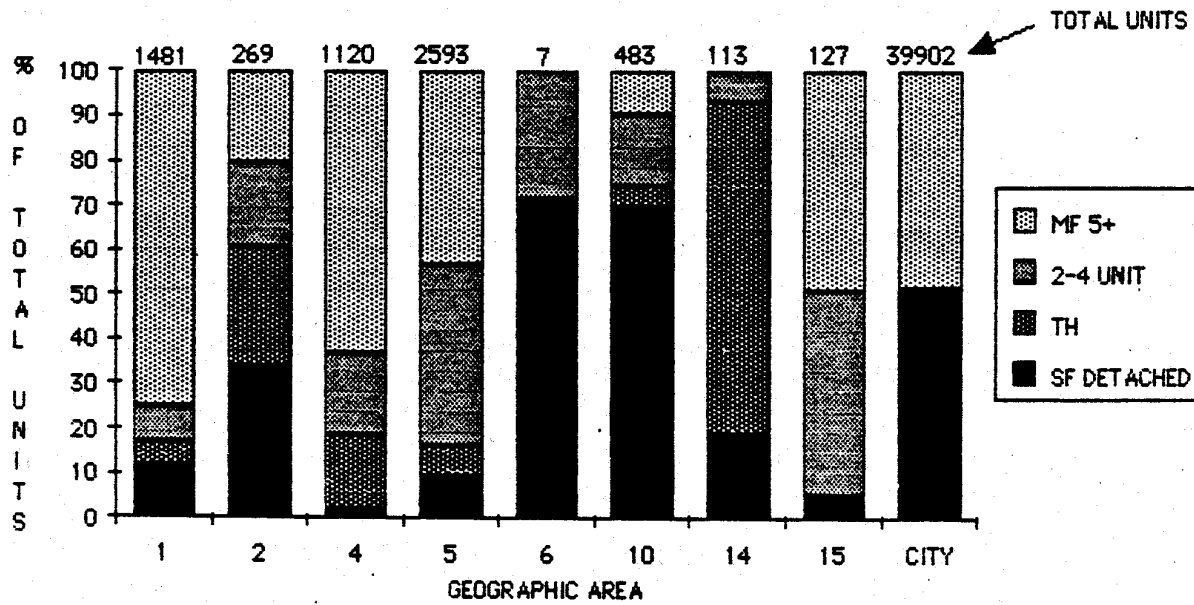
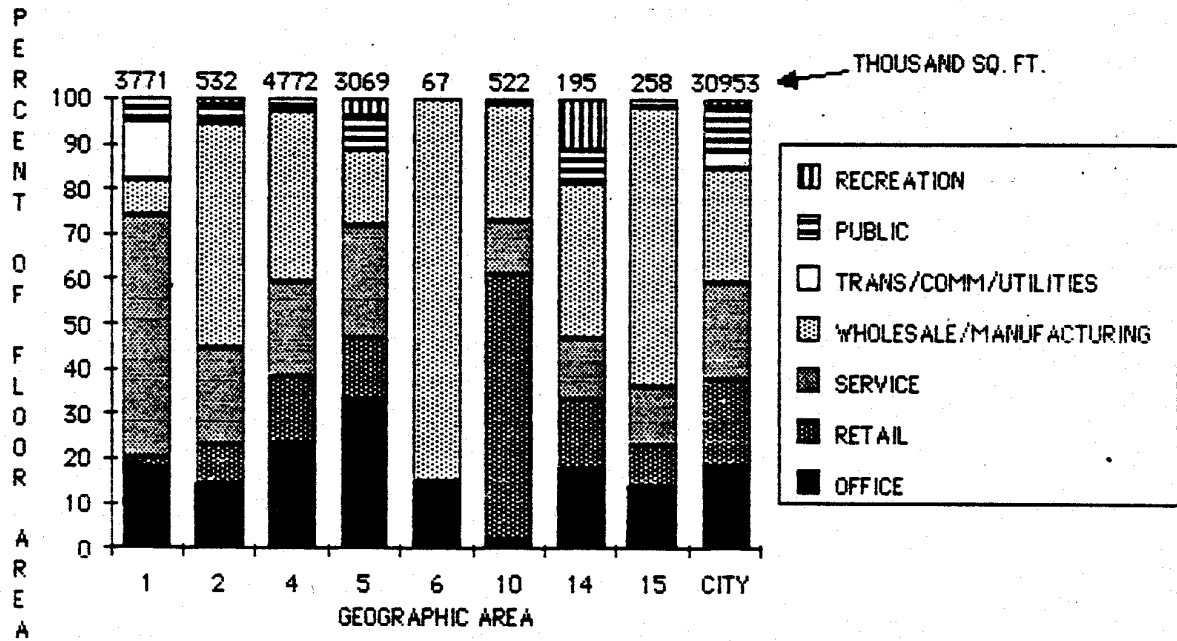


FIGURE 12. NON-RESIDENTIAL INFILL BY TYPE, 1978-JUNE 1987
(FOR STUDY AREA PORTION OF PIAs)



Most new housing was concentrated to the north and west of Downtown, capitalizing on the attractiveness of Old Town and the Huning Castle neighborhood. The Alvarado apartments, Martineztown and the North Barelás housing were the result of public redevelopment activities. In lower income neighborhoods, such as South Broadway, very little residential infill has occurred, although there is an ample supply of vacant land.

Non-Residential Development. Downtown is one of the three prime areas for office construction in the study area, along with PIA 4 (Uptown) and PIA 5 (Airport). Downtown office F.A.R.s are over five times the city average -- 1.7 compared to 0.3. Downtown was also a prime location for new service businesses, with one-third of total city construction. These two categories accounted for 75 percent of Downtown construction but only 27 percent of land absorption. It should be noted that no new buildings related to service businesses have located Downtown since 1983. During the past 9.5 years, 81 acres have been absorbed by non-residential uses.

Vacant Land. Over 300 acres of land remain in PIA 1. Over 60 percent is zoned for non-residential use. Areas with substantial amounts of vacant land are in the South Broadway area and along I-40 near Old Town. The area near I-40 and Old Town is prime for redevelopment, with both vacant and underutilized tracts. South Broadway, and to a lesser degree, neighborhoods to the north of Downtown, have experienced relatively little infill, indicating a weak market for new development in those areas.

PIA 2

Much of PIA 2 is rural or agricultural in nature or is converted farmland, and only a small portion lies within the study area boundary. Very little new construction has taken place in PIA 2, although a substantial amount of vacant land is available. Approximately 350 acres of vacant land remain in PIA 2. Annual absorption has been 2.5 percent per year.

Residential Development. In keeping with the rural nature of PIA 2, most (70 percent) of the new housing within the study area has been single family detached and townhouse. Apartment buildings tend to be small, less than ten units.

Non-Residential Development. Wholesale/warehousing has been the primary non-residential land use type, accounting for nearly half of all non-residential construction.

Vacant Land. Vacant parcels in PIA 2 are small and somewhat scattered. Along 12th Street north of I-40 are larger tracts

plus underutilized land owned by the All Indian Pueblo Council which is potentially redevelopable. Approximately 75 percent of the vacant land in PIA 2 is zoned for non-residential use.

PIA 4

Nearly 5,000,000 square feet of non-residential development and 1,000 housing units have been built since 1978 in PIA 4, and 300 acres of vacant land were absorbed. For the past five years, the rate of vacant land absorption in PIA 4 has been the highest of any PIA in the study area - nine percent per year. The major land use types were office, service, and wholesale/warehousing, and large apartment buildings.

Residential Development. Over eighty percent of new housing units in PIA 4 were multifamily and an additional 16 percent were townhouses. Very little single family detached housing was built, as PIA 4 had very little vacant residential land. In 1978, a large vacant parcel zoned R-3 existed between Bel-Air Elementary School and McKinley Middle School. This parcel has totally filled in with apartments and townhouses.

Non-Residential Development. PIA 4 includes a large area of predominantly industrial development near I-25. Warehousing and office-warehouse development has been a prime development type in Albuquerque with peaks of activity in 1978-80 and 1984-86. The general attractiveness of this type of development coupled with the proximity of PIA 4 to I-25 and the central part of the city resulted in over 1.7 million square feet of warehouse and office-warehouse construction.

The Uptown area has been a prime location for office and retail construction, given its regional position as a commercial center. Large commercial sites along Montgomery Boulevard have also filled in since 1978 as the population of the Northeast Heights has expanded to the north of Montgomery.

Vacant Land. Vacant land in PIA 4 is located along I-25 and I-40 in primarily industrial areas. Fifty-seven percent is zoned for non-residential use. Renaissance Center is being actively marketed and has been the location of several new businesses in the past 2 years. Land along I-40 has poor access and some topography and drainage problems which have inhibited development to date. Ownership is also an issue in that a large tract on the north side of I-40 between Washington and San Mateo has been held by a family, and recently an estate foundation, for many years. In spite of these limitations, planning is underway for a portion of the land along I-40.

PIA 5

The University of New Mexico, three of the city's major medical centers, Kirtland Air Force Base, Sandia Labs, and Albuquerque International Airport have provided an impetus for development in PIA 5. The employment base in PIA 5 has stimulated business expansions and attracted new businesses and residential development. Annual absorption since 1978 has been 38 acres per year, or 3.6 percent.

Residential Development. PIA 5, which includes the near southeast heights, had over 2,500 new housing units built. Over eighty percent were multifamily. PIA 5 includes the Trumbull and La Mesa neighborhoods where construction of two-to-four unit apartments contributed to densities unacceptable to neighborhood residents. Sector Development Plans written in the early 1980s attempted to solve this problem by rezoning areas for lower density development. A number of townhouses were built in Trumbull after the rezoning, indicating that demand for low cost housing is strong near the base.

The average valuations of new single family detached homes and townhouses are the highest and second highest, respectively, of any PIA in the study area, indicating a relatively high quality of development in portions of PIA 5. Housing values are highest near the University of New Mexico and lowest in Trumbull, La Mesa, and the Kirtland Addition on south University Blvd.

From 1980 through June 1987, 40 residential permits were issued for development on 13 acres of commercially zoned land. This is an indication that there is commercially zoned land which is suitable for residential development.

Non-Residential Development. Three million square feet of non-residential construction took place in PIA 5 from 1978 to mid-1987. One-third of the square footage was office space, and one-fourth was services. Retail and wholesale trade accounted for 13 and 16 percent, respectively. There were 184 acres absorbed for non-residential uses with an average parcel size of 0.72 acres.

The most active development types and areas have included professional offices near Presbyterian Hospital; office and office-warehousing near Albuquerque International Airport and Kirtland/Sandia; and major expansions of Lovelace Medical Center and the VA Hospital. The institutions and facilities in PIA 5 serve a regional population, and as the metropolitan area has grown, so has demand for expansion of the major entities and associated businesses.

Vacant Land. Over 800 acres of vacant land remain in PIA 5, of which 60 percent is zoned for non-residential use. Large vacant tracts of land are located north and west of Albuquerque International Airport. Planning and/or land development is in process for almost all of them. The airport expansion currently underway is expected to have a positive effect on demand for the remaining land. The largest vacant tracts are owned by the University of New Mexico, which is planning a research park. Although their property will be difficult to serve, UNM is proceeding with development and will bear the infrastructure costs. Other large tracts have problems with drainage and grading and a portion of the area is an old landfill. As demand and land values have increased, it has become feasible for a developer to pay the site improvement costs and build on these difficult sites.

A number of small, scattered tracts remain in the La Mesa and Trumbull neighborhoods; however, the total amount of vacant land in those neighborhoods is less than 35 acres. The housing in these neighborhoods has been small-scale apartments and townhouses, with low sale prices and rents. The resale value of single family homes is \$40,000 to \$60,000. Land prices are about \$25,000 for a standard (10,000 sq. ft.) lot. Builders have been able to build at higher densities because of zoning, and have been able to meet demand for affordable housing. Single family detached infill is unlikely given current land prices and home values. Aesthetics are a major issue in both neighborhoods, and strategies for improving the appearance of low-cost, higher density development are included in the final section of this study.

PIA 6

Residential Development. A small portion of PIA 6, which lies south of Downtown, is within the study area boundary. The area is primarily industrial, and very little residential development has occurred since 1978.

Non-Residential Development. Non-residential development within the small portion of PIA 6 which lies within the study area has been almost exclusively warehousing on lots ranging from one-tenth of an acre to one acre in size.

Vacant Land. Less than five acres of vacant land remain in the portion of PIA 6 which lies within the study area. The vacant land is mostly (75%) non-residential.

PIA 10

PIA 10 includes Central Avenue and Coors Blvd. frontage, which has attracted commercial development since 1978. Large

single family subdivisions which take advantage of the views provided by steep topography west of the river comprise the bulk of residential development. Annual absorption of vacant land has been 3 percent.

Residential Development. PIA 10, which is located west of the Rio Grande and east of Coors between I-40 and Central Avenue, has two areas of extensive infill activity. Over 300 single family homes have been built in PIA 10 since 1978. Over 70 percent of all new housing in PIA 10 is single family detached. The average valuation of new single family housing has increased nearly 300 percent since 1978. The average resale value of a home in DAZ 582 is over \$125,000, which includes the major new subdivisions, as opposed to \$56,000 in DAZ 581 to the west. The attractiveness of views to the east, and the higher price of housing which is located to take advantage of these views, made development of the steep sites feasible. Compared to the rate of development on fringe subdivisions, absorption of lots in Vista Magnifica and Palisades has been slow -- less than 25 units per year combined.

Non-Residential Development. Eighty percent of the non-residential development in PIA 10 was retail. The average parcel size was one-half acre. Twelve acres and 300,000 square feet were absorbed. Residential growth in the immediate area and to the southwest has provided a market for commercially zoned sites.

Vacant Land. Most of the 185 acres of vacant land in PIA 10 are located along Central Avenue, in Vista Magnifica and in Palisades. Over 85 percent of vacant land is zoned for residential use. This land is expected to be absorbed at the same rate as in the past. Existing water and sewer lines cannot support more intense development than current zoning allows.

PIA 14

Residential Development. A small portion of PIA 14 lies within the study area. The level of development since 1979 has decreased dramatically, although a few single family houses and townhouses continue to be built every year.

Non-Residential Development. Commercial infill in PIA 14 included retail, office, services, and warehousing. Lots were an average of 0.54 acre. A total of 12.5 acres were absorbed, accommodating 195,000 square feet of new construction.

Vacant Land. Annual absorption of vacant land since 1978 has been 9 percent, and less than 40 acres remain. Over 75

percent of the vacant land is zoned for residential use. A few large parcels of land remain in PIA 14 within the study area. These include two sites along Montgomery -- an apartment site which has drainage constraints as serious as that of any site in the study area and a townhouse subdivision adjacent to it. These tracts are two of the few large parcels located on an arterial which are left in the near Northeast Heights, and development of both parcels is in process in spite of site constraints.

PIA 15

Residential Development. Very little residential infill has occurred since 1980 in the study area portion of PIA 15, which encompasses a part of the southeast heights, although from 1978 through 1980 nearly 200 units per year were built. During these years over half of new housing was duplexes, triplexes, and four-plexes, a housing type which increased densities in some neighborhoods without providing for amenities, as in PIA 5.

Non-Residential. The primary type of non-residential infill in PIA 15 was warehousing. Lots were typically smaller than in other PIAs -- less than one-half acre. A total of 18 acres and 258,000 square feet were absorbed.

Vacant Land. Very little vacant land remains in the portion of PIA 15 which lies within the study area. What little land is vacant is in small, scattered parcels.

VI. RESIDENT ATTITUDES TOWARD INFILL

Two surveys were conducted to assess local attitudes towards infill development. These included mail-back surveys of individual households and of neighborhood association representatives within the study area. The methodology and results of each survey and conclusions are described below.

Resident Survey

Methodology. A random sample of 1,000 households within the study area was surveyed. The sample was systematically selected from residential addresses by postal carrier route within the study area. A sample survey form with summary results is shown in Appendix D. A total of 261 questionnaires were completed and returned, for a response rate of 26 percent.

Respondent Profile. In general, most (74 percent) of the respondents to the individual survey live in single family homes. Twenty-two percent live in apartments. Respondents tend to be homeowners (72 percent). Most respondents have lived at their present address for either one to five years or more than 15 years. Household income tends to be relatively low to moderate (less than \$30,000 per year) with homes valued at less than \$80,000. Seventy-five percent of the respondents have had some college, with half holding college degrees and 25 percent having some graduate education.

Neighborhood Characteristics. Nearly seventy percent of all responses came from residents of neighborhoods that are predominantly single family, owner occupied, and stable, with little turnover of residents. Over 30 percent of the responses are from residents of neighborhoods with no vacant land and 57 percent are from residents of neighborhoods with only a few lots vacant. The most common uses of vacant land were identified as pedestrian shortcuts, play areas for children, and vehicle parking. Respondents perceive that little infill has taken place in the past three years -- either no new construction (38 percent) or just a few buildings (43 percent). The most typical types of new construction are office buildings, retail stores, and new single family homes.

Analysis. The most overriding conclusion of the resident survey is that there are not a lot of strong feelings about infill development. Most respondents were fairly non-committal. (Probably most respondents had never heard the term "infill" before they read its definition in the survey instructions.) However, a few mild differences did emerge

which are statistically significant ($p \leq .10$) and should be mentioned.

On questions dealing with infill in general or City intervention to encourage infill, feelings were not as pronounced as they were toward design issues (see Table 5).

TABLE 5. COMPOSITE ATTITUDE SCORES

Attitude Composite- Topic	No. of Questions Asked	Average Score*
Infill Support	5	3.2
Compatible Design	3	4.1
City Intervention	4	2.9

Respondents believe that infill projects should be compatible with existing development in use, style, materials and scale. The most significant correlation of those of the three attitude composite scores was between Infill Support and City Intervention ($r=.61$). This means that the more strongly a respondent favors infill in general, the more strongly he/she favors actions by local government to encourage infill.

Respondents feel that infill causes no real change in the type of people who live in a neighborhood. They support limited increases in density to encourage infill, but do not support zone changes or financial incentives. Only three respondents have ever been involved in an effort to control or halt infill in their neighborhoods.

Individual Characteristics. An analysis of respondents based upon groupings by income and educational attainment showed that the higher a respondent's socioeconomic status, the more concern he/she exhibited over design compatibility.

-
- * On a scale of 1 to 5, where
1 = strongly opposed to infill or intervention, or not concerned about design,
5 = strongly supports infill or is concerned about design compatibility.

Homeowners were more concerned than renters that infill projects should conform to the existing design norms of their neighborhoods. Owners were less likely than renters to endorse City actions aimed at encouraging infill.

Neighborhoods as Reflected in Resident Responses. Respondents who indicated they live in neighborhoods of "almost all single family houses on separate lots" were significantly less willing to support infill, or to favor City encouragement of infill, than were those who live where dwellings are "mostly rented by the occupants".

A neighborhood stability score was computed by combining length of residence (item 4) with "turn-over" of residents (item 6). However, the stability measure did not correlate significantly with any of the other composite scores (Infill, Design, City Intervention, Socioeconomic Status).

The amount of nearby vacant land correlated positively with the amount of recent infill activity. That is, the more vacant land near a respondent's place of residence, the more likely he/she was to report recent nearby infill activity.

Neighborhood Association Survey

Methodology. A total of 56 neighborhood associations are active within the study area. Questionnaires were sent to the president of each association, with phone follow-up to request completion of forms. A sample survey form with total results is shown in Appendix D.

Twenty-six questionnaires were completed for a response rate of 46 percent. Responses were received from the following neighborhood associations:

Elder Homestead	North Campus
Eugene Field	North Valley
Harwood Lateral	Raynolds Addition
Hoffmantown	Santa Barbara/Martineztown
Huning Castle	Siesta Hills
Inez	Southeast Heights
John Marshall	Spruce Park
Kirtland	Stardust Skies #8
La Mesa	Stronghurst
La Sala Grande II	Trumbull
Mark Twain	University Heights
Netherwood Park	West Mesa/ACORN
Nob Hill	Wyoming Plaza

For questions with a range of opinion from Strongly Agree to Strongly Disagree, numeric values were assigned to each response. A score of 5 indicates strong support for infill. A score of 1 indicates strong disagreement with infill. A score of 3 indicates "Don't Care".

Background Information. Of the neighborhood associations surveyed, 58 percent have been in existence for more than five years. Only 38 percent formed in response to a development project.

Neighborhood Characteristics. Nearly 70 percent of the responding associations represent neighborhoods which are predominantly single family; and in 65 percent of the neighborhoods, dwellings tend to be owner occupied. Most neighborhoods are stable, with little or a moderate amount of turnover of residents, and most (88 percent) have no vacant land or only a few lots. The most typical uses for vacant lots are pedestrian short cuts and vehicle parking. A few new buildings have been built in 65 percent of the neighborhoods; no new construction has taken place in 27 percent of the neighborhoods. Most new construction has been single family residences or townhouses.

Analysis. Over half (54 percent) of the neighborhood groups would prefer that something be built on vacant lots in their neighborhoods. Almost all who responded to questions about the character of infill felt that infill should be the same type of use, architectural style, materials, and scale as surrounding development. Respondents do not feel strongly that infill causes traffic problems; nor do they believe that infill causes any real change in the type of people who live in a neighborhood. Although over half (54 percent) of the respondents support infill development, they do not agree with limited increases in density, changes in zoning, or financial incentives.

Nearly 70 percent of the neighborhood organizations have been involved in some effort to affect infill in their area in the past five years. The most typical types of involvement are to encourage single family construction, halt apartment and industrial projects, and control commercial and office projects.

Neighborhood associations are divided in their opinions about the responsiveness of the City staff and developers to their concerns. In some cases neighborhood groups have had both positive and negative experiences with projects.

Cross tabulations of survey results by level of support for infill indicate that organizations representing neighborhoods

which have a high proportion of apartments and/or high proportion of renters are more supportive of infill than associations representing single family neighborhoods. Associations representing areas with mixed residential types and/or many commercial buildings are least likely to support infill. Associations who have been involved in efforts to encourage infill are more likely to support infill than associations which have had no involvement with infill or have tried to halt or control development.

Conclusions

An analysis of residents' responses shows that there is only a mild level of support for infill development. The responses taken as a whole indicate a non-committal community -- a finding which may reflect either indifference to the topic or a lack of understanding of the issues.

In any event, the survey of individuals shows that there is neither strong support for, nor strong opposition to, infill development in general or to government programs encouraging infill. Moderate incentive programs may be able to generate support, if coupled with educational programs about advantages to the community from infill development.

Neighborhood associations are more familiar with infill as an issue than are individuals, although fewer than half of the associations formed in response to an infill project.

As with individual residents, neighborhood association representatives have strongest opinions about design compatibility. Strong neighborhood opposition to high density housing and zone changes to allow more intense land uses will continue to be a barrier to some types of infill. Neighborhood association survey results indicate that neighborhood representatives will be most supportive of projects which are designed to fit within their neighborhood's context.

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VII. COMPARISON OF DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE PROJECTS

Costs for infill development projects were compared to those for similar projects built in fringe areas of Albuquerque. The purposes of this analysis are as follows:

- To describe the financial situation of infill developers,
- To identify the significant cost differences between infill and fringe development,
- To determine the economic capacity of infill builders to bear additional development costs, and
- To specify savings which might be provided to infill developers to encourage the productive use of vacant infill land or respond to other policy initiatives by the City.

The set of tables in Appendix E provides development costs for hypothetical infill and fringe projects of the following types: single family detached, multifamily, retail, office, and office-warehouse. Hypothetical examples are used to maintain the confidentiality of data provided by the private sector.

Methodology

Development Costs Included. The development costs covered include: land, title fees, legal fees, architectural fees, engineering fees, developer's fee, site preparation, construction (including the contractor's fee), off-site infrastructure, landscaping, builder's risk insurance, performance bond, utility hookup and expansion fees, development review fees, appraisal, financing points and interest on the construction loan. Marketing costs and tenant improvement allowances are provided when appropriate.

Title fees are associated only with the purchase of vacant land. Site preparation costs typically include grading, fill dirt, and compaction of soils. The remaining cost items are largely self-explanatory. Builder's liability insurance has not been included because of the high level of variability in this cost and its small contribution to the overall expense of the project.

The costs specified are provided for the period from the purchase of the site to the completion of construction only. Generally excluded from this accounting are any expenses which might be associated with the period of sale or lease-up

of the project. This was done because of the high level of uncertainty and variability in this matter.

Of the cost items included, construction, site preparation, performance bond, utility hookup and expansion fees, and development review fees are subject especially to economies of scale. The City of Albuquerque directly has control over the following cost items: off-site infrastructure, landscaping, utility hookup and expansion, and development review fees. Furthermore, the length of time the municipality takes for its reviews and zone change determinations affects interest charges on land especially.

Selection of Projects. Hypothetical infill projects were specified to represent typical developments of their type and to identify special characteristics of infill development from a policy perspective.

All hypothetical infill projects are located on appropriately zoned land, except for the office development. This was done to consider the impact of time delays for zone change reviews on project costs.

Generally real estate is considered in the law to be "unique chattels" because each piece of real estate is unique and different from any other piece of real estate. Out of a potentially wide range of possible infill and fringe development projects, only two of each type could be specified. The projects were established to generate information which can be used in understanding the nature of infill in general, and in establishing public policy with regard to such development.

Infill and fringe projects are structured to be comparable in terms of site size, building size, and materials. Variations occasionally occurred because of typical differences in infill and fringe projects. Variations in projects are described in the sections for each development type.

Information Collection. As the first step in selecting sample sites, zone-map pages within the study area were selected for each type of development: single family detached, multi-family, retail, office, and office-warehouse. This was done by examining the distribution of vacant infill parcels which were zoned for each development type. The vacant parcels in each section were identified, measured, and the ownership obtained. Potential infill sites were visited and the final sites selected.

Then areas for obtaining development and vacant land market comparables were defined, including the location of the infill parcels in surrounding sections. Building permit

records were used to identify developers of similar projects in the surrounding area. The resulting lists were reviewed and usually three developers of these projects selected. These individuals were contacted to obtain market values for appropriately zoned vacant land in the area and other information to help in the selection of the developer to be interviewed concerning the hypothetical project costs.

Determinations were made with regard to target sites and the size and character of the hypothetical developments. Photos were taken of the selected parcels and surrounding development to assist in determining costs for study projects.

Interviews were arranged with the developers or builders of recently constructed infill projects which were similar to the hypothetical projects whenever possible. This was the case with regard to the following development types: single family detached, apartment, and retail. With regard to office and office-warehouse projects, interviews were conducted with individuals who were beginning to develop similar projects on nearby infill sites and with development professionals who had experience in the Albuquerque market.

These developers were asked to provide most of the cost items contained in the tables in Appendix E. They were asked to specify costs for the hypothetical projects by drawing on their experience with similar projects. These expenses were to be current costs for development. Sometimes it was necessary to modify the costs for specific recently built projects to conform to the hypothetical ones. This only was done using the information given by the builder or developer.

With regard to builder's risk insurance and performance bond costs, the current rates were obtained from local insurers. City staff were contacted to obtain current rates for utility hookup and expansion fees and development review fees. It was assumed that all infill and fringe projects were within the City limits in order to hold these costs and property taxes constant.

Title fees were obtained from the developers when possible, because land costs sometimes are affected by the allocation of closing costs between buyer and seller. Finally, financing points and interest also were obtained from the developers. This was done because interest rates and points can vary by the lending source, the strength of the developer, the amount of pre-leasing of a commercial building, and the past association of the lending institution and the developer.

Locations for fringe projects were established on the Northwest Mesa for single family detached, multifamily, and retail

development types, the north Interstate 25 industrial corridor for the office-warehouse project, and the Northeast Heights for the office project.

As with infill projects, building permits were used to identify developers of similar projects. Interviews were conducted with selected individuals concerning development costs for hypothetical fringe projects which were similar in size, site, and quality to the infill projects. The procedures for determining costs for fringe projects were the same as for infill projects.

Confidentiality. Most participants were concerned that the project data provided might be used by their competitors. As a result, all were promised that they would not be identified in this report. However, as part of a final accuracy check, all participants were mailed copies of the tables and text related to their projects and asked to verify the information.

Organization of Information. The remaining portion of this section is organized into separate presentations of findings and discussions concerning the different hypothetical infill development types.

Within each section, information is presented concerning: the locations of the infill and fringe projects, a description of the projects, and differences in expenses between infill and fringe development projects. Each section also contains a discussion of the most salient findings of the research.

Findings of these sections are additive in the sense that information relevant to the infill development of all development types is contained within each of the sections.

Hypothetical Single Family Detached Development Project

The single family detached project is a 2,000 square foot home. The infill project is located in the Northeast Heights, on zone-map page G-20. This area was selected primarily because it contains a relatively large number of infill parcels. The fringe project is based on the developer-respondent's building experience on the Northwest Mesa, especially in the Ladera area.

As a result of the differences between these two markets -- that new home prices are significantly higher in the Northeast Heights than on the Northwest Mesa -- the single family detached projects are somewhat different. The site for the infill project is 9,000 square feet in size, a typical size for infill R-1 zoned parcels. However, the parcel size for

the fringe project is 7,000 square feet, which is more representative of Northwest Mesa subdivisions. Furthermore, the sale price of the infill home was set at \$140,000 by the infill developer, while \$130,000 seemed a more appropriate price to the fringe developer. It was more representative to allow these market differences to alter slightly the development product, rather than artificially impose the same product in different contexts.

Development costs for these hypothetical new homes are reported in Table E-1 of Appendix E. As a result of the moderate differences between the infill and fringe products, the column containing the dollar differences for specific cost items between the two projects has been omitted from the table.

The infill developer interviewed has been building a small number of homes annually on infill lots in the Northeast Heights for about two decades. The fringe developer was a former employee of one of the largest homebuilders in the nation who was involved in the production of housing on the Northwest Mesa.

An additional difference between the two projects is that the infill home, necessarily, is custom-built, while the fringe home is in a tract subdivision. This distinction illustrates construction economies of scale and other cost differences which might occur as a result of different development processes.

One important difference between the two hypothetical projects is that the land cost represented approximately 5% less of total development cost for the fringe project than the infill one. This occurs because the fringe home lot is significantly smaller. Reductions in size are either not possible or are very difficult for infill parcels.

A second notable difference is that the per square foot construction cost for the infill home was \$45, compared to \$41.15 for the fringe home. Construction economies of scale apparently resulted in an approximate 9% cost savings for the fringe home.

Another important difference between the two projects concerned the developer's fee or profit margin. While the infill builder only showed revenue through his contractor's fee, the fringe developer had a 4% profit. The fringe developer indicated, however, that when demand was low, any profit margin could be lost.

With regard to the sale of the home, about 7% of total fringe home development costs were allocated to marketing, while the

sale fee for the infill home was estimated as 5%. This may have occurred because the infill developer needed to build closer to market demand because he has less financial depth required to keep the home on the market for a long time.

Finally, the fringe developer had significantly lower financing costs for his project. This appeared to result from the greater borrowing strength of the parent company.

Utility charges and development review fees were \$1,800 for the infill project and \$2,300 for the fringe project.

In general, higher land, construction, and finance costs made the infill development a more marginal operation. The infill developer indicated the viability of his operation is being undercut by rapidly increasing vacant land costs, because parcel owners set asking prices based upon land prices in new Northeast Heights subdivisions. The developer believes this is inappropriate because the sale price of a new infill home is limited by the resale value of existing homes in the surrounding neighborhood. This builder assumes that new infill homes can be priced comparably to the top 10% of resale values in the area.

The infill builder also stated that it is difficult to obtain appraisals for new infill homes which would justify sufficiently high construction loans, resulting in increased capital requirements.

In general, infill single family residential development may be financially infeasible in neighborhoods where the resale values of existing homes are uniformly lower.

Hypothetical Multifamily Development Project

The multifamily project is an eight-plex consisting of two-bedroom, one-bath units. Each of the units is 888 square feet in size, a typical size for apartments of this type. The apartments are of a relatively high quality with fireplaces and dishwashers, but without such amenities as a garage or balcony.

The infill project is located on two adjacent 6,750 square foot parcels on zone-map page K-19, near La Mesa Elementary School. Both parcels are owned by the same individual. The fringe project is located on the Northwest Mesa. The infill and fringe developers interviewed had recently built slightly different multifamily projects in these areas. The infill developer had constructed a bit smaller apartment unit. The fringe developer had built a somewhat higher quality project. Both were asked to adjust their construction costs to be appropriate for the hypothetical apartment complex.

The development costs for these two apartment complexes are provided in Table E-2, Appendix E. The infill project was slightly more expensive, 6.8% higher in total development cost. The largest differences in costs were for land and landscaping. Site acquisition costs were \$12,500 higher, or 35.7%, for the infill project than the fringe one. In contrast, \$4,200 less was spent on landscaping for the infill project, 70.0% less. Construction costs were estimated as \$14,500 more for the infill project, representing an increase of only 5.9%. Utility hookup and expansion fees and development review fees totalled \$9,600 for both projects, or approximately 3.0% of total development costs. The infill multifamily developer reported that his ability to finance only 75% of appraised value in the construction loan makes it more difficult to build these types of projects. Reported market rents for apartments in both projects are approximately equal.

In general, it appears that higher land and financing costs of the infill project are compensated for by spending less for aesthetic factors such as architectural work and landscaping, a significant finding in light of the importance of design to neighborhood residents.

Hypothetical Retail Development Project

The retail project is a 3,800 square foot structure on a 14,074 square foot site with a floor area ratio of .27. This project size reflects the typical small size of the retail zoned parcels in the study area. The infill project is compared to a similarly sized space in an 88,000 square foot community shopping center.

To an important degree, free standing retail space on infill lots competes with space in neighborhood and community shopping centers. This comparison illustrates how such factors as economies of scale, and different building review and development processes affect the costs of retail space. Because opportunities for large shopping centers are rare in the study area, some types of infill retail projects can be at a competitive disadvantage to fringe centers.

The site for the hypothetical infill project is located on zone-map page K-18, on a high traffic volume intersection along Zuni Road, S.E. The infill project was modeled after a recently completed retail structure on Central Ave., S.E. The fringe developer-respondent has built similar retail centers on the Northwest Mesa. The developers interviewed were shown a photo of the site for the study infill retail center. The fringe developer provided costs for the community shopping center and these were allocated to a 3,800

square foot retail space with an associated 14,074 square foot site. The cost allocations were done on a per square foot basis for the structure or the site whenever appropriate. The costs for the infill and fringe retail projects are identified in Table E-3, Appendix E.

Overall, the development costs for the infill project were \$84,000, or 31.8%, greater than for the fringe project. The most significant components of the cost difference were land and construction expenses. The infill parcel was \$59,500, or 80.2%, more expensive than the fringe development site. Construction costs for the infill project were \$33,500, 25.8%, greater than for the fringe project.

Economies of scale for the fringe development result in cost differences for the following items: construction, architectural fees, developer's fee, performance bond, and utility hookup and expansion fees. These items accounted for a \$41,400 cost savings for the fringe project compared to the infill one.

There were some interesting contrasts between the costs of the two projects which resulted from different development processes. Engineering and site preparation costs were \$9,500 more for the fringe project, probably due to higher costs for preparing the raw land for development. There was a \$4,300 off-site infrastructure improvement cost for the fringe project, but none was expected for the infill project. This cost included creating turn lanes and cuts in medians, bus bays and shelters, and moving street lights. Finally, development reviews for the fringe project required approximately 6 months in addition to the construction period, adding approximately \$3,900 to the land cost in interest payments (assuming an interest only loan at 10.5%). These higher expenses for the fringe project somewhat offset the greater land cost for the infill parcel.

Utility hookup and expansion fees and development review fees totaled \$5,200 for the infill project.

Developers were asked to provide expected market rents for both projects. Using the averages of the rental ranges provided, rent for the infill project would be approximately 15% higher than for the fringe one. This rent differential would partially offset the 30 percent difference in development costs.

Hypothetical Office Development Project

The office project is a 50,000 square foot structure on a 100,000 square foot site. The building is a Class A* office project with an approximately 85% gross leasable area, or 43,250 square feet.

The infill parcel is located along east Interstate 40 and the building would be visible from the freeway. The study parcel, although appropriately located for office development, is zoned R-1 and requires a zone change. The hypothetical fringe project is located along an arterial in the Northeast Heights, north of Montgomery Blvd. and east of Louisiana Blvd.

Development costs for the infill project were obtained from a developer of similar products in the study area. As a result of developer concerns about confidentiality, the fringe project was not based on an interview with a developer of a similar product in the Northeast Heights. Rather, the information was obtained from discussions with the following real estate professionals with experience in this area: brokers specializing in land sales, a leasing agent, an engineer, a commercial loan officer, and a building contractor. As a result, the data provided for the fringe office project does not represent an existing 50,000 square foot project in the fringe area.

A proportion of vacant infill parcels have conditions which make development on them difficult and more costly. These conditions can include: variable topography, improvements needed to the storm water drainage system, pending probate legal problems, inappropriate zoning, and neighbors who oppose a needed zone change. The infill office project was assumed to possess all of these difficulties to illustrate the financial impacts of these conditions.

Also notable in this comparison is that the Northeast Heights is the location of the fringe project, not the Northwest Mesa which is the location of the other fringe projects. The Northeast Heights is considered to be a more typical fringe location for Class A office buildings of the size selected

* The Urban Land Institute defines Class A space as buildings which have excellent location and access, attract high quality tenants, and are managed professionally. Building materials are high quality and rents are competitive with other new buildings [ULI, Office Development Handbook (Washington, D.C.: The Urban Land Institute, 1982), pp. 40-41].

for this analysis. This is important in the sense that there are geographic and political boundaries to development in the Heights, leading to a diminishing supply of vacant land there. Land prices have risen in the Heights because of progressively more limited supply. Land prices also are influenced by the higher-priced housing located there.

Development costs for the two projects are reported in Table E-4, Appendix E. Total development costs for the fringe project are 4.3% greater than for the infill one, representing a difference of approximately \$164,000. Construction costs for the building core and shell are nearly equal (a 2.4% difference). However, there are significant cost disparities with regard to the following expenses: land, legal fees, site preparation, tenant improvement allowances, and landscaping. The Northeast Heights land cost is 38.0% higher, \$266,100, than for the infill parcel. This appears to occur because of high priced, new residential and retail development in the area. This higher land cost seems to be offset by a lower tenant improvement allowance and less expensive landscaping. These two items reduce the total development cost of the fringe project by \$97,200, compared to the infill one.

In spite of reductions in tenant improvement allowances and landscaping expenses, the fringe project's development costs are four percent higher than the infill project's costs. This difference is offset by higher anticipated rents for the fringe project.

Particular conditions of the infill parcel contribute importantly to the cost of development. It is assumed that neighborhood opposition to a rezoning request will delay the project for 6 months. This delay is estimated to add about \$32,800 to the cost of the project for interest payments, property taxes, and management fees. The variable topography on the site contributes \$40,000 to infill project costs for grading, fill, and compaction. Solving off-site storm water drainage would require approximately \$27,300 to purchase additional land and hard line an arroyo. Finally, legal fees associated with resolving title difficulties are estimated to cost an additional \$17,500. In all, infill site development problems would require an estimated additional \$117,600 to resolve them.

Hypothetical Office-Warehouse Development Project

The study office-warehouse project is a 15,424 square foot structure on a 49,600 square foot site. The building is 20% (3,000 square feet) office, and 80% (12,424 square feet) warehouse. The office portion of the structure is assumed to

have finished walls, a drop ceiling, carpet, standard fixtures, and wooden doors. The warehouse part does not have a drop ceiling. The warehouse walls are insulated and covered, taped and painted, with a limited number of electrical outlets. The buildings are constructed largely of masonry and metal.

The infill site location is zone-map page H-16, between University and Carlisle Blvds, north of Interstate 40. The fringe project is located on zone-map page C-17, in the north Interstate 25 industrial corridor.

Both developers interviewed had experience building this type of real estate product in the Albuquerque market. Both were involved with plans for new office-warehouse developments in the selected areas.

Development costs for both projects are reported in Table E-5, Appendix E. Overall, development costs for the infill project were \$34,400 higher than for the fringe project, representing a difference of only 6.1%. The greatest cost disparities between the two projects are in the land and landscaping expenses. The infill parcel is \$24,800, 14.3%, more expensive than the fringe parcel. In contrast, \$5,500, or 61.1%, more was spent to landscape the fringe project. Both restrictive covenants on the fringe parcel and the City's North Interstate-25 Sector Development Plan require a greater amount of landscaping. The infill developer's construction costs were only 2.3% higher than construction expenses for the fringe project. Utility hookup and expansion fees and development review fees totalled \$21,100 for both the infill and the fringe projects, accounting for about 3.5% of total development costs.

Based on the financial data provided it appears that higher land costs for the infill project were offset, in part, by lower expenditures for landscaping.

Expected rents for the warehouse portion of both projects were nearly equal. However, the infill developer expected to rent the office portion of his project for about 9% more than did the fringe developer. Since 20% of the project was office space, the infill rents overall were approximately 2% greater.

In summary, the difference in development costs is compensated for, in part, by somewhat higher rents in the infill project.

Conclusions

Hypothetical projects were set up to compare development costs of infill and fringe projects. Each infill project is unique given its location, site configuration, adjacent uses, surrounding neighborhood, and other characteristics. However, the financial analysis indicates the factors which typically affect differences in development costs between infill and fringe projects.

The greatest cost differences are generally attributable to higher land costs in the study area. One exception to this is that office land in parts of the far northeast heights is more expensive than office land outside of urban centers in the study area.

Other factors which contribute to higher costs for infill projects are on-site and off-site engineering costs, which are proportionally higher for smaller projects; City fees which are scaled to favor larger projects; extra time spent in obtaining development approvals for infill projects; higher construction costs for small projects which cannot take advantage of the economies of scale inherent in large scale projects; and higher financing costs.

Opportunities for reducing the costs of infill projects are limited. Generally, developers make up for cost differences in two ways. The amount of money spent on landscaping and design may be reduced. It is interesting to note that the fringe office project which had high land costs also cut these expenses. The second strategy is to increase rents to partially offset cost differences. The typical retail and office-warehouse projects included in this analysis would be expected to command higher rents than the fringe projects. The differences in rental rates between the fringe and infill projects will vary depending upon differences in projected development costs and competitive rents.

Factors which the City can influence are City fees and costs associated with development approvals. While these costs represent a relatively small proportion of total project costs, they are significant enough to affect the level of amenities built into a project, including landscaping and design.

VIII. BARRIERS TO INFILL

In spite of the fact that development has taken place within the study area in recent years, infill can be a marginal business enterprise. Albuquerque's major developers shy away from infill projects because of the problems and low profit margins associated with infill -- limited opportunities to achieve economies of scale, high land costs, and the expense of obtaining City approvals for a small project, a high level of effort for the size of project and low rate of return. A number of the developers interviewed for this study indicated that the project under discussion was their first -- and last -- experience with infill.

The following major barriers to infill were identified during the course of this study.

- Vacant land in developed areas tends to be priced high for its present zoning or for its reasonable use. Landowners can have sale price expectations which are inconsistent with market demand and change only when the land is officially put on the market or when the owner has a pressing need to sell.
- Sites are inappropriately sized. Retail and multi-family sites, in particular, are sized similarly to residential lots. As a result, the development economies of a large apartment complex or shopping center can rarely be achieved within the study area. Single family lots, in contrast, are often larger than in new subdivisions, exacerbating land cost problems.
- Off-site and on-site infrastructure costs and land development costs result in higher per unit costs for infill projects. As an example, the engineering costs for a five-unit subdivision were estimated by a developer who does both infill and fringe projects to be \$20,000 in comparison to \$25,000 for a 30 lot subdivision. City fees, including hookup fees, the utility expansion charge, and permit fees are less expensive per unit for larger projects. A complicating factor is that, in many cases, the existing conditions for an infill site are unique or unknown. The City's procedures do not efficiently deal with the idiosyncracies of infill-parcels. For example, existing infrastructure may be undersized to serve the property as zoned, or drainage patterns for the area surrounding an infill parcel may be unknown. The developer is asked to pay for studies and/or infrastructure improvements for an area larger than the project would ordinarily warrant to compensate

for deficiencies in existing public records or in public systems. The anomalies in requirements for infill projects may also contribute to longer than average review times and delays in approvals, which increase costs to the developer. Delays and extra costs are particularly deadly for small projects for which extra expenses cannot be economically justified.

- Some proportion of infill lots have difficult topography, drainage, legal, or other problems which have inhibited development to date.
- Infill projects are characterized by a high level of effort to complete a relatively small project coupled with a low profit margin.
- Neighborhood opposition can reduce the chances of project approval and increase the time required to obtain construction permits. Such uncertainties make infill projects less attractive, and many good developers avoid infill land all together. New regulations mandating that developers initiate early discussions with official neighborhood groups are seen by both developers and neighborhood groups as a positive step in resolving this problem.
- Demand for housing and/or businesses is low in some areas, as indicated in Figures 4, 5 and 7. Although there may be plenty of vacant land, neighborhood housing prices and business opportunities may be too depressed for infill to occur without public intervention.

It should be noted that the barriers which exist are not unique to the study area. It is typical for sites intended for use as retail centers or multifamily development to be developed last. Once a single family residential area is established, neighborhood opposition can surface and delay a project.

Improved planning has eliminated some problems. Recent policies regarding drainage and utility systems and subdivision agreements will help prevent by-passed parcels. Those parcels which are passed over in the near term are less likely to have the types of infrastructure problems that inhibit infill in older parts of Albuquerque.

IX. INFILL POTENTIAL

There are a number of factors which will affect infill potential. These factors and the anticipated impact on infill potential are summarized below. Table F-1 in Appendix F shows scores for DAZs based on the neighborhood specific factors. Composite scores indicate the relative potential of each DAZ to attract infill based on market and land availability. Those areas which have available land, but a limited market for development, should be targeted for public actions to encourage infill.

Urban Area Characteristics

Urban Area Growth. Albuquerque urban area population and employment have increased steadily since World War II, and are projected to grow at a two percent average annual rate through 2000. New job growth and an expanding population have resulted in continued demand for housing. Although most of this housing demand has been met through new construction at the fringe of the city, a portion of the demand has been met through infill construction.

The established employment base and residential neighborhoods within the study area make it particularly attractive for higher density housing. Semi-annual surveys of large apartment complexes in Albuquerque consistently show that apartment projects in the study area perform better than apartments on the fringe.* They have higher occupancy levels and higher lease up rates -- characteristics which have been quite noticeable in the soft rental market of the past two years.

Urban area growth has also been the impetus for non-residential infill as new businesses have located in Albuquerque and existing businesses have expanded. As established business centers, Downtown, Uptown, and the Airport Area have unique locational attributes which have attracted infill development.

Employment Centers. In general, Albuquerque's central business district is weak. Although 27 percent of the urban area's jobs are located there, less than one percent of urban area retail trade occurs there. Employment in Albuquerque is dispersed, with 34 percent of jobs located outside the study area.

* Southwest Land Research, Marketscope: Apartments, published semi-annually.

Current development on the West Mesa (Riverview, El Rancho Atrisco, Rio Bravo area, and Seven Bar) and in the North I-25 area will enhance job opportunities at the fringe of the city. An estimated 56 percent of employment growth to 2000 is projected to be in fringe PIAs.

Commuting time from most parts of the area to Downtown is less than 30 minutes. For many homeowners, the lower price of housing on the fringe, choice of neighborhood, or choice of environment are greater incentives than commuting time is a disincentive in choosing a place to live.

Dispersed employment and short commuting times are both disincentives for infill. However, the study area's employment base is strong, nearly 150,000 jobs; and, while the bulk of Albuquerque's housing demand will be met through development on the fringe, demand for infill housing will continue.

A survey completed in 1985 in conjunction with the preparation of demographic projections for the City showed that as drive to work increases to more than 30 minutes, commuting time becomes a factor in choosing where to live. New development is getting farther away from the central part of the city, and as commuting becomes more time consuming, job location will play an increasingly important role in housing location choice.

Growth Controls. Several controls exist or have existed on outward growth of the city. Natural and political boundaries on the north, south, and east limit growth in those directions.

Poor access from the west side to jobs east of the river has been a major incentive for growth east of the Rio Grande. Recent access improvements provided by the Paseo del Norte bridge will lessen this incentive. The scarcity of suitable land on the east side coupled with a strong demand for housing have resulted in escalating housing costs on the east side.

Any strategy which seeks to influence demand for infill through controlling growth at the fringe must take into account its effect on land prices.

Availability and Cost of Services. Developers at the fringe bear a substantial portion of the cost of service extensions, streets, and drainage facilities. Fees established through the City's subdivision ordinance and water and sewer rates ordinance were set to cover the cost of serving new development. Utility expansion charges cover an estimated one-third to one-half of major facilities -- wells, reservoirs, and the City's share of other major system expansions. Drainage and

street paving costs are treated much the same way, with developers paying for all local streets and drainage and a share of major facilities. The remainder of the cost is borne by new rate payers -- the new residents and businesses at the fringe.

Since the mid-1960s, the City has had a policy of opening new water pressure zones to utility service only when adequate development to pay for the service is assured. Thus, no new water pressure zones have been opened on a speculative basis, limiting outward expansion of the water and sewer systems.

Neighborhood Characteristics

Land Prices. To the extent that infill lots are priced higher than fringe lots, infill is discouraged. Parcels within the study area tend to cost more than comparable parcels on the fringe, as shown in the pro forma analyses in Section VII.

Land owners who base their lot prices on prices in high priced subdivisions tend to set prices too high for the neighborhoods in which they are located. When parcels are large enough, rezoning to allow patio homes or townhouses is one solution to the land cost issue. For individual lots which cannot be subdivided, nothing is likely to happen until land owners' expectations approach the true market value of their land. Developers noted that when a landowner is motivated to sell, land price may be reduced to reflect true market value.

In a low income area like South Broadway there may be no market for land regardless of its price. In this situation City intervention may be desirable.

When market rents will support higher costs in the form of higher quality landscaping and design, a developer will generally include these in a project's budget. This is particularly true in areas where appearance is an important factor in marketing the project. However, if land costs are high, expenses related to aesthetics tend to be cut to the required minimum to compensate. Therefore, high land prices can contribute to lower quality in infill development.

Resident Incomes. The study area encompasses neighborhoods with a variety of socioeconomic characteristics. The 1980 per capita income levels by census tract are shown in Figure 13. Areas with higher per capita incomes are likely to attract new housing without any public policy assistance as long as land prices are reasonable. However, low income areas are less likely to attract investment in new single family housing without assistance. Based on development since 1983, the

location of multifamily housing is a function of land availability and existing zoning or the ability to obtain appropriate zoning rather than resident incomes. Therefore, neighborhood income influences only single family infill. Non-residential development is also not related to resident incomes.

Development History

Evidence of successful infill makes an area attractive for additional investment. Extensive investment has taken place in some areas, as shown in Figures 4, 5 and 7. Figures indicate new construction only and do not include renovation and remodeling. Areas which have not attracted new residential development on their own may benefit from public actions directed to encouraging infill.

Extent and Character of Vacant Land

Clearly, infill opportunities are greatest where there is an ample supply of vacant parcels of sufficient size to accommodate new development. Figure 8 indicates the characteristics of vacant land by DAZ, including the amount of vacant land and parcel characteristics -- large contiguous tracts vs. small scattered parcels.

Major development opportunities lie along I-25 in the industrial area which includes Renaissance Center, the Airport Area, and UNM's research park. Both the industrial area along I-25 south of Montgomery and the Airport Area have been active development areas over the past five years and appear to be filling in. Other areas which have vacant parcels remaining are: La Mesa and Trumbull, with scattered small lots; the neighborhoods north and south of Downtown, which have had little infill in the past five years and have a large number of small scattered vacant parcels; and the portion of the study area west of the river, which has experienced a large amount of infill over the past five years. Very little vacant land remains in the neighborhoods north of Lomas.

Figure 14 shows a composite of each DAZ's potential for infill. Areas with the best opportunities for infill with minimal public intervention are shown, as are areas which have vacant land but a limited market for new construction, (Target Strategy Areas.)

Other factors which will affect individual parcels include ownership and land development costs (as a function of topography, drainage, access, and the adequacy of existing utility systems). Individual parcel characteristics can be defined in Sector Development Plans.

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Infill Potential Scores

Neighborhood indicators of infill potential were scored for each DAZ in the study area as shown in Appendix F. Results are shown in Figure 14. Areas with a composite vacant land score of 4 or higher were considered to have infill potential. Areas with a market for infill (given income levels and a successful history of infill) are considered to have the highest infill potential. Areas with vacant land but no market are appropriate target areas for a public infill strategy.

Factors included in the analysis of infill potential are:

- The amount of vacant land within the DAZ on a scale of 0 (no vacant land) to 5 (more than 50 acres).
- The character of vacant land on a scale of 0 (no vacant land) to 5 (large contiguous tracts).
- Infrastructure availability on a scale of 1 (difficult to serve) to 5 (no service problems).
- Per capita income on a scale of 1 (\$2,500-\$5,000) to 4 (\$10,000-\$12,500).
- Historic residential development on a scale of 0 (no units built) to 5 (more than 100 single family homes and 250 or more multifamily units built from January 1983 through June 1987). Residential ratings are based on the rounded average of the rating for single family development and the rating for multifamily construction.
- Historic non-residential development on a scale of 0 (no non-residential construction) to 5 (\$10,000,000 or more in permit valuation from January 1983 through June 1987).

Scoring is based upon the following formulas:

Land Potential Composite =

$$\frac{2 \times \text{Amt. of Vacant Land Rating} + \text{Char. of Vacant Land Rating} + \text{Infrastructure Rating}}{3}$$

3

which is the average of the amount of vacant land (assigned a weight of 2 to reflect the importance of this factor), character of vacant land, and infrastructure availability.

Two market composites were calculated. The residential market composite reflects the potential of an area for attracting new residential development, and the non-residential market composite reflects an area's potential for attracting non-residential development.

The residential market composite is based on historic development and per capita income of the area according to the following formula:

$$\text{Res. Market Composite} = \frac{\text{Per capita income rating} + \text{Historic res. infill rating}}{2}$$

The non-residential market composite is based on historic non-residential development and per capita income according to the following formula:

$$\text{Non-res. Market Composite} = \frac{\text{Per capita income rating} + \text{Historic non-res. infill rating}}{2}$$

The areas with highest infill potential scored 4.0 or higher on the land potential composite and 2.5 or higher on one of the market composites. These areas have adequate vacant land for new development as well as a strong market to attract new development without City intervention.

Areas recommended as targets for an infill strategy are those with a score of 4.0 or higher on the land potential composite and scores of 2.0 or less on both the residential and non-residential market composites. These areas have vacant land for new development, but a weak market.

Conclusions

In summary, City economic conditions and policies are conducive to infill. However, portions of the study area which are characterized by low incomes and small, scattered vacant tracts have experienced little new development in recent years. City intervention may be necessary to stimulate infill in these areas.

X. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. There is relatively little vacant land within the study area. The 2,700 acres of vacant land which existed in the study area in 1982 comprised seventeen percent of total vacant acreage within the Established and Redeveloping Urban areas of the city. Since 1982, twenty-three percent of the study area vacant land has been absorbed. New development includes a broad range of development types, both residential and non-residential. In addition, new development is geographically dispersed. Public policy can therefore be targeted to those areas where infill is not occurring on its own or to meeting public objectives such as neighborhood upgrading and employment opportunities.
2. Residential infill has been primarily multifamily, although 1,500 single family homes were built. Multifamily projects within the study area tend to be smaller in size but of a higher density than those in the rest of the city. Lot sizes for single family detached housing and townhouses are about the same as in the rest of the city.
3. Several factors have influenced residential infill. Apartment projects within the study area have higher occupancy rates than fringe projects because of the availability of jobs and services. As a result, infill apartment projects have been built where land is available. There is, however, a shortage of appropriately zoned land for multifamily development -- particularly of suitably sized parcels. This has led to construction of small complexes on lots originally platted for single family housing. As a policy matter, the impact of these apartments has been considered in the Trumbull Neighborhood Sector Development Plan, and landscaping requirements have been incorporated into the zoning code. The comparison of infill and fringe multifamily projects shows that the greatest cost discrepancies are in land prices and landscaping. Landscaping and design costs for infill projects are reduced to compensate in part for higher land costs.

Multifamily housing, the most common type of infill housing, is the one development type that is consistently opposed by neighborhood residents. Because appropriately-zoned sites are scarce, apartment projects often need rezoning or a conditional use, requiring a public hearing. Design issues are of concern to residents; however, design-related costs are cut to make infill project rents competitive with fringe projects. This combination of

factors results in a need to identify appropriate sites for multifamily development, develop design guidelines or examples of good design which do not increase costs, and to encourage early discussions between neighborhood residents and developers.

4. Townhouse projects have occurred on parcels throughout the study area. The most common locations have been the Old Town/Downtown area, tracts north of the University of New Mexico near I-40, the Trumbull neighborhood, and tracts in PIA 14 as buffers between commercial and single family development. The factors which appear to influence the locations of townhouses are 1) the availability of vacant land, 2) proximity to employment, 3) proximity to a stable, high income neighborhood, and 4) an opportunity to provide low cost housing (Trumbull).
5. Single family infill has occurred to some degree throughout the study area. Vista Magnifica and Palisades, two neighborhoods in PIA 10 with a number of vacant lots, have substantially filled in since 1978. Other single family detached housing has been built on individual scattered lots. Lot prices are a significant factor in the viability of infill housing. New homes can be priced similarly to the higher 10 percent of resale prices in the surrounding neighborhood. However, if lot prices push new home prices above that level, no new housing will be built. Individual lots also dictate custom construction, with no opportunity for using economies of scale to reduce per unit costs.
6. Non-residential infill has also occurred throughout the study area. Downtown, Uptown, and the area around Albuquerque International Airport were most active. Land along I-25, the Downtown fringe, and land near Presbyterian Hospital were also locations for significant investment.

Retail development in infill areas is much more expensive than in fringe locations. The larger parcel sizes on the fringe allow construction of larger commercial centers, reducing per square foot costs. The greatest cost disparities are in land and construction costs.

Office development is attracted to infill sites near major employment concentrations. The office financial analysis shows that escalating land prices in the Far Northeast Heights can make lower priced infill land more attractive, even when the infill site is difficult to develop. Office/warehouse development costs are similar for infill and fringe projects.

- 7 . The City's urban renewal and redevelopment activities contributed to Downtown residential infill. The Alvarado Apartments, Martineztown, and North Barelmas Housing are the direct result of public action. However, other projects -- Sun Village Apartments, Fruit Street Townhouses, the Beach Apartments, and a number of smaller townhouse and apartment projects -- were accomplished privately. The market for some types of Downtown housing clearly exists.

Recommendations

Barriers to infill identified by developers of projects within the study area are similar to those identified in a national study of infill conducted by Real Estate Research Corporation. The following recommendations are described in relation to the factors which make infill difficult.

1. High vacant land costs. Infill land prices are from 14 to 80 percent higher than west mesa land, depending upon zoning and the proposed use. Higher land costs are a barrier when lease rates and sale prices of surrounding development are too low to justify land costs.

INFILL STRATEGIES: While the City cannot directly affect land prices, it can provide information to sellers, potential buyers and appraisers which helps establish more realistic prices. Utility availability and potential infrastructure requirements, topography, drainage, and street capacity are examples of property characteristics which can be documented in a City data base. The increasing capabilities of the Albuquerque Geographic Information System (AGIS) should be helpful in monitoring vacant land and its infrastructure capacity.

2. Inappropriate lot sizes and/or zoning. Parcels tend to be too small or too large for the types of development which typically occur in an infill area, and zoning may be inappropriate for reasonable use of the land.

INFILL STRATEGIES: The City can help in some cases with assembly of contiguous parcels. When zone changes are needed, streamlining development approvals, particularly if appeals are filed, can be accomplished through prompt scheduling of hearings.

3. Uncertainty in obtaining development approvals. In the past, neighborhood opposition has been a major barrier to infill. An estimated one-third of all infill projects needed plat approval or rezoning, which means that a

substantial portion of infill projects go through a public approval process. For example, given the historic demand for multifamily housing on infill sites, the scarcity of suitable vacant sites, and neighborhood opposition to such housing, conflicts are likely to continue.

INFILL STRATEGIES: In 1987 the City established a recognition policy for neighborhood associations which is intended to improve communications between neighborhood residents, private sector developers and the City. The requirements of the Neighborhood Recognition Ordinance will assure discussion of projects early in the development process and should reduce uncertainty in obtaining approvals. In addition to improved communications, there are other strategies which can smooth the relationship between neighborhood residents and developers. These are as follows:

- Provide ongoing education for neighborhood associations with respect to infill -- what is and isn't reasonable to expect, how to work with owners and developers.

Guidelines which specify legitimate reasons for appeals were suggested by developers to prevent frivolous appeals (for example, paint color or type of street tree used may be inappropriate grounds for an appeal).

- Designate an infill specialist in both the Planning and Public Works Departments to help developers comply with City requirements. The staff given this responsibility would make sure that all applications and reports are reviewed in a timely manner, provide assistance if the developer is unfamiliar with City procedures, and look for creative solutions to problems which do not have standard solutions.
- Incorporate specific infill recommendations in Sector Development Plans. Components of a Sector Plan level infill strategy would include:
 - Identification of vacant parcels, with an inventory of parcel size, ownership, zoning, physical characteristics, infrastructure availability, anticipated special requirements, surrounding land use, and a range of appropriate uses.
 - Design guidelines if appropriate to the neighborhood, including sample site layouts; sketches of facade treatments, scale, materials, and landscaping; and photographs of project examples.

- Rezoning of vacant land, if appropriate.

- Improve the appearance of small infill apartment projects. Target areas include La Mesa, Trumbull, Highland High School area, University neighborhood, and the Sycamore area. Develop sample site plans, designs for small (less than 20 units) apartment buildings on lots sized similarly to parcels in La Mesa and Trumbull. Make designs available to owners and the neighborhood associations. Sample cost data should be developed to illustrate the use of good design without increasing costs.

4. High on-site and/or off-site infrastructure and land development costs. Most infill developers look for land which has no physical constraints or major service requirements. As land is absorbed, vacant parcels which remain will be increasingly those which are difficult to develop. In general, the City will not assist with site development costs; however, there are actions the City can take with respect to fees and utility availability which can make site constraints less of a burden.

INFILL STRATEGIES: Offsetting increased development costs through fee waivers or reductions. Elimination of the Utility Expansion Charge is a potential strategy for parcels which were served in 1978 if development is no more intense than 1978 zoning would allow. Alternatively, payment of fees using funds from a tax increment financing program may be particularly appropriate in metropolitan redevelopment areas. The Public Works Department could also consider crediting past utility stand-by payments which have been paid to the City against any off-site infrastructure costs associated with a project, although it is acknowledged that this would not be a sizeable offset in cost.

City participation in infrastructure upgrades may be appropriate. Suitable areas should be identified in Sector Plans. Coordinating utility, street, and drainage rehabilitation projects with other public improvements will make areas which are important to overall infill goals more attractive. For assistance on a case-by-case basis, the City should set aside a portion of the City's system rehabilitation funds to repair infrastructure which cannot support infill development. The AGIS data base will be useful in identifying areas needing upgrades.

5. Absence of a market for infill. Areas identified in Figure 14 as "Target Strategy Areas" have experienced little development over the past ten years. Given depressed local conditions, significant infill may not occur without public intervention.

INFILL STRATEGIES: For areas which are not experiencing a reasonable degree of infill, provide incentives for development. Public incentive programs can be developed as part of a Sector Development Plan or Metropolitan Redevelopment Plan, depending upon the type of incentives used. Potential actions are as follows:

- Encourage construction of single family housing on scattered lots in areas where such development is not occurring, as indicated in Figure 14. Acquire parcels for resale to a developer; conduct a competition for design of affordable infill housing.
- Provide financial assistance in the form of property tax exemptions or deferrals.
- Use financial incentives mentioned previously, including upgrading infrastructure with public funds (using tax increment funds, grants, or other sources).
- Provide low-interest financing for new single family construction.

APPENDIX A
COMPREHENSIVE PLAN POLICIES
RELATED TO INFILL

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APPENDIX A

COMPREHENSIVE PLAN POLICIES RELATED TO INFILL

2. Urban Areas -

- a. Redevelopment and rehabilitation of older neighborhoods should be continued and expanded.
- c. An increased proportion of new growth shall be accommodated through infill development in established areas where vacant land is appropriate for urban facilities and services and where protection of viable neighborhoods can be ensured.
- d. In developing and redeveloping areas, clustering of homes providing a variety of housing types, larger shared open spaces and houses fronting on pedestrian ways or bikeways shall be encouraged.
- e. Traditionally designed neighborhoods in developing and redeveloping areas shall be carefully designed to conform to topographical features and include bikeways integrated into the development.
- g. Higher density housing should be mixed with single family housing under carefully planned area developments to ensure compatibility.

Higher density housing should be allowed in other than planned area developments only where protection of viable neighborhoods can be ensured. To achieve this protection, higher density residential development shall be located:

1. In areas where a mixed dwelling type of pattern is already established by zoning and use.
2. In areas now predominantly zoned single family only where it comprises a complete block face and faces onto similar or higher intensity development: 6-10 dwelling units per acre.
3. In areas where a transition is needed between single family homes and much more intensive development: 8-30 dwelling units per acre with densities varying according to the intensity of development in adjacent areas.
4. Densities over 30 dwelling units per acre only where access is directly available to a collector (preferably) or arterial street.

- h. Patterns and types of employment and services shall be located to complement residential areas; they shall be sited to minimize adverse effects of noise, lighting, pollution, and traffic on residential environments. (See additional location policies under "Circulation").
- i. Urban centers, which are concentrations of activities and/or densities, shall be located where appropriate. Each urban center should have a physical character appropriate to its purpose and use.
- j. Tall or massive structures which would dominate their environment shall be located in urban centers to provide for visual variety and functional diversity while preserving pleasing vistas and solar access.
- k. The metropolitan area shall assume a general pattern of gradually decreasing densities from inner to outer areas, with higher densities concentrated in designated urban centers throughout the metropolitan area. The following is a general guide to the intensity of development appropriate to each area.

 - 1. Infill within established areas: single family dwellings, townhouses, low apartments.
 - 2. Developing areas contiguous to established areas: single family dwellings and townhouses.
 - 3. Satellite communities within developing or reserve areas: a wide variety of housing types and range of densities with intervening open space.
 - 4. Urban centers at designated locations throughout established, developing and reserve areas: high intensities and densities, wide variety of structure types.
- l. Land uses adjacent to arterial streets shall be planned to minimize harmful effects of traffic on people residing on or utilizing adjacent land.
- m. Quality architectural design shall be encouraged in all new development. Projects within each designated urban center shall enhance its unique character, as defined in area plans. Architectural styles and principles of design shall be encouraged which are appropriate to the region.

APPENDIX B
HISTORICAL INFILL BY PIA
BY DEVELOPMENT TYPE AND ZONING

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TABLE B-1. LOT SIZES BY ZONING FOR INFILL SITES, PERMITS ISSUED BETWEEN JANUARY 1978 AND JUNE 1987

ZONING	NO ACRESAGE REPORTEDA	0.01-0.25	0.26-0.50	0.51-0.75	0.76-1.00	1.01-2.00	2.01-5.00	5.01-10.00	>10.00	TOTAL
BLANK	10	6	1	1	1	1	1	0	0	21
RA-1	1	0	0	0	0	0	0	0	0	1
RA-2	20	13	3	0	0	1	0	0	0	37
R1	330	304	77	3	2	3	1	0	0	720
RLT	0	0	0	1	1	0	0	0	0	2
R-T	14	39	7	2	1	1	1	0	0	65
R2	251	164	30	5	3	2	3	0	0	458
R3	66	33	12	1	11	7	1	2	1	134
RC	11	51	0	0	0	0	0	0	0	62
RD	23	34	3	0	0	0	0	0	0	60
MH	3	1	0	0	0	0	0	0	0	4
O-1	31	16	12	4	3	2	2	0	0	70
C1	63	36	37	7	8	1	3	0	0	155
C2	115	48	48	23	26	19	8	5	2	294
C3	56	30	28	8	11	7	10	0	0	150
M1	72	24	27	14	19	22	13	3	0	194
M2	4	5	6	0	3	1	4	1	1	25
IP	2	0	0	0	3	3	7	1	1	17
H1	0	2	1	0	0	0	0	0	0	3
P-R	1	0	0	0	0	0	0	0	0	1
SU1	133	95	13	5	6	9	8	3	2	274
SU2	70	3	22	5	5	4	2	0	0	111
SU3	16	4	3	2	0	3	5	1	0	35
MIXED USE	1	0	0	0	0	0	0	0	0	1
TOTAL	1292	908	330	81	103	86	69	16	8	2893
% OF TOTAL	44.7%	31.4%	11.4%	2.8%	3.6%	3.0%	2.4%	.6%	.3%	100.0%
% OF TOTAL WITH REPORTED ACRESAGE		56.7%	20.6%	5.1%	6.4%	5.4%	4.3%	1.0%	.5%	100.0%

*Acresage is not available for permits issued in 1978 and 1979.
Source: Southwest Land Research

TABLE B-2. RESIDENTIAL INFILL BY PIA* BY TYPE (NO. UNITS)
1978 - June 1987

PIA*	Single Family Dwelling	Townhouse	Multifamily 2-4 Units	Multifamily 5+ Units	Total
1	178	76	111	1,116	1,481
2	91	72	51	55	269
4	22	188	204	706	1,120
5	250	177	1,044	1,122	2,593
6	5	0	2	0	7
10	337	22	78	46	483
14	22	83	8	0	113
15	7	0	58	62	127
TOTAL	912	618	1,556	3,107	6,193
Percent of Total	14.7	10.0	25.1	50.2	100.0
City	20,559		19,343		39,902
Percent of City	7.4%		16.1%		15.5%

*PIAs split by the study area boundary show study area data only.
Source: City of Albuquerque building permits

TABLE B-3. RESIDENTIAL INFILL BY PIA* BY YEAR (NO. UNITS)

PIA *	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Total
1	57	64	48	110	93	16	273	151	629	40	1481
2	20	38	14	23	5	32	23	48	53	13	269
4	115	137	304	20	7	21	267	193	0	56	1120
5	374	712	226	111	44	162	224	197	501	42	2593
6	1	0	0	0	0	1	0	0	5	0	7
10	54	137	63	24	13	36	34	73	31	18	483
14	2	9	13	3	16	36	16	9	6	3	113
15	18	6	22	0	14	2	17	48	0	0	643
TOTAL	641	1103	690	291	192	306	654	719	1225	172	6193
Percent of Total	10.4	17.8	11.1	4.7	3.1	4.9	13.8	11.6	19.8	2.8	100.0
City	6172	5350	2632	1327	1673	3205	7253	5192	5195	1903	39902
Percent of City	10.4	20.6	26.2	21.9	11.5	9.5	11.8	13.8	23.6	0.09	15.5

*PIAs split by the study area boundary show study area data only.
 Source: City of Albuquerque building permits

TABLE B-4. RESIDENTIAL ENCLAVES, 1980 - JUNE 1987*

PIA 1

SUBDIVISION	YEARS BUILT	ZONE-MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)
ARMUJO BROS. ADDN. (FRUIT ST. TH.)	1982	J-14	5173 TH	SU-2	20	20	2.00	2.00	10.0
HAINING HIGHLAND	1985-86	K-14	5103 TH	SU-2	4	4	.72	.72	5.6
VILLA DE SAN MARTIN (MARTINEZTOWN)	1980	J-14	5273 TH	SU-1	23	45	2.24	4.38	10.3
CROPPHILL AVE. TH.	1986	K-14	5121 TH	SU-2	5	5	.60	.50	10.0
CITY ELECTRIC	1984-85	J-13	5142 TH	RLT	6	23	.80	2.30	10.0
LAGUNA	1982, 85	J-13	5142 TH	SU-2	6	7	.84	.98	7.1
RANCHO SECO	1983	J-13	5162 TH	SU-2	5	5	.30	.30	16.7
210 SAN PASQUALE	1984	J-13	5162 TH	R-3	4	5	.30	.38	13.3
ORCHARD PL. TH.	1984	J-13	5173 TH	SU-2	4	4	.22	.22	18.2
ORCHARD PL. TH. 2	1983	J-13	5173 TH	SU-2	2	2	.16	.16	12.5
SAMPPELL TH.	1986	J-13	5201 TH	R-T	5	26	.30	1.56	16.7
ROSEHUNT PL. TH.	1986	J-13	5201 TH	R-T	7	10	.54	.77	13.0
N. BARELAS HOUSING	1981-82	K-14	5121 MF	SU-2	120	120	5.00	5.00	24.0
12TH & COAL	1986	K-13	5132 MF	SU-2	12	12	.30	.30	40.0
SUN VILLAGE APTS.	1986	J-15	5242 MF	SU-1	572	572	17.00	17.00	33.6
11TH & COAL	1985	K-13	5132 MF	SU-2	28	28	.66	.66	42.4
BEACH APTS.	1985	J-12	5141 MF	R-3	74	74	2.50	2.50	29.6
LEVY TRACT	1984	K-13	5171 MF	SU-2	38	38	.95	.95	40.0
ALVARADO APTS.	1984	K-14	5005 MF	SU-3	210	210	5.25	5.25	40.0
SUBTOTAL PIA 1					1,147	1,210	40.58	45.93	26.3

* NO SUBDIVISION DATA AVAILABLE IN 1978 AND 1979 TO IDENTIFY ENCLAVES.

TABLE B-4. RESIDENTIAL ENCLAVES, 1980 - JUNE 1987* (CONTINUED)

PIA 2

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)
SOL RIO THS	1985	G-14	6012 TH	R-T	17	22	1.40	1.81	12.1
HONKBRIDGE PL.	1983	G-14	6012 TH	R-T	12	12	.49	.49	24.5
SUBTOTAL PIA 2					29	34	1.89	2.30	14.8

PIA 4

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)
WELLINGTON EAST	1986	G-17	7031 TH	R-3	185	185	9.25	9.25	20.0
CASA HERMOSA	1982	G-19	7631 TH	R-T	2	4	.14	.28	14.3
WELLINGTON PL.	1980	G-17	7031 MF	R-3	280	280	11.00	11.00	25.5
COMANCHE WELLS	1984	G-16	7011 MF	R-2	180	180	5.50	5.50	32.7
ERICKSON II	1987	G-17	7031 MF	R-3	56	56	2.00	2.00	28.0
SUBTOTAL PIA 4					703	705	27.89	28.03	25.2

* NO SUBDIVISION DATA AVAILABLE IN 1978 AND 1979 TO IDENTIFY ENCLAVES.

TABLE B-4. RESIDENTIAL ENCLAVES, 1960 - JUNE 1967* (CONTINUED)

PIA 5

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1960-JUNE '67	TOTAL UNITS	TOTAL ACRES PERMITTED 1960-JUNE '67	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)
MULBERRY ROW	1964	K-15	8022 TH	SU-2	4	4	.44	.44	9.1
GHIRADELLI	1961-63	H-16	8102 TH	R-3	9	12	.46	.61	19.6
NETHERWOOD TH.	1963-65	H-16	8102 TH	R-3	15	17	1.64	1.86	9.1
LUNADA	1960-66	H-16	8102 TH	R-3	17	36	1.25	2.65	13.6
KNOB HEIGHTS ADDN.	1960	L-16	8501 TH	R-3	6	10	.98	1.23	8.2
THAT PLACE ON DARTMOUTH	1960-65	H-16	8102 TH	R-2	17	23	1.52	2.06	11.2
CENTENNIAL VILLAS	1965	H-16	8102 TH	R-3	15	18	.98	1.18	15.3
JEFFERSON CT.	1964-67	K-17	8161 TH	R-3	12	12	1.54	1.54	7.6
CASAS DE LA MESA	1963-65	K-19	8233 TH	RLT	7	7	.61	.61	11.5
BELL PARK VILLA	1961-67	L-19	8244 TH	RT	73	73	4.52	4.52	16.2
CASAS SERENAS	1965-67	L-19	8244 TH	RT	6	68	.47	5.17	17.0
SUN PUEBLO APTS.	1966	K-19	8243 MF	C-2	398	398	12.40	12.40	32.1
MESA DEL NORTE	1963	J-19	8211 MF	R-3	42	42	1.92	1.92	21.9
AARC	1964	K-19	8242 MF	R-3	20	20	1.70	1.70	11.6
NETHERWOOD VILLAGE	1964	J-15	8102 MF	C-3	219	219	8.00	8.00	27.4
SUN SPRINGS	1965	K-17	8522 MF	C-2	70	102	2.40	3.50	29.2
VALLEY VIEW ADDN.	1964	K-17	8522 MF	C-2	22	22	.75	.75	29.3
(MISC. SMALL APT. BLDGS.)	1964	K-17	8522 MF	C-2	18	18	.55	.55	32.7
	1964	K-17	8522 MF	C-2	26	26	.60	.60	43.3
	1966	K-17	8522 MF	C-2	25	25	.60	.60	41.7
SUBTOTAL PIA 5					965	1,112	44.35	52.89	21.0

* NO SUBDIVISION DATA AVAILABLE IN 1978 AND 1979 TO IDENTIFY ENCLAVES.

TABLE B-4. RESIDENTIAL ENCLAVES, 1980 - JUNE 1987* (CONTINUED)

PIA 6

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS 1980-JUNE '87	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)	AVERAGE LOT SIZE (SQ. FT.)
NONE										
PIA 10										
SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS 1980-JUNE '87	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)	AVERAGE LOT SIZE (SQ. FT.)
AVALON WEST	1980	K-11	5811 TH	R-2	14	26	1.00	1.86	14.0	3,111.4
H.C. GONZALES ADDN.	1986-87	J-11	5812 SF	R-1	5	68	1.02	13.87	4.9	8,886.2
REGINA ADDN.	1980-86	J-11	5821 SF	R-1	12	95	3.75	29.69	3.2	13,612.5
VISTA MAGNIFICA	1981-87	H-11	5822 SF	SU-1	32	116	6.88	24.94	4.7	9,365.4
PALISADES ADDN.	1980-87	J-11	5822 SF	R-1	84	243	16.33	47.24	5.1	6,468.3
RIVERVIEW HEIGHTS	1981-86	J-11	5822 SF	R-1	12	83	2.67	18.47	4.5	9,692.1
CASA BLANCA	1985	K-11	5811 MF	C-3	39	39	1.30	1.30	30.0	1,452.0
SUBTOTAL PIA 10					198	670	32.95	137.36	4.9	7,249.0

* NO SUBDIVISION DATA AVAILABLE IN 1978 AND 1979 TO IDENTIFY ENCLAVES.

TABLE 8-4. RESIDENTIAL ENCLAVES, 1980 - JUNE 1987* (CONTINUED)

PIA 14

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS 1980-JUNE '87	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)	AVERAGE LOT SIZE (SQ. FT.)
THOMAS ADDN.	1983	6-20	7422 TH	SU-1	0	05	.56	5.95	14.3	3,049.2
LOMA DEL REY	1982	6-20	7422 TH	R-T	0	0	.00	.00	9.1	4,791.6
SIERRA VISTA TH.	1983-87	6-20	7422 TH	SU-1	38	38	2.42	2.42	15.7	2,774.1
COOK ADDN.	1983-85	J-20	7512 TH	RT	10	11	.77	.05	13.0	3,354.1
TIJERAS CLUB TH.	1980-84	J-20	7512 TH	R-2	27	27	1.79	1.79	15.1	2,007.9
SUBTOTAL PIA 14					91	169	6.42	11.69	14.2	3,073.1

PIA 15

SUBDIVISION	YEARS BUILT	ZONE MAP	DASZ TYPE	CITY ZONE	# UNITS PERMITTED 1980-JUNE '87	TOTAL UNITS 1980-JUNE '87	TOTAL ACRES PERMITTED 1980-JUNE '87	TOTAL PROJECT ACRES (EST.)	PROJECT DENSITY (UNITS/AC.)	AVERAGE LOT SIZE (SQ. FT.)
NONE										
GRAND TOTAL					3,133	3,900	154.08	278.41		

* NO SUBDIVISION DATA AVAILABLE IN 1978 AND 1979 TO IDENTIFY ENCLAVES.

TABLE B-5. RESIDENTIAL DEVELOPMENT CHARACTERISTICS BY TYPE,
1980 - JUNE 1987

STUDY AREA					
Housing Type	Number of Permits*	Number of Units	Total Acres	Density (Units/Acre)	Average Site Size
Single Family Detached	527	527	95.02	5.50	0.18
Townhouse	585	585	54.70	10.70	0.09
2-4 Units	168	660	40.11	16.50	0.24
5+ Apartment	49	2,673	88.84	30.10	1.81
TOTAL	1,329	4,445	278.67	16.00	0.21

REST OF CITY					
Housing Type	Number of Permits*	Number of Units	Total Acres	Density (Units/Acre)	Average Site Size
Single Family Detached	9,244	9,244	1,763.04	5.20	0.19
Townhouse	4,074	4,074	399.04	10.20	0.10
2-4 Units	139	1,477	81.09	18.21	0.58
5+ Apartment	37	8,074	341.06	23.67	9.22
TOTAL	13,494	22,869	2,584.23	8.85	0.19

*Excludes permits with no reported acreage.

TABLE B-6. COMMERCIAL INFILL BY PIAA BY TYPE (SQ. FT.)

PIAA	OFFICE (0001)		RETAIL (2000s)		SERVICE (3000s)		WHOLESALE (4000s)		MANUFACTURING (5000s)		TRANS/COMM/UTILITIES (6000s)		PUBLIC (7000s)		PARKS AND REC (8000s)		TOTAL
	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	SQ. FT.	%	
1	687,693		80,592		2,035,720		209,520		71,448		494,732		191,548		0		3,771,253
2	76,968		43,355		114,361		258,885		1,909		0		27,000		9,221		531,699
4	1,144,188		693,758		1,004,233		1,735,683		81,670		43,600		66,778		1,692		4,771,552
5	1,016,332		416,111		773,547		492,306		24,000		13,227		223,310		110,037		3,068,870
6	9,900		210		0		56,470		0		0		0		0		66,580
10	10,290		307,679		62,876		135,107		0		6,100		0		0		522,052
14	35,277		30,075		26,159		67,823		0		0		14,000		22,000		195,334
15	36,190		22,655		33,926		160,908		0		0		4,900		0		257,679
TOTAL	3,016,838		1,594,435		4,050,822		3,116,702		178,977		557,659		526,636		142,950		13,185,019
% OF TOTAL	.23		.12		.31		.24		.01		.04		.04		.01		
CITY	5,531,831		5,810,095		6,529,581		7,607,192		962,742		1,228,022		2,779,093		504,236		30,952,792
% OF CITY	.55		.27		.62		.41		.19		.45		.19		.28		.43

PIAAs split by the study area boundary show study area data only.
Source: City of Albuquerque building permits

TABLE B-7. COMMERCIAL INFILL BY PIA* BY YEAR (SQ. FT.)

PIA*	1978		1979		1980		1981		1982		1983		1984		1985		1986		1987		TOTAL		
	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	
1	68,816	142,318	665,802	198,694	1,567,822	110,487	142,549	537,850	19,455	317,460	3,771,253												
2	8,720	93,745	60,674	7,528	25,160	82,757	63,516	60,671	106,116	22,712	531,699												
4	434,829	462,181	641,916	480,172	296,842	181,315	926,679	737,378	483,257	124,985	4,771,552												
5	326,711	417,519	184,972	332,396	381,473	218,525	489,797	334,330	201,598	203,549	3,068,870												
6	210	0	0	0	0	1,200	9,900	19,750	35,520	0	66,560												
10	6,700	203,033	157,916	74,848	0	10,290	59,263	2,286	5,400	2,316	522,052												
14	20,201	0	0	21,080	19,200	13,911	50,306	6,750	51,685	10,301	195,334												
15	1,775	4,600	5,094	12,200	19,580	104,895	24,890	36,440	34,457	13,548	257,679												
TOTAL	867,962	1,323,596	1,716,374	1,126,918	2,290,077	701,260	1,769,000	1,757,453	937,488	694,071	13,185,019												

*PIAs split by the study area boundary show study area data only.
Source: City of Albuquerque building permits

TABLE B-8. NON-RESIDENTIAL FLOOR AREA RATIOS BY TYPE, STUDY AREA

Land Use Category (1-digit)	Number of Permits	Average FAR	Average Lot Size	Total Acreage	Total Sq. Ft.	Average Project Sq. Ft.
OFFICE	99	.50	1.11	109.71	2,387,102	24,112
RETAIL	137	.19	.92	125.50	1,015,150	7,409
SERVICE	134	.66	1.04	138.91	3,982,788	29,722
WAREHOUSING	170	.32	1.09	184.83	2,549,981	15,000
MANUFACTURING	7	.15	2.20	15.40	102,121	14,588
TRANSPORTATION, COMMUNICATION, UTILITIES	10	.90	.92	9.17	357,871	35,787
PUBLIC	22	.22	2.13	46.77	443,927	20,178
RECREATION	5	.60	.87	4.35	113,487	22,697
TOTAL	584	.40	1.09	634.64	10,952,427	18,754

NOTE: Sum of categories may not equal total due to rounding.

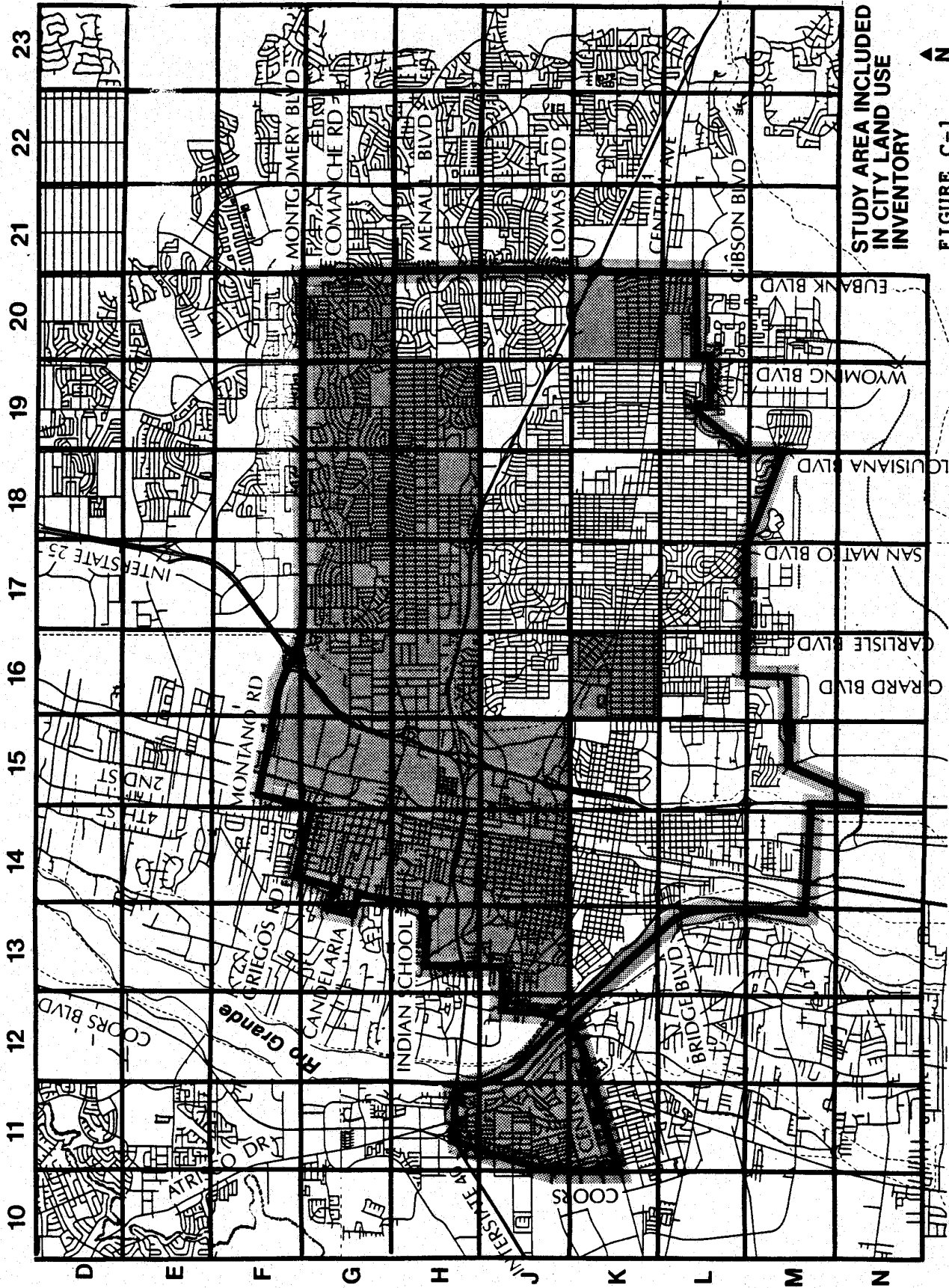
TABLE B-9. NON-RESIDENTIAL FLOOR AREA RATIOS BY TYPE, CITY OUTSIDE STUDY AREA

Land Use Category (1-digit)	Number of Permits	Average FAR	Average Lot Size	Total Acreage	Total Sq. Ft.	Average Project Sq. Ft.
OFFICE	132	.21	1.61	212.51	1,963,941	14,878
RETAIL	215	.19	1.76	378.69	3,058,141	14,224
SERVICE	138	.32	1.04	143.07	2,002,688	14,512
WAREHOUSING	199	.29	1.45	288.67	3,748,035	18,834
MANUFACTURING, TRANSPORTATION, COMMUNICATION, UTILITIES	8	.95	.88	7.02	292,990	36,624
RECREATION	11	1.14	1.20	13.19	656,732	59,702
PUBLIC	80	.13	4.62	369.97	2,099,116	26,239
RECREATION	28	.16	1.33	37.32	261,760	9,349
TOTAL	811	.22	1.79	1,450.44	14,083,403	17,365

NOTE: Sum of categories may not equal total due to rounding.

APPENDIX C
VACANT LAND DATA

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see following page



STUDY AREA INCLUDED
IN CITY LAND USE
INVENTORY



FIGURE C-1

TABLE C-1. VACANT LAND BY ZONE AND PARCEL SIZE, PARTIAL STUDY AREA

ZONE	PARCEL SIZE (AC.)											TOTAL	% OF TOTAL ACRES	TOTAL AVE. LOT ACRES SIZE									
	< 0.0*	0.0*	< 0.26	0.26-0.50	0.51-0.75	0.76-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10+	10+												
LOW DENSITY SF DETACHED																							
RA-1/RA-2	.0	.0	10.0	1.1	3.0	1.3	3.0	1.7	.0	.0	2.0	2.4	.0	.0	.0	18.0	6.5	.01	.01	.36			
R-1/SF	59.0	.0	646.0	83.0	126.0	43.0	23.0	13.8	15.0	13.2	14.0	19.5	5.0	13.1	1.0	6.0	1.0	16.7	892.0	208.2	.34	.20	.23
A-1/A-2	.0	.0	.0	.0	2.0	.8	2.0	1.4	4.0	3.3	2.0	2.9	7.0	22.1	3.0	19.5	.0	.0	70.0	50.1	.01	.05	2.51
SU-1/R-1	.0	.0	5.0	.9	1.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	6.0	1.2	.00	.00	.20
SU-2/SF	.0	.0	9.0	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	9.0	1.1	.00	.00	.12
SUBTOTAL	59.0	.0	670.0	86.1	134.0	45.5	28.0	16.6	19.0	16.5	18.0	24.8	12.0	35.1	4.0	25.5	1.0	16.7	945.0	267.1	.36	.25	.78
TOWNHOUSE																							
RT/TH/RT	.0	.0	40.0	2.8	4.0	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	44.0	4.1	.02	.00	.09
SU-2/TH	.0	.0	27.0	3.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	27.0	3.2	.01	.00	.12
SU-1/PRD	146.0	.0	105.0	13.3	14.0	5.0	.0	.0	.0	.0	1.0	1.3	1.0	4.0	.0	.0	.0	.0	267.0	23.6	.10	.02	.09
SUBTOTAL	146.0	.0	172.0	19.3	18.0	6.3	.0	.0	.0	.0	1.0	1.3	1.0	4.0	.0	.0	.0	.0	338.0	30.9	.13	.03	.09
MULTIFAMILY																							
R-2/R-3/R-4	13.0	.0	131.0	15.0	19.0	6.2	1.0	.5	2.0	1.7	3.0	5.1	1.0	2.9	1.0	5.7	.0	.0	171.0	37.0	.07	.03	.22
SU-1/R-2/	.0	.0	.0	.0	.0	.0	.0	.0	2.0	1.7	.0	.0	.0	.0	.0	.0	.0	.0	2.0	1.7	.00	.00	.83
R-3/R-4	.0	.0	5.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	5.0	.5	.00	.00	.10
SU-2/R-2/	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.00	.00	.00
R-3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.00	.00	.00
SUBTOTAL	13.0	.0	136.0	15.5	19.0	6.2	1.0	.5	4.0	3.3	3.0	5.1	1.0	2.9	1.0	5.7	.0	.0	178.0	39.2	.07	.04	.22
COMMERCIAL																							
C-1/C-2/C-3	43.0	.0	343.0	41.5	48.0	16.7	12.0	7.3	4.0	3.6	9.0	13.4	8.0	24.1	4.0	26.4	2.0	21.0	473.0	153.9	.18	.14	.33
SU-1/C-1/	.0	.0	.0	.0	.0	.0	1.0	.6	1.0	.9	.0	.0	1.0	4.1	.0	.0	.0	.0	3.0	5.6	.00	.01	1.88
C-2/C-3	.0	.0	54.0	5.0	4.0	1.5	1.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	59.0	6.9	.02	.01	.12
SU-2/C1/C-2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.00	.00	.00
SUBTOTAL	43.0	.0	397.0	46.5	52.0	18.1	14.0	8.4	5.0	4.5	9.0	13.4	9.0	28.2	4.0	26.4	2.0	21.0	535.0	166.5	.21	.16	.31
OFFICE																							
O-1	9.0	.0	3.0	.2	.0	.0	.0	.0	.0	.0	3.0	4.0	.0	.0	.0	.0	.0	.0	15.0	4.2	.01	.00	.28
SU-1/O-1	5.0	.0	12.0	1.4	2.0	.8	2.0	1.4	3.0	2.7	1.0	1.0	1.0	3.5	.0	.0	1.0	10.4	27.0	21.3	.01	.02	.79
SUBTOTAL	14.0	.0	15.0	1.6	2.0	.8	2.0	1.4	3.0	2.7	4.0	5.0	1.0	3.5	.0	.0	1.0	10.4	42.0	25.5	.02	.02	.61

TABLE C-1. VACANT LAND BY ZONE AND PARCEL SIZE, PARTIAL STUDY AREA (CONTINUED)

ZONE	PARCEL SIZE (AC.)														TOTAL		% OF TOTAL AVE. LOT SIZE			
	< 0.26	0.26-0.50	0.51-0.75	0.76-1.00	1.01-2.00	2.01-5.00	5.01-10.00	10+								ACRES	NO.	ACRES	NO.	
INDUSTRIAL																				
M-1/M-2/1P	15.0	.0	214.0	23.4	60.0	70.1	31.0	19.4	27.0	23.5	33.0	43.8	28.0	89.8	10.0	70.8	4.0	104.8	422.0	395.5
SU-1/PID	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	19.6
SU-1/M-1/	.0	.0	3.0	.3	.0	.0	.0	.0	3.0	2.8	1.0	1.5	4.0	13.5	.0	.0	2.0	57.8	13.0	75.8
M-2/1P	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	.0
M-2/P	.0	.0	2.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SUBTOTAL	15.0	.0	219.0	23.9	60.0	70.1	31.0	19.4	30.0	26.3	34.0	45.2	33.0	106.4	10.0	70.8	7.0	179.1	439.0	491.1
MIXED USE																				
SU-2 MIXED	.0	.0	24.0	3.9	1.0	.3	.0	.0	.0	.0	.0	.0	.0	1.0	2.0	.0	.0	.0	26.0	6.2
MIXED USE	.0	.0	11.0	1.6	4.0	1.3	3.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	18.0	4.8
SUBTOTAL	.0	.0	35.0	5.5	5.0	1.6	3.0	2.0	.0	.0	.0	.0	1.0	2.0	.0	.0	.0	.0	44.0	11.1
URBAN CENTER																				
SU-3	.0	.0	13.0	1.3	3.0	1.3	.0	.0	1.0	.8	1.0	1.5	.0	.0	1.0	5.2	9.0	9.0	28.0	19.1
SUBTOTAL	.0	.0	13.0	1.3	3.0	1.3	.0	.0	1.0	.8	1.0	1.5	.0	.0	1.0	5.2	9.0	9.0	28.0	19.1
OTHER																				
MU	.0	.0	6.0	1.0	1.0	.4	.0	.0	1.0	.9	1.0	1.4	.0	.0	.0	.0	.0	.0	9.0	3.6
OTHER	5.0	.0	21.0	2.3	3.0	1.1	2.0	1.4	1.0	.8	.0	.0	.0	.0	1.0	7.4	.0	.0	33.0	13.0
SUBTOTAL	5.0	.0	27.0	3.2	4.0	1.5	2.0	1.4	2.0	1.7	1.0	1.4	.0	.0	1.0	7.4	.0	.0	42.0	16.6
TOTAL	295.0	.0	1684.0	202.9	297.0	101.4	81.0	49.9	64.0	55.9	71.0	97.6	58.0	182.2	21.0	141.0	70.0	236.2	2591.0	1067.1
% OF TOTAL	11.4%	.0	65.0%	19.0%	11.5%	9.5%	3.1%	4.7%	2.5%	5.2%	2.7%	9.1%	2.2%	17.1%	.8%	13.2%	.8%	22.1%		

*NOT INCLUDED IN TOTAL COLUMNS
SOURCE: CITY OF ALBUQUERQUE LAND USE FILE

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APPENDIX D
SURVEY RESULTS

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APPENDIX D

INDIVIDUAL SURVEY RESULTS

This survey can be filled out either by writing your answer into the blank space or by circling the letter of the appropriate response. Please provide an answer for every question in the survey. Questions are on both sides of the pages.

When you are finished, you may return the survey by mailing it in the enclosed, postage-paid envelope.

All responses are strictly confidential.

Thank you for your help!

I. CONCERNING YOUR RESIDENCE

1. In what type of dwelling do you live? (CIRCLE THE LETTER NEXT TO THE APPROPRIATE ANSWER)

- a. Single family house on a separate lot 192 (74%)
- b. Apartment 57 (22%)
- c. Mobile Home 6 (2%)
- d. Other 6 (2%)

2. Do you rent or own your dwelling? (CIRCLE THE LETTER NEXT TO THE APPROPRIATE ANSWER)

- a. Rent 73 (28%)
- b. Own 188 (72%)

3. Please look at the map enclosed in this survey.

Write the number of the area in which you live in the space below.

PIA 1	30 (11%)	PIA 5	133 (51%)	PIA 14	24 (9%)
PIA 2	8 (3%)	PIA 6	1 (0%)	PIA 15	8 (3%)
PIA 4	45 (17%)	PIA 10	12 (5%)		

4. How long has your family or household lived at your present address? (CIRCLE ONE)

- a. Less than 1 year 28 (11%)
- b. 1 year through 5 years 80 (31%)
- c. 6 years through 10 years 37 (14%)
- d. 11 years through 15 years 24 (9%)
- e. 16 years or more 92 (35%)

II. NEIGHBORHOOD CHARACTERISTICS

5. Please describe the area within 5 blocks (or about 1/4 mile) in all directions surrounding your home by answering the questions below. Please answer whether or not you believe each is true for your area. (READ ALL ITEMS FIRST. PLEASE ANSWER EVERY ITEM)

	TRUE	FALSE	NO RESPONSE
a. Almost all single family houses on separate lots.	178 (68%)	83 (32%)	
b. Mostly apartment units.	22 (8%)	239 (92%)	
c. Mixture of single family houses on separate lots, townhouses, and apartments.	125 (48%)	131 (50%)	5 (2%)
d. An area with many retail stores or office buildings.	79 (30%)	182 (70%)	
e. Dwellings mostly owned by the occupants.	184 (74%)	64 (24%)	13 (5%)
f. Dwellings mostly rented by the occupants.	51 (20%)	196 (75%)	14 (5%)

6. How much turn-over of residents (residents moving in and out) is there in the area within 5 blocks (about 1/4 mile) of your home? (CIRCLE ONE)

a. A little turn-over of residents	115 (44%)
b. A moderate amount of turn-over of residents	90 (34%)
c. High turn-over of residents	14 (5%)
d. Don't know	42 (16%)

7. How much vacant land excluding parks is there within 5 blocks (1/4 mile) of your home? (CIRCLE ONE)

a. None	81 (31%)
b. A small amount, A few lots	148 (57%)
c. A moderate to large amount	22 (8%)
d. Don't know	10 (4%)

8. How is the vacant land within 5 blocks (1/4 mile) of your home being used at present? (CIRCLE AS MANY AS APPLY)

- | | |
|---|----------|
| a. Play area for children | 33 (13%) |
| b. Vehicle parking | 33 (13%) |
| c. Trash dumping | 28 (11%) |
| d. Off-road recreational vehicle area (e.g. dirt bikes, 4-wheel drive trucks) | 5 (2%) |
| e. Illegal/illicit activity | 10 (4%) |
| f. Short cut route for pedestrians | 55 (21%) |
| g. Other WRITE IN: 37 - includes "not used" | (14%) |
| h. Don't know | 47 (18%) |
| i. Not applicable. No vacant land in my neighborhood. | 75 (29%) |

9. How much new construction has taken place on vacant land within 5 blocks of your home in the past three years? (CIRCLE ONE)

- | | |
|--|-----------|
| a. None | 100 (38%) |
| b. Just a few buildings | 112 (43%) |
| c. A moderate to large number of new buildings | 13 (5%) |
| d. Don't know | 30 (12%) |

10. What types of new buildings have been constructed within 5 blocks of your home in the past three years? (CIRCLE AS MANY TYPES AS APPLY)

- | | |
|---|----------|
| a. Single family house(s) on separate lot(s) | 46 (18%) |
| b. Townhouse(s) | 30 (12%) |
| c. Small apartment building(s) - less than 50 units | 29 (11%) |
| d. Large apartment building(s) - 50 units or more | 4 (2%) |
| e. Retail store(s) | 43 (17%) |
| f. Office building(s) | 50 (19%) |
| g. Industrial or warehouse building(s) | 6 (2%) |
| h. Public building(s) | 9 (3%) |
| i. Other WRITE IN: | 11 (4%) |
| j. No new construction in my neighborhood | 97 (37%) |

III. ATTITUDE TOWARD INFILL DEVELOPMENT

"INFILL" DEVELOPMENT MEANS NEW BUILDING OR CONSTRUCTION WHICH TAKES PLACE ON VACANT LOTS WHICH ARE SURROUNDED BY EXISTING URBAN DEVELOPMENT. IN OTHER WORDS, INFILL IS CONSTRUCTION ON LOTS WHICH WERE "SKIPPED OVER" BY PREVIOUS DEVELOPMENT.

THE FOLLOWING QUESTIONS CONCERN YOUR ATTITUDES TOWARD INFILL DEVELOPMENT.

11. Below are a list of statements concerning infill development in the five block (1/4 mile) area surrounding your home. For each, please answer whether you: Strongly Agree (SA), Agree (A), Have No Opinion (DC), Disagree (D), or Strongly Disagree (SD).

(Reported results are the means of the responses, assuming a numeric score of 1 (response does not support infill) to 5 (response strongly supports infill)).

	<u>Mean</u>	<u>Standard Deviation</u>
A. I would prefer that something be built on the vacant lots in this area.	2.69	1.23
B. The same type of land uses (residential, retail, office, industrial, and so on) as on surrounding lots should be built on infill vacant lots.	4.04	1.17
C. Infill development should be similar in architectural style and building materials as development on surrounding lots.	4.06	1.10
D. Infill development should be similar in size and height as buildings on surrounding lots.	4.26	0.93
E. Infill development creates difficult traffic problems in the area.	2.93	1.38
F. I would prefer that vacant lots in this area remain vacant.	3.43	1.18

12. In general, I believe infill residential development will have the following impact on my neighborhood: (CIRCLE ONE)

a. Change the type of people who live in this area and make it a better place to live	22 (8%)
b. Change the type of people who live in this area and make it a worse place to live	16 (6%)
c. Make no real change in the type of people who live in this area	118 (45%)
d. Don't know. Can't say	43 (17%)
e. Not applicable. No vacant land in my neighborhood.	57 (22%)

13. Following are some actions the government of the City of Albuquerque could take to encourage infill development. For each, please answer whether you: Strongly Agree (SA), Agree (A), Have No Opinion (DC), Disagree (D), or Strongly Disagree (SD).

(Reported results are the means of the responses, assuming a numeric score of 1 (response does not support infill) to 5 (response strongly supports infill)).

	<u>Mean</u>	<u>Standard Deviation</u>
A. The City of Albuquerque should <u>not</u> encourage infill development.	3.22	1.33
B. The City of Albuquerque should allow limited increases in residential and non-residential densities to encourage infill development.	3.72	1.54
C. The City of Albuquerque should allow zone changes to encourage infill development (example: from single family detached houses to townhouses, or from residential to retail).	2.33	1.30
D. The City of Albuquerque should provide developers with limited financial incentives, such as providing water and sewer improvements or waiving normal development fees, to encourage infill development.	2.58	1.47

14. In summary, what is your opinion about infill development within 5 blocks (1/4 mile) of your home? (CIRCLE ONE)

a. Strongly support	45 (17%)
b. Support somewhat	64 (25%)
c. Don't care	21 (8%)
d. Oppose somewhat	35 (13%)
e. Strongly oppose	28 (11%)
f. Don't know	10 (4%)
g. Not applicable.	58 (22%)
No vacant land in my neighborhood.	

15. Have you been involved in any effort to control or halt infill development in your neighborhood in the past 5 years?

a. Yes	9 (3%)
b. No	252 (97%)

IV. BACKGROUND INFORMATION

THE FOLLOWING INFORMATION IS NEEDED FOR STATISTICAL PURPOSES. ALL ANSWERS PROVIDED ARE STRICTLY CONFIDENTIAL.

16. How many persons including children regularly live in your dwelling?

WRITE IN: Mean = 2.4

17. What is the total combined annual income of all adult wage earners in your household?

a. Under \$10,000	
b. \$10,000 to \$19,999	112 (43%)
c. \$20,000 to \$29,999	
d. \$30,000 to \$39,999	
e. \$40,000 to \$49,999	94 (36%)
f. \$50,000 to \$59,999	
g. \$60,000 to \$69,999	
h. \$70,000 to \$79,999	22 (8%)
i. \$80,000 to \$89,999	
j. \$90,000 to \$99,999	11 (4%)
k. \$100,000 or more	
l. Don't know	9 (3%)

18. (IF YOU OWN YOUR DWELLING) What is the value of your house?

a. Less than \$40,000	
b. \$40,000 to \$59,999	91 (35%)
c. \$60,000 to \$79,999	
d. \$80,000 to \$99,999	
e. \$100,000 to \$124,999	73 (28%)
f. \$125,000 to \$149,999	
g. \$150,000 to \$199,999	12 (5%)
i. \$200,000 or more	
j. Don't know	10 (5%)
k. Not applicable	72 (28%)

19. What is the educational level at which you completed your schooling?
(CIRCLE ONE)

a. Eighth grade or less	3 (1%)
b. Some high school but less than a high school diploma	10 (4%)
c. High school diploma or GED	38 (15%)
d. Vocational training (example: TVI)	12 (5%)
e. Some college but less than a Bachelor degree	66 (25%)
f. Bachelor degree or equivalent	62 (24%)
g. Graduate education	69 (26%)

THANK YOU FOR YOUR HELP

PLEASE RETURN THIS SURVEY IN THE ENCLOSED, POSTAGE-PAID ENVELOPE.

NEIGHBORHOOD ASSOCIATION SURVEY RESULTS

This survey can be filled out either by writing your answer into the blank space or by circling the letter of the appropriate response. Please provide an answer for every question in the survey. Questions are on both sides of the pages.

THE ANSWERS SHOULD REPRESENT THE HISTORY AND OPINIONS OF YOUR NEIGHBORHOOD ASSOCIATION—AS BEST AS YOU CAN PROVIDE THEM.

When you are finished, you may return the survey by mailing it in the enclosed, postage-paid envelope.

Thank you for your help!

I. BACKGROUND INFORMATION

1. How long has your neighborhood association been in existence?
(CIRCLE ONE)

a. Less than 1 year	3 (12%)
b. 1 year through 5 years	8 (31%)
c. 6 years through 10 years	8 (31%)
d. 11 years through 15 years	3 (12%)
e. 16 years or more	4 (15%)

2. Did your group form out of concern for a neighborhood real estate development project?

a. Yes	10 (38%)
b. No	15 (58%)
c. Don't know	0 (0%)

II. NEIGHBORHOOD CHARACTERISTICS

3. Please describe the area within your neighborhood association's boundaries by answering the questions below. Please answer whether or not you believe each is true for your area. (READ ALL ITEMS FIRST. PLEASE ANSWER EVERY ITEM)

	TRUE	FALSE	NO RESPONSE
A. Almost all single family houses on separate lots.	18 (69%)	8 (31%)	0 (0%)
B. Mostly apartment units.	2 (8%)	24 (92%)	0 (0%)
C. Mixture of single family houses on separate lots, townhouses and apartments.	11 (42%)	14 (54%)	1 (4%)

D. An area with many retail stores or office buildings.	5 (19%)	21 (81%)	0 (0%)
E. Dwellings mostly owned by the occupants.	17 (65%)	8 (31%)	1 (4%)
F. Dwellings mostly rented by the occupants.	8 (31%)	16 (62%)	2 (8%)

4. How much turn-over of residents (residents moving in and out) is there in the area within the boundaries of your neighborhood association? (CIRCLE ONE)

a. A little turn-over of residents	13 (50%)
b. A moderate amount of turn-over of residents	10 (38%)
c. High turn-over of residents	3 (12%)
d. Don't know	0 (0%)

5. How much vacant land excluding city parks is there within your neighborhood association area? (CIRCLE ONE)

a. None	6 (23%)
b. A small amount, A few lots	17 (65%)
c. A moderate to large amount	3 (12%)
d. Don't know	0 (0%)

6. How is the vacant land within your neighborhood association area being used at present? (CIRCLE AS MANY AS APPLY)

a. Play area for children	2 (8%)
b. Vehicle parking	6 (23%)
c. Trash dumping	5 (19%)
d. Off-road recreational vehicle area (e.g. dirt bikes, 4-wheel drive trucks)	1 (4%)
e. Illegal/illicit activity	1 (4%)
f. Short cut route for pedestrian	12 (46%)
g. Other (WRITE IN):	12 (46%)
h. Don't know	6 (23%)
i. Not applicable	2 (8%)

7. How much new construction has taken place on vacant land within your neighborhood association area in the past three years? (CIRCLE ONE)

a. None	7 (27%)
b. Just a few buildings	17 (65%)
c. A moderate to large number of new buildings	2 (8%)
d. Don't know	0 (0%)

8. What types of new buildings have been constructed in your neighborhood association area in the past three years? (CIRCLE AS MANY TYPES AS APPLY)

- a. Single family house(s) on separate lot(s) 9 (35%)
- b. Townhouse(s) 10 (38%)
- c. Small apartment building(s)—less than 50 units 3 (12%)
- d. Large apartment building(s)—50 units or more 5 (19%)
- e. Retail store(s) 3 (12%)
- f. Office building(s) 5 (19%)
- g. Industrial or warehouse building(s) 2 (8%)
- h. Public building(s) 1 (4%)
- i. Other (WRITE IN:) 2 (8%)

III. OPINIONS OF NEIGHBORHOOD ASSOCIATION TOWARD INFILL DEVELOPMENT

"INFILL" DEVELOPMENT MEANS NEW BUILDING OR CONSTRUCTION WHICH TAKES PLACES ON VACANT LOTS WHICH ARE SURROUNDED BY EXISTING URBAN DEVELOPMENT. IN OTHER WORDS, INFILL IS CONSTRUCTION ON LOTS WHICH WERE "SKIPPED OVER" BY PREVIOUS DEVELOPMENT.

THE FOLLOWING QUESTIONS CONCERN YOUR NEIGHBORHOOD ASSOCIATION'S OPINIONS TOWARD INFILL DEVELOPMENT.

9. Below are a list of statements concerning infill development in your neighborhood association area. For each, please answer whether your association: Strongly Agrees (SA), Agrees (A), Has No Opinion (DC), Disagrees (D), or Strongly Disagrees (SD). NR = No Response.

(Reported results are the means of the responses, assuming a numeric score of 1 (response does not support infill) to 5 (response strongly supports infill)).

	<u>Mean</u>	<u>Standard Deviation</u>
A. We would prefer that some thing be built on the vacant lots in this area.	3.71	1.18
B. The same type of land uses (residential, retail, office, industrial, and so on) as on surrounding lots should be built on infill vacant lots.	4.35	0.71
C. Infill development should be similar in architectural in style and building materials as development on surrounding lots.	4.26	0.75
D. Infill development should be similar in size and height as buildings on surrounding lots.	4.52	0.51

E. Infill development creates difficult traffic problems in the area. 3.32 1.32

F. We would prefer that vacant lots in this area remain vacant. 3.59 1.30

10. In general, we believe infill residential development will have the following impact on our neighborhood association area. (CIRCLE ONE)

- a. Change the type of people who live in this area and make it a better place to live 2 (8%)
- b. Change the type of people who live in this area and make it a worse place to live 2 (8%)
- c. Make no real change in the type of people who live in this area 11 (42%)
- d. Don't know 5 (19%)
- e. Not applicable 3 (12%)

11. Following are some suggested actions the government of the City of Albuquerque could take to encourage infill development. For each, please answer whether your neighborhood association: Strongly Agrees (SA), Agrees (A), Has No Opinion (DC), Disagrees (D), or Strongly Disagrees (SD). NR = No Response.

(Reported results are the means of the responses, assuming a numeric score of 1 (response does not support infill) to 5 (response strongly supports infill)).

	<u>Mean</u>	<u>Standard Deviation</u>
A. The City of Albuquerque should not encourage infill development.	3.17	1.30
B. The City of Albuquerque should allow limited increases in residential and non-residential densities to encourage infill development.	2.43	1.29
C. The City of Albuquerque should allow land use zone changes to encourage infill development (example: from single family detached houses to town-houses, or from residential to retail).	1.68	0.89
D. The City of Albuquerque should provide developers with limited financial incentives, such as providing water and sewer improvements or waiving normal development fees, to encourage infill development.	2.27	1.28

12. In summary, what is your neighborhood association's opinion about infill development within the boundaries of your area? (CIRCLE ONE)

- a. Strongly supports 2 (8%)
- b. Supports somewhat 12 (46%)
- c. Doesn't care 0 (0%)
- d. Opposes somewhat 2 (8%)
- e. Strongly opposes 1 (4%)
- f. Don't know 1 (4%)
- g. Not applicable 5 (19%)

13. Has your neighborhood association been involved in any of the following efforts with regard to infill development in your area in the past 5 years? (CIRCLE AS MANY AS APPLY)

- a. Attempt(s) to encourage infill development 7 (27%)
- b. Attempt(s) to halt infill development 6 (23%)
- c. Attempt(s) to control or modify infill development 15 (58%)
- d. No activity concerning infill development 8 (31%)
- e. Don't know 0 (0%)

ANSWER QUESTIONS 14, 15 AND 16 IF YOUR ASSOCIATION HAS ATTEMPTED TO ENCOURAGE, CONTROL, OR HALT INFILL DEVELOPMENT IN YOUR NEIGHBORHOOD AREA. (IF YOU ANSWERED "A", "B", OR "C" TO QUESTION 13 ABOVE.)

14. Please check the boxes below to indicate your association's past activities (encourage, control, or halt) with regard to each of the types of infill projects listed. (CHECK AS MANY AS APPLY)

	ENCOURAGE	CONTROL	HALT
A. Single family house(s) on separate lot(s)	11 (42%)	2 (8%)	1 (4%)
B. Townhouse(s)	5 (19%)	5 (19%)	4 (15%)
C. Small apartment building(s) —less than 50 units	1 (4%)	6 (23%)	7 (27%)
D. Large apartment building(s) —50 units or more	0 (0%)	1 (4%)	10 (38%)
E. Retail store(s)	5 (19%)	7 (27%)	5 (19%)
F. Office building(s)	5 (19%)	7 (27%)	4 (15%)
G. Industrial or warehouse building(s)	2 (8%)	3 (12%)	8 (31%)
H. Public building(s)	2 (8%)	5 (19%)	6 (23%)

15. In general, how responsive was the developer(s) of this infill project(s) to your neighborhood association's concerns?
- | | |
|--------------------------|---------|
| a. Very responsive | 3 (12%) |
| b. Somewhat responsive | 2 (8%) |
| c. Neutral | 1 (4%) |
| d. Somewhat unresponsive | 4 (15%) |
| e. Very unresponsive | 5 (19%) |
| f. Don't know | 2 (8%) |
| g. Not applicable | 1 (4%) |

16. In general, how responsive was the government of the City of Albuquerque to your neighborhood association's concerns?
- | | |
|--------------------------|---------|
| a. Very responsive | 5 (19%) |
| b. Somewhat responsive | 5 (19%) |
| c. Neutral | 1 (4%) |
| d. Somewhat unresponsive | 5 (19%) |
| e. Very unresponsive | 4 (15%) |
| f. Don't know | 1 (4%) |
| g. Not applicable | 0 (0%) |

PLEASE IDENTIFY BELOW THE INFILL DEVELOPERS AND PROJECTS WITH WHICH YOUR ASSOCIATION HAS DEALT:

THANK YOU FOR YOUR HELP

PLEASE RETURN THIS SURVEY IN THE ENCLOSED, POSTAGE-PAID ENVELOPE.

APPENDIX E

DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE PROJECTS

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TABLE E-1. DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE DEVELOPMENT PROJECTS,
SINGLE FAMILY DETACHED, 1988

	Infll Project	Percent of Total Cost	Fringe Project	Percent of Total Cost
Type: Single Family Detached				
Building Sq. Ft.	2,000.00		2,000.00	
Land Sq. Ft.	9,000.00		7,000.00	
FAR	.22		.29	
Construction Period	4 Months		3 Months	
Land	\$34,000.00	24.29%	\$25,500.00	19.62%
Title Fees	\$200.00	0.14%	\$200.00	0.15%
Legal Fees	\$200.00	0.14%	\$100.00	0.08%
Architectural Fees	\$0.00	0.00%	\$300.00	0.23%
Engineering Fees	\$400.00	0.29%	\$300.00	0.23%
Developer's Fee	\$0.00	0.00%	\$5,200.00	4.00%
Site Preparation	\$500.00	0.36%	\$100.00	0.08%
Construction (Including Contractor's Fee)	\$90,000.00	64.29%	\$82,300.00	63.31%
Off-Site Infrastructure	\$0.00	0.00%	\$0.00	0.00%
Landscaping	\$1,400.00	1.00%	\$1,000.00	0.77%
Builder's Risk Insurance	\$200.00	0.21%	\$100.00	0.08%
Performance Bond	\$0.00	0.00%	\$0.00	0.00%
Property Tax	\$300.00	0.21%	\$100.00	0.08%
Utility Hook-up and Expansion Fees	\$1,200.00	0.86%	\$1,700.00	1.62%
Development Review Fees	\$600.00	0.43%	\$600.00	0.46%
Marketing/Broker's Fee	\$6,700.00	4.79%	\$9,400.00	7.23%
Appraisal	\$200.00	0.14%	\$200.00	0.15%
Financing: Points	\$2,300.00	1.64%	\$1,000.00	0.77%
Financing: Interest	\$1,700.00	1.21%	\$1,500.00	1.15%
(Construction Loan Amount)	\$105,000.00		\$97,500.00	
TOTAL COST	\$139,900.00	100.00%	\$129,600.00	100.00%

SINGLE FAMILY EXAMPLES REFLECT:

- The impact of large lots in older subdivisions on cost.
- Market differences in sale price between the near Northeast Heights and Northwest Mesa.

TABLE E-2. DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE DEVELOPMENT PROJECTS, MULTIFAMILY, 1988

Type:	Infll Project	Percent of Total Cost	Fringe Project	Percent of Total Cost	Difference: Infill-Fringe
Multifamily (8 Units)					
Building Sq. Ft.	7,104.00		7,104.00		
Land Sq. Ft.	13,500.00		13,500.00		
FAR	.53		.53		
Construction Period	5 Months		6 Months		
Land	\$47,500.00	14.37%	\$35,000.00	11.31%	\$12,500.00
Title Fees	\$200.00	.06%	\$500.00	0.16%	(\$300.00)
Legal Fees	\$0.00	0.00%	\$100.00	0.03%	(\$100.00)
Architectural Fees	\$2,000.00	0.61%	\$3,500.00	1.13%	(\$1,500.00)
Engineering Fees	\$1,600.00	0.48%	\$200.00	0.06%	\$1,400.00
Developer's Fee	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Site Preparation	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Construction (Including Contractor's Fee)	\$259,900.00	78.64%	\$245,400.00	79.29%	\$14,500.00
Off-Site Infrastructure	\$1,800.00	0.54%	\$6,000.00	1.94%	(\$4,200.00)
Landscaping	\$400.00	0.24%	\$500.00	0.29%	(\$100.00)
Builder's Risk Insurance	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Performance Bond	\$300.00	0.09%	\$200.00	0.06%	\$100.00
Property Tax	\$7,700.00	2.33%	\$7,700.00	2.49%	\$0.00
Utility Hook-up and Expansion Fees	\$1,900.00	0.27%	\$1,900.00	0.29%	\$0.00
Development Review Fees	\$0.00	0.00%	\$700.00	0.23%	(\$700.00)
Appraisal	\$3,200.00	0.97%	\$2,200.00	0.71%	(\$1,000.00)
Financing: Points	\$4,600.00	1.39%	\$6,200.00	2.00%	(\$1,600.00)
Financing: Interest	\$216,000.00		\$244,100.00		
(Construction Loan Amount)					
TOTAL COST	\$331,100.00	100.00%	\$310,100.00	99.99%	\$21,000.00
					+6.8%

MULTIFAMILY EXAMPLES REFLECT:

- Variation in financing ability of small volume builder vs. larger volume builder
- Lower expenditures for landscaping and design in infill project to partially compensate for higher land, construction, and financing costs.

TABLE E-3. DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE DEVELOPMENT PROJECTS, RETAIL, 1988

Type:	Retail	Infll Project	Percent of Total Cost	Fringe Project	Percent of Total Cost	Difference: Infill-Fringe
Land						
Title Fees		3,800.00		3,800.00		\$59,500.00
Legal Fees		14,074.00		14,074.00		(\$600.00)
Architectural Fees						\$900.00
Engineering Fees						(\$2,800.00)
Developer's Fee						\$1,700.00
Site Preparation						(\$6,700.00)
Construction (including Contractor's Fee)						\$33,500.00
Off-Site Infrastructure						(\$4,300.00)
Landscaping						(\$100.00)
Builder's Risk Insurance						\$0.00
Performance Bond						\$2,100.00
Property Tax						(\$400.00)
Utility Hook-up and Expansion Fees						\$3,200.00
Development Review Fees						\$300.00
Appraisal						\$500.00
Financing: Points						(\$2,800.00)
Financing: Interest (Construction Loan Amount)						(\$600.00)
TOTAL COST		\$348,600.00	100.00%	\$264,600.00	100.00%	\$84,000.00

RETAIL EXAMPLES REFLECT:

- Economies of scale in shopping centers vs. freestanding retail.
- Cost of raw land preparation for fringe project.

TABLE E-4. DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE DEVELOPMENT PROJECTS, OFFICE, 1988

Type:	Office	Building Sq. Ft.	Land Sq. Ft.	FAR	Construction Period	Infill Project	Percent of Total Cost	Fringe Project	Percent of Total Cost	Difference: Infill-Fringe
Land		50,000.00	100,000.00	.50	9 Months					
Title Fees		\$433,900.00					11.84%	\$700,000.00	18.29%	(\$266,100.00)
Legal Fees		\$300.00					0.01%	\$800.00	0.02%	(\$500.00)
Architectural Fees		\$42,500.00					1.16%	\$25,000.00	0.65%	\$17,500.00
Engineering Fees		\$100,000.00					2.73%	\$100,000.00	2.61%	\$0.00
Developer's Fee		\$0.00					0.00%	\$0.00	0.00%	\$0.00
Site Preparation		\$81,500.00					1.88%	\$80,000.00	1.57%	\$1,500.00
Construction (Including Contractor's Fee)		\$35,000.00					1.50%	\$20,000.00	0.52%	\$35,000.00
Off-Site Infrastructure		\$10,000.00					0.27%	\$0.00	0.00%	\$10,000.00
Landscaping		\$23,000.00					0.68%	\$20,800.00	0.54%	\$4,200.00
Builder's Risk Insurance		\$2,900.00					0.08%	\$2,000.00	0.05%	\$900.00
Performance Bond		\$24,200.00					0.66%	\$24,700.00	0.65%	(\$500.00)
Property Tax		\$6,700.00					0.18%	\$6,800.00	0.18%	(\$100.00)
Utility Hook-up and Expansion Fees		\$12,100.00					0.33%	\$12,100.00	0.32%	\$0.00
Development Review Fees		\$3,300.00					0.15%	\$6,100.00	0.16%	(\$600.00)
Tenant Improvement Allowance		\$616,300.00					16.82%	\$323,300.00	13.67%	\$93,000.00
Appraisal		\$1,500.00					0.04%	\$1,500.00	0.04%	\$0.00
Financing: Points		\$42,300.00					1.15%	\$44,000.00	1.15%	(\$1,700.00)
Financing: Interest		\$110,700.00					3.02%	\$115,500.00	3.02%	(\$4,800.00)
(Construction Loan Amount)		\$2,810,800.00						\$2,936,500.00		
TOTAL COST		\$3,663,700.00					100.00%	\$3,827,600.00	100.00%	(\$163,900.00)

OFFICE EXAMPLES REFLECT:

- Cost of rezoning, assuming 6 month delay in project.
- High land prices in the Far Northeast Heights.
- Site development costs for difficult infill parcel.

TABLE E-5. DEVELOPMENT COSTS FOR HYPOTHETICAL INFILL AND FRINGE DEVELOPMENT PROJECTS, OFFICE-WAREHOUSE, 1988

	Infill Project	Percent of Total Cost	Fringe Project	Percent of Total Cost	Difference: Infill-Fringe
Type: Office-Warehouse					
Building Sq. Ft.	15,424.00		15,424.00		
Land Sq. Ft.	49,600.00		49,600.00		
FAR	.31		.31		
Construction Period	4 Months		3 Months		
Land	\$198,400.00	33.20%	\$173,600.00	30.83%	\$24,800.00
Title Fees	\$900.00	0.15%	\$300.00	0.05%	\$600.00
Legal Fees	\$0.00	0.00%	\$100.00	0.02%	(\$100.00)
Architectural Fees	\$16,900.00	2.83%	\$16,300.00	2.89%	\$600.00
Engineering Fees	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Developer's Fee	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Site Preparation	\$5,500.00	0.92%	\$5,500.00	0.98%	\$0.00
Construction (Including Contractor's Fee)	\$327,900.00	54.87%	\$320,600.00	56.93%	\$7,300.00
Off-Site Infrastructure	\$0.00	0.00%	\$0.00	0.00%	\$0.00
Landscaping	\$3,500.00	0.59%	\$9,000.00	1.60%	(\$5,500.00)
Builder's Risk Insurance	\$300.00	0.08%	\$200.00	0.05%	\$100.00
Performance Bond	\$6,000.00	1.00%	\$5,900.00	1.05%	\$100.00
Property Tax	\$900.00	0.15%	\$600.00	0.11%	\$300.00
Utility Hook-up and Expansion Fees	\$20,000.00	3.35%	\$20,000.00	3.55%	\$0.00
Development Review Fees	\$1,100.00	0.18%	\$1,000.00	0.18%	\$100.00
Appraisal	\$0.00	0.00%	\$500.00	0.09%	(\$500.00)
Financing: Points	\$8,400.00	1.41%	\$4,200.00	0.75%	\$4,200.00
Financing: Interest	\$7,600.00	1.27%	\$5,200.00	0.92%	\$2,400.00
(Construction Loan Amount)	\$421,700.00		\$415,100.00		\$6,600.00
TOTAL COST	\$597,400.00	100.00%	\$563,000.00	100.00%	\$34,400.00
					+6.1%

OFFICE-WAREHOUSE EXAMPLES REFLECT:

- Impact of increased landscaping requirements on cost of fringe project.

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APPENDIX F
INFILL POTENTIAL SCORES

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TABLE F-1. INFILL POTENTIAL SCORES BY DAZ														
DAZ	AMT. OF VAC. LAND	CHAR. OF LAND	INFRA-STRUCTURE	PER CAP. INCOME	HISTORIC RES.	INFILL NON-RES.	POTENTIAL COMPOSITE	LAND RES.	MARKET RES.	COMPOSITES NON-RES.	HIGHEST INFILL POTENTIAL	TARGET STRATEGY AREAS	LAND	
													POTENTIAL COMPOSITE	RES.
500	2	3	5	1	4	5	40	25	3					
501	2	5	5	1	0	1	47	05	1			*		
510	3	3	5	1	1	1	47	1	1			*		
511	4	1	3	1	2	2	40	15	15			*		
512	3	1	5	1	1	3	40	1	2			*		
513	2	1	5	3	2	1	33	25	2					
514	2	3	5	3	3	1	40	3	2					
516	2	3	5	2	2	2	40	2	2					
517	2	1	5	2	2	2	33	2	2					
520	4	5	5	1	1	3	60	1	2			*		
521	3	1	5	2	1	1	40	15	15			*		
522	1	1	5	1	0	1	27	05	1					
523	3	3	5	1	0	1	47	05	1			*		
524	4	4	5	1	3	1	57	2	1			*		
525	2	1	5	1	0	2	33	05	15					
526	2	1	5	1	0	4	33	05	25					
527	2	1	5	1	1	4	33	1	25					
530	3	3	3	1	1	3	40	1	2			*		
531	4	3	3	1	1	2	47	1	15			*		
581	5	3	5	1	2	2	60	15	15			*		
582	5	3	3	1	4	3	53	25	2			*		
600	2	1	5	2	1	2	33	15	2					
601	3	1	5	2	2	3	40	2	25					
602	3	3	5	2	2	1	47	2	15					
603	3	3	5	2	1	3	47	15	25			*		
607	5	5	5	2	1	5	67	15	35			*		
615	3	3	5	2	1	1	47	15	15			*		
700	5	5	5	2	0	5	67	1	35			*		
701	5	5	5	2	3	4	67	25	3			*		
702	2	1	5	2	3	3	33	25	25			*		
703	2	3	5	2	4	5	40	3	35			*		
704	5	5	5	2	1	3	67	15	25			*		
740	2	3	5	3	1	3	40	2	3			*		

TABLE F-1. INFILL POTENTIAL SCORES BY DAZ											
	AMT. OF VAC. LAND	CHAR. OF VAC. LAND	INFRA-STRUCTURE	PER CAP. INCOME	HISTORIC RES.	INFILL POTENTIAL	LAND POTENTIAL COMPOSITE	MARKET RES.	NON-RES. COMPOSITES	HIGHEST INFILL POTENTIAL	TARGET STRATEGY AREAS
741	0	0	0	0	0	0	0.0	0	0		
742	3	3	3	4	4	4	4.0	4	4	*	
750	2	3	5	3	0	3	4.0	15	3	*	
751	1	1	5	3	1	3	2.7	2	3		
760	1	1	5	3	0	3	2.7	15	3		
761	3	5	5	3	3	2	5.3	3	25	*	
762	1	1	5	3	1	3	2.7	2	3		
763	2	3	5	4	1	4	4.0	25	4	*	
764	1	1	5	3	1	1	2.7	2	2		
765	1	1	5	3	0	3	2.7	15	3		
766	2	3	5	3	0	2	4.0	15	25	*	
767	3	3	5	3	1	5	4.7	2	4	*	
800	5	5	3	4	4	3	6.0	4	35	*	
801	0	0	5	0	0	0	1.7	0	0		
802	2	1	5	3	1	3	3.3	2	3		
803	0	0	0	0	0	0	0.0	0	0		
804	1	1	5	2	1	2	2.7	15	2		
805	5	5	3	1	0	3	6.0	0.5	2	*	
806	5	5	3	1	1	1	6.0	1	1	*	
807	5	5	3	1	1	3	6.0	1	2	*	
808	5	5	5	1	0	5	6.7	0.5	3	*	
810	2	1	5	4	4	2	3.3	4	3	*	
811	1	1	5	4	1	2	2.7	25	3		
812	5	5	3	4	1	1	6.0	25	25	*	
813	1	1	5	4	1	1	2.7	25	25		
814	1	1	5	4	0	3	2.7	2	35		
815	1	1	5	3	1	2	2.7	2	25		
816	1	1	5	3	1	2	2.7	2	25		
817	1	1	5	2	1	1	2.7	15	15		
820	1	1	5	4	1	1	2.7	25	25		
821	3	3	5	4	1	3	4.7	25	35	*	
822	0	0	0	0	0	0	0.0	0	0		
823	2	1	3	2	2	4	2.7	2	3		

TABLE F-1. INFILL POTENTIAL SCORES BY DAZ											
DAZ	AMT. OF VAC. LAND	CHAR. OF VAC. LAND	INFRA-STRUCTURE	PER CAP. INCOME	HISTORIC RES.	INFILL POTENTIAL		MARKET RES.	NON-RES. COMPOSITES	HIGHEST INFILL POTENTIAL	TARGET STRATEGY AREAS
						NON-RES.	COMPOSITE				
824	3	1	3	3	5	3	3.3	4	3		
825	0	0	0	0	0	0	0.0	0	0		
826	2	1	5	2	1	3	3.3	15	2.5		
842	2	3	5	3	1	5	4.0	2	4	*	
850	2	1	5	3	1	0	3.3	2	1.5		
851	1	1	5	2	1	1	2.7	1.5	1.5		
852	2	1	5	3	4	1	3.3	3.5	2		
853	4	3	5	2	1	4	5.3	1.5	3	*	
854	3	3	5	2	1	2	4.7	1.5	2		*
855	1	1	5	2	1	1	2.7	1.5	1.5		
856	0	0	0	0	0	0	0.0	0	0		
NOTE: RATINGS ARE BASED ON THE FOLLOWING CRITERIA:											
AMOUNT OF VACANT LAND			CHARACTER OF VACANT LAND			PER CAPITA INCOME			INFRASTRUCTURE		
0 AC.=0			0 AC.=0			\$2500-\$5000=1			0 AC.=0		
1-5 AC.=1			SMALL, SCATTERED PARCELS=1			\$5000-\$7500=2			DIFFICULT TO SERVE=1		
6-10 AC.=2			LARGER (1-5 AC.) TRACTS=3			\$7500-\$10,000=3			SOME SERVICE PROBLEMS OR		
10-25 AC.=3			LARGE CONTIGUOUS TRACTS=5			\$10,000-\$12,500=4			INFRASTRUCTURE NEEDED=3		
25-50 AC.=4									NO PROBLEMS=5		
50+ AC.=5											
HISTORIC RESIDENTIAL DEV. 1983-JUNE 1987											
SCORES BASED ON ROUNDED AVERAGE OF:											
SF			MF			HISTORIC NON-RES. DEV.					
0 UNITS=0			0 UNITS=0			1983-JUNE 1987					
1-10 UNITS=1			1-25 UNITS=1			\$0 PERMIT VALUE=0					
11-25 UNITS=2			26-50 UNITS=2			\$1-\$499,999=1					
26-50 UNITS=3			51-100 UNITS=3			\$500,000-\$999,999=2					
51-100 UNITS=4			101-250 UNITS=4			\$1,000,000-\$4,999,999=3					
100+ UNITS=5			250+ UNITS=5			\$5,000,000-\$9,999,999=4					
						\$10,000,000+=5					

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APPENDIX G
BIBLIOGRAPHY

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APPENDIX G

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