Anchorage Bowl Commercial and Industrial Land Use Study

Prepared for:

Department of Community Planning and Development
Municipality of Anchorage

By:

HDR Alaska, Inc.

July 1996

Anchorage Bowl Commercial and Industrial Land Use Study

Findings Report

July 1996

Anchorage Bowl Commercial and Industrial Land Use Study

July 1996

Prepared for:

Municipality of Anchorage
Department of Community Planning & Development

Prepared by:

HDR Alaska, Inc.
Elizabeth A. Benson, AICP, Project Manager
John McPherson, AICP, Project Planner
Glenda Radvansky, P.E., Civil Engineer
Mark Dalton, Contract Manager
Steve Carroll, Computer Coordinator

Kevin Waring and Associates
Kevin Waring, Principal

Bolan Smart Associates
Eric Smart, Principal

GeoNorth, Inc.
Marshall Payne, GIS Analyst
Mark Pearson, P.E., Principal
Steve Colligan, Principal

Cambridge Systematics
Diane Ricard, Transportation Analyst

Municipality of Anchorage

P.O. Box 196650
Anchorage, Alaska 99519-6650
Telephone: (907) 343-4224

Rick Mystrom, Mayor

DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
PHYSICAL PLANNING DIVISION

Anchorage Bowl Commercial and Industrial Land Use Study

July 1996

The Department of Community Planning and Development retained the consulting firm of HDR Alaska, Inc., to conduct a commercial and industrial land use study for the Anchorage Bowl. The study evaluates commercial and industrial land needs in the Bowl over the next twenty-five years. Information and recommendations from this study will be considered in the revision to the ***Anchorage Bowl Comprehensive Development Plan***.

The ***Anchorage Bowl Commercial and Industrial Land Use Study*** is comprised of the following three documents:

- ***Findings Report***: summarizes the methodology and major findings of the study, while identifying issues relating to commercial and industrial development that should be considered in the revision of the ***Anchorage Bowl Comprehensive Development Plan***.

- ***Technical Memorandum 1***: contains the trends analysis, site requirements, and detailed results of the inventory and analysis of commercial and industrial lands.

- ***Technical Memorandum 2***: contains the projections of future employment and land use demand for commercial and industrial development.

Mapped information from the ***Anchorage Bowl Commercial and Industrial Land Use Study*** is available for review in the Physical Planning Division of the Department of Community Planning and Development in Room 210 of City Hall, 632 West Sixth Avenue, Anchorage.

Anchorage Bowl Commercial and Industrial Land Use Study

Table of Contents

Document #1: Findings Report

Table of Contents (Continued)

Document #3: Technical Memorandum 2

Executive Summary

This Commercial and Industrial Land Use Study represents an important piece in the update of the Municipality of Anchorage Comprehensive Plan. The study itself is not a plan but rather it is a technical document that presents data, technical analysis, and background information on commercial and industrial land uses in the Anchorage Bowl. The study describes the basic forces that have shaped Anchorage's recent commercial and industrial land use development, analyzes the retrospective and prospective trends, projects land demand, and identifies strategic issues and potential policy implications that will need to be addressed in the update of the comprehensive plan.

The land supply and demand analysis accounted for a number of market influences and adjustments. These influences include adjustments for changes in assumptions about economic utilization and the probability for additions or subtractions to the inventory of land being available due purely to specialized business, personal, and political motivations. The analysis also made allowances for excess supply relative to the maturity of a selected submarket and factored in other considerations essential to maintaining an opening competitive marketplace over time. Major findings and implications are described as follows:

- The Geographic Information System (GIS) has been a very effective planning tool for this study and will be essential to the update of the comprehensive plan.
- With few exceptions there should be enough excess zoned land inventory to sustain a land supply that allows newcomers into the marketplace.
- Site redevelopment and infill of underused areas will enhance the land supply.
- The marketplace has certain flexibility to respond to any given land demand under the base case scenario.

The study also considered potential policy implications for the Municipality to explore as it updates the comprehensive plan.

- Land use conflicts between commercial, industrial uses and other uses must be acknowledged.
- Design review and other implementation tools such as the existing zoning ordinance must reflect a balance between community interests and developer's rights.
- The role of transportation will be key to efficient community growth.
- Strategic areas and sub-area planning will allow the Municipality to tailor the comprehensive plan to neighborhood needs, business needs.
- Involve the business community, like those included as "resource contacts", in the development of the plan.

It is important to acknowledge that this commercial and industrial land use study does not include other essential elements to a comprehensive plan — the residential land uses, recreational areas, open space, transportation systems, and community preferences for growth.

I. Introduction

The Municipality of Anchorage (MOA) is in the beginning stages of revising its comprehensive plan. This Commercial and Industrial Land Use Study represents a key step toward that revision. As a key step, this document presents data, technical analysis, and background information on commercial and industrial land uses in the Anchorage Bowl.

To achieve the goal of describing Anchorage's commercial (retail, office, services, non-industrial uses) and industrial land use picture, the study examined both historical data and current information. The study analyzed existing land use, zoning, employment, environmental constraints, accessibility, and serviceability to describe the Anchorage Bowl's commercial and industrial land use patterns and to project land demand for future commercial and industrial uses. Based on that information, the study provides a discussion of municipal policies and strategic areas. This report presents a summary of the findings from the technical analysis[1].

The study addressed several questions. These questions formed the foundation for the analysis that follows. The two overarching questions were "what does all the data collected mean?" and "what are the policy implications to be considered in the development of the comprehensive plan?" More specifically, the study accomplishes the following.

- The study examines the basic forces shaping Anchorage's recent commercial and industrial land use development and includes a retrospective trends analysis to be used with the land use inventory and assessment. The trends analysis provides a look backwards at the bowl's commercial and industrial development, while the land use inventory and assessment looks at the most current data — a snapshot of where we are today. Both the historic and current perspectives were, in turn, used to project what might be in store for the bowl's future.

- The study analyzes the characteristics of the current commercial and industrial land supply in the inventory and assessment. The number of acres available for commercial and industrial uses, the location, the building and parcel size, the physical condition, environmental constraints, serviceability and the accessibility of the land supply are described in the inventory and assessment.

- The study analyzes the site requirements of various commercial and industrial land users. Using the information from the inventory and assessment the supply of land meeting the site requirements for various uses is developed.

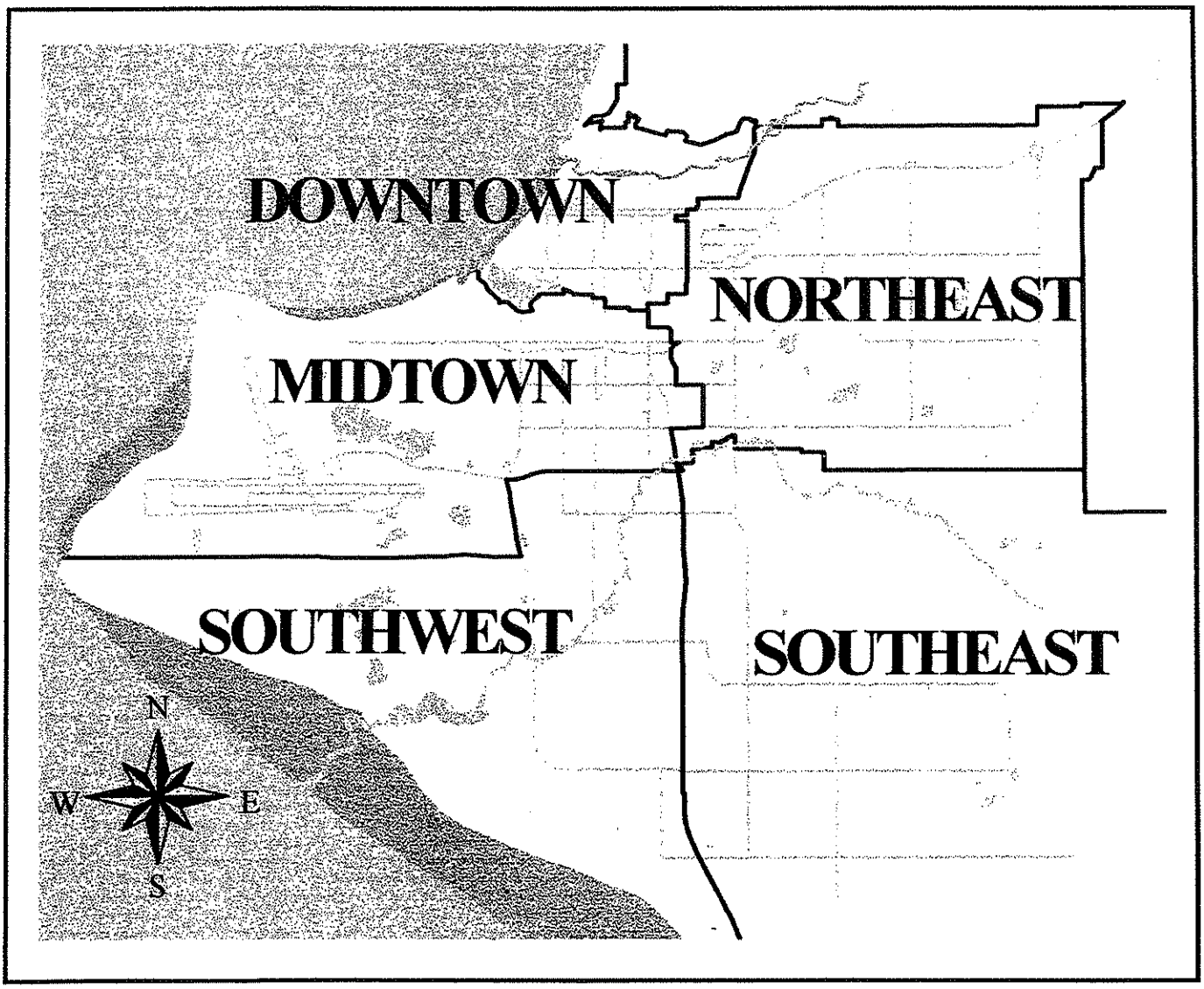
- The study analyzes the projected demands for land uses by type, amount, and configuration through 2020, based on adjustments to ISER estimates. This analysis of land consumption and the prospective trends forms another cornerstone of the study

[1] More detailed technical data and additional analysis are contained in a set of technical appendices to this report.

in that it presents the amount of land needed to meet projected demand. This information is then used to answer one of the primary questions of the study — "is there enough land available to meet projected demand?" A conceptual model correlating demand with supply, adjusted for market forces, is included.

- Lastly, the study identifies strategic issues, strategic areas, and potential policy implications that will likely need to be addressed in the update of the comprehensive plan. These elements are described in the Analysis and Forecasting section and Strategic Planning section of this report. For purposes of analysis, the Bowl was into five study (see Figure 1 below). The study units were determined jointly by the consultant and the Municipality and reflect generally the earlier-defined "geographic rezone" boundaries for the Bowl. The units were named Downtown, Midtown, Northeast, Southeast, and Southwest.

Figure 1
Study Units



II. Historical Overview

A. Introduction

Anchorage's settlement and economic history helps explain today's commercial and industrial land use patterns and offers clues to the pattern of things to come. In the 25 year span since 1970, Anchorage has been transformed socially, economically, and physically. Its population doubled, its employment and incomes more than doubled, its once-notoriously high living costs decreased close to national averages. Anchorage weathered two construction booms, and a severe recession and real estate crash. Thousands of acres were built up with homes, businesses, transportation facilities, and community improvements. In the process, Anchorage made room for thousands of new commercial and industrial workplaces.

B. Population and Economic Trends

Economic growth is the fundamental force that drives demand for commercial and industrial land uses. Economic growth creates jobs. Jobs require workplaces. Workplaces need commercial and industrial work sites. Therefore, this study of commercial and industrial land uses[2] in the Anchorage Bowl begins with a brief review of Anchorage's growth as backdrop for analyzing the historic and future evolution of commercial and industrial development in the Anchorage Bowl. The highlights of our historical review of growth patterns include the following. For more information on historical commercial and industrial trends see Appendix D.

Population growth. Between 1970 and 1994, Anchorage's population doubled from about 126,000 to 250,000 residents. Growth averaged over 3% yearly or triple the national rate of 1% yearly. During this period, Anchorage see-sawed between robust growth and recession.

Population profile. In 1970, Anchorage was a fast-growing, semi-frontier settlement, full of young, adventurous newcomers pursuing their fortunes. By 1995, Anchorage's population had matured and stabilized, becoming more like the national population profile.

Settlement patterns. Population growth transformed Anchorage's settlement geography. Residential development flowed from the historic downtown core eastward and southward. While Anchorage's first neighborhoods in the downtown quarter lost residents, the northeast, southeast, and southwest quarters of the Anchorage Bowl together added over 100,000 residents. Anchorage's growth even spilled beyond the

[2] This study takes its definitions of commercial (retail, commercial office, and commercial services) and industrial (conventional industry and transportation, further subdivided by airport, port, rail, and motor vehicle modes) land uses from the MOA land use database.

Anchorage Bowl to bedroom communities in Eagle River and Chugiak and in the Palmer-Wasilla area of the Matanuska-Susitna Borough.

Employment. Between 1970 and 1994, Anchorage's wage employment grew from 42,000 to 119,000 (Alaska Department of Labor) or, by the Bureau of Economic Analysis more comprehensive count, from 68,000 in 1970 to 160,000 in 1993. Today, Anchorage's employment base is broader, more diverse and mature, more year-round, and less prone to the short-term swings and seasonal cycles that marked the 1970s and 1980s.

Wage rates and personal income.[3] Anchorage's wage rates and personal incomes are above the national average, but not as far above as in the past. In 1970, Anchorage's average annual wage was $3,392. It climbed to $4,095 in 1977 at the overheated peak of the Transalaska Pipeline System (TAPS) construction, then slipped to $2,797 by 1993. This drop in average wages stemmed partly from an ongoing shift in the job mix (fewer high wage jobs in construction, oil, and government to lesser-paying retail and service jobs), partly from long-term downward pressure on wages.

Anchorage's aggregate personal income rose from $2.8 billion in 1970 to $6.7 billion in 1993, waxing and waning in step with major economic events such as TAPS construction, the early 1980s oil price spiked increase, and the EXXON Valdez oil spill cleanup. Anchorage personal incomes have long been above the national average (as much as 179% higher during TAPS construction) but lately less and less so. Between 1970 and 1993, real per capita income grew from $21,912 to $26,619. Income peaked at $30,826 in 1977, dropped as low as $24,507 at the bottom of the last recession and has stabilized at around $26,600 annually for the last few years. Anchorage incomes are now about 128% above the national average.

Cost-of-living and disposable income. For two decades, living costs in Anchorage have risen more slowly than nationally, and now stand about 6% above a national cross-section of cities. The long-term drop in Anchorage living costs — especially housing costs — since 1970 has boosted the purchasing power of local consumers by about 14%. Alaska's low state and local taxes (a typical Anchorage household pays about 13% less taxes than similar households elsewhere) also means more disposable after-tax personal income.

Purchasing Power. High average incomes and low taxes mean more disposable income. Anchorage's 1994 median household disposable income was $50,481 compared to the national figure of $35,056. High disposable incomes support strong consumer demand and a healthy retail industry. Anchorage's per capita sales for general merchandise stores, eating and drinking places, and food stores substantially exceed national averages and have made it attractive to the retail trade.

[3] Wage and income figures reported here are in constant 1993 dollars.

Anchorage and its hinterland. Anchorage is the regional retail, service, distribution, transportation, and administrative center for southcentral Alaska and much of rural Alaska west and north of Anchorage. Anchorage's commercial economy is closely linked to this extended hinterland. For example, in 1992, Anchorage had 41% of the state's population, but captured 52% of statewide retail sales, 68% of services and 72% of wholesale trade.

Anchorage appears, however, to be losing its dominant grip on retail trade within southcentral Alaska. As fast as Anchorage grew, faster-growing market areas on the Kenai Peninsula (Kenai, Soldotna) and in the Matanuska-Susitna (Palmer, Wasilla) Borough have lately developed thriving local retail sectors of their own. On the other hand, Anchorage has gained new trade as its warehouse stores and other merchandisers catered aggressively to rural customers.

Economic cycles. Anchorage grew in fits and starts. In the mid-seventies, TAPS construction stimulated several years of rapid economic growth, followed by several flat years. The spike in oil prices and state revenues starting in 1979 primed another growth surge until Anchorage's overbuilt economy crashed with the mid-eighties oil price slump. Through the late 1980s, Anchorage experienced a severe recession from which it only began to emerge about 1990. Anchorage's boom-bust building cycle was particularly hard on the construction industry and related suppliers of goods (building materials, home furnishings and appliances) and services (real estate, finance). These wide-swinging economic cycles left their imprint on Anchorage's business community and on commercial and industrial land use patterns.

Economic structure. Anchorage's economy changed as it grew. It became much more dependent on service businesses and, to a lesser extent, trade and petroleum industry employment. Its robust visitor industry boosted employment in trade, services, and transportation. The roles of construction and government diminished, though Anchorage's job base still tilts toward the public sector. Manufacturing, never a big factor in Anchorage's economy, stayed small; it accounts for less than 2% of employment compared to about 18% nationally.

Since 1970, Anchorage has made room for well over 5,000 new workplaces. The fast-growing service sector accounted for the biggest share (43%) of these new workplaces and retail trade for another 20%. Today, health services and eating and drinking places are the two most numerous types of business in Anchorage. Each accounts for more than 500 workplaces and about 8,000 employees. Engineering and management services, legal services, business services, air transportation, the oil industry, and retail stores also account for large numbers of employers and/or employees.

In Anchorage's post-1980 economy, some specific business sectors outpaced the overall economy while others faltered. Health services, air transportation, food stores, hotels, the oil and gas industry, public utilities, and amusement/recreation services all

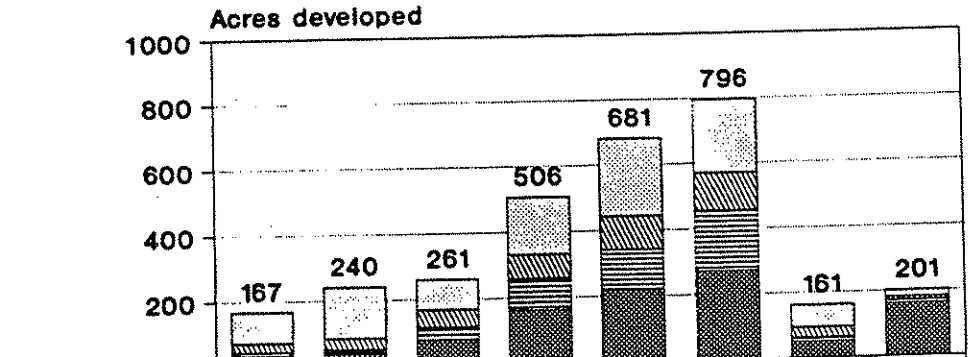
realized above-average growth. The construction industry, financial services, and the communications industry lagged.

Summary. Between 1970 and 1985, Anchorage's strong economy sustained rapid population and job growth, a building boom, high wages and personal incomes, and an expanding trade and service sector. Anchorage also consolidated its function as the trade, service, and distribution center for southcentral Alaska and much of rural Alaska. After its prolonged post-1985 recession, Anchorage regained lost population and jobs, but ongoing economic changes have steadily moved Anchorage's once high wages, incomes, and living costs closer to national norms.

C. Commercial and Industrial Land Use Trends Since 1970

These population and economic changes transformed Anchorage's landscape and its pattern of commercial and industrial development. Anchorage's fitful economic cycles had significant repercussions on property markets and retail and office development patterns. Residential and commercial construction crested in good times and plunged in bad times. Commercial land developed at a record pace between 1980-1985, and in the next five years slowed to a pace on par with the early 1960s. Figure 2 shows the rate of commercial and industrial land development since 1960. It clearly reflects the ups and downs of Anchorage's general economy.

Figure 2
Commercial & Industrial Land Development
by Type of Use and Period
Anchorage Bowl, 1960-1995



	1960 or earlier	1961-1965	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990	1991-1995
Industrial	93	156	94	174	238	224	67	19
Services	28	33	52	74	101	116	30	11
Office	11	11	37	97	122	184	12	10
Retail	35	40	78	161	220	272	52	161

During the post-1985 recession, numerous business and bank failures in Anchorage's overbuilt property market produced high vacancy rates, depressed values, defaults and ownership changes, and high turnover in the occupancy of some commercial properties. Non-retail uses absorbed low-priced space in marginal strip malls. The property market's abrupt shift from headlong growth into stagnation stalled several major office and retail projects in the planning stage or after site clearance. The result was uneven, spotty land use patterns, particularly in Downtown and Midtown, characterized by intensive development mixed with large vacant parcels and underused sites. Table 1 summarizes existing land uses by type and study area in the Anchorage Bowl in 1995.

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.

Retail. The retail industry followed its customers as Anchorage neighborhoods spread beyond downtown, first to east Anchorage as the military bases built up, later to Midtown and south Anchorage. The pace of retail development accelerated rapidly after 1970, peaked in the early 1980s, dropped steeply during the 1986-1989 recession, then rebounded modestly after 1990. New regional, neighborhood, and strip malls pulled retail trade from downtown stores. Large, shopping center-based, diversified grocery chains supplanted the numerous smaller, independent, neighborhood-oriented foodmarts. Fast-food outlets proliferated. High volume gas station-convenience store combinations eroded the traditional gasoline service station business. The advent of new retail formats (national discount chains, "category-killer" stores, warehouse stores) reshaped retail marketplace dynamics, none of which is unique to Anchorage.

Between 1970 and 1994, the volume of reported retail square footage grew almost five-fold from 2.6 to 12.7 million square feet. Anchorage's per capita inventory of retail space increased by 150% from 20 to 50 square feet per person, to more than two times the national average. Much of this new retail space (Dimond Center, 5th Avenue Mall, Northway Mall, several Midtown malls, national chains) was prominently located and was eye-catching. Less dramatic, but also noteworthy, was the constant turnover within the existing space inventory, especially after 1985, as the retail industry adapted to shifting demographics, changing consumer tastes, and new marketing challenges. All over town, old store signs came down and new signs went up, as the market found alternative life for surplus or increasingly obsolete

space. A dozen neighborhood supermarkets were converted to other uses. Many failed retail stores, some bearing old-time Anchorage nameplates (Montgomery Wards, McKay, Stolt, Nerland, Wolff, Hewitt, Ulmer, Yukon Office Supply, Longs Drugs, JoAnn's Fabric, Book Cache, Pay N'Pak), were refurbished and recycled by new users.

By 1970, the Downtown district was already a relatively mature retail center. Midtown took the lead in retail development from the early 1970s through 1990. Most recently, the burst of retail development in the Dimond Center vicinity has propelled the Southwest study area to the forefront. Meanwhile, the Downtown business district, characterized by resident-oriented commerce, gave way to visitor-oriented shops and tourist services as the ground-level commerce. Downtown retains a role, not however as a regional shopping center, but as a regional destination with major department stores, specialty shops, restaurants, and hotels.

Office. The pattern of commercial office space changed, too. Before 1960, commercial office land uses were concentrated in Downtown. During the 1960s, Midtown began to emerge as a secondary office center. Following the burst of office construction in Midtown in the 1970s, that area has consolidated its position as the dominant area for commercial office development in the Anchorage Bowl. Commercial office development suffered a severe downturn after the early 1980s construction spree, dropping to about 5% of the boom-time pace. The virtual lack of new commercial office development since 1985 tells the extent of overbuilding and stagnant demand in the commercial office space market.

Some office-based functions — most notably government and legal services — remain anchored to Downtown near state and federal courthouses. But as growth spread south and east, the role of Downtown, originally the town center of pioneer Anchorage, gradually shifted in emphasis. Midtown emerged as the primary center for corporate offices in banking, finance, insurance, energy, real estate, professional services, and other office-based firms, and for commerce (e.g., office supplies, restaurants) that catered to office industries. The move of Anchorage's major hospitals from near-downtown to East Anchorage triggered another important land use change. Coupled with rapid expansion in the health care sector, it spawned a constellation of medical facilities and offices in East Anchorage. The relocation of the Alaska Native Hospital from downtown to East Tudor Road will consolidate that trend.

Commercial Services. Commercial services land uses comprise an assortment of commercial activities, the most extensive of which are commercial recreation, auto repair, hotels and motels, communications facilities, transportation services and rentals, construction/contractor offices, personal services, commercial parking lots, and commercial horticulture. The overall trend for commercial services site development resembles the retail trend through 1990. New land uses for services expanded steadily from 1960 through 1985, fell off sharply through 1990, and declined even further after 1990. Generally, acreage dedicated to commercial services is more evenly distributed throughout the Anchorage Bowl than retail or office acreage. Service-related land uses are most numerous in Southwest, Midtown, and Northeast, and most scarce in Downtown.

Industrial. Generally, Anchorage lacks the heavy industry and manufacturing plants that typically occupy industrial land. Anchorage's industry, consisting mainly of bulk/outdoor storage and warehouses for goods in transit, was originally concentrated in the Downtown/-Ship Creek Valley area near port and rail facilities. Even today, Anchorage's efficient port and its lack of export industries have helped it contain waterfront-oriented industry to the Ship Creek area, leaving the rest of Anchorage's coastline free of industrial development. Beginning in the late 1960s, the Southwest sector succeeded Downtown as the preferred location for new industrial development. After 1975, the bulk of new industrial land uses (outdoor storage, manufacturing/processing plants, warehousing, construction yards) gravitated to the rail/highway industrial corridor between the Old Seward Highway and Arctic Boulevard and to the King Street industrial area. Southwest now supplies more industrial sites than any other part of town.

Transportation. Transportation-related industrial land uses consist of tracts specifically dedicated to air, rail, port, and motor vehicle facilities. Airport-related land uses at Anchorage International Airport and Merrill Field dominate this category, comprising 86% of all transportation-related land uses. Rail and marine facilities, truck terminals, freight forwarders and similar uses in the Ship Creek Valley also comprise a major set of transportation land uses. Midtown's air freight terminals are another significant transportation land use. Many transportation-related land uses, especially airport-related uses, are lightly developed.

Summary. Anchorage's 25-year period of accelerating commercial and industrial development ended abruptly with the economic and real estate crash of 1985. Since 1985, there has been very little new commercial office construction, little new industrial development, and, after 1990, a rebound in retail construction. Generally, ample inventory and weak demand continue to depress the market for vacant and developed commercial and industrial properties below pre-recession price levels.

III. Methodology

General Description. The commercial and industrial land use study contains two basic elements: the technical appendices and the findings report. The technical appendices include Appendix A, Resource Contacts; Appendix B, Zoning Intent Summary; Appendix C, Land Supply Demand Model; and, Appendix D, Technical Memorandum 1 and Technical Memorandum 2. The first memorandum contains the economic overview, trends analysis, and inventory and assessment. Technical Memorandum 2 includes projections of land use demand. The preliminary findings report (this document) includes an overview of the economy, a description of retrospective and prospective trends, a conceptual model of land supply and demand, and a discussion of policy implications and strategic areas.

In Technical Memorandum 1, the description of the population and economic characteristics of the study area draw upon several socioeconomic and land use databases and other relevant information sources. The data series used include the US Department of Commerce , Bureau of Economic Analysis, Alaska Department of Labor wage employment and payroll data,

federal Bureau of the Census economic censuses of wholesale trade, retail trade, and service industries, the 1990 decennial census, and the "Anchorage Indicators" published data.

In "Inventory and Assessment," also a part of Technical Memorandum 1, data summarizes and analyzes commercial and industrial land uses by location, building improvements, acreage and parcel sizes, physical condition of buildings, and vacant land supply. Whole parcels are summarized according to their primary land use. This inventory and assessment was conducted primarily using a geographic information system (GIS) data base. The Municipality's land use, zoning, wetlands, sewer and water, floodplain, and streets and highway mapping data files along with the property assessment data bases were converted into a series of map files using ArcView. Two main databases were used. One has over 66,000 records and contains land use and zoning information for all parcels, and the second has over 16,000 records and contains land use, zoning, and tax assessment information (linked by tax identification number) for all parcels used for commercial, industrial purpose, and all vacant parcels. Of the 16,000 records only 89 of them could not be linked to tax assessment information. Another 452 did not have tax assessment information primarily because they were publicly owned and thus not taxed.

Projections made in Technical Memorandum 2, "Projections of Land Use Demand," were based on the most recent population, employment, and personal income forecasts for Anchorage and its market area, performed by the Institute of Social and Economic Research (ISER). The conceptual model for projecting commercial and industrial land use is described in more detail in Technical Memorandum 2.

This preliminary findings report draws heavily upon the information found in the technical appendices, incorporates the critical information from the various resource contacts, and analyzes a number of the land supply and demand issues.

Geographic Information Systems (GIS). All geographic data, including land use, for the project was provided by various MOA agencies. The procedure for incorporating the data into the land use study consisted of multiple tasks including ARC/INFO processing and conversion to ArcView shapefiles. All GIS analysis and mapping were completed with the ArcView software.

The first step included developing a study area boundary in ARC/INFO and merging the data with the zoning and land use layers (Database 1). This composite data became the master data set so that for any given parcel, the zoning, land use, and study area could be determined. This data set was then converted to an ArcView shapefile. Other ARC/INFO coverages, such as wetlands, floodplains, seismic hazards, street centerlines, etc., were all converted to the shapefile format. The slope layer was the only GIS data set developed by the contractor, GeoNorth. It was constructed using the ARC/INFO TIN module to process the MOA elevation layer.

The second step was to derive the necessary layers from the first database for specific analysis and display of commercial and industrial information (Database 2). The information in the

second database consisted of commercial and industrially used parcels as well as vacant parcels (see Appendices for specific categories). The commercial and industrial zoning layers, where the land use was classified as vacant, were used the most extensively in the analysis and mapping. The third step was to link processed CAMA data (described below) from the MOA Property Assessment Department to the parcel shapefiles in Database 2, based on the tax-ID field stored in the land use data. This enabled analysis and mapping of CAMA data such as building square footage, physical condition, and assessment information. The last step involved using ArcView to perform selections and analysis based on the intersection of environmental constraints (wetlands, slope, and so on) with vacant commercially and industrially zoned parcels. Results of this database manipulations were used in the analysis and in the preparation of the maps.

The information from the CAMA database that was extracted and merged with the GIS coverages such as building sizes, on-lot parking, and building physical condition was used because there were no other sources of published information. The CAMA database has both some qualities and limitations that warrant further description here. According to discussions with the property appraisal office, the CAMA information is updated regularly every two years for commercial and industrial properties. The fields containing information such as building size, on-lot parking, and physical condition are considered by the property appraisal office to be complete. For example, the field with parking data is considered to be a fairly good rough estimate of on-lot parking. The field that is the most variable is the physical condition field. Definitions used such as "good" and "poor" are subjective and applied during a site visit based on the professional opinion of the assessor. The field is considered conceptual and is revised and manipulated on an as-needed basis to refine final assessment numbers. However, because this specific land use study is macro-level and not intended to be parcel-specific, and because of the lack of other published information sources, the data were determined to be accurate for the analysis purposes of this study. In all cases, where better information than tax assessment data was available (such as land use directly from the MOA planning department), those sources were used.

Public Involvement. In addition to the above-described methodology, the study supplemented technical data by conducting a series of informational interviews with technical "resource contacts" in the community. The persons selected as resources were identified jointly by the consultant and the MOA at the beginning of the project. The resources were selected based on their recognized expertise in local commercial and industrial real estate markets and the Anchorage economy. The names of those contacted are listed in the technical appendices. Specific interview comments identified by individual are not included to protect the confidentiality of the interviews. The results of the interviews have been incorporated, as appropriate, into the findings report. Since the beginning of the project, numerous business and community leaders in Anchorage were contacted, some more than once, to discuss their thoughts about commercial and industrial growth in Anchorage, what the future holds, what the impediments might include, and what should be considered as the Municipality updates commercial and industrial component of the comprehensive plan.

During the project, two newsletters were developed and distributed to the resource contacts as well as approximately 60 other recipients, including ten municipal and state departments as well as city boards and commissions. The newsletters provided information about the project.

In addition to individual interviews, there were two public workshops held to present the preliminary findings of the study. Although attendance at each workshop was small, the representation was broad — participants included the port of Anchorage, AMATS, the Anchorage planning commission, members of the transportation community, an attorney specializing in land use law, commercial and industrial real estate brokers, and several major landowners and developers.

An additional worksession was held at the conclusion of the study with the Assembly and Planning Commission to present this findings report. Comments received at the workshops and the worksession have been incorporated, as appropriate, into this findings report.

Although this technical study may be complete, its application in the comprehensive planning process is just beginning. The information in the study and the resource contacts made during the course of the study will be invaluable to the MOA as it continues the process of updating the comprehensive plan in 1997.

IV. Analysis and Forecasting

A. Land Demand

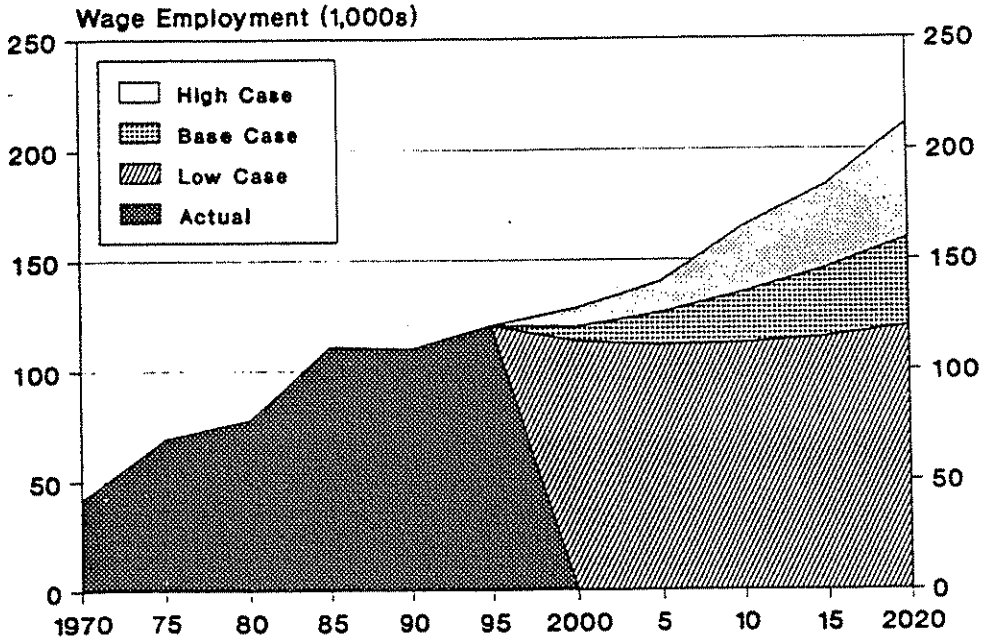
The planning team projected raw demand for acreage to accommodate future commercial and industrial development for the Anchorage Bowl. These raw demand projections were then adjusted to reflect the realities of land supply, developmental constraints, and market forces. The conceptual model for projecting commercial and industrial land use demand is simply explained. Economic growth generates jobs. Jobs require workplaces. Workplaces are located, for the most part, on commercial and industrial land uses. Following this conceptual model, we used future employment forecasts developed by ISER, along with current ratios of employees per acre for various land uses, to project future commercial (retail, services, office) and industrial (excepting transportation) land use demand. The assessment of future transportation (port, airport, rail, motor vehicle) land uses was based on information obtained from port, airport, and rail officials.

Three sets of land use demand projections were prepared — a base case projection which was the primary case for analysis, and low and high case projections which served to define the upper and lower limits of potential land use demand.

Future Employment. ISER's base case employment forecasts for Anchorage assume an average annual employment growth rate over the 1995-2020 period of 1.1 % or about 40,000 new jobs altogether. This compares with an average annual job growth rate of 3.6 % over the previous (1970-1995) 25 years (refer Figure 3). The growth rate forecast for the low case was -0.1%; for the high case 2.3%. Thus, even under the most optimistic growth scenario,

Anchorage would experience a substantially lower rate of job growth than actually prevailed over the last 25 years (Figure 3).

Figure 3
Wage Employment - Actual and Projected
Anchorage, 1970-2020



Source: ISER.

The ISER forecasts 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 (petroleum, seafood, timber, mining, and tourism) would grow by +63% between 1995-2020, infrastructure (transportation/communications/utilities and construction) and support (trade, services, and finance) employment by +37%, and governmental employment by +6%.

Employees per Acre by Land Use. Table 2 shows the current ratio of employees per acre for specific land uses. 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. The employee ratios for industrial (6.4 per acre) and transportation (1.5 per acre) land uses were low, but consistent with low-intensity industrial and transportation land uses typical of the Anchorage Bowl.

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).

These are average ratios; actual ratios may vary by location, by more specific use types, or by other factors. For example, employment density in downtown high-rise office buildings with off-site parking is much higher than for low-rise suburban offices with parking. Similarly, variations may arise within specific subtypes of retail, service, and industrial land uses.

Anchorage has relatively few labor-intensive manufacturing plants. Most of its industrial land use acreage involves low-intensity uses such as bulk and outdoor storage, equipment and construction yards, utilities, and similar uses. Moreover, many large industrial parcels are unimproved or only lightly improved. This accounts for the overall low ratio of employees per acre for industry in the Anchorage Bowl. Conversion of industrially zoned lands to retail may not be a major problem in the short-term given the lack of demand for major industrial uses.

As with industrial tracts, a significant share of the Anchorage Bowl's total transportation land use acreage is unimproved or lightly improved and supports negligible employment. Almost 80 % of transportation uses consist of low-intensity airport-related uses (runways, taxiways, clear zones, airplane parking) at Anchorage International Airport. 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 terminals account for most of the balance.

The link between transportation employment and most related land uses was tenuous and uneven. Therefore, the demand for airport, port, and rail transportation land uses was assessed based on information obtained by interviews with managers of the major transport facilities, such as Anchorage International Airport, the Port of Anchorage, and the Alaska Railroad Corporation, interviews with users, and review of published information for these facilities. Future demand for motor vehicle transportation land uses was estimated to be proportionate to growth in employment in the support and infrastructure sector.

Projected Land Use Demand. Projected land use demand was derived from ISER employment forecasts and existing land use ratios. Table 3 shows projected demand by land use type for each growth case through the year 2020. The negative net retail, office, and transportation land use demand projected under the low case scenario reflects that the ISER projections anticipate a net job loss under that scenario in those economic sectors.

Based on information obtained from airport, port, and railroad staff, it was determined that these transportation functions could accommodate their future facility requirements within their existing landholdings or through development of publicly-owned tidelands.

Table 3
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.

For the ISER base case employment scenario, a more detailed projection was developed to show net demand for each land use in five-year intervals through 2020 (see Table 4). Finally, for the base case, retail, service, office and industrial land use demand was allocated by study area (see Table 5). The allocation was based on general trends in the spatial distribution of land use developments over the 1981-1995 period.

Table 4
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.

Table 5
Commercial and Industrial Land Use Demand (Acres)
by Study Area, Base Case, Anchorage Bowl, 1996-2020

	Downtown	Midtown	Northeast	Southeast	Southwest	Total
Retail	14	126	95	22	181	438
Commercial services	48	64	33	24	122	290
Commercial offices	11	84	30	7	36	167
Industrial	37	154	215	89	460	955

Summary: Under the Base Case, Anchorage's demand for commercial and industrial (excluding transportation) land uses is projected to grow at a rate of about 1 percent yearly. Demand was projected to be strongest in the Southwest study unit, followed by the Northeast and Midtown study units.

B. Land Supply

The supply of land available to be used commercially or industrially depends on the zoning designation of the land. The zoning designation essentially provides the rules of the game for how land can be used. The planning team first examined the distribution of uses within the zoning districts that allow for commercial and industrial development to determine the amount of vacant and redevelopable land. Zoning districts that allow commercial development 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). The light industrial zone (I-1) is a very flexible zone that also

allows for many commercial uses. 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). A description of each commercial and industrial zone intent is contained in Appendix B.

The planning team found there are 806 vacant acres zoned commercially, and another vacant 721 acres in the I-1 zone with the potential for commercial use. On the industrial side, in addition to the 721 acres zoned I-1, there were another 1,829 acres in the other industrial zones (this includes 1,256 acres at the airport). For a complete picture of the inventory, refer to Appendix D, Technical Memorandum 1, "Inventory and Assessment."

The next question the planning team considered was the quality of the vacant commercial and industrial land supply. The team looked at several factors that affect the supply of vacant land zoned for commercial and industrial development. The factors analyzed included environmental constraints, serviceability, and accessibility and compared these characteristics to the necessary site requirements for commercial and industrial users. The environmental constraints that were investigated included wetlands, floodplains, steep slopes, and seismic hazards. Approximately 15 % of the total vacant commercially zoned acreage is in parcels that are completely or partly constrained by environmental factors. For vacant industrially zoned land the figure is slightly higher (18%).

In addition to environmental constraints, we examined the availability of utilities and accessibility to the vacant land supply. The broad conclusion of this analysis is that the existing planned infrastructure is adequate to accommodate projected land consumption for commercial and industrial land uses. The geographic information system (GIS) was used to determine the parcels within a given distance from both water and sewer lines. Vacant commercially zoned land has relatively good access to utilities with only 5% of the acreage further than 500 feet from water lines and only 4% farther than 500 feet from sewer lines. Approximately 8% of the industrially zoned vacant land is further than 500 feet from sewer and water lines.

The Anchorage Water and Wastewater Utility (AWWU) recently completed master plans for both water and sewer for the Anchorage Bowl. As part of the master plans, population distribution, land use, and commercial and industrial users were identified for the Anchorage Bowl in order to predict development patterns and future water demands and wastewater flows. Like this land use study, the wastewater master plan also used ISER population figures. Commercial and industrial sewage flow in the bowl was predicted to grow by the same percentage as population growth. According to the master plans, the commercial centers expected to see the greatest flow increases are midtown, downtown, and the airport, as well as south Anchorage near Dimond Boulevard and the Old Seward Highway and the University/medical area east of Lake Otis Parkway. According to the wastewater master plan, the Point Woronzof treatment facility has adequate treatment capacity for average day and maximum-day flows through the year 2020.

Electric utilities are generally considered adequate and available throughout the Bowl for commercial retail, office, and light industrial. Limitations begin to appear in southwest Anchorage. In the event some of the properties zoned for heavy industrial are to be developed, additional electrical service may be required and arrangements for installation and payment would have to be negotiated with the local electrical utility provider.

A similar GIS analysis was used to determine the acreage of vacant commercially and industrially zoned land relative to major streets (arterials, collectors, expressways, and freeways). In terms of acreage, 87% of vacant commercially zoned land and 87% of vacant industrially zoned land is accessible to a major street. See Technical Memorandum 1, "Inventory and Assessment", Appendix D, and "Transportation Planning Issues" of this report, for more information regarding accessibility constraints.

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, and other constraints.

Another factor that will influence the redevelopment potential of commercial and industrial uses is the quality of the building stock. An attempt was made to provide some insight into the quality of the building stock being used commercially and industrially. The condition of the buildings is reported in two different ways. First, a rate is assigned by the municipal tax assessor. The second way is a calculation of the assessed value normalized by dividing by the square feet of building area. Over 90% of the stock of commercially used buildings and over 86% of the stock of industrially used buildings are rated as average or better by the municipal tax assessor. Analysis of the assessed value indicated average assessed values of around $30 per square foot of building area for commercially used buildings. On average, industrial buildings have a lower assessed value per square foot (by $8 to $17) than commercially used buildings.

To analyze redevelopable land, a methodology that relied on the ratio between the assessed building value to the assessed land value was used. The lower the ratio, the lower the value the building has relative to the land. Having a low building value relative to the land indicates that the parcel is more likely to be redeveloped. The analysis indicates that approximately 36% of the buildings in commercial zones have a moderate to high redevelopment potential. For the industrial zones the figure is slightly higher, with 48 % of the buildings having redevelopment potential. The methodology for industrial zones is less reliable, however, because many industrial uses are land intensive. In other words, a low building value relative to the land value is less meaningful because industrial users often require only a small office space with a large tract of land to store heavy equipment or other industrial-related goods, for example.

Another important aspect of the land supply is that it must have the kinds of location and size attributes for which users are looking. Siting characteristics desired by users for categories of commercial and industrial development are described in more detail in Appendix D, Technical

Memorandum 1, "Site Requirements". The site requirements described were those locational characteristics considered important for business development and did not include factors such as availability of labor, wage levels, labor-management relationships, utility costs, financial resources, local and state business climate (tax burden) and quality of life (housing, education, recreation and culture, health services).

The planning team performed an analysis of the GIS data to determine how well the supply of vacant and redevelopable land matched the site requirements desired by users. The database was sorted to identify those parcels which best fit the site requirements described in Appendix 3 of the Technical Memorandum. For example, those parcels best meeting the high density office category were derived by sorting the database to identify commercially zoned parcels greater than three acres, that were vacant or had a high or moderate redevelopment potential, were within 100 feet of an expressway, freeway, arterial, or collector, and were in central locations such as midtown, downtown, Tudor Road, and the Huffman area. Similar sorting was done for the other major use categories. The results of the analysis are indicated in Table 6.

Table 6
Supply of Parcels Meeting
Commercial and Industrial Site Requirements

Use	Parcels	Acres
Large Retail	23	193
Small Retail	1,240	607
High Density Office	32	201
Low Density Office	65	135
Heavy & Light Industry	243	1,512

In general, the supply of existing vacant commercial and industrial lands within the Anchorage Bowl is not severely constrained by environmental factors. It has good access to water and sewer utilities and is generally accessible to major roads. The vast majority of the building stock is average or better, indicating that the supply of buildings is not a constraint to their redevelopment. Finally, there is a supply of redevelopable acreage that can supplement the vacant supply. The remaining question is "is there enough of a supply vis-à-vis the projected demand? "

C. Market Influences and Adjustments

Given the powerful base of historic land use information and macro-economic growth projections developed in the quantitative core of this study, this study must also factor for market irregularities and potentials for future changes that interact on actual land uses. These influences include adjustments for changes in assumptions about economic utilization, the probability of additions or subtractions to the inventory of land due purely to specialized business, personal and political motivations, and excess supply relative to the maturity of a

selected submarket, and other considerations essential to maintaining a competitive marketplace over time. By correlating these admittedly less tangible, but still fundamental measures with the underlying harder data base, we can more effectively plan for future community needs. This exercise is essential in support of one of the key premises underlying this study: the responsibility of long range public land planning to accommodate a wide range of possible market driven futures.

Overview of Land Market Dynamics. The marketplace determines the use of land in many ways that planning can never fully predict. Of many examples none is more profound than to note that as the market heats up, economic pressures for more intense use of land will act to increase the effective supply of usable land. The usual observation is that as land values rise, efficient use increases, effectively increasing the supply without any actual inventory changes. Therefore, in understanding land markets it is very important to distinguish between purely physical aspects and financial or market induced elements.

Over the past 25 years, local land use investments in Anchorage have been aligning municipal zoning with the realities of the marketplace, the use of I-1 land for contemporary retail purposes being the most evident example. This is perhaps one of the successes of the interpretation of the permitted zoning uses, as well as one of the important lessons to show how a community can never effectively either anticipate the full future needs or operations of the market.

In the past, Anchorage's boom and bust cycles have tended to displace normal market stabilizing forces. For the future, however, the outlook is for ever-increasing stabilized year-to-year economic change, with more old people and less transient families changing the nature of cyclical demand for land. Included in the cycles of market demand are internally generated mini booms and busts within the real estate part of the economy, driven by geographic shifts, investor psychology, periods of under investment and growing obsolescence followed ultimately by patterns of rebuilding.

Retail. Major trends that will continue to impact Anchorage over the foreseeable future include:

- Constant new uses, particularly mid-size category specialists and concept national restaurants seeking freestanding-like, highly visible and parking accessible sites, will enter the marketplace. In the face of apparent over supply it is important to understand that many new national retailers are not initially motivated by traditional market support analysis (population, income, competitive share). Other factors can drive their entry and expansion into the local marketplace (need for presence, critical mass related to supporting advertising and non-Anchorage stores, national competitive environment, Wall Street favor, etc.). Furthermore, national retailers are often not as real estate price sensitive as many smaller local operators, who have higher non-real estate operating costs and more limited or more expensive sources of operating capital.

- Market saturation and shakedown will occur. Retail is always in a state of transition, with a particularly profound period going on during 1990 to 2000. Over capacity in terms of space is a part of the constant transition in retail, with location, management, and image being much more important to individual operators than the gross supply of square footage community wide.

- Selective consolidation, competitive realignment, and lots of outright closings are on the near-term horizon. Two stores of the same retailer may fold into one. Mergers between competitors or synergistic users will occur. Retailers newest to Anchorage, or with new stores, will be looking hard and fast at store performance one to two years after opening when real profits must begin to be realized.

- There is a surplus of existing developed sites that can absorb future market related changes.

- "Bleeding" of retail uses to suburbs, exurbs and beyond will continue, particularly toward Eagle River, the Matanuska-Susitna Valley and even Fairbanks.

- Clustering around successful regional malls or other emerged contemporary retail concentrations will occur.

- There will be an integration of services and independent vendors within larger grocery stores, as witnessed already so widely in Anchorage. Nonetheless, grocery stores, as other category retailers, appear to be reaching the threshold of maximum effective size. There is a need to offer the convenience of multiple locations that even the largest of stores cannot provide, and a need to not overwhelm customers with redundant consumer choices and excessive product lines within one shopping destination.

- The retailer (and shopper) preference for larger destination category special stores featuring long open hours and direct parking lot access will continue. This does not suggest the demise of regional shopping centers, but does underscore their limitations and need to constantly reconfigure or adapt their space.

- There will be the continued conversion of older inline neighborhood shopping center space into a wide variety of community serving offices, storefront facilities, and so on. This trend also represents conversion of older grocery stores for new specialty entrants or alternate destination users.

- The maturing of larger category dominant stores, leads to modified space requirements, less annual new entrants, and generally a slowing pace of change compared to most recent activity.

- Consolidation of buying, marketing and management for non-grocery based merchants will be a major trend.

- The proliferation of national and regional restaurant and prepared food takeout franchises will continue. There will likely be a tendency for these uses to concentrate regionally, but there is no reason that increased market presence will not dominate in Alaska as well. For example, McDonalds is constantly feeding growth by improvising its marketing concepts to infiltrate as many venues as possible.

- At home shopping (catalogue, cable TV and computer network based) will make strong in-roads as vendors, customers and distribution systems catch up with technology, but will not supplant traditional in-store shopping experience.

- Large corporate retailers and mall owners will compete for shoppers by constantly reinvesting in their businesses (such as adding entertainment). There will be some winners and many losers.

- A growing trend is the development of large, single-destination entertainment centers, which cater to adult as well as younger groups. Some will survive and expand, and will gradually grow more and more specialized.

- Cross-marketing and vending relationships will emerge. Examples will include combining gasoline stations, name brand food service and other functions; retailer combinations such as food and books; Disney and McDonalds.

In total, we can expect retailing and its many related commercial ventures to continue to evolve at a seemingly torrid pace of experimentation and change. The primary implications for land use are two fold:

1. Existing patterns and facilities are never safe from change. Many retailers will be closed, relocated, or otherwise uprooted.

2. Newness and vibrancy is essential, whether in redevelopment settings or open fields. Retailers do not care about real estate vacancy per se, but that the right sites are used to achieve the right operating environment.

Industrial. Although it never has approximated a national- average type of city, Anchorage's traditional mix of industrial related employment has in some ways been ahead of national trends, which for the past three decades has seen continued shifts away from mass manufacturing into areas of trade and distribution, and more specialized industry support businesses. The primary national-related trends in industrial land uses that are likely to continue to be reflected in Anchorage include the following:

- There will be continued strong competition from locations outside Anchorage that can operate at a lower cost.

- There will be tremendous interstate public competition for so called big plums, like high tech, bio medical, and communications-related industries, and occasionally for more traditional durable good manufacturing plants.

- Increased nationalization and internationalization of outsourcing for any component, made possible by computer based transfer of specifications and next day delivery, will occur. This trend can be both positive as well as negative for Anchorage's strong base of smaller, Alaska-serving industrial entrepreneurs.

In summary, the market dynamics suggest there is little if any need to anticipate the arrival of large traditional manufacturing plants and that smaller, relatively flexible users can be generally well served within the existing inventory of land. The exceptions to this balance may be in found in: (1) transportation-related industries or raw materials storage and processing; (2) some upgrading of the traditional Anchorage small industrial user environment to more planned commerce park settings; and (3) the possibility of some other stimulus related to Alaska's vast resource base, such as an increase in large natural gas energy intensive users.

Office. Changes in the mix of office uses include:

- Office employment outside of government will continue to vary due to employer consolidations, downsizing, outsourcing and liquidations.

- Opportunities for outside contractors will continue to expand, but the impact on Anchorage is hard to predict since contracted services can often come from virtually anywhere in the entire country.

- Home office and office sharing arrangements will account for a modestly greater part of the market (up to 15% of total market), reducing to some extent the need for extra office space over time.

- The need for modernly equipped and functional office buildings will become greater, meaning that obsolescence of existing facilities will have to addressed even if there is no net growth. Newer buildings are substantially more efficient, and over the next 10 years will have to be added, either by gut rehabilitation of older buildings or through totally new construction. This does not have strong implications for local land use since there are plenty of well located potential underdeveloped or redevelopable sites in Anchorage.

- There will be specific trends towards more efficient buildings in terms of achieving better ratios of gross floor area to rentable area. For example, one to four story buildings will be more feasible. The trend toward more user friendly parking, stronger amenities and other work environment enhancements will occur.

Hotel Trends. Special attention to lodging needs may be appropriate in the vicinity of the airport, in reinforcing downtown, and in anticipating the emergence of some facilities in the south end and midtown areas.

D. Supply-Demand Model.

The study team has employed a modeling technique designed to illustrate how different types of future market influences and other changes may impact the underlying balance between the supply of needed land and the implied demand. By assigning numerical adjustments to the static supply and estimated demand we are able to project a generalized picture of whether the existing patterns of land supply are likely to be adequate to meet future demand. The attached modeling examples indicate a general expectation of continuing balance between supply and demand without a near term need for major commitments to add to the basic background levels of zoned commercial ground. A summary of the model follows this discussion.

Four primary sets of inputs are used in the attached Supply-Demand tables, attached in Appendix C.

Land Supply. We have aggregated commercially designated land net of park and open space into categories of fully developed, redevelopable and vacant. Using the value of the ground-to-improvements ratio outlined in the "Inventory and Assessment", found in Technical Memorandum 1, we have determined that on average 36% of currently used commercial ground is potentially ripe for substantial redevelopment, a number which we also used in estimating used or usable ground in the undesignated "other" categories of land use.

Since commercial uses are found on many parcels of I-1 zoned land we have had to include a portion of I-1 land in the commercial supply-demand model. We developed a ratio of potential commercial use versus industrial use of 27% commercial to 73% industrial. While the actual Bowl-wide numerical split of recorded land uses is 19% commercial and 81% industrial, we adjusted the ratio upward to reflect our findings that within the primary commercial development corridor boxed by Tudor on the north, Lake Otis Parkway on the east, Huffman Road on the south and Minnesota Boulevard on the west the split is 27% commercial versus 73% industrial. We believe this somewhat higher ratio is a better estimate of what I-1 land could be pressed into commercial if market forces desired, instead of simply extending the current lower ratio.

The adjustments which we have applied to the gross supply relate to:

- Rezoning — routine and unsytematic adding to or subtracting from the current inventory as continuously initiated by individual property owners over time .
- Public policy — encompassing pro to anti-growth positions, easy or difficulty of obtaining site plan approvals, etc.
- Ownership Status — such as refusal to sell, estate settlement lags, general legal tie-ups, etc.

Land Demand. The adjustments which we have applied to the total projected demand outlined earlier relate to:

- Industry changes — outmigration of business, consolidated distribution systems, new technologies, etc.
- Economic Use/Efficiency — more intense or less intense use of existing space and land, improved parking, new environmental mitigation technologies.
- User Needs — special property requirements, desire for one location over another.
- Competitive Balance/Surplus —need for more ground that actually required so as to ensure competition within market between landowners for universe of users.

Findings and Implications. In the base case growth assumptions we find that throughout the bowl there is an adequate supply of commercial zoned land and a comfortable surplus of industrial zoned land. When we look at the planning subarea that exhibits the greatest number of questions about adequacy of competitive supply (Midtown), we again see no fundamental concern of "under supply", a findings premised largely on the ability of significant portions of I-1 zoned land to be used for general commercial development.

When we evaluate the commercial land supply assuming the high case growth scenario the employed model shows a gap emerging between possible demand and the adequacy of supply. Again, when the high growth test is analyzed under an assumption of potential I-1 conversion at twice the base case assumed rate (54% vs. 27%), an overall balance of supply and demand is restored. Table 7 summarizes the land supply and demand model found in Appendix C.

Table 7
Supply-Demand Model Summary

	Existing Usable Supply	Total Adj.	Effective Supply	Projected Total Demand	Total Adj.	Effective Demand	Potential Shortfall/ Excess	Comments
Commercial Base Case	3,775 ac	-25% to 25%	2,831 to 4,719 ac	3,339 ac	10% to 25%	3,673 to 4,174 ac	-842 to +1046 ac	unlikely shortfall
Industrial Base Case	6,248 ac	-25% to 25%	4,719 to 7,810 ac	3,227 ac	10% to 30%	3,550 to 4,195 ac	+1,136 to +4,260 ac	substantial excess
Commercial High Case	3,775 ac	-5% to 35%	3,587 to 5,097 ac	4,605 ac	-5% to 15%	4,375 to 5,296 ac	-788 to +722 ac	unlikely scenario; possible shortfall
Com. High with High I-1 Conversion	4,385 ac	-5% to 35%	4,166 to 5,920 ac	4,605 ac	-5% to 15%	4,375 to 5,296 ac	-209 to +1,545 ac	unlikely scenario; likely balance
Midtown Commercial Base Case	1,044 ac	-25% to 0%	783 to 1,044 ac	1,032 ac	-10% to 0%	929 to 1,032 ac	-146 to +115 ac	possible shortfall
Midtown Com. Base with High I-1 Conversion	1,135 ac	-25% to 0%	851 to 1,135 ac	1,032 ac	-10% to 0%	929 to 1,032 ac	-78 to +103 ac	likely balance

Moving away somewhat from the specificity suggested in the supply-demand modeling approach, we offer the following conclusions:

1. There is no apparent bowl-wide commercial or industrial land shortage existing today or anticipated over the immediate planning time horizon and there is not a localized shortage of commercial ground. Albeit there are site-by-site exceptions due to parcel configuration, ownership expectations and other normal market variances. With few exceptions, there appears to be enough excess zoned land inventory to sustain a land supply that avoids precluding new comers from entering the marketplace, thereby enhancing choices and keeping costs down for end consumers. This is an important planning factor, considering that as any community grows it may face an imbalance between where the land is available and where it is desired. Unlike many other cities, Anchorage is blessed with a rare overall balance between subareas in terms of land supply, infrastructure and market growth characteristics.

2. A simple drive around town suggests there is more than sufficient vacant land, underdeveloped land, or basically obsolete properties to provide the needed inventory to feed the potential demand over the anticipated planning time horizon. Our extensive qualitative analysis clearly affirms this most basic of intrinsic observations.

3. The only two perceived land shortages are larger retail sites in midtown and very large industrial land bays. Larger retail sites are those sites in excess of 25 acres and very large industrial land bays are those sites in excess of 200 acres. A viable economic response to the former is to let the market re-package sufficient sites by bringing into play site redevelopment in a much bigger way.

We find that from a physical standpoint, the large mass of underdeveloped transportation-related and non-park publicly owned land within and bordering the study area could ultimately serve to support a need for an unforeseen large amount of industrial type ground. If the need did indeed arise, this additional industrial land supply would in turn allow for more extensive conversion of well located existing industrial zoned land to support growth in commercial land use sectors. In addition to land conversion, a high growth environment would likely promote more intense infill, benefiting Downtown as well as the rest of the established community.

V. Strategic Planning

Strategic planning is a way for a community to envision its future and take the necessary steps to achieve that future. A key part to successful strategic planning is data gathering and analysis. This commercial and industrial land use study is the beginning of that strategic planning process — it provides a technical evaluation of the condition of the commercial and industrial land use base and identifies some preliminary ideas for addressing the opportunities or constraints that might exist with the land use base. These ideas were developed through a review of the detailed information in the technical appendices, from contact with key resources in the community, and from a review of several planning-related documents, including several described in the following sections.

The remaining steps in the comprehensive planning process (and inherent to a strategic planning process) are to reach consensus on community goals, develop strategies for reaching the goals, and agree on plans for implementation. These steps will be accomplished as the Municipality moves forward with its process to revise the comprehensive plan.

A. Issues Related to the Comprehensive Plan

A comprehensive plan is necessarily a representation of preferences and perceptions of growth in a community. It provides a guide for community development. The comprehensive plan is an implementation tool that can influence or even control the rate, amount or geographic pattern of growth within a city's limits. The process for developing the comprehensive plan should include an analysis of all land uses — residential, recreational, public, as well as commercial and industrial. Before enacting regulatory or administrative schemes for the management of land uses, the community must know what it has, where it is, and what community preferences for growth might include. In addition to the description of physical relationships and patterns of commercial and industrial development, the plan should include issues such as neighborhood protection, the role of the plan in overall community economic development, appropriate parcel size, and density of development.

The comprehensive plan must establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions. This study provides a first step in the planning process — it provides the factual basis for the policy framework, the findings about the commercial and industrial land use patterns in the Anchorage Bowl. The study does not include other essential elements to a comprehensive plan — residential land use, recreational areas, open space, transportation systems, and community preferences for growth, to mention a few. Developing new or revising existing comprehensive plan land use designations without benefit of community input at this phase would not be appropriate. However, key comprehensive plan designations that should be evaluated include the commercial, commercial/industrial, and transportation-related designations. In addition, key to the continued vitality of commercial and industrial development will be an evaluation of the residential component and the public lands and institution designation. Where people live in relationship to work places will be critical not only to updating the residential densities allowed but also to the update of the long range transportation plan. How public lands are used will be critical to any economic development strategies the Municipality might develop.

B. Planning Sub-Area Refinement

In the commercial and industrial land use study, we divided the Anchorage Bowl into five study units for purposes of analysis (see Figure 1). The study units were determined jointly by the consultant and the Municipality and reflect generally the earlier-defined "geographic rezone" boundaries for the Bowl. The units were named Downtown, Midtown, Northeast, Southeast, and Southwest and are depicted in the "Inventory and Assessment. To the extent possible, the study units follow census block boundaries and traffic analysis zones (TAZs).

This division allows us to examine the distribution of uses on a smaller scale and allows us to project land demand by smaller areas.

We suggest establishing more refined sub-areas than the study units for the comprehensive plan. This refinement will be critical for development of the land use element and transportation element of the comprehensive plan. The sub-areas typically can include the "community within the community" and this form of planning allows for further analysis of data and the tailoring of the land use element with specific implementation techniques. Key steps that should follow to refine the sub-areas include:

- Delineate planning sub-areas based on physical characteristics found to define and determine development trends and community preferences for land use by area. Incorporate any other factors of the sub-area that should be considered in evaluating future land use proposals.
- Conduct detailed studies in each planning sub-area to determine the suitable land use relationships.
- Determine the amount of land needed to accommodate growth — this study describes the land supply-demand for commercial and industrial. Additional data on other lands needed will be one of the "nuts and bolt" planning issues for the Anchorage Bowl.
- Determine if the present area is large enough to accommodate expected population growth for the next 25 years. The commercial and industrial land use study accounted for land consumption for commercial and industrial but did not account for demand for residential land.

In addition to understanding the comprehensive planning process and using a sub-area or community-based approach, the plan must consider the preferred mix of single family, multi-family and high density multi-family residential, where it is in relationship to access, services, and places of work.

C. Transportation Planning Issues

The study considered the accessibility of vacant commercially and industrially zoned parcels. The coordinated development of commercial and industrially zoned parcels and the transportation system will be a key consideration as the comprehensive plan is updated. As we noted in our analysis, transportation is one of the fundamental elements of urban growth and therefore should be a fundamental element of the comprehensive plan. The MOA can accommodate this in the comprehensive plan by further studying aspects of the transportation system such as the location of vacant commercially and industrially zoned parcels to collector and arterial-status roads, access to the port and airport, and freight movement issues.

Relationship Between Traffic and Land Use. History has told us that land use changes in response to accessibility. Accessibility can be a primary site feature that drives the commercial and industrial land use characteristics of most communities. As new highways and arterials are built or improved, new buildings for retail as well as office use, along with large parking lots, begin to appear. This transformation of land use typically occurs outside the central

business district and has occurred in Anchorage with the shift of offices from Downtown to Midtown, and to a lesser degree, Southwest. As this shift continues, concerns regarding urban growth and associated problems may multiply. These problems include more traffic and congestion, more air pollution, and the even faster decline of central business areas.

In areas with unacceptable traffic levels, an important planning consideration is determining if traffic is primarily generated locally or regionally. In areas with acceptable traffic levels, it will be important to determine if the traffic is primarily generated locally, or regionally, how it relates to the land use. The patterns that different uses create in a neighborhood, subareas, and the region need to be examined further. In some locations, it may be appropriate to encourage development that needs to attract trips on a regional scale. In others, development that generates frequent trips by commercial vehicles may be more appropriate, and the least imposing in terms of traffic patterns and traffic safety. And at the same time, these locations must be attractive to developers.

The bottom line is that there are immediate area impacts, corridor impacts, and regional impacts from commercial and industrial-related traffic that need to be considered in the comprehensive plan.

The following list presents examples of a few of the primary land use-transportation links in the Anchorage Bowl that contribute to commercial and industrial development. These links are actual transportation routes that may warrant additional focus in the update of the comprehensive plan.

- Dimond and Old Seward has grown up as one of the newer retail and office nodes — improvements to both routes have occurred to meet existing and anticipated demand.
- The southwest area supplies more industrial sites than any other part of Anchorage — there is good access to the rail/highway industrial corridor (Old Seward and Arctic to King Street). This area will continue to be attractive to industrial users, especially the heavy industries.
- C Street south to O'Malley improvements currently scheduled will expand access south of Dimond Boulevard to neighborhoods in south-southwest Anchorage.
- Old Seward south of Dimond to O'Malley improvements have occurred in response to increased demand for commercial and industrial parcels in the southwest section of the city. As this area continues to grow, both residentially as well as commercially and industrially, efficient connections to the New Seward as well as Minnesota Boulevard will continue to be essential. As well, potential land use conflicts may arise between existing industrially used parcels and expanding commercial uses that are attracted by improved access routes.
- King Street and 100th Avenue improvements provides a commercial and industrial collector facility to serve the businesses that are currently located, or may choose to locate, in the project's vicinity.
- Spenard Road improvements have encouraged commercial development by providing a safer, more attractive corridor to link the city and the airport.

- Debarr Road intersections at Muldoon and Boniface Road have expanded as retail nodes with past residential growth in East Anchorage. Improvements to both routes continue to meet the needs for west-east access and the increased growth in the suburbs and Eagle River (commuter traffic).
- West 36th improvements "opened up" additional commercial properties along a previously congested route. The route now connects two main north-south corridors, C Street and Arctic, more efficiently.
- Dowling Road proposed improvements between the Old Seward and Lake Otis provide additional commercial and possibly industrial development opportunities. Expansion of existing commercial opportunities at the intersection of Dowling Road and Lake Otis and industrial opportunities between Lake Otis and the New Seward will likely occur.
- Ocean Dock Road, at the Port of Anchorage, provides a critical link from the port to the major road and rail routes in and out of Anchorage to the rest of the state. This road-and-rail link has already been identified as needing improvement by the State Department of Transportation and Public Facilities.

Because the development of the long range transportation plan has, and will continue to be coordinated with the comprehensive plan, this allows the MOA to develop land use scenarios to achieve the desired level of traffic by sub-area. This study projected land demand for commercial and industrial areas (as adjusted). A similar model that adds in residential land demand could be developed. These projections will help the MOA determine whether a proactive or reactive approach is suitable to implement the overall transportation and land use goals. Proactive approaches would include incentives to developers to provide infrastructure and a reactive approach would mean the MOA provides the infrastructure to accommodate the resulting traffic associated with the development.

Movement of Goods and Services in and out of Anchorage. To effectively move goods and services in and out of Anchorage requires a well-maintained, efficient, and safe roadway system; safe, efficient, and frequent air transport options; and an efficient seaport. Goods are also transported by barge and rail. "Seamless" intermodal connections are important. The efficient clearance of imports through customs is also important, as is the cost of transporting goods.

Resource contact interviews indicated a high satisfaction with airport services in Anchorage. Those interviewed were impressed with the services despite weather conditions; the airport remained open and safe for operations 365 days a year. Those interviewed considered the Port of Anchorage a well-operated facility. The port has been addressing future needs of the users by coordinating with the state regarding improved road access. The access to the port, however, is of concern to users as well as the port — there is only one access in and out of the port. This could potentially be a safety issue in the event of an accident or oil spill. If the port were closed, this could result in significant economic losses to Anchorage and the various freight companies. Another access issue identified in the interviews was the connection between the port, the railroad freight yards, and the Seward Highway and International Airport Road. The connection is considered inconvenient and inefficient. In addition, the

numerous at-grade railroad crossings at the port were identified as a safety and convenience issue, causing traffic backups. This issue is currently under study.

Broader planning issues that need to be monitored and coordinated to accommodate commercial and industrial development include:

- traffic congestion must be at an acceptable level for businesses to function in a cost-effective manner
- sufficient signage regarding roadway limitations to notify operators of large vehicles where they should be traveling must be provided
- sufficient infrastructure, including safe and efficient connections, to satisfy the demand for goods movement must be provided
- the relationship between commercial vehicles, private vehicles, pedestrians and transit users, and bicyclists, and design facilities accordingly must be monitored
- businesses need locations that meet their transportation needs, and that have sufficient access as defined by the earlier-described criteria
- revisions to commercial vehicle loading areas in Downtown should be examined

Transportation as it relates to Community Growth. An adequate transportation system is a criterion that businesses consider when selecting a geographic area in which to locate. A good transportation system is important for businesses and the well-being of the community but does not guarantee growth. Some of the many other considerations include taxes, wages, characteristics of the labor pool, permitting/zoning issues, proximity to needed services, cost of living, housing, state of the economy, and customer base. Businesses will consider a wide range of criteria before they locate in Anchorage. Although there have been instances where an inadequate transportation system has discouraged development, prior experience in other cities indicates that in communities that are attractive for development, developers are willing to pay impact fees or provide services to improve transportation infrastructure. For example, during the late 1980s in areas such as Boston, MA, Bellevue, WA, and some counties in Florida, development impact fees were willingly paid by developers because these communities were considered more appealing for development. There have even been cases where developers have been willing to pay for community improvements unrelated to their impacts to locate in a desirable community. The extent to which Anchorage wishes to institute a more elaborate impact fee system to manage growth and cover the costs to the transportation system is a serious community decision.

D. Implementation

The study examined the current primary implementation tool, Title 21, and explored some other ideas, such as design standards and redevelopment and reuse, the MOA can consider as it updates the comprehensive plan. These implementation ideas are not to be considered all-inclusive — there may be dozens more that present themselves as a result of community involvement. Regardless of the tools the MOA adopts, it must seek an acceptable balance between legitimate community interest and developer's rights.

The existing zoning ordinance concentrates on separating incompatible uses. The existing commercial and industrial zoning categories were reviewed, primarily for the uses they allowed, and to a lesser degree, for the overall approach to site design. The ideas presented below do not represent a comprehensive review of the ordinance, but more importantly they represent a starting point.

- The ordinance appears to use a fairly traditional approach to land use regulation — a "pyramid" approach, if you will, that is all inclusive of uses at the bottom and most restrictive at the top of the pyramid. The most restricted zone is the single-family zone and the least restrictive zone is the industrial zone (both I-1 and I-2). The code currently provides for the separation of incompatible uses.
- There may be areas where the MOA determines industrial uses and commercial uses can readily co-exist if the commercial were properly located, and other areas where retail could supplant industrial uses that have moved out. This avoids creating the "anywhere goes" message that creates conflicts between industrial and commercial uses. In such cases, consider a developing a comprehensive retail strategy that evaluates the potential and appropriateness for retail development of industrially zoned areas throughout the Bowl. Perhaps pre-select areas zoned industrial where retail development is of-right and other areas where it can only go if it meets certain site development criteria.
- However, because the industrial zoning districts also allow commercial uses, there is no exclusively industrial zone in the Bowl. This lack of a zone that provides only for industry could be an important point to evaluate during the course of the comprehensive plan update. Every community must provide some area for the more noxious, heavy industry uses (i.e., I-2 permitted uses) and whether or not they do it vis-à-vis zoning is a community decision.
- Within the pyramid is an array of zoning districts, often with overlapping authorities. At first glance it would appear that a number of the districts are duplicative in their intent and application. And within some zones, the uses permitted outright and the uses permitted conditionally may allow for development that does not meet the intent of the zone. Depending on whether or not the Municipality chooses zoning as the primary implementation tool for the comprehensive plan, a reevaluation of the uses permitted conditionally will be useful.
- As a part of the comprehensive plan update, the number and intent of the zoning districts, especially the business zones, should be reviewed. It may be prudent, both for ease of administrating the code and implementing a new comprehensive plan, to consider combining some zones, rewriting some of the standards of review, and revising review processes for implementation.

Changes to the code that encourage efficient and attractive commercial and industrial development. Without the benefit of citizen input regarding the type and amount of growth that will be acceptable in the Bowl, it is premature to prescribe specific changes to the code. However, the study did reveal some ideas, mostly from the resource contact process, that might be useful as the MOA updates the comprehensive plan. These ideas are described below:

- Create an airport-related zone that strictly addresses airport-related development. This would provide the necessary protection the airport deserves as it implements its master plan goals and objectives.
- Consider a revised review process for airport development — a process whereby development at the airport is pre-approved via the master plan and requires no further review by the MOA unless the development exceeds certain established criteria. This "performance" type of review allows routine development to occur quickly.
- Consider a similar approach for development at the Port of Anchorage. Develop a master plan for development at the port and an implementation strategy, sort of like a CIP, that sets forth what will occur, where, and how. Under an approach like this, no further review would be required unless the proposal does not conform to the port master plan.
- Explore changes to land use intensity standards such as floor area ratio, building coverage, landscaping surface ratio, impervious surface ratio, and other implementation techniques as the comprehensive plan is updated. Aspects of these standards are further described in this section.

Revising the code demands that the community look at how the standards (existing and proposed) may limit the ability to build on a given site. Conventional zoning ordinances, like Anchorage's, regulate most of the following "bulk" requirements — floor area ratio (FAR), building coverage, setbacks, parking, building heights, loading, and lot size. The standards are usually applied in combination so they need to be workable, especially given the numerous combinations of standards that might apply to any given project. Any revisions or addition of new standards should be reviewed for their enforceability and fiscal impacts.

There are many components of a land use code that have not been discussed here. The ones selected are the most commonly used by local governments and relate most directly to how intensely commercial and industrially zoned parcels are used.

Building coverage. Building coverage standards are the most commonly used measure of bulk and account for the amount of the lot covered by a building. This standard alone does not adequately indicate intensity or bulk. It only approximates the actual use of a site because it does not account for parking, loading, and exterior storage. This standard may only work when addressing intensity of residential uses, not commercial and industrial uses.

Floor area ratio. Floor Area Ratio (FAR) is a more accurate measure of intensity of use because it takes into account the number of stories in a building — it relates total floor area to site or lot area. Like the building coverage, FAR fails to directly measure the impact of parking, loading or exterior storage. Parking in strip malls may be a significant user of land but may go unmeasured in terms of intensity of use. Heavy equipment storage yards with lots of exterior storage is another example where the FAR fails to deal with a major use of the site. FAR can be used in conjunction with other incentives like density bonuses and allowing a mix of uses, to promote more intense use of Downtown or Midtown. FAR can also end up being restrictive

unintentionally — especially when applied to industrial and commercial warehousing uses. Building bulk may be poorly predicted using an FAR.

Impervious surface ratio. Impervious surface ratio is another measure of land use intensity that measures the amount of land devoted to parking and loading areas. This standard can be particularly useful if applied in conjunction with the building coverage and FAR systems. The result can be a more accurate assessment of intensity of use and environmental issues such as site drainage and runoff.

Landscaping surface ratio. Landscaping surface ratio is yet another measure of land use intensity and is a method for estimating the amount of "green" area remaining after you subtract the building and impervious surfaces. It works best in the more suburban areas than it would in downtown areas.

Parking. Parking standards are also an essential element when determining acceptable land use intensities, especially commercial. The conditions affecting parking, however, vary from community to community. The size, age, relative mobility of the community, and political climate all work together to determine acceptable parking standards. Parking requirements can reflect the dependence on the automobile or they can be used to restrict or discourage automobile use and to promote alternative modes of transportation. There are a number of accepted parking requirements but it is important to keep in mind that these standards should really be used as guidelines when developing a parking plan for Anchorage. Often standards focus on the minimum amount required but some communities are now establishing maximum amount of parking allowed in order to get away from the "seas of asphalt" occurring, especially in suburban neighborhoods. It will be important in the development of the comprehensive plan to address on-street parking as well as off-street parking issues, especially in the Downtown study unit.

For the bowl, it boils down to creating a place that reflects the community's character. Design review, as a function of local government, requires a method that is fair and consistent. The process by which design standards are developed, adopted, and implemented must always include community input and one of the best techniques is to start the discussion at the planning stage.

Design Review. As we pointed to earlier in the analysis, as part of development of the comprehensive plan, the community must evaluate not only its goals and objectives, but the tools by which the goals and objectives are carried out.

- Evaluate how many uses end up being reviewed as conditional uses — a process that allows the administration discretion on a case-by-case basis. High numbers of uses permitted conditionally might indicate that the existing system of design review is not producing the expected development projects the community wants. Instead the community is using a less exact and more discretionary review process to guide design. If

this were found to be true, the community might consider reevaluating the existing system of design standards.

- Determine how many zoning variances are requested, what types of variances are requested, and where are they occurring. Typically, when a number of variances to the "bulk" standards occur in a community, it is an indication that the code needs revision to reflect the more current design needs of the community.
- Initiate revisions to the design review process that promote solutions to the design issues identified by the community as important. For example, some communities have addressed the "superstore" or "big box" phenomenon by adopting specific design standards that require architectural variety, compatible scale, pedestrian and bicycle access, and mitigation of negative impacts. The standards have been typically applied to retail establishments occupying more than 25,000 square feet of floor area.

The design standards outlined above, when used in combination, can influence the outcome of a development project — both in terms of how it appears and the impact it has on the ground (intensity of use). As well, redevelopment or reuse strategies must also include an examination of the existing design review standards — and whether or not the community implements site design criteria to the redevelopment of a parcel. And because commercial and industrial projects typically receive the most scrutiny from a community, the standards are often made to be more exact and elaborate. Regardless, the MOA must seek an acceptable balance between legitimate community interest and developer's rights.

Redevelopment and Reuse. An increasing proportion of local governmental decision-making is now focusing on the issues of redevelopment and reuse. Considerations of redevelopment emerge when a city attempts to strengthen its downtown area or to halt the decline of certain neighborhoods. Anchorage has seen little new office and retail construction during the past ten years. Consequently, almost all office space is over 10 years old, much of it even older, and it is becoming increasingly prone to functional and physical obsolescence. Likewise, much of Anchorage's retail and industrial space is similarly aged or aging. Prospectively, the projection for commercial and industrial development over the next 25 years anticipates slower growth than Anchorage has been accustomed to. This combination of an aging commercial and industrial building stock with only modest levels of new construction has several significant implications. First, as the average age of Anchorage's building stock rises, the balance of focus should shift from new construction toward maintaining the viability of the existing improvements and evolving land use patterns. Second, relatively slower growth means fewer opportunities for large-scale, dramatic new commercial development. Instead, there should be more opportunities for consolidation and rehabilitation typical of mature urban communities. The growth pattern should favor gradual incremental expansion through in-filling and consolidation of established commercial areas. This process should be complemented by (a) redevelopment or renewal of uneconomic properties, and (b) ongoing rehabilitation and adaptive reuse of aging but still viable properties.

Land Use-Transportation Integration. To facilitate a strong commercial and industrial land base, the appropriate transportation infrastructure should be in place in the locations that are appealing for different types of businesses to locate. Actions that facilitate the movement of

people to and from workplaces via transit as well as via automobiles must balance with the actions that facilitate the movement of goods. Regulations governing commercial and industrial development should be clear and reasonable, and officials in all related agencies should be accessible to the business community to address their concerns. In many communities across the U.S., there is a sense among businesses that commercial transportation concerns are secondary to the transportation concerns of the private citizen because "businesses don't vote". Businesses typically don't spend too much time voicing their concerns because they do not have the time or patience to go through bureaucratic procedures.

Therefore, it is important that the comprehensive plan treat the commercial transportation user as a valued customer. Their suggestions will assist in a more thoughtful planning process that will benefit commercial users, the local economy, and in turn, the citizens of the community. Integrate the users at the beginning and throughout the planning process. Users include representatives from the trucking, air cargo, rail, barge, and container industries, as well as representatives from the airport and seaport. Potential techniques for ensuring their involvement include periodic (monthly, quarterly) meetings and conducting brainstorming sessions (charettes). It is critical to understand the user's perspective and their priorities for current and future critical movements. An analysis of systemwide goods movement (intermodalism), and special needs by mode, location, or industry, should be included.

E. Capital Improvement Program

The capital improvements program (CIP) is an element of planning that requires multi-year scheduling of public physical improvements. Typically the Anchorage CIP includes a schedule, budget and list of improvements. The scheduling is based on the choice of specific improvements to be constructed for a period of five years into the future. Common examples of improvements that are scheduled include large size, expensive, and permanent facilities such as park and recreation facilities, streets, and libraries.

- The CIP ensures that plans for these facilities are carried out, allows scheduling of public improvements that may require more than one year to construct, offers the opportunity for public input into the decision-making process to ensure that the facilities planned meet broader community needs, and even allows for the purchase of land needed for a facility before prices go up.
- The CIP is also very important in terms of planning for commercial and industrial growth. Linking the CIP process to the comprehensive plan process allows for the coordinated planning of key facilities that can, in turn, trigger, accelerate, or inhibit the rate of urban growth. Where facilities are already in place may determine whether or not a new business or industry will locate there. Where facilities (roads, sewer, water, for example) need to be upgraded may determine whether or not an existing business or industry stays there. As Anchorage ages, maintaining existing facilities and upgrading them to meet increased demand will be critical to retaining what development already exists and encouraging redevelopment and reuse of existing parcels. At a minimum, the exchange of information between MOA planning operations, the various municipal agencies and those

in charge of capital improvements must continue to occur.

- For example, linking the comprehensive plan to the existing sewer and water master plans, provides an excellent opportunity for the discussions that need to occur regarding serviceability and related urban growth. Serviceability can be a constraint to or an incentive for urban growth, specifically the location of new businesses. The master plan process is essentially a "comprehensive plan" for maintaining and expanding water and sewer services for the MOA. The plans include population projections and future water and wastewater flows, an evaluation of condition of the systems, a summary of recommended improvements and the financial impacts of these improvements — similar to the analyses that goes into a traditional comprehensive plan and CIP. This utility planning process is linked to the more conventional comprehensive planning process in that it uses the existing comprehensive plan land use designations, existing land use patterns, existing zoning designations, and census information to predict future growth. The plans outline recommended capital improvement projects to be constructed to the year 2020. Continued coordination between these master planning efforts and the update of the overall comprehensive plan will be essential as the MOA addresses urban growth issues.

F. Strategic Areas

Strategic sites and corridors with potential to play a role in the community's commercial and industrial character and vitality were examined in this study. Eight areas were selected and are described below:

Anchorage International Airport. The Anchorage International Airport (AIA) is owned and operated by the state. The airport's importance to the Anchorage commercial and industrial land use picture is demonstrated by the 4,680 acres it uses and the 6,650 aviation-related jobs it generates (ISER 1995). In addition, the airport is responsible for 4,300 jobs outside the airport. The payroll for the on-airport and off-airport jobs accounts for about 10% Anchorage's total payroll. As a major commercial and industrial land supplier, the AIA faces several land use issues important to its continuing development. To facilitate planning for existing and future growth at the airport, the AIA has adopted a master plan. Close coordination between the master plan and the upcoming MOA comprehensive planning effort will be critical to avoiding impediments to future development at the airport. Important planning issues include:

- Resolution of land use conflicts between open space, trail uses, recreation uses, and airport development needs.
- Better access. Namely, the potential for Northern Lights Boulevard as a secondary access and the potential for traffic conflicts residential subdivisions.
- Resolving airport noise conflicts with adjacent property.
- Creation of an Airport Development Zone to expedite permits for airport-related development (use the airport Master Plan as a basic tool).
- If wetlands are determined to constrain development of airport property, work with airport and state and federal regulatory agencies to resolve the issue.

- Determine the roles of the AIA, Merrill Field, and Birchwood in providing floatplane and wheeled general aviation facilities, commercial aviation facilities, and in supporting commercial and industrial land uses.
- Expansion of the AIA may be necessary in the future. Accommodating that expansion will likely be an issue during the comprehensive plan update.

Ship Creek/Port of Anchorage. The Ship Creek area and Port of Anchorage play a critical role in the shipment and distribution of goods to Anchorage and the rest of the State. The Ship Creek area serves as one of the major warehousing and transportation-related industrial areas of the Bowl. Most of the Alaska Railroad facilities are located in Ship Creek. The port's continued success is more than just a local issue — it is a statewide issue. Reportedly, 80% of Alaska gets 90% of its goods shipped through the Port of Anchorage.

The link between Ship Creek and downtown has expanded over the years with an increase in commercial development — namely hotel and commercial services. This area has historically been a major focal point for economic development in Anchorage. Its potential has been studied and various marketing plans have been developed. In addition, more recent proposals for the Ship Creek area envision a park and trail network, an entertainment complex, and hotel development. Both the port and Ship Creek offer potential opportunities for commercial and/or industrial development, but of a very different nature. Potential land use conflicts could arise from the mix of industrial, commercial, and recreational uses. Such land uses conflicts could be costly to the future of the port's and, in turn, the economy of Anchorage and the State. The potential development of varied uses in the area gives rise to several land use issues, namely,

- Ship Creek and the Alaska Railroad area should be developed compatible with port marine development, especially port access. The comprehensive planning process should explore appropriate policies and land use controls to minimize potential for conflicting land uses.
- Better access in an out of the port and Ship Creek area is needed. In particular, trucking routes through the Downtown study unit may need to be relocated. In addition, access corridors and easements need to be reserved for access in and out of the port area.
- Resource contacts stated that the port needs more attention from city and state planners. Infrastructure and access needs are not being met. The port has had to assume some of these functions even though they reach beyond the jurisdiction and extent of the port's property.
- The specific transportation and land use planning issues most important at the port include:
    1. AMATS plan does not accommodate well for freight movement.
    2. DOT&PF transportation plans need to address collector and arterial streets are under state ownership but provide key access to the port's.
    3. Road-rail separation needs to be improved.

- Development to the south of the port is impeded by Alaska Railroad ownership. All of the lands south of the port could be prime for port development, but a portion of the Alaska Railroad Corporation land is currently not used for marine-related development. The

appropriate use of all lands in and near the port should be coordinated and established to preserve the functional integrity of both the port and railroad.

The comprehensive plan should bring together port development into the rest of the plan. Existing and proposed plans for AMATS, DOT&PF, Ship Creek, and the Alaska Railroad plans need to be coordinated with the port plans. Such coordination will be critical to protect the port's ability to accommodate expansion and operational needs. One approach might be to establish a partnership between providers (the port and railroad) and users (freight companies, other businesses) to facilitate policy development in the area to address potential conflicts.

Downtown. Urban planning programs have typically focused on the enhancement of a city's role in the regional economy and the role of the downtown area. Anchorage's Downtown has a long tradition of advocacy. The Downtown has received the focus of an organized group of businesses and interested citizens who have diligently worked towards promoting downtown, its integrity, and potential for growth. Their ideas regarding Downtown will be critical to the development of the comprehensive plan.

Downtowns historically served as the center for commercial office, retail and government. During the formative years of Anchorage's development, downtown Anchorage was the center — it served as the commercial and office hub of the bowl. As the bowl has developed, Downtown's role has shifted gradually to a government and legal center with visitor-oriented businesses dominating. Although the 1980s saw a big boon in construction downtown, mostly with public buildings, Midtown has increasingly become the financial and office center. Banking and insurance uses have moved to Midtown as well as some government offices. Retail has also in large part, moved beyond Downtown. Apparently, the natural market location for many non-industrial land uses has been to gravitate to Midtown. This market interest can be reinforced through a variety of land use management actions. By taking a market drive posture, the MOA can help Downtown, not in competing with Midtown, but by focusing concentration on those sectors that it now best serves (government, entertainment, and tourism). Several important issues will need to be addressed regarding Downtown as the community moves forward in the comprehensive planning process, among them are:

- Clarify the respective roles for Downtown and Midtown.
- Address the changing character of downtown by involving the Downtown Association and other business owners and investors.
- Land pricing may be an issue in Downtown — it may end up actually supporting a much lower density of use than is appropriate.
- Infill policies (infill at any density) might be more useful than promoting more high density uses.
- Address parking problems or at least the perception of parking being a problem. Consider the advantages and disadvantages of on-street and off-street parking.
- Support on-going efforts to make Downtown more pedestrian-friendly which, in turn, has created a more positive image of the Downtown area. For example, some cities have focused their efforts on creating more intensive uses near the transit areas, creating new

parking standards (in fact, restricted the number of new surface parking lots), creating new standards for street facades (more street entries rather than mall-type entries), and creating housing incentives (removed "plaza" bonuses and instead allowed market bonuses like FAR premiums for the business if housing also created).

- Consider traffic flow such as one-way streets and off- and on-street freight loading. One-way streets can hamper access to adjacent businesses, especially service-oriented businesses which count on multiple points of access and high visibility. On-street freight loading can pose traffic circulation problems at certain times of the day.
- Provide complementary physical and/or psychological links between Downtown and Midtown to tie the areas together.
- Improve freight movement through the Downtown study unit to and from the port and railroad areas.
- Incorporate the potential to expand on tourism aspects — brewpubs, retail, hotel, restaurants.
- Consider mixed use residential and redevelopment/infill policies.
- "I" Street into Downtown has good potential for redevelopment.

Midtown. Midtown's central location, good access, and available land supply have caused it to develop into a major office and commercial center. It is likely that Midtown will continue as the office center and will be dominant as the place people work. The continued vitality of Midtown will be dependent on maintaining good access in and out of the area. Some of the planning issues that face Midtown include:

- Infill vacant land and reuse underutilized parcels.
- Clarify the role and linkage of Midtown vis-à-vis Downtown.
- One way streets make internal travel and access to businesses difficult.
- Excess parking on some large commercial sites and shortage of parking on some small to medium commercial sites indicate potential need for parking standard revisions.
- There may be a perceived land shortage for larger retail sites in Midtown and for very large industrial land bays elsewhere. Redevelopment will be important; allow for market solutions.
- Urban design and pedestrian improvements will be necessary.
- Address the call for a Midtown park and north-south trail development.
- Consider organizing a business group for Midtown to work with the downtown association on common interests.

Tudor Road/East Anchorage. The clustering of medical-related facilities in the midtown/east Anchorage area, along with the soon to be moved Alaska Native Medical Center to East Tudor Road, have resulted in further agglomeration of medical offices and ancillary medical uses to the Tudor Road area. These medical offices, in conjunction with other institutional offices such as the MOA Department of Public works create unique opportunities for redevelopment and commercial improvements along the Tudor Road corridor. Additional residential uses have also expanded in this area to meet the needs of the University of Alaska Anchorage and Alaska Pacific University. Moreover, as a major east-west link, the Tudor

Road corridor will play a prominent role in the ultimate resolution of east-west traffic congestion solutions. Planning issues include:

- Redevelopment or reuse of older commercial strip developments, particularly along Tudor Road east of Lake Otis and on Muldoon Road.
- Take advantage of the opportunity to refurbish the corridor, similarly to the Spenard Road redevelopment, to encourage safe and efficient access while upgrading this area for more neighborhood commercial uses.
- Take advantage of the opportunity to capitalize on publicly owned institutional uses such as hospitals, the University, and other institutional and public office uses to spur commercial improvements or redevelopment in the area.
- Include transportation-land use implications for commercial development from potential transportation improvements such as the Bragaw Extension or other east-west corridor improvements.

Dimond Boulevard-Old Seward. The intersection of Dimond Boulevard and the Old Seward Highway has developed into a major commercial shopping location because of good access and proximity to the faster growing residential areas in the southwest. It is likely that the location will see continued growth in retail and mixed light industrial uses. Planning issues include:

- The Comprehensive plan will need to address the potential for land use conflicts on the interface between expanding commercial and industrial uses and residential neighborhoods.
- Existing zoned I-1 lands will likely continue to be attractive to commercial development as well as industrial development because of several proposed north-south transportation improvements (see section C "Transportation Planning Issues).
- I-1 lands will likely continue to remain in the same zoning because the zoning category is not prohibitive towards business development. If the community determines that they want an exclusively industrial zone, criteria could be developed to limit uses to industrial within the I-1 and I-2 zones. If the community wants an exclusively heavy industrial zone, revisions to the I-2 zone may be needed to limit the number of non-industrial permitted uses.
- Improvements along King Street and 100th will likely open up north-south access opportunities as well as make some of the vacant commercially and industrially-zoned parcels more attractive to development.
- Improvements to C Street from Dimond to O'Malley will likely make Dimond Boulevard businesses more accessible to the adjacent growing residential neighborhoods.
- With growing residential neighborhoods, increased small-scale commercial development is likely to occur along Dimond Boulevard and Jewel Lake Road.

Neighborhood Commercial — Southeast. Although historically not provided for due to community preference to keep commercial on the west side of the highway, there may be a market for neighborhood commercial in the southeast part of Anchorage. Currently, the closest place for most of the hillside to obtain neighborhood commercial goods and services is

the Huffman Road and Seward Highway vicinity. The comprehensive plan update will likely revisit this issue, if only to confirm that residents still want no neighborhood commercial uses. Other issues include the transportation-land use implications of extending Abbott Road across the New Seward Highway. Such an extension would create demand for commercial node development.

Public Lands. Anchorage has a large supply of vacant public land, owned by the MOA (Heritage Land Bank) or the military. This additional "supply" provides the opportunity to capture extra ground in the event it is needed for a particular industrial or commercial project. For example, it is possible that land reserved for military purposes could become available for reuse during the next 20 years. While currently considered unavailable for private development, land exchanges or purchase could potentially be arranged at Fort Richardson which has a sufficient amount of vacant land in the event a major industrial user needs a large tract with adequate infrastructure in place, where there might be none available from the private sector. The development of municipally-owned lands could the "seed" (land available and with the necessary infrastructure) for private investment in larger-scale industrial projects.

Findings Report

Appendix A
Zoning District Intent Summary

HDR

Appendix A
Zoning Districts
Anchorage Municipal Code of Ordinances
Title 21, Chapter 21.40

The Municipality of Anchorage is divided into use district as shown on the official zoning map of the Municipality of Anchorage consisting of a series of map pages adopted by ordinance and any subsequent amendments in accord with title 21. Contained in this appendix are descriptions of the districts which are considered commercial and industrial. The descriptions are directly from the Anchorage Municipal Code of Ordinances (Title 21, Chapter 21.40). 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 commercial district (MI), the marine commercial district (MC) and the transition district (T).

Zone	Description	Statement of Intent
B-1A	***Local & neighborhood business district***	The B-1A district is intended for convenience business uses which serve the daily needs of nearby neighborhoods. The district is intended for small compact areas.
B-1B	***Community business district***	The B-1B district is intended for consumer-oriented business uses which serve the needs of the surrounding community. The district is intended for small, compact sites at or near the intersection of streets, designated for collector (industrial-commercial), arterial, or greater capacity on the Official Streets and Highways Plan.
B-2A	***Central business district--core***	The B-2A district is intended to create a concentrated area of retail, financial and public institutional facilities in order to encourage the development of interrelated uses and functions, activities, and ensure the development of compatible pedestrian-oriented uses on the ground floor level throughout the district.
B-2B	***Central business district--intermediate***	The B-2B district is intended to create financial, office and hotel areas surrounding the predominantly retail and public institutional core of the Central Business District. The district also permits secondary retail and residential uses. The residential uses are intended to support other downtown activities.
B-2C	***Central business district--periphery***	The B-2C district is intended to create financial, office, residential and hotel areas at the periphery of the Central Business District. The district also permits secondary retail uses. The height limitation in this district are intended to help preserve views and to conform structures to the geologic characteristics

Zone	Description	Statement of Intent
		of the western and northern boundaries of the district.
B-3	*General business district*	The B-3 district is intended for general commercial uses in areas exposed to heavy automobile traffic. The district specifically is intended for areas at or surrounding major arterial intersections where personal and administrative services, convenience and shopping goods, and automobile-related services are desirable and appropriate land uses. The extension of the B-3 district commercial uses along arterials, except as identified in the Comprehensive Development Plan, is to be discouraged.
B-4	*Rural business district*	The B-4 district is intended to serve the needs of rural residential areas for commercial goods and services. The district is designed for areas around major arterial intersections where residential development may not be appropriate. The B-4 district is not intended as a strip commercial district.
PC	*Planned community*	The planned community district Section is intended to provide a system of land use regulation for large tracts of land which are under unified ownership or development control. The purpose of this district classification is to provide for and allow flexibility in the selection of land use controls for the specific site proposed for PC district classification while protecting the public health, safety and welfare by insuring that the development will be consistent with the Comprehensive Plan and the holding capacity of the land. A PC district ordinance establishes the design and character of the development permitted within the district by specifying certain land use controls as part of the zoning map amendment process, or the PC district ordinance establishes a holding zone classification, where the design and character of development permitted within the district will be determined subsequently. The design and character of permitted development are determined in accordance with an approved master development plan. Where land is placed in the PC district other than in connection with an owner-initiated zoning map amendment, the owner has the right to submit a master plan under the procedures and standards of Section 21.20.012 for recommendation by the Planning and Zoning Commission and approval by the Assembly. Upon approval, such a master plan has the effect of a master plan submitted as a part of a rezoning initiated by the owner. Any use or conditional use may be permitted in a planned community district, as provided in the ordinance establishing a particular PC district. Any use not permitted by the ordinance creating the PC district is prohibited. After a particular parcel has been designated as a PC district, development area plans consistent with the master development plan must be proposed and obtain approval before any

Zone	Description	Statement of Intent
		development of the parcel may be undertaken. Actual development of the parcel may be incremental but must be in accordance with the approved development area plans.
R-O	*Residential office district*	The R-O district is intended to include urban and suburban residential and professional office uses that are needed and appropriate in areas undergoing a transition, or in areas where commercial uses might be damaging to established residential neighborhoods. The R-O district is further intended to provide a mix of low- to medium-density residential uses with certain specified business, personal and professional services that can function efficiently without generating large volumes of vehicular traffic. The regulations and restrictions in the R-O district are intended to protect, preserve and enhance the residential uses while permitting uses characterized principally by consultative services or executive, administrative or clerical procedures.
I-1	*Light industrial district*	The I-1 district is intended primarily for urban and sub-urban light manufacturing, processing, storage, wholesaling, and distribution operations, but also permits limited commercial uses. Regulations are intended to allow efficient use of the land while, at the same time, making the district attractive and compatible for a variety of uses.
I-2	*Heavy industrial district*	The I-2 district is intended primarily for heavy manufacturing, storage, major shipping terminals and other related uses. Also permitted in the district are uses generally permitted in commercial districts
MI	*Marine industrial*	The MI district is intended primarily for a mix of marine commercial and light industrial manufacturing, processing, storage, wholesale and distribution operations that are water-dependent and water related.
MC	*Marine commercial district*	The MC district is intended primarily for water-dependent and water-related use as permitted principal uses with water-related uses being considered as conditional uses. Emphasis is on development flexibility of water-dependent and water-related commercial uses and on public access to the waterfront and Ship Creek.
T	*Transition district*	This district is intended to include suburban and rural areas that, because of location in relationship to other development, topography or soil conditions, are not developing and are not expected to develop in the immediate future along definitive land use lines. The permitted uses in these districts are intended to be as flexible as possible consistent with protection from noxious, injurious, hazardous or incompatible use.

Findings Report

Appendix B
Resource Contacts

Appendix B
Resource Contacts

Don Karabelnikoff, Planning and Zoning Commission
Tim Spernak, Planning and Zoning Commission
Daphne Brown, Planning and Zoning Commission
Governor Walter Hickel
Chris Stephens, Bond Stephens and Johnson
JoAnne Brause, Downtown Association
Patricia DeMarco, Anchorage Economic Development Commission
Rudy Tsukada, Anchorage Economic Development Commission
Gary Petros, Jack White Co.
Ken Kincaid, Kincaid and Riely
Carol Mutter, TRF Management
Marsha Jackson, Fifth Avenue Mall
Carol Heyman, Chamber of Commerce
Carol Ottosen, United Parcel Service
Stan Colton, United Parcel Service
Sealand Incorporated
Mac Anderson, Alaska Airlines
Tom Middendorf, Anchorage International Airport
Don Dietz, Port of Anchorage
Roger Graves, Port of Anchorage
Don Kiefer, Anchorage Water and Wastewater Utility
Roberta Piper, Anchorage Water and Wastewater Utility
Mark Premo, Anchorage Water and Wastewater Utility
Jim Topolski, Chugach Electric Assocation, Inc.
Peter Poray, Chugach Electric Association, Inc.
Mary Ann Pease, Municipal Light and Power
Tom Edrington, Anchorage Telephone Utilities
Kate Foden/John Burns, Alaska Railroad
Susan Fison, MOA Technical Services
Jon Spring, AMATS Technical Advisory Committee
Diana Rigg, DOT Planning
MOA Property Appraisal Department
MOA Platting Board members
MOA Urban Design Commission members
Anchorage Assembly

Findings Report

Appendix C
Land Supply-Demand Models

Models Attached:

Commercial Land: Base Case
Commercial Land: High Case
Commercial Land: High Case/High I-1 Conversion
Industrial Land: Base Case
Commercial Land: Midtown Base Case
Commercial Land: Midtown Base/High Conversion

HDR

Commercial Land: Base Case

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 27% of non-Com. 1,695 Ind-1 acres)						
(B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, R-O)	**Acres**			**Assumptions**		
	Com	**Ind-1**	**Total**			
Fully Developed	1,228	408	1,636	64%		
Redevelopable	989	458	1,447	36%		
In Use (Table 9: incl. 36% other; 0% parks)	2,217	866	3,083	100%		
Vacant Land (Table 9)	806	195	1,001			
Constrained	-266	-43	-309	33%	com.	
Total Vacant Developable	540	152	692	22%	ind.	
Total Supply	2,757	1,018	3,775			
	Range			**Range**		
Adjustments (of total)						
Rezoning	-189	to	755	-5%	to	20%
Public Policy	-189	to	566	-5%	to	15%
Ownership Status	-566	to	-378	-15%	to	-10%
Net Adjustments	-944	to	944	-25%	to	25%
Total Adjusted Effective Supply	2,831	to	4,719			
Land Demand						
	Existing	**New**	**Total**			
Retail (Table 2, Table 5)	1,180	438	1,618			
Services (Table 2, Table 5)	684	290	974			
Office (Table 2, Table 5)	580	167	747			
Subtotal	2,444	895	3,339			
	Range			**Range**		
Adjustments (of total)						
Industry Changes	-501	to	167	-15%	to	5%
Economic Use/Efficiency	167	to	-501	5%	to	-15%
User needs	334	to	501	10%	to	15%
Competitive Balance/Surplus	334	to	668	10%	to	20%
Net Adjustments	334	to	835	10%	to	25%
Total Adjusted Gross Demand	3,673	to	4,174			

Commercial Land: High Case

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 27% of non-Com. 1,695 Ind-1 acres)				
(B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, R-O)	**Acres**			**Assumptions**
	Com	**Ind-1**	**Total**	
Fully Developed	1,228	408	1,636	64%
Redevelopable	989	458	1,447	36%
In Use (Table 9: incl. 36% other; 0% parks)	2,217	866	3,083	100%
Vacant Land (Table 9)	806	195	1,001	
Constrained	-266	-43	-309	33% com.
Total Vacant Developable	540	152	692	22% ind.
Total Supply	2,757	1,018	3,775	
	Range			**Range**
Adjustments (of total)				
Rezoning	378	to	1,133	10% to 30%
Public Policy	0	to	566	0% to 15%
Ownership Status	-566	to	-378	-15% to -10%
Net Adjustments	-189	to	1,321	-5% to 35%
Total Adjusted Effective Supply	3,587	to	5,097	
Land Demand				
	Existing	**New**	**Total**	
Retail (Table 2, Table 5)	1,180	1,085	2,265	
Services (Table 2, Table 5)	684	673	1,357	
Office (Table 2, Table 5)	580	403	983	
Subtotal	2,444	2,161	4,605	
	Range			**Range**
Adjustments (of total)				
Industry Changes	-921	to	230	-20% to 5%
Economic Use/Efficiency	-230	to	-1,151	-5% to -25%
User needs	461	to	691	10% to 15%
Competitive Balance/Surplus	461	to	921	10% to 20%
Net Adjustments	-230	to	691	-5% to 15%
Total Adjusted Gross Demand	4,375	to	5,296	

Commercial Land: High Case / High I-1 Conv.

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 54% of non-Com. 1,695 Ind-1 acres)						
(B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, R-O)	**Acres**			**Assumptions**		
	Com	**Ind-1**	**Total**			
Fully Developed	1,228	408	1,636	64%		
Redevelopable	989	915	1,905	36%		
In Use (Table 9: incl. 36% other; 0% parks)	2,217	1,324	3,541	100%		
Vacant Land (Table 9)	806	389	1,195			
Constrained	-266	-86	-352	33%	com.	
Total Vacant Developable	540	304	844	22%	ind.	
Total Supply	2,757	1,627	4,385			
	Range			**Range**		
Adjustments (of total)						
Rezoning	438	to	1,315	10%	to	30%
Public Policy	0	to	658	0%	to	15%
Ownership Status	-658	to	-438	-15%	to	-10%
Net Adjustments	-219	to	1,535	-5%	to	35%
Total Adjusted Effective Supply	4,166	to	5,920			
Land Demand						
	Existing	**New**	**Total**			
Retail (Table 2, Table 5)	1,180	1,085	2,265			
Services (Table 2, Table 5)	684	673	1,357			
Office (Table 2, Table 5)	580	403	983			
Subtotal	2,444	2,161	4,605			
	Range			**Range**		
Adjustments (of total)						
Industry Changes	-921	to	230	-20%	to	5%
Economic Use/Efficiency	-230	to	-1,151	-5%	to	-25%
User needs	461	to	691	10%	to	15%
Competitive Balance/Surplus	461	to	921	10%	to	20%
Net Adjustments	-230	to	691	-5%	to	15%
Total Adjusted Gross Demand	4,375	to	5,296			

Industrial Land: Base Case

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 73% of non-Com. 1,695 Ind-1 acres)						
(I-1, I-2, MC, MI, T)	Acres			Assumptions		
	Ind-Use	Ind-1	Total			
Fully Developed	2,031	792	2,823	64%		
Redevelopable	1,142	445	1,588	36%		
In Use (Table 10: incl. 36% other; 0% parks)	3,173	1,237	4,410	100%		
Vacant Land (Table 10)	1,829	526	2,355			
Constrained	-402	-116	-518	22%	ind.	
Total Vacant Developable	1,427	411	1,837			
Total Supply	4,600	1,648	6,248			
Adjustments (of total)	Range			Range		
Rezoning	-312	to	1,250	-5%	to	20%
Public Policy	-312	to	937	-5%	to	15%
Ownership Status	-937	to	-625	-15%	to	-10%
Net Adjustments	-1,562	to	1,562	-25%	to	25%
Total Adjusted Effective Supply	4,686	to	7,810			
Land Demand						
	Existing	New	Total			
Industrial (Table 2, Table 5)	2,272	955	3,227			
	0	0	0			
	0	0	0			
Subtotal	2,272	955	3,227			
Adjustments (of total)	Range			Range		
Industry Changes	-484	to	161	-15%	to	5%
Economic Use/Efficiency	161	to	-323	5%	to	-10%
User Specialized Needs	323	to	484	10%	to	15%
Competitive Balance/Surplus	323	to	645	10%	to	20%
Net Adjustments	323	to	968	10%	to	30%
Total Adjusted Gross Demand	3,550	to	4,195			

Commercial Land: Midtown Base Case

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 27% of non-Com. 258 Ind-1 acres)				
(B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, R-O)	**Acres**			**Assumptions**
	Com	**Ind-1**	**Total**	
Fully Developed	488	72	559	64%
Redevelopable	274	70	344	36%
In Use (Table 9: incl. 36% other; 0% parks)	762	141	904	100%
Vacant Land (Table 9)	177	28	205	
Constrained	-58	-6	-64	33% com.
Total Vacant Developable	119	21	140	22% ind.
Total Supply	881	163	1,044	
Adjustments (of total)	**Range**			**Range**
Rezoning	-52	to	52	-5% to 5%
Public Policy	-52	to	52	-5% to 5%
Ownership Status	-157	to	-104	-15% to -10%
Net Adjustments	-261	to	0	-25% to 0%
Total Adjusted Effective Supply	783	to	1,044	
Land Demand				
	Existing	**New**	**Total**	
Retail (Table 2, Table 5)	351	126	477	
Services (Table 2, Table 5)	134	64	198	
Office (Table 2, Table 5)	273	84	357	
Subtotal	758	274	1,032	
Adjustments (of total)	**Range**			**Range**
Industry Changes	-155	to	52	-15% to 5%
Economic Use/Efficiency	-52	to	-310	-5% to -30%
User needs	52	to	103	5% to 10%
Competitive Balance/Surplus	52	to	155	5% to 15%
Net Adjustments	-103	to	0	-10% to 0%
Total Adjusted Gross Demand	929	to	1,032	

Commercial Land: Midtown Base / High Conv.

Supply-Demand Model

25-Year Planning Horizon

Land Supply (including 54% of non-Com. 258 Ind-1 acres)				
(B-1A, B-1B, B-2A, B-2B, B-2C, B-3, B-4, PC, R-O)	**Acres**			**Assumptions**
	Com	**Ind-1**	**Total**	
Fully Developed	488	72	559	64%
Redevelopable	274	139	414	36%
In Use (Table 9: incl. 36% other; 0% parks)	762	211	973	100%
Vacant Land (Table 9)	177	55	232	
Constrained	-58	-12	-71	33% com.
Total Vacant Developable	119	43	162	22% ind.
Total Supply	881	254	1,135	
	Range			**Range**
Adjustments (of total)				
Rezoning	-57	to	57	-5% to 5%
Public Policy	-57	to	57	-5% to 5%
Ownership Status	-170	to	-113	-15% to -10%
Net Adjustments	-284	to	0	-25% to 0%
Total Adjusted Effective Supply	851	to	1,135	
Land Demand				
	Existing	**New**	**Total**	
Retail (Table 2, Table 5)	351	126	477	
Services (Table 2, Table 5)	134	64	198	
Office (Table 2, Table 5)	273	84	357	
Subtotal	758	274	1,032	
	Range			**Range**
Adjustments (of total)				
Industry Changes	-155	to	52	-15% to 5%
Economic Use/Efficiency	-52	to	-310	-5% to -30%
User needs	52	to	103	5% to 10%
Competitive Balance/Surplus	52	to	155	5% to 15%
Net Adjustments	-103	to	0	-10% to 0%
Total Adjusted Gross Demand	929	to	1,032	

Anchorage Bowl Commercial and Industrial Land Use Study

Technical Memorandum 1

July 1996

Chapter I.

Overview: Population and Economy

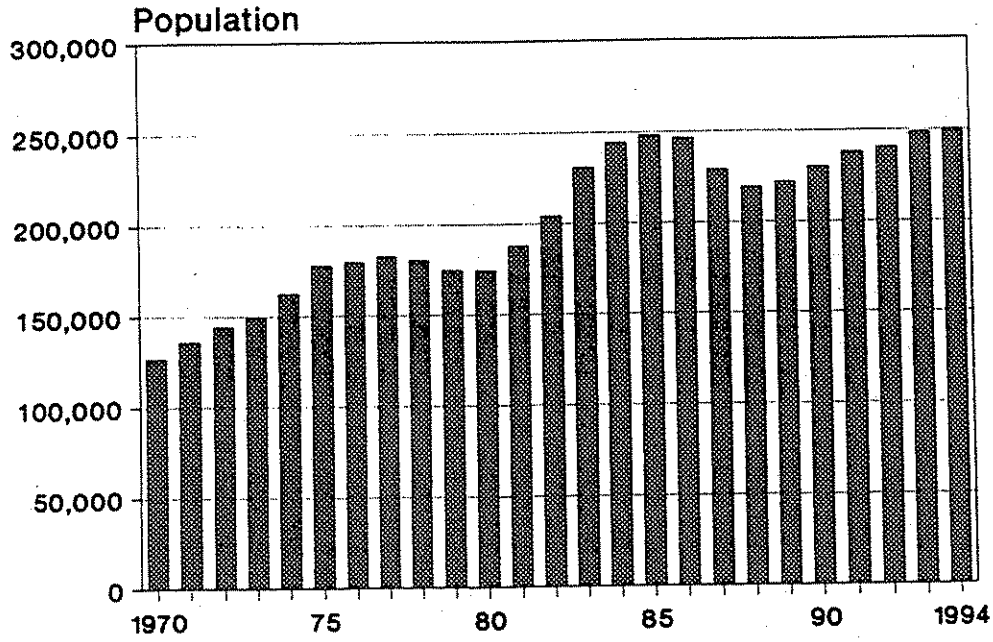
People and purchasing power generate demand for goods and services and thereby support the commerce and industries that supply them. Commercial and industrial enterprises organize labor, workplaces, and other resources to produce and distribute goods and services. These enterprises require suitably located sites to carry on their activities effectively and efficiently.

Anchorage's distinctive economic history helps account for today's economic organization, settlement patterns, and land use patterns, and may suggest the pattern of things to come. This document reviews the major changes in Anchorage's economy since 1970 as a preface to the analysis of future economic development and commercial and industrial land use demands.

1.0 Population

Population growth. Between 1970 and 1994, Anchorage's population doubled from 126,385 to 250,006 residents. See Figure 1. Anchorage's population growth rate averaged over 3% yearly or triple the national rate of 1% yearly.

Figure 1
Anchorage Population, 1970-1993



Source: Municipality of Anchorage.

At times during this period, Anchorage was one of the nation's fastest growing cities. At other times, it lapsed into recession. Anchorage underwent two major boom/bust cycles. Construction of the TransAlaska Pipeline System (TAPS) from 1975-1978 primed the first boom/bust cycle, which swelled Anchorage's population by 20% in three years. Then, after a brief slowdown, the 1981-1985 oil revenue spike generated a second, stronger boom that boosted Anchorage's population by over 40% and nearly 75,000 new residents in a few years. That boom was followed by a severe recession marked by loss of almost 30,000 residents, 12,000 jobs, a thorough-going real estate crash, and many personal and business bankruptcies.

Population composition. In 1970, Anchorage's population profile display showed the distinctive stamp of a young, fast-growing, semi-frontier settlement. Many residents were newcomers, typically young adult males in pursuit of economic opportunity. Compared to national norms, Anchorage's population was young (median age: 23.2 years), with more children (39.7% under 18 years), more young adults (29.0% between 20-34 years old), and fewer elderly (1.4% 65 years and older). The adult population was disproportionately male (53.2%). Overall, Anchorage's adult population was well educated and tended to work in professional and administrative occupations. Population turnover was high.

By 1990, the Anchorage community had matured and stabilized, becoming more similar to the national population profile. Population turnover slowed. Families with children comprised a larger share of the population, unattached young adults a smaller share. The still small senior population became the fastest growing age group. These sorts of demographic changes usually influence demand patterns for certain sorts of goods and services.

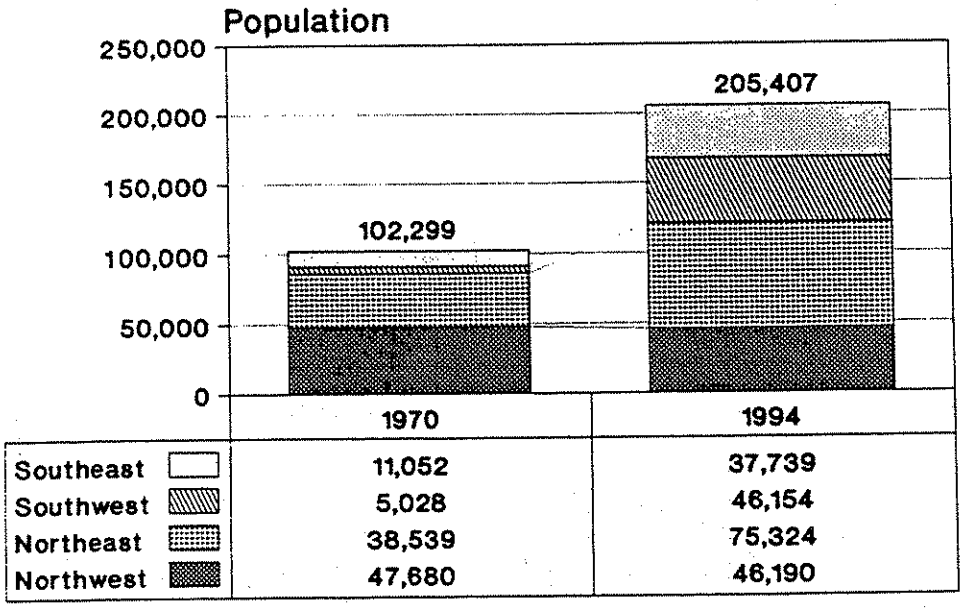
Settlement patterns. Anchorage's residential settlement geography has changed radically since 1970. Anchorage's population doubled. Residential development spread from the original core eastward and southward into the outlying rural areas. By 1994, the northwest sector, which encompasses most of Anchorage's first neighborhoods (downtown/Government Hill/ Spenard/Fairview) had actually lost residents. Meanwhile, the northeast, southeast, and southwest sectors of the Anchorage Bowl each added 32,500 to 36,500 residents. Anchorage's growth even spilled beyond the Anchorage Bowl to populate bedroom communities in Eagle River-Chugiak and in the Palmer-Wasilla area of Matanuska-Susitna Borough. Table 1 and Figure 2 depict this growth.

Table 1
Anchorage Population by Planning Area, 1970 and 1994

Planning Area	1970		1994		Change	% Change
	Number	Percent	Number	Percent	1970-1994	1970-1994
Anchorage Bowl						
Northwest	47,680	46.6	46,190	22.5	-1,490	-3%
Northeast	38,539	37.7	75,324	36.7	36,785	+95
Southwest	11,052	10.8	46,154	22.5	35,102	+318
Southeast	5,028	4.9	37,739	18.4	32,711	+651
Subtotal	102,299	100.0	205,407	100.0	103,108	+101
Outside Anchorage Bowl						
Eagle River-Chugiak	5,832		28,632		22800	+391%
Turnagain Arm	310		1,689		1379	+445
Military Bases	17,892		12,467		-5425	-30
Other	0		1,810		1810	n/a
Subtotal	24,034		44,598		20,564	+86
TOTAL	126,333		250,006		123,672	+98

Source: Municipality of Anchorage.

Figure 2
Population Distribution
Anchorage Bowl, 1970 and 1994



Source: Municipality of Anchorage.

2.0 Economy

Employment and wages. Between 1970 and 1994, Anchorage's wage employment grew from 42,000 to 119,000 according to the Alaska Department of Labor (ADOL). Table 2 presents population, households, employment, and personal income in the Municipality of Anchorage from 1970 to 1994. By the Bureau of Economic Analysis's more comprehensive count, which includes self-employed and part-time workers omitted from the ADOL wage employment count, employment grew from 68,000 in 1970 to 160,000 in 1993. Figure 3 depicts this growth Today, Anchorage's employment base is larger, more diverse and more mature, and less prone to the extreme short-term swings that marked the 1970s and 1980s.

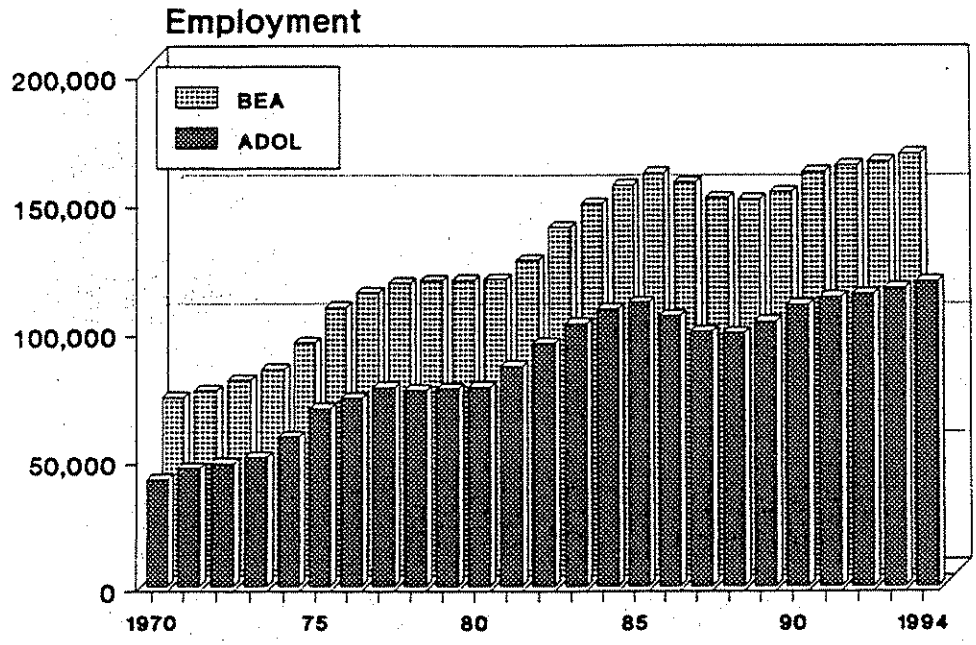
Table 2
Population, Households, Employment, and Personal Income
Municipality of Anchorage, 1970-1994

Year	Population	Households	Employment	Personal Income ($1993 million)
1970	126,385	34,986	67,875	$2,795
1975	177,817		102,764	4,584
1980	174,431	60,470	113,618	4,626
1985	248,263		154,929	6,567
1990	226,338	82,702	155,472	6,076
1994	250,006		162,464[1]	6,663[1]
% Change1970-1994	+97%		+139%	+138%

[1] 1993 figure.

Source: Municipality of Anchorage (population); U.S. Bureau of the Census (households); U.S. Bureau of Economic Analysis (employment and personal income).

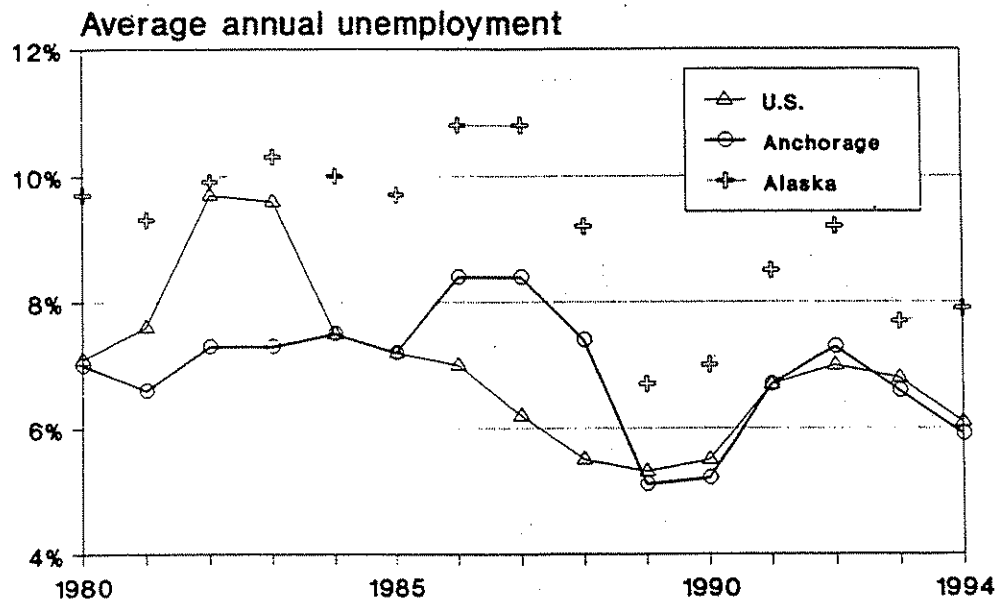
Figure 3
Anchorage Employment, 1970-1994



Sources: Ak. Dept. of Labor; Bureau of Economic Analysis.

Unemployment. Over the past fifteen years, Anchorage's unemployment rate was consistently below statewide levels and, except during its recession, at or below national levels. See Figure 4. Even during its last recession, when Anchorage lost 12,000 jobs — almost 10% of its employment base — unemployment rose only slightly. That was because many workers recently come to Anchorage to take advantage of boom times quickly left when job opportunities dwindled. For the last five years, Anchorage's unemployment rate has ranged between 5 and just over 7%.

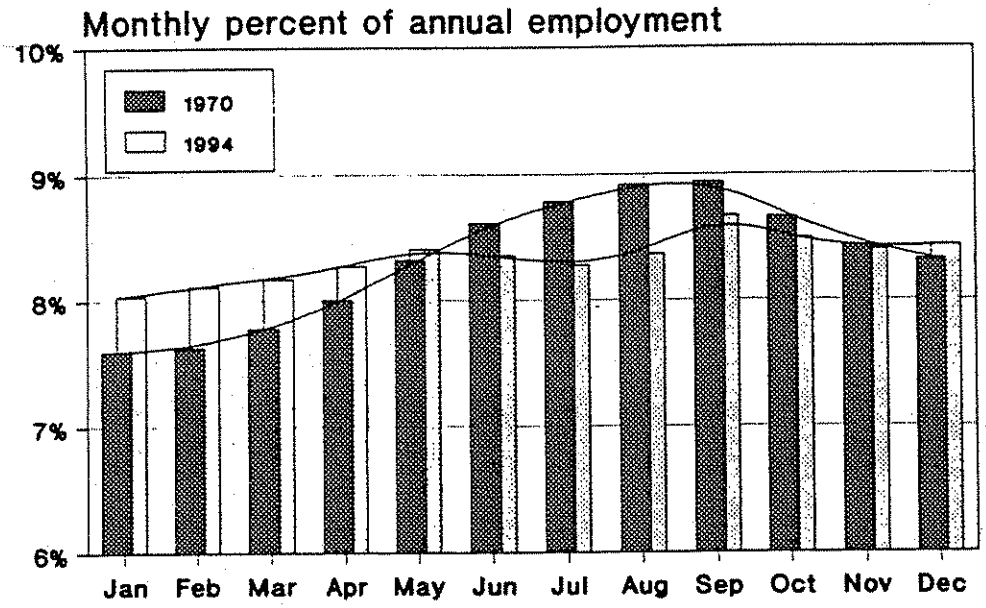
Figure 4
Unemployment Rates
Anchorage, Alaska, and U.S., 1980-1994



Source: Alaska Department of Labor.

Seasonal cycle. In 1970, Anchorage's economy was still very seasonal. Transient workers flocked to Anchorage in early summer when employment opportunities flourished. In autumn, when "termination dust" heralded the approach of cold weather, outdoor construction and many other jobs shut down, and visiting workers returned home. Gradually, Anchorage has evolved a more stable, balanced, year-round economy with lessened seasonal fluctuations. Figure 5 depicts the seasonal nature of Anchorage employment.

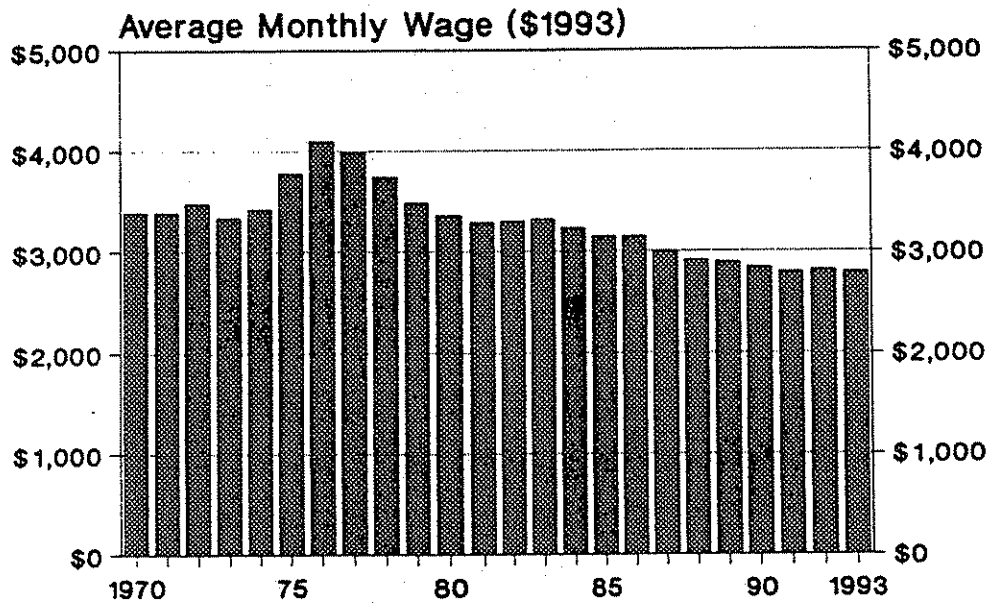
Figure 5
Seasonal Nature of Wage Employment
Anchorage, 1970 and 1994



Source: Alaska Department of Labor.

Wage rates. As Figure 6 shows, Anchorage's once-high wage rates have been declining steadily (in constant 1993 dollars) for nearly 16 years. In 1970, Anchorage's average annual wage was $3,392. It climbed to $4,095 in 1977 at the overheated peak of TAPS construction, then slipped to $2,797 by 1993, 32% below the pipeline-era high and almost 20% below the 1970 level. This drop in average wages is partly due to an ongoing shift in the local job mix (fewer high wage jobs in construction, oil industry, and government, more poorer-paying retail and service jobs), partly to long-term downward pressure on wages. These Anchorage trends parallel national economic trends.

Figure 6
Average Monthly Wage
Anchorage, 1970-1993

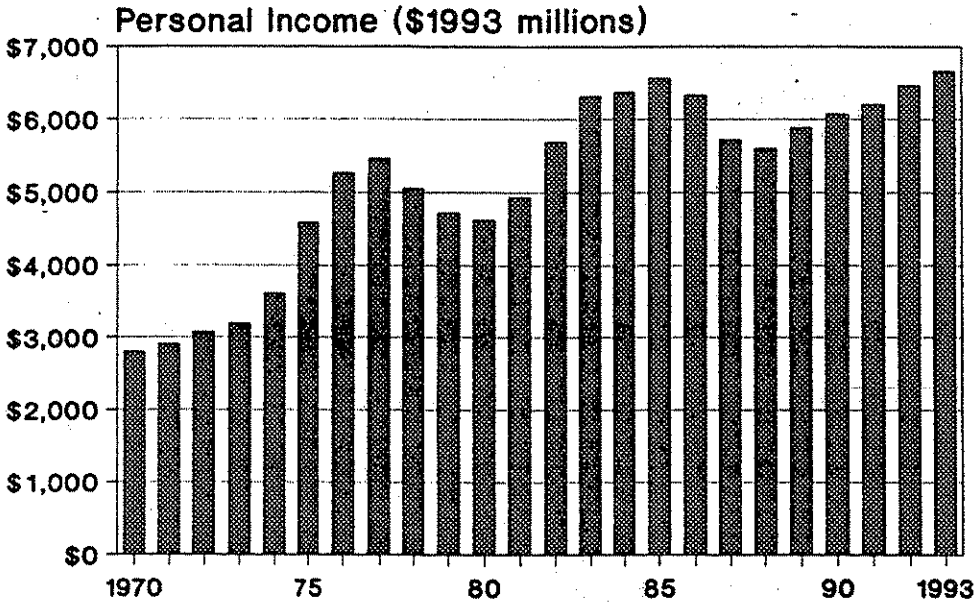


Source: Alaska Department of Labor.

Personal income. Anchorage's real aggregate personal income (in constant 1993 dollars) rose from $2.8 billion in 1970 to $6.7 billion by 1993, an increase of 138%. Personal income waxed and waned in step with such major economic events as TAPS construction, the early 1980s oil price spike, and the EXXON Valdez oil spill cleanup. Figure 7 depicts total personal income in Anchorage between 1970 and 1993.

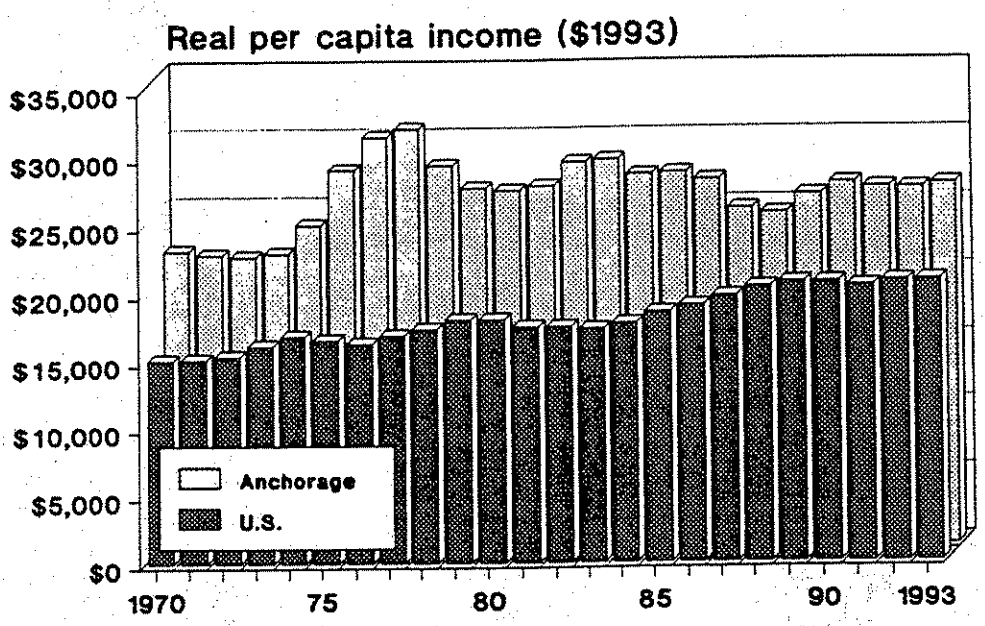
Between 1970 and 1993, real per capita income grew by 21% from $21,912 to $26,619. Per capita income peaked at $30,826 in 1977, dropped as low as $24,507 at the bottom of the recession. As Figure 8 notes, for the last few years, real per capita income has stabilized at around $26,600 annually. Anchorage personal incomes have long been above national average, but lately less and less so. In 1970, Anchorage per capita income was 144% of the national average. TAPS construction raised Anchorage incomes as high as 179% of the national level by 1976, but Anchorage incomes have since slumped to 128% of the national level.

Figure 7
Total Personal Income
Anchorage, 1970-1993



Source: Bureau of Economic Analysis.

Figure 8
Real Per Capita Income
Anchorage and U.S., 1970-1993



Source: Bureau of Economic Analysis.

The adverse wage trend noted earlier helps account for the lag in Anchorage's per capita income growth. Because earnings comprise a big share of Anchorage personal incomes, Anchorage incomes are especially sensitive to changing wage and employment levels. In 1993, earnings accounted for 75% of Anchorage incomes compared to 67% nationally. On the other hand, Anchorage residents got less of their income from dividends, interest, and rents (10%) and transfer payments (15%) than the national average. Table 3 denotes this difference.

Table 3
Sources of Personal Income
Municipality of Anchorage and United State, 1993

	Anchorage	U.S.
Earnings	75.0%	67.2%
Dividends, interest, & rent	10.4	15.7
Transfer payments	14.5	17.0
Total	100.0	100.0

Source: Bureau of Economic Analysis.

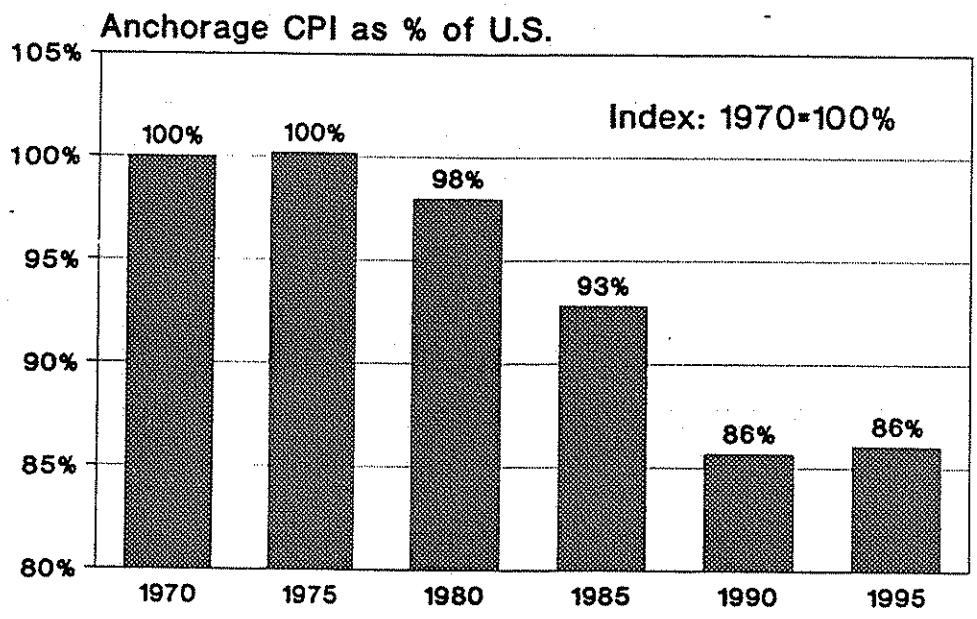
Cost-of-living and disposable income. A recent cost-of-living survey put Anchorage living costs about 6% higher than a cross-section of cities. Table 4 presents information from this survey. For the last two decades, Anchorage living costs have risen more slowly than national consumer inflation, steadily shrinking Anchorage's cost-of-living handicap. This long-term drop in relative living costs since 1970 has effectively boosted the purchasing power of Anchorage consumers by about 14% over the rest of the nation. See Figure 9. Even though falling real incomes mean Anchorage residents have fewer dollars to spend, those dollars have greater buying power.

Table 4
Cost-of-Living by Expenditure Category, Anchorage, December 1994

Expenditure Category	Anchorage	Annual Expenditure "Standard City"	Anchorage as Percent of "Standard City"
Housing	$12,953	11,706	110.7
Misc. Goods & Services, Other	11,294	10,158	111.2
Transportation	3,636	3,153	115.3
Taxation	6,104	6,983	87.4
Total	33,987	32,000	106.2

Source: Runzheimer's Living Cost Index, December 1994, from Alaska Economic Trends, June 1995.

Figure 9
Anchorage CPI as Percent of U.S. CPI
1970-1995, Indexed to 1970



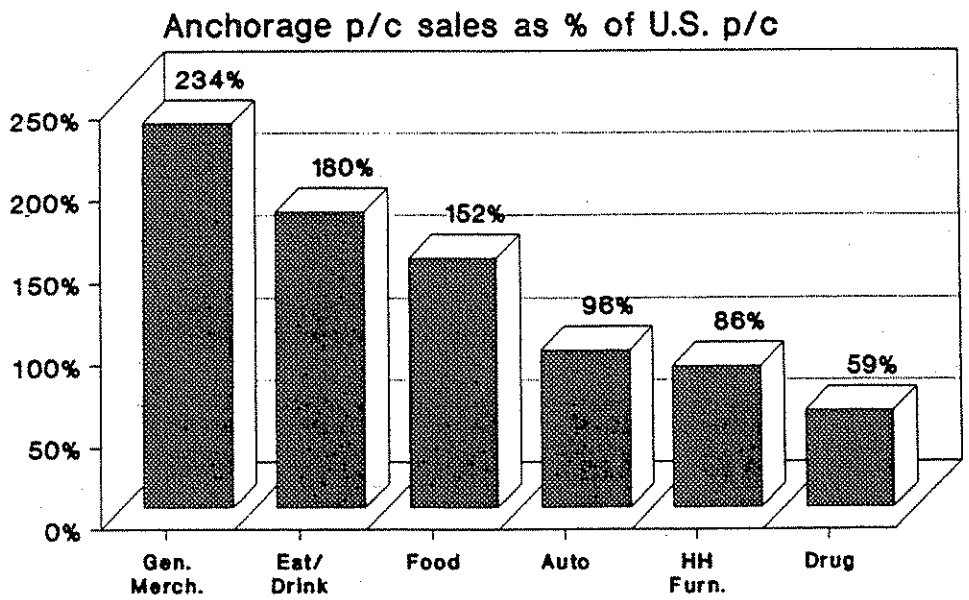
Source: U.S. Department of Labor, Bureau of Labor Statistics

Alaska's state tax structure takes a lighter bite from personal incomes, as does Anchorage's local tax regime. The same survey found that a typical Anchorage household paid 87.4% of the taxes paid by similar households in other cities. This low tax bite is a boon to Anchorage consumers. It means more disposable after-tax income — about 13% more — in their wallets.

Henceforth, there may not be much leeway for more deflation in Anchorage's living costs. And, as state petroleum revenues decline, the state and local governmental tax burden on personal incomes is apt to rise. In that case, these two factors may cease to work so positively for Anchorage consumers.

Purchasing Power. The net effect of Anchorage's higher income levels and lower tax rates is more disposable income. *Sales and Marketing Magazine* reported that Anchorage's 1994 median household disposable income was $50,481 compared to the national figure of $35,056. That source also estimated Anchorage's per capita retail sales by major store group. It put Anchorage sales for general merchandise stores at 234% of the national figure, for eating and drinking places at 180%, food stores at 152%, auto sales at 96%, household furnishings and appliances at 86% and drug stores at 59%. Figure 9 depicts this mix.

Figure 10
Per Capita Retail Sales by Store Group
Anchorage as Percent of U.S., 1994



Source: Sales & Marketing Management.

Anchorage in southcentral Alaska. As Anchorage's economy grew, the Kenai Peninsula Borough and the Matanuska-Susitna Borough grew faster. In 1970, southcentral Alaska households accounted for 55% of statewide income: Anchorage accounted for 48.7%, Kenai Peninsula accounted for 4.4%, Matanuska-Susitna accounted for 2.1%. See Table 5). By 1993, southcentral Alaska personal incomes had grown almost tenfold. Southcentral then accounted for 61% of statewide income, with Matanuska-Susitna and Kenai Peninsula Boroughs both capturing an increasing share.

Through most of this period, Anchorage functioned as the regional trade and service center for the southcentral region. Lately, however, Anchorage's role as a regional trade center appears to be diminishing as Kenai, Soldotna, Palmer and Wasilla develop retail businesses of their own to serve home markets.

On the other hand, Anchorage has steadily become more important as a workplace for Matanuska-Susitna Borough commuters. The Bureau of Economic Analysis reports that Palmer-Wasilla area workers earned 40% of their income in Anchorage in 1990.

Table 5
Total Personal Income ($1993), 1970 and 1993
Anchorage, Kenai Peninsula, and Matanuska-Susitna Boroughs ($ millions)

	1970		1993	
	Income	Percent	Income	Percent
Anchorage	$751.5	48.7	$6,662.8	48.3
Kenai Peninsula	67.9	4.4	1,002.0	7.3
Matanuska-Susitna	31.7	2.1	757.1	5.5
Subtotal	851.0	55.2	8,421.9	61.1
Total State	$1,541.8	100.0	$13,793.1	100.0

Source: Bureau of Economic Analysis.

Anchorage and national economies compared. As Table 6 shows, In 1970, there were two salient differences between the Anchorage and national economies. Anchorage had virtually no manufacturing industry at a time when manufacture was still the national economy's most important activity. Public employment dominated Anchorage's economy, being 250% higher than nationally.

Since 1970, Anchorage's economic structure has changed radically in two broad respects. First, the federal government's role as a civilian and military employer contracted. This resulted in a cutback of overall government employment from 47% to 26% of all employment. Second, all components of the distributive sector expanded to take up the employment slack. Service sector employment grew most strongly, but retail and wholesale trade, transportation/communications/utilities and finance/insurance/real estate also increased their share of total employment. Meanwhile, there was little net change in Anchorage's productive industries, though mining (i.e., oil and gas industry) added some employment.

These structural changes reflect Anchorage's central role as the distribution, transportation, service, and administrative center for southcentral and rural Alaska, as well as the explosive growth of Alaska's visitor industry. Anchorage's distinctive economic make-up—growth in services and trade, the prominence of transportation functions and public utilities, the near-total absence of manufacturing—has implications for commercial and industrial land use patterns.

Table 6
Employment by Industry
Anchorage and United States, 1970 and 1993

	Anchorage		United States	
	1970	1993	1970	1993
Goods production	**10.3**	**11.5**	**29.1**	**20.4**
Agriculture, forestry, fisheries	.5	1.3	.6	1.1
Mining	1.8	3.2	.9	.6
Construction	6.3	5.4	5.0	5.1
Manufacturing	1.7	1.6	22.6	13.6
Distribution	**42.5**	**62.8**	**52.2**	**63.8**
Transportation, communi-cations, utilities	6.8	8.4	5.6	4.8
Wholesale trade	3.3	4.0	4.8	4.8
Retail trade	11.2	15.4	15.6	17.1
Finance, insurance, and real estate	5.6	7.6	7.0	7.5
Services	15.6	27.4	19.2	29.6
Government	**47.1**	**25.7**	**18.7**	**15.7**
Federal civilian	15.1	7.3	3.3	2.3
Federal military	23.2	8.3	3.7	1.8
State/local	8.9	10.1	11.7	11.6
Total	100.0	100.0	100.0	100.0

Source: Bureau of Economic Analysis.

Table 7 shows the current extent of Anchorage's primacy in statewide commerce. In 1992, Anchorage, with 41% of the state's population, captured 52% of statewide retail sales, 68% of services and 72% of wholesale trade.

Table 7
Anchorage as Percentage of Statewide Total, 1977-1992
Gross Receipts or Sales of Firms in
Wholesale Trade, Retail Trade, and Service Industries

Year	Wholesale Trade	Retail Trade	Service Industry	Anchorage as % of State Population
1977	62.8	52.6	64.1	43.8
1982		55.6	68.9	43.9
1987	63.6	54.1	68.9	42.6
1992	71.8	51.6	68.0	40.9

Sources: Bureau of the Census, Census of Wholesale Trade, Census of Retail Trade, Census of Service Industries; Anchorage Indicators; Alaska Department of Labor.