3. SOCIO-ECONOMIC PROFILE

A. Socio-Economic Data

Socio-economic data provides the basis for the travel demand model, which is used to project future travel volumes on roadways and transit ridership. The demographic forecasting process has two steps. The first is an overall forecast of housing and employment for the entire region. Second, a land use allocation model, CommunityViz, distributes the housing and employment forecasts geographically to the Transportation Analysis Zone (TAZ) level. For modeling purposes, the NFRMPO has developed 1,000 TAZs for which the household and employment data are compiled. The household and employment data are estimated for the area within the MPO modeling boundary, shown on **Figure 3-1**, which is somewhat larger than the MPO boundary. The socio-economic forecasts have been divided into four sub-regions as illustrated on **Figure 3-2**.

Overall 2035 Forecast

The NFRMPO hired an economic consulting firm to prepare a demographic forecast for the NFR's portions of Larimer and Weld counties. The firm worked closely with the State Demographer's office and a stakeholders' group to develop NFR specific information. The report, *2035 Economic and Demographic Forecast for the North Front Range Modeling Area and its Sub-regions* (CBEF, 2006), describes the forecasting process and the resulting anticipated growth in both households and employment between 2005 and 2035, in five year increments.

As described in the report, "The outlook for the region's economy drives the forecast of jobs and population. The Modeling Area forecast is based on a model which balances the demand for labor and the supply of workers. The sub-regional models distribute the Modeling Area's growth among the four sub-regions." The forecast involved three major tasks:

1. **Labor Demand Forecast for NFR.** The first task was to determine the labor demand, which is largely determined by projected job growth, which, in turn, results from new jobs in the region's basic industries. Basic industries are those dependent on exports, or outside dollars flowing into the region. New basic jobs generate additional jobs in the region. These are indirect and induced jobs (i.e., jobs from suppliers to basic industries or those caused by spending of workers in basic industries respectively). These are referred to in this analysis as non-basic resident service jobs. Each basic job is assigned a multiplier to determine the number of non-basic jobs in more than 70 job categories.
2. **Modeling Area Job Growth Forecast.** The second task was to determine how much of the forecast job growth in the counties would occur within the modeling area.
3. **Population Forecast.** Finally, the population needed to fill these jobs was forecast. Job demand along with the region's age and gender makeup and trends in labor force participation were the critical elements in this calculation. The forecasts were adjusted in response to comments from a review committee made up of local experts.

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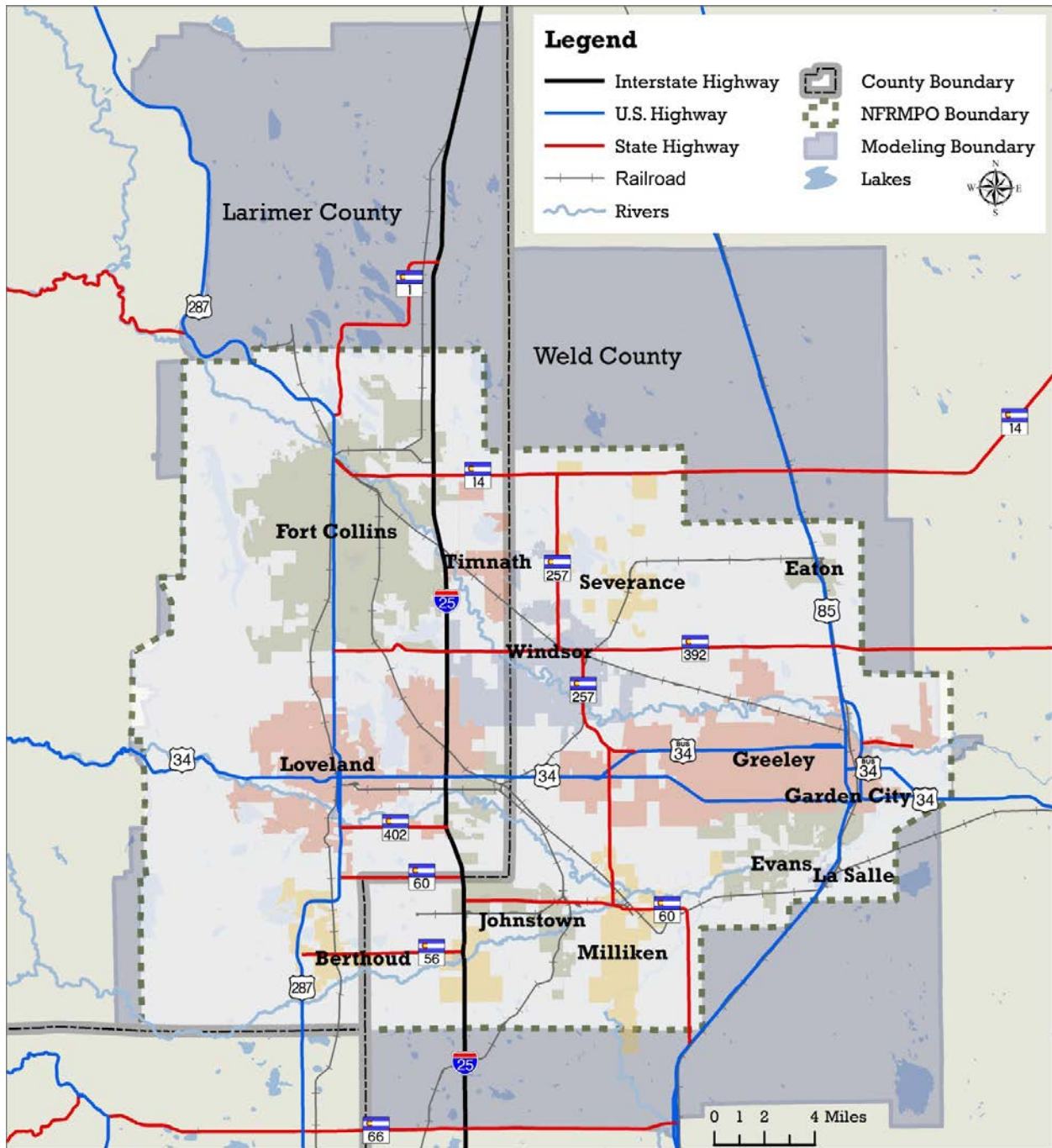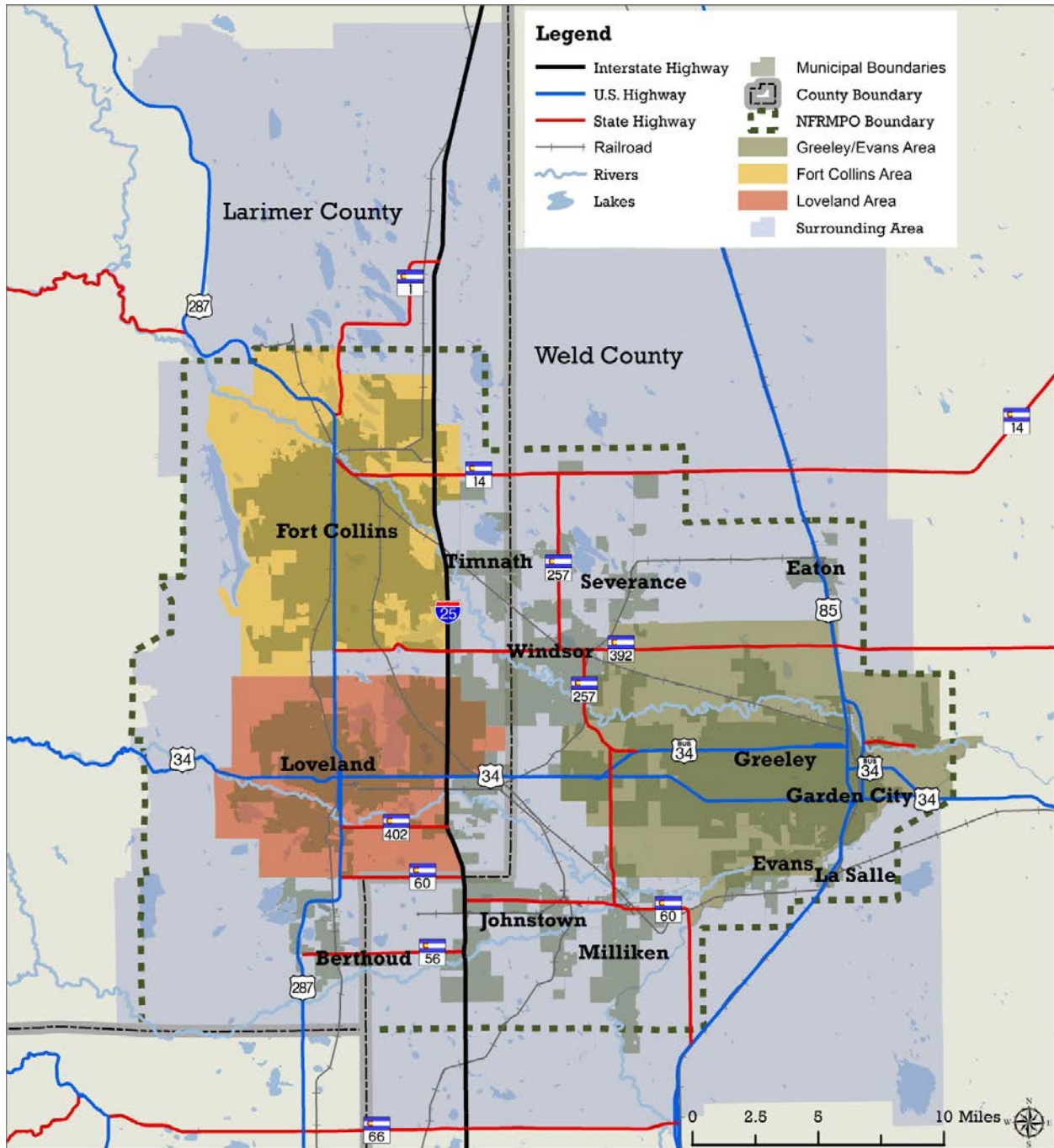**Figure 3-1   North Front Range Modeling Boundary**

Figure 3-2   North Front Range Sub-regions

2009 Land Use Allocation Model

The 2009 Land Use Allocation Model (LUAM) is a parcel/land use based growth model that distributes household and employment projections set by the state demographer in the Colorado Department of Local Affairs (DOLA). These projections serve as the "control totals" for the LUAM, meaning the limits that the model is allowed to allocate. The North Front Range planning areas consist of four sub-regions: Fort Collins, Loveland, Greeley, and portions of Larimer and Weld counties. Each sub-region has individual control totals set for 2015, 2025, and 2035 for jobs and households. The Upper Front Range portion that is within the ozone nonattainment area (see **Figure 4-1** in Chapter 4) has been included for the purposes of conformity determinations.

The first step in the LUAM is the "Crosswalk" process that combines spatial land use data from across all jurisdictions into one seamless dataset with a single set of attributes. This is facilitated through the Crosswalk™ website (www.cooperativeplan.com), where jurisdictions upload spatial datasets in their original form and classify that data based on a common set of criteria. Criteria include primary use, density, employment capacity, and visual representations. From the Crosswalk™ website, users choose their jurisdiction, upload data (land use, transit, hotspots, centers, future development areas, etc.), and "crosswalk" land use data into a regional dataset using a common language. Additional data is input into an "attractiveness" layer that further characterizes areas within their planning boundaries and further allocates growth. Future land uses in the region are shown on **Figure 3-3**.

The LUAM is then compiled with ArcGIS-based CommunityViz using the regional land use dataset, attractiveness layers, and weights for each attractiveness layer. The weights for the attractiveness factors were determined throughout workshops with each jurisdiction. The model also retains the jurisdictions' source densities to project growth appropriately during the allocation process. Distribution of households and employees was based on the attractiveness of a parcel. Attractiveness was determined by such factors as proximity to arterial roadways, business, and employment centers and location in a municipal boundary or growth management/urban growth areas.

Based on the above assumptions, the LUAM distributed households and employees to developable parcels in each sub-region until the forecasted control total for that sub-region had been reached. The number of households and employees were then summarized by Transportation Analysis Zone (TAZ). The member government land use planners reviewed the results and submitted comments. Any issues or concerns raised by the land use planners during review webinars or workshops were addressed and the model was further refined.

The following maps on **Figure 3-4 through Figure 3-7** display the results of the land use allocation model by TAZ.
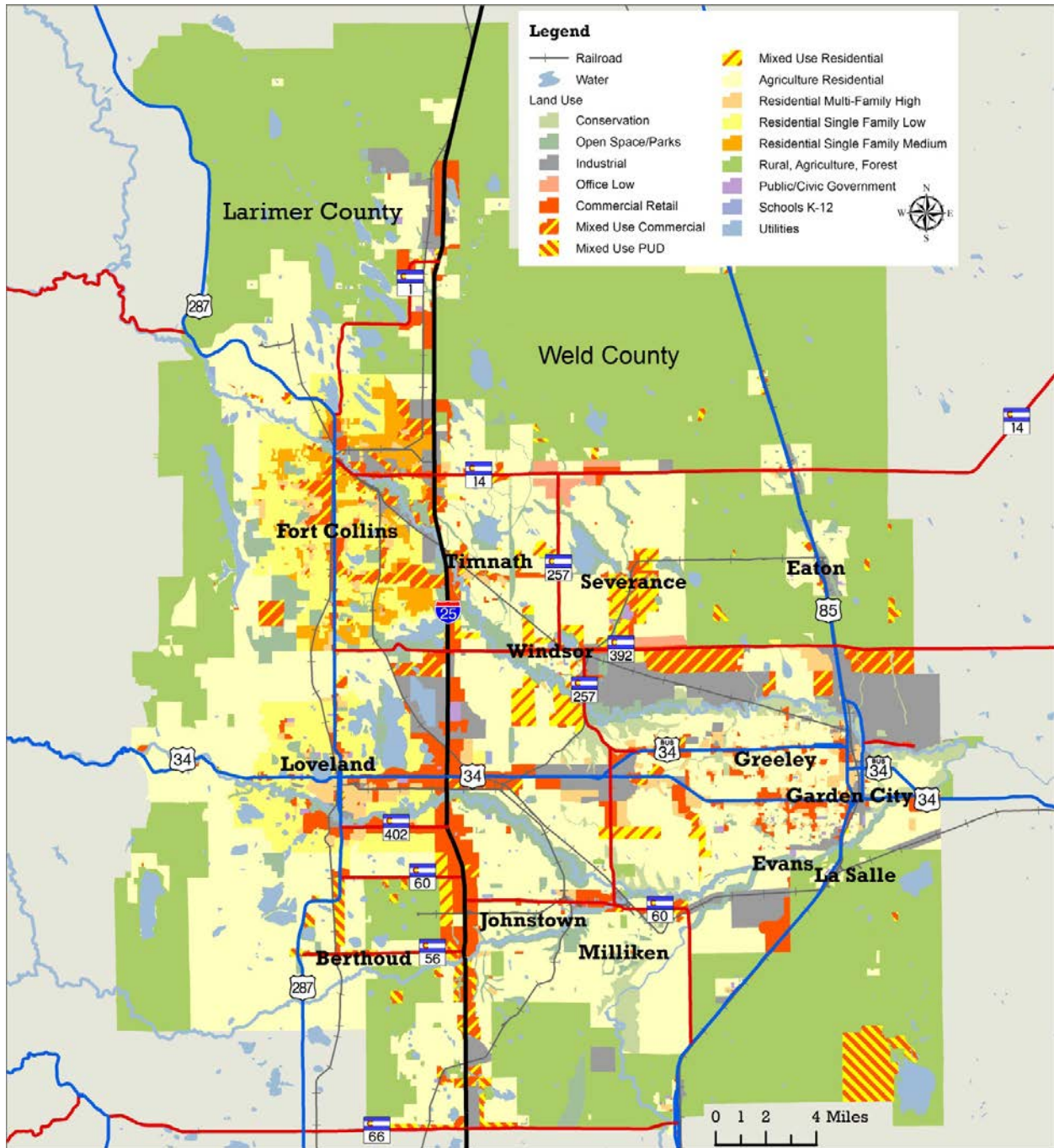
Figure 3-3   Future Land Use
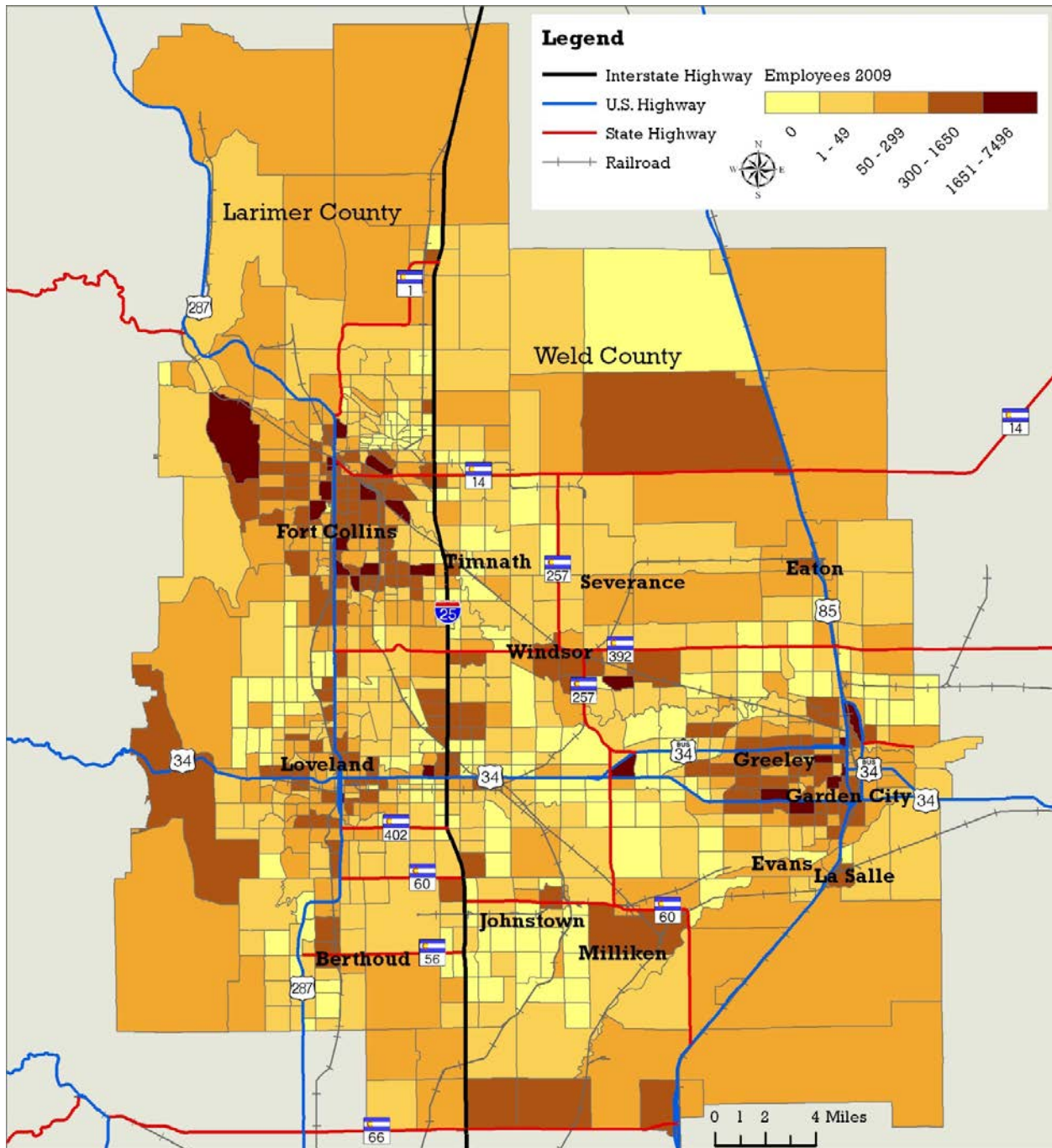
Figure 3-4   2009 Employment

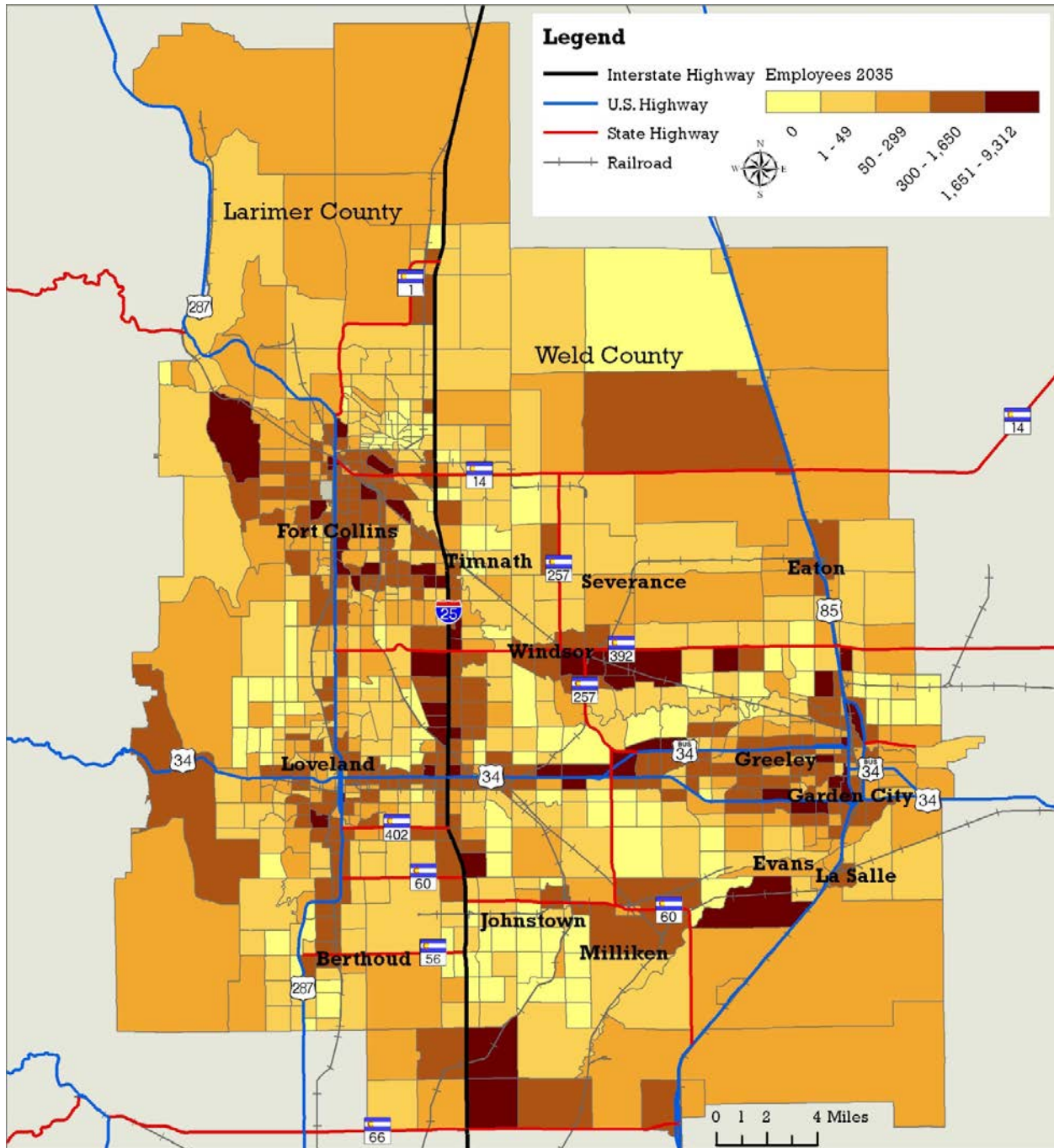**Figure 3-5   2035 Employment Forecasts**

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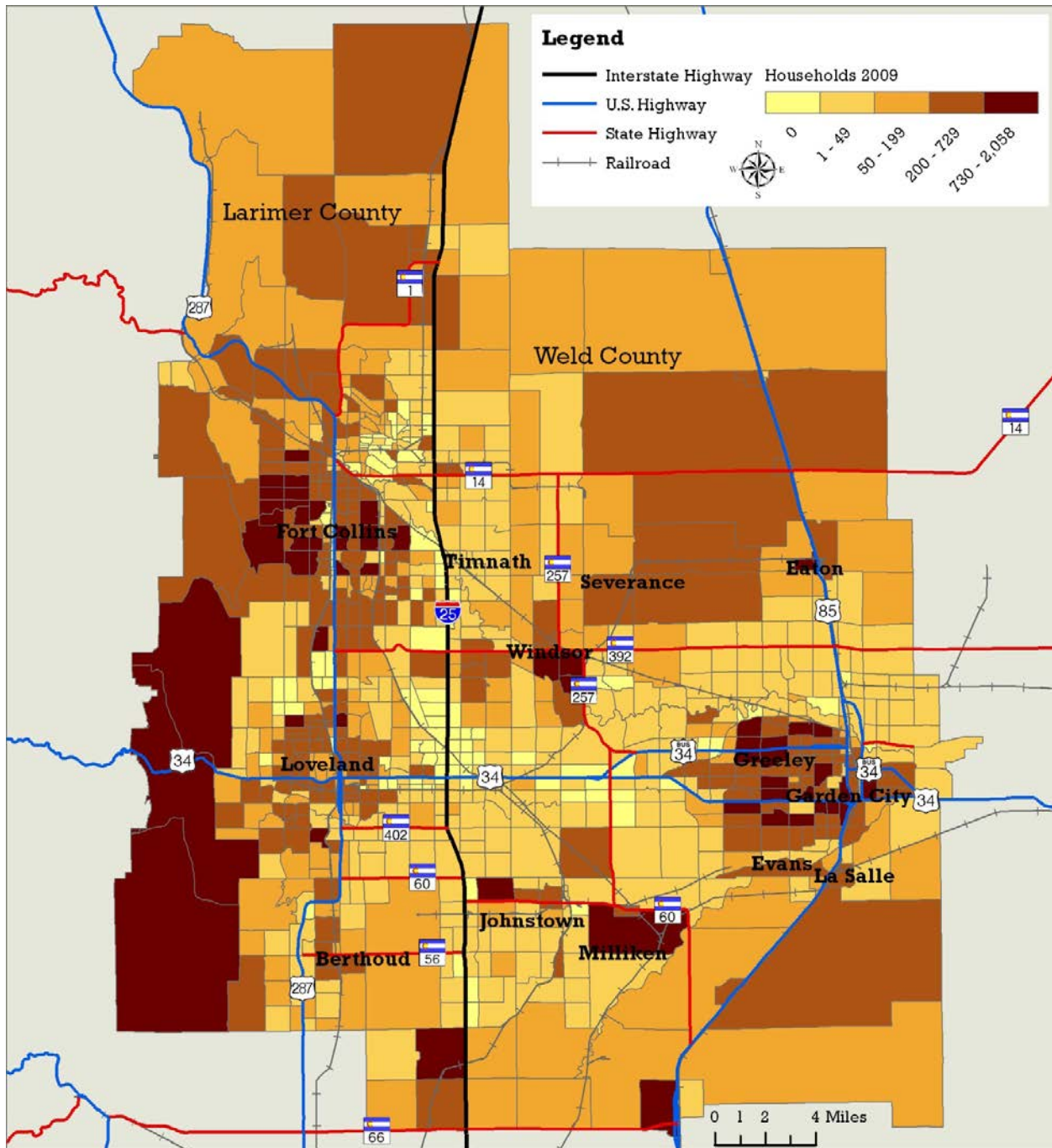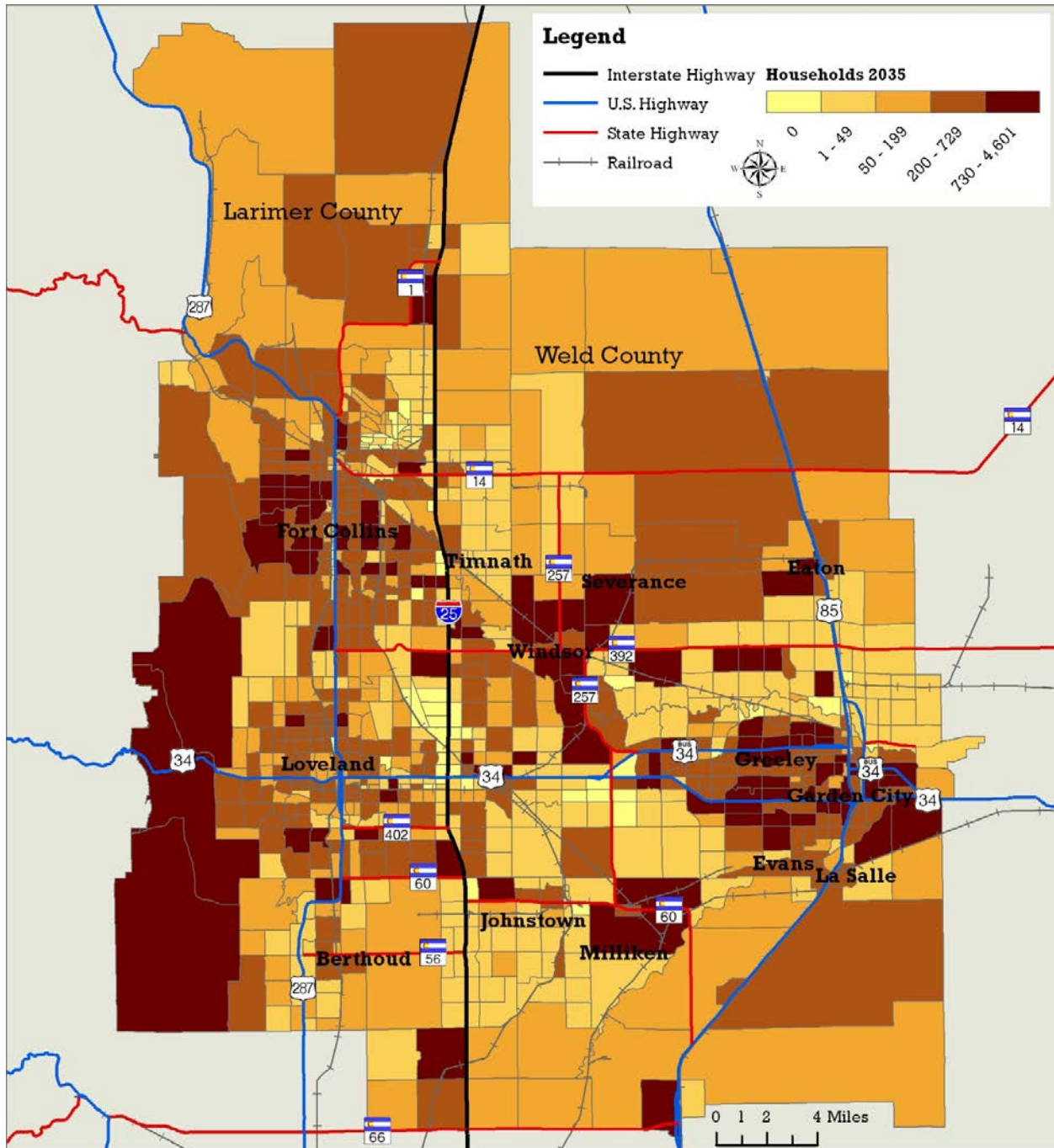**Figure 3-6   2009 Households**

Figure 3-7   2035 Household Forecasts

Regional Travel Model

Households

The *2035 Economic and Demographic Forecast for the North Front Range Modeling Area and its Sub-regions* projects the number of households in the NFR to increase 2.2 percent annually for the region between 2009 and 2035.

For input into the travel model, household projections were further classified by household size, or number of people in the household, and income level as illustrated in **Table 3-1** for the 2009 base and **Table 3-2** for the 2035 projections. These classifications increase the sensitivity of the travel demand model in response to household characteristics.

Table 3-1   2009 Household Size and Income Data

Household Income (2000 dollars)	1-person HH	2-person HH	3-person HH	4-person HH	5+ person HH	Total HH	Percent
Less than $20,000 (Low Income)	16,351	7,625	2,557	1,361	1,668	**29,562**	**16.2%**
$20, 000 - $74,999 (Medium Income)	22,922	33,438	13,880	8,891	8,301	**87,432**	**47.9%**
$75,000 and higher (High Income)	6,046	25,934	12,485	12,327	8,648	**65,440**	**35.9%**
Total	**45,320**	**66,997**	**28,922**	**22,579**	**18,617**	**182,434**	**100%**
Percent	**24.8%**	**36.7%**	**15.9%**	**12.4%**	**10.2%**	**100.0%**	

Source: NFR Regional Travel Model, Model Process, Parameters, and Assumptions, 2009.

Table 3-2   2035 Household Size and Income Data

Household Income (2000 dollars)	1-person HH	2-person HH	3-person HH	4-person HH	5+ person HH	Total HH	Percent
Less than $20,000 (Low Income)	25,933	12,093	4,056	2,158	2,645	**46,885**	**16.2%**
$20, 000 - $74,999 (Medium Income)	36,355	53,032	22,013	14,101	13,165	**138,667**	**47.9%**
$75,000 and higher (High Income)	9,589	41,132	19,801	19,550	13,716	**103,789**	**35.9%**
Total	**71,878**	**106,257**	**45,870**	**35,810**	**29,527**	**289,341**	**100.0%**
Percent	**24.8%**	**36.7%**	**15.9%**	**12.4%**	**10.2%**	**100.0%**	

Source: NFR Regional Travel Model, Model Process, Parameters, and Assumptions, 2009.

Employment

In 2009, roughly 86 percent of the jobs in Weld and Larimer counties were within the NFR Modeling Area. Overall, employment is projected to grow at approximately two percent per year for the entire region, with Weld County projected to grow at a slightly higher rate than Larimer County.

The location of employment for 2009 was determined by geocoding Quarterly Census of Employment and Wages (QCEWs) data, from Bureau of Labor Statistics information, to the street centerline map for the NFR. The results show each employer and the number of employees for each location on a map. These results were then aggregated up to the TAZ level. **Figure 3-8** shows the major employers (those with more than 100 employees) across the NFR region. In 2009, the major employers were predominately within the cities, as they were in previous years. These major employers could also be viewed as the major activity centers making sizable contributions to use of the transportation network.

View of the Great Western Industrial Park in Windsor from Missile Silo Park

For input into the regional travel model, employment is broken down into three categories: Basic, Retail, and Service. Basic jobs, also known as production-distribution, are those that are based on outside dollars flowing into the local economy and include industries that manufacture and/or produce goods locally for export outside the region. Basic jobs include manufacturing, mining, utilities, transportation, warehousing, among others. Retail jobs include retail trade, post offices, and food service. Service jobs include finance, insurance, real estate, and public administration. The Basic, Retail, and Service employment estimates for 2009 and forecasts for 2035 are shown in **Table 3-3**. The disaggregated total employment in the travel model does not account for people working from home.

Table 3-3   Classification of Employment

	2009		2035	
	Employees	**Percentage (%)**	**Employees**	**Percentage (%)**
Basic	57,138	24.2%	104,128	26.9%
Retail	49,379	20.9%	79,277	20.5%
Service	129,875	54.9%	204,038	52.7%
Total	**236,392**	**100.0%**	**387,443**	**100.0%**

Source: Regional Land Use Allocation Model, 2009.

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**Figure 3-8   2009 Major Employers**
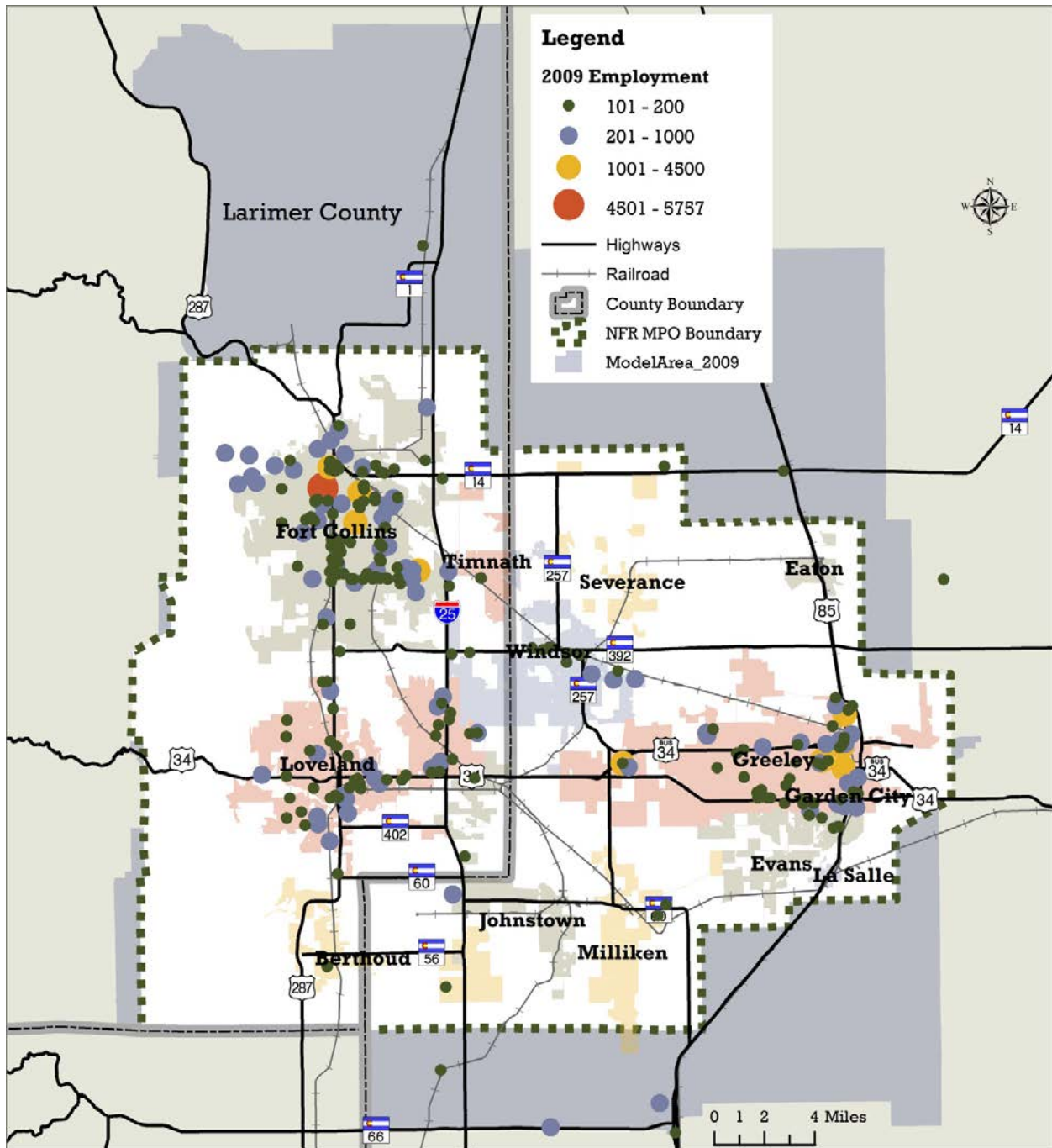
Aging Population

Colorado has 6th highest baby boomer population, at 31 percent, according to the 2000 Census. **Figure 3-9** from the Colorado State Demographer Office depicts a significant increase in the senior population by 2030 compared to the year 2000. The likely impacts of new and pending retirees will affect our regional transportation system dependent on:

▶ The increased demand for housing units as the in-migration of new workers assume the jobs of the recently retired

▶ The location and availability of amenities, health care, and entertainment for senior populations

▶ The shift in the type of housing necessary to accommodate the growing senior population

▶ The level of service and availability of transit for senior populations.

Figure 3-9   Colorado Population by Age in 2000 (Green) and 2030 (Blue)
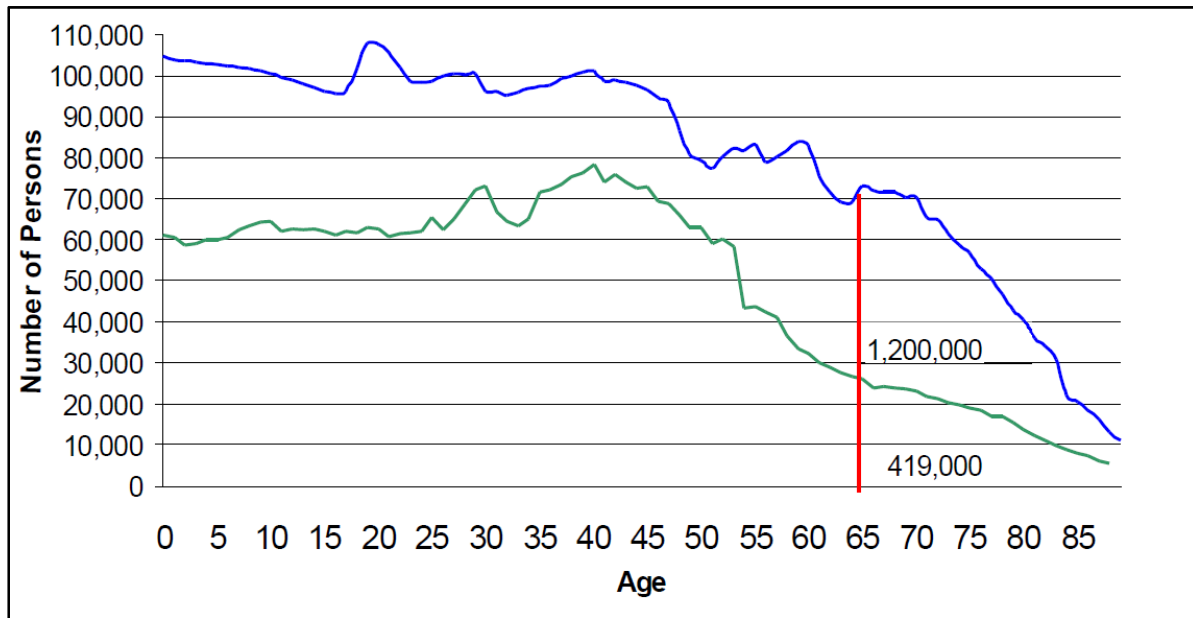
Census data (2010) was used to identify the percentage of people aged 65 years and older by city in the NFRMPO region on **Figure 3-10**. The cities range from 5 percent (Severance) to 15 percent (Loveland).

Figure 3-10   Percentage of Population 65 Years and Older by City
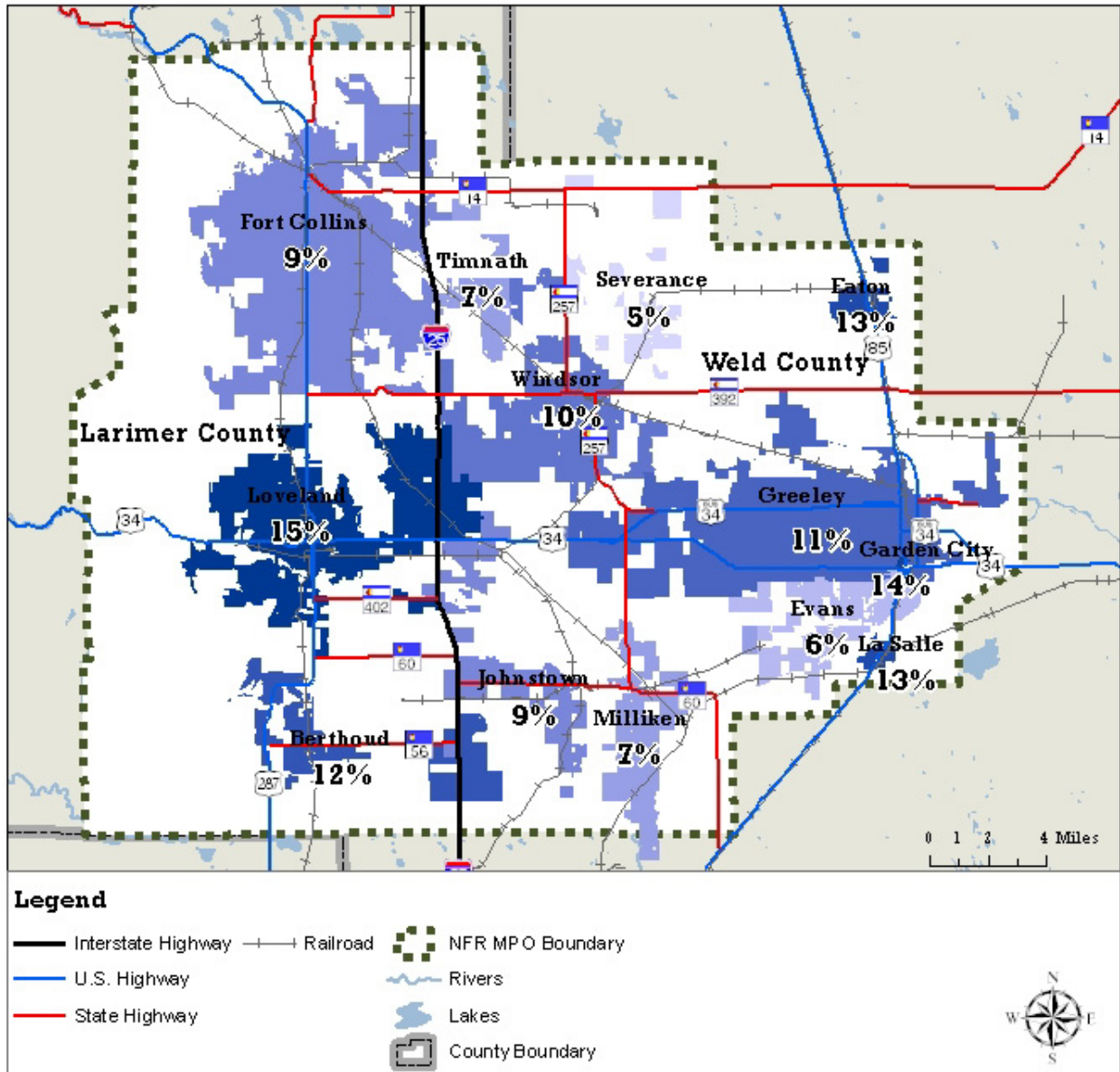
Larimer County is expected to have a larger percentage of its population over the age of 60, while the larger portion of Weld County population growth is expected to be in the younger age brackets. The difference in general terms would be an increase in the percentage of retirees in Larimer County and an increase in the percentage of younger families with children in Weld County. The two charts that follow, **Figures 3-11 and 3-12**, depict this trend.
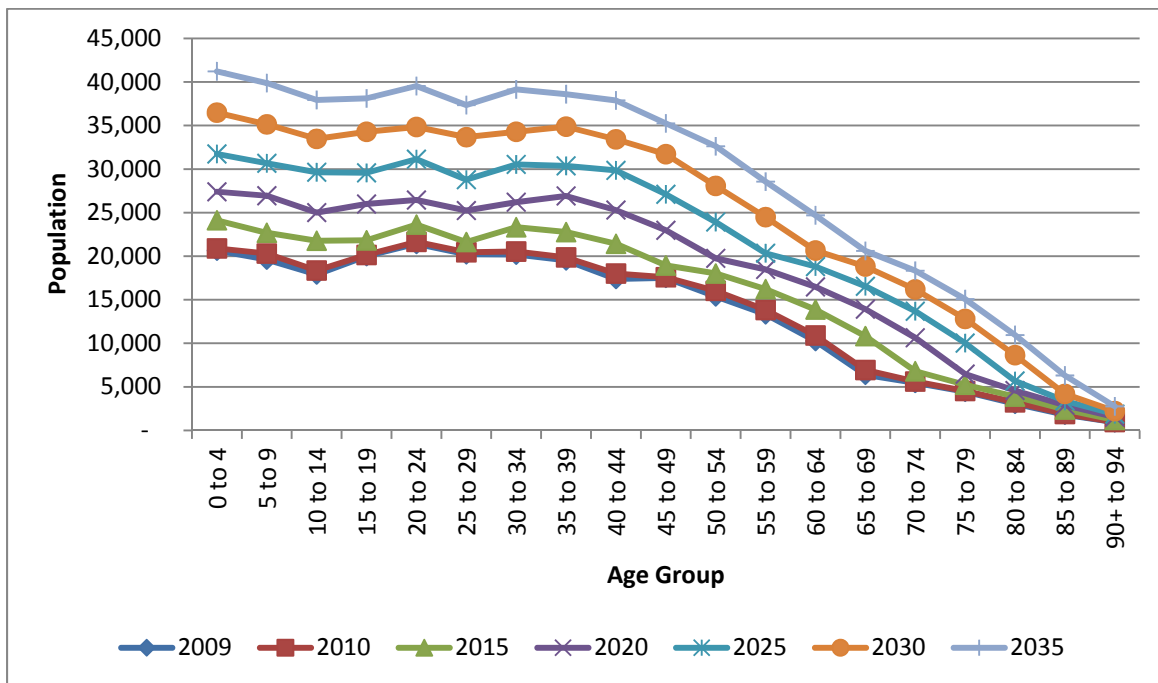
Figure 3-11   Larimer County Age Distribution
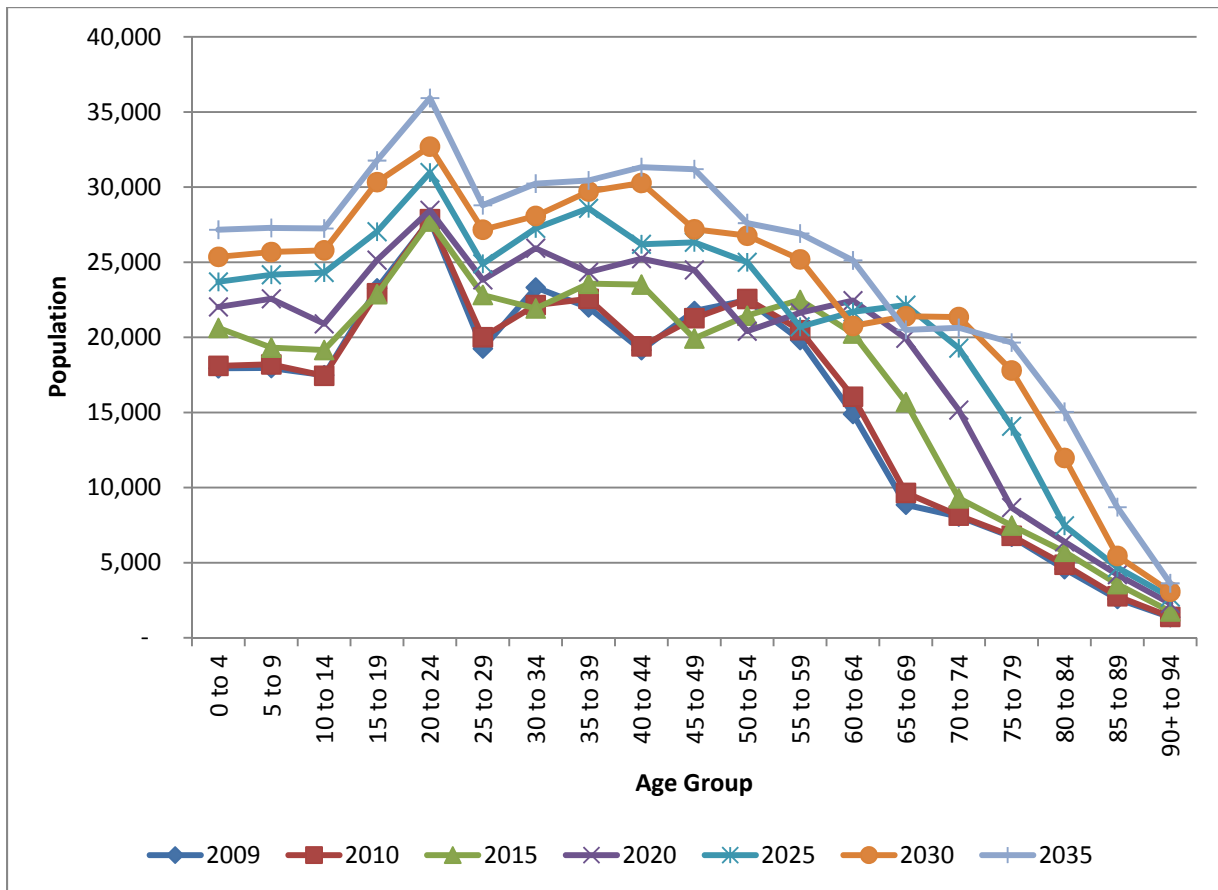
Source: State Department of Local Affairs, Demography Division, 2011.

Figure 3-12   Weld County Age Distribution

Source: State Department of Local Affairs, Demography Division, 2011.

Vehicles by Household

The number of vehicles available in households is slightly different between Larimer and Weld counties, with the overwhelming majority of households having at least one vehicle available, as seen in **Table 3-4**.

Table 3-4   Number of Vehicles Available in Households by County

Number of Vehicles	Larimer County	Weld County
None	4.0%	5.6%
1	28.3%	26.8%
2	42.3%	40.5%
3 or more	25.5%	27.1%

Source: US Census Bureau, Decennial Census, 2000.

The vehicle availability per household is in line with the commute patterns across the region. The *NFRMPO Household Survey* of 2010 provides information about how residents in the region commute to work. The vast majority of people commute to work in automobiles, as shown in **Table 3-5**. Most of the commuters who use bicycles or walk to work live in Fort Collins and Greeley/Evans.

Table 3-5   Commute to Work by Mode

Travel Mode	Commuter Trips (%)
Auto/van/truck driver or passenger	89.3%
Bike	6.2%
Walk	3.4%
Transit (local bus or express bus)	0.5%
Other (don't know or refused)	0.6%
Total	**100%**

Source: NFRMPO Household Survey, 2010.

B.   Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994) was enacted to reinforce Title VI of the Civil Rights Act of 1964. In the Civil Rights Act, it is stated that, "No person in the United States shall, on grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Executive Order 12898 states, "Each Federal agency shall make achieving environmental part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

It is important to identify where significant numbers of minority and low-income households are located within the region in order to comply with the requirements of Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. This 1994 Order was enacted to ensure the full and fair participation of potentially affected communities in transportation decisions. The intent of Environmental Justice is also to avoid, minimize, or mitigate disproportionately high and adverse impacts on minority populations and low-income populations.

The NFRMPO uses CDOT's Environmental Justice in Colorado's Statewide and Regional Planning Process Guidebook, as the framework for addressing environmental justice in the North Front Range. This section discusses minority and low-income populations and the specific efforts in public involvement, mapping, and measuring the benefits and burdens. **Figures 3-13** to **3-16** are based on the 2010 Census while **Figure 3-17** is based on the 2000 Census.

Low Income

Low-income thresholds are determined by Housing and Urban Development (HUD) for the counties in the State of Colorado for use by the Department of Local Affairs (DOLA) that allocates Community Development Block Grants. The methodology for determining low income follows the CDOT Environmental Justice Guidebook. Households that have 2.59 occupants or more and make less than

$30,015 are considered low income in the North Front Range. These households have been mapped using Census Block Groups from 2000 (2010 data was not available at the time of publication). **Figure 3-13** shows that low income households exist primarily in Fort Collins, Greeley, and Loveland.

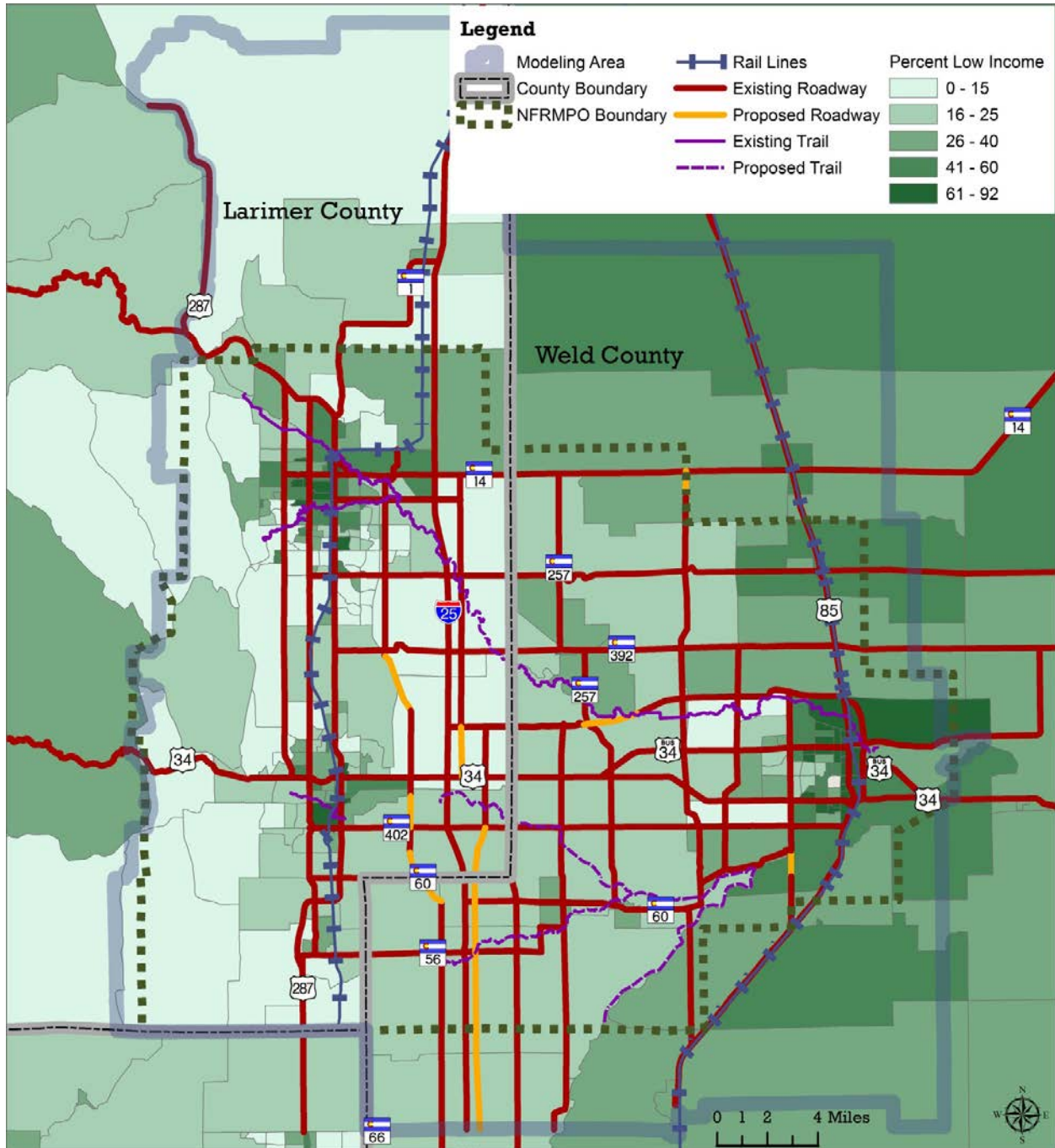**Figure 3-13   Low Income Households per Block Group**

Table 3-6 gives the poverty thresholds for the United States. These thresholds are used throughout the United States and updated annually for inflation. Although the thresholds in some sense reflect family's needs, they are intended for use as a statistical yardstick, not as a complete description of what people and families need to live. These thresholds are established by the U.S. Census Bureau, Income, Poverty, and Health Insurance Coverage in the United States (2010)[1].

Table 3-6   **Poverty Thresholds for 2010 by Size of Family and Number of Related Children Under 18 Years**

Size of family unit	Related children under 18 years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight +
One person (unrelated individual)									
Under 65 years	11,344								
65 years and over	10,458								
Two people									
Householder under 65 years	14,602	15,030							
Householder 65 years and over	13,180	14,973							
Three people	17,057	17,552	17,568						
Four people	22,491	22,859	22,113	22,190					
Five people	27,123	27,518	26,675	26,023	25,625				
Six people	31,197	31,320	30,675	30,056	29,137	28,591			
Seven people	35,896	36,120	35,347	34,809	33,805	32,635	31,351		
Eight people	40,146	40,501	39,772	39,133	38,227	37,076	35,879	35,575	
Nine people or more	48,293	48,527	47,882	47,340	46,451	45,227	44,120	43,845	42,156

Source: 2010. U.S. Census Bureau.

Minority

Executive Order 12898[2] defines the term minority as anyone who is:

▶ American Indian and Alaskan Native – a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

▶ Asian or Pacific Islander (including Native Hawaiian) – a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

▶ Black/African American – a person having origins in any of the black racial groups of Africa, or

▶ Hispanic/Latino – a person who is Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

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[1] http://www.census.gov/hhes/www/poverty/about/overview/measure.html
[2] http://www.fhwa.dot.gov/environment/ejustice/dot_ord.htm

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The 2010 Census demonstrates that the largest minority population amongst the NFRMPO member communities is the Hispanic/Latino segment. **Figure 3-14** shows highest concentrations, by percentage, in Evans at 43 percent and Greeley at 36 percent. By comparison, Fort Collins and Loveland have 10 percent and 12 percent, respectively.

Figure 3-14   Percentage of Hispanic/Latino Population by City in NFRMPO Region
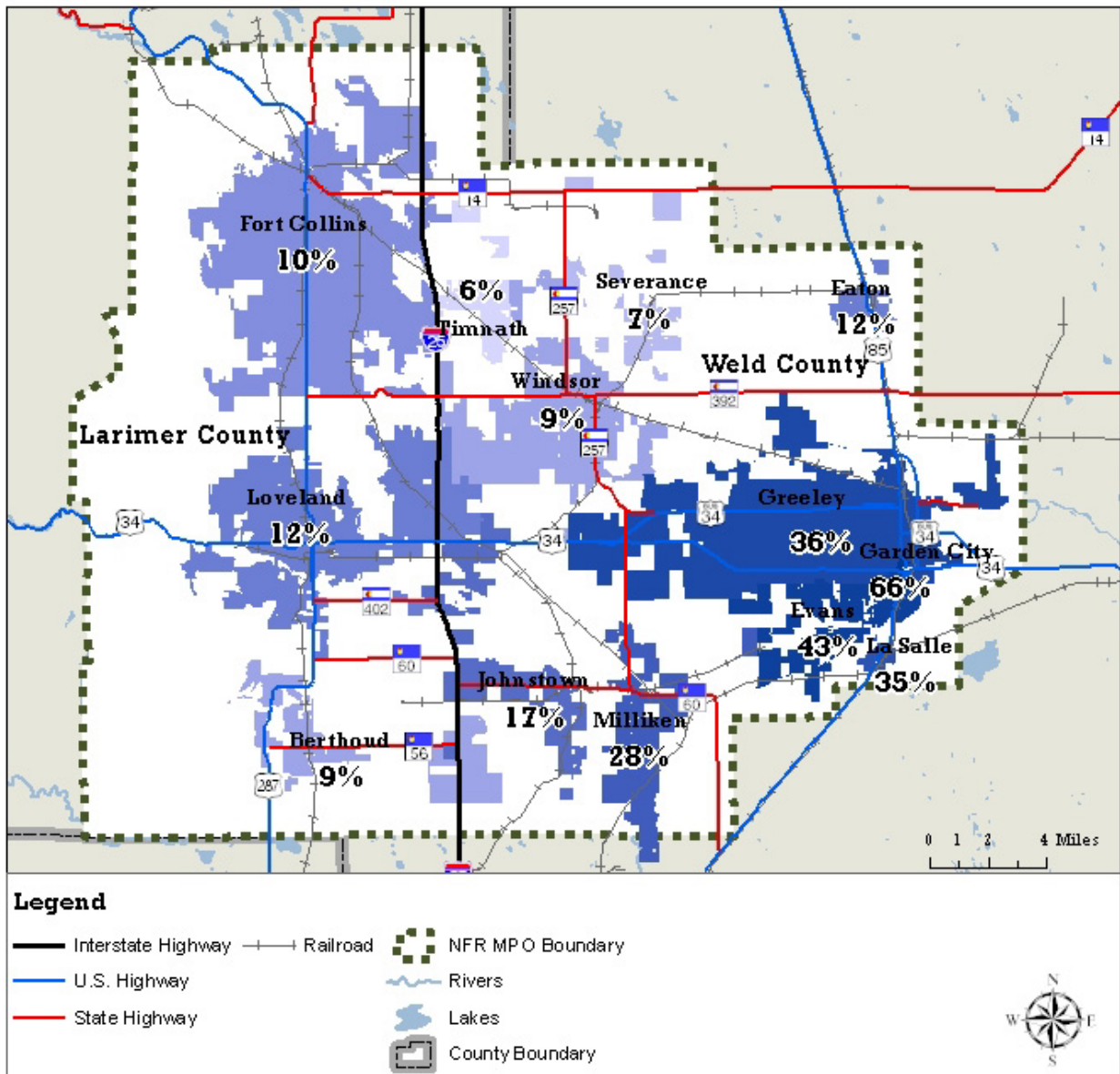
Figures 3-13 and **3-14** were used to identify minority populations with Census 2010 data as shown by block group for the Hispanic/Latino segment and the combination of the smaller minority population segments.

The block groups demonstrate the largest concentrations of Hispanic/Latino residents in **Figure 3-15** reside along the US 85 corridor in Weld County and smaller pockets in northeast Fort Collins and southeast Loveland.

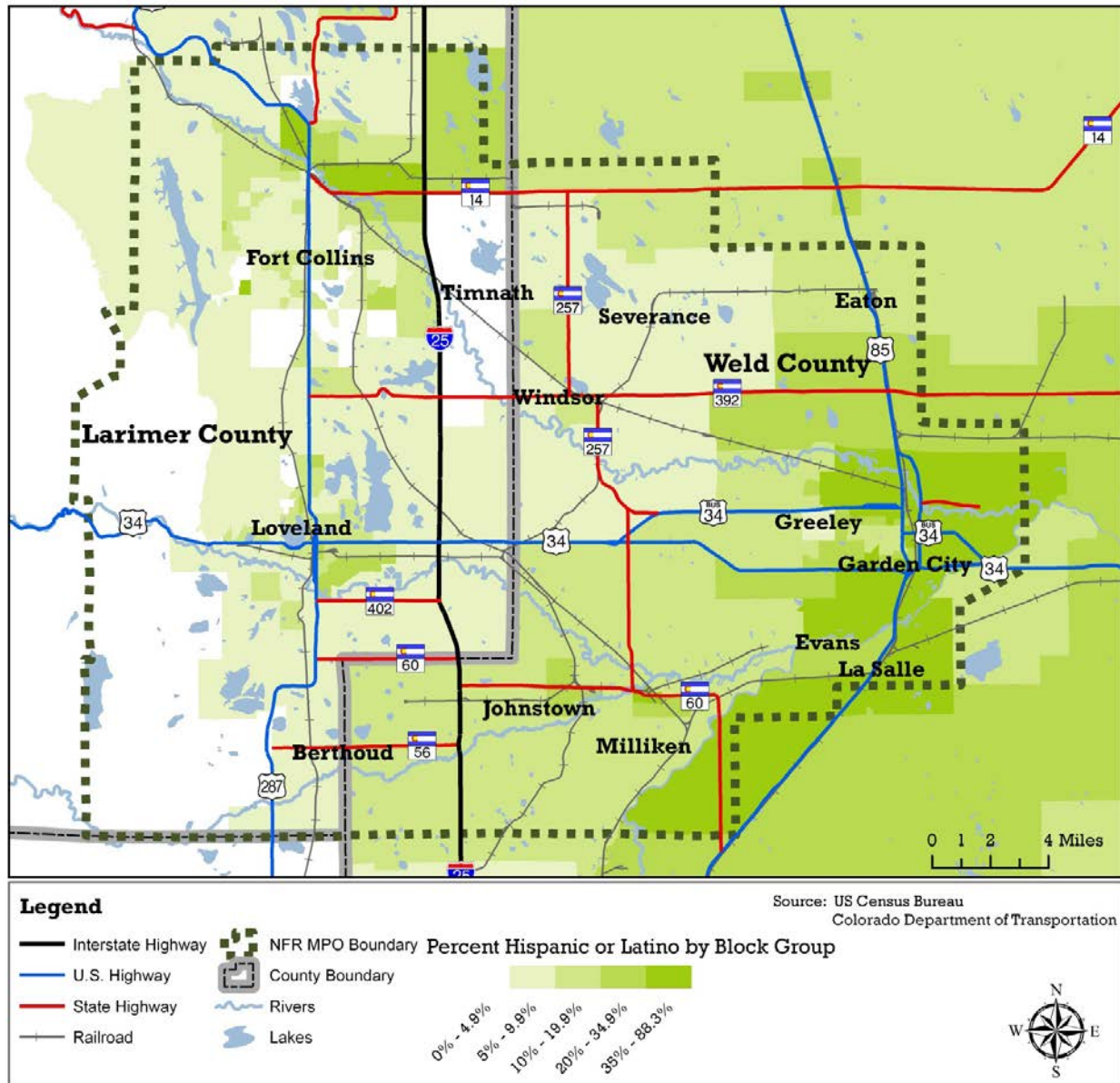**Figure 3-15   Hispanic / Latino Minority Population by Block Group**

Figure 3-16 combines all remaining minority populations from the 2010 Census. An initial review quickly demonstrates the predominance of the Hispanic/Latino minority and lack of diversity outside of Greeley and Fort Collins. The block groups in Fort Collins and Greeley are likely due to the presence of major universities and the influx of refugee populations this past decade.

Figure 3-16   Minority Populations per Block Group (without Hispanic/Latino Population)
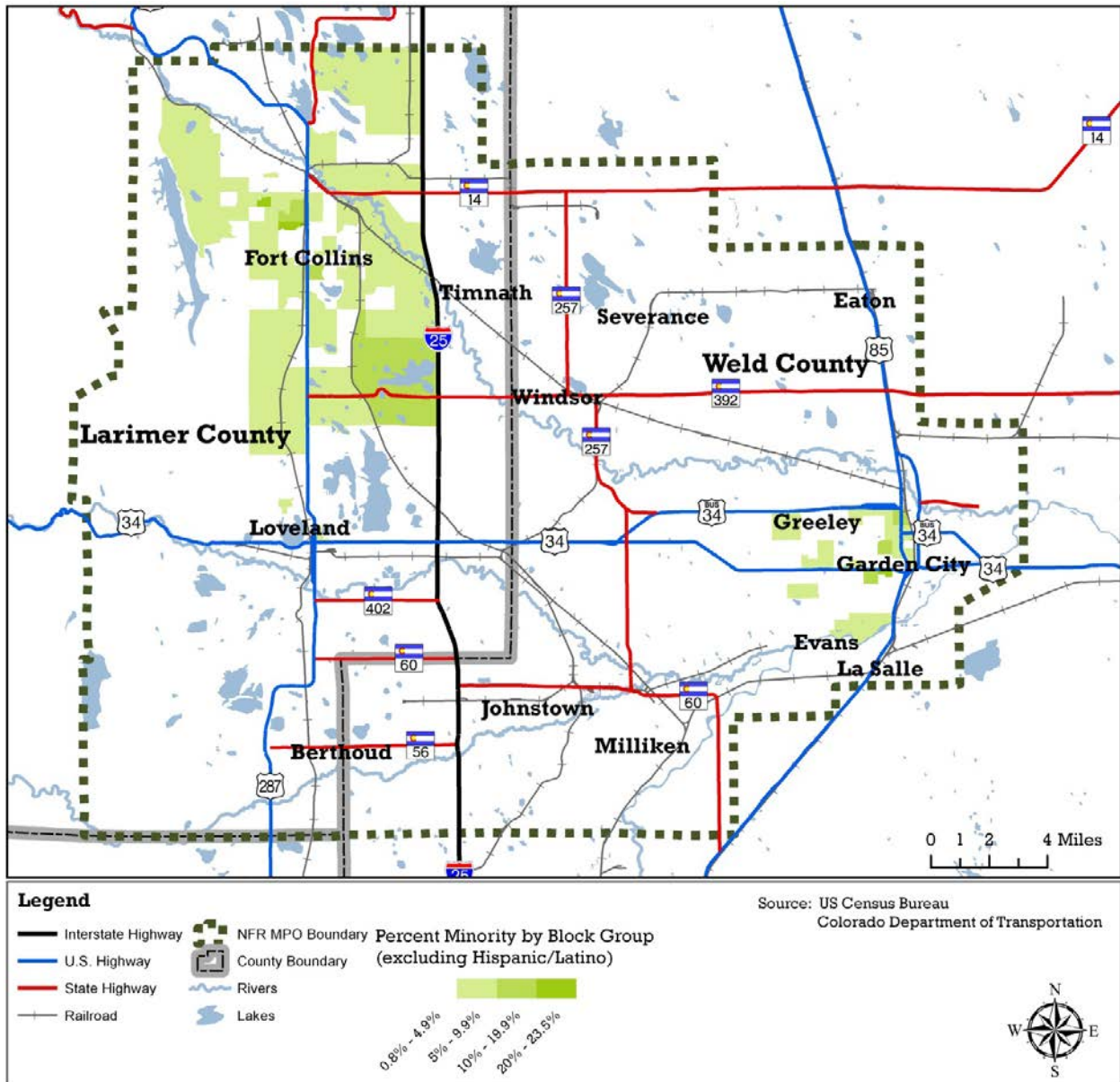
Benefits and Burdens

Figure 3-17 shows the Census Block Groups that contain both low income and minority populations along with the local fixed route transit for the communities of Fort Collins, Greeley, and Loveland. All of the low income and minority areas have some proximity to the local transit networks though this is at an aggregate scale and does not guarantee access.

Figure 3-17   **Low Income & Minority Households per Block Group**
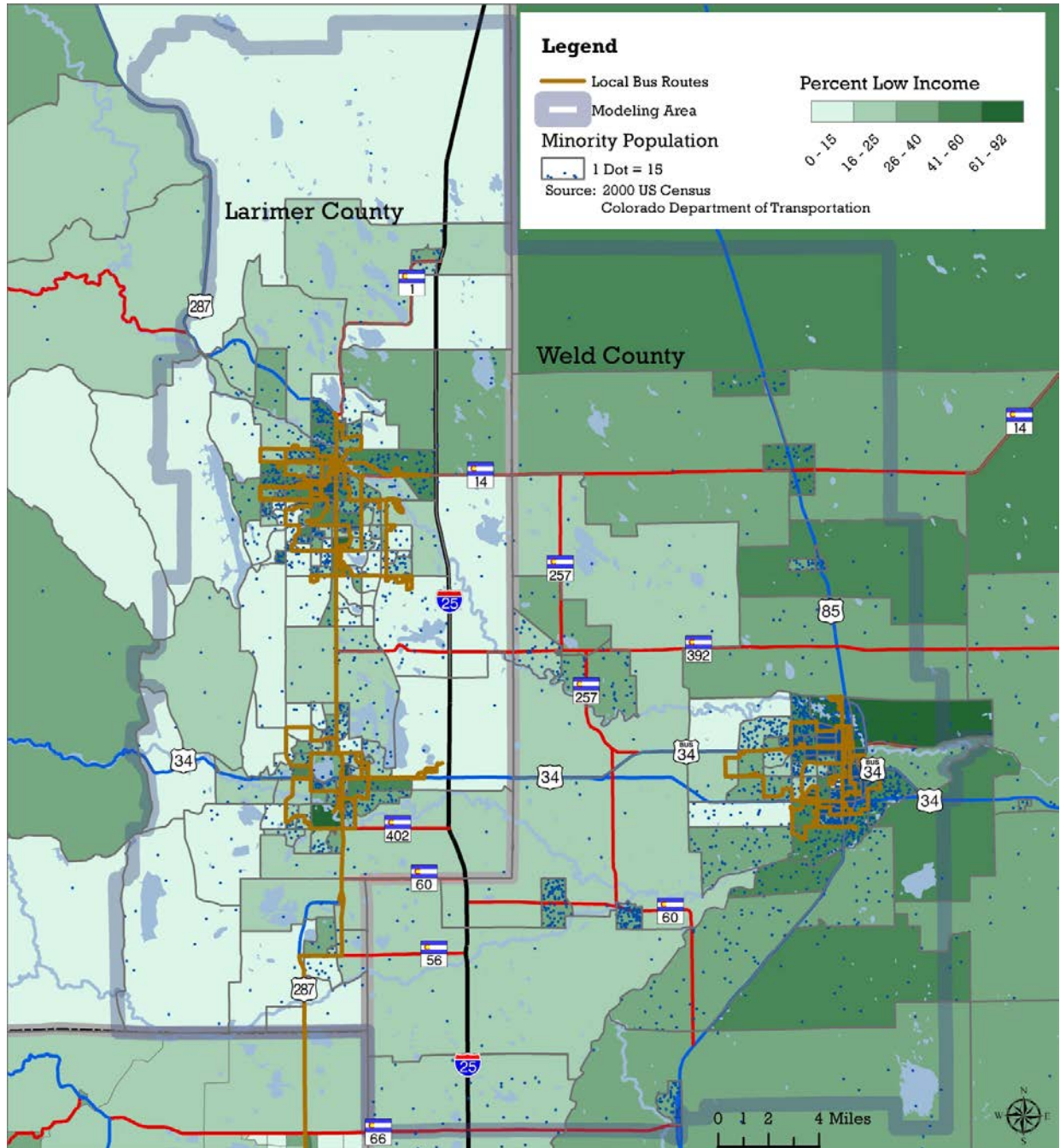
The 2007 Coordinated Public Transit/Human Services Transportation Plan provides the framework for the region to make decisions about the next steps in coordinating transit and human service transportation services. The plan sets priorities for specialized transportation service projects and for transportation services oriented to serving low income employment trips. The plan is divided into six chapters that document the following:

1. A historical perspective and the planning process.
2. The characteristics of the region with specific examples for each county.
3. The structures used for the delivery of human services and transit services, as well as the level of transportation services provided.
4. An assessment of needs and basic issues to consider as the region moves forward with coordination.
5. The planning and program management issues for the Federal Transit Administration programs.
6. Strategies and actions for increasing coordination and mobility are identified.

Most of the chapters are divided into two sections, with one for each county, since the needs, structure of services, planning requirements, and actions to improve mobility are significantly different in Larimer and Weld counties. The document is a strategic five-year plan for coordinating services and meets the Federal requirements for a Coordination Plan for the region.

A conclusion from this study is that, "Development is occurring at the center of the region, towards and along the I-25 corridor." While "transit services have remained largely centered within the cities that fund the services…" addressing some of these transit gaps would provide a benefit to the low income population.

As this is a corridor based plan, the identification of specific projects to evaluate the benefits and burdens is not possible in more than general terms. Benefits and burdens will be further addressed in the TIP document as specific projects are brought forward for consideration.

Public Involvement for Environmental Justice

The NFRMPO is dedicated to creating "an environment that encourages the participation of diverse people in the selection and design of transportation facilities that will positively impact the mobility and quality of life of Colorado citizens" (*CDOT Environmental Justice Training Manual*). The Public Involvement Plan for the NFRMPO (2005) states: "The NFRMPO understands the value of input from the public in helping define and implement effective transportation and congestion solutions… Just opening the process to the 'public' is not enough."

Numerous populations are not likely to get involved unless a special effort is made to reach out to them. These groups include, but are not limited to, minority and low income community members. This group may also include people who do not speak English or people who are unable to operate a private automobile (physically, financially, etc.) such as students and the elderly.

This plan process focused public involvement on the following "underserved populations" that met the diversity required for Environmental Justice and Title VI. The "underserved populations" targeted in this plan update included:

▸ Hispanic

▸ Low Income

▸ Seniors

▸ Students

The public involvement for the 2035 RTP Update with these populations centered on a concentrated focus group discussion for each targeted population. Compared with other public involvement strategies, focus groups provide the opportunity to isolate the specific issues and concerns of the underserved population. Focus groups permitted the NFRMPO to ask open-ended questions where the participants could expound upon a topic with limited time constraint in the comfort of their peers.

> ***Goal of the Focus Groups*** *– Interview groups of 6 to 12 individuals in a collaborative discussion to capture how the realities of the region's transportation system affects their underserved population today and in the future. To capture "the voice" for the representative group to serve as guidance for NFRMPO planning.*

Focus Group Recruitment Strategy

The NFRMPO sought the assistance of respected individuals and organizations to recruit representative individuals for each focus group while identifying a meeting time and location to accommodate the specific needs of each underserved population. **Table 3-7** below shows the time, date, location(s), and recruiter(s) for each focus group.

NFRMPO Executive Director Cliff Davidson speaking at the Larimer County Mobility Coordination Symposium

The NFRMPO enlisted interns to recruit focus group participants. The interns performed the phone-intensive tasks of calling recruiters and potential leads. They were also able to offer a complimentary lunch or dinner and a gift card to participants. Participants were contacted by phone or email and sent a reminder phone call and email.

Table 3-7   Public Participation Events / Environmental Justice

Focus Group	Date	Location	Time	Recruiters Used
SENIOR	March 8	Maple Room, Windsor Recreation Center, 250 11th Street, Windsor	11:00 AM – 1:00 PM	Senior Centers of Johnstown, Fort Collins, Loveland, Greeley, Evans, Berthoud, Milliken, Greeley & Windsor
HISPANIC	March 15	Boys & Girls Club of Greeley, Painter Unit, 2400 W. 4th Street, Greeley	6:30 PM – 8:30 PM	Unit Director of Boys and Girls Club Painter Unit
LOW INCOME	March 16	Northside Aztlan Community Center, 112 East Willow, Fort Collins	6:00 PM – 8:00 PM	Staff of the Food Bank of Larimer County, Project Self Sufficiency, Larimer County Workforce Center
STUDENT (1)	March 10	The Larimer County Conference Center, First National Bank Exhibition Hall, The Ranch Events Complex	4:00 PM – 6:00 PM	Flyers and Email Solicitation at Front Range Community College; Staff at University of Northern Colorado; Email at Colorado State University
STUDENT (2)	March 25	Colorado State University, 178 Lory Student Center	3:00 PM – 5:00 PM	Staff of Lory Student Center
STUDENT (3)	April 1	University of Northern Colorado, Michener Library	3:00 PM – 5:00 PM	Professor at University

Staging of Focus Groups

The focus group participants were led through a two-hour discussion along the following line of focus:

1.   To capture the current sentiment about the transportation system of Northern Colorado
2.   To identify existing transportation needs and challenges of the participants
3.   To gauge where transportation ranks among other regional issues and concerns
4.   To capture a "wishlist" of transportation improvements
5.   To identify future concerns for the respondents about transportation in the future

The complete list of the questions is provided in **Appendix B** of this plan.

Summary of Environmental Justice Findings

The recurring topics arising from the focus group discussions with the underserved population groups were:

Existing Conditions of Transportation System

▸ The top-of-mind awareness, in detail, of daily impediments while commuting: long stoplights, missing sidewalks, potholes, constructions sites

▸ The negative influence increasing gas prices will have on their existing lifestyle and monthly household expenditures (low income and seniors)

- A desire for efficient and expanded transit for commuting to work and areas outside of the region for medical trips (seniors), visiting family (low-income, students, and Hispanic), and entertainment (students)

- The need/desire to travel outside of their home municipality to work, shop, seek entertainment, and receive medical-related services

Future Improvements Desired for Transportation System

- Perception that travel by train (high-speed, commuter, light-rail) between NFRMPO cities along with the Denver-metro region will improve mobility for regional residents

- Investment in multi-modal connectivity between cities for access to employment centers

- Continued improvement in the condition of roadways for automobile users of the transportation system

A summary of the broader public outreach program for this plan update can be found in Chapter 1 on page 1-8.

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