# Appendix A
# Anchorage and Matanuska-Susitna Borough 2035 Land Use Allocation and Forecast

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Seward Highway to Glenn Highway
MULTIMODAL SOLUTIONS
moving people and goods

# Memo

AKSAS Project No. 58544

Federal Project No: NH-000S(588)

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|---|---|---|---|
| To: | Jim Childers, PE, ADOT&PF Project Manager | | |
| From: | CH2M HILL Project Team | Project: | H2H |
| CC: | John McPherson, AICP, Consultant Project Manager<br>Project File | Subject: | Anchorage and Matanuska-Susitna Borough 2035 Land Use Allocation and Forecast |
| Date: | July 29, 2010 | Job No: | 80510 |

## 1 INTRODUCTION

The purpose of this technical memorandum is to document the methodology used to allocate and forecast Anchorage and Matanuska-Susitna Borough (MSB) land use for use as input into the transportation demand model. Land use variables discussed in this memorandum are population, households, and employment.

### 1.1 Project Background

The Seward Highway to Glenn Highway Connection project, referred to as the "H2H" project in this document, is being undertaken by the Federal Highway Administration (FHWA), the Alaska Department of Transportation & Public Facilities (ADOT&PF), and the Federal Transit Administration (FTA) in cooperation with the Municipality of Anchorage (MOA) and the U.S. Army Corps of Engineers (USACE). The purpose of the project is to reduce congestion by improving mobility and access for people and goods that use the arterial connection between the Seward and Glenn Highways.

### 1.2 Transportation Demand Model

The transportation demand model (the model) used for the H2H project is a regional model that incorporates the MSB. The model is a computer program designed to simulate future travel by comparing the demand for transportation (the need to travel generally expressed in terms of travel generation and attraction) to the supply (the available transportation network). The model documentation is being completed concurrently with this technical memorandum. The base year for the model is 2007, and 2035 is the forecast year.

### 1.3 Land Use Variables

The geographic location of population and employment plays an important role in determining travel demand. As a result, one of the most critical inputs into the model is the geographic distribution of land use and socioeconomic variables such population, households, employment, average income, workers per household, children per household, and household size. This technical memorandum focuses specifically on the allocation and forecast for population, households, and employment. The travel demand model breaks down employment into 13 employment categories, as follows:

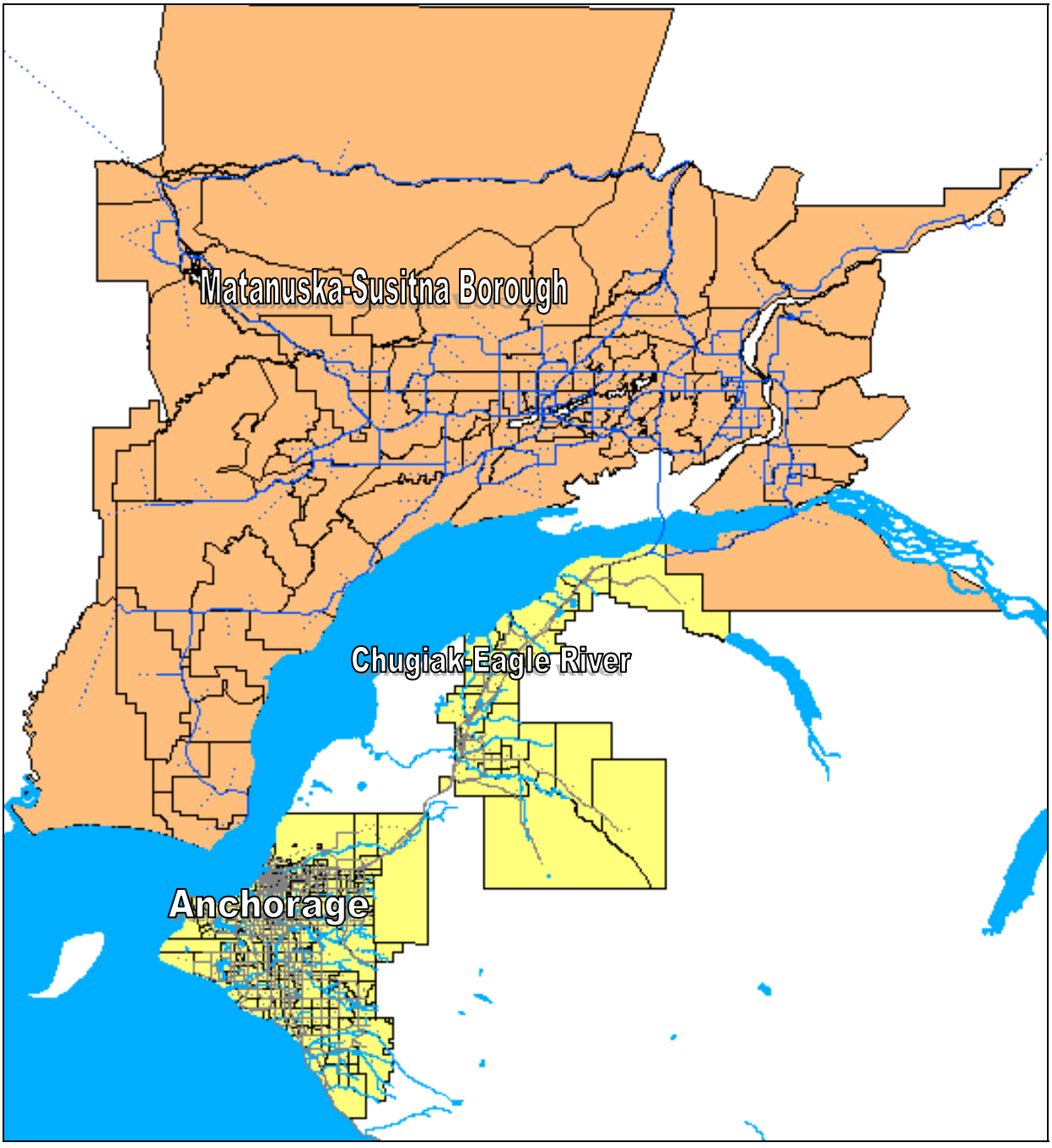
- Agriculture, forestry, and fisheries
- Mining
- Construction
- Manufacturing
- Transportation, communications, and utilities
- Wholesale trade
- Retail trade
- Government
- School employment
- Finance, insurance, and real estate
- University
- Services, except health services
- Health services

The model uses land use variables based on transportation analysis zones (TAZs) that summarize land use variables into geographic areas that are closely related to, but more refined than, census tracts. TAZs are used by the model for the actual calculation of travel generation and attraction. Figure 1-1 shows an overview of TAZs and regional areas used in the model.

## 2 BASE YEAR (2007) LAND USE ALLOCATION

The first step in the land use allocation was to gather available data from existing models. The Anchorage Metropolitan Area Transportation Solutions (AMATS) Long Range Transportation Plan update was prepared in 2007 and serves as the base year allocation for AMATS area TAZs. The model used for the Knik Arm Bridge and Toll Authority (KABATA) environmental impact statement (EIS), published in December 2007, used zone information for 2005 for the MSB.

**Figure 1-1 Regional Transportation Demand Model Boundaries**




It should be noted that the AMATS Traffic Analysis Zone (TAZ) structure was modified along the H2H alternative project corridors in order to provide a more refined travel projection for the study area. This required distributing the 2007 socioeconomic data in the original TAZs between the new split zones. Also of note is the methodology used to develop the 2007 MSB socioeconomic data. Since the MSB only had socioeconomic data available for the years 2005

and 2015, the 2007 base year socioeconomic data was developed through an interpolation of the MSB TAZ data for the years 2005 and 2015.

Table 2-1 shows the base year control totals for population, households, and employment for the MOA and the MSB. The base year employment by category is discussed later in this technical memorandum and is shown in Table 2-2.

**Table 2-1. 2007 Regional Land Use Allocation for Population, Households, and Total Employment**

| Category | MOA | MSB | Regional Total |
|---|---|---|---|
| Population | 280,546 | 72,707 | 353,250 |
| Households | 102,503 | 27,598 | 130,101 |
| Total Employment | 163,704 | 28,988 | 192,692 |

**Table 2-2. 2007 Regional Employment Allocation by Category**

| Category | MOA | MSB | Regional Total |
|---|---|---|---|
| Agriculture, forestry, and fisheries | 239 | 60 | 299 |
| Mining | 2,787 | 31 | 2,818 |
| Construction Total | 7,831 | 3,569 | 11,400 |
| Manufacturing | 2,705 | 232 | 2,937 |
| Transportation, communications, and utilities | 9,083 | 850 | 9,933 |
| Wholesale trade | 4,899 | 1,278 | 6,177 |
| Retail trade | 21,916 | 4,489 | 26,405 |
| FIRE | 7,224 | 4,527 | 11,751 |
| Services, except health services | 47,655 | 6,859 | 54,514 |
| Government | 16,743 | 3,280 | 20,023 |
| School employment | 5,500 | 900 | 6,400 |
| University | 745 | 35 | 780 |
| Health services | 9,788 | 2,208 | 11,996 |

## 3 Regional Land Use Allocation and Forecast Control Totals

The second step in the land use allocation and forecast was to allocate population, households, and employment to regional control totals for the forecast year. This section discusses available land use forecasts and validates regional control totals developed for the H2H project by the Institute for Socioeconomic Research (ISER) of the University of Alaska Anchorage (UAA). The primary source of population, household, and employment forecast control totals come from ISER, which developed a project specific forecast for 2035 for the MOA and the MSB.

## 3.1 Institute of Social and Economic Research Regional Forecasts

ISER has been conducting population, household, and employment forecasts for the State of Alaska for more than 35 years, and is widely accepted and used in Alaska for long-range planning. AMATS, the metropolitan planning organization responsible for development of the Long-Range Transportation Plan for Anchorage, has used ISER forecasts as the basis of its transportation demand model projections since the early 1990s.

ISER forecasts use an economic scenario developed by ISER in consultation with other Alaska researchers in the private and public sectors. Each economic scenario assumes various levels of future industry activity within the state, national variables, state fiscal policy variables, and other exogenous factors that are expected to influence the future pattern of economic and demographic trends. Each of the ISER forecasts is broken down into low, base, and high projections. Typically, the base projections are used in transportation modeling, because they are assumed the most likely scenario to occur.

### *3.1.1 Prior ISER Regional Forecasts*

ISER updates its forecasts every 3 to 5 years; the forecasts for 1998, 2003, and 2005 are used for comparison purposes in this technical memorandum.

The 1998 ISER forecast is from the January 1998 ISER report prepared for the Alaska Department of Transportation titled "Population, Employment, and Income Projections for Alaska Census Areas." Table 3-1 shows population and employment (wage and salary) forecasts for 2000 to 2025 from the 1998 ISER forecast.

**Table 3-1. 1998 ISER Population and Employment Forecast**

| Year | Population | | | Wage and Salary Employment | | |
|---|---|---|---|---|---|---|
| | MOA | MSB | Region | MOA | MSB | Region |
| **2000** | 265.80 | 55.87 | 321.67 | 124.74 | 11.12 | 135.86 |
| **2005** | 279.43 | 62.26 | 341.69 | 127.73 | 11.93 | 139.66 |
| **2010** | 303.29 | 70.94 | 374.23 | 137.64 | 13.54 | 151.18 |
| **2015** | 334.46 | 81.61 | 416.07 | 150.52 | 15.63 | 166.15 |
| **2020** | 365.73 | 92.92 | 458.65 | 164.00 | 17.94 | 181.94 |
| **2025** | 399.32 | 105.70 | 505.02 | 178.94 | 20.63 | 199.57 |

The 2003 ISER forecast is from the June 2003 ISER report titled "Economic Projections for Transportation Planning in Southcentral Alaska 2000-2035." Table 3-2 shows population, households, and employment (wage and salary) projects for 2000 to 2035 from the 2003 ISER forecast.

**Table 3-2. 2003 ISER Population, Household, and Employment Forecast**

| Year | Population | | | Households | | | Wage and Salary Employment | | |
|---|---|---|---|---|---|---|---|---|---|
| | MOA | MSB | Region | MOA | MSB | Region | MOA | MSB | Region |
| **2000** | 259.90 | 59.40 | 319.30 | 94.80 | 20.50 | 115.30 | 131.70 | 12.10 | 143.80 |
| **2005** | 275.70 | 72.50 | 348.20 | 101.10 | 25.20 | 126.30 | 138.60 | 14.50 | 153.10 |
| **2010** | 285.00 | 81.20 | 366.20 | 104.80 | 28.30 | 133.10 | 141.80 | 15.80 | 157.60 |
| **2015** | 304.80 | 92.60 | 397.40 | 110.80 | 32.00 | 142.80 | 149.00 | 17.70 | 166.70 |
| **2020** | 332.20 | 108.20 | 440.40 | 122.30 | 37.80 | 160.10 | 160.40 | 20.60 | 181.00 |
| **2025** | 361.20 | 126.60 | 487.80 | 134.90 | 44.90 | 179.80 | 173.00 | 24.20 | 197.20 |
| **2030** | 372.10 | 141.40 | 513.50 | 140.10 | 50.50 | 190.60 | 178.00 | 27.10 | 205.10 |
| **2035** | 379.20 | 155.60 | 534.80 | 143.20 | 55.80 | 199.00 | 182.70 | 30.20 | 212.90 |

The 2005 ISER forecast is from the September 2005 ISER report titled "Memorandum on the Economic and Demographic Impacts of the Knik Arm Bridge." Table 3-3 shows population and employment (wage and salary) projects for 2005 to 2030 as forecast in the 2005 ISER forecast.

**Table 3-3. 2005 ISER Population and Employment Forecast**

| Year | Population | | | Wage and Salary Employment | | |
|---|---|---|---|---|---|---|
| | MOA | MSB | Region | MOA | MSB | Region |
| **2005** | 285.72 | 72.70 | 358.42 | 148.38 | 16.46 | 164.84 |
| **2010** | 297.29 | 96.04 | 393.33 | 154.42 | 23.77 | 178.19 |
| **2015** | 321.11 | 124.56 | 445.67 | 161.21 | 31.40 | 192.61 |
| **2020** | 322.42 | 144.43 | 466.85 | 161.63 | 37.73 | 199.36 |
| **2025** | 334.38 | 173.51 | 507.89 | 168.19 | 46.90 | 215.09 |
| **2030** | 345.45 | 203.76 | 549.21 | 175.09 | 56.72 | 231.81 |

### *3.1.2 2009 ISER Regional Forecast for the H2H Project*

The ISER H2H was extended to forecast expected regional population, households, and employment for 2035. ISER produced a final forecast report titled "*Economic and Demographic Projections for Alaska and Greater Anchorage"* for HDR Alaska, Inc., in December 2009 (referred to in this memorandum as "the 2009 ISER forecast"). Table 3-4 shows the population, household, and employment regional control totals from the 2009 ISER forecast.

The zone structure in the travel demand model does not encompass the entire region that ISER forecasts, resulting in adjustments to the 2009 ISER forecast prior to using the new 2035 ISER population, household, and employment forecast in the transportation demand model.

**Table 3-4. 2009 ISER Population, Household, and Employment Forecast**

| Year | Population | | | Households | | | Wage and Salary Employment | | |
|---|---|---|---|---|---|---|---|---|---|
| | MOA | MSB | Region | MOA | MSB | Region | MOA | MSB | Region |
| **2000** | 260.30 | 59.30 | 319.60 | | | | 130.90 | 12.40 | 143.30 |
| **2005** | 277.90 | 74.00 | 351.90 | 101.80 | 25.70 | 127.50 | 143.40 | 16.80 | 160.20 |
| **2010** | 289.20 | 80.30 | 369.50 | 109.20 | 28.80 | 138.00 | 147.60 | 18.80 | 166.40 |
| **2015** | 288.80 | 96.40 | 385.20 | 110.30 | 34.60 | 144.90 | 151.40 | 22.80 | 174.20 |
| **2020** | 314.50 | 117.20 | 431.70 | 120.60 | 42.70 | 163.30 | 161.50 | 29.40 | 190.90 |
| **2025** | 333.70 | 153.60 | 487.30 | 128.20 | 56.10 | 184.30 | 172.90 | 33.80 | 206.70 |
| **2030** | 343.10 | 169.00 | 512.10 | 132.40 | 62.00 | 194.40 | 176.10 | 43.60 | 219.70 |
| **2035** | 351.30 | 170.80 | 522.10 | 136.60 | 63.10 | 199.70 | 177.60 | 46.40 | 224.00 |

#### 3.1.2.1 Population

The 2009 ISER population for 2030 shows an overall regional (MOA and MSB) population reduction of 550,500 to 512,100 from the previous 2005 ISER forecast. The majority of this reduction is located in the MSB. As stated in the 2009 ISER report, the reasons for the reduction in forecast population growth are as follows:

- A delay in the assumed construction schedule for the Knik Arm Bridge (in the later forecast) results in a decrease in the overall growth in the MSB, particularly in the Knik Arm area closest to the new bridge.
- Adverse impact on population caused by recession beginning in early in 2009, presuming that both the AMATS and MSB areas will see slowed population growth; however, the slowed growth will be less severe in Anchorage.

#### 3.1.2.2 Household

The reduction in the number of households forecast for the region follows the same trends as the population forecast.

#### 3.1.2.3 Total Employment

The reduction in the regional employment total is not as severe as the reduction in the population and households. As with population, the majority of the change occurs in the employment forecast for the MSB. As stated in the 2009 ISER report, the reasons for the change in forecast employment distribution between the AMATS and the MSB areas are as follows:

- A larger share of the basic job growth, mostly military, is located in the AMATS area (primarily Anchorage) rather than in the MSB when compared to 2005 ISER forecast.
- The Knik Arm Bridge construction occurs later in the 2009 ISER forecast than in the 2005 ISER forecast, and thus delays the movement of basic jobs from AMATS to the MSB.

- The number of basic jobs that shift from AMATS to the MSB each year has been reduced based on recent historical experience. Therefore, the rate of growth in the number of commuters who live in the MSB but work in AMATS is also delayed.
- Adverse impact on population due to recession beginning in early in 2009, presuming that both the AMATS and MSB areas will experience drops in employment in 2009 and 2010.

# 4 ADJUSTMENTS TO 2009 ISER REGIONAL FORECAST

Step 3 in the process of allocating and forecasting population, households, and employment was adjusting the 2009 ISER forecast to account for the modeled area related to the forecast area. These adjustments were required prior to using the new 2035 ISER population, household, and employment forecast in the transportation demand model.

## 4.1 Population and Household Adjustments

The first adjustment is for the population and household for both AMATS and the MSB areas, and is required to reflect the percentage of the total population and households that reside within the model area. The AMATS area adjustment is a subtraction of the population and households that are expected to live in the Turnagain Arm/Girdwood area, which is outside the model area. The MSB area adjustment is reduction of population and households by 6.28 percent (or a multiplier of 93.72 percent of the total forecast) ,which, according to the 2000 U.S. Census, is the percentage of the MSB population and households residing in the model area. The assumptions made are the following:

- The AMATS area population in the Turnagain Arm/Girdwood area is expected to grow at an annual growth rate of 5.6 percent, resulting in a 2035 forecast for the Turnagain Arm/Girdwood population of 5,569 and a household estimate of 2,542.
- The MSB area ratio of population and households within the modeled area compared to the total MSB population and households would remain the same as in the 2000 Census, 93.72 percent.

Subtracting the Turnagain Arm/Girdwood area population from the population control total for the AMATS region resulted in a population forecast of 345,731 (the 2009 ISER forecast for 2035 of 351,300 minus the assumed Turnagain Arm/Girdwood area growth of 5,569). The population control total for the MSB region would, therefore, be 160,073 (the 2009 ISER forecast for 2035 of 170,800 multiplied by 93.72 percent).

Subtracting minus the Turnagain Arm/Girdwood area population from the household control total for the AMATS region resulted in a household forecast of 134,058 (the 2009 ISER forecast for 2035 of 135,600 minus the assumed Turnagain Arm/Girdwood area growth of 2,542). The household control total for the MSB region would, therefore, be 59,165 (the 2009 ISER forecast for 2035 of 63,172 multiplied by 93.72 percent).

Table 4-1 summarizes the adjusted population and household control totals for the modeled area using the 2009 ISER forecast for the Anchorage, Eagle River, and MSB areas.

**Table 4-1. 2035 Regional Population and Household Control Totals**

| | MOA | MSB | Region |
|---|---|---|---|
| **2035 Population** | 345,738 | 159,052 | 504,790 |
| **2035 Households** | 134,229 | 59,165 | 193,394 |

## 4.2 Employment Adjustments

The second adjustment was for employment for both the AMATS and the MSB areas. No data are currently available for use in determining how much of total MSB employment lies within the modeled area. The two data sources used (the AMATS model, and the MSB model) differ in their treatment of self-employment, resulting in a required adjustment to the 2009 ISER forecast. The assumptions made are the following:

- An insignificant amount of the total MSB employment is located outside the model area.
- In calculating the 2035 MOA self-employment total, the ratio of self-employment to wage-and-salary employment would not change from 2007 to 2035.
- No growth in employment is located in Turnagain Arm/Girdwood area.
- Two major projects involving the expansion of the Alyeska Ski Resort to the Winner Creek area and the development of a golf course are on hold, understanding that a reassessment of employment growth in the Turnagain Arm should be conducted if one or both of these projects is completed.
- Total employment excludes uniformed military personnel. Uniformed military employment (estimated to be 14,343 in 2035) is a special generator in Anchorage and, therefore, does not need to be allocated. MSB uniformed military (estimated to be 631 in 2035) is an insignificant part of the total employment and, therefore, was not included in total employment.

Total employment control totals by category and total employment, after adjustments discussed in this section for the MOA and MSB regions, are shown in Table 4.2. The development of these totals is discussed in Sections 4.2.2 and 5.3.

**Table 4-2. 2035 Regional Employment Control Totals**

| Category | MOA | MSB | Regional Total |
|---|---|---|---|
| Agriculture, forestry, and fisheries | 215 | 680 | 895 |
| Mining | 2,512 | 463 | 2975 |
| Construction total | 8,827 | 5,785 | 14612 |
| Manufacturing | 2,434 | 2,810 | 6244 |
| Transportation, communications, and utilities | 10,418 | 2,856 | 13274 |
| Wholesale trade | 6,404 | 1,670 | 8074 |
| Retail trade | 28,627 | 12,159 | 40786 |

**Table 4-2. 2035 Regional Employment Control Totals**

| Category | MOA | MSB | Regional Total |
|---|---|---|---|
| Agriculture, forestry, and fisheries | 215 | 680 | 895 |
| Mining | 2,512 | 463 | 2975 |
| FIRE | 9,443 | 6,577 | 16020 |
| Services, except health services | 62,298 | 12,355 | 74653 |
| Government | 22,043 | 6,484 | 28527 |
| School employment | 7,095 | 4,314 | 11409 |
| University | 964 | 138 | 1102 |
| Health services | 12,779 | 6,470 | 19249 |
| Total employment* | 208,203 | 63,714 | 271,917 |

*Note: Special generators are included in Total Employment

### *4.2.1 Self -employment Adjustments*

The AMATS model includes wage-and-salary and self-employed employment, and the MSB model includes only wage-and-salary employment. The America Community Survey (2005 – 2007) states that the total number of self-employed in the MOA was 10,538, representing 7.12 percent of the Alaska Department of Labor (ADOL) estimate of 2007 wage-and-salary employment of 148,033. Self-employment in the MSB is a substantial share (40 percent) of the total employment (as noted in the 2009 ISER forecast report). Thus, MSB self-employment needed to be adjusted to avoid underestimation of total employment in the MSB.

The total employment control total (wage-and-salary and self-employed) for the AMATS region is 189,879 (calculated by multiplying the 2009 ISER wage-and-salary forecast for 2035 of 177,260 by 7.12 percent and adding it to the 2009 ISER wage-and-salary forecast for 2035 of 177,260). The total employment control total (wage-and-salary and self-employed) for the MSB region is 63,223 (calculated by adding the 2009 ISER self-employed MSB estimate of 16,400, the 2009 ISER wage-and-salary estimate of 46,400, and the MSB unidentified employment estimate of 423).

### *4.2.2 Employment Category Adjustments*

The employment in the travel demand model is described in Section 1; however, ISER does not use the same employment categories as the travel model uses. ISER employment is broken down into basic, government, and support sectors, and forecasts employment growth rates by these three sectors for the MOA and the MSB are shown in Table 4-3.

To apply the ISER sector growth rates shown in Table 4-1 to the base year (2007) categorized employment data used by the travel demand model, an equivalency table for ISER employment sectors and travel demand model employment categories was developed (see Table 4-4).

**Table 4-3. 2009 ISER Forecast Employment Growth by Sector (2008 to 2035)**

| Employment Sector | MOA | MSB |
|---|---|---|
| Basic employment | -6.7% | 718.9% |
| Government | 22.1% | 51.5% |
| Support | 21.1% | 74.5% |

**Table 4-4. ISER Employment Sectors and Travel Demand Model Categories Equivalency**

| ISER Employment Sector | Travel Demand Model Employment Categories |
|---|---|
| Basic | Agriculture, forestry & fisheries<br>Mining<br>Construction<br>Manufacturing<br>Transportation, communications & utilities |
| Government: local, state, and federal | Government<br>School Employment<br>University |
| Support | Wholesale trade<br>Retail Trade<br>Finance, insurance, and real estate<br>Services, except health services<br>Health services |

Special consideration was necessary prior to finalizing the employment category control totals. First, growth rates of several of the AMATS model employment categories were recognized as being distinct, requiring a separate growth rate analysis. These included school employment, which was assumed to grow in proportion to the growth in school age population, and university employment was assumed to grow at the same rate as student growth.

### *4.2.3 Special Generator Employment Adjustments*

Adjustments to the employment category totals in Anchorage were necessary in order to avoid double-counting special generator employment. Table 4-5 shows the estimated 2035 employment accounted for by the eight special generators located in the region.

**Table 4-5. 2035 Special Generator Employment by Employment Category**

| Special Generator | Employment Category | Total Employment |
|---|---|---|
| Elmendorf | Government | 17,634 |
| Fort Richardson | Government | 4750 |
| Port of Anchorage | Transportation, communications, and utilities | 762 |
| Ted Stevens Anchorage | Transportation, communications, and | 4,475 |

**Table 4-5. 2035 Special Generator Employment by Employment Category**

| Special Generator | Employment Category | Total Employment |
|---|---|---|
| International Airport | utilities<br>Government<br>Wholesale trade<br>Retail trade<br>Services, except health services | 1,122<br>51<br>369<br>486 |
| Anchorage Library | Government | 89 |
| Alaska Native Hospital | Health services | 1,633 |
| Columbia Regional Hospital | Heath services | 1,129 |
| Providence Hospital | Health services | 3,051 |
| Alaska Pacific University | University | 349 |
| Matanuska-Susitna Borough Regional Hospital | Health services | 953 |
| University of Alaska Anchorage | University | 2,333 |

# 5 SUBAREA POPULATION, HOUSEHOLD, AND EMPLOYMENT ALLOCATION

The fourth step in the 2009 ISER population and employment forecast allocation of population, household, and employment between the MSB and the MOA was to allocate the regional forecast into subareas. This was an intermediate step between the ISER regional forecast and the final TAZ allocation. The revised MSB Comprehensive Plan, which was published by the MSB Planning and Land Use Department in 2005, does not contain this type of guidance. As a result, the methodology used to allocate population, households, and employment to the MSB skips this fourth step and disaggregates the ISER regional forecast directly to the TAZ level (Step 5).

Step 4 was required within the AMATS region to ensure that the final allocation to the TAZ level correlated with the land use policies contained in the adopted comprehensive land use plans. The guiding comprehensive plans are the Anchorage Bowl Comprehensive Plan (last updated in 2002 and referred to as "the Anchorage Comprehensive Plan" in this technical memorandum) and the Chugiak-Eagle Comprehensive Plan (published by the MOA, last updated in 2006, and referred to as the "CER Comprehensive Plan" in this technical memorandum). These policies provide specific guidance regarding the share of growth by defined subareas of the community.

Figure 5-1 shows the MOA subareas: Chugiak-Eagle River, Northwest Anchorage, Northeast Anchorage, Southwest Anchorage, Central Anchorage, and South Anchorage. Table 5-1 is a summary of the forecast population, households, and total employment for the MOA subareas; these numbers are discussed in detail in Sections 5.1, 5.2, and 5.3.

**Figure 5-1. MOA Subareas**

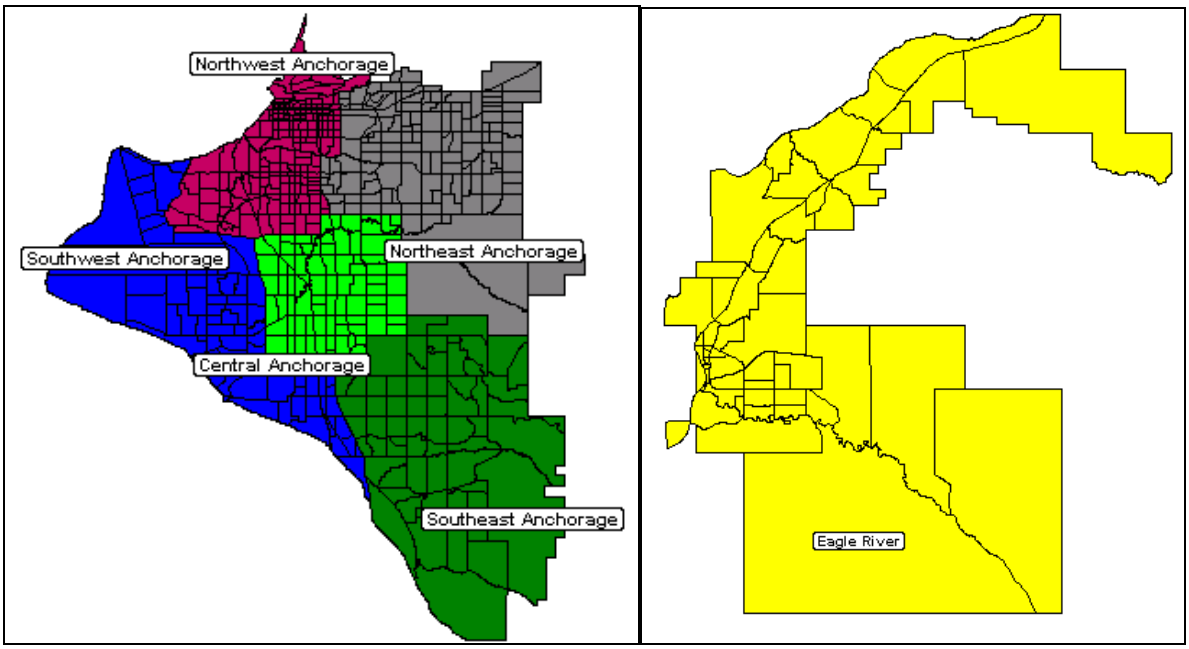



**Table 5-1. 2035 Population, Household, and Employment Control Total by MOA Subarea**

| Category | Chugiak-Eagle River | Northwest Anchorage | Northeast Anchorage | Central Anchorage | Southeast Anchorage | Southwest Anchorage | MOA |
|---|---|---|---|---|---|---|---|
| Population | 65,021 | 57,730 | 85,697 | 53,866 | 34,086 | 49,338 | 345,738 |
| Households | 22,346 | 27,156 | 33,000 | 21,610 | 11,948 | 18,169 | 134,229 |
| Employment | 10,164 | 81,129 | 42,464 | 33,377 | 3,128 | 19,071 | 208,203* |

*Note: Military employment of 18870 is included in a separate subarea.

## 5.1 Population Subarea Allocation

The Anchorage Bowl and Chugiak-Eagle River have separate comprehensive land use plans. Both plans project population to grow at a much faster rate in Chugiak-Eagle River than in the Anchorage Bowl because of its larger supply of vacant land.

The CER Comprehensive Plan projects population growth rate based on a percentage of the overall MOA growth rate. Thus, the first step in the subarea disaggregation process was to estimate the share of the total MOA growth that belongs to Chugiak-Eagle River. The Anchorage Bowl Comprehensive plan does not specifically allocate population by subarea, but does allocate number of households by subarea. The number of households in each TAZ can be used to estimate Anchorage Bowl subarea population by using the average household size.

### *5.1.1 Chugiak-Eagle River*

The CER Comprehensive Plan states that the population growth in Chugiak-Eagle River is expected to contain an estimated 15 percent of the total MOA population by the year 2025. Since the Plan only goes out to the year 2025, it is necessary to extrapolate the growth rate another 10 years in order to arrive at an estimate for 2035. According to the Plan, the percentage of the total MOA population living in Chugiak-Eagle River is projected to increase by 1 percent between 2020 and 2025. If this growth rate is applied to each 5-year period (2025 to 2030 and 2030 to 2035), the total percentage of the MOA population living in Chugiak-Eagle River would be approximately 17 percent. Given that the total 2035 ISER population forecast for the MOA is 351,300, the 2035 Chugiak-Eagle River population would, therefore, be 59,721. However, refinement of population allocation within the MOA utilizing existing (2007) population allocation and known future development, the control total for Chugiak-Eagle River population in 2035 is 65,021, included in Table 5-1.

### *5.1.2 Anchorage*

Population was not specifically allocated by subarea but was calculated for each TAZ by multiplying the average household size (received from the 2000 census) by the number of households in each respective TAZ. The resulting population by TAZ was then adjusted to the overall Anchorage Bowl control totals. Although not discussed in this section, the summary of population control total by Anchorage bowl subarea for 2035 is shown in Table 5-1.

## 5.2 Households

The CER Comprehensive Plan does not explicitly provide a household forecast, but it does provide a means of calculating the future average household size. On the other hand, the Anchorage Comprehensive Plan provides specific guidance regarding the allocation of future household growth to five subareas of the Anchorage Bowl, as shown in Figure 5-1.

### *5.2.1 Chugiak-Eagle River*

According to the CER Comprehensive Plan, the average household size in Chugiak-Eagle River decreased from 3.08 persons in 1990 to 2.9 persons in 2000 and is expected to continue decreasing in the future. The 2009 ISER population and household forecast for the entire MOA shows an overall drop in household size from 2.74 persons in 2007 to 2.57 persons in 2035. This represents a 6 percent decrease in household size or 0.2 percent per year. Applying a decrease of 0.2 percent per year to the current 2.87 persons per household size for Chugiak-Eagle River, the 2035 household size would be expected to be 2.67. Dividing the estimated 2035 CER population estimate of 59,721 by 2.67 yields a total 2035 household estimate of 22,346, as shown in Table 5-1.

### *5.2.2 Anchorage*

The growth allocation table on page 59 of the Anchorage Bowl Comprehensive Plan was intended to supplement the Land Use Policy Map (page 50 of the Plan) and to provide additional land use guidance regarding where future residential growth will take place. In order to facilitate

comparison between the model and Plan allocation of households within the Anchorage Bowl, it was decided to develop subarea control totals using the same subarea geographic boundaries.

In 2004, the MOA Planning Department prepared a buildable lands inventory and capacity analysis (MOA, 2007) to evaluate the ability of each of the subareas to accommodate the growth allocated by the Comprehensive Plan.

The Planning Department began by updating the vacant land inventory and re-estimating the re-developable land and then proceeded to estimate the total residential build-out capacity of each subarea, based upon current assumptions about land use density. This preliminary analysis found that the northwest subareas would have a major deficit of between 5,000 and 7,000 households when compared to the Comprehensive Plan allocation. On the other hand, the northeast subarea would have a minor surplus of between (300 and 2,500 housing units). In order to correct these inconsistencies, the Planning Department has recommended reducing the overall residential holding capacity in the Northeast subareas by approximately 1,000 housing units and increasing the residential capacity in mixed-use commercial areas near Downtown and Midtown in the Northwest Subarea by 3,500 housing units.

The resulting subarea capacities were further reduced by subtracting the housing development that has occurred since the data used in the MOA buildable lands inventory and capacity report was collected (2004) and 2007 (the model's base year). The percent of total Anchorage Bowl capacity by subarea was then multiplied by the Anchorage Bowl household growth control total of 22,517 to calculate the 2035 housing growth allocation by subarea, as summarized in Table 5-2. The 2035 Anchorage Bowl household growth control total of 22,517 was calculated by subtracting the Chugiak-Eagle River household control total (22,346 from Section 5.2.1) and the Turnagain Arm household growth control total (2,542 from Section 4.1) from the overall MOA household control total (136,600 from the 2009 ISER forecast) and subtracting this total from the 2007 Anchorage Bowl household figure of 134,229.

**Table 5-2. 2035 Anchorage Bowl Household Allocation by Subarea and Capacity**

| | MOA Buildout Capacity (2004) | Household Permits (2004 – 2006) | MOA Buildout Capacity (2007) | 2007 Capacity as Percent of Anchorage Bowl | Household Allocation by Subarea (2035) |
|---|---|---|---|---|---|
| Northwest | 8594 | 426 | 8168 | 31.95% | 7113 |
| Northeast | 6405 | 881 | 5524 | 21.61% | 4810 |
| Central | 5481 | 914 | 4567 | 17.86% | 3977 |
| Southwest | 4463 | 766 | 3697 | 14.46% | 3220 |
| Southeast | 4334 | 433 | 3901 | 15.26% | 3397 |

A comparison of the percentage subarea allocation using the above methodology to the Comprehensive Plan housing allocation ranges by subarea is shown in Table 5-3. The new subarea allocation percentages are similar to the original subarea allocation estimates provided in the Comprehensive Plan. The new northwest subarea capacity is slightly higher than that originally projected in the Comprehensive Plan, while the southwest and central subarea

capacities are lower than originally projected. This is due to a lag in new housing starts (see "2004-2006 Household Permits" column in Table 5-2) in the northwest subarea compared to the other subareas. As a result, capacity decreased at a more rapid rate for the southwest and central subareas than for the northwest, in turn decreasing these areas' percentage of the total remaining Anchorage Bowl capacity. While the percentage allocation by subarea is slightly different from the original Comprehensive Plan estimate, it made sense to use the new subarea allocation estimates that take into account the land use changes that have occurred since those estimates were made in 1998.

**Table 5-3. Comparison of Comprehensive Plan Subarea Allocation**

| Subarea | 2007 Capacity as Percent of Anchorage Bowl | Comprehensive Plan Subarea Allocation |
|---|---|---|
| Northwest | 31.95% | 26.67% (7,000 - 9000 households) |
| Northeast | 21.61% | 20.0% (5,000 - 7,000 households) |
| Central | 17.86% | 20.0% (5,000 - 7,000 households) |
| Southwest | 14.46% | 16.7% (4,000 - 6,000 households) |
| Southeast | 15.26% | 16.7% (4,000 - 6,000 households) |

## 5.3 Employment

The CER Comprehensive Plan provides guidance about future employment, based on a percent of population. The *Anchorage 2020, Anchorage Bowl Comprehensive Plan,* published by the MOA in February 2001, did not identify subarea employment allocations in the same manner as it allocated households. As a result, the methodology used to allocate employment to the Anchorage Bowl subareas skips this intermediate subarea allocation step and disaggregates the Anchorage Bowl employment forecast directly to the TAZ level (Step 5).

Table 5-4 summarizes employment by category for AMATS region subareas and is discussed in Sections 5.3.1 and 5.3.2.

### *5.3.1 Chugiak-Eagle River*

The CER Comprehensive Plan estimates that employment will equal 15 percent of the Chugiak-Eagle River population in 2025, increasing from 13 percent of the population in 2004. For the purposes of this allocation study, it was assumed that employment as a percent of population will continue to increase and will be 16 percent of the population by 2035. Since the 2035 population of Chugiak-Eagle River is estimated at 65,021, the total employment would be 11,054 in that same year. However, further refinement of employment based on existing allocation and known future development, a control total for the Chugiak-Eagle River total employment is 10,164, as shown in Table 5-1.

**Table 5-4. Employment allocation by Subarea for Anchorage, Chugiak-Eagle River**

| Employment Category | Chugiak-Eagle River | Northwest Anchorage | Northeast Anchorage | Central Anchorage | Southeast Anchorage | Southwest Anchorage | MOA |
|---|---|---|---|---|---|---|---|
| Agriculture, forestry, and fisheries | 1 | 51 | 2 | 106 | 0 | 55 | 239 |
| Mining | 1 | 1092 | 734 | 554 | 1 | 130 | 2,787 |
| Construction total | 395 | 2111 | 577 | 4185 | 480 | 498 | 7,831 |
| Manufacturing | 47 | 882 | 664 | 655 | 19 | 167 | 2,705 |
| Transportation, communications, and utilities | 209 | 5117 | 1543 | 1617 | 94 | 1690 | 9,083 |
| Wholesale trade | 49 | 1945 | 317 | 3781 | 25 | 286 | 4,899 |
| Retail trade | 1,409 | 10143 | 6935 | 7862 | 12 | 1198 | 21,916 |
| FIRE | 146 | 6330 | 1047 | 1263 | 76 | 569 | 7,224 |
| Services, except health services | 1,338 | 33291 | 8475 | 10268 | 1455 | 5366 | 47,655 |
| Government | 556 | 14089 | 3860 | 1717 | 137 | 1228 | 16,743 |
| School employment | 272 | 1116 | 1915 | 608 | 764 | 994 | 5,500 |
| University | 51 | 348 | 565 | 0 | 0 | 0 | 745 |
| Health services | 297 | 3729 | 7345 | 751 | 66 | 391 | 9,788 |
| **Total employment*** | **10,164** | **81,129** | **42,464** | **33,377** | **3,128** | **19,071** | **208,203** |

*Note: Military employment of 18870 is included in a separate subarea.

The AMATS Transportation Demand Model requires that the total employment be broken down into 13 separate employment categories, each of which has a different trip attraction rate. As a result, it is not sufficient to allocate only total employment between Chugiak-Eagle River and the Anchorage Bowl. It is also necessary to disaggregate total Chugiak-Eagle River employment into the individual employment categories, particularly because the Chugiak-Eagle River employment composition is so different from that of the Anchorage Bowl. Control totals for 2035 categorical employment in Chugiak-Eagle River are shown in Table 5-4.

### *5.3.2 Anchorage*

Employment by employment category for the Anchorage Bowl was derived by simply subtracting the Chugiak-Eagle River employment by employment category as shown in Table 5-4 from the total MOA employment by employment category (Table 5-1).

## 6.1. Municipality of Anchorage TAZ Allocation

The fifth and final step involved disaggregation of the subarea totals into the TAZs. This section documents and summarizes these steps and the resulting forecasts and allocations.

### *6.1.1 Households*

The starting point for the MOA (including Chugiak-Eagle River) allocation is the year 2007. Obviously, development did not stop between 2007 and 2009 (the date that this update was completed). As a result, it was necessary to fill in this 2-year gap with information about recent development activity. In the past, AMATS has relied on MOA permit data to provide the number and locations of new housing units. Each new permit must then be geocoded in order to identify the TAZ to which it should be assigned. Permit data from June 2006 to December 2008 were download and geocoded to the correct TAZ, and the total was added to the existing 2007 database to produce an updated 2009 estimated number of households by TAZ. A total of 959 housing permits were issued during that time period, with 28 issued outside the model area in Turnagain Arm communities. (It is assumed that all of the household permits issued during that timeframe were built.)

The next step in allocating the subarea household control totals to the TAZ level was to allocate the planned short-term housing development (pipeline development). While it is sometimes difficult to forecast how many and where housing development will occur in the long term, it makes sense to take into account the existence of large subdivisions that are either actively being developed or were recently approved by the MOA Platting Board. Recently, new housing starts have slowed considerably within the MOA. As a result, only four developments were included in the pipeline development assumptions used in this housing allocation effort (see Table 6-1).

**Table 6-1. Pipeline Housing Development Assumptions**

| Name | Number of Units | TAZ |
|---|---|---|
| Sand Lake Gravel Pits | 850 | 397 |
| Abbott Loop Church | 64 | 441 |
| Weidner Midtown Apts. | 330 | 299 |
| Lazy Mtn. Town Square | 220 | 632 |

Special consideration was also necessary with respect to the allocation of new housing units in the Downtown and Midtown districts. The majority of these districts are zoned commercial. Moreover, little if any new housing development has occurred in these districts during the past 20 years. As a result, it is not possible to utilize a trend analysis of past housing development to predict future housing development in these areas. Nevertheless, the Anchorage Bowl Comprehensive Plan states (page 51) that "higher density mixed-use development that includes residential uses would also be encouraged within the employment center core (Midtown and Downtown)." According to the April 2007 MOA Planning Department report, *Draft Land Capacity of the Anchorage Bowl to Accommodate Projected Growth,* the number of housing units that could be built in the commercial areas of Downtown is estimated to be around 75 per year. Multiplying this figure by 26 years (2009 to 2035) resulted in an estimate of 1,950 new Downtown housing units. In lieu of a more detailed housing market analysis, this figure was adopted as the housing growth control total for Downtown.

In order to allocate the Downtown housing control total to the TAZ level, additional assumptions needed to be made regarding the location and density of these future housing developments. The newly adopted Anchorage Downtown Comprehensive Plan (2007) provides direction as to where and at what density new housing might be built in Downtown Anchorage. The Plan divides the Downtown into several districts, including a core district and five periphery districts surrounding the core. Using the densities provided by the Downtown Comprehensive Plan, a potential capacity for each downtown TAZ was calculated based on the total acreage of the TAZ times the final dwelling units per acre (DU/A) shown in Table 6-2. The calculated TAZ housing capacity as a proportion of the total downtown capacity was then multiplied by the downtown housing control total (1950) to arrive at the estimate housing growth for each TAZ.

**Table 6-2. Downtown Subdistrict Densities**

| | Range DU/A | Midpoint DU/A | Final DU/A* |
|---|---|---|---|
| Barrow Street | 15 to 30 | 22.5 | 22.5 |
| Pioneer Slope | 15 to 30 | 22.5 | 22.5 |
| Park Strip North | 20 to 50 | 35 | 35 |
| East Avenues | 20 to 60 | 40 | 20 |
| Legal/Office | 20 to 60 | 40 | 20 |

The Midtown Employment District does not have the advantage of having an adopted plan. A Public Hearing Draft of the Midtown District Plan has been prepared but is awaiting additional work prior to being submitted to the MOA Planning and Zoning Commission for review. The public hearing draft does, however, contain a housing market study, which states that the Midtown District should attempt to retain its current 5 percent share of the MOA housing market. Using this figure as a guide, the Midtown housing stock should grow by 1,578 by 2035 (31,562 times 0.05). The 2007 *Draft Land Capacity of the Anchorage Bowl to Accommodate Projected Growth* report also provides some direction. That report estimated that the number of housing units that could be built in the commercial areas of Midtown is approximately 25 units per year ,or a total of 650 over 26 years. The draft Midtown Plan identifies Denali Center as one of the prime areas for future mixed-use residential development. The 650 new housing units to be allocated to commercial areas of Midtown were, therefore, allocated to TAZs 291 and 271 within the Denali Subdistrict. An additional 1,232 new housing units were allocated to the existing residentially zoned areas of Midtown (primarily in the western portion of the district), for a total of 1,882 new housing units in Midtown. The Weidner Midtown Apartment proposal had previously been added to TAZ 299 as one of the pipeline developments. Thus, the total Midtown housing allocation was estimated at 2,272, substantially above the Midtown housing market projection of 1,578.

The final step in the MOA housing allocation procedure was to allocate the future housing units remaining after subtracting the permits, pipeline development, and downtown and midtown allocations from the subarea control totals. These housing units were allocated to TAZs based on the development potential for each TAZ remaining after taking into account the permitted and pipeline development calculated in the previous steps. The new development potential, represented as a percentage of the total subarea housing development, was then multiplied by the total remaining housing allocation for that subdistrict.

### *6.1.2 Population*

Population by TAZ was derived from the household estimate. It was calculated by multiplying the number of households by the average household size (AHHS). The resulting population estimate was then adjusted to the subarea population control totals shown in Table 5-1.

### *6.1.3 Employment*

Similar to the household database, the 2007 employment database needed to be updated to take into account the new commercial permits issued between 2007 and 2009. It is a little more complicated, however, to derive employment estimates from permit files than to derive household numbers. The MOA permit database contains information on the general type of employment and square footage of developments but does not contain information on number of employees. As a result, it was necessary to convert the square footage of development (provided by the permit data) into an estimate of the number of employees by employment category. The conversion estimates (see Table 6-3) primarily relied on the Institute of Transportation Engineers (ITE) as the source for the number of employees per square feet. Each new commercial permit, along with the estimated number of employees was geocoded in order to identify the TAZ to which it should be assigned.

**Table 6-3. Employment/Building Size Conversion Ratios**

| Employment Type | Number of Employees per 1000 Square Feet |
|---|---|
| Big Box Store | 1.53 |
| Medical Offices | 4.8 |
| Industrial Uses | 0.15 |
| Warehouse | 0.3 |
| Retail | 1.8 |
| Banks | 2.1 |
| Office | 3.4 |
| Restaurant | 7.5 |

An attempt was made to ascertain the likely near-term, commercial-related pipeline development, geocode it, and then convert the estimated square footage into number of employees by employment category. Once again, given the current slow growth environment in Anchorage, the amount of estimated near-term commercial development is fairly limited. The employment by TAZ was calculated using the same square footage to employee conversion factors shown in Table 6-3. Table 6-4 lists the pipeline employment by TAZ within the MOA.

**Table 6-4. Pipeline Employment by TAZ**

| Name of Development | TAZ | Retail Employment | FIRE | Services, Except for Health Services |
|---|---|---|---|---|
| Wal-Mart | 649 | 137 | | |
| Sam's Club | 649 | 137 | | |
| Target (retail satellite lots) | 488 | 78 | | |
| Augustine Office Bldg. | 89 | 27 | 1071 | |
| Takatna Commons | 5 | 693 | | |
| Commercial Development: Southwest Corner of Minnesota Drive and C Street Development | 470 | 32 | 476 | 45 |
| Commercial Development: Northwest Corner of C Street and International Airport Road* | 533 | | 306 | 308 |
| Commercial Development: Former Church Site Near SE Corner of Lake Otis Blvd. and Abbott Road | 441 | | | 136 |

**Table 6-4. Pipeline Employment by TAZ**

| Name of Development | TAZ | Retail Employment | FIRE | Services, Except for Health Services |
|---|---|---|---|---|
| Wal-Mart | 649 | 137 | | |
| Sam's Club | 649 | 137 | | |
| Weidner Midtown Mixed Use Development | 299 | | 34 | |
| **Total** | | **1104** | **1887** | **489** |

* Two new proposed hotels, located in TAZ 533, were added to the hotel special generator file but were not added to the employment numbers in order to avoid double counting trips.

As a general rule, employment was allocated to individual TAZs based on the availability of vacant land and re-developable land. The exception was Downtown Anchorage, where estimating the availability of developable land is complicated by the fact that new development is largely dependent on the redevelopment of surface parking lots. Given this difficulty in estimating future commercial development, it was decided to assume that the Downtown area would maintain its existing share of the MOA total employment (10.3 percent in 2007). Using this figure as the basis, the future employment in Downtown was calculated to grow by 3,824 from 2007 to 2035.

The final step in the MOA employment allocation procedure was to allocate the employment remaining after subtracting the permits, pipeline development, and downtown allocations from the Anchorage Bowl and Chugiak-Eagle River control totals. Employment (by employment category) was allocated to individual TAZs, based on the development potential for each TAZ. The development potential of each TAZ, represented as a percentage of the total Anchorage Bowl and Chugiak-Eagle River employment potential, was then multiplied by the total remaining employment (for each employment category) for both the Anchorage Bowl and Chugiak-Eagle River.

## 4.2 Matanuska-Susitna Borough TAZ Allocation

The allocation of land uses within the MSB presents unique problems. While the MOA has adopted zoning district regulations to guide development, the MSB has no such regulations. As a result, it is much more difficult to predict where and at what density development will occur in the MSB.

As a means of compensating for the lack of zoning guidance, the MSB, through its contractor HDR Alaska, developed a land use allocation spreadsheet for the modeled area, using an expert panel of public and private development experts. This modified Dephi Technique provided growth rates for both residential and commercial development by TAZ out to the year 2030; these rates were then applied to base year (2000) household and employment figures to arrive at the future year estimates.

### *4.2.1 Households*

Rather than recalculate the MSB growth factors and household estimates by TAZ, it was decided to use the original 2030 household estimates and simply adjust the figures to reflect the new 2009 ISER projections. The 2030 HDR allocation of households within the MSB was based on a control total conforming to the 2005 ISER forecast. This forecast was more than 20 percent higher than the most recent MSB household forecast released by ISER in December 2009 for the comparable year (2030). Thus, for this land use allocation update, the total estimated 2030 households by TAZ was uniformly reduced to match the ISER 2035 MSB household control total of 59,165.

### *4.2.2 Population*

Population per TAZ was calculated by multiplying the number of TAZ households by each TAZ's household size (persons per household).

### *4.2.3 Employment*

The calculation of employment by TAZ for the MSB was a two-step process. The first step involved extending the growth rates for retail and non-retail from 2030 to 2035 and recalculating the employment totals for each TAZ. (The original HDR spreadsheet included only two employment categories, retail and non-retail.) These figures were adjusted to match the 2035 ISER control totals.

The second step involved converting the non-retail employment to the 13 employment categories used by the AMATS transportation demand model. This was accomplished by multiplying the percentage share of non-retail and retail employment for each TAZ by the control total for each employment category (see Table 5-4).

The allocation of school-related employment by TAZ required a separate analysis since it is driven by the school location. In order to calculate these estimates, it was first necessary to obtain the location of the MSB schools by TAZ. School staff, estimated to be 2,062 in 2008 was then grown in proportion to the projected 2035 school age population to arrive at a school employment control total of 4,310 in 2035. Since no information is known regarding the location of future schools in the MSB, the additional school-related employment was proportionately added to the existing 2008 school-related employment.

It was also necessary to manually allocate university employment to the TAZ in which the MSB branch of UAA is located (TAZ 713).

Hotels were not included as part of the original MSB transportation demand model. Research indicated that there were a total of 16 hotels within the MSB modeled area in 2010, with 410 rooms. Each of these hotels was geocoded to the proper TAZ and added to the Anchorage hotel database. No assumptions were made regarding future location of hotels in the MSB.

# 7 RESULTS

The methodology described in the previous sections provided estimates of households, population, employment by employment category, and total employment growth between 2007 and 2035 for each TAZ within the regional model boundaries. These growth estimates were added to the existing 2007 figures to provide 2035 estimated totals for each TAZ.

## 7.1 Household Growth

### *7.1.1 Anchorage Bowl Household Growth*

Figure 7-1 shows the calculated household growth for the Anchorage Bowl between 2007 and 2035. Future household growth appears to be distributed throughout the area, with growth hotspots occurring around the sand land gravel pits in the southwest and in the area south of Rabbit Creek Road in the southeast. Figure 7-2 shows, in more detail, the projected household growth in the downtown and midtown districts. As illustrated, a substantial amount of new housing is projected to be built in the Downtown core, as well as in the commercially zoned areas of Midtown. Because little housing has been built in these areas within the last few decades, a substantial policy change (as encouraged by the 2020 Anchorage Bowl Comprehensive Plan) will be required to accomplish this outcome.

### *7.1.2 Chugiak-Eagle River Household Growth*

Figure 7-3 shows the forecast household growth in Chugiak-Eagle River between 2007 and 2035. The Chugiak-Eagle River has a substantial amount of vacant land zoned for residential use. The areas of high growth generally reflect the location of the suitable vacant residential land.

### *7.1.3 Matanuska-Susitna Borough Household Allocation*

The MSB household allocation used 2000 as the base year. As a result, it was deemed more appropriate to present the results in terms of the total estimated 2035 households by TAZ (see Figure 7.4). As the figure shows, a substantial amount of new housing development is expected to occur in the Port McKenzie area as a result of the construction of the Knik Arm Bridge. This area currently has a very low population base. If the bridge were not built, the estimated households in this area would be substantially reduced.

## *7.2 Employment Growth*

### 7.2.1 Anchorage Bowl Employment Growth

Figure 7-5 shows the areas of projected employment growth between 2007 and 2035 within the Anchorage Bowl. In general, future employment growth correspond very closely to existing employment patterns with midtown and the UMED districts expected to receive the largest share of the future Anchorage employment. Downtown is expected to maintain its existing share of total employment (Figure 7-6 is a more detailed map of downtown and midtown employment growth). However, given the lack of recent office development in the Downtown core, a more active public-private partnership approach may be needed in order to achieve this outcome.

### *7.2.2 Chugiak-Eagle Employment Growth*

Employment growth is expected to be substantially less in Chugiak-Eagle River than in the Anchorage Bowl. With respect to the future location of this employment growth, the 2006 CER Comprehensive Plan "Encourages and reinforces the continued growth of employment in the business districts of Eagle River and Peters Creek (see objective on page 29 of the Plan). Figure 7-7, which shows the allocation of future employment growth used in the model, is in line with this objective.

### *7.2.3 Matanuska-Susitna Borough Employment Allocation*

Figure 7-8 shows future employment continuing to be concentrated in the existing employment centers of Wasilla and Palmer. However, the construction of the Knik Arm Bridge will have a substantial impact on future employment in the Port McKenzie area particularly around the Port, which currently has a relatively low employment base.

**Figure 7-1. Anchorage Bowl Household Growth (2007 – 2035)**

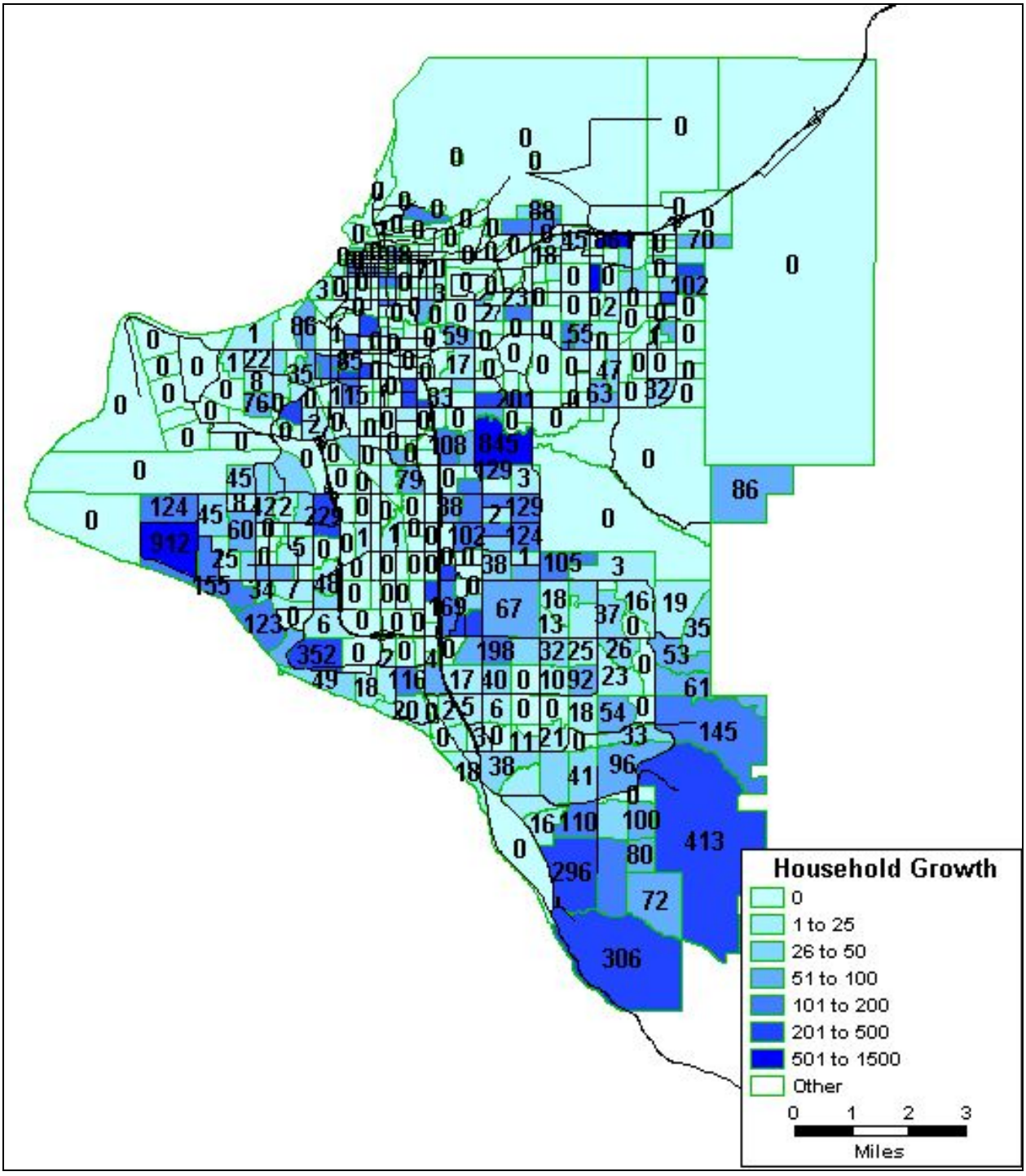


**Figure 7-2. Downtown and Midtown Household Growth (2007 – 2035)**

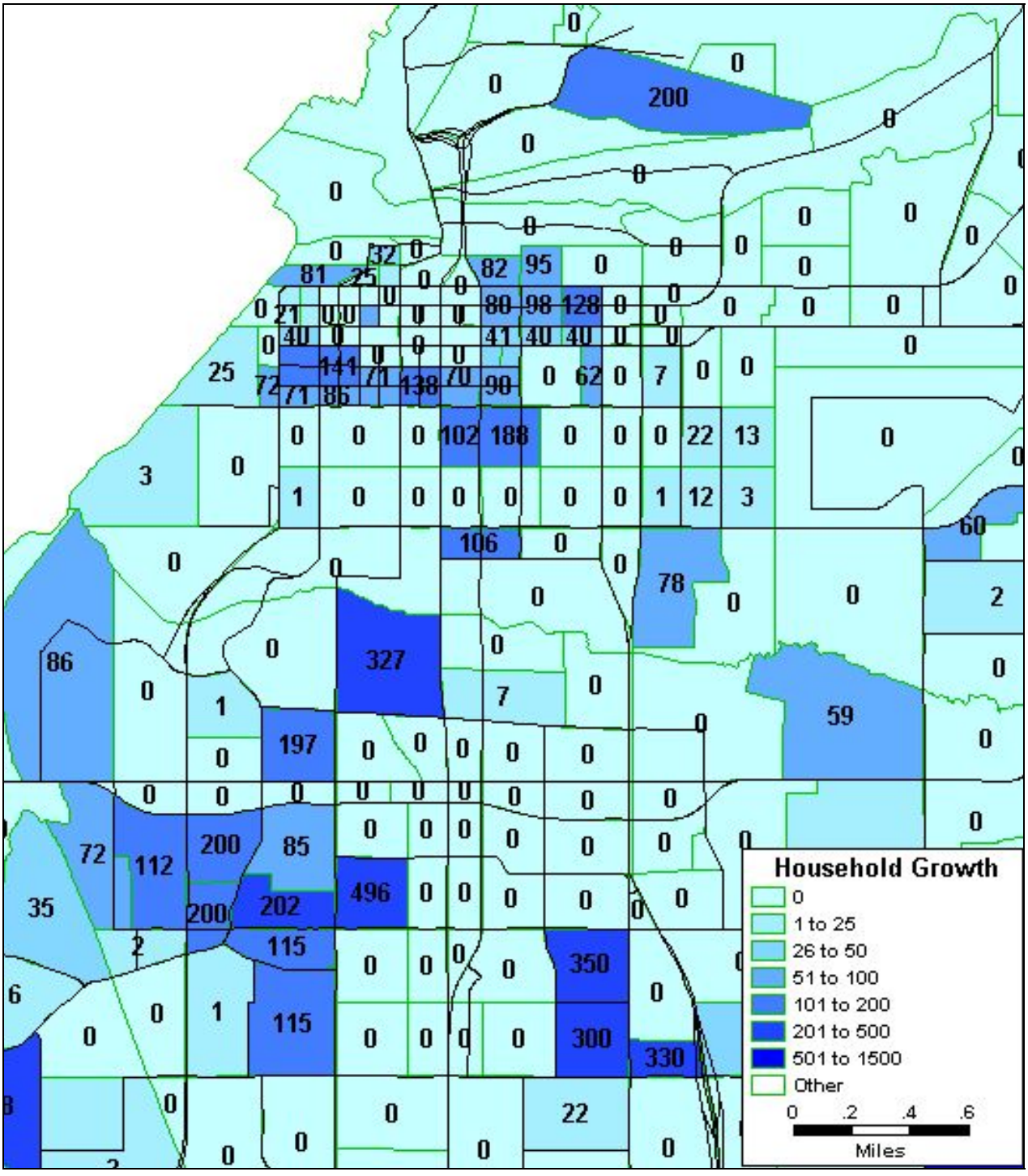


**Figure 7-3. Downtown and Midtown Household Growth (2007 – 2035)**

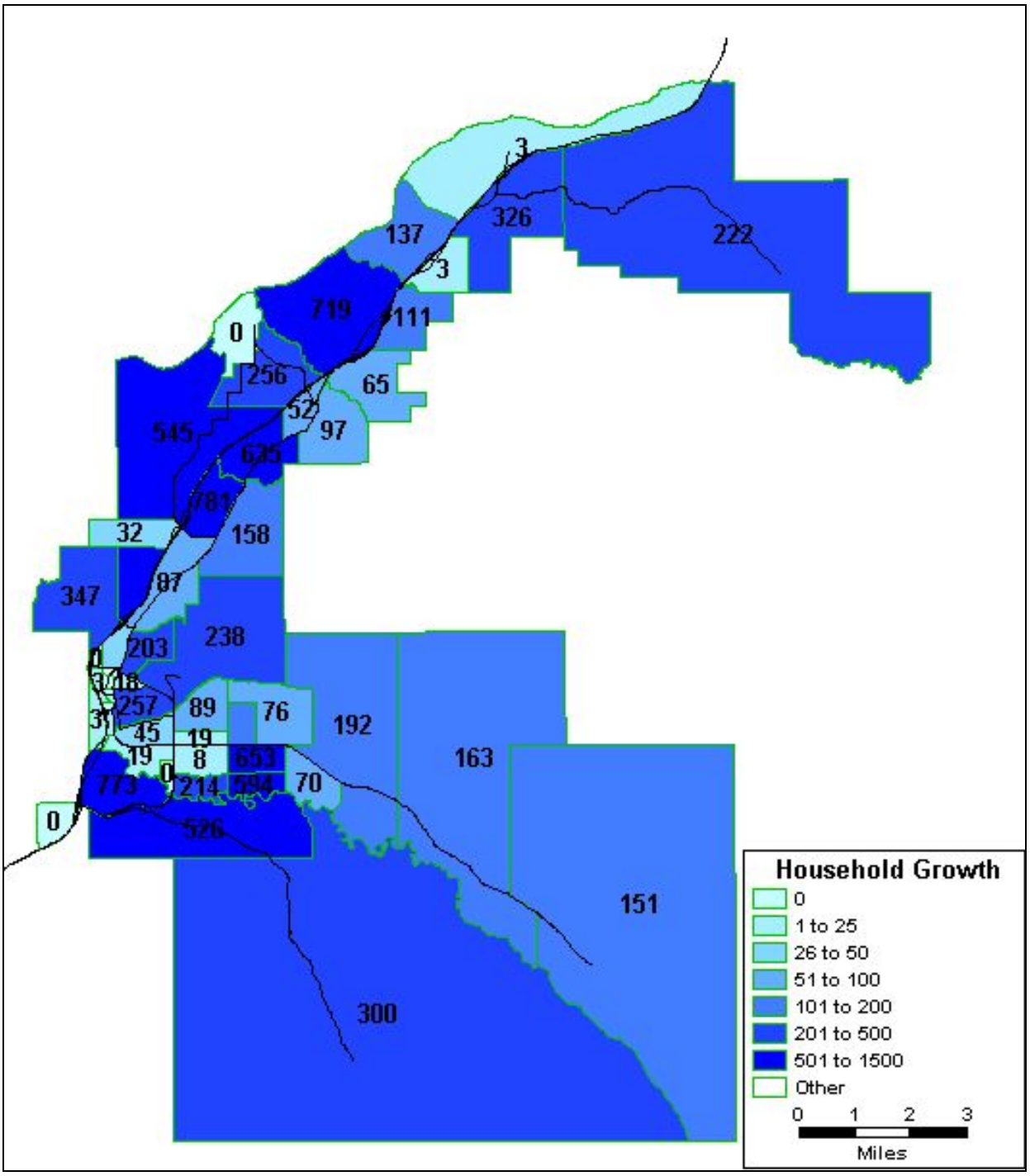


**Figure 7-4. 2035 MSB Total Households**

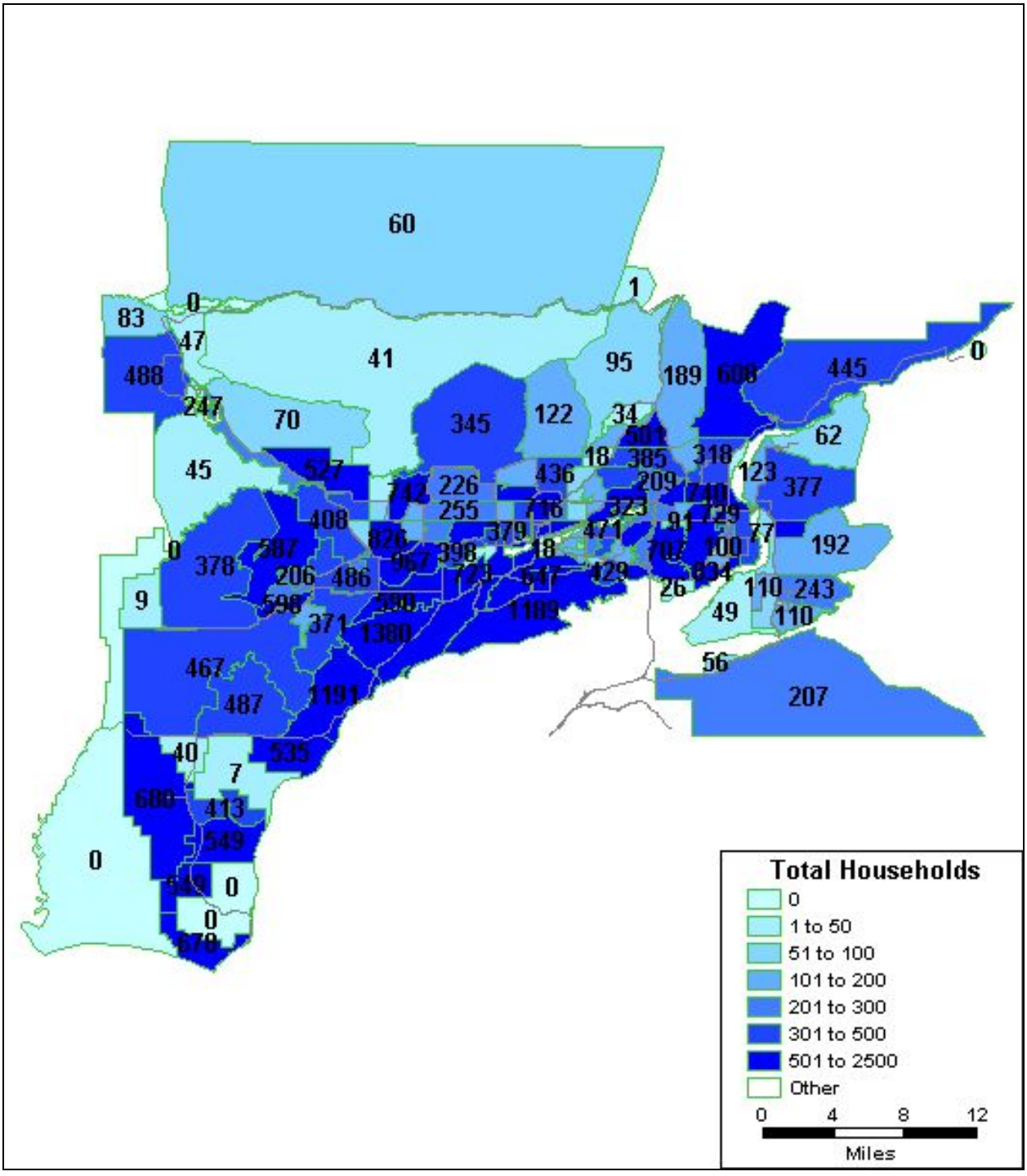


**Figure 7-5 Anchorage Bowl Total Employment Growth (2007 – 2035)**

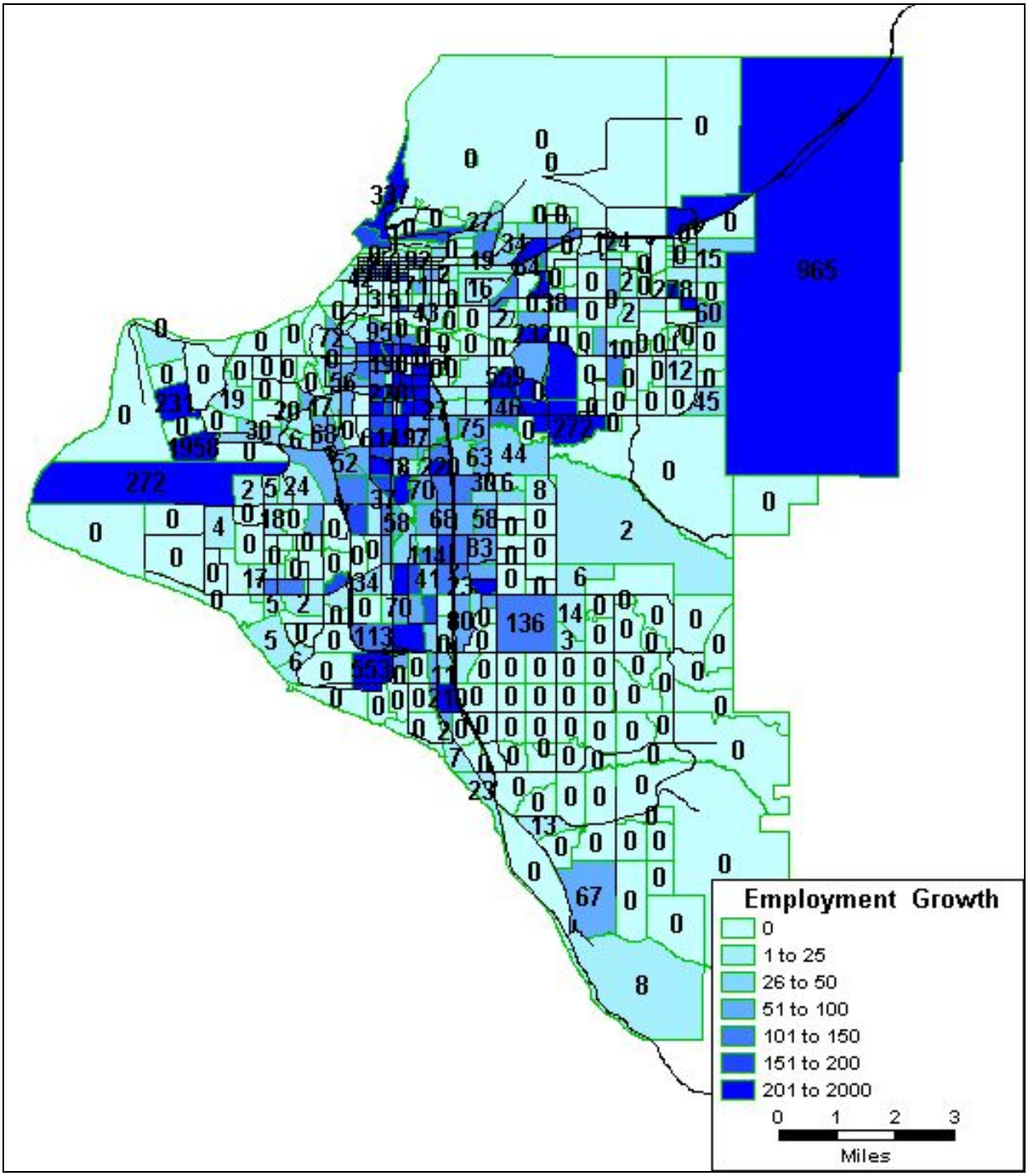


**Figure 7-6. Downtown and Midtown Total Employment Growth (2007 – 2035)**

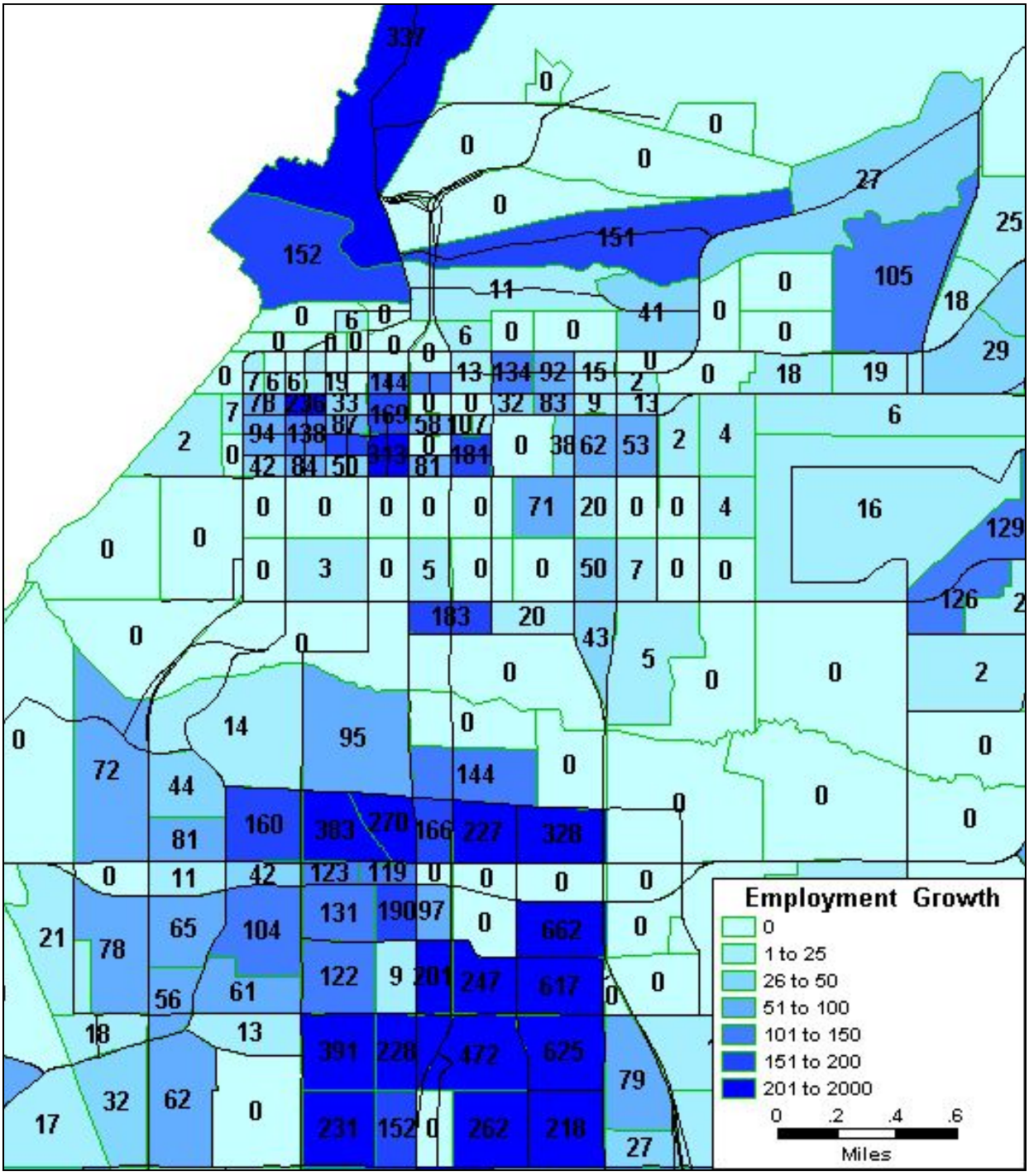


**Figure 7-7. Chugiak-Eagle River Total Employment Growth 2007 – 2035)**

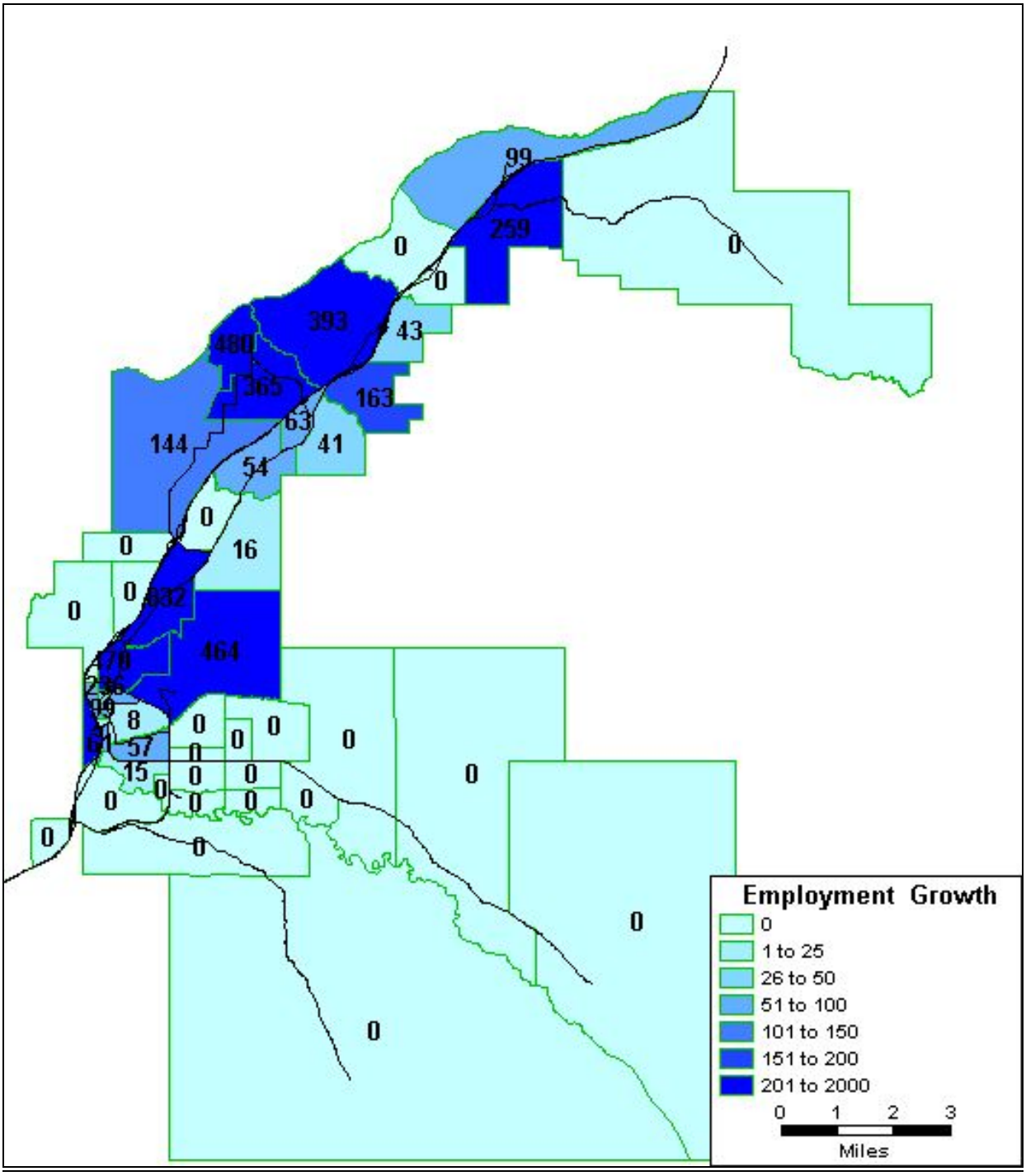
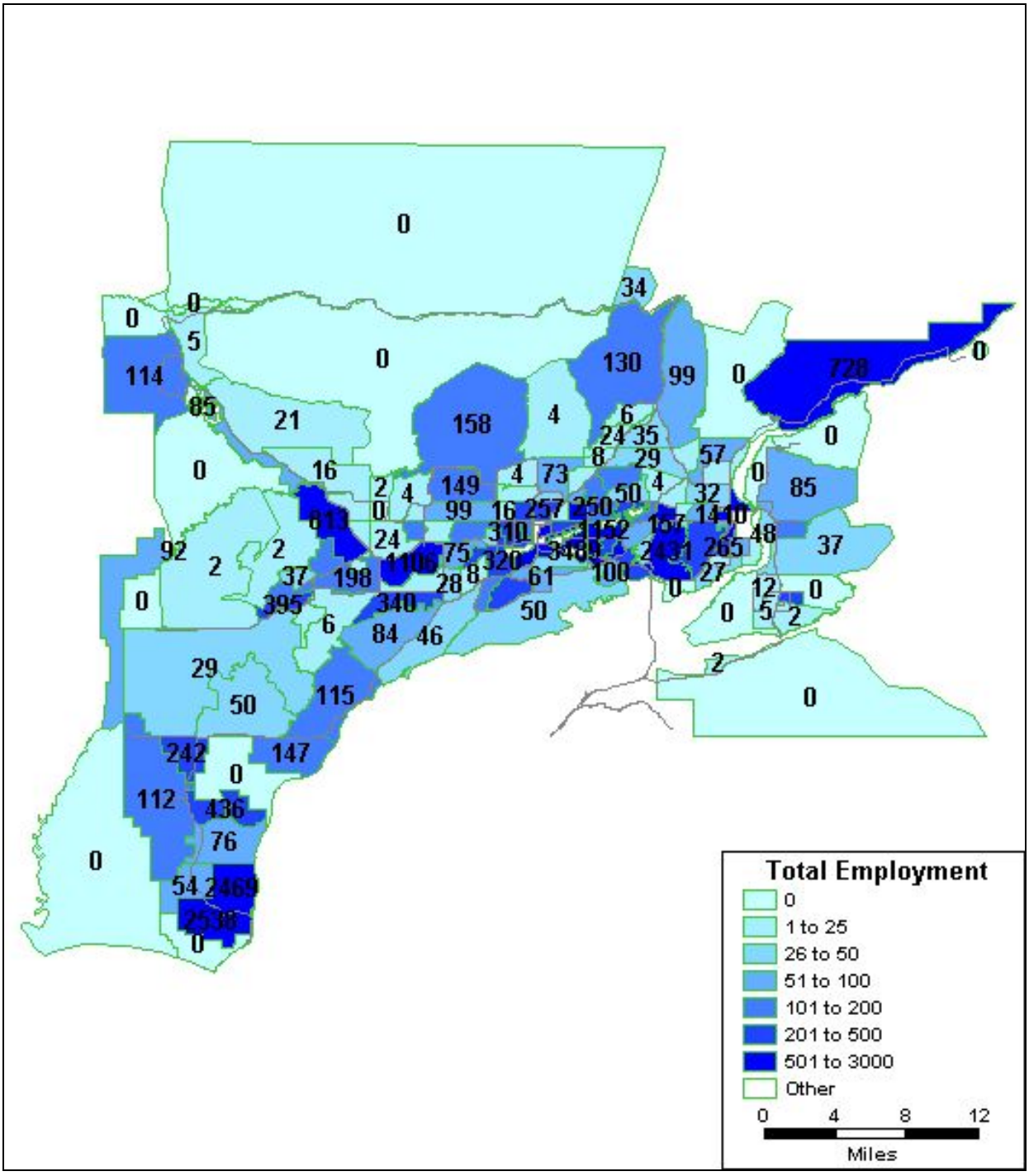


**Figure 7-8. 2035 MSB Total Households**



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