Chapter II.

Trends Analysis

This document includes a description of the basic forces that have shaped Anchorage's recent commercial and industrial land use development. Recent growth trends for specific types of businesses and industries are described. For example, health services, recreation services, and air transport have been booming; finance and construction have lagged behind with the rest of the economy. Included in the trends analysis are statistics on growth in the volume of specific types of retail space since 1970 and on the distribution of different types of retail space in the five study units. Much of the basic data in this section comes from the Anchorage Indicators publications. Included are some historic data on transportation activities for the Port of Anchorage, Anchorage International Airport and the Alaska Railroad. This material, after expansion and further analysis, will provide the stepping-stone for developing the forecasts of site demands for different types of commercial and industrial land uses.

1.0 Economic Trends Analysis

Anchorage's boom/bust economy history makes picking a single year as the benchmark for trend analysis a tricky matter. Nineteen-eighty was a comparatively "normal" year, marking the pause between the end of the post-Trans Alaska Pipeline System (TAPS) bust and the start of the oil revenue-driven boom of the early 1980s. Therefore, this analysis takes 1980 as the benchmark year for certain trend analyses. As available, data for the immediately preceding and succeeding years were scanned to spot unusual short-term data fluctuations.

Several standard statistical series were evaluated to assess the underlying economic forces that influence demand for commercial retail and office space.

- County Business Patterns was reviewed to find the numerically most-common types of retail, service, and other establishments that require retail and commercial office space.
- Alaska Department of Labor employment statistics were screened to identify the types of retail and office workplaces that employed the most workers.
- Bureau of Economic Analysis income statistics were screened to document the fastest-growing types of trade and service businesses since 1980.
- The Censuses of Retail Trade, Wholesale Trade, and Service Industries were reviewed to document trends in those economic sectors.

All of these data series use the Standard Industrial Classification (SIC) codes to classify establishments and their associated employment and income. Establishments are classified by their primary business activity. Unfortunately, the SIC code classification scheme is not directly comparable to the MOA GIS land use codes. For example, employment data series code oil industry administrative employees under the mining industry; in Anchorage, these employees are typically white-collar office workers who occupy commercial office space according the MOA Geographic Information System (GIS) land use code. Many health care workers occupy medical offices associated with hospital complexes classified as institutional land uses. Some, but not all,

public employees are housed in leased private commercial office buildings. Sometimes, businesses combine wholesale and retail functions in a single facility.

1.1 Number and Type of Business Establishments

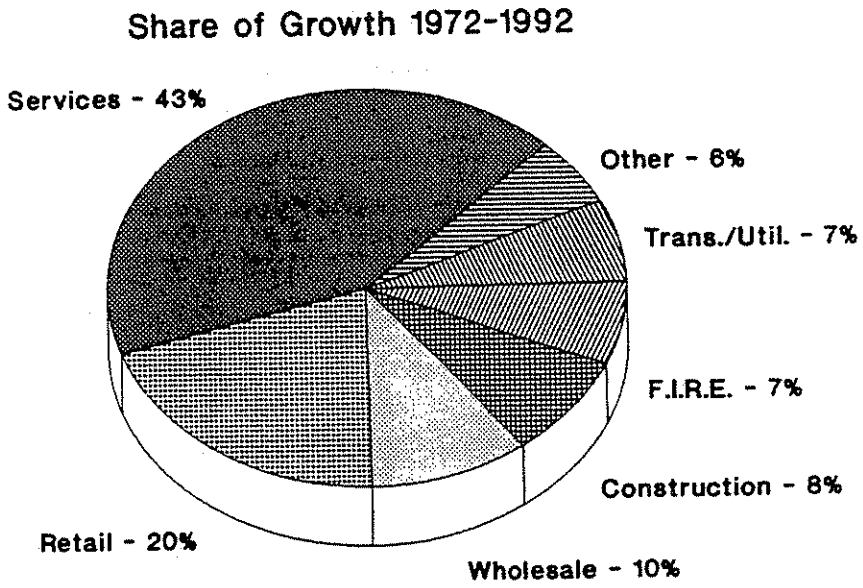
County Business Patterns publishes statistics on the number and type of business establishments[1] in Anchorage. Each establishment represents an individual place of business or workplace. Therefore, these statistics are a measure of changing demand for business sites to accommodate specific types of commercial and industrial activities.

In the two decades between 1972 to 1992, Anchorage made room for over 5,000 new workplaces (Table 1). The fast-growing service sector accounted for 43% of these new workplaces and retail trade for another 20% (Figure 1).

County Business Patterns also publishes more detailed statistics on different classes of business establishments. Table 2 lists the 20 most numerous classes of business establishments (by 2-digit SIC classification) in Anchorage in 1992, along with the number of persons working in each class. Health services and eating and drinking places were the two most numerous classes of business. Each accounted for more than 500 workplaces and about 8,000 employees. Other office-based service firms near the top of the list were engineering and management services and legal services. Contractors comprised another numerically important line of business. Altogether, the 10 most common classes of businesses accounted for more than half of all workplaces, and the top 20 for more than 70%.

[1] County Business Patterns defines an establishment as "a single physical location at which business is conducted or where services or industrial operations are performed. It is not necessarily identical with a company or enterprise, which may consist of one establishment or more. All activities carried on at a location generally are grouped together and classified on the basis of the major reported activity, and all data for the establishment are included in that classification."

Figure 1
Growth in Number of Establishments
By Type, Anchorage, 1972-1992



Source: County Business Patterns.

Table 1
Number of Business Establishments, Anchorage, 1972-1992

Industry	1972	1977	1987	1992	Percent Dist. 1992	Net Change 1972-92	Percent Change 1972-92	Share of Change
Services	709	1,267	2,544	2,866	39.7%	2,157	+304%	42.6%
Retail trade	512	887	1,426	1,526	21.1	1,014	+198	20.0
Construction	281	719	782	789	10.9	508	+181	10.0
Finance, insurance, real estate	187	400	593	607	8.4	420	+225	8.3
Wholesale trade	161	372	468	507	7.0	346	+215	6.8
Transportation & public utilities	113	227	361	454	6.3	341	+302	6.7
Manufacturing	83	117	147	185	2.6	102	+123	2.0
Agriculture, forestry, & fisheries	12	20	83	108	1.5	96	+800	1.9
Mining	29	44	60	61	.8	32	+110	.6
Unclassified	73	110	218	124	1.7	51	+70	1.0
Total	2,160	4,163	6,682	7,227	100.0	5,067	+235	100.0

Source: County Business Patterns.

Table 2
Twenty Most Numerous Types of Business Establishments, Anchorage, 1992

SIC[1] Code	Classification	Industry	No. of Establ.	No. of[2] Employees
80	Health services	Services	509	8,024
58	Eating & drinking places	Retail trade	509	7,812
17	Special trade contractors	Construction	454	2,669
87	Engineering/mgmt. services	Services	428	4,412
73	Business services	Services	401	4,695
50	Wholesale trade-durable	Wholesale trade	362	3,633
81	Legal services	Services	288	1,807
15	General contractors & builders	Construction	253	3,732
86	Membership organizations	Services	249	1,754
65	Real estate	F.I.R.E.	248	1,261
83	Social services	Services	207	2,706
72	Personal services	Services	192	1,315
75	Auto repair, services, parking	Services	167	1,142
51	Wholesale trade-nondurable	Wholesale trade	142	2,050
55	Auto dealers/serv. sta.	Retail trade	142	1,977
56	Apparel & accessories	Retail trade	137	1,260
42	Trucking and warehousing	Trans./Pub. Util.	127	1,451
47	Transportation services	Trans./Pub. Util.	117	915
79	Amusement/recreation serv.	Services	114	1,393
54	Food stores	Retail trade	113	2,733

[1/] Number of employees for week of March 12.
[2/] 2-digit SIC classification level.
Source: County Business Patterns.

1.2 Major Business Employers

The Alaska Department of Labor also publishes wage employment data by 2-digit SIC code. Table 3 lists all classes of businesses (by 2-digit SIC code) with over 200 wage employees in Anchorage employment in 1994. (Apparent discrepancies between ADOL and County Business Patterns employment data stem from definition differences. For example, County Business Patterns covers self-employed persons but ADOL does not. As a result, County Business Patterns is apt to report more persons at work in businesses with many self-employed persons (e.g., health and legal services) than does ADOL.

Again, eating and drinking places and health services stand out as the leading categories of employment. Other major categories were business services, air transportation, and oil and gas extraction (mostly oil company office staff), engineering and management services, and general merchandise stores.

Table 3
Wage Employment by 2-Digit SIC Classification, Anchorage, 1994

SIC Code	Classification	Sector	Wage Employment	% of Total
n/a	Federal government	Government	11,112	9.3%
n/a	Local government	Government	8,566	7.2
n/a	State government	Government	8,095	6.8
58	Eating & drinking places	Retail trade	7,560	6.3
80	Health services	Services	6,418	5.4
73	Business services	Services	5,293	4.4
45	Transportation by air	Trans./Com./Util.	4,862	4.1
13	Oil & gas extraction	Mining	4,402	3.7
87	Engineering & management services	Services	4,277	3.6
53	General merchandise stores	Retail trade	3,595	3.0
17	Special trade contractors	Construction	3,492	2.9
54	Food stores	Retail trade	3,333	2.8
50	Wholesale trade-durable goods	Wholesale trade	3,075	2.6
60	Depository institutions	F.I.R.E.	2,940	2.5
59	Miscellaneous retail	Retail trade	2,914	2.4
51	Wholesale trade-nondurable goods	Wholesale trade	2,643	2.2
83	Social services	Services	2,581	2.2
48	Communication	Trans./Com./Util.	2,374	2.0
55	Automotive dealers & service stations	Retail trade	2,344	2.0
70	Hotels & other lodging places	Services	2,143	1.8
86	Membership organizations	Services	2,073	1.7
42	Trucking & warehousing	Trans./Com./Util.	1,794	1.5
15	General building contractors	Construction	1,763	1.5
79	Amusement & recreation services	Services	1,712	1.4
16	Heavy const. contractors, ex bldg.	Construction	1,613	1.4
81	Legal services	Services	1,374	1.2
75	Auto repair, services, & parking	Services	1,249	1.0
65	Real estate	F.I.R.E.	1,203	1.0
47	Transportation services	Trans./Com./Util.	1,141	1.0
72	Personal services	Services	1,139	1.0
57	Furniture & homefurnishings stores	Retail trade	1,015	0.9
49	Electric, gas, & sanitary services	Trans./Com./Util.	972	0.8
27	Printing & publishing	Manufacturing	921	0.8
56	Apparel & accessory stores	Retail trade	847	0.7
52	Building materials & garden supplies	Retail trade	780	0.7
64	Insurance agents, brokers & service	F.I.R.E.	731	0.6
82	Educational services	Services	726	0.6
63	Insurance carriers	F.I.R.E.	632	0.5
78	Motion pictures	Services	494	0.4
44	Water transportation	Trans./Com./Util.	480	0.4
07	Agricultural services	Agr./For./Fish.	463	0.4
20	Food & kindred products	Manufacturing	444	0.4
61	Nondepository institutions	F.I.R.E.	392	0.3
76	Miscellaneous repair services	Services	354	0.3
67	Holding & other investment offices	F.I.R.E.	344	0.3
62	Security & commodity brokers	F.I.R.E.	230	0.2
	All other		2,195	1.8
	TOTAL		119,100	100.0%

Source: Alaska Department of Labor.

1.3 Post-1980 Growth Record of Specific Business Sectors

In Anchorage's post-1980 economy, not all business sectors fared equally well. Some outpaced the overall economy, others faltered. Table 4 rates the growth trend (measured by employee earnings) of major business sectors ($50 million+ in 1993 earnings) between 1980-1993 as above average, average, or below average compared to overall economic growth.

Major business sectors that showed above average growth were oil and gas extraction, health services, and air transportation. Food stores, hotels, and electric/gas/sanitary utilities also showed strong growth. These expanding business sectors of the economy accounted for a disproportionate share of economic growth and new commercial and industrial land uses. (But it should be noted that the oil and gas industry has lately been downsizing; also hospitals account for roughly 60% of health services employment and earnings.)

Table 4
Comparative Growth of Major Business Sectors
Anchorage, 1980-1993

Business Sector ($1,000)	1993 Income	Growth Index[1/]
Above average growth		
Amusement and recreation services	$66,321	6.64
Fisheries	57,807	1.84
Oil and gas extraction	442,310	1.63
Health services	331,500	1.45
Hotels and other lodging places	85,692	1.35
Food stores	91,277	1.28
Electric, gas, and sanitary services	71,233	1.22
Transportation by air	233,324	1.15
Business services	210,640	1.05
Eating and drinking places	150,974	1.04
Legal services	107,751	1.01
General merchandise stores	62,548	0.98
Automotive dealers & service stations	80,163	0.96
Below average growth		
Depository & non-dep. credit institutions	108,582	0.88
Communications	116,338	0.84
Social services	50,631	0.79
Heavy construction contractors	123,868	0.61
General building contractors	108,727	0.59
Special trade contractors	200,701	0.58

[1/] The growth index measures income growth rate for specific business sectors over 1980-1993 period vis-à-vis average growth rate for total earned income.
Source: Bureau of Economic Analysis

Several service (business and legal services) and retail (eating and drinking places, auto dealers and service stations, general merchandisers) sectors expanded more or less apace with the overall economy. Thus, these activities about maintained their existing share of overall demand for commercial land uses.

Lagging business sectors included all segments of the construction industry, banks and credit unions, and the communications industry which has experienced downsizing. Thus, these businesses were unlikely to support extensive new land use demands.

2.0 Existing Inventory of Retail Space

Tables 5 through Table 14 and the accompanying figures and text present and discuss data on the current inventory, development history, and status of retail space in Anchorage. Due to definition differences in how retail space was classified, there are some numerical inconsistencies between certain tables. Table 5 and Table 6 were compiled from the MOA GIS land use database; retail space was classified consistent with the GIS land use category descriptions shown in Appendix A. Note: For simplicity, data derived from the MOA GIS database are referenced to the "Municipality of Anchorage". The data in Tables 5 and 6 are consistent with other data compiled from the GIS database. Tables 7, 8, and 11 through 14 reflect a different functional definitions of retail space configuration. These tables are internally consistent. Because they show changes in amount and type of retail space over time, these tables are particularly useful for showing trends in retail development.

2.1 Spatial Distribution of Retail Space

Tables 5 and 6 summarize and Figures 2 and 3 display the current inventory of retail space by study unit and by type of retail space. These tables rely on the GIS database's definition of retail space configurations.

These tables rely on the GIS database's definition of retail space configurations: "major mall" includes shopping centers with one or more department stores as anchor stores and at least 250,000 square feet of gross leasable area. "Community shopping mall" or center includes shopping centers usually with a supermarket anchor store and/or enclosed malls with a gross leasable area usually from 50,000 to 200,000 square feet. "Strip malls" include multi-tenant strip malls without a major anchor store, usually less than 75,000 square feet of gross leasable area. "Discount store" includes large-value retail stores, usually individually located on large parcels.

Overall, about 31 percent of all retail space was located in the Midtown area. Southwest held about 26 percent, Northeast about 24 percent and Downtown about 18 percent (Table 6 and Figure 2). Thus, Midtown, Southwest, and Northeast have all superseded Downtown, the traditional center of retail trade, in volume of retail space.

Southwest, which contains the Dimond Center, hosts the greatest volume of retail space in major malls (but this tally includes the Dimond Office Center). Midtown, with Sears Mall and

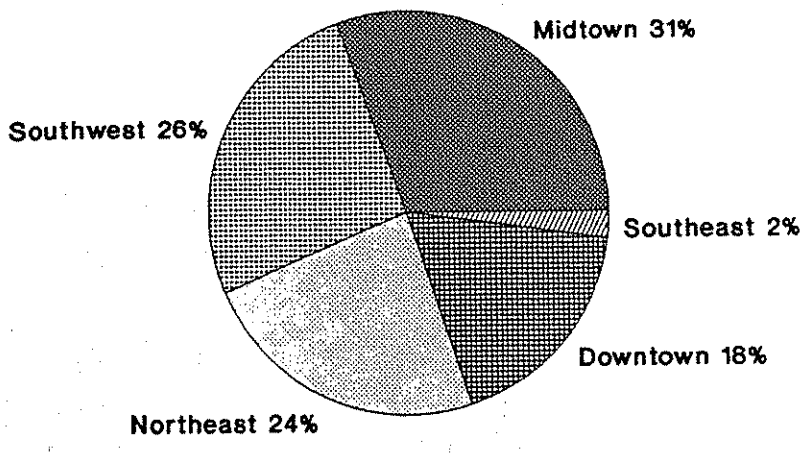
University Center, followed by Downtown (5th Avenue/JC Penney) also have substantial retail space in major malls.

Northeast leads in community shopping malls, followed by Southwest and Midtown. Northeast also has captured the largest share of discount stores, again followed by Southwest and Midtown.

Midtown contained by far the largest share of Anchorage Bowl's strip mall retail development, followed by Northeast and Southwest. Downtown had little strip mall retail and no community shopping centers or discount stores. Southeast had no major malls, community shopping centers, or discount stores, and only a small amount of strip mall retail space.

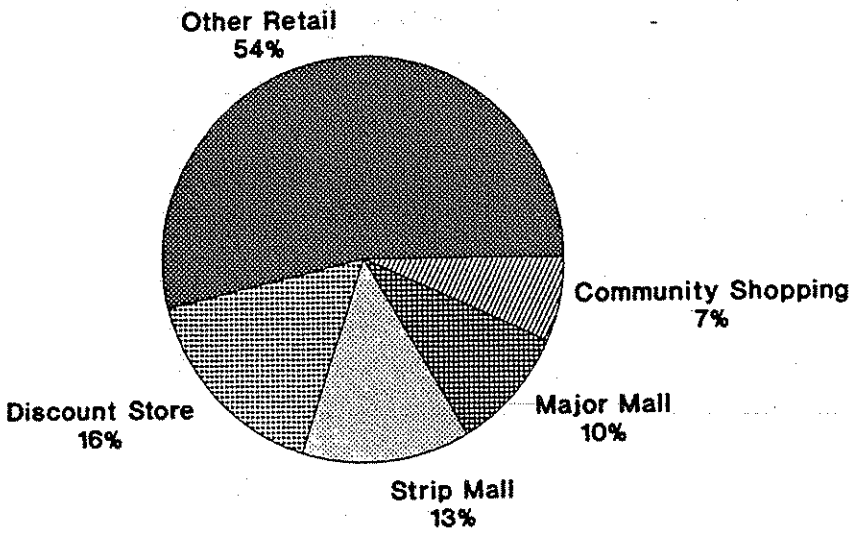
When retail space was classified by specific type, somewhat more than half—about 54 percent—was situated outside shopping centers and discount stores. Discount stores contained about 16 percent of retail space, strip malls about 13 percent, major malls about 10 percent and community shopping centers about 7 percent Figure 3).

Figure 2
Retail Space by Study Area
Anchorage Bowl, 1970-1994



Source: Municipality of Anchorage.

Figure 3
Retail Space by Type
Anchorage Bowl, 1994



Source: Municipality of Anchorage.

Table 5
Retail Space Inventory (square feet) by Type and Study Unit
Anchorage Bowl, 1995

Type	Downtown	Midtown	Northeast	Southeast	Southwest	Total
Major Malls	329,027	476,304	99,241	0	672,608	1,577,180
Community Shopping Malls	0	213,550	498,286	0	371,390	1,083,226
Discount Stores	0	465,974	1,311,458	0	818,528	2,595,960
Strip Malls	23,512	1,001,936	559,926	158,108	436,284	2,179,766
Other Retail	2,483,432	2,728,215	1,329,920	194,725	1,842,852	8,579,144
Total	2,835,971	4,885,979	3,798,831	352,833	4,141,662	16,015,276

Source: Municipality of Anchorage.

Table 6
Distribution of Retail Space Inventory by Type and Study Unit
Anchorage Bowl, 1995

Type	Downtown	Midtown	Northeast	Southeast	Southwest	Total
Major Malls	2.1%	3.0%	0.6%	0.0%	4.2%	9.8%
Community Shopping	0.0%	1.3%	3.1%	0.0%	2.3%	6.8%
Discount Stores	0.0%	2.9%	8.2%	0.0%	5.1%	16.2%
Strip Malls	0.1%	6.3%	3.5%	1.0%	2.7%	13.6%
Other Retail	15.5%	17.0%	8.3%	1.2%	11.5%	53.6%
Total	17.7%	30.5%	23.7%	2.2%	25.9%	100.0%

Source: Municipality of Anchorage.

2.2 Historic Trends in Development of Retail Space

Tables 7 through 12 present historic data on the development of types of retail space in Anchorage since 1970. As noted above, the classification of retail space in these tables differs from Tables 5 and 6 which accounts for the different results.

- Table 7 and Figure 4 show the growth in Anchorage's total inventory of retail space by configuration (i.e., major mall, community shopping centers, strip malls, big box retailers, and single-occupant retail stores) since 1970.
- Table 8 shows the yearly construction of new retail square footage by configuration since 1970.
- Table 9 shows the changing composition of retail space by configuration since 1970.
- Table 10 shows the per capita inventory of retail space by configuration since 1970.
- Table 11 records the major additions to retail space in Anchorage since 1992, mostly stores of the big box and category-killer variety.
- Table 12 lists some established Anchorage retailers that have closed their doors since 1990, some in the aftermath of the mid-1980s recession, some due to intensified competition from the aggressive large national and regional retailers newly entering or expanding their presence in the Anchorage retail scene. It is important to note that much of the space vacated by these closures has been or is in process of being converted or adapted to other retail uses.

The data in this series of tables supports these pertinent observations:

- Between 1970 and 1994, the volume of retail space grew almost five-fold from 2.6 to 12.7 million square feet.
- Throughout this period, strip malls lodged the biggest volume of retail space. Strip malls and major malls maintained a relative steady share of total retail space throughout, about 40 percent and 20 percent respectively.
- Single-occupancy retail, once the second largest type of retail space, steadily dwindled in importance as Downtown Anchorage's retail dominance faded. Construction of single occupant retail has lagged other types of retail space.

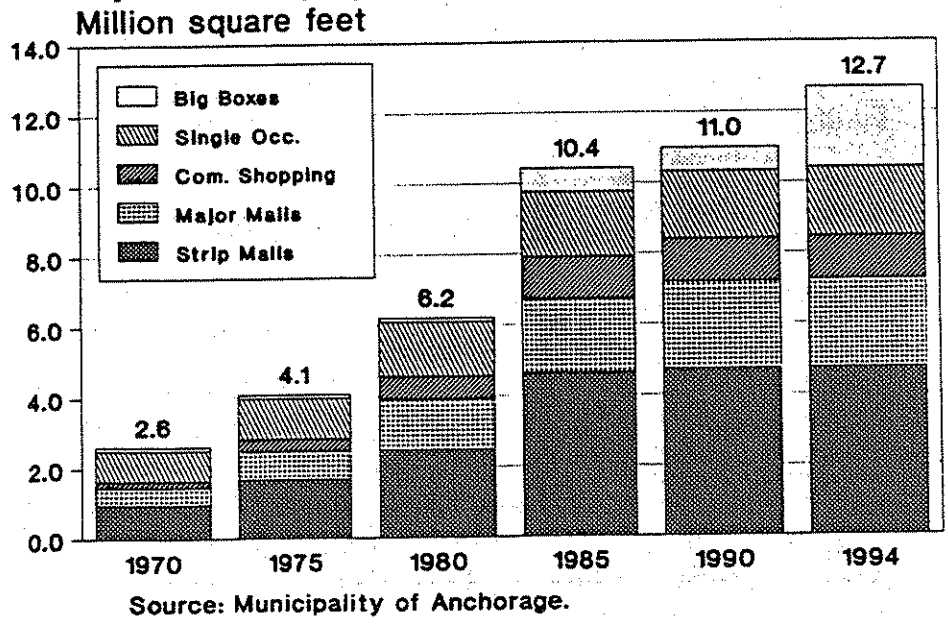
- Community shopping centers somewhat expanded their share of retail space during the 1970s, and have since maintained about a 10 percent share.
- "Big box" retailers, negligible players in 1970, now provide a major share-nearly 20 percent--of retail space. The first wave of big box store construction came in the mid-1980s. Big box stores were the big story between 1992 and 1994 when they amounted to 97 percent of the 1.7 million square feet of new retail construction.
- Overall, there were two major shifts in the overall configuration of retail space: the lagging role of single-occupant retail outlets and the eruption of big box retailers, especially after 1991.
- Since 1970, the per capita inventory of retail space has increased by 150 percent from 20.6 to 50.7 square feet per person. The per person supply of single occupancy stayed about constant, while the supply of retail space in major mall, community shopping and strip mall configuration grew two- to threefold. The big box retailers are the major new factor; once virtually absent, they now surpass single-occupancy retailers and supply almost as much space as all the major malls together.

Table 7
Retail Space Inventory (square feet) by Type
Anchorage, 1970-1994

Year	Major Malls	Community Shopping	Big Boxes	Strip Malls
1970	470,609	184,230	98,210	985,068
1975	797,383	340,110	98,210	1,672,863
1980	1,442,010	654,313	98,210	2,482,492
1985	2,098,015	1,185,679	656,651	4,633,800
1990	2,455,806	1,222,037	656,651	4,733,572
1994	2,486,308	1,222,037	2,280,186	4,749,272

Source: Compiled by Municipality of Anchorage Community Planning and Development Department from Municipal Property Appraisal Records.

Figure 4
Retail Space Inventory, by Configuration, Anchorage, 1970 - 1994



Source: Municipality of Anchorage.

Table 8
Retail Space New Construction (square feet), by Type, Anchorage, 1970-1994

Year	Major Malls	Community Shopping	Big Boxes	Strip Malls	Single Occupant	Total
1970	275,075		98,210	168,527	108,161	649,973
1971	152,839	47,456		276,061	90,381	566,737
1972	82,730	108,424		113,123	94,791	399,068
1973				123,147	51,359	174,506
1974	91,205			66,438	33,735	191,378
1975				109,026	33,685	142,711
1976				245,973	84,196	330,169
1977	40,620	122,228		219,075	121,578	503,501
1978				74,572	146,211	220,783
1979	536,786	47,990		123,310	2,500	710,586
1980	67,221	143,985		146,699	18,360	376,265
1981			85,601	177,150	88,204	350,955
1982	73,845	53,803		151,820	76,992	356,460
1983	67,292		29,892	755,261	34,914	887,359
1984	151,325	339,266	442,948	736,394	75,806	1,745,739
1985	363,543	138,297		330,683	29,419	861,942
1986	354,152	15,728		53,218	53,424	476,522
1987				25,197		25,197
1988	3,639	20,630			4,000	28,269
1989				21,357	2,831	24,188
1990					4,075	4,075
1991				15,700	4,932	20,632
1992	30,502		387,000			417,502
1993			1,095,535		24,000	1,119,535
1994			141,000			141,000
Total 1970-94	2,290,774	1,037,807	2,280,186	3,932,731	1,183,554	10,725,052
Total 1980-94	1,111,519	711,709	2,181,976	2,413,479	416,957	6,835,640

Source: Compiled by Municipality of Anchorage Department of Community Planning and Development from Municipality Property Appraisal Records.

Table 9
Distribution of Retail Space (square feet) Inventory, by Type, Anchorage, 1970-1994

Year	Major Malls	Community Shopping	Big Boxes	Strip Malls	Single Occupant	Total
1970	18.1%	7.1%	3.8%	37.8%	33.3%	100.0%
1975	19.5%	8.3%	2.4%	41.0%	28.7%	100.0%
1980	23.2%	10.5%	1.6%	39.9%	24.8%	100.0%
1985	20.1%	11.4%	6.3%	44.5%	17.7%	100.0%
1990	22.4%	11.1%	6.0%	43.1%	17.4%	100.0%
1994	19.6%	9.6%	18.0%	37.5%	15.3%	100.0%

Source: Compiled by Municipality of Anchorage Department of Community Planning and Development from Municipality Property Appraisal Records.

Table 10
Per Capita Retail Space (square feet) Inventory, by Type, Anchorage, 1970-1994

Year	Major Malls	Community Shopping	Big Boxes	Strip Malls	Single Occupant	Total
1970	3.7	1.5	0.8	7.8	6.9	20.6
1975	4.5	1.9	0.6	9.4	6.6	22.9
1980	8.3	3.8	0.6	14.2	8.8	35.7
1985	8.5	4.8	2.6	18.7	7.4	42.0
1990	10.9	5.4	2.9	20.9	8.5	48.5
1994	9.9	4.9	9.1	19.0	7.8	50.7

Source: Compiled by Municipality of Anchorage Department of Community Planning and Development from Municipality Property Appraisal Records.

Table 11
New and Expanded Major Retail Stores, Anchorage Bowl, 1990-1995

Year	Retailer	Square Feet	Value
1992	Annual Total	387,000	$22,377,883
	Costco (Dimond addition)	66,000	$1,356,272
	Eagle Hardware & Garden	159,000	11,190,865
	Costco (Debarr)	162,000	9,830,746
1993	Annual Total	567,535	$32,825,044
	Sears addition	30,000	1,751,100
	K-Mart (Dimond)	148,000	7,397,600
	Sam's Club	149,535	7,586,841
	Toys-R-US	55,000	3,148,800
	Fred Meyer (Debarr)	175,000	10,053,173
	Fred Meyer (Dimond addition)	10,000	2,887,530
1994	Annual Total	683,000	$40,678,058
	K-Mart (Northway)	146,000	8,076,265
	Wal-Mart (Dimond)	167,000	9,044,275
	Wal-Mart (Midtown)	167,000	9,044,275
	Johnson's Tire Service	78,000	5,613,507
	Alaska Wild Berry Products	24,000	1,099,736
	Borders Books	26,000	2,500,000
	Sports Authority	50,000	3,500,000
	Office Max	25,000	1,800,000
1995	Annual Total		
	Fred Meyer (Midtown addition)	40,000	2,694,400
	Office Max (Northway)		
	Computer City		

Source: 1996 Anchorage Indicators.

Table 12
Select List of Defunct Retailers, Anchorage Bowl, 1990-1995

Retail Store	Type
McKay's	hardware
Pay-N-Pak	hardware
Nerland's (Dimond)	home furnishings
Nerland's (Midtown)	home furnishings
Stolt's	home electronics, appliances
Family Market	grocery
Long Drugs (Dimond)	sundries
Long Drugs (Midtown)	sundries
Muldoon/Proctor's Foodland	grocery
Ulmer's Downtown Rexall Drugs	drugstore
Chapter One Books	books

Source: Planning team observation.

2.3 Community Shopping Mall

Table 13 shows in more detail the current inventory of retail space in the community shopping configuration by planning area and occupancy status. Noteworthy features:

- Overall, at the time of the survey (February 1996), 85 percent of this type of retail space was actually occupied by retail businesses, another 7 percent was occupied by non-retail uses, and 8 percent was vacant.
- This type of retail space is concentrated in the Northeast, Southwest and, to a lesser extent, Midtown areas. There are no community shopping centers in the Southeast area and only one in the Downtown area.
- The Muldoon Mall has an exceptionally high vacancy rate (67 percent). Moreover, there are many non-retail occupants in both Muldoon and Boniface Malls. This suggests that the economic viability of these malls as retail centers in these locations is poor at present.

Table 13
Major Community Shopping Centers
Anchorage Bowl, 1994

Shopping Center	Occupied Square Feet Retail	Non-Retail	Vacant Sq.Ft.	Total Sq.Ft.	Percent Retail	Percent Non-Retail	Percent Vacant
Carrs-Gambell	30,107	0	0	30,107	100%	0%	0%
Downtown Subtotal	30,107	0	0	30,107	100%	0%	0%
Boniface Mall	103,891	17,944	13,931	135,766	77%	13%	10%
Muldoon Mall	0	33,000	67,000	100,000	0%	33%	67%
Carrs-Eastgate	72,172	1,473	0	73,645	98%	2%	0%
Mt. View Center	51,179	0	0	51,179	100%	0%	0%
Carrs-Muldoon	90,284	2,140	0	92,424	98%	2%	0%
Northeast Subtotal	317,526	54,557	80,931	453,014	70%	12%	18%
Northern Lights	131,824	0	4,100	135,924	97%	0%	3%
Carrs-Aurora Village	78,640	14,000	6,000	98,640	80%	14%	6%
New Sagaya	31,584	0	0	31,584			
Midtown Subtotal	242,048	14,000	10,100	266,148	91%	5%	4%
Carrs-Huffman	87,851	0	0	87,851	100%	0%	0%
Carrs-Jewel Lake	77,209	8,579	4,235	90,023	86%	10%	5%
South Plaza (Bayshore)	153,000	0	0	153,000	100%	0%	0%
Carrs-Dimond/Old Seward	46,607	0	0	46,607	100%	0%	0%
Southwest Subtotal	364,667	8,579	4,235	377,481	97%	2%	1%
Total Community Shopping	954,348	77,136	95,266	1,126,750	85%	7%	8%

Source: Municipality of Anchorage Department of Community Planning and Development Survey.

2.4 Strip Malls

Table 14 shows the inventory of retail space in the major strip mall configuration by planning area and occupancy status as of 1994. Noteworthy features:

- Overall, 72 percent of strip mall retail space was actually occupied by retail uses. Fully 18 percent of strip mall space was occupied by non-retail uses. Ten percent of strip mall space was vacant.
- Most strip mall retail space (56 percent) was located in the Midtown area. Another 27 percent was in the Northeast area, 14 percent in the Southwest area, 3 percent in the Southeast area and none in the Downtown area.
- The Northeast area experienced the highest vacancy rate (12 percent), with two strip malls with 55 percent and 31 percent respective vacancy rates. Vacancy rates in strip malls in Midtown, Southwest, and Southeast were about 10 percent.
- Strip malls in Northeast and Southwest areas had extensive occupancy by non-retailers (31 and 23 percent respectively). Among Midtown strip malls, about half were fully of near fully occupied by retail businesses. On the other hand, several of the strip malls in the International/Arctic area had numerous non-retail occupants and several had high vacancy rates.

Table 14
Major Strip Mall Shopping Centers
Anchorage Bowl, 1994

Shopping Center	Occupied Square Feet		Vacant	Total	Percent	Percent	Percent
	Retail	Non-Retail	Sq. Ft.	Sq. Ft.	Retail	Non-Retail	Vacant
Tudor Square	24,161	32,839	3,000	60,000	40%	55%	5%
Boniface Plaza	30,919	19,786	8,803	59,508	52%	33%	15%
Lake Otis & Tudor	30,580	23,940	480	55,000	56%	44%	1%
College Mall	13,671	1,029	0	14,700	93%	7%	0%
Russian Jack Plaza	15,479	0	18,919	34,398	45%	0%	55%
Chugach Square	8,709	24,427	1,200	34,336	25%	71%	3%
Muldoon Z Plaza	15,444	0	7,000	22,444	69%	0%	31%
Furniture World Mall	47,710	0	0	47,710	100%	0%	0%
Northeast Subtotal	186,673	102,021	39,402	328,096	57%	31%	12%
Metro Center	58,800	1,200	0	60,000	98%	2%	0%
Commerce North One	34,310	19,500	9,000	62,810	55%	31%	14%
Commerce North Two	16,310	16,500	30,000	62,810	26%	26%	48%
International Z Plaza #3	32,150	6,000	5,650	43,800	73%	14%	13%
International	46,992	6,408	0	53,400	88%	12%	0%
Inter Plaza #1	42,501	18,215	1,495	62,211	68%	29%	2%
Minnesota Z Plaza	34,772	6,000	16,080	56,852	61%	11%	28%
Williams & Kaye	56,856	0	0	56,856	100%	0%	0%
Olympic Center 36th	44,796	2,400	3,100	50,296	89%	5%	6%
Gold & Diamond	42,040	0	5,600	47,640	88%	0%	12%
Dover Center	36,174	738	0	36,912	98%	2%	0%
Plaza Mall--Time Frame	35,911	0	733	36,644	98%	0%	2%
Bering Village	36,056	0	0	36,056	100%	0%	0%
Cafe del Mundo	16,305	0	0	16,305	100%	0%	0%
Denali Center	14,130	1,570	0	15,700	90%	10%	0%
Midtown Subtotal	548,103	78,531	71,658	698,292	78%	11%	10%
Liberty Center	17,490	0	2,260	19,750	89%	0%	11%
Independence Park Village	13,230	1,470	1,050	15,750	84%	9%	7%
Southeast Subtotal	30,720	1,470	3,310	35,500	87%	4%	9%
Jewel Lake Shop. Center	27,703	3,345	3,600	34,648	80%	10%	10%
Dimond Square	20,800	11,200	0	32,000	65%	35%	0%
South Town (Pink Mall)	14,400	15,200	2,400	32,000	45%	48%	8%
Huffman Square	30,000	1,200	1,200	32,400	93%	4%	4%
Creekside Village	19,789	5,818	4,100	29,707	67%	20%	14%
Raspberry Center	11,930	2,983	0	14,913	80%	20%	0%
Southwest Subtotal	124,622	39,746	11,300	175,668	71%	23%	6%
Total Strip Malls	890,118	221,768	125,670	1,237,556	72%	18%	10%

Source: Municipality of Anchorage Department of Community Planning and Development Survey.

3.0 Historic Trends in the Spatial Distribution of Commercial and Industrial Development

The MOA GIS land use database includes for each parcel the year of most recent improvements to the parcel. The commercial and industrial land use database was sorted and summarized by study unit, by type of land use, by five-year intervals. The resulting tabulations, shown in Figures 5 through 12, were examined to assess trends in the spatial distribution of retail, service, office, and industrial land uses in the Anchorage Bowl since 1960. Before reviewing the results of that assessment, several limitations in the database should be noted.

First, the GIS land use database did not include the year of improvements for significant percentages of retail (14 percent), service (35 percent), office (16 percent), and industrial (53 percent) land uses. As undated parcels were omitted from the tabulations, total acreage developed for retail, office, services, and industrial land uses was understated.[2] Upon inspection, the undated retail, services, and office parcels did not seem obviously skewed by study unit or time period. On that basis, it was assumed that the sample of dated parcels was reasonably representative. Because the date of improvements was available for less than half the improved industrial acreage, the analysis of industrial development trends was less conclusive.

Second, mixed-use parcels were classified by their dominant land use. For example, a regional retail shopping center tract that also included service businesses or commercial office space would be entirely classified as retail. Thus, the figures probably overstate the volume of retail acreage, but understate services and office development, increasingly so as mixed use developments became more common.

Third, the GIS database counted the entire acreage of partly-improved large parcels as developed. As a result, the database overstates extent of land development and understates the supply of vacant land available for future development. The extent of industrial land use development was particularly overstated.

Fourth, the database does not reflect changes from the original land use. Additionally, upgrade or expansion of an existing development may cause the entire development to be attributed to the time of most recent improvements. These factors produce some unavoidable distortions in the historic database.

Finally, inspection of the database showed that the value of improvements on many parcels developed for transportation uses was negligible or unrecorded. This was especially so for parcels developed for air transportation. Consequently, the tally of improved transportation land uses was too misleading or incomplete to be useful for analysis and was not compiled.

Parenthetically, it ought noted that the acreage figures reflected land use development without regard for the intensity of development. That is, comparably sized lots counted equally, regardless of whether they supported a one-story or five-story office building.

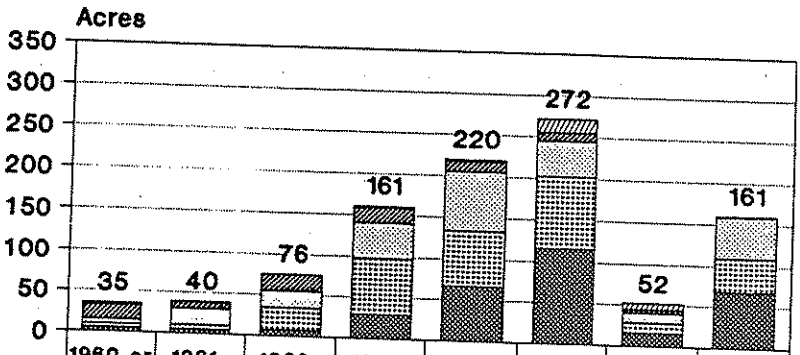
[2] Table 1 provides a full tabulation of commercial and industrial land uses.

These qualifications notwithstanding, the database proved useful for identifying broad trends in the pace and spatial distribution of retail, service, office, and industrial land use developments in the Anchorage Bowl since 1960.

3.1 Retail Land Use Development Trends

Figure 5 shows acreage developed for retail land uses by study unit in 5-year intervals between 1960 and 1995. Two trends stand out.

Figure 5
Retail Land Uses
By Period and Study Unit



	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	2	1	1	1	3	16	8	0
Downtown	18	9	21	19	12	11	4	1
Northeast	5	19	20	42	71	43	12	50
Midtown	4	5	27	69	68	86	13	41
Southwest	6	6	8	29	67	116	16	69

Source: Municipality of Anchorage.

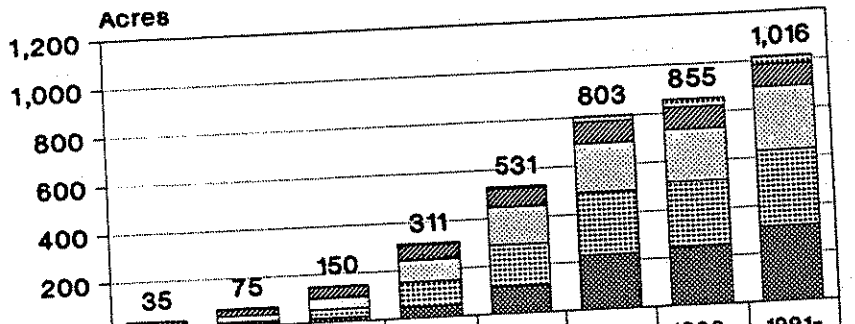
First, the pace of retail development accelerated rapidly after 1960, peaked in the 1981-1985 period, then dropped steeply during 1986-1990. New retail development rebounded somewhat during 1991-1995, but remained well below the volume attained in the rapid growth era that stretched from 1976 to 1985.

Meanwhile, the geography of new retail development moved outward as population growth dispersed beyond the perimeter of downtown throughout the Anchorage Bowl. New retail centers sprung up to serve new residential and business areas. Before 1960, most retail development was in the Downtown area. After 1960, retail growth in Northeast, Midtown, and especially Southwest far outpaced Downtown growth. The focus of retail expansion first shifted to the

Northeast in the early 1960s, then to Midtown for an extended period between 1965 and 1980. Since 1980, the Southwest led the Anchorage Bowl in new retail development. Throughout, there has been minimal retail development in Southeast.

Figure 6 shows the cumulative acreage dedicated to retail land uses by study unit after 1960. By 1970, the Downtown district was relatively mature as a retail center. Midtown held the lead in total retail land use from the early 1970s through 1990, after which the latest burst of retail development in the Dimond Center vicinity propelled Southwest to the lead.

Figure 6
Cumulative Retail Land Uses
By Study Unit, 1960-1995



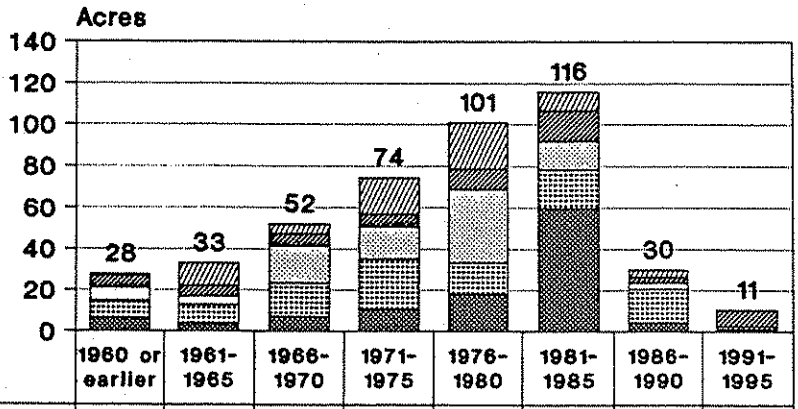
	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	2	3	3	5	7	24	31	31
Downtown	18	27	48	67	79	90	94	95
Northeast	5	24	44	86	157	200	212	261
Midtown	4	9	36	105	173	259	272	313
Southwest	6	11	19	48	115	231	247	316

Source: Municipality of Anchorage.

3.2 Commercial Services Land Use Development Trends

The overall trend for commercial services land use developments (Figure 7) closely resembles the retail trend through 1990. That is, land uses for services expanded steadily from 1960 through 1985, after which the pace of new development fell off sharply. Unlike retail trade, the pace of new development for service businesses did not pick up after 1990, but declined even further. (That services are often a subordinate use in multi-use retail centers and may be included in retail development figures.)

Figure 7
Commercial Services Land Uses
By Period and Study Unit

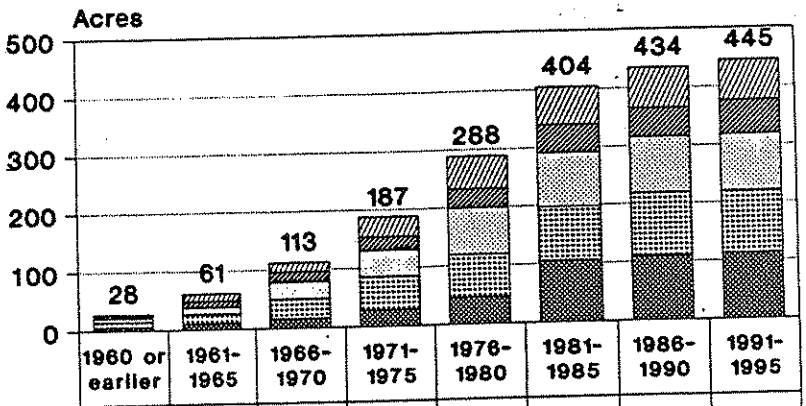


	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	1	11	5	17	22	9	4	0
Downtown	6	5	6	6	10	15	3	8
Northeast	7	4	18	16	35	14	3	1
Midtown	8	9	16	24	16	19	16	0
Southwest	6	4	7	11	18	60	5	2

Source: Municipality of Anchorage.

Figure 8 shows the cumulative spatial distribution of land used for commercial services since 1960. Generally, the acreage devoted to commercial services is more evenly distributed than retail acreage. Service-related land uses are most numerous in Southwest, Midtown, and Northeast. Surprisingly, Downtown has trailed other areas in service land uses since 1975.

Figure 8
Cumulative Commercial Services Land Uses
By Study Unit, 1960-1995



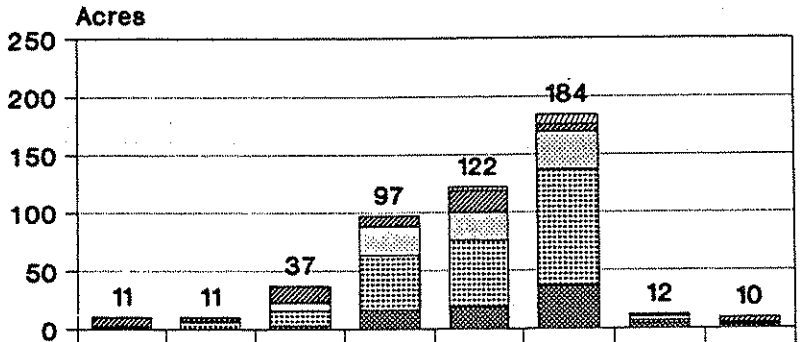
	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	1	11	5	17	22	9	4	0
Downtown	6	5	6	6	10	15	3	8
Northeast	7	4	18	16	35	14	3	1
Midtown	8	9	16	24	16	19	16	0
Southwest	6	4	7	11	18	60	5	2

Source: Municipality of Anchorage.

3.3 Commercial Office Land Use Development Trends

The historic trend in commercial office development is shown in Figure 9. Before 1960, office development was mostly concentrated in Downtown. During the 1960s, Midtown began to emerge as a secondary office center, then accelerated to primacy after 1970. Indeed, after 1970, the Northeast and Southwest areas also exceeded Downtown in new office development.

Figure 9
Commercial Office Land Uses
By Period and Study Unit



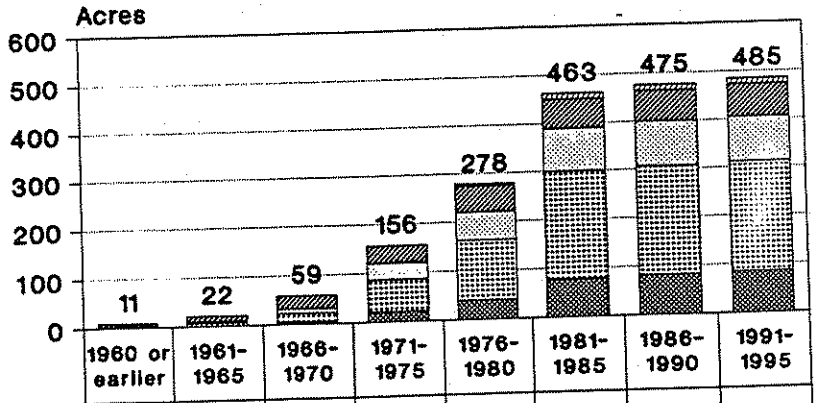
	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	0	0	0	0	4	8	0	0
Downtown	8	4	15	9	19	7	2	4
Northeast	1	1	6	24	24	32	4	1
Midtown	1	6	13	46	56	100	2	2
Southwest	1	0	4	17	20	37	5	2

Source: Municipality of Anchorage.

Commercial office development suffered the most severe downturn in the wake of the early 1980s construction boom. Since 1985, office site development dropped to about 5-6 percent of the pace that prevailed during the boom. The virtual lack of any new commercial office development since 1985 is an indicator of the extent of overbuilding and the stagnant demand for commercial office space.

Following the burst of office construction in Midtown after 1970, that area has consolidated its position as the dominant area for office development in the Anchorage Bowl (Figure 10). Midtown now far outstrips other sectors in acreage devoted to commercial office buildings.

Figure 10
Cumulative Commercial Office Land Uses
By Study Unit, 1960-1995



	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	0	0	0	0	4	8	0	0
Downtown	8	4	15	9	19	7	2	4
Northeast	1	1	6	24	24	32	4	1
Midtown	1	6	13	46	56	100	2	2
Southwest	1	0	4	17	20	37	5	2

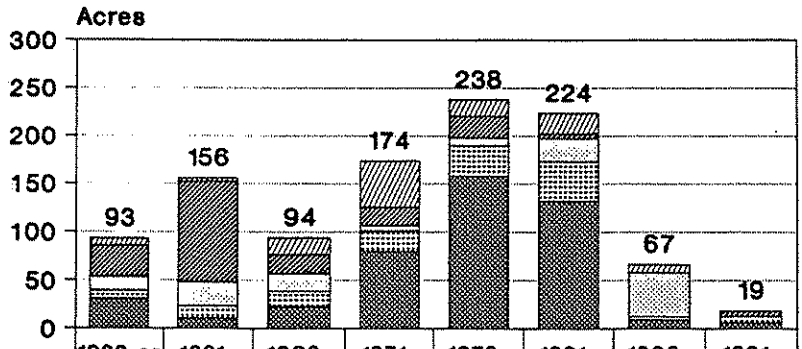
Source: Municipality of Anchorage.

3.4 Industrial Land Use Development Trends

The database on which Figures 11 and 12, showing industrial land development by study area, are based was less comprehensive that the retail, services, and office land use databases. Accordingly, these figures ought be taken as only broadly suggestive of industrial development trends.

Anchorage's industrial improvements were originally concentrated in the Downtown area, consisting mainly of bulk/outdoor storage and warehouses developed in association with the Ship Creek area's port and rail facilities. By the late 1960s, however, the Southwest sector began to replace Downtown as the preferred location for industrial development. Between 1976-1985, the Southwest sector attracted the bulk of new industrial land uses of several sorts (outdoor storage, manufacturing/processing plants, warehousing, construction yards). Southwest is now the provides the largest supply of industrial sites, followed by Downtown.

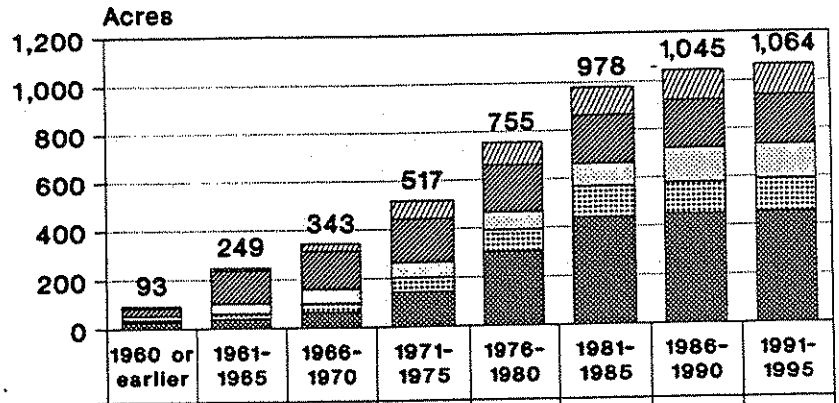
Figure 11
Developed Industrial Land Uses
By Period and Study Unit, 1960-1995



	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	7	3	17	48	18	21	8	0
Downtown	33	105	20	19	22	6	0	6
Northeast	14	25	18	5	8	24	46	0
Midtown	8	13	16	22	32	41	2	7
Southwest	32	11	23	80	158	133	11	6

Source: Municipality of Anchorage.

Figure 12
Cumulative Industrial Land Uses
By Study Unit, 1960-1995



	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Southeast	7	3	17	48	18	21	8	0
Downtown	33	105	20	19	22	6	0	6
Northeast	14	25	18	5	8	24	46	0
Midtown	8	13	16	22	32	41	2	7
Southwest	32	11	23	80	158	133	11	6

Source: Municipality of Anchorage.

4.0 Transportation Industries

Anchorage's major transportation facilities for movement of goods, commodities, and bulk fuel stocks include the Port of Anchorage, Anchorage International Airport, the Alaska Railroad, inter-regional petroleum and natural gas pipeline systems, and the Glenn and Seward Highways.

The location of major transportation facilities strongly influences many industrial and some commercial land use patterns. The land use-transportation interplay is complex and dynamic. Land use patterns affect transportation systems, many business activities change in response to other factors besides transportation like local preferences and market forces. Transportation industries, with their specialized handling and transfer facilities, warehousing, bulk and outdoor storage, tank farms and pipelines, truck terminals, intermodal linkages, etc. are themselves major land uses. Further, certain transportation-dependent industries are drawn toward major transportation facilities and their linkage points. Thus, such land uses as wholesalers, distributors, light manufacture, processing, bulk materials supply (e.g., sand and gravel), certain types of retail outlets (e.g., lumber yards), and raw materials export often locate near primary transportation nodes or along primary transportation corridors.

The inter-regional petroleum and natural gas pipeline systems supply Anchorage with natural gas and fuel stocks produced from the Kenai-Cook Inlet petroleum province. These pipeline systems have enabled Anchorage to reduce its dependence on waterborne delivery of petroleum fuels. Similarly, the North Pole Mapco refinery along the trans-Alaska pipeline corridor near Fairbanks has largely superseded Anchorage's function as storage and transfer depot for fuel stocks enroute to Alaska's interior by rail and tanker truck.

With construction of large new terminals by Federal Express and United Parcel Service Anchorage has emerged as a major transfer center for the international air cargo industry. As a result, Anchorage International Airport has become the focus of a new air-related transportation industry that promises to grow substantially in year as international trade between U.S. and Asian nations continues to grow. For the most part, the Federal Express and United Parcel Service facilities are dedicated to in-transit cargo. This limits their linkages to transport facilities and land uses outside the immediate airport vicinity.

The construction of specialized, dedicated raw materials export facilities such as the Seward coal transshipment facilities has limited Anchorage's need to function in this capacity. The long-term interest of Matanuska-Susitna Borough, Kenai Peninsula and other southcentral ports to develop facilities to handle potential export of such bulk commodities as forest products, Wishbone Hill coal, minerals, etc., are a factor in the Port of Anchorage's future role as a bulk marine export shipper.

4.1 Waterborne Freight

Table 15 charts trends in waterborne freight shipped through the port of Anchorage between 1970 and 1994. Over that period, total shipments increased by almost 50 percent from 1.8 to 2.7 million tons. the volume of petroleum products actually dropped from 1.3 to 1.1 million tons. Meanwhile, the tonnage of dry cargo, consisting mostly of vans, flats and containerized freight, more than tripled from .5 to 1.6 million tons. Oil field supplies (cements and drill muds) comprised a small but regular share of dry cargo.

Generally, waterborne freight tonnages delivered to the Port of Anchorage have grown proportionally with population growth, adjusted for fluctuations in the level of local construction activities. Since 1990, dry cargo tonnages have grown at a rate of 2-3 percent annually, while bulk petroleum products delivery have grown by nearly 10 percent annually. The combination of port and rail (see below) facilities in the Ship Creek area have made the Downtown area Anchorage's dominant focus for port and rail transportation-related industrial land uses. The Ship Creek area also hosts a major share of truck terminal and freight-forwarding industries, and numerous industrial warehouses.

Table 15
Waterborne Freight, Port of Anchorage, 1970-1994
(thousands of tons)

Year	Vans, Flats & Containers	Cement/ Drill Mud	Vehicles	Other Cargo	Total Dry Cargo	Petroleum Products	Total All Cargo
1970	478	25	5	7	514	1,323	1,838
1975	839	44	22	25	930	1,922	2,852
1980	1,043	19	29	80	1,171	593	1,764
1985	1,195	88	3	72	1,358	567	1,925
1990	1,324	76	2	1	1,403	792	2,195
1991	1,316	64	1	1	1,382	905	2,287
1992	1,374	83	5	33	1,495	877	2,372
1993	1,425	80	0	24	1,529	1,094	2,623
1994	1,447	98	2	22	1,569	1,147	2,716

Source: Port of Anchorage.

4.2 Rail Freight

Table 16 records the total annual tonnage of freight hauled by the Alaska Railroad for select years between 1975 and 1994. Much of the system's freight tonnage consists of gravel hauled to Anchorage from the Matanuska-Susitna Borough and Health coal in transit to the port of Seward.

Table 16
Alaska Railroad Freight Hauled, 1975-1994
(thousands of tons)

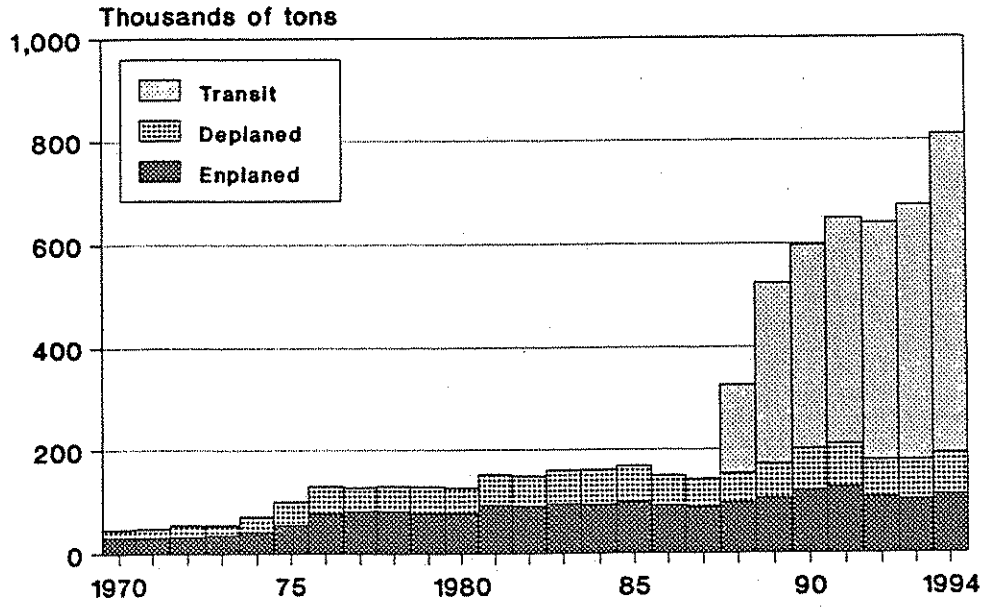
Year	Freight
1975	2,147
1980	1,862
1985	5,753
1990	5,904
1991	5,122
1992	5,429
1993	5,953
1994	5,075

Source: Alaska Railroad Corporation

4.3 Air Cargo

Table 17 and Figure 3 chart the annual volume of air freight shipments to, from, and through Anchorage International Airport since 1970. While the air freight tonnage is well below marine and rail tonnage, it is the fastest-growing segment of the shipping industry, particularly since Anchorage's emergence as a transshipment depot for air shipments between North America and the Far East. Overall, air cargo tonnage has grown from 46,500 tons in 1970 to 812,000 tons in 1994. As of 1994, transit cargo amounted to over three-fourths of all air freight tonnage.

Figure 13
Air Freight Shipments: Anchorage International Airport
1970-1994



Source: Anchorage International Airport.

The growth of Anchorage's air freight industry is reflected in recent construction of new and/or expanded air freight handling facilities by Federal Express and United Parcel Service. The air cargo industry has become a major local employer, supporting about 1,550 jobs in 1994.

Table 17
Air Freight Shipments, Anchorage International Airport, 1970-1994
(thousands of tons)

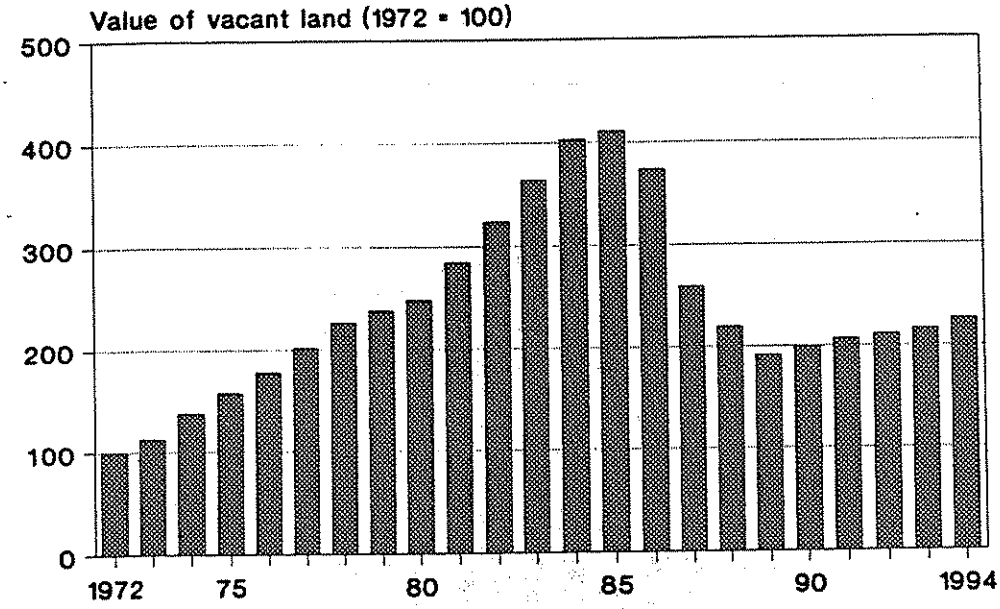
Year	Deplaned	Enplaned	Transit	Total
1970	16.1	30.4		46.5
1971	18.3	30.2		48.5
1972	22.0	33.0		55.0
1973	19.8	35.1		54.9
1974	30.4	41.8		72.2
1975	45.2	55.9		101.0
1976	53.4	77.6		131.0
1977	47.1	81.2		128.3
1978	49.7	81.3		131.0
1979	51.8	77.9		129.7
1980	47.9	78.5		126.4
1981	59.7	93.2		152.9
1982	59.2	90.7		149.9
1983	65.1	95.9		161.0
1984	67.3	93.9		161.2
1985	70.4	99.0		169.4
1986	58.7	91.4		150.2
1987	53.3	89.2		142.5
1988	58.2	96.2	171.5	325.9
1989	67.7	105.0	350.5	523.2
1990	81.0	120.4	395.9	597.3
1991	83.7	126.6	437.9	648.1
1992	71.7	108.0	460.5	640.2
1993	76.6	102.6	494.0	673.0
1994	80.6	112.2	619.2	812.0

Source: Anchorage International Airport.

5.0 Vacant Commercial Land Values

Vacant commercial land values are an indicator of the balance in supply of and demand for commercial land. Figure 14 shows the value of vacant commercial real estate as estimated by a group of commercial real estate specialists surveyed annually by Real Estate Services Corporation (RESCO). The charted values represent the consensus estimate of the generalized market value of vacant commercial land rather than trends in actual land prices. The estimated values have been indexed to 1972 values to simplify trend comparisons.

Figure 14
Trend in Vacant Commercial Land Values
Anchorage, 1972-1994

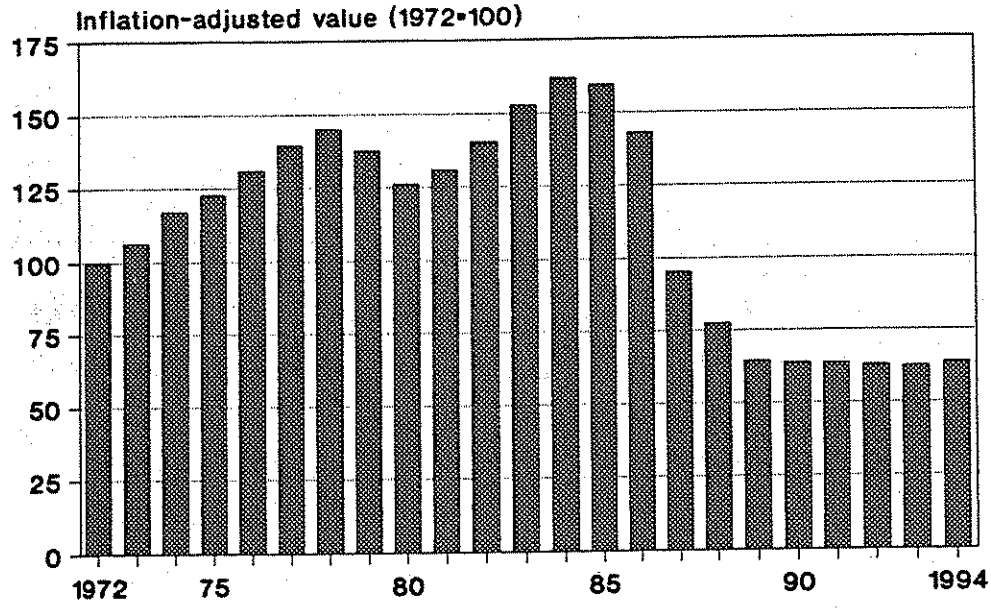


Source: Real Estate Services Corporation annual surveys.

Figure 14 shows that vacant commercial land values rose steadily from 1972 through 1985, quadrupling over that period. After 1985, the turning point year in Anchorage's early 1980s boom, vacant commercial land values dropped by half in four years and resumed modest annual increases after 1989, when Anchorage began to rebound from its recession.

Rapid inflation in the 1970s and early 1980s seriously distorted real price trends. To discount the effect of inflation, the nominal vacant land values shown in Figure 14 were adjusted for inflation and recharted in Figure 15. The trend shown in Figure 15 closely resembles Anchorage's post-1972 economic growth trend. Commercial land values rose steadily through the TAPS build-up and construction phase, dipped during the post-pipeline recession, reached new highs during the early 1980s advance, then dropped precipitously after 1985. From 1989 through 1994, vacant commercial land values held steady in real terms at about 40 percent of the 1984 high. Current land values are a measure of the extent to which excess commercial development in the 1980s has undercut demand for vacant commercial land for new commercial development. Indeed, in real terms, 1994 land values were only 65 percent of the level that prevailed in 1972. Put in this historic perspective, current vacant commercial land prices do not appear to be a significant market constraint on commercial development.

Figure 15
Trend in Vacant Commercial Land Values
Anchorage, 1972-1994



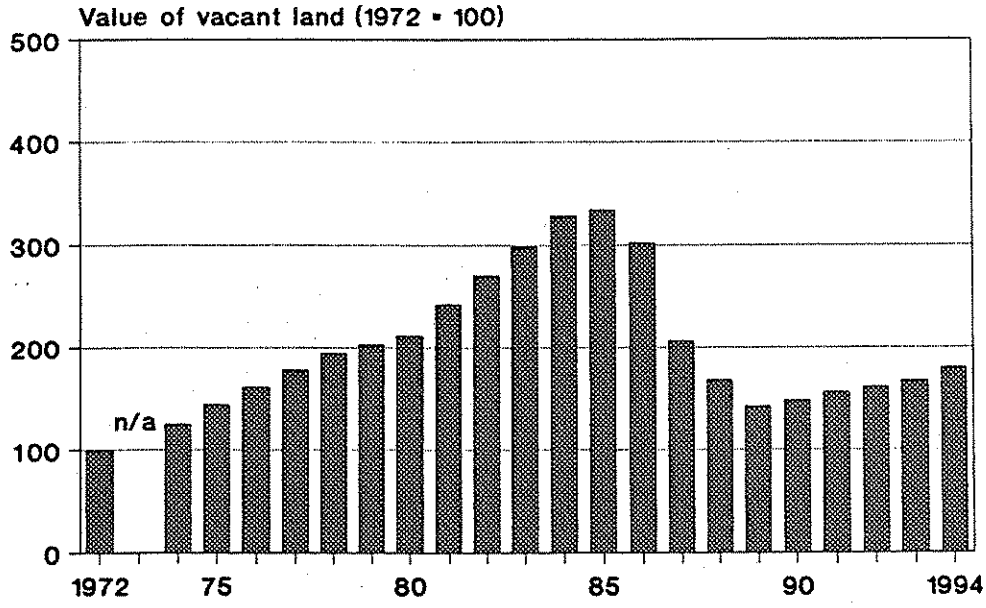
Source: Real Estate Services Corporation annual surveys.

5.1 Vacant Industrial Land Values

As with commercial land, vacant industrial land values are an indicator of the balance in supply of and demand for industrial land. Based on estimates obtained by methods similar to the vacant commercial land survey, Figures 16 and 17 show the nominal and inflation-adjusted value of vacant industrial real estate since 1972.

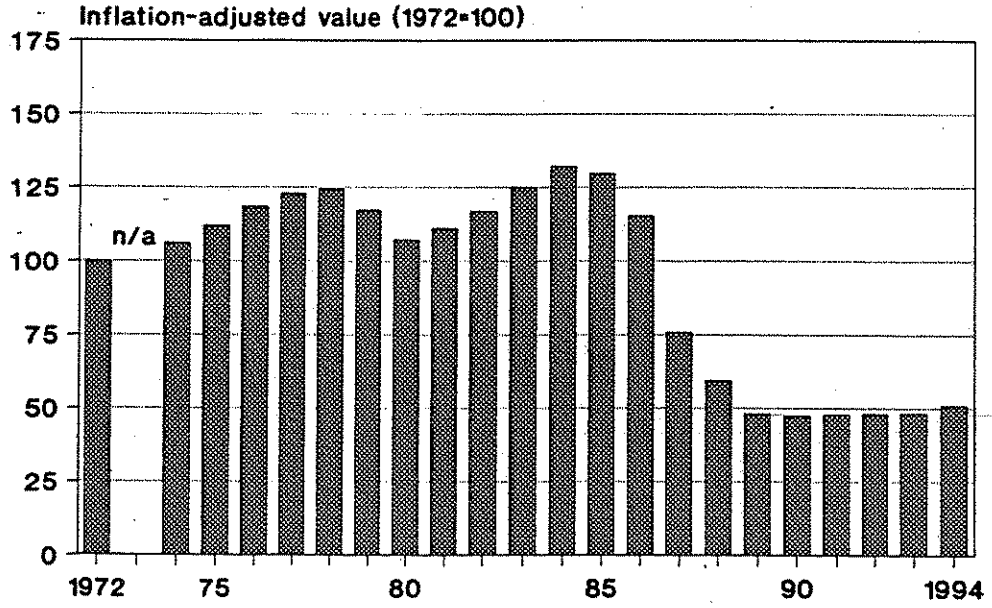
The profile of industrial land values closely matches the profile of commercial land values. The chief difference is that industrial land values did not rise quite so high and dropped even lower than commercial land values. Adjusted for inflation, as shown in Figure 16, industrial land rose modestly between 1972 and 1984, then plummeted, bottoming out in 1989 and rising slightly thereafter. In real terms, the RESCO survey put 1994 industrial land values at only half the level that prevailed in 1972 and less than 40 percent of the values of 1984. Overall, the trend shown in Figures 16 and 17 suggests that industrial land is currently in adequate supply to depress market values substantially below pre-recession levels. Since these value estimates reflected expectations about future demands for vacant industrial land, they signify that, as a group, industrial real estate specialists did not anticipate any near-term shift in the balance of supply and demand.

Figure 16
Trend in Vacant Industrial Land Values
Anchorage, 1972-1994



Source: Real Estate Services Corporation annual surveys.

Figure 17
Trend in Vacant Industrial Land Values
Anchorage, 1972-1994

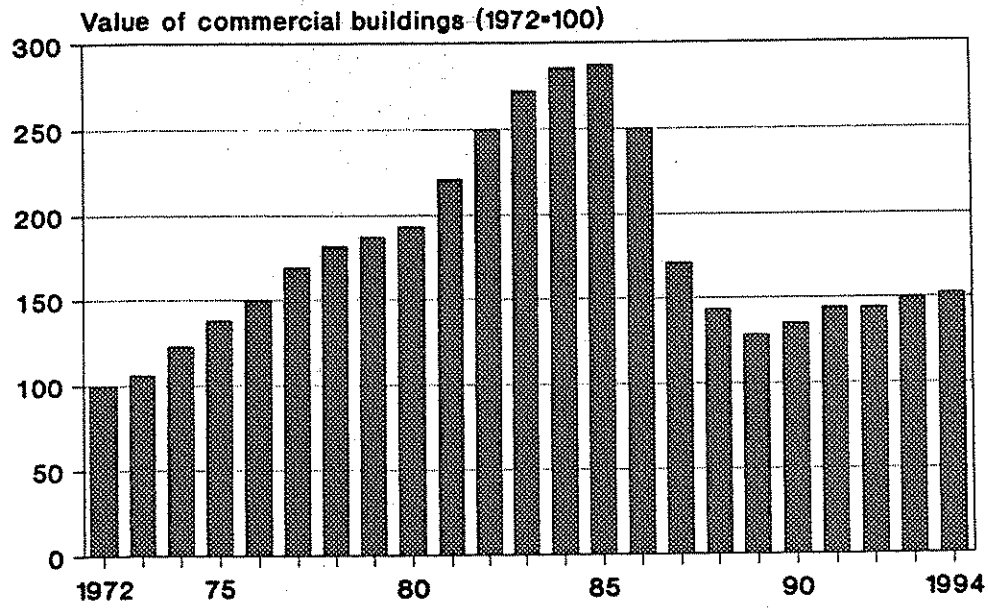


Source: Real Estate Services Corporation annual surveys.

5.2 Commercial and Industrial Building Values

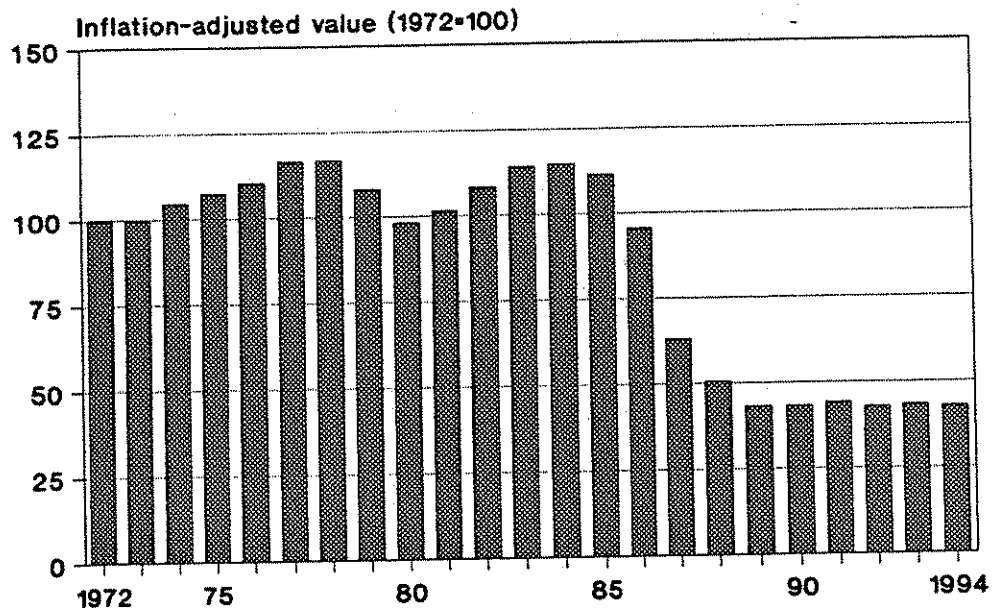
RESCO also surveys local real estate specialists on estimated values of commercial and industrial buildings. The results of those surveys, shown in Figure 18 through 21, parallel the trends noted above for commercial and industrial vacant land. That is, since 1985, the value of commercial land and industrial buildings was seen to drop substantially, reaching and holding a 20-year low in real terms since 1989. This perspective on recent trends in commercial and industrial building values suggests that market demand for commercial and industrial space is still generally weak compared to available supply.

Figure 18
Trend in Commercial Building Values
Anchorage, 1972-1994



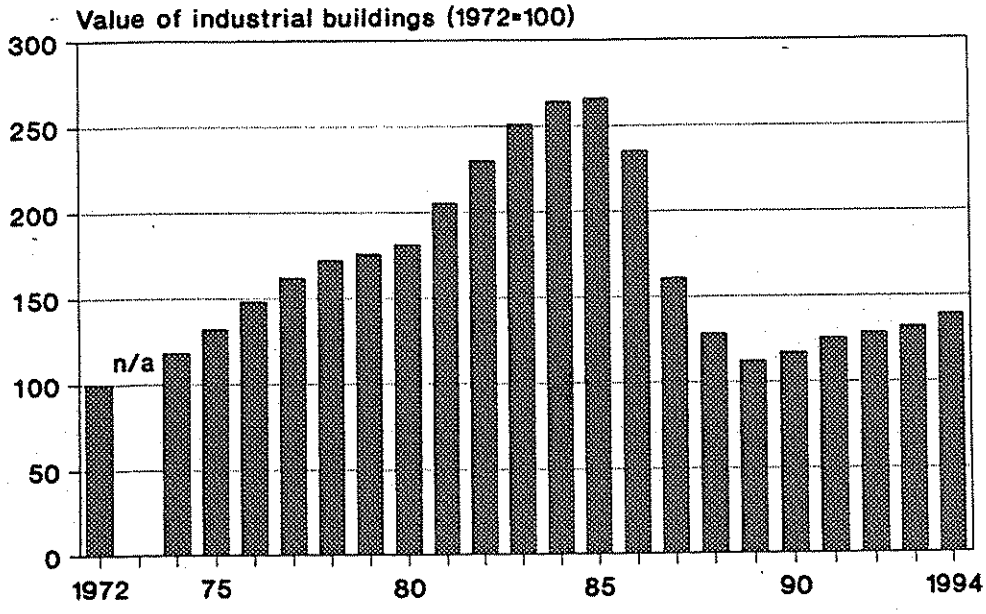
Source: Real Estate Services Corporation annual surveys.

Figure 19
Trend in Commercial Building Values
Anchorage, 1972-1994



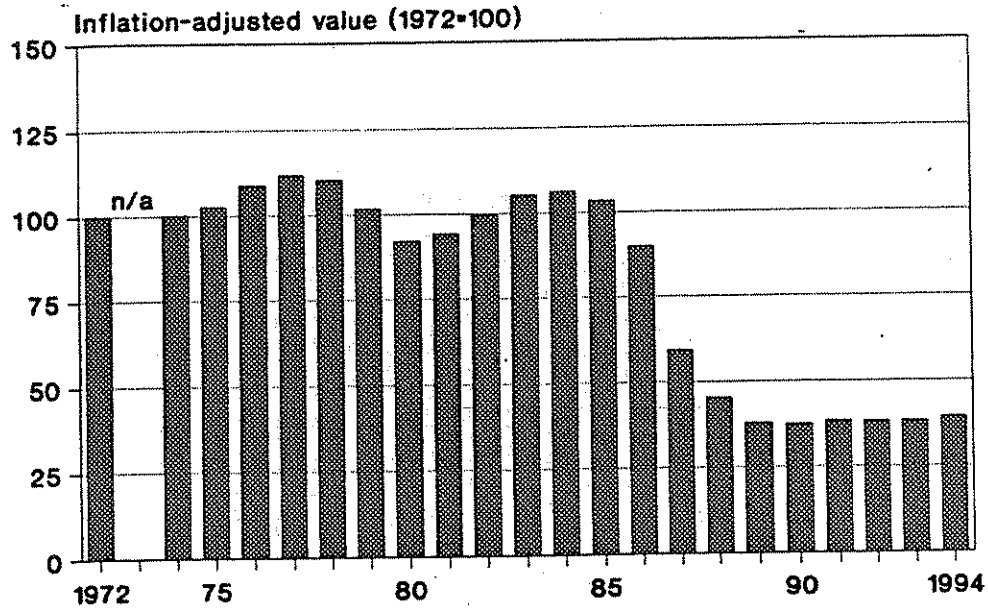
Source: Real Estate Services Corporation annual surveys.

Figure 20
Trend in Industrial Building Values
Anchorage, 1972-1994



Source: Real Estate Services Corporation annual surveys.

Figure 21
Trend in Industrial Building Values
Anchorage, 1972-1994



Source: Real Estate Services Corporation annual surveys.

Chapter III.

Site Requirements

Site requirements for existing and future commercial and industrial uses that could locate or expand in the Anchorage Bowl have been developed and are described in the following table. The site requirements are those characteristics that are necessary for successful commercial and industrial development. The table summarizes the basic elements a business might consider when siting/relocating. What is not included are factors such as availability of labor, wage levels, labor-management relationships, utility costs, financial resources (public and private), local and state business climate (tax burden, etc.), and quality of life (housing, education, recreation and culture, health services).

Table 1
Product Demand Projections by Land Use

Use	SF/Unit	Building SF	Acres	Parking	Access	Location
Large Retail	15-20sf per person[1]	50,000+	5+ with 50% plus frontage on major street (.2-.25 FAR)	4/1000 bsf	Multiple points at intersection or traffic light served. One-way streets and traffic island can be strong negatives.	Only busiest roads (10,000 +adt) with best visibility, access and generally in path of growth.
Small Retail	3-6sf per person	2,500+	.25+ acre generally adjacent to other com. (FAR varies)	4/1000 bsf	Single point, easy on/off turn from lane not needing to cross traffic.	Highway commercial or neighborhood oriented at visible locations where auto traffic is concentrated and moving at slowed speed.
High Density Office	150-225sf per job	60,000+ (3 floors or more)	3+ acres (include surface parking; FAR varies)	4/1000 bsf	Easy in/out near arterial	Central location for employees near business amenities.
Low Density Office	150-225 sf per job	20,000+ (1 to 2 floors)	1.5+ acres (.2-.25 FAR)	4/1000 bsf	Easy in/out	Will cluster but can also be residential serving.
Hotel and Motel	400-600sf per room; 50 room minimum	20,000+ sf typically 50,000+ for minimum 100 room with basic services	1+acres (FAR varies)	1.2/room without restaurant; less if tour group	Destination orientation acceptable as long as visible from main road.	Prefer major retail site type characteristics (superior visibility, access) but also can be very specialized (i.e., airport, resort, tourist business)
Downtown	Mixed use	20,000 sf minimum	.25+acres (FAR varies)	As above except for availability of nearby parking lots or tour group emphasis	Straight forward for vehicles; pedestrian friendly.	Need to be reinforced by multiple adjoining uses and not distance by vacant lots or noncomplementary uses.

Table 1 (continued)
Product Demand Projections by Land Use

Heavy Industry	No stds for large exporting type uses; 1 acre per 400 persons	NA	1-500 acres	Specialized	Specialized	Specialized but if not transport or other resource dependent will generally locate wherever can
Light Industry and Flexible Space	300-600 sf per job	25,000+	1+acre (.2-.6 FAR)	2-4/1000 bsf	Large truck access suitable with simple entry to arterial	Near major highway; tend to agglomerate at business locations.

Source: Bolan Smart Associates
[1] 15-20sf per person is the same as per capita

Discussion

Large Retail. These uses include anchor grocery stores, big box general merchandise, category specialists, auto dealers, etc. Typically these uses prefer new construction sites to accommodate special use formats. They may also not want any stigmas from former uses. The trend is toward larger in-line or freestanding stores. Sites usually include smaller building pads for restaurants, etc. Locational needs means that uses tend to cluster.

Small Retail. These uses include freestanding, unanchored retail uses such as convenience/gas stations, fast food. They typically require visible locations where auto traffic is concentrated and moving at slowed speeds. These uses are spread around town to serve a variety of markets.

High Density Office. Only a few locations in town can be supported. Safety and perceived neighborhood quality essential to long-term financial commitment. New low density office is cheaper and is likely to gradually attract some tenants away from high density office space freeing up space for other users so net demand for this use is likely to be low.

Low Density Office. These uses are typically scattered along minor arterials. There can occur some integration with light industrial uses in business park developments.

Hotel/Motel. Generally need to cluster when serving specialized uses. Otherwise, these uses look for general growth locations.

Downtown. Downtown is a specialized development district that needs flexibility to accommodate a range of uses over time in as concentrated an area as is physically possible and still marketable (not expensive).

Heavy Industry. These uses typically include most resource processing, outdoor industrial material storage. Locational requirements are typically case-by-case and based on industry needs. However, smaller scale uses typically need to locate near arterials throughout the region and/or port/rail facilities (depending on the type of industry).

Light Industry. Visibility and access can be more important if there is a store front or if there is significant office use included. Future uses will likely gravitate towards 50+ acre commerce parks offering a combination of single user and multi-tenant facilities.

It is also important to note that locations need to support investment return, strongly favoring established or best growth locations. If site requirements are compromised the investments simply will not occur (except where there is a land shortage and there is a "super-heated" market).

Chapter IV.
Inventory and Assessment

1.0 Introduction

This attachment contains tabular information and analysis on commercial and industrial land uses and zoning patterns. Information is summarized and analyzed by the following categories: location, building improvements, acreage and parcel sizes, physical condition of buildings, and vacant land supply. (The vacant land supply analysis includes analysis of environmental constraints, services, and site accessibility for the commercial and industrial land supply in the Anchorage Bowl.) Information is summarized by both the Municipality of Anchorage (MOA) land use codes and by zoning district. In this attachment we first present the amount of acreage used for commercial and industrial activities, then we present the amount of land currently zoned (i.e. available for use) for commercial and industrial activity. This allows us to examine growth in certain sectors and determine the amount of land available to accommodate that growth.

Each information category has one or more corresponding maps that spatially present base information. Maps are located in the map atlas attached to the report. Land use information for commercial and industrial land was compiled from field data collected in 1994 by the MOA. The descriptions of use categories are contained in Appendix A.

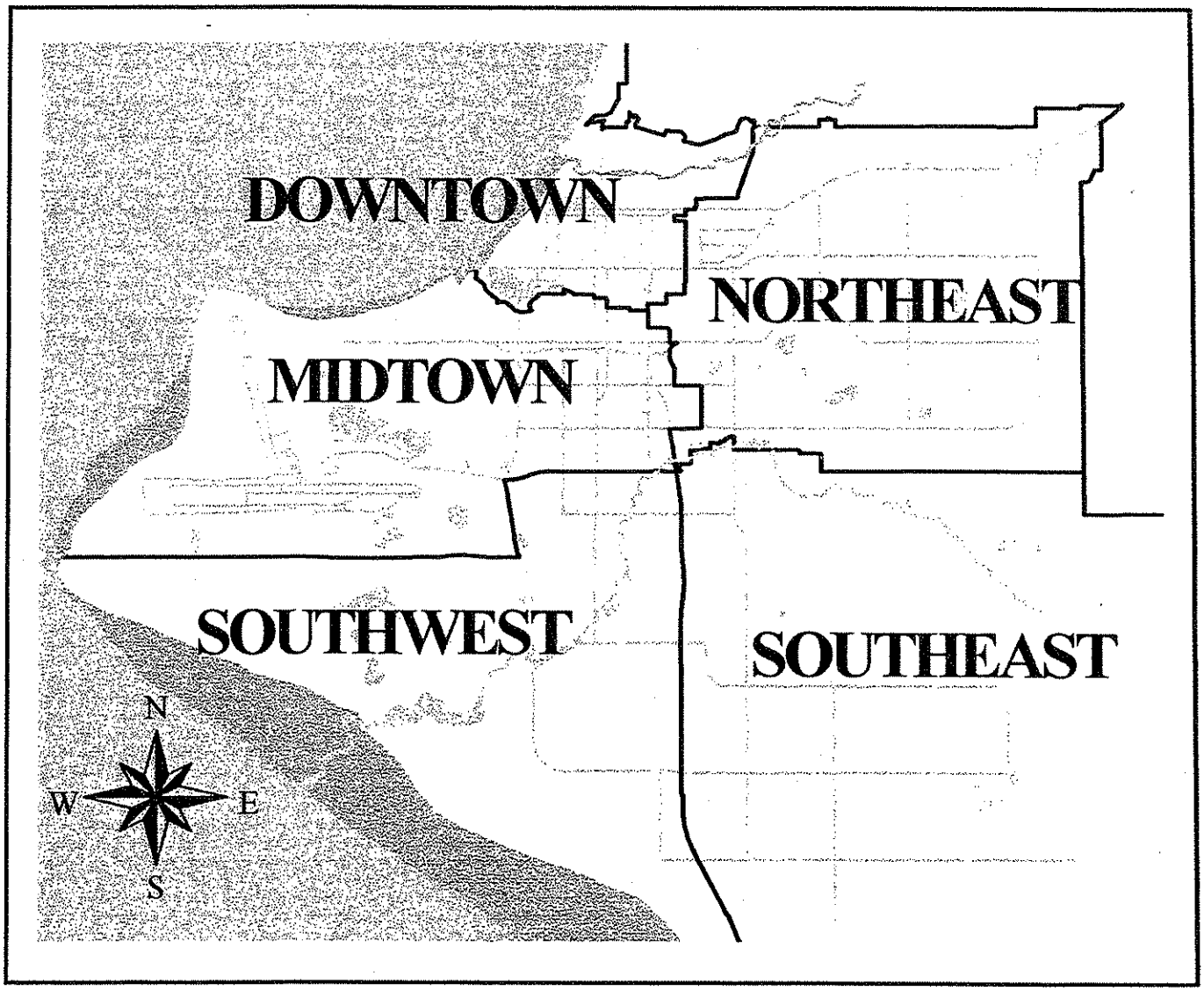
For purposes of analyzing the data for this study, entire parcels were summarized according to their primary land use. For example, a regional or community mall that contains a supermarket has its primary land use coded as a shopping center. Its secondary code actually specifies that there is a retail-food and liquor establishment in the shopping center. For the purposes of this study only the primary use was summarized.

For the purposes of analysis, the Anchorage Bowl was divided into five study units: downtown, midtown, northeast, southeast, and southwest (Figure 1). The study units were delineated to provide information and allow analysis on a smaller scale. This will allow for an examination of the variations between economic "power" centers within the Bowl.

1.1 Location

In this section, the location of land uses and zoning districts is presented. Commercial and industrial land uses by study units are presented in section 1.1.1. An examination of commercial (B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, and R-O) and industrial (I-1, I-2, MI, MC, and T) zones is presented in section 1.1.2.

Figure 1
Study Units



1.1.1 *Uses by Study Unit*

For the purposes of analysis, the Anchorage Bowl was broken into five study units, namely downtown, midtown, northeast, southeast, and southwest. Figure 1 depicts the five study units. Downtown includes the Port of Anchorage, Ship Creek industrial area, and Government Hill, as well as the central business district as far south as the Chester Creek Greenbelt. Midtown includes the Anchorage International Airport. The northeast unit includes the major hospitals, educational institutions, and Merrill Field. The southwest unit begins generally north of Dimond Boulevard and west of the Seward Highway. The southeast unit includes the area generally south of Tudor Road and east of the Seward Highway.

Overall. Table 1 indicates the distribution of commercial and industrial land uses by study unit. See also Map 1, "Commercial and Industrial Land Uses," for a visual presentation of the information. The Bowl-wide acreage, broken down by categories of commercial and industrial uses, indicates that commercial retail (1,180 acres), commercial services (684 acres), commercial office (580 acres), general industrial (2,272 acres), and transportation-related industrial (4,206) land uses totaled 8,568 acres. Thus, industry accounted for two-thirds (72.6 %) of these land uses, followed by retail (13.2 %), commercial services (7.7 %), and commercial office (6.5 %) uses. See Tables 1 and 2.

Table 1
Locational Distribution of Commercial
and Industrial Land Uses* (in Acres), Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide	% of Total
Retail**	118	351	295	38	377	1,180	13.2%
Services	99	134	124	87	240	684	7.7%
Office	95	273	108	12	91	580	6.5%
Industrial	324	375	476	308	790	2,272	25.5%
Transportation***	352	3,523	271	25	34	4,206	47.1%
Total	987	4,657	1,274	470	1,533	8,922	100.0%

Source: Compiled from Municipality of Anchorage land use records.
* For a description of the uses contained in each use category see Appendix A
** Bowl-wide, 57 parcels totaling 39 acres are occupied by commercial buildings that were vacant at the time data was collected. These uses have been included as retail.
*** A portion of the acreage in transportation use is used by the Anchorage International Airport, but is also, however, vacant and may be available for development. For more information, see section 1.5.1

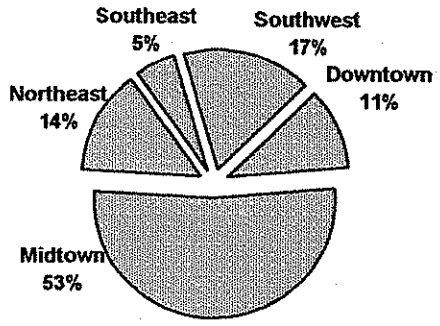
Table 2
Locational Distribution of Commercial and Industrial Land Use
Percent of Acreage in use, Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Retail	10.0%	29.8%	25.0%	3.2%	32.0%	100.0%
Services	14.4%	19.7%	18.1%	12.7%	35.1%	100.0%
Office	16.4%	47.0%	18.7%	2.1%	15.8%	100.0%
Industrial	14.2%	16.5%	20.9%	13.5%	34.8%	100.0%
Transportation	8.4%	83.8%	6.5%	0.6%	0.8%	100.0%
Total	11.1%	52.2%	14.3%	5.3%	17.2%	100.0%

Source: Compiled from Municipality of Anchorage land use records.

Figure 2

Commercial and Industrial Land Uses by Study Unit % of Total



Findings:

- The midtown study unit encompassed the most acreage (4,657 acres or 53%) devoted to commercial and industrial uses. However, this study unit has extensive transportation-related, industrially coded land uses, specifically in the vicinity of Anchorage International Airport. This accounts for a big share of the industrial and total land use acreage.
- The northeast and southwest study units had a similar amount of total acreage of commercial and industrial uses.
- The Alaska Railroad, Port of Anchorage, and other transportation-related uses (e.g., warehousing) accounted for much of the downtown industrial land uses.
- Reflecting a greater density of development, downtown has the least amount of acreage devoted to retail (by more than half) compared to the midtown, northeast, and southwest study units.
- The southwest study unit has the greatest amount of acreage used for commercial services (240 acres) of any other study unit.

Retail Land Uses. The southwest study unit contained the most retail acreage (377 acres), followed closely by the midtown (351 acres) and northeast (295 acres) study units. There were 118 acres devoted to retail uses in downtown. Southeast (38 acres) had the least acreage devoted to retail land uses. Table 3 shows a breakdown of retail land uses by study unit. Use categories come directly from the MOA land use GIS. See Appendix A.

Table 3
Retail Land Use (in Acres), Anchorage Bowl, 1994

Use	Down -town	Mid- town	North -east	South- east	South -west	Bowl- Wide
Commercial Retail*	17	174	168	12	211	581
General Merchandise	30	65	18	3	48	163
Building Materials/ Hardware	8	16	13	9	27	72
Auto, Boat, Aircraft	41	29	46	8	43	167
Retail Petroleum Sales	5	12	14	3	8	41
Food & Liquor	5	6	2	0	5	18
Eating & Drinking Establishments	13	49	35	5	35	137
Total	118	351	295	38	377	1,180

Source: Compiled from Municipality of Anchorage land use records. *Commercial Retail includes everything coded by the MOA as land use code 2000 (see appendix A.). This includes 57 parcels totaling 39 acres that are occupied by commercial buildings but were vacant at the time data was collected.

Findings:

- The greatest amount of acreage devoted to commercial retail is found in the midtown, northeast, and southwest study units. The large amount of acreage in these study areas is attributable to shopping centers such as the Northway Mall, the Sears Mall, and Dimond Center.
- The total amount of acreage devoted to retail uses is very similar among the midtown, northeast, and southwest study units.
- 35% of the retail acreage in the downtown study unit is used for businesses dealing in automobiles, boats, aircraft, and related goods.

Commercial Services Land Uses. Table 4 summarizes acreage used by commercial services. It is broken down by study unit. Commercial services were coded to encompass a wide variety of diverse services. The southwest study unit had the most acreage devoted to commercial services land uses. Commercial horticulture accounted for most of the acreage. Midtown had the second greatest amount of land devoted to commercial services. Most of it was allotted to commercial transportation services.

Table 4
Commercial Services Land Use Acreage, Anchorage Bowl, 1994

Use	Down-town	Mid-town	North -east	South -east	South -west	Bowl-Wide
Construction/Contractors*	3	8	3	9	31	54
Repair Services	9	12	22	8	27	78
Commercial Transportation Services	1	45	10	0	9	65
Personal & Home Services	3	10	3	8	17	40
Commercial Education Services	1	0	7	0	12	20
Child Day Care/Preschool	2	2	5	3	3	15
Indoor Commercial Recreation	0	17	29	2	8	55
Outdoor Commercial Recreation	0	3	10	19	0	32
Transient Lodging	25	29	7	8	1	71
Campground/RV Park	5	1	8	0	0	14
Communication-Related Facility	12	6	8	21	23	70
Commercial Parking Lots	31	1	0	0	0	32
Parking Structures	6	0	0	0	0	6
Subtotal	99	134	110	77	131	552
Commercial Horticulture	0	0	14	10	109	132
Total	99	134	124	87	240	684

Source: Compiled from Municipality of Anchorage land use records.
* Note: Construction/Contractors have both a commercial and an industrial code. The industrial code was assigned when the parcel containing the contractor's office also was used to store heavy equipment or was significantly occupied by warehousing.

Findings:

- A collection of non-retail commercial services are located mostly in the northeast, midtown, and southwest study areas, with fewer uses of this sort in the downtown and southeast study areas.
- Land uses associated with transient lodging (e.g., hotels, motels) are concentrated in the midtown and downtown study units.
- Almost all commercial parking structures and open lots are in the downtown study unit.
- Horticulture land uses are concentrated in the southwest study unit.
- Although the southeast study unit devotes the most acreage for commercial services, midtown and downtown are much more intensely developed with building improvements—mainly hotels and motels—dedicated to those uses.

Commercial Offices Land Uses. Table 5 shows the acreage used for commercial office buildings. The table is broken down by study unit. Midtown (373 acres) contained by far the most commercial office acreage, followed by northeast (108 acres) and downtown (95 acres). There were 91 acres devoted to commercial office uses in the southwest study unit. Southeast (12 acres) had the least amount of acreage devoted to office space.

Table 5
Commercial Office Building Land Use (in Acres), Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
General Office	92	263	75	10	87	528
Medical Offices	3	9	33	2	5	52
Total	95	273	108	12	91	580

Source: Compiled from Municipality of Anchorage land use records.

Findings:

- 50% of the acreage devoted to general office uses are located in the midtown study unit and over 47% (273 acres)of the total acreage devoted to commercial office buildings is located in midtown.
- The concentration of medical offices in the northeast study unit is over 63% of the total acreage used for medical services. The land uses in this study unit include hospitals, such as Providence and Alaska Regional Hospitals, as well as ancillary medical offices.

Industrial Land Uses. Table 6 shows the acreage devoted to industrial land uses. It is summarized by study unit. Industrial land uses have been separated into industrial and transportation-related industrial. These uses are coded separately in the Municipality of Anchorage database compiled by the planning department (see Appendix A). Industrial land uses (excluding transportation industries) are most heavily represented in the southwest and downtown study units. Southwest has the majority of Anchorage's construction/special trade contractors, manufacturing and processing, bulk products and outdoor storage, and warehousing-wholesaling land uses, as well as a major share of natural resource extraction uses. Most of the downtown study unit's industrial uses involve bulk and outdoor storage and warehousing related to its port and rail facilities. Northeast has a large share of land uses devoted to auto, truck and heavy equipment repair, and public utilities.

Table 6
Industrial Land Use (in Acres), Anchorage Bowl, 1994

Use	Down-town	Mid-town	North-east	South-east	South-west	Bowl-Wide
Truck, Heavy Equip. Auto body Repair	27	104	150	21	48	349
Construction Equipment Storage	17	10	22	40	114	203
Manufacturing & Processing	21	13	17	55	171	278
Natural Resource Extraction	33	0	0	70	54	157
Bulk Products/Outdoor Storage	126	38	53	51	181	449
Warehousing, Wholesale Distribution	67	67	16	26	140	317
Utility-Related Facility	32	144	217	44	81	519
Total	324	375	476	308	790	2,272

Note: Does not include transportation-related industrial uses.
Source: Compiled from Municipality of Anchorage land use records.

Findings:

- Excluding transportation-related uses, 38% of the downtown industrial use (in terms of acreage) occurs in the bulk products/outdoor storage category. In fact, 28% of the bulk products/outdoor storage Bowl wide, occurs in the downtown study unit.
- Truck, heavy equipment, and auto body repair uses are dominant in the northeast study unit, which has 32% of these uses in terms of acreage.
- In terms of acreage, the southwest study unit leads in construction equipment storage, manufacturing and processing, bulk products and outdoor storage, and warehousing/wholesale distribution.

Transportation-Related Industrial Land Uses. Table 7 describes the acreage used for transportation-related industries. Aircraft-related land uses (passenger terminals, runways and taxiways, clear zones, navigation facilities) dominate this category, comprising 86% (3,634 acres) of transportation-related acreage, mostly in the vicinity of Anchorage International Airport and Merrill Field. Midtown's air freight terminals account for another 160 acres. Downtown rail and marine facilities, truck terminals, freight forwarding and similar uses account for most of the remaining transportation land uses. Generally, transportation-related industrial land uses are very lightly developed with industrial improvements.

Table 7
Transportation Land Use (in Acres), Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Air*	6	3,354	257	11	6	3,634
Air Freight	0	160	0	0	0	160
Rail	188	0	0	0	3	191
Marine	49	0		0	0	49
Motor Vehicle	108	9	15	14	25	171
Total	352	3,523	271	25	34	4,206

Source: Compiled from Municipality of Anchorage land use records.
* A portion of the acreage in air use is used by the Anchorage International Airport, it is also, however, vacant and may be available for development. For more information, see section 1.5.1

Findings:

- Air and air-freight related uses in midtown (Anchorage International Airport) and northeast (Merrill Field) make up 90% of the transportation land use acreage.
- Air freight accounts for 4.5% of the transportation land use in midtown.
- Rail uses lead the downtown transportation land uses with 53% of the total acreage in that study unit.

Parking. In addition, the availability of on-lot parking on parcels devoted to commercial and industrial use has been summarized and mapped. This information was compiled from both the MOA land use data and the tax assessment. Using these data sources we were able to take all commercial uses (coded commercial from the MOA data base) and

determine how much of the acreage is devoted to parking. See Map 7, "On-lot Parking, Commercially and Industrially Used Parcels."

Table 8
Summary of Parking (in Acres) by Study Area, Anchorage Bowl, 1994

Study Area	Commercial Uses		Industrial Uses		Total	
	Acres	Percent	Acres	Percent	Acres	Percent
Downtown	163	16%	83	25%	247	18%
Midtown	361	36%	139	42%	500	37%
Northeast	228	22%	24	7%	259	19%
Southeast	22	2%	14	4%	36	3%
Southwest	241	24%	70	21%	310	23%
Total	1,015	100.0%	330	100.0%	1,345	100.0%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- There is three times more acreage devoted to parking for commercial uses than industrial uses.
- The midtown study unit has the greatest amount of acreage devoted to parking (37% of the total parking available).
- The southeast study unit has considerably less acreage devoted to parking than the other study units (approximately 3% of the total).
- Of the 139 acres devoted to industrial use in midtown, 42% is devoted to parking. Parking at the Anchorage International Airport accounts for this high percentage.
- Commercial uses in the downtown study unit have less acreage devoted to parking than commercial uses in the midtown, northeast, and southwest study units. This is likely due to the types of retail and the development history of downtown. Shopping centers such as the Northway, Sears, University Center, Dimond Mall and adjacent discount and big box retailers (e.g. Costco, Sam's Club, Kmart, Wal-Mart, Fred Meyer) devote large areas to on-site parking.

1.1.2 *Uses by Zoning District*

This section presents an examination of the distribution of commercial and industrial uses within the commercial and industrial zoning districts. Commercial zoning districts include: the local and neighborhood business district (B-1A), the community business district (B-1B), the central business district--core (B-2A), the central business district--intermediate (B-2B), the central business district--periphery (B-2C), the general business district (B-3), the rural business district (B-4), the planned community (PC), and the residential office district (R-O). Industrial zoning districts include: the light industrial district (I-1), the heavy industrial district (I-2), the marine industrial district (MI), the marine commercial district (MC) and the transition district (T). See Map 2 "Commercial and Industrial Zoning." A description of each commercial and industrial zone intent is contained in Appendix B.

Commercial Zoning. Table 9 depicts acreage used within each of the commercial zones, presenting a breakdown of the commercial and noncommercial uses within each zone.

Table 9
Commercial and Noncommercial Uses by Commercial Zoning District (Acres), Anchorage Bowl, 1994

Commercial Uses	B-1A	B-1B	B-2A	B-2B	B-2C	B-3	B-4	PC*	R-O	Total
Shopping Centers	8	12	4	2	3	363	11	2	0	406
Commercial Retail	21	0	6	8	4	320	1	3	3	365
Commercial Office	8	0	2	15	35	243	0	16	75	394
Other Commercial Services	5	0	5	16	23	155	12	10	2	230
Commercial Horticulture	0	0	0	0	0	4	0	1	0	5
Subtotal	42	12	18	41	65	1,086	24	32	80	1,400
Noncommercial Uses	**B-1A**	**B-1B**	**B-2A**	**B-2B**	**B-2C**	**B-3**	**B-4**	**PC***	**R-O**	**Total**
Residential	3	0	1	3	11	90	0	48	47	202
Industrial***	3	0	0	1	1	120	0	36	3	164
Institutional	3	0	5	15	10	57	0	16	48	153
Parks & Open Space	0	0	16	25	36	46	0	7	12	142
Other**	53	4	0	10	16	588	21	56	81	829
Vacant	58	9	2	5	6	423	19	*398	158	1,077
Subtotal	120	13	24	57	79	1,324	40	562	349	2,567
Grand Total	162	25	42	98	144	2410	63	593	429	3,967

Source: Compiled from Municipality of Anchorage land use records.
* It should be noted that the Planned Community (PC) zone is not a "true" commercial zone but allows for mixed uses on a development by development basis approved the Municipality. Therefore, the entire vacant acreage in the PC zone is not available for commercial uses. For more information on the acreage available for commercial uses see Table 24.
** "Other" uses include street and highway R-O-Ws, railroad R-O-Ws, and Military Reservation.
*** Of the 164 industrially used acres in the commercial zones, 27 are used for utilities.

Findings:

- The B-3 zone is the largest commercial zone with 2,410 acres or 61% of the commercial zoning acreage.
- In terms of acreage, 78% of the commercial uses in the commercial zones occur in the B-3 zone.
- 65% of the acreage in the commercial zoning districts is not used commercially. However, 42% of that acreage is vacant.
- The presence of noncommercial uses on commercially zoned parcels might indicate a shift in demand for certain commercial uses and the presence of "grandfathered" or nonconforming uses (legally existing uses at the time the underlying zoning changed).
- The table indicates that nearly 165 acres of commercially zoned land is used for industrial purposes.
- 97% of the acreage used for commercial horticulture does not occur in a commercial zoning district.
- The largest commercial use of the central business district (B-2A, B-2B, & B-2C), in terms of acreage, is commercial offices with 42% of the acreage.

- 81% of the acreage devoted to commercial use in the mixed use zones (PC and R-O) is commercial office.
- More of the PC zone is used industrially (36 acres) than commercially (32 acres).
- The PC zone with the largest portion designated for commercial uses is located in the Ship Creek area, in the downtown study unit.
- 120 acres of the B-3 zone are used industrially, 24 acres of which are used for utilities.
- It should be noted that not all of the uses in the noncommercial summaries are necessarily "nonconforming." The "Other" category includes acreage used by street, highway, and railroad rights-of-way which are not technically nonconforming uses. Moreover, residential uses are allowed in the PC and R-O zoning districts. These districts are more flexible, mixed-use zones.
-

Industrial Zoning. Similar to the preceding table, Table 10 describes how each of the industrial zones is used by presenting a breakdown of the industrial and nonindustrial uses within each zone. Transportation-related facilities account for the largest industrial use category in any zone, accounting for nearly 700 acres throughout the Bowl. The significant amount of acreage used for transportation-related facilities primarily consists of the Anchorage International Airport, Merrill Field, and the Port of Anchorage. Of particular note, is the amount of industrially-zoned acreage that is used commercially (nearly 700 acres).

Table 10
Industrial and Nonindustrial Uses by
Industrial Zoning District (Acres), Anchorage Bowl, 1994

Industrial Uses	I-1	I-2	MC	MI	T	Total
Truck, Heavy Equip. Auto Repair	114	50	0	0	36	200
Construction/Special Trades	108	58	0	0	0	167
Manufacturing & Processing	70	180	0	0	0	250
Natural Resource Extraction	14	58	0	0	0	72
Bulk Products & Outdoor Storage	185	132	1	50	4	373
Warehousing, Wholesaling	150	65	25	5	35	280
Transportation-Related Facilities	394	193	0	103	*2,880	3,569
Utility-Related Facilities	75	32	0	2	68	176
Other Industrial	1	3	6	1	0	12
Subtotal	1,110	772	32	161	3,023	5,098

Table 10 Continued

Nonindustrial Uses	I-1	I-2	MC	MI	T	Total
Residential	46	4	0	0	37	87
Commercial	638	53	0	0	146	837
Institutional	29	0	0	0	56	85
Parks & Open Space	75	7	0	0	393	475
Other**	779	296	5	33	773	1,886
Vacant	721	365	2	0	*206	1,294
Water	18	0	203	430	225	876
Subtotal	2,305	725	209	463	1,836	5,538
Grand Total	3,416	1,497	241	624	4,859	10,637

Source: Compiled from Municipality of Anchorage land use records
* The portion of the transportation related industrial that is at the Anchorage International Airport that is undeveloped has been coded as a transportation land use. For information on the amount of acreage available for development in the Transition zone at the airport see Section 1.5.1.
** "Other" uses include street and highway R-O-Ws, railroad R-O-Ws, and Military Reservation.

Findings:

- 638 acres of the I-1 zoning district are used commercially. That represents 18.6% of the total acreage in that zone.
- The industrial use (in terms of acreage) of marine zones at the Port of Anchorage are predominately in warehousing and transportation-related industries.
- 81% of the acreage being used for transportation related facilities occurs in the transition zone (T), which is concentrated around the Anchorage International Airport. The Anchorage International Airport comprises most of that usage.
- 1,294 acres of the acreage zoned industrial is vacant. In addition to this acreage, there is vacant acreage at the Anchorage International Airport that is coded as transportation related but is undeveloped. Approximately 84% of the vacant industrially zoned acreage not at the airport is in the I-1 or I-2 zones.

1.2 Building Improvements

This section contains a summary of building improvement information by land use code and study unit. Building improvements, in square feet, compiled from tax assessment information and linked to the land use data base are described in Tables 11 and 12 and on Map 3, "Commercially Used Parcels, Building Square Footage Classified by Size" and Map 4 "Industrially Used Parcels, Building Square Footage Classified by Size." The spatial distribution of land uses compared to square footage of building improvements shows the downtown and midtown study unit's more intensive development in retail, services, office, industrial, and transportation improvements.

Table 11
Locational Distribution of Building Improvements (Square Feet) for Commercial and Industrial Land Uses, Anchorage Bowl, 1994

	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Retail	2,835,971	4,885,979	3,798,831	352,833	4,141,662	16,015,276
Services	2,737,198	2,769,990	932,005	340,291	1,252,351	8,031,835
Office	5,150,336	5,514,698	1,684,240	136,673	1,297,472	13,783,419
Industrial	3,254,272	2,854,166	731,973	843,934	3,831,141	11,515,486
Transportation	950,900	2,129,620	134,228	90,421	228,650	3,533,819
Total	14,928,677	18,154,453	7,281,277	1,764,152	10,751,276	52,879,835

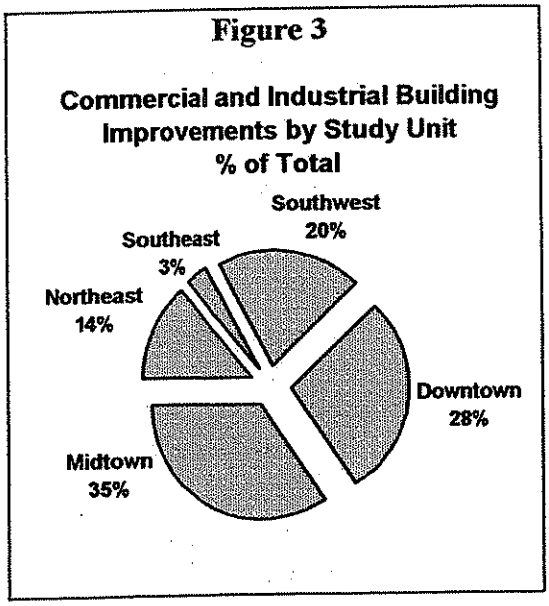
Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Table 12
Locational Distribution of Building Improvements (Percentage of Square Footage) for Commercial and Industrial Land Uses, Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Retail	17.7%	30.5%	23.7%	2.2%	25.9%	100.0%
Services	34.1%	34.5%	11.6%	4.2%	15.6%	100.0%
Office	37.4%	40.0%	12.2%	1.0%	9.4%	100.0%
Industrial	28.3%	24.8%	6.4%	7.3%	33.3%	100.0%
Transportation	26.9%	60.3%	3.8%	2.6%	6.5%	100.0%
Total	28.2%	34.3%	13.8%	3.3%	20.3%	100.0%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Figure 3



Findings:

- The midtown study unit leads all other study units in the amount (square footage) of building improvements in retail, services, office, transportation land use categories.
- The southeast study unit has the smallest amount of development of any of the study units in terms of building improvement square footage.
- The southwest study unit has the greatest amount of square footage of building improvements in the industrial category (excluding transportation-related land uses) of any study unit (33% of the total industrial square footage).

Retail Improvements. Table 13 describes building improvements on retail parcels both by study unit and Bowl-wide. Of particular interest is the overall concentration of shopping centers in the midtown, northeast, and southwest study units and a corresponding concentration of eating and drinking establishments.

Table 13
Building Improvements (Square Feet) on Retail Parcels, Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Shopping Centers	710,074	2,319,121	2,611,946	159,388	2,320,780	8,121,309
General Merchandise	991,961	1,243,975	272,145	41,182	801,826	3,351,089
Building Materials, Hardware	153,803	359,448	258,305	67,206	321,721	1,160,483
Auto, Boat, Aircraft	513,649	290,759	369,530	39,007	391,813	1,604,758
Retail Petroleum Sales	39,170	61,510	37,951	2,980	20,055	161,666
Food & Liquor	99,884	105,158	26,428	2,800	48,341	282,611
Eating & Drinking	327,430	506,008	222,526	40,270	237,126	1,333,360
Total	2,835,971	4,885,979	3,798,831	352,833	4,141,662	16,015,276

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- 51% of the square footage of retail building improvements throughout the Bowl has been in shopping centers, predominantly in the midtown, northeast, and southwest study units. These units correspond to the Sears Mall area, Northway Mall area, and Dimond Center area, respectively.

Commercial Services Improvements. Table 14 describes building improvements on commercial services parcels by study unit and throughout the Bowl. The concentration of these uses seems to be in the downtown, midtown, and southwest study units.

Table 14
Building Improvements (Square Feet) on
Commercial Services Parcels, Anchorage Bowl, 1994

Use	Down-town	Mid-town	North-east	South-east	South-west	Bowl-Wide
Construction/Contractors*	20,402	115,922	44,398	124,027	400,011	704,760
Repair Services	137,906	167,727	209,016	48,852	337,901	901,402
Commercial Transportation Services	12,082	321,459	39,707	0	60,893	434,141
Personal & Home Services	66,594	153,947	28,543	30,614	188,889	468,587
Commercial Education Services	32,808	5,650	19,381	0	109,040	166,879
Child Day Care/Preschool	23,212	24,788	40,123	27,282	27,487	142,892
Indoor Commercial Recreation	0	277,832	350,818	30,072	80,036	738,758
Outdoor Commercial Recreation	0	0	3,360	34,967	0	38,327
Transient Lodging	2,048,794	1,666,442	130,545	1,640	27,826	3,875,247
Campground/RV Park	1,404	0	14,400	0	0	15,804
Communication-Related Facility	234,214	36,223	50,544	32,583	10,714	364,278
Commercial Parking Lots	67,072	0	0	0	0	67,072
Parking Structures	92,710	0	0	0	0	92,710
Subtotal	2,737,198	2,769,990	930,835	330,037	1,242,797	8,010,857
Commercial Horticulture	0	0	1,170	10,254	9,554	20,978
Total	2,737,198	2,769,990	932,005	340,291	1,252,351	8,031,835

Source: Compiled from Municipality of Anchorage land use and tax assessment records.
* Note: Construction/Contractors have both a commercial and an industrial code. The industrial code was assigned when the parcel containing the contractor's office also was used to store heavy equipment or was significantly occupied by warehousing.

Findings:

- 53% of the square footage of building improvement in transient lodging land uses occurs in the downtown study unit.
- 57% of the square footage of building improvement in construction/contractor land uses occurs in the southwest study unit.
- 65% of the square footage of building improvement in commercial education services land uses occurs in the southwest study unit.
- 64% of the square footage of building improvement in communication-related facilities land uses occurs in the downtown study unit.
- All the commercial parking lots and parking structures are in the downtown study unit.

Commercial Offices Improvements. Table 15 describes building improvements on commercial office parcels by study unit and throughout the Bowl. The midtown study unit exceeds the downtown study unit in its volume of commercial office building space, but this may not reflect the downtown study unit's generally greater development density. Nearly two-thirds of medical office space was in the northeast study unit.

Table 15
Building Improvements (square feet) on
Commercial Office Parcels, Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
General Office	5,111,172	5,370,464	1,060,641	91,003	1,259,615	12,892,895
Medical Services	39,164	144,234	623,599	45,670	37,857	890,524
Total	5,150,336	5,514,698	1,684,240	136,673	1,297,472	13,783,419

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- 81% of the general offices building improvement square footage occurs in the downtown and midtown study units.
- 70% of the medical services building square footage occurs in the northeast study unit, the majority of which is attributable to Providence and Alaska Regional hospitals.

Industrial Improvements. Warehouses account for the largest share of industrial buildings, followed by manufacturing and processing, and auto body, truck and heavy equipment repair. Overall, however, industrial land uses are lightly developed with building improvements.

Table 16
Building Improvements (square feet) on
Industrial Parcels, Anchorage Bowl, 1994

Use	Down-town	Mid-town	North-east	South-east	South-west	Bowl-Wide
Truck, Heavy Equip. Auto body Repair	179,468	782,810	153,928	126,717	209,523	1,452,446
Construction/Special Trade Contractors	198,178	30,418	54,772	198,239	512,471	994,078
Manufacturing & Processing	462,381	727,104	199,466	185,645	604,696	2,179,292
Natural Resource Extraction	11,899	0	0	0	22,037	33,936
Bulk Products/Outdoor Storage	478,915	265,136	93,818	30,449	268,422	1,136,740
Warehousing, Wholesale Distribution	1,892,511	956,319	228,285	293,845	2,085,179	5,167,445
Utility-Related Facility	30,920	92,379	1,704	9,039	128,813	262,855
Total	3,254,272	2,854,166	731,973	843,934	3,831,141	11,515,486

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- Warehousing and wholesale distribution has the greatest amount of industrial building improvement square footage (excluding transportation-related uses) in every study area, and accounts for 45% of the industrial building improvement square footage (excluding transportation-related uses) Bowl-wide.
- Over 2 million square feet, or 18% of the total industrial building improvement square footage (excluding transportation-related uses) is attributed to warehousing and wholesale distribution occurring in the southwest study unit.

- Excluding transportation-related uses, warehousing and wholesale distribution also dominates the industrial uses in the downtown study unit with over 58% of the industrial building improvement square footage in that study unit.

Transportation-Related Improvements.

Transportation-related industrial improvements are dominated by air freight facilities in the midtown study unit, which account for about 56% of the transportation-related industrial building footage. Most of the balance (39%) consists of motor vehicle facilities, such as truck terminal and freight forwarding facilities, concentrated in the downtown and southwest study units.

Table 17
Building Improvements (square feet) on Transportation Parcels
Anchorage Bowl, 1994

Use	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Air	35,916	102,966	18,999	0	0	157,881
Air Freight	0	1,980,080	0	0	0	1,980,080
Rail	32,825	0	0	0	0	32,825
Marine	1,920	0		0	0	1,920
Motor Vehicle	880,239	46,574	115,229	90,421	228,650	1,361,113
Total	950,900	2,129,620	134,228	90,421	228,650	3,533,819

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- The midtown study unit accounts for the majority of the transportation-related industrial building improvement square footage Bowl-wide (60%).
- 97% of the transportation-related industrial building improvement square footage in the midtown study area is in the air or air freight land uses.
- Motor vehicle land uses, such as bus terminals, truck terminals, and heavy freight forwarding, dominated the downtown study unit with over 92% of the transportation-related industrial building improvement square footage in that study unit.

1.3 Acreage and Parcel Size

Commercial Zones. Table 18 summarizes acreage and parcel sizes in the commercial zoning districts within the Anchorage Bowl. The purpose of this table is to depict the amount of land available (i.e., zoned appropriately for commercial uses) to accommodate projected demand. By far the largest commercial zone is the B-3 zone with 2,410 acres. The largest parcel (170.6 acres) is also located in the B-3 zone. Not surprisingly, the B-3 zone also contains the largest amount of vacant acreage (423 acres) of any of the zones.

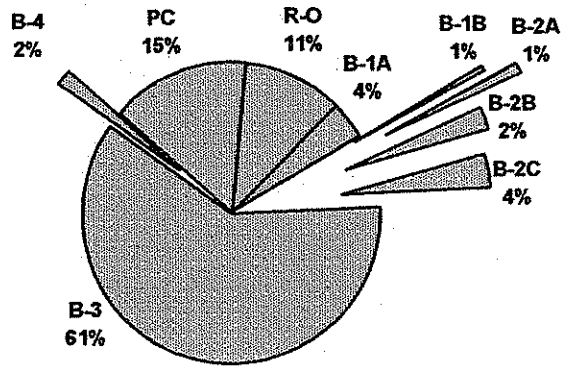
Table 18
Acreage Summary of Commercial Zones,
Anchorage Bowl, 1994

Zones	All Land Uses Total (Acres)	Mean (Acres)	Largest (Acres)	Records #
B-1A	161	1.00	15.63	160
B-1B	25	3.12	6.60	8
B-2A	42	0.41	14.21	101
B-2B	98	0.37	24.70	269
B-2C	144	0.31	15.51	460
B-3	2,410	0.84	170.62	2,879
B-4	63	4.22	10.56	15
PC*	189	1.43	40.65	132
R-O	429	0.75	12.30	575
Total	3,561	0.67	170.62	4,599

Source: Compiled from Municipality of Anchorage land use records.
* It should be noted that the Planned Community (PC) zone is not a "true" commercial zone but allows for mixed uses on a development by development basis approved the Municipality. Only the acreage actually approve for commercial uses is shown in the table.

Findings:

Figure 4
Acreage by Zoning District
Percent of Total



- The downtown commercial zones (B-2A, B-2B, B-2C) are smaller on average, reflecting the development pattern of greater density and intensity of development in the downtown study unit.
- The largest commercial zone in terms of acreage is the B-3 zone with 2,410 acres. The B-3 zone also has the largest parcel at 170 acres.
- The average sized commercially zoned parcel is .67 acres.
- The average size of parcels in the B-4 zoning district is over 4 acres, greater than any other district.

Industrial Zones. Table 19 summarizes the acreage industrially zoned (I-1, I-2, MC, MI, and T) in the Anchorage Bowl. The purpose of the table is to depict the amount of land available (i.e. zoned appropriately for industrial use) to meet projected demand. The

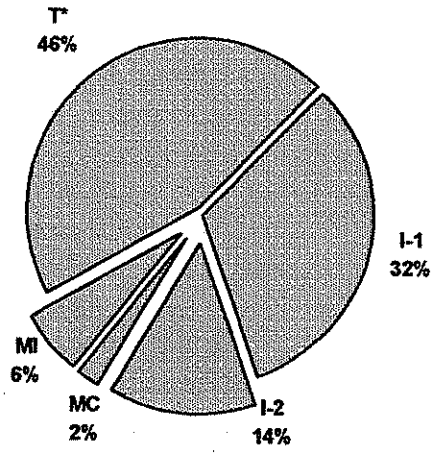
largest industrial zone is the I-1 zone with 3,415 acres. The largest parcel (187 acres) is located in the MI zone.

Table 19
Acreage Summary of Industrial Zones
Anchorage Bowl, 1994

Zones	All Land Uses			
	Total (Acres)	Mean (Acres)	Largest (Acres)	Records #
I-1	3,415	1.5	97	2,289
I-2	1,497	2.8	138	538
MC	241	7.8	73	31
MI	624	12.0	187	52
T	4,859	7.5	277	630
Total	10,636	3.0	277	3,540

Source: Compiled from Municipality of Anchorage land use records.

Figure 5
Acreage by Industrial Zoning District
Percent of Total



Findings:

- The T zone is the largest industrial zone, with over 4,800 acres.
- Excluding the T zone, which is somewhat skewed by large parcels at the Anchorage International Airport, the largest industrial zoning district is the I-1 zone with 3,415 acres.
- Excluding the T zone, the largest industrial parcel is located in the MI zone.
- The MI zone also has by far the largest average parcel size at over 12 acres.

1.4 Physical Condition

This section presents an assessment of the condition of buildings being used commercially or industrially. The condition of the buildings is reported in two different ways. The first is by a rating assigned by the municipal tax assessor, the second is by a calculation of the assessed value normalized by dividing by the square feet of building area.

Table 20 shows a summary of the building grade assigned by the assessor for parcels used commercially or industrially. This table indicates the quality of the commercial and industrial building inventory bowl-wide. The purpose of the table is to give an indication of the quality of existing commercially and industrially used buildings. Building grade is one indicator of the ability of the existing land use base to accommodate projected demand. See Map 5, "Commercially Used Parcels, Building Physical Condition Rating" and Map 6, "Industrially Used Parcels, Building Physical Condition Rating."

Table 20
Summary of Tax Assessor Building Grade
Commercially and Industrially Used Buildings, Anchorage Bowl, 1994

Rating	Commercial	Industrial
Very Good	9.9%	1.6%
Good	25.3%	22.9%
Average	56.1%	62.3%
Fair	8.7%	13.2%
Poor	0.0%	0.1%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- Over 90% of the stock of commercially used buildings are rated as average or better by the municipal tax assessor
- Over 86% of the stock of industrially used buildings are rated as average or better by the municipal tax assessor.
- The industrial building stock is not rated as highly with only 24.5% rated good or very good compared to the commercial stock which has 35.2% rated good or very good.

Another important measure of the physical condition of the building supply is the assessed value per square foot of building area. Table 20 indicates the average assessed value per square foot of building area by study unit. This measure indicates the value of the commercial and industrial buildings within each study unit as determined by the assessor. Dividing by the square footage of the building puts the buildings in units that are comparable between building and study units.

Table 21
Average Assessed Value per Square Foot of Building Area, in Commercial Use, by Study Unit, Anchorage Bowl, 1994

Study Unit	Commercial	Industrial
Downtown	$28.74	$21.03
Midtown	$30.52	$20.48
Northeast	$38.37	$21.22
Southeast	$36.40	$22.22
Southwest	$31.74	$22.61

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- There is less variability across study units for industrially used buildings than for commercially used buildings, with values varying about 2$ per square foot.
- Industrial buildings have a lower assessed value per square (by $8 to $17) foot than commercially used buildings.
- One potential explanation for the downtown and midtown study units having lower values is that public buildings are not considered commercial. Moreover, the tax assessor does not provide assessed value information for public buildings therefore the high density of public buildings in downtown and midtown is not included in the figures.

1.5 Land Supply Analysis

In this section, information on the availability of vacant and redevelopable parcels is presented. The supply of vacant land zoned for commercial and industrial development is analyzed for amount, environmental constraints, serviceability, and accessibility. The environmental constraints that are investigated include wetlands, floodplains, steep slopes, and seismic hazards.

1.5.1 *Vacant Land Supply*

Vacant Commercial Zoning. This section presents an analysis of the supply of vacant land that is zoned commercially or industrially. Table 23 summarizes the supply of vacant commercially zoned land within the Anchorage Bowl by zoning district. Parcel size can be an important factor in business investment decisions (See Site Requirements section). Maps 8 through 13 depict the vacant commercially and industrially zoned parcels within the Anchorage Bowl.

Table 23
Acreage Summary of Vacant, Commercially Zoned Land by District, Anchorage Bowl, 1994

Zones	Total (Acres)	Mean (Acres)	Largest (Acres)	Records #
B-1A	58	2.6	16	22
B-1B	9	3.0	4	3
B-2A	2	1.0	2	2
B-2B	5	0.5	3	10
B-2C	6	0.2	2	26
B-3	423	0.8	17	521
B-4	19	3.7	10	5
PC	126	2.7	41	46
R-O	158	0.9	12	179
Total	806	1.0	41	814

Source: Compiled from Municipality of Anchorage land use records.

Figure 6
Acreage of Vacant Commercial Zoning
Percent of Total

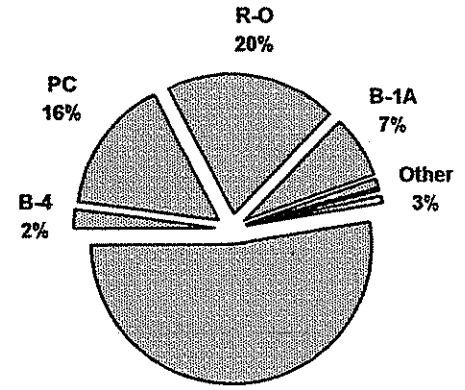


Table 24 summarizes the acreage of vacant commercially zoned land by study unit.

Table 24
Acreage of Vacant Commercially Zoned Land by Study Unit, Anchorage Bowl, 1994

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
B-1A	0	0	12	35	10	57
B-1B	0	0	0	0	9	9
B-2A	2	0	0	0	0	2
B-2B	5	0	0	0	0	5
B-2C	6	0	0	0	0	6
B-3	17	145	82	76	103	423
B-4	0	0	0	13	6	19
PC	49	0	0	41	38	128
R-O	12	31	80	26	8	157
Total	91	177	174	190	174	806

Source: Compiled from Municipality of Anchorage land use records.

Findings:

- Over 52% of the commercially zoned vacant land is in the B-3 zone.
- The downtown commercial zones (B-2A, B-2B, and B-2C) have a relatively small amount of vacant land (approximately 1.6% of the total supply).
- The average size of a commercially zoned, vacant parcel is 1 acre.
- The PC zone is a mixed use zone with only a portion actually approved for commercial uses. The PC zone is primarily located at Ship Creek and Southport.

Vacant Industrial Zoning. Table 25 summarizes the supply of vacant industrially zoned land within the Anchorage Bowl by zoning district. Table 26 summarizes the acreage of vacant industrially zoned land by study unit. There are over 1,000 vacant acres industrially zoned. The majority of the acreage is located in the southwest study unit.

Table 25
Acreage Summary of Vacant, Industrially Zoned Land by District, Anchorage Bowl

Zones	Total (Acres)	Mean (Acres)	Largest (Acres)	Records #
I-1	721	1.4	25	506
I-2	365	3.1	39	119
MC	2	2.2	2	1
MI	0	NA	NA	0
T*	850	11.8	262	72
Total	1,938	2.8	262	698

Source: Compiled from Municipality of Anchorage land use records.
* Approximately 646 of these acres are located at the Anchorage International Airport coded by the municipality as used for "aircraft transportation" but available for development. The Anchorage International Airport reports that they have 1,256 acres available for development. The discrepancy is due in large part to lands zoned PLI (public lands and institution) that are not analyzed in this study but that the AIA counts as developable. The total developable acreage at the airport is likely closer to 1,256 acres.

Figure 7
Acreage of Vacant Industrial Zoning Percent of Total

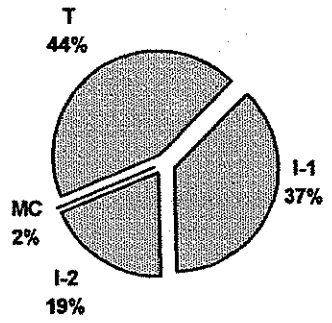


Table 26
Vacant Industrially Zoned Land by Study Unit, Anchorage Bowl, 1994

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
I-1	13	102	55	125	426	721
I-2	67	0	5	17	276	365
MC	2	0	0	0	0	2
MI	0	0	0	0	0	0
T	0	690*	146	0	16	850
Total	82	792	206	141	718	1938

Source: Compiled from Municipality of Anchorage land use records.
* See note for Table 25.

1.5.2 *Redevelopable Land Supply*

The future supply of land available for commercial and industrial development will not depend solely on vacant land. Redevelopment of parcels currently in use will also be an important factor. Additional land may become "developable" depending on a number of factors including, but not limited to, its location, its current use (is it the most efficient use), and other constraints. This section describes the supply of land zoned for

commercial and industrial development that could become available for redevelopment within the study period.

To analyze redevelopable land, a methodology which relied on the ratio between the assessed building value to the assessed land value was used. Parcels where the assessor has assigned no value to a building on a lot have a ratio of 0. These parcels, while considered in use, have a high redevelopment potential. Examples of these types of parcels include parking lots, outdoor storage, etc. Parcels that have a building and where the land value is greater than the building value will have a ratio less than 1. These parcels were considered to have a "moderate" redevelopment potential. Parcels where the ratio was between 1 and 2 were considered to have a "low" redevelopment potential. On these parcels the building value was greater than the land value by up to 2 times the land value (ratio of 2). Parcels where the ratio was greater than 2 were considered to be fully developed, and were not considered to have redevelopment potential for the purposes of the analysis.

Tables 27 and 28 indicate the percentage by acreage zoned for commercial or industrial uses, within each of the ratio ranges, by study unit. Land uses which have been coded as vacant (i.e. not in use) are not included in this analysis but are analyzed in section 1.5.1. Land that is tax exempt, (government owned or non-profit organizations) or has no tax assessment information and is also not included in the analysis. It should be noted that the methodology is less accurate for industrially zoned parcels because fully developed uses could be more land intensive than building intensive. For example the land might be used for storing equipment or for gravel mining for instance, with the building consisting of a trailer. In such a case the ratio would be small.

Table 27
Percentage of Redevelopable Commercially Zoned Land
by Study Unit

Redevelopment Potential	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-wide
High	12%	8%	7%	7%	19%	11%
Moderate	31%	26%	27%	42%	15%	25%
Low	18%	26%	30%	20%	29%	26%
Fully Developed	39%	39%	36%	30%	37%	37%
Total	100%	99%	100%	99%	100%	99%

* Note: columns do not necessarily total 100% because of rounding.
Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Figure 8
Distribution of the High Commercial Redevelopment Potential Acreage

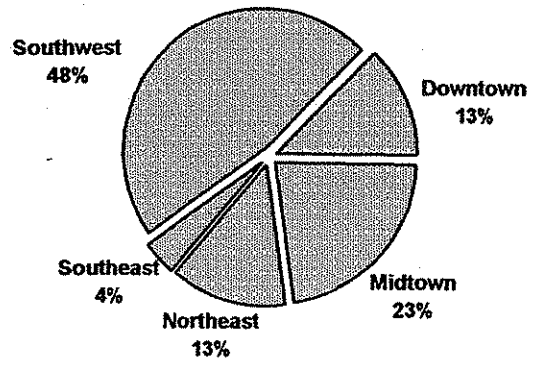


Figure 8 shows the distribution of the acreage (in terms of percentages) that is rated as having a "high" redevelopment potential.

Findings:

- Overall, approximately 36% of the commercially zoned land was rated as having a moderate or better redevelopment potential.
- The southwest study unit has the most acreage rated as high redevelopment potential with 48% of the acreage.
- The southeast study unit had the lowest amount of redevelopable land, this reflects the considerably lower amount of commercially zoned land in this study unit.

Table 28
Percentage of Redevelopable Industrially Zoned Land by Study Unit

Development Potential	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-wide
High	28%	55%	46%	50%	31%	44%
Moderate	35%	7%	27%	29%	41%	24%
Low	7%	5%	10%	9%	11%	8%
Fully Developed	30%	33%	17%	12%	16%	24%
Total	100%	100%	100%	100%	100%	100%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- According to the methodology, 55% of the industrial zoning in midtown has a high redevelopment potential.
- Bowl-wide approximately 68% of the industrially zoned acreage is rated as having a moderate or better redevelopment potential.

1.5.3 *Environmental Constraints*

This section presents an analysis of environmental constraints that could impact the availability of vacant commercially and industrially zoned land. The environmental constraints which were assessed include wetlands, floodplains, seismic, and slope hazards. The acreage of vacant commercially and industrially zoned parcels that are impacted by these environmental constraints is presented in Table 27. See Maps 8, 9, 10,

and 13 for both commercial and industrial zoned lands in relation to environmental constraints. Acreage that was identified for redevelopment potential is not included in the analysis. It was assumed that because this acreage has already been developed that it did not face environmental constraints that would preclude its redevelopment.

Table 29
Summary of Commercially and Industrially Zoned Vacant Parcels Impacted by Environmental Constraints, Anchorage Bowl, 1994

Constraint	Commercial Zoning		Industrial Zoning	
	Acreage of the Parcels Affected	Percent of Total Vacant Commercial Land Supply	Acreage of the Parcels Affected	Percent of Total Vacant Industrial Land Supply
Preservation Wetlands	41	5%	425	22%
Conservation Wetlands	72	9%	310	16%
100 Year Floodplain	72	9%	260	13%
Floodway	40	5%	91	5%
Moderately Steep Slopes	0	0%	0	0%
Steep Slopes	0	0%	0	0%
High Seismic Hazard	42	5%	168	9%
Overall	178	22%	634	33%
AIA Wetlands	0	0%	267	14%

Source: Compiled from Municipality of Anchorage land use records and digital environmental information.
Note: Because of limitations with ArcView, the acreage reported does not indicate the acreage actually constrained. If only a portion of a parcel is impacted by a given environmental constraint, the entire parcel's acreage is included in the table, not just the portion impacted. For instance, a 20 acre parcel with one acre of wetlands is counted as 20 acres. Moreover, often the same area of the parcel is impacted by two or more hazards. For example, flood hazard areas closely coincide with wetland areas. Therefore, rows are not mutually exclusive, and columns do not total.

Findings:

- 95% of the vacant commercial land supply is completely outside the preservation wetland category (MOA Wetlands Plan classifications).
- 22% of the vacant industrial land supply is in parcels which have some preservation wetlands located on the parcel. Of that acreage, 62% is at the Anchorage International Airport.

1.5.4 *Serviceability of Vacant Land*

This section presents an analysis of the sewer and water utility services available to the vacant land supply. Serviceability can be a site development consideration for commercial and industrial users. Electrical utilities were examined and determined to not be a major site development consideration for commercial retail, office, and light industrial uses in that these services are considered to be generally available in the Bowl. However, electrical utilities may become a consideration in the event a heavy industrial user were to locate in the Southwest study unit (see Findings Report). The percentage of vacant land (acreage) by study unit which is served by water and sewer services for

commercially and industrially zoned lands are presented in Tables 30 and 31 respectively. The information provided in this section was compiled by merging tax assessment record with land use records. Because tax assessment information is not kept for public land, areas such as the Alaska Railroad and Anchorage International Airport are not included in the data. Maps 11A and 11B indicate the availability of water and sewer (respectively) in relation to vacant commercially and industrially zoned parcels.

Table 30
Acreage Summary of Vacant Commercially Zoned Land
Percentage of the Acreage Served by Sewer and Water Utilities
Anchorage Bowl, 1994

Utility	Downtown	Midtown	Northeast	Southeast	Southwest	Total
No Utilities	2%	2%	20%	35%	30%	22%
Private Water & Septic	0%	1%	0%	6%	2%	2%
Private Water-Public Sewer	0%	0%	5%	0%	1%	1%
Commercial Water, Public Sewer	0%	0%	0%	5%	0%	1%
Public Water only	26%	7%	3%	15%	2%	7%
Public Water, Holding Tank	0%	0%	1%	0%	0%	0%
Public Water, Septic	0%	3%	0%	0%	62%	26%
Public Water & Sewer	54%	84%	69%	35%	0%	36%
Public Sewer only	19%	3%	1%	4%	4%	5%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- Approximately 22% of the vacant commercially zoned land supply is not served by sewer and water utilities. 65% of this acreage is in the southeast and southwest study units.
- 43% of the vacant commercially zoned land supply is served by public sewer.
- 69% of the vacant commercially zoned land supply is served by public water.
- Downtown and Midtown have the highest percentage (96%) of vacant commercially zoned land served by some type of sewer and water utilities.

Table 31
Summary of Vacant Industrially Zoned Land
Percentage of the Acreage Served by Sewer and Water Utilities Anchorage Bowl, 1994

Utility	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
No Utilities	67%	25%	72%	8%	36%	39%
Private Water & Septic	0%	0%	0%	0%	2%	1%
Private Water-Public Sewer	0%	0%	0%	4%	0%	1%
Commercial Water only	0%	0%	0%	3%	0%	0%
Public Water only	0%	5%	12%	1%	19%	13%
Public Water, Septic	0%	1%	0%	0%	0%	0%
Public Water & Sewer	31%	68%	16%	59%	31%	36%
Public Sewer only	2%	2%	0%	25%	12%	10%

Source: Compiled from Municipality of Anchorage land use and tax assessment records. Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

Findings:

- 47% of the vacant industrially zoned acreage Bowl-wide is served by public sewer.
- 49% of the vacant industrially zoned acreage Bowl-wide is served by public water.
- 61% of the vacant industrially zoned acreage Bowl-wide is served by sewer and water utilities.
- While 67% of the vacant industrially zoned acreage located downtown is not served by sewer and water utilities, this percentage comprises only 82 acres. Much of this acreage is located at Ship Creek.

The following two tables (32 and 33) contain information from a buffering analysis of available GIS data. Buffering analysis was used to determine the parcels within a given distance from both water and sewer lines. Distance is measured to the property boundary. If only a portion of the parcel is within a given distance, the entire parcel's acreage was calculated in determining the percentage. For example, we can tell from the table that 95% of the vacant commercially zoned acreage has a waterline within 500 feet of any parcel boundary.

Table 32
Buffer Analysis: Serviceability
Vacant Commercially Zoned Acreage
Relative to Water and Sewer Utilities

Distance	Water Lines	Sewer Lines
Within 100 feet	80%	76%
Within 200 feet	88%	86%
Within 300 feet	91%	94%
Within 400 feet	94%	95%
Within 500 feet	95%	96%
Greater than 500 feet*	5%	4%

Source: Compiled from Municipality of Anchorage land use and public works data.

Table 33
Buffer Analysis: Serviceability
Vacant Industrially Zoned Acreage
Relative to Water and Sewer Utilities

Distance	Water Lines	Sewer Lines
Within 100 feet	74%	64%
Within 200 feet	82%	74%
Within 300 feet	87%	80%
Within 400 feet	91%	91%
Within 500 feet	92%	92%
Greater than 500 feet*	8%	8%

Source: Compiled from Municipality of Anchorage land use and public works data.
Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

Findings:

- Vacant commercially zoned land has relatively good access to utilities with only 5% of the acreage farther than 500 feet from water lines and only 4% farther than 500 feet from sewer lines.
- 8% of the vacant industrially zoned acreage is farther than 500 feet from water lines sewer lines.

1.5.5 *Site Accessibility of Vacant Land*

This section describes the accessibility of vacant commercially and industrially zoned land. Accessibility was examined from several different perspectives including the municipal assessor's rating of accessibility (street features, traffic volumes), the Official Streets and Highways Plan, and proximity to other features such as the port, airport, and railroad. Tables 34 and 35 present the acreage of vacant land, zoned commercial and industrial (respectively) which the tax assessor has indicated have the listed access characteristics. Because tax assessment information is not kept for public land, areas such as the Alaska Railroad and Anchorage International Airport are not included in the data. However, these transportation features as they relate to commercial and industrial development are discussed in more detail in the Findings Report.

Table 34
Vacant Commercially Zoned Acreage
Rated for Site Accessibility (Percent) by the Municipal Assessor
by Study Unit, Anchorage Bowl, 1994

Rating	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Good	96%	91%	93%	96%	91%	93%
Poor	2%	6%	5%	2%	0%	2%
None	2%	3%	1%	2%	9%	5%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- In every study area, over 90% of the vacant commercially zoned land was rated as having good accessibility by the municipal tax assessor.
- The southwest study unit has the highest percentage of vacant commercially zoned land with no access (9%)
- 7% of the vacant commercially zoned acreage throughout the Bowl has poor or no accessibility.

Table 35
Vacant Industrially Zoned Land
Rated for Site Accessibility (Percent) by the Municipal Assessor
by Study Unit, Anchorage Bowl, 1994

Rating	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Good	99%	73%	100%	94%	78%	84%
Poor	1%	0%	0%	0%	3%	2%
None	0%	27%	0%	6%	19%	14%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.
Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

Findings:

- Industrially zoned land in the downtown, northeast, and southeast study units has good accessibility, with over 90% of the acreage in these study units receiving a "good" rating from the municipal tax assessor.
- The midtown and southwest study units have slightly poorer accessibility to vacant industrially zoned acreage, with only 73% and 78% (respectively) of the acreage rated "good" by the municipal assessor.

Table 36 through 39 present the percentage of acreage of vacant land, zoned commercial or industrial which the tax assessor has indicated have the listed street and traffic characteristics.

Table 36
Percentage of Vacant Commercially Zoned Land
With Selected Street Features by Study Unit, Anchorage Bowl, 1994

Feature	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Paved	50%	27%	26%	32%	31%	31%
Paved, Curb, & Gutter	47%	64%	49%	11%	46%	44%
Dirt	2%	5%	25%	54%	21%	24%
Paved Cul-de-sac	0%	0%	0%	0%	1%	0%
None	2%	3%	1%	2%	1%	2%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- Over 90% of the vacant commercially zoned acreage in downtown and midtown (and 75% throughout the Bowl) is served by paved roads.
- Only 2% of the vacant commercially zoned acreage throughout the Bowl has no access.

- The southeast study unit has the highest percentage of vacant commercially zoned land that is accessible only by dirt roads (54%).

Table 37
Percentage of Vacant Industrially Zoned Land
With Selected Street Features by Study Unit, Anchorage Bowl, 1994

Feature	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
Paved	22%	33%	50%	39%	33%	36%
Paved, Curb, & Gutter	77%	34%	37%	15%	12%	22%
Dirt	1%	6%	13%	40%	36%	28%
None	0%	27%	0%	6%	19%	14%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.
Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

Findings:

- 58% of the vacant industrially zoned land throughout the Bowl is served by paved roads.
- 99% of the vacant industrially zoned acreage in the downtown study unit, which includes the port and railroad areas, is served by paved roads.
- 33% of the vacant industrially zoned acreage in the southwest study unit is served by paved roads.

Table 38
Percentage of Vacant Commercially Zoned Land
With Traffic Volumes by Study Unit, Anchorage Bowl, 1994

Volume	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
High	26%	53%	52%	11%	12%	25%
Medium	33%	32%	19%	15%	11%	18%
Low	39%	12%	26%	73%	76%	55%
None	2%	3%	2%	2%	1%	2%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.

Findings:

- Vacant commercially zoned land in the southeast and southwest study units is characterized by low traffic volumes.
- 85% of the midtown study unit is characterized by medium to high volumes of traffic.
- The 55% Bowl-Wide figure indicating that vacant commercial land has low traffic volumes is skewed by the large amount of acreage in the southwest study unit.

Table 39
Percentage of Vacant Industrially Zoned Land
With Traffic Volumes by Study Unit, Anchorage Bowl, 1994

Volume	Downtown	Midtown	Northeast	Southeast	Southwest	Bowl-Wide
High	4%	54%	78%	10%	13%	27%
Medium	78%	11%	6%	19%	12%	15%
Low	17%	9%	16%	65%	56%	44%
None	0%	27%	0%	6%	19%	14%

Source: Compiled from Municipality of Anchorage land use and tax assessment records.
Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

Findings:

- 27% of the vacant industrially zoned land in midtown has no traffic volumes.
- Only 4% of the vacant industrially zoned acreage in downtown has high traffic volumes.
- The highest traffic volumes occur in the northeast study unit, in which 78% of the vacant industrially zoned land is characterized by high traffic volumes.
- The southeast and southwest study units are characterized by low traffic volumes (71% and 75% of the acreage has low or no traffic).

Buffering analysis was used to determine the acreage of vacant commercially and industrially zoned land relative to major streets (arterials, collectors, expressways, and freeways). The street classifications are from the Official Streets and Highways Plan. Tables 40 and 41 indicate distance of vacant commercial and industrial zoned land from major streets.

Distances of 100, 200, 300, 400, and 500 feet from arterials, collectors, expressways, and freeways were selected for the analysis. These distances were selected as general indicators of accessibility. A distance of 100 feet or less, for example, would not be considered a constraint to development. The parcel would be viewed by the user as generally accessible. A distance of greater than 500 feet might be more of a constraint. The accessibility criteria must, however, be evaluated along with other site requirements (see Site Requirements, Technical Memorandum 1). Generally speaking, large retail users need multiple points of access on busy roads (10,000 adt). Small retail users need easy on/off access from slower speed roadways. Industrial users, especially heavy industry, need specialized access such as rail. Light industry can be accommodated near major highways provided the route connects to other transportation links like the airport or seaport. These uses, however, tend to cluster at business locations. Analyses of accessibility as a constraint to commercial and industrial development are included in the Findings Report.

Table 40
Buffer Analysis: Access
Vacant Commercially Zoned Acreage Relative to Arterials, Collectors, Expressways, or Freeways

Distance	Percent of Acreage
Within 100 feet	59%
Within 200 feet	73%
Within 300 feet	77%
Within 400 feet	80%
Within 500 feet	87%
Greater than 500 feet*	13%

Source: Compiled from Municipality of Anchorage land use and public works data.

Table 41
Buffer Analysis: Access
Vacant Industrially Zoned Acreage Relative to Arterials, Collectors, Expressways, or Freeways

Distance	Percent of Acreage
Within 100 feet	66%
Within 200 feet	75%
Within 300 feet	80%
Within 400 feet	85%
Within 500 feet	87%
Greater than 500 feet*	13%

Source: Compiled from Municipality of Anchorage land use and public works data. Note: Does not include land coded as in use for aircraft facilities at AIA that may be available for development.

- In terms of acreage, a majority of vacant commercially and vacant industrially zoned land is accessible to a major street.
- In fact, 59% of vacant commercially zoned land and 66% of vacant industrially zoned land is within 100 feet of a major street; 87% of both are within 500 feet of a major street.

Technical Memorandum 1

Appendix A
Land Use Category Descriptions
(GIS Land Use Codes)

HDR

ANCHORAGE BOWL COMPREHENSIVE PLAN
GIS LAND USE CODES
(8/24/95)

General Notes

The purpose of this narrative is to outline and explain the new land use coding system which was developed in 1994 for the Municipality of Anchorage geographic information system (GIS). Land use data was collected during the 1994 field season and entered into the GIS during 1994-1995. Notes provided below pertain to the initial coding of land use data in this system. As the coding system is revised and refined in the future, the coding instructions will also be revised.

The four-digit land use codes were developed in a hierarchical system in which broad categories of land uses can be further specified (three additional levels). This allows for future expansion of the system if more specific subcategories are desired. The four-digit land use codes are also further defined through the use of single-digit supplemental codes including: "associated uses", "commercial shopping center type", "building status", and "primary use". The overall land use data file structure is shown in Attachment A. Further description of supplemental codes is in Attachment B.

Each land use category heading can also serve as an "all other" category. For example, if there were a type of commercial retail land use that didn't fit any subcategories, it could be coded as "2100", the generic "all other" heading of "Commercial Retail". In a few instances, a major heading was used in conjunction with supplemental codes to describe a major land use. The primary example of this is the use of the major heading "COMMERCIAL" (code "2000") in conjunction was a supplemental code to identify commercial shopping centers. The "2000" is also used along with a "building status" supplemental code to describe commercial buildings which are either vacant or under construction.

Following is a listing of the land use codes. Typical land uses are listed under each of the headings. Additional notes are provided for clarification.

1000 RESIDENTIAL

This category includes all of the residential land use codes which are maintained by the Department of Community Planning, Technical Services Division. The original codes for this data were not changed except for a zero being added to convert the codes from 3 digits to 4 digits. Residential codes are listed in Attachment C.

2000 COMMERCIAL – Shopping Centers (See P. 14)

2100 Commercial Retail

2110 General Merchandise/Goods
--department store, flea market, variety store, gift shop, toy store, bookstore, florist shop, second-hand store, antiques, hobby shop, art gallery, optical goods, sporting goods, drugstore, pawn shop, catalog mail-order outlet, pet and related supplies, camera and photo supplies, picture framing shop, office supplies, stationery store;

--clothing and accessories, footwear, fur apparel, jewelry, fabric and sewing supplies, personal care products;

--furniture, carpeting/drapes, fixtures; housewares, household appliances; stereos, televisions and related accessories; videos and VCR (rentals); computers, office machines and related accessories.

2120 Building Materials and Hardware
--building construction materials and related tools; hardware, paint, glass, etc., and related tools; electrical, heating, air-conditioning, and plumbing supplies. (Note: when lumber yards were located on a separate lot from the retail store, the lot containing the lumber yard was coded "3510".)

2130 Automobiles, Boats, Aircraft, Trailers, and Related Goods
--new and used automobile dealers, automotive parts; motorcycles, all-terrain vehicles, jet skis, etc.; mobile home or house trailer dealer; motor homes, camping trailers, etc.; marine craft and accessories dealer; aircraft and accessories dealer; heavy equipment (construction related).

2140 Retail Petroleum Products Sales
--Predominantly petroleum product sales, even if a convenience store is part of the business. If the convenience store predominates but some petroleum products are sold, code as "2152". (Note: typically, a "7-11" store with island of "Tesoro" gas pumps was coded as "2152". "Mapco" gas stations/mini-stores were coded "2140".)

2150 Food and Liquor

2151 Supermarkets
--grocery stores (either a single store or part of a commercial shopping center) that have fairly large range of food items. (Note: when part of a commercial shopping center, the supermarket was listed as one of the secondary uses of the shopping center.)

2152 Convenience stores
--small limited item grocery stores that are usually associated with petroleum sales (e.g., "7-11's"). If petroleum sales predominate, code as "2140")

2153 Liquor stores

2160 Eating and Drinking Establishments
--restaurant or cafe, fast food restaurant, carry-out food, bar, tavern, or nightclub

2200 Commercial Office
(Note: this general code was typically assigned to large office buildings)

2210 Finance, Insurance, Real Estate, Legal, Professional, and Other Business Services
--banks and financial institutions; credit, investment, and insurance service; collection agencies; security/commodity brokers and dealers; real estate, title abstracters and insurance; mortgage companies.

--Advertising, employment agency; travel agency; duplicating, mailing, and stenographic services; computer and data processing; legal services; engineering and architectural; geological; accounting, auditing, and bookkeeping; management and public relations; planning, research, security and investigative services; and business offices for various types of commercial , industrial, and institutional enterprises.

(Note: this category was also used to capture the following uses: print shops that are typically photocopying services [print shops with

actual printing presses are coded as "3300"]; desktop publishing services; various testing laboratories; opticians; counseling; and physical therapy.)

2220 Medical Services (out-patient)
--medical or general health (physician, chiropractor, dental, opthamology, and veterinarians). (Note: other related health services [e.g., opticians, counseling, and physical therapy] were coded under "2210".

2300 Other Commercial Services

2310 Construction/Special-Trade Contractors
--Building, landscape, highway and bridge, plumbing, heating and air conditioning, painting, electrical, masonry, carpentry, roofing, concrete, water well drilling, demolition and excavation. (Note: this code is for parcels typically containing the main contractor's office, limited indoor storage, and non-industrial outdoor storage on the site. If the parcel was predominantly occupied by heavy equipment storage, warehousing, or other industrial storage, it was coded as "3200".)

2320 Repair Services
--Automobile repair/maintenance services (not including gas stations or body and paint repair), car washes, electric equipment, appliance, stereo, and television repair; jewelry/watch and clock repair services, reupholsters and furniture repair services. Businesses such as "Midas Muffler" and "Quik Lube" were placed in this category. (Note: this category does not include truck or heavy equipment repair [which were coded "3100"]. Gas stations were coded "2140", and body/paint repair business were coded "3100".)

2330 Commercial Transportation Services
--Taxicab service; air taxi service; courier services; car, truck, utility trailer, recreation vehicle, and heavy construction equipment rentals.

2340 Personal and Home Services
--Hair salon, tanning salon, funeral home, pet grooming/kennel service, pest control, janitorial, carpet cleaning/restoration; taxidermy, laundry/dry cleaning (i.e., self-service or drop-off; large

commercial scale cleaners were considered industrial land uses and coded as "3300"), locksmith, diaper service, clothes tailoring, shoe repair, clothing or costume rental, photography studio, and photo processing.

2350 Commercial Education Services
--Private vocational, technical, and other educational services not covered under private elementary and secondary schools, or under private colleges/universities (Institutional). For example, karate schools were placed in this category.

2351 --Child day care and pre-schools

2360 Commercial Recreation

2361 Indoor commercial recreation facilities
--movie theaters, bowling alleys, health clubs, shooting ranges, pool halls, video/pinball game parlor, skating rink (commercial indoor only), commercial theater.

2362 Outdoor commercial recreation facilities
--golf courses, ski areas, equestrian facilities, go-cart tracks. (Note: the Anchorage public golf course was coded as "5000" instead of this commercial code.)

2370 Transient Lodging
--hotels, motels, rooming and boarding houses, hostels, bed and breakfasts

2371 Overnight campground or recreational vehicle parking

2380 Communication-Related Facilities
--Administrative offices and broadcasting facilities for radio, television, telephone. (Note: transmission towers were coded as "3880" and, if located on the same parcel as the broadcasting facilities, were listed as a secondary use.)

2390 Commercial Parking Lots
Non-customer/non-tenant parking lots

2391 Parking structures

2400 Commercial Horticulture

--businesses in which fruit, vegetables, flowers, and ornamental plants are grown on site for sale. (Note: commercial greenhouses were typically coded in this category.)

3000 INDUSTRIAL

3100 Truck and Heavy Equipment Repair, Automotive Body Repair and Painting, Maintenance Shops

(Note: this category was also used for boat and aircraft maintenance businesses)

3200 Construction/Special Trade Contractors

--Parcel predominantly consisting of heavy equipment storage, warehousing, or other industrial storage. (See note for code "2310")

3300 Manufacturing and Processing

--Foods, Beverages, and Related Consumables (e.g., meat, dairy, beverage products, coffee roasting, seafood processing, pet foods)

--Apparel, Fur and Leather Goods, and Textile Goods

--Wood, Stone, Clay, Glass and Paper Products (e.g., wood, concrete, pottery products)

--Printing, Publishing, and Related Industries (e.g., newspaper, commercial printing, artistic printing, sign manufacturing). This category typically includes businesses using printing presses and not computerized desktop publishing offices or photocopying businesses which are coded as "2210".

--Chemicals and Allied Products (e.g., paint manufacturing, fuel refining, paving and related bituminous products)

--Machinery, Equipment, Vehicles, Tools, Apparatus, etc. (metal products. machine/welding/blacksmith shop, transportation-related machinery and equipment, scientific and health-related equipment)

--Miscellaneous Manufacturing Industries (musical instruments, jewelry, toys, sporting goods)

3400 Natural Resource Extraction

--sand, gravel, and rock extraction

3500 Bulk Products and Outdoor Storage

--generally applies to fenced and/or 25% of site covered by storage materials. If storage is on the same parcel as a commercial business, generally the parcel is coded the same as the business. Industrial storage associated with an industrial land use on a separate parcel (e.g., electric utility) can be coded as an electric utility (3810) and also identified with an "associated use" code (3).

3510 Bulk building materials (e.g., lumber yards)

3520 Junk and wrecked autos, salvage yards, heavy equipment and materials

3530 Bulk petroleum storage

3600 Warehousing, Wholesale Distribution, and Enclosed Storage

--household products; industrial/commercial products; refrigerated products; self-service leased storage facilities. If products are for sale on the premises (such as Sam's Club), this use was coded as commercial.

3700 Transportation-Related Facilities

3710 Aircraft Transportation
--Passenger terminals, runways, taxiways, clear zones, navigation facilities, etc. (Note: air charter businesses were coded "2370"; aircraft maintenance businesses were coded "3100".)

3711 Air freight terminals

3720 Railroad Transportation
--Freight yards, terminals, etc. (Note: railroad right-of-way was coded "6200". The "6200" code was predominantly applied to the railroad right-of-way occurring south of the Ship Creek area. Railroad yards within the Ship Creek area were predominantly coded "3720")

3730 Marine Transportation
--Docks and associated facilities.

3740 Motor Vehicle Transportation
--Bus terminal and service facility, truck terminal facilities, heavy freight forwarding, trucking and moving companies.

3800 Utility-Related Facilities
(Note: if parcel is predominantly occupied by an office building for the utility, this was coded as "2210". If a parcel contained other utility facilities such as warehousing, outdoor storage, etc., in addition to an administrative building, the primary use may have been assigned the utility code.)

3810 Electric Utility Related
--generation facilities, substations

3820 Natural Gas Utility Related
--power plants, pumping stations

3830 Water Utility Related
--treatment facilities, water storage tanks, well sites

3840 Sewer Utility Related
--sewage treatment plants

3850 Solid Waste Utility Related
--solid waste disposal sites, recycling facilities

3851 Hazardous waste incinerators

3860 Storm Drainage Facilities
--sedimentation ponds

3870 Snow Disposal Sites
(Note: this category primarily includes M.O.A. and State of Alaska sites, but a few major private snow disposal sites were also given this code.)

3880 Communications Facilities
transmission towers, wire centers (Note: broadcasting facilities were coded "2380")

4000 INSTITUTIONAL

4100 Educational Facilities

4110 Public Elementary School

4120 Public Jr. High School

4130 Public High School

4140 Public College or University

4150 Other Public Schools

4160 Private Elementary/Secondary School

4170 Private College or University

4200 Government Facilities

4210 Municipal Government - All Other

4211 Municipal police

4212 Municipal fire protection

4220 State Government - All Other

4230 Federal Government - All Other

4231 Post office

4300 Social/Civic/Fraternal Organizations

4400 Churches, Synagogues, Temples, etc.

4500 Social Service Facilities

4600 Hospitals and Related Facilities

--In-patient facilities including general medical, psychiatric hospitals, convalescent, rest, or nursing facilities.

4700 Cultural Facilities

--Includes facilities such as museums, libraries, zoos, stadiums, performing arts centers, public indoor recreation facilities, etc.

4800 Other Specific Institutional Uses

4810 Correctional facilities

4820 Cemeteries

5000 PARKS, OPEN SPACE, AND RECREATION AREAS

5100 Municipal Parks, Open Space, and Greenways
--Primarily includes parcels which have been dedicated as Municipal park.

5200 Chugach State Park

5300 Federal Parks and Recreation Areas

6000 OTHER LAND USES

6100 Street and Highway R.O.W.'s

6200 Railroad R.O.W.'s

6300 Military Reservation

7000 VACANT LAND

7200 Waterbodies

ATTACHMENT A

LAND USE CODES - DATA FILE STRUCTURE

The data file structure for the land use codes is shown below.

DATAFILE NAME: TEST
14 ITEMS: STARTING IN POSITION: 1

COL	ITEM NAME	WDTH	OPUT	TYP	N DEC	ALTERNATE NAME
1	SEQNUM	10	10	C	-	S
11	TAXCODE	8	8	I	-	T
19	LANDUSE	4	4	I	-	L
23	ASSOC	1	1	I	-	A
24	S-CPCTR	1	1	C	-	SC
25	BLDSTAT	1	1	C	-	B
26	PRIMELU	1	1	C	-	P
27	RESUNIT	2	2	I	-	R
29	OWNERSHIP	1	1	I	-	O
30	LPDNAME	3	3	C	-	UN
33	LPDTYPE	4	4	C	-	UT
40	DATE	8	8	D	-	D
48	FIELDCK	1	1	I	-	FC
49	CLOID	4	5	B	0	

Legend for Data File Structure

Columns #1 through #10: contains the ten-digit sequence number. Each land parcel within the Anchorage Bowl has a unique sequence number.

Columns #11 through #18: contains the eight-digit tax number. In some cases, more than one parcel has the same tax identification number

Columns #19 through #22: contains the four-digit land use code.

Column #23: contains the associate land use code.

Column #24: contains the shopping center code.

Column #25: contains the building status code.

Column #26: contains the code which identifies the primary land use on the parcel. All other land uses listed under the sequence number for a parcel will be secondary land uses.

Columns #27 through #49: contains codes used by the Technical Services Division for housing data, or internal codes used by the Planning Department to maintain the land use database.

ATTACHMENT B

SUPPLEMENTAL LAND USE CODES

General Notes

The purpose of the supplemental land use codes is to further define a land use occurring on a parcel. For example, a school building under construction can be identified by use of the appropriate school code and the "building status" code of "2". In other cases, the supplemental codes identify a land use on a parcel which is associated with the primary land use on a nearby parcel. For example, a commercial business may have its customer parking lot on a separate parcel from that containing the business. The parcel in which the parking is located would be given the same code as the primary business and an associated code of "2" which indicates it is used for tenant/customer parking. In the case of an auto sales business, there may be numerous lots used for displaying new cars but only one lot with the sales office. In this case, the lot containing the sales office would be given the code of 2130, and the lots used for displaying new cars would be given the 2130 code along with an associate code of "3".

Another type of supplemental code, "building status" identifies whether a building is under construction or is vacant. For example, a school building under construction would be identified by use of the appropriate school code and the "building status" code of "2".

A third category of supplemental codes identifies type of commercial shopping center and major discount stores. These codes are used along with the commercial code of "2000" to define the type of shopping center. Specific uses found within the shopping center itself are included in the parcel's land use records as secondary uses.

The fourth category of supplemental codes, "primary land use", identifies (with the number "1") the primary land use of a parcel. All other land uses on the parcel would be secondary uses.

Following is a listing of the first three supplemental code categories described above.

Associated Uses (adjacent lots to primary use)

_____1 Structure crossing lots line associated with primary land use.

_____2 Tenant/customer parking on separate lot - associated with primary land use.

_____3 Use of lot (other than parking) associated with primary land use on separate lot.

_____4 -8 (Not being used)

_____9 Temporary associate code used to identify parcels at the Anchorage International Airport which are vacant. This coding enables these parcels to either be shown on the map as airport-related or vacant.

Shopping Center Type

_____1 Major Shopping Center
Shopping centers with one or more department stores as anchor stores and at least 250,000 square feet of gross leasable area.

_____2 Community Shopping Center
Shopping centers usually with a supermarket anchor store and/or enclosed malls with a gross leasable area usually from 50,000 to 200,000 square feet.

_____3 Strip Malls/Multi-Tenant
Multi-tenant strip malls without a major anchor store; usually less than 75,000 square feet gross leasable area.

_____4 Discount Store
Large value retail stores, usually individually located on large land parcels.

Building Status

_____1 Vacant building

_____2 Building under construction

ATTACHMENT C

RESIDENTIAL LAND USE CODES

1010	Single Family Detached
1020	Single Family Attached (2)
1030	Single Family Attached (3)
1040	Single Family Attached (4)
1050	Single Family Attached (5 or more)
1070	SF Structure that physically crosses lot lines
1080	Duplex (unknown or apt.)
1090	Duplex condo
1100	Multi-family residential (unknown apt. or condo)
1110	Multi-Family Residential - Condo
1120	Multi-Family Residential - Apartment
1130	Multi-Family Structure that physically crosses lot lines
1200	Mobile Home on Lot
1210	Mobile Home in a Mobile Home Park
1230	Mobile Home that physically crosses lot lines
1240	Associated with mobile home park - no structure
1300	Recreational Vehicle on a lot (year around unit)
1310	Recreational Vehicle in a Park
1400	Group Quarters
1500	Mixed Commercial/Residential
1600	Mixed Religious/Residential
1700	Mixed Industrial/Residential
1920	Non-Residential structure associated with Multi-family lot (e.g., barn)
1930	Lot with no structure associated with adjoining duplex
1940	Lot with no structure associated with adjoining Multi-family
1950	Residential Structure Under Construction
1960	Unsound Residential Structure
1970	Open space (common/dedicated such as in condo developments)
1980	Non-Residential structure associated with adjoining single family or duplex lot
1990	Lot with no structure associated with adjoining single family (e.g., parking)

Anchorage Bowl Commercial and Industrial Land Use Study

Technical Memorandum 2

July 1996

Projections of Future Commercial and Industrial Land Use Demand

1.0 Introduction

This section presents the raw projections of commercial and industrial land use acreage demand by study area in five-year intervals through 2020. These raw demand projections will be adjusted to reflect the realities of land supply, developmental constraints, and market forces.

The purpose of the demand projections is to estimate the volume and general location of acreage that will be required to accommodate future commercial and industrial development in the Anchorage Bowl. The projections will form part of the basis for making appropriate land use policy and planning decisions to promote efficient economic development in the revised comprehensive land use plan for the Anchorage Bowl.

The conceptual model for projecting commercial and industrial land use can be simply explained as follows. Economic growth generates jobs. Jobs require workplaces. Workplaces are located, for the most part, on commercial and industrial land uses.

Following this conceptual model, projections of Anchorage employment developed by the Institute of Social and Economic Research (ISER August 1995) and current ratios of employees per acre for commercial and industrial land uses were used to project future commercial (retail, services, office) and industrial (excepting transportation) land use demand. For reasons explained below, the projections of future transportation (port, airport, rail, motor vehicle) land uses were based on information obtained from port, airport, and rail officials.

1.1 Current Land Use Ratios

Alaska Department of Labor 1994 employment data[1] and the MOA GIS land use database were used to develop employee per acre ratios for specific land uses. ADOL employment by industry was allocated to appropriate MOA land use types, as shown in Table 1. Employees whose workplaces were located in non-commercial and non-industrial buildings/land uses, such as hospitals, public buildings, and military installations, were excluded from consideration. Conversely, governmental employees

[1] To obviate problematic reconciliation of several different data sources, total employment data for the Municipality of Anchorage was not adjusted to exclude employment outside the Anchorage Bowl in Eagle River/Chugiak or Girdwood, comprising about 3,000 jobs or about 2.5% of total Anchorage employment. Thus, the number of employees per acre within the Anchorage Bowl is slightly overstated. Regardless, since the post-1995 employment growth rate, rather than the absolute number of jobs, was used to calculate growth in land use demand over the 1995 baseline, the effect on projected demand was negligible.

at work in rented commercial office space or other rented facilities were allocated to appropriate land uses.

Table 1
Allocation of Employment by Industry and Land Use Type

	Land Use Type						
Industry	Retail	Office	Services	Industrial	Transport	Other	Total
Mining	--	.7	.1	.1	.1	--	1.0
Construction	--	.05	.35	.6	--	--	1.0
Manufacturing	--	--	--	1.0	--	--	1.0
Transportation, communications, utilities--	--	--	.1	.3	.3	.3	1.0
Wholesale trade	--	.05	--	.75	.2	--	1.0
Retail trade	.95	--	--	--	.05	--	1.0
Finance, insurance, and real estate	--	1.0	--	--	--	--	1.0
Services	--	.4	.5	--	--	.1	1.0
Agriculture, forestry, fisheries	--	--	1.0	--	--	--	1.0
Not classified	--	--	1.0	--	--	--	1.0
Government[1/]	--	.42	--	--	--	.58	1.0

[1/] The percentage of government employees housed in commercial space was determined on the basis of interviews with federal, state, and local government space leasing officials.

Next, based on MOA land use data, average employee per acre ratios were calculated for retail, service, office, industrial, and transportation land uses. As shown in Table 2, among commercial land uses, these empirical ratios averaged 18 employees per acre for retail land uses, 29 employees per acre for service land uses, and 58.5 acres per acre for commercial office land uses (see footnote number 1). It is important to note that these are average ratios. The employment ratio may vary by location, by more specific use class, or according to other factors that affect the intensity of land uses.

For example, commercial office building square footage per acre (and, by implication, employment per acre) is much higher for downtown high-rise office buildings with off-site parking, much lower for low-rise suburban offices with parking. In fact, commercial office building square footage per acre averages about 23,800 bowl-wide, but varies widely between the study units (Downtown- 54,200 sq.ft. per acre, Midtown-20,200, Northeast-16,600, Southwest-14,250, Southeast-11,400). While no figures on

office employment by study unit are available, the employment ratio for Downtown is surely much higher than for Midtown or other study units. Similar variations may arise within specific subtypes of retail, service, and industrial land uses.

Table 2
Employees per Acre, by Land Use Type, Anchorage Bowl, 1994

Land Use	Employees	Acres	Employees per Acre
Retail	21,269	1,180	18
Services	19,898	684	29
Office	33,930	580	58.5
Industrial	14,624	2,272	6.4
Transportation	6,488	4,206	1.5
Other	22,891	--	--
Total	119,100	--	--

Source: Alaska Department of Labor (employment); Municipality of Anchorage (land use acreage).

The employee ratios for industrial (6.4 per acre) and transportation (1.5 per acre) land uses were low, but consistent with the specific circumstances of industrial and transportation land uses in the Anchorage Bowl.

With regard to industrial land uses, Anchorage has relatively few labor-intensive manufacturing plants. Most of its industrial land use acreage is dedicated to low-intensity uses such as bulk and outdoor storage, equipment and construction yards, utilities, and similar uses. Moreover, many large parcels in industrial use are unimproved or only lightly improved (Table 3). The upshot is that industrial land uses in Anchorage currently support a low ratio of employees per acre overall. This suggests that market pressure can induce the existing pool of industrial land uses to absorb substantial employment growth through more intensive use and development or reuse.

Transportation land uses encompass parcels specifically dedicated to air, rail, port, and motor vehicle facilities, as defined in the MOA Land Use Category Descriptions (Appendix A). Transportation uses do not include transportation-related uses such as warehouses, bulk storage and storage yards, maintenance facilities, commercial transportation services, and the like.

Table 3
Acres of Vacant and Redevelopable Commercially and Industrially Zoned Land by Study Unit, Anchorage Bowl, 1994.

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
Commercial						
Vacant	91	177	174	190	443	1,075
Redevelopable[1/]	116	250	167	68	223	824
Total	207	427	341	258	666	1,899
Industrial						
Vacant	82	146	206	141	718	1,293
Redevelopable[1/]	163	743	377	248	565	2,096
Total	245	889	583	389	1,283	3,389

[1/] Elsewhere in this report, based on MOA assessment records, used parcels with no improvements or with improvements valued at less than the land were considered potentially "redevelopable".

Sources: Table 24, Table 26, Table 27, Table 28.

Almost 80 percent of transportation uses consist of airport-related uses (excluding air freight) at Anchorage International Airport in the Midtown study area. A substantial part of these air transport-related land uses involve low-intensity uses (e.g., runways, taxiways, clear zones, airplane parking) that directly entail few employees. Merrill Field is the second largest transportation use, followed by the Alaska Railroad and the Port of Anchorage. Air freight terminals and bus/truck/freight forwarding terminal account for the balance.

As with industrial tracts, a significant share of the Anchorage Bowl's total transportation land use acreage is unimproved or only lightly improved (Table 3) and supports negligible employment. Most transportation employees are concentrated at air freight and truck terminals and port and rail facilities. The uneven relationship between employment and transportation (especially airport) land uses means that the current employee ratio for transportation land uses is not a reliable predictor of future transportation land use demand.

Instead, the demand for airport, port, and rail transportation land uses was evaluated based on information obtained by interviews with managers of the major transport facilities, i.e., Anchorage International Airport, the Port of Anchorage, and the Alaska Railroad. None of the facilities have specific and current projections of future land requirements. Nonetheless, all are in process of assessing their long-term site requirements.

According the Anchorage International Airport's recently completed Master Plan Update, the airport property encompasses 4,680 acres, of which 1,256 acres are vacant and reserved for future airport development. Another 492 acres, allotted to three established airparks for aviation-related facilities and activities are partly developed. Based on review of the Master Plan Update and interviews with airport planning staff, it appears that AIA presently controls sufficient property to accommodate the on-site demand for air transport facilities and aviation-related industries for the next twenty years. On the other hand, airport planning staff expressed concern that the long-term availability of off-site parcels for airport-related commerce and industry in the airport vicinity might be pre-empted by users unrelated to the airport.

Port of Anchorage management has considered alternatives for long-term land requirements for future port operations. Port officials indicated tentatively that future port expansion requirements may be satisfied by incremental northward extension of existing facilities, as warranted by demand. This concept would entail extensive shoreside fill and development. In the view of management, this concept would be ample for the Port of Anchorage's long-term requirements, so long as it proved financially and environmentally feasible.

Alaska Railroad staff indicated that the railroad is currently developing a comprehensive inventory of its property holdings, including its property in Ship Creek Valley.

Generally, it appears that the railroad's Ship Creek Valley property holdings are adequate for present and foreseeable rail facility operations.

In sum, based on information obtained from airport, port, and railroad staff, it was determined that these transportation entities could accommodate their future facility requirements within their existing landholdings or on publicly-owned tidelands.

Future demand for motor vehicle transportation land uses[2] was estimated to grow proportionate to growth in employment in the support and infrastructure sector.

1.2 Forecast of Future Employment

ISER summarized its statewide forecast of employment, population, and income growth through the year 2020 as follows:

> The most likely (Base Case) rate of wage and salary employment growth, the best measure of the size of the economy, is projected to be less than .5% for the remainder of this decade, gradually increasing after 2000 to average just over 1% for the entire projection period. This is based on the assumptions of continued competitiveness of Alaska's export industries and successful downsizing of state and local government in response to reduced petroleum revenues. Growth in real personal income will also be below the historical rate because of slower growth in the number of jobs, the continuing shift toward lower wage industries, and slower growth in government payments to individuals. Population will grow at a slightly faster rate than employment because of continued aging of the population and the replacement of non-residents in the work force with Alaskan residents. The average household size will continue its historical decline. ISER, page ii.

For the Municipality of Anchorage, the ISER projections assume an average annual employment growth rate over the 1995-2020 period of 1.1 percent in the Base Case; of -0.1 percent in the Low Case; and of 2.3 percent in the High Case. These rates compare with an average annual job growth rate of 3.6 percent over the previous (1970-1995) twenty-five years. Thus, under all three scenarios, Anchorage would experience a substantially lower rate of job growth than actually prevailed over the last twenty-five years. The Base Case scenario anticipates an average annual employment growth rate a third of Anchorage's growth rate over the past 25 years.

[2] The MOA GIS land use codes define motor vehicle transportation to include bus terminal and service facility, truck terminal facilities, heavy freight forwarding, and trucking and moving companies.

1.3 Projected Land Use Demands

The ISER projections forecast annual employment, categorized as private basic, infrastructure (transportation/communications/utilities and construction) and support (trade, services, and finance), and governmental employment.

The ISER projections anticipate ongoing changes in the structure of Anchorage's economy, with significantly different growth rates for different sectors of the economy. For example, in its Base Case, ISER projected that private basic employment would growth by +63% between 1995-2020, infrastructure and support employment by +37%, and governmental employment by +6%. Table 4 shows the periodic growth rates by economic sector for the Base, Low, and High Cases, as projected by ISER.

Table 4
Percent change in Employment over 1995, by Category
Anchorage, 2000-2020

Year	Private Basic	Infrastructure and Support	Government	Total
Base Case				
2000	+10%	-2%	-1%	-1%
2005	+22%	+4%	0%	+4%
2010	+36%	+12%	+2%	+12%
2015	+49%	+23%	+5%	+20%
2020	+63%	+37%	+6%	+31%
Low Case				
2000	+4%	-8%	-7%	-7%
2005	+8%	-11%	-8%	-9%
2010	+13%	-10%	-11%	-8%
2015	+19%	-7%	-12%	-6%
2020	+24%	-2%	-12%	-2%
High Case				
2000	+18%	+7%	-1%	+6%
2005	+40%	+19%	+1%	+16%
2010	+62%	+43%	+13%	+37%
2015	+83%	+62%	+17%	+52%
2020	+108%	+92%	+23%	+75%

Source: ISER.

For each growth case, the appropriate periodic growth rate was assigned to the corresponding ADOL employment classes and a weighted average growth rate was developed for each employee group/land use type and for each five-year forecasting interval. The weighted average growth rate was then used to calculate the net land use demand by 2020 by type for each growth scenario as shown in Table 5. The negative net retail, office, and transportation land use demand projected under the Low Case reflects that the ISER projections anticipate a net job loss under that scenario in those economic sectors.

Table 5
Net Land Use Demand (Acres) by Type
Low, Base, and High Cases, Anchorage Bowl, 1995-2020

Land Use	Low Case	Base Case	High Case
Retail	(18)	438	1,085
Services	18	290	673
Office	(15)	167	403
Subtotal	(15)	894	2,161
Industrial	74	955	2,170
Transportation[1/]	(3)	63	157
Subtotal	71	1,018	2,327
Total	56	1,912	4,488

[1/] Motor vehicle transportation uses only; does not include airport, port, or rail transportation land use.

Source: Consultant estimate.

For the ISER Base Case employment scenario, a more detailed projection was developed to shop net demand for each use in five-year intervals through 2020 (Table 6).

The projected demand for retail space was further subdivided by configuration (Table 7). As noted earlier in the trends analysis, the distribution of retail building space by configuration has shown minor fluctuations since 1970. As of 1970, 18% of retail square footage was in major malls, 7% in community shopping malls, and 38% in strip malls. The corresponding figures in 1994 were 20%, 10%, and 38%. If big boxes are regarded as a sub-type of single-occupant retail store, then the share of retail space in single-occupancy was 37% percent in 1970 and 33% in 1994. Based on this historic consistency, the projected retail acreage demand was allocated by configuration as

follows: major mall (20%), community shopping mall (10%), strip mall (37.5%), and single-occupant/big box (32.5%).

Finally, the gross commercial and industrial land use demand was allocated by study area (Tables 8 through 11). These allocations were primarily based on general trends in the spatial distribution of land use developments between 1981-1995, adjusted to take account of singular developments.

Table 6
Gross Land Use Demand (Acres) by Type, Base Case, Anchorage Bowl, 1995-2020

Land Use	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020	Total
Retail	(22)	69	102	122	166	438
Services	11	43	63	74	99	290
Office	(4)	29	39	46	57	167
Subtotal	(15)	141	204	242	322	894
Industrial	13	157	218	246	322	955
Transportation[1/]	(3)	10	14	18	24	63
Subtotal	10	167	232	264	346	1,018
Total	(5)	308	436	506	668	1,912

[1/] Motor vehicle transportation uses only; does not include airport, port, or rail transportation land use.

Source: Consultant estimate.

Table 7
Retail Land Use Demand (Acres) by Configuration
Base Case, Anchorage Bowl, 1995-2020

Configuration	1996-2000	2001-2005	2006-2010	2011-2015	2016-2020	Total
Major Malls	(5)	14	21	24	33	88
Community Shopping	(2)	7	10	12	17	44
Strip Malls	(8)	26	38	46	62	164
Single Occupant/Big Box	(7)	22	33	40	54	142
Total	(22)	69	102	122	166	438

Source: Consultant estimate.

Table 8
Allocation of Retail Land Use Demand (Acres)
by Study Area, Base Case, Anchorage Bowl, 1996-2020

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
1996-2000	(1)	(6)	(5)	(1)	(9)	(22)
2001-2005	2	20	15	3	28	69
2006-2010	3	29	22	5	42	102
2011-2015	4	35	26	6	51	123
2016-2020	5	48	36	8	69	167
Total	14	126	95	22	181	438

Source: Consultant estimate.

Table 9
Allocation of Services Land Use Demand (Acres)
by Study Area, Base Case, Anchorage Bowl, 1996-2020

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
1996-2000	2	2	1	1	5	11
2001-2005	7	9	5	4	18	43
2006-2010	10	14	7	5	26	63
2011-2015	12	16	8	6	31	74
2016-2020	16	22	11	8	42	99
Total	48	64	33	24	122	290

Source: Consultant estimate.

Table 10
Preliminary Allocation of Office Land Use Demand (Acres)
by Study Area, Base Case, Anchorage Bowl, 1996-2020

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
1996-2000	0	(2)	(1)	0	(1)	(4)
2001-2005	2	15	5	1	6	29
2006-2010	2	20	7	2	8	39
2011-2015	3	23	8	2	10	46
2016-2020	4	29	10	2	12	57
Total	11	84	30	7	36	167

Source: Consultant estimate.

Table 11
Preliminary Allocation of Industrial Land Use Demand (Acres)
by Study Area, Base Case, Anchorage Bowl, 1996-2020

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
1996-2000	1	2	3	1	6	13
2001-2005	6	25	35	15	76	157
2006-2010	8	35	49	20	105	218
2011-2015	10	40	55	23	118	246
2016-2020	13	52	72	30	155	322
Total	37	154	215	89	460	955

Source: Consultant estimate.