

# I-70 Corridor Economic Assessment

*The Economics of Land Use*



Prepared for:

I-70 Regional Economic Advancement Partnership  
Adams County  
Arapahoe County

Prepared by:

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June 1, 2011

Watkins

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Bennett

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Strasburg

\*

Byers

\*

Deer Trail

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Aurora

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Adams  
County

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Arapahoe  
County

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Front Range  
Airport

To the Users of the I-70 Corridor Economic Assessment Study Report:

The I-70 Corridor Economic Assessment is part of a larger, ongoing collaborative study and planning process for the Regional Economic Advancement Partnership (REAP), Adams County, Arapahoe County, and the additional REAP member communities of Watkins, Bennett, Strasburg, Byers and Deer Trail and conducted in coordination with the member City of Aurora. The I-70 Corridor Economic Assessment document is the Final Report for the Assessment phase of this study.

In 2008, REAP requested assistance from Adams and Arapahoe Counties in conducting a study of the economic development needs and potential of the I-70 Corridor. Recognizing the critical importance of water, sewer, transportation, utility and communications infrastructure to the Corridor's ability to attract primary jobs and commercial services to the Corridor, a review of existing infrastructure was seen as an important component for identifying strategies to overcome constraints and challenges to quality economic development suitable for the rural atmosphere valued in eastern Adams and Arapahoe Counties.

In 2009, a Request for Proposals was issued to select a team of professionals with expertise in these areas. In December 2009, the project was awarded to the firm of Economic & Planning Systems, Inc. (EPS). To accomplish the infrastructure review, EPS brought to its team the firm of Vision Land Consultants (VLC). The I-70 Economic Assessment is the final report of EPS/VLC, presenting the team's research, analysis, conclusions, and recommendations to the Counties and Corridor communities. The recommendations are the professional view of the EPS/VLC team based on this "snapshot in time" status of demographics, national and local economies, existing physical conditions within the Corridor, and markets within the greater Metro Denver area.

The purpose of this report is to serve as a data tool and working document as the Corridor communities individually and collectively work to:

- Build on potential for desirable economic development,
- Overcome obstacles to good economic growth and sustainability, and
- Create new tools to work together toward shared goals.

The information and recommendations are not specific commitments of governing bodies to take specific actions, but provide a guide for further analysis, review, discussions and strategic planning over time. The report will contribute to efforts to update comprehensive plans and land development codes, to establish interagency agreements, and to refine a vision and branding for the eastern I-70 Corridor.

In 2010, a brochure was distributed through the I-70 Scout and Eastern Colorado News to inform citizens about this study process and to engage them in the ongoing efforts to plan for the future of the Corridor. REAP has held monthly meetings focusing on topics specific to these efforts throughout the 2009-2011 study period. Adams County, Arapahoe County and the Town of Bennett are actively engaged in updating elements of their Comprehensive Plans. We encourage business owners, land owners and residents of the Corridor to take an active role in the local efforts within their own communities. More information is available on the REAP web site: <http://www.i-70reap.com> and on web sites of local government agencies.

We appreciate your interest,



Jack Keever, Executive Director



Wil Chase, President, Board of Directors

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# 1. INTRODUCTION AND SUMMARY OF FINDINGS

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Economic & Planning Systems (EPS) was retained by Adams and Arapahoe Counties on behalf of the I-70 Regional Economic Advancement Partnership (REAP) to conduct an economic assessment of an eight-mile-wide corridor along I-70 from approximately E-470 to Deer Trail. The corridor represents the communities along I-70 on the eastern edge of the Denver Metro Area including portions of Aurora and the communities of Bennett, Byers, Deer Trail, Strasburg, and Watkins.

This economic assessment summarizes the current economic conditions, infrastructure capacity, historic growth trends, future growth projections, and economic drivers in the corridor. Specifically, the report addresses the following tasks:

- **Corridor Market Analysis** – EPS analyzed population, household, and employment trends and forecasts in Adams County, Arapahoe County, and the identified I-70 corridor area. EPS next inventoried and evaluated recent industrial, commercial, and housing development trends in the corridor and the eastern portion of the Denver Metro Area. Housing and employment demands were then forecasted for the 2010 to 2035 time period based on historical construction trends and the forecasted growth of the area. This growth forecast was translated into an approximate demand for land to support growth in the corridor.
- **Corridor Assets Analysis** – EPS analyzed and summarized the major land holdings and major development projects planned in the corridor. Economic drivers for the corridor have been identified and an analysis of economic development and land use plans in the corridor has been completed. Analysis of the suitability of the planned development sites and land use policies was completed to determine which areas could accommodate growth and what barriers to growth exist.
- **Infrastructure Needs Analysis** - Vision Land Consultants analyzed existing infrastructure conditions in the corridor. All existing master plans for infrastructure in the corridor were evaluated to determine how needs are being addressed. Additional attention was spent on identifying the water and sewer districts in the corridor, capacity of current and future water systems, and identification of all possible renewable water providers for the corridor.
- **Corridor Action Plan** - The Action Plan is based on the Study Corridor's advantages and disadvantages and acknowledges the constraints of growth within the Corridor. The chapter concludes with a series of recommended actions for the Study Corridor including the timeframe of recommendations, roles, and responsibilities.

## Summary of Findings

### I-70 Corridor Market Conditions

- Adams and Arapahoe Counties have grown significantly in the past decade and are two of the fastest growing counties in the Denver Metro Area. In the future, development activity is likely to be focused on the eastern portions of the metro area as land availability and prices become barriers to growth elsewhere.
- The Study Corridor is located in the logical path of future growth in the Denver Metro Area. Major undevelopable portions of land located in the eastern metro area will place greater pressure on the I-70 corridor.
- The number of jobs in the corridor has doubled over the past decade at an annual rate of 8.0 percent. Industry sectors with primary jobs that are growing include Administration and Waste Management, Transportation and Warehousing, and Manufacturing and Utilities.
- The Airport/Montbello industrial space submarket (which includes the Study Corridor) is the largest industrial submarket in the Denver Metro Area and has experienced the most growth in industrial square footage in the past decade. This submarket captured 77.6 percent of new growth in industrial space in the metro area and represents 32 percent of the total industrial space in it. Primary users of this space include retail distribution, manufacturing, and airport related activities. The Study Corridor, as a part of this submarket, is positioned to do well.
- DRCOG estimated the Denver Metro Area population would grow at a rate of 1.5 percent annually between 2005 and 2035. The economic recession starting in 2008 greatly slowed the rate of growth of both population and employment in the metro area, especially employment. As a result, EPS has forecast lower growth rates for the metro area with corresponding adjustments to the projections for the Study Corridor.
- Based on adjusted DRCOG growth forecasts, demand for developable land for urban density development by 2030 is equal to approximately 8,000 acres. The majority of land needed is for residential development, with commercial and industrial growth accounting for approximately 15 percent of the demand. The challenge for stakeholders in the corridor is to position it for greater economic development activity by addressing issues identified in this study.

### Infrastructure Needs

A detailed evaluation of the infrastructure systems was completed with findings for wet and dry utilities and transportation provided below.

- The electrical power grid has been upgraded over the past several years from E-470 through Strasburg in anticipation of growth. East of Strasburg, the power grid is reliable but may not be able to accommodate growth without upgrades. This is not seen as a major impediment to growth in the near term, given the longer planning horizon for the eastern portion of the corridor.

- Natural gas and propane are sufficiently provided by several companies within the Study Corridor.
- Broadband communication is available in the west portion of the Study Corridor to Byers. Higher speed cable service is available in Bennett, Strasburg, and Byers, as well as along Colfax Avenue to Bennett and Highway 36 to Byers. DSL service is available outside the communities. There are three telephone service providers within the Study Corridor that also provide internet service.
- The transportation system within the corridor is sufficient in the east-west direction, primarily due to the capacity of Interstate 70 as well as planned improvements to major arterials. There are some north-south links that need improvements to accommodate growth identified as part of the recently completed Arapahoe County Transportation Plan.
- The six water and sanitation districts within the Study Corridor have sufficient capacity to serve their existing needs and allow for modest growth in their service areas. Long-term ability to accommodate growth is limited, as noted in greater detail below. All the districts are currently served by wells, a finite resource.

### **Impediments to Growth**

- Infrastructure systems and land use plans are generally sufficient to accommodate growth in the immediate future, with the exception of water and sanitation.
- There is a lack of development ready sites that could attract employers to the Study Corridor. Using the site specific needs checklist that is provided in this study will help local communities, landowners, and developers understand ways to better position sites for attracting businesses and development.
- Regional aquifers are burdened. Long-term reliance is a concern. Alternatives that use water more sustainably and/or introduce water from renewable sources are needed.
- Due to limitations of water service, only 30 percent of projected growth can be accommodated. Baseline growth projections for residential development call for approximately 5,800 households in the Study Corridor outside of the City of Aurora and its planning area. However, current water districts have excess capacity for only 1,765 Single Family Equivalent units. Thus, the current water and sanitation districts capacity can serve approximately 30 percent of expected residential growth, leaving no capacity to serve commercial or industrial development. Alternative development patterns, such as early commercial and industrial development, could also be served but would reduce the capacity for residential growth. Regardless of the timing and type of development, the corridor's capacity to meet water and sanitation demands is insufficient.
- Development of substantial scale will not occur until a renewable water source and a corresponding infrastructure system have been established.

## Recommendations

The needs and opportunities within the corridor are significant. While the limitations related to the water supply are a high priority, there are several other aspects of the corridor that represent opportunities and should also be addressed. Recognizing that Adams and Arapahoe Counties represent the interests of the entire Study Corridor (including incorporated towns/cities, unincorporated places, and special districts) it is recommended that the Counties maintain involvement in future planning, public processes, and final decisions regarding regional solutions. Recommended ways the Counties can provide leadership include the following:

- Comprehensive Plan Amendments - Adams and Arapahoe Counties, as well as all jurisdictions within the corridor, should facilitate discussions of a Comprehensive Plan Amendment which may be completed in the future. The Comprehensive Plan Amendment should include aligning land use plans to ensure consistency among the various jurisdictions. The land use plans should account for short-term and long-term infrastructure solutions, recognizing the limitations of the current infrastructure to accommodate growth. The Comprehensive Plan Amendment should identify incentives and requirements to be used in land use approval processes that result in coherent, consistent and synergistic plans that will make the corridor a desirable, viable and sustainable location for business and residents. In addition, all Quasi-Governments (water districts, fire districts, metro districts, other special districts, etc.) should endeavor to coordinate their respective utilities during the Comprehensive Plan Amendment.
- Intergovernmental Agreements - Once a Comprehensive Plan Amendment has been completed, each of the communities located within the corridor, inclusive of the two Counties, should investigate the use of Intergovernmental Agreements (IGA's) as a tool to implement the objectives of these plans. The IGA's can be used to stipulate how all public and private entities can and are expected to participate in the long-term solutions. The IGA's can facilitate alignment of all jurisdictions development policies for the area in conjunction with the Comprehensive Plan Amendment to help facilitate coordinated and well-planned growth along the corridor as a whole.

**The Comprehensive Plan Amendment process outlined above should address the following items, as well as others that will be identified during process:**

- Targets / Opportunities - Identify specific opportunities related to economic development. Community stakeholders expressed a desire to expand local employment opportunities with goals of achieving a better jobs:housing balance, reducing commuting and Vehicle Miles Traveled (VMT), and increasing opportunity for the next generation of current residents. Given findings from this study related to the Corridor's market position and assets, attracting economic development is achievable. Agencies within the corridor should identify target businesses and industry segments that are good candidates, the corresponding site and facility needs, and the approximate cost thresholds associated with meeting the needs for these options. These activities are intended to help focus and support the efforts of the economic development entities.
- Front Range Airport - The opportunities identified in the Front Range Airport Study should be pursued jointly by the Counties and the Airport (through public private partnerships) Policies

should be identified that support implementation of recommendations from the recently completed study that would, in turn, attract business to the Corridor.

- Branding - REAP should consider leading a visioning and/or branding process that would elevate the awareness of the Corridor among Denver Metro entities and differentiate the Corridor from other metro-area growth nodes. The process should build on identified target industries, potential opportunities, and current assets of the Corridor.
- “Development-Ready” Database - As opportunities are created, a development ready site database should be established for the Study Corridor. This database should be highlighted on the REAP website and should be maintained by either REAP or in a coordinated effort with Adams County Economic Development.
- Water Resource Development/Management Task Force - Preceding formation of the comprehensive plan amendment, REAP should form a task force to identify a viable long-term, renewable water source for the corridor. The task force could include representatives from Adams and Arapahoe Counties, the incorporated towns of Bennett and Deer Trail, the unincorporated communities of Watkins, Strasburg and Byers, and the special districts in the Study Corridor.

As part of this effort, REAP should facilitate a discussion among current water and sanitation districts that identifies the roles for each and how to best coordinate efforts to serve the interests of existing districts and address future water demands of the corridor.

This study summarizes the work that has been done to date on various water options. The Town of Bennett has also made substantial efforts in trying to identify a renewable water source that could provide water to the Town. Bennett is emerging as a leader within the corridor concerning water issues and could help structure long-term solutions, with active participation by the Counties to ensure the breadth of public interests is addressed.

Because of the complexity, cost, and multi-tiered approval process of any water resource development and management solution, the process will not be simple.

**REAP’s initial actions, after formation of the task force, should include the following:**

- Develop criteria to evaluate options that reflect the priorities of the corridor;
- Identify the process for approval and identify each governing board that will be involved;
- Provide approximate costs for water and wastewater infrastructure development and management;
- Identify funding options that address the breadth of geography and extent of potential beneficiaries;
- Evaluate County/City/Regional/State regulatory process for water and wastewater providers to meet approval requirements for new development and recommend changes that would facilitate Corridor economic growth goals while protecting long-term Corridor interests.

## 2. CORRIDOR MARKET ASSESSMENT

This section of the report summarizes population and household trends and forecasts; residential and commercial development trends; and the future land demand by use. This section concludes with land demand forecasts for each major land use in the corridor.

### Regional Historic Growth Trends

#### Population and Household Trends

The Denver Metro Area has increased by 325,000 people over the past decade, growing at an annual rate of 1.8 percent per year. Douglas County has experienced the most growth during the past decade with approximately one-third of the new households locating there. Adams and Arapahoe Counties are the next fastest growing counties in the metro area. Arapahoe County increased by 71,000 people and 28,500 households between 2000 and 2009 and Adams County increased by 45,500 people and 25,000 households during that same time period, as shown in **Table 1**.

**Table 1**  
**Denver Metro Area Population and Household Trends, 2000-2009**  
**REAP I-70 Corridor Economic Assessment**

	2000	2009	Change 2000-2009		
			Total #	Ann. #	Ann. %
<b>Population</b>					
Adams County	276,393	321,924	45,531	5,059	1.7%
Arapahoe County	363,857	434,762	70,905	7,878	2.0%
Boulder County	291,288	302,162	10,874	1,208	0.4%
Broomfield County	---	55,861	---	---	---
Denver County	554,636	618,650	64,014	7,113	1.2%
Douglas County	175,766	291,286	115,520	12,836	5.8%
Jefferson County	527,056	545,848	18,792	2,088	0.4%
<b>Metro Total</b>	<b>2,188,996</b>	<b>2,570,493</b>	<b>325,636</b>	<b>36,182</b>	<b>1.8%</b>
<b>Households</b>					
Adams County	128,156	152,825	24,669	2,741	2.0%
Arapahoe County	190,909	219,432	28,523	3,169	1.6%
Boulder County	114,680	118,912	4,232	470	0.4%
Broomfield County	---	20,186	---	---	---
Denver County	239,235	267,321	28,086	3,121	1.2%
Douglas County	60,924	101,055	40,131	4,459	5.8%
Jefferson County	<u>206,067</u>	<u>213,073</u>	<u>7,006</u>	<u>778</u>	<u>0.4%</u>
<b>Metro Total</b>	<b>939,971</b>	<b>1,092,804</b>	<b>132,647</b>	<b>14,739</b>	<b>1.7%</b>

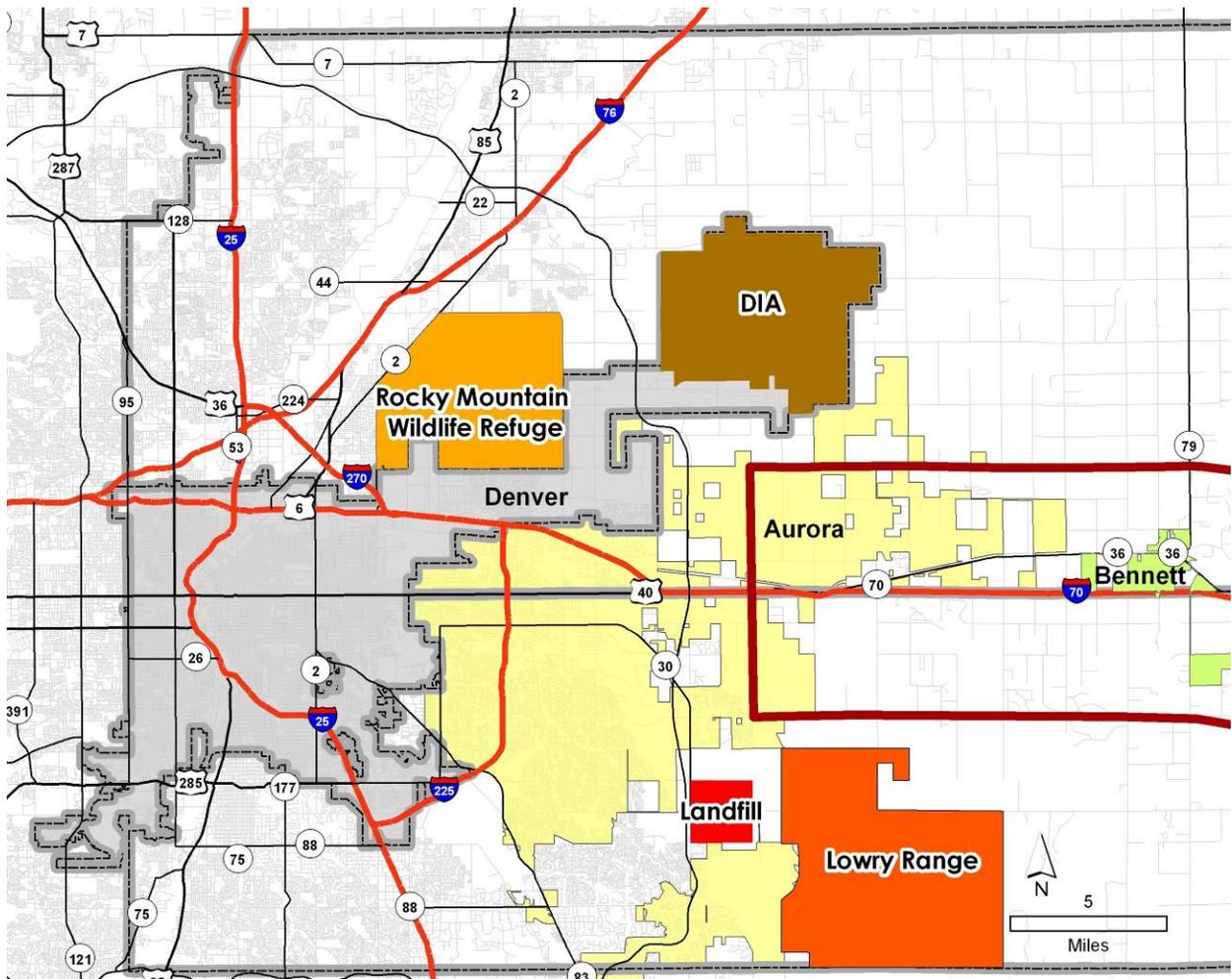
Source: Colo. Depart of Local Affairs, Economic & Planning Systems

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The amount of growth in each county over the past decade has been dictated by the availability of undeveloped land. Jefferson and Denver Counties have a limited ability to attract new housing development due to their lack of undeveloped land to accommodate growth. While Douglas County has experienced the most growth in recent years, development pressures have consumed the majority of undeveloped land close to the metro area suitable for urban growth.

The eastern side of the Denver Metro area is the next most likely location to accommodate growth projected for the metro area. The eastern side has large-scale established land uses and land reservations (illustrated in **Figure 1**) that will remain unavailable for new development and place restrictions on the directions of growth. These include holdings such as the Rocky Mountain Wildlife Refuge, Denver International Airport, and portions of the Lowry Range. As shown in the graphic below, the eastern I-70 corridor is well suited to accommodate growth, particularly given its location relative to the large-scale establishments located to the north and south.

**Figure 1**  
Eastern Denver Metro Area  
REAP I-70 Corridor Economic Assessment



The eastern I-70 Corridor population grew at the same rate as Arapahoe County between 2000 and 2009. However, the Study Corridor population represents only a small fraction of the population in these counties. The Study Corridor, between 2000 and 2009, increased by approximately 1,500 people and 500 households, as shown in **Table 2**.

**Table 2**  
**Eastern Denver Metro Area Population and Household Trends, 2000-2009**  
**REAP I-70 Corridor Economic Assessment**

	2000	2009	Change 2000-2009		
			Total #	Ann. #	Ann. %
<b>Population</b>					
Study Corridor	9,246	10,701	1,455	162	1.6%
Adams County	363,857	434,762	70,905	7,878	2.0%
Arapahoe County	487,967	562,009	74,042	8,227	1.6%
<b>Households</b>					
Study Corridor	3,275	3,759	484	54	1.5%
Adams County	128,156	152,825	24,669	2,741	2.0%
Arapahoe County	190,909	219,432	28,523	3,169	1.6%

Source: Colo. Depart of Local Affairs, Claritas, Economic & Planning Systems

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The majority of growth occurred in Aurora and Watkins areas with some growth in Strasburg and Bennett. The area in the Study Corridor within Aurora and in the Watkins area has increased by 300 households over the past decade, which is 60 percent of the total corridor growth. Strasburg increased by approximately 80 households, while Bennett increased by 130 households during the same time period, as shown in **Table 3**. If current conditions continue, this relative distribution of growth by community experienced in the last 10 years is likely to continue with the portions of Aurora capturing a large portion of new growth and Bennett and Strasburg capturing the remaining growth pressure.

**Table 3**  
**Study Corridor Population and Household Trends by Community, 2000-2009**  
 REAP I-70 Corridor Economic Assessment

	2000	2009	Change 2000-2009		
			Total #	Ann. #	Ann. %
<b>Watkins Area</b>					
Population	427	1,018	591	66	10.1%
Households	151	361	210	23	10.2%
<b>Bennett</b>					
Population	2,021	2,405	384	43	2.0%
Households	715	847	132	15	1.9%
<b>Byers Area</b>					
Population	1,233	1,190	-43	-5	-0.4%
Households	436	418	-18	-2	-0.5%
<b>Strasburg Area</b>					
Population	1,402	1,666	264	29	1.9%
Households	503	580	77	9	1.6%
<b>Deer Trail</b>					
Population	598	583	-15	-2	-0.3%
Households	247	241	-6	-1	-0.3%
<b>Remaining (Including Aurora Portions)</b>					
Population	3,565	3,839	274	30	0.8%
Households	1,223	1,312	89	10	0.8%
<b>Study Corridor</b>					
<b>Population</b>	<b>9,246</b>	<b>10,701</b>	<b>1,455</b>	<b>162</b>	<b>1.6%</b>
<b>Households</b>	<b>3,275</b>	<b>3,759</b>	<b>484</b>	<b>54</b>	<b>1.5%</b>

Source: Colo. Depart. of Local Affairs; Claritas; Economic & Planning Systems

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## Employment Trends

### Regional Employment

Employment trends in the Denver Metro Area, by county, have matched trends in population and households. Douglas County experienced the highest growth in employment between 2001 and 2008, with 44,000 new jobs. Adams County increased in employment by over 16,700 jobs during the same period, while Arapahoe County's employment increased nearly 4,000 jobs, as shown in **Table 4**. The counties with the lowest growth, or with losses, are those with the greatest degree of land constraint, including Boulder, Denver and Jefferson.

**Table 4**  
**Denver Metro Area Employment, 2001-2008**  
**REAP I-70 Corridor Economic Assessment**

County	2001	2008	Change 2001-2008		
			Total #	Ann. #	Ann. %
Adams County	174,225	190,990	16,765	2,395	1.3%
Arapahoe County	341,979	345,945	3,966	567	0.2%
Boulder County	229,292	211,544	-17,748	-2,535	-1.1%
Broomfield County	---	36,114	---	---	---
Denver County	534,369	526,602	-7,767	-1,110	-0.2%
Douglas County	83,040	127,306	44,266	6,324	6.3%
Jefferson County	269,322	272,507	3,185	455	0.2%

Source: Colo. Dept. of Labor; Economic & Planning Systems

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**Study Corridor Employment**

The Study Corridor has experienced significant employment growth in the past nine years. Between 2001 and 2009, wage and salary employment in the Study Corridor nearly doubled from 1,651 to 3,068 jobs. The employment totals in **Table 5** show employment growth by community. The location of the jobs is based on location listed on the businesses' tax documents, so employment totals may not be exactly as shown in **Table 5**. However, the number of jobs listed for the Study Corridor is a reasonable approximation of jobs. (Note that sole proprietors are not represented in the employment numbers in **Table 5**.)

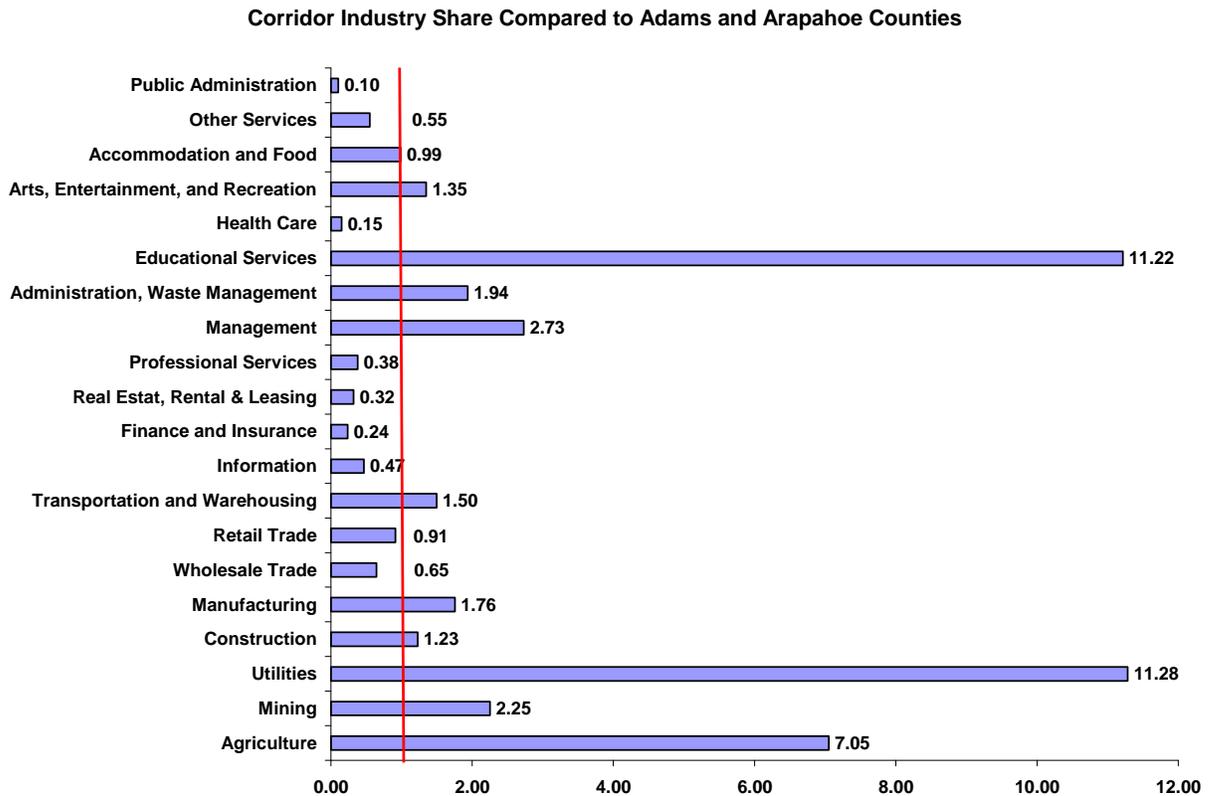
**Table 5**  
**I-70 Corridor Employment by Area, 2001-2009**  
**REAP I-70 Corridor Economic Assessment**

	2001	2009	Change 2001-2009		
			Total #	Ann. #	Ann. %
<b>I-70 Corridor</b>					
Aurora	254	605	351	44	11.5%
Bennett	417	786	369	46	8.2%
Byers	264	321	57	7	2.5%
Deer Trail	71	100	30	4	4.5%
Strasburg	452	538	86	11	2.2%
Watkins	193	714	521	65	17.8%
<b>Grand Total</b>	<b>1,651</b>	<b>3,068</b>	<b>1,418</b>	<b>177</b>	<b>8.1%</b>
Arapahoe County	789	1,505	716	90	8.4%
Adams County	862	1,563	701	88	7.7%

Source: Colo. Dpt. of Labor and Employment; Economic & Planning Systems  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-QCEW.xls\BY City

A location quotient analysis is a useful method for determining which industries, within a given area, have a greater proportional share of jobs than the larger region. A location quotient analysis was completed to compare the share of jobs, by industry, in the Study Corridor to the share of jobs, by industry, in Arapahoe and Adams Counties. The location quotient diagram, shown in **Figure 2**, shows what industries in the Study Corridor have a greater proportion of jobs. A location quotient above 1.0 indicates there a greater proportional share of jobs for that industry, and a location quotient below 1.0 indicates there is a lesser proportional share of jobs. Agriculture, Educational Services, and Utilities have the highest location quotient of all the industries in the Study Corridor. Industries that produce base jobs (e.g., jobs/employers which produce products/services that are exported out of the Study Corridor) that have a significant share of employment are Administration and Waste Services, Management of Companies, Transportation and Warehousing, Manufacturing, Mining, and Utilities.

**Figure 2**  
**I-70 Corridor Industrial Share**  
**REAP I-70 Corridor Economic Assessment**

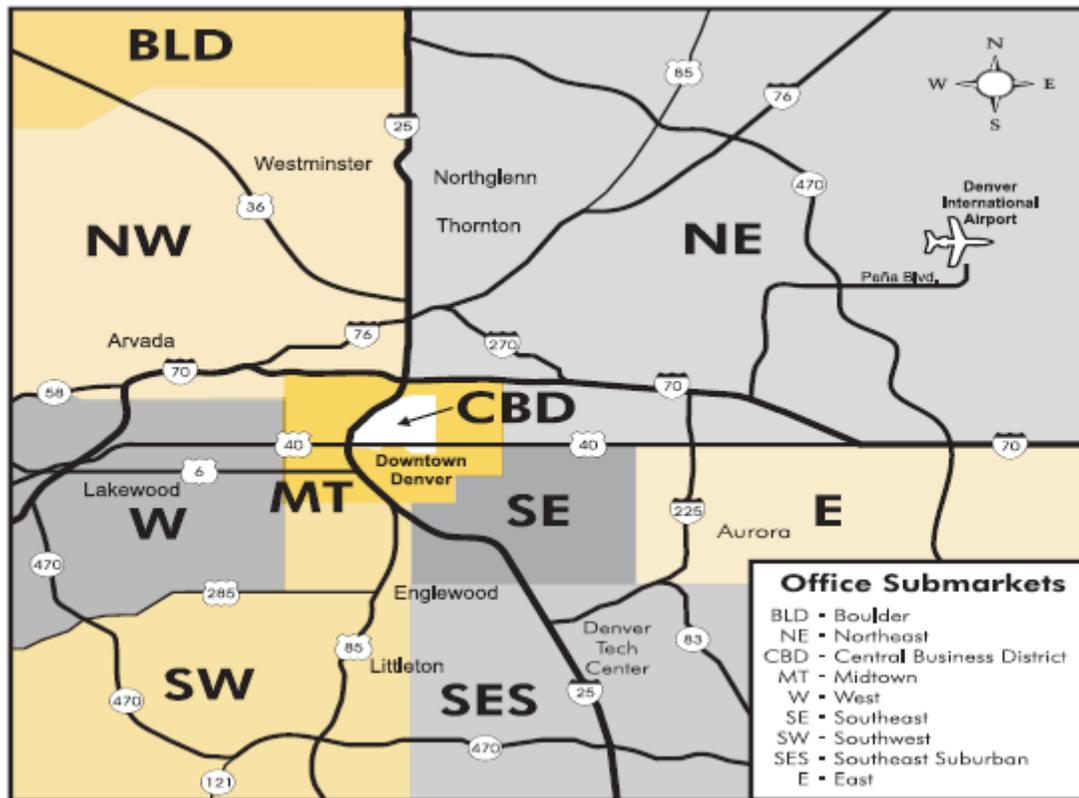


## Commercial and Industrial Market Trends

### Office Space Inventory

The office space submarkets created by Grubb and Ellis are shown in **Figure 3**. The Northeast submarket is approximately defined by the Weld County line on the north, Adams County line on the east, Colfax Avenue on the south, and I-25 on the west with the exception of the midtown submarket and CBD submarket.

**Figure 3**  
**Office Submarkets**  
REAP I-70 Corridor Economic Assessment



Between 2000 and 2010, office space inventory in the Denver Metro Area increased by 20.5 million square feet, as shown in **Table 6**. The Northeast office submarket, which includes the Study Corridor, added the second highest amount of office space in the metro area in the past decade with 4.4 million square feet. Most of this office space growth in the Northeast submarket is related to Denver International Airport.

**Table 6**  
**Denver Metro Area Office Space Inventory by Submarket, 2000-2010**  
 REAP I-70 Corridor Economic Assessment

Market Area	2000	2010	Change 2000 - 2010		
			Total	Ann.	Ann. %
<b>CBD Total</b>	<b>23,901,000</b>	<b>26,382,429</b>	<b>2,481,429</b>	<b>248,143</b>	<b>1.0%</b>
<b>Suburban</b>					
Boulder	3,852,450	4,669,922	817,472	81,747	1.9%
East	5,325,000	5,682,072	357,072	35,707	0.7%
Midtown	3,856,170	4,653,099	796,929	79,693	1.9%
<b>Northeast</b>	<b>1,352,290</b>	<b>5,793,961</b>	<b>4,441,671</b>	<b>444,167</b>	<b>15.7%</b>
Northwest	6,402,272	7,838,102	1,435,830	143,583	2.0%
Southeast	8,720,374	9,685,798	965,424	96,542	1.1%
Southeast Suburban	23,254,672	30,215,116	6,960,444	696,044	2.7%
Southwest	2,838,095	4,472,177	1,634,082	163,408	4.7%
West	<u>6,859,227</u>	<u>7,491,114</u>	<u>631,887</u>	<u>63,189</u>	<u>0.9%</u>
<b>Suburban Total</b>	<b>62,460,550</b>	<b>80,501,361</b>	<b>18,040,811</b>	<b>1,804,081</b>	<b>2.6%</b>
<b>Metro Total</b>	<b>86,361,550</b>	<b>106,883,790</b>	<b>20,522,240</b>	<b>2,052,224</b>	<b>2.2%</b>

Source: Grubb and Ellis  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Office Inventory.xls\Invent

Although the Northeast submarket represents only 2.8 percent of the total office space in the metro area, it captured 21.6 percent of the office space development, as shown in **Table 7**.

**Table 7**  
**Denver Metro Area Office Space Capture by Submarket**  
**REAP I-70 Corridor Economic Assessment**

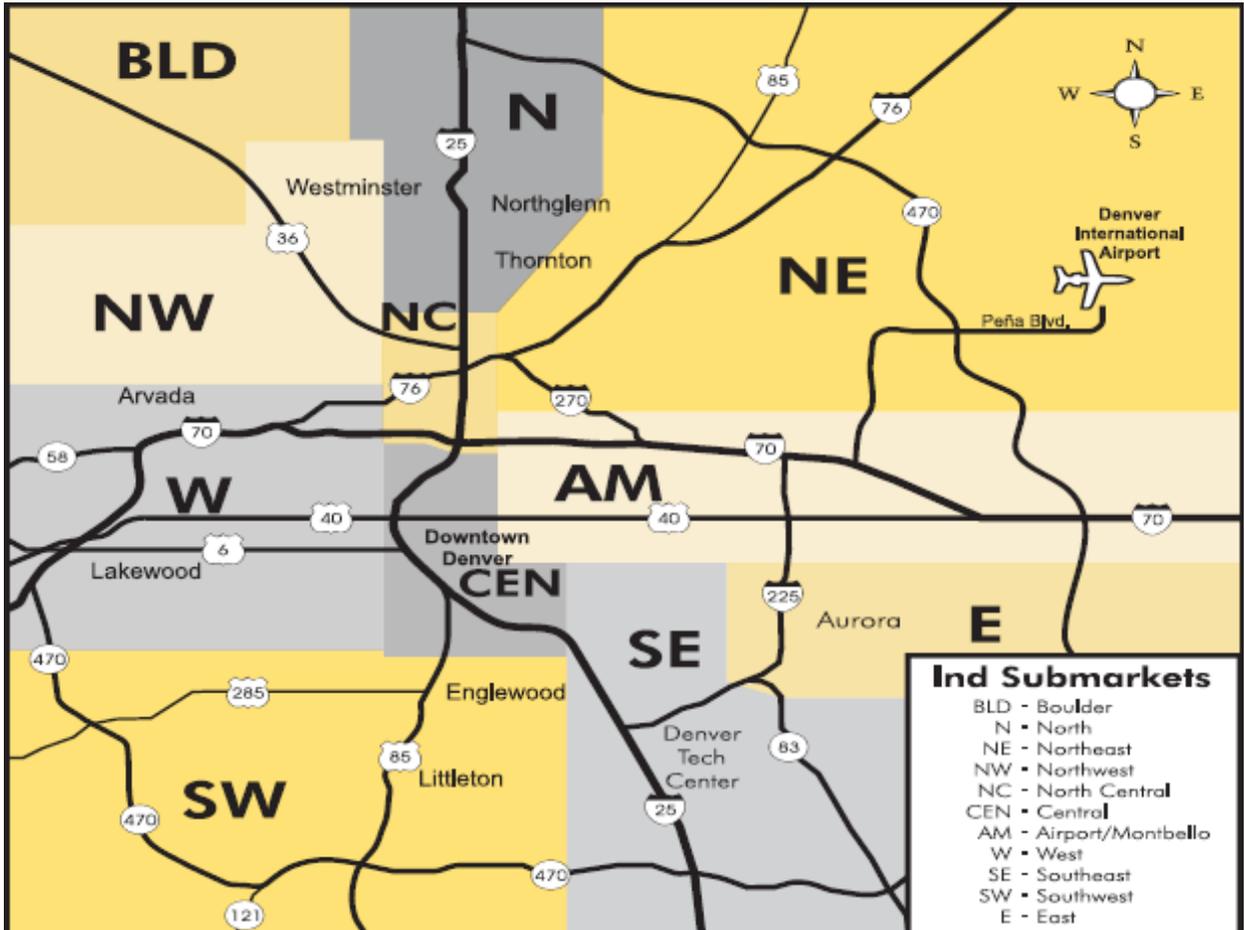
Market Area	2010 Total GLA	% of Total	2000-2010 Change	% of Total
<b>CBD Total</b>	<b>26,382,429</b>	<b>25.7%</b>	<b>2,481,429</b>	<b>12.1%</b>
<b>Suburban</b>				
Boulder	4,669,922	4.7%	817,472	4.0%
East	5,682,072	5.4%	357,072	1.7%
Midtown	4,653,099	4.4%	796,929	3.9%
<b>Northeast</b>	<b>5,793,961</b>	<b>2.8%</b>	<b>4,441,671</b>	<b>21.6%</b>
Northwest	7,838,102	7.7%	1,435,830	7.0%
Southeast	9,685,798	9.4%	965,424	4.7%
Southeast Suburban	30,215,116	28.7%	6,960,444	33.9%
Southwest	4,472,177	4.1%	1,634,082	8.0%
West	7,491,114	7.1%	631,887	3.1%
<b>Suburban Total</b>	<b>80,501,361</b>	<b>74.3%</b>	<b>18,040,811</b>	<b>87.9%</b>
<b>Metro Total</b>	<b>106,883,790</b>	<b>100.0%</b>	<b>20,522,240</b>	<b>100.0%</b>

Source: Grubb and Ellis  
 H:\19903-Arapahoe County I70 Corridor Economic Assessment\Data\19903-OfficeInventory.xls\Capture

## Industrial Space Inventory

The industrial space submarkets created by Grubb and Ellis are shown in **Figure 4**. The Study Corridor is within the Airport/ Montebello submarket.

**Figure 4**  
**Industrial Submarkets**  
REAP I-70 Corridor Economic Assessment



Between 2000 and 2010, inventory of industrial space in the Denver Metro Area increased by 12.32 million square feet of space, as shown in **Table 8**. The Airport/Montbello industrial submarket, which includes the Study Corridor, added the most amount of industrial space in the metro area in the past decade, with 9.6 million square feet of new space. The Airport/Montbello submarket is the largest submarket, with 70 million square feet of the total 216 million square feet of industrial space.

**Table 8**  
**Denver Metro Area Industrial Space Inventory by Submarket, 2000-2010**  
**REAP I-70 Corridor Economic Assessment**

Market Area	2000	2010	Change 2000 - 2010		
			Total	Ann.	Ann. %
Airport/ Montbello	61,317,700	70,876,065	9,558,365	985,604	1.5%
Boulder	17,984,400	17,911,011	-73,389	47,734	0.0%
Central	32,912,800	29,431,093	-3,481,707	-359,988	-1.1%
East	3,184,000	2,498,163	-685,837	-48,640	-2.4%
North	2,145,600	4,831,897	2,686,297	200,837	8.5%
North Central	13,909,900	15,792,890	1,882,990	110,861	1.3%
Northeast	9,835,700	10,514,026	678,326	13,261	0.7%
Northwest	12,129,200	11,800,375	-328,825	-41,112	-0.3%
Southeast	14,369,400	16,512,425	2,143,025	103,378	1.4%
Southwest	19,980,500	18,936,072	-1,044,428	27,322	-0.5%
West	15,928,000	16,915,283	987,283	93,881	0.6%
<b>Metro Total</b>	<b>203,697,200</b>	<b>216,019,300</b>	<b>12,322,100</b>	<b>1,133,137</b>	<b>0.6%</b>

Source: Grub & Ellis; Economic & Planning Systems  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\[19903-Industrial.xls]Ind -Inventory

The Airport/Montbello submarket represents 32.8 percent of the total industrial space inventory in the metro area. The Airport/Montbello submarket captured the vast majority, 77.6 percent, of new industrial space. The eastern I-70 corridor is the most desired location for industrial uses, specifically warehouse and distribution industrial users.

**Table 9**  
**Denver Metro Area Industrial Space Capture by Submarket**  
**REAP I-70 Corridor Economic Assessment**

Market Area	2010 Total GLA	% of Total	2000-2010 Change	% of Total
Airport/ Montbello	70,876,065	32.8%	9,558,365	77.6%
Boulder	17,911,011	8.3%	-73,389	-0.6%
Central	29,431,093	13.6%	-3,481,707	-28.3%
East	2,498,163	1.2%	-685,837	-5.6%
North	4,831,897	2.2%	2,686,297	21.8%
North Central	15,792,890	7.3%	1,882,990	15.3%
Northeast	10,514,026	4.9%	678,326	5.5%
Northwest	11,800,375	5.5%	-328,825	-2.7%
Southeast	16,512,425	7.6%	2,143,025	17.4%
Southwest	18,936,072	8.8%	-1,044,428	-8.5%
West	16,915,283	7.8%	987,283	8.0%
<b>Metro Total</b>	<b>216,019,300</b>	<b>100.0%</b>	<b>12,322,100</b>	<b>100.0%</b>

Source: Grubb and Ellis

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## Growth Forecasts

### Regional Growth Forecasts

The 2005 DRCOG forecasts estimated the population in the Denver Metro Area will grow by approximately 1.54 million people by 2035, which is an annual growth rate of 1.5 percent. Employment was estimated by DRCOG to grow by an annual rate of 1.6 percent, which is a total of approximately 965,000 jobs, as shown in **Table 10**.

**Table 10**  
**DRCOG Population, Household and Employment Forecasts, 2005-2035**  
**REAP I-70 Corridor Economic Assessment**

	2005	2015	2020	2030	2035	Change 2005-2035		
						Total #	Ann. #	Ann. %
<b>Metro Area Population</b>								
<b>Total</b>	2,658,767	3,065,822	3,334,337	3,873,909	4,197,007	1,538,240	51,275	1.5%
<b>Metro Area Households</b>								
<b>Total</b>	1,040,314	1,222,573	1,329,235	1,564,757	1,729,849	689,535	22,985	1.7%
<b>Metro Area Employment</b>								
<b>Total</b>	1,552,428	1,950,828	2,107,037	2,356,995	2,517,332	964,904	32,163	1.6%

Source: DRCOG; Economic & Planning Systems

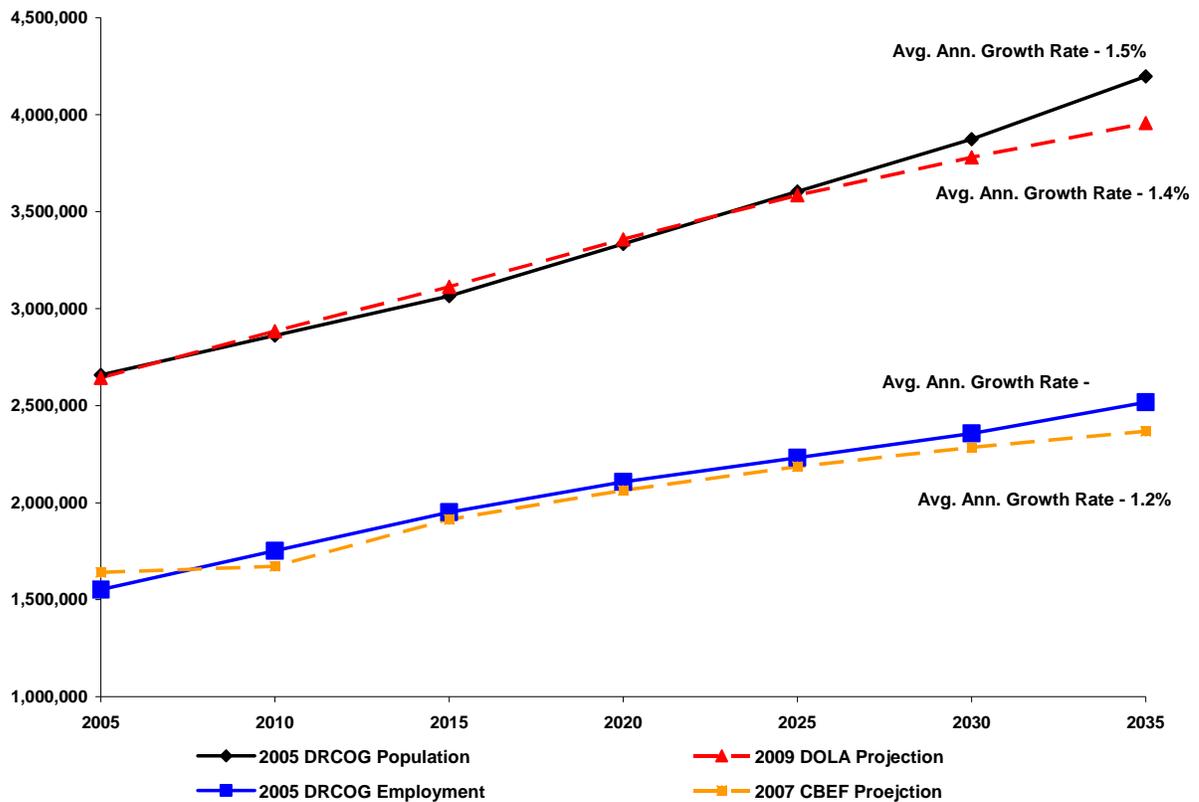
H:\20856-Denver-Boulder US-36 HOT Lane Analysis\Data[E-470\_Update-Forecast.xls]1. DRCOG

More recent projections for population and employment have been created for the Denver Metro Area since the 2005 DRCOG forecast was made available. The Colorado Department of Local Affairs (DOLA) releases annual updates to its projection for population growth by county. The most recent update was completed in October of 2009. The 2009 DOLA updated projection estimated metro area population to grow by 1.4 percent annually between 2005 and 2035. The 2009 DOLA projection forecasts approximately 226,000 fewer people than the 2005 DRCOG projection.

In 2007, the Center for Business and Economic Forecasting (CBEF) released its most recent projections for employment growth in the Denver Metro Area. CBEF projected that Denver will experience an increase of 726,000 jobs between 2005 and 2035, which is an annual increase of 1.2 percent. The CBEF projection estimates approximately 240,000 fewer new jobs in the metro area during this period than the DRCOG projection.

In **Figure 5**, population and employment growth estimates are shown for all three forecasts. The DOLA projection is similar to the DRCOG forecast for population growth, except for a lower rate of growth between 2020 and 2035. The current DOLA forecast estimates population to increase by 1.1 percent annually between 2020 and 2035, while the 2005 DRCOG estimates growth at a rate of 1.5 percent annually. The CBEF forecast for jobs is lower than the DRCOG estimate during all periods between 2005 and 2035. The current CBEF forecast factored the impact of the current recession into its projections, which is reflected in the small amount of job growth estimated to occur between 2005 and 2010.

**Figure 5**  
**Denver Metro Area Population and Employment Forecasts**  
 REAP I-70 Corridor Economic Assessment



The methodology used for this study calibrates long-term growth projections with actual growth rates from the recent past. Adjusting the DRCOG forecasts to include the actual population and employment growth in the metro area has a significant effect on total population and employment in the region in 2035. Using the adjusted growth between 2005 and 2010 establishes a new, lower bar for 2010 and more accurately forecasts growth for the metro area by 2035, as shown in **Table 11**.

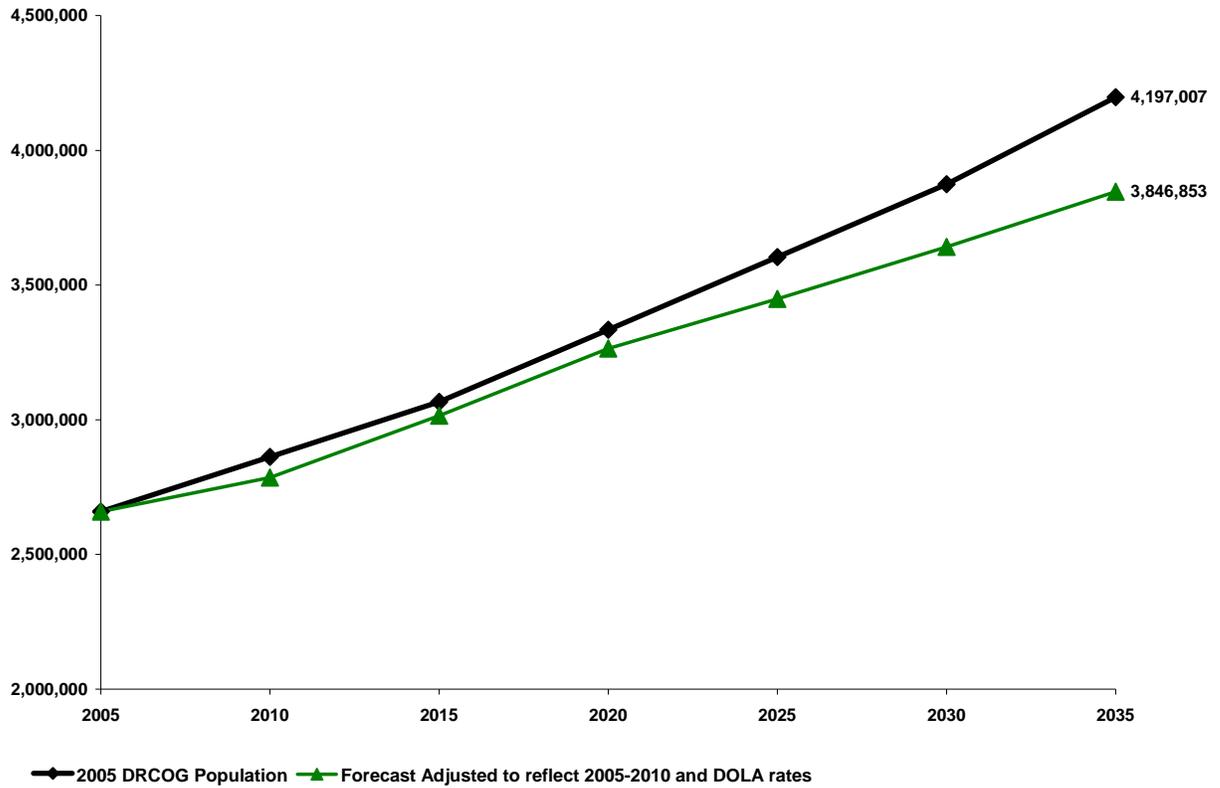
**Table 11**  
**Denver Metro Area Adjusted Population and Employment Forecasts, 2005-2035**  
**REAP I-70 Corridor Economic Assessment**

Forecast	2005	2010	2020	2035	Change 2005-2035		
					Total #	Ann. #	Ann. %
<b>Population</b>							
2005 DRCOG Population	2,658,767	2,862,295	3,334,337	4,197,007	1,538,240	51,275	1.5%
Forecast Adjusted to reflect 2005-2010 and DOLA rates	2,658,767	2,785,487	3,264,662	3,846,853	1,188,086	39,603	1.2%
Difference #	0	-76,808	-69,675	-350,154	-350,154	-11,672	
Difference %	0.0%	-2.7%	-2.1%	-8.3%	-22.8%		
<b>Employment</b>							
2005 DRCOG Employment	1,552,428	1,751,628	2,107,037	2,517,332	964,904	32,163	1.6%
Forecast Adjusted to reflect 2005-2010 and CBEF rates	1,552,428	1,582,288	1,836,310	2,100,456	548,028	18,268	1.0%
Difference #	0	-169,340	-270,727	-416,876	-416,876	-13,896	
Difference %	0.0%	-9.7%	-12.8%	-16.6%	-43.2%		

Source: DRCOG, Colo. Dept. of Local Affairs, CBEF, Economic & Planning Systems  
 H:\20856-Denver-Boulder US-36 HOT Lane Analysis\Data\E-470\_Update-Forecast.xls]7. Revised projections

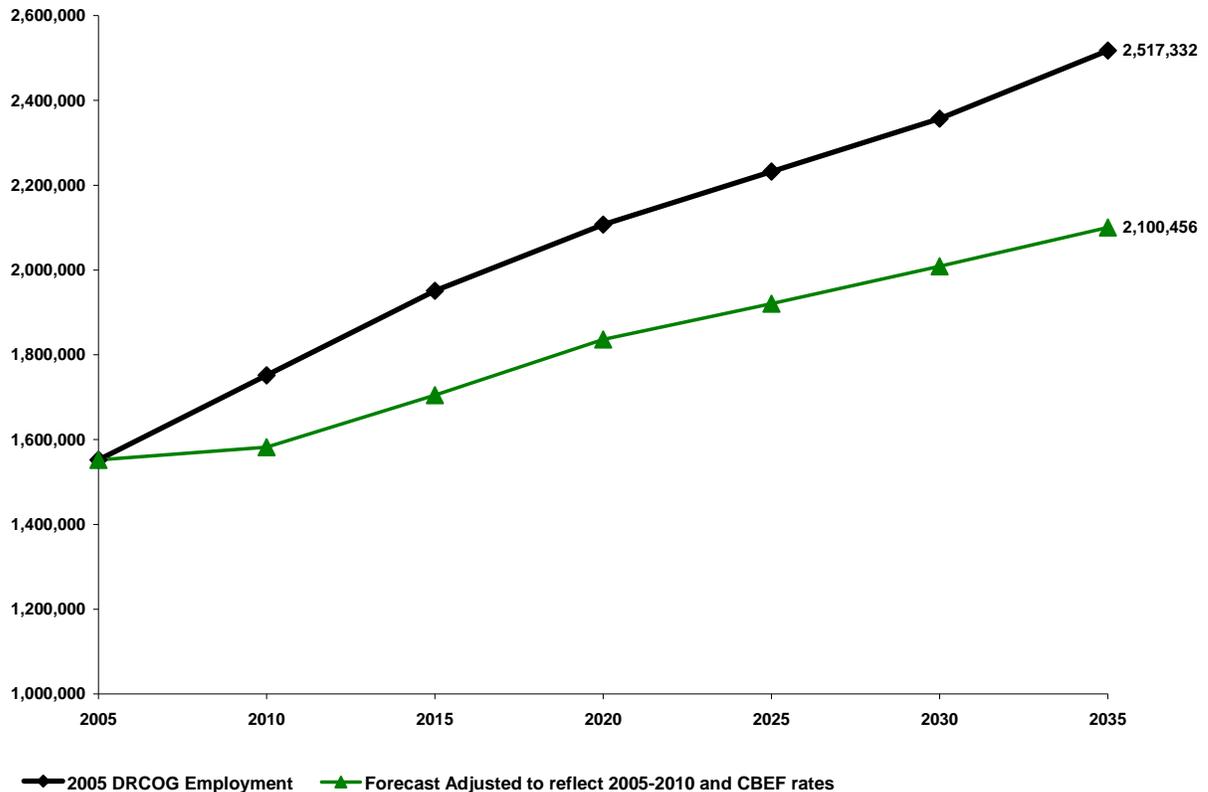
**Figure 6** shows the estimated population growth for the Denver Metro Area by 2035 using the DRCOG projection, the DOLA projection accounting for actual growth between 2005 and 2010, and DOLA estimated growth rates for population between 2010 and 2035. The adjusted projection using DOLA growth rates estimates 7.8 percent fewer total people by 2035 than the original DRCOG forecast.

**Figure 6**  
**Denver Metro Area Adjusted Population Forecasts**  
**REAP I-70 Corridor Economic Assessment**



**Figure 7** shows estimated employment growth for the Denver Metro Area by 2035 using the DRCOG projection and a projection using actual growth between 2005 and 2010 and the CBEF estimated growth rates for employment between 2010 and 2035. The adjusted projection using CBEF growth rates estimates 16.1 percent fewer total jobs by 2035 than the original DRCOG forecast.

**Figure 7**  
**Denver Metro Area Adjusted Employment Forecasts**  
**REAP I-70 Corridor Economic Assessment**



The impact of the recent recession and the recalibration of growth rates have had an impact on all areas of metro Denver. More recent projections estimate slower growth rates and major losses in employment during the recession, lowering projected employment growth by 400,000 jobs and population growth by 300,000 people. It is likely the decrease in estimated growth in DRCOG’s next set of estimates for population and employment will be significant and impact the undeveloped areas on the edge of the metro area. DRCOG’s allocation of growth to the Study Corridor could decrease significantly.

**Study Corridor DRCOG Forecast**

The 2005 DRCOG estimate for growth in the Traffic Analysis Zones in the Study Corridor estimated an increase of 45,300 people from 2009 to 2030 and the addition of 7,360 jobs during the same period, as shown in **Table 12**. This projection estimates the vast majority of the development in the Study Corridor will be residential.

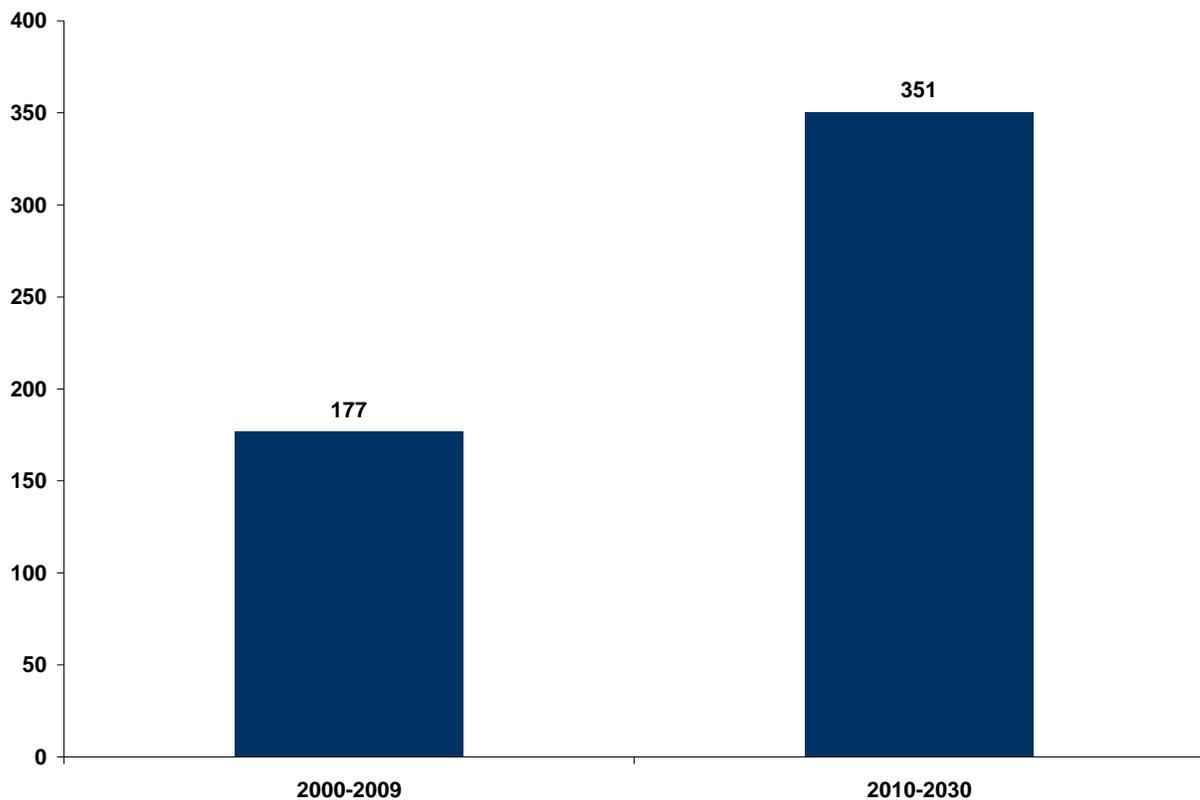
**Table 12**  
**I-70 Corridor Household Forecast, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Description	Historic		Forecast			Change 2009-2030		
	2000	2009	2009	2020	2030	Total #	Ann. #	Ann. %
<b>Study Corridor</b>								
Population	9,246	10,701	10,701	25,464	56,001	45,300	2,157	8.2%
Households	3,275	3,759	3,759	9,221	20,850	17,091	814	8.5%
Pop./HH Ratio	2.82	2.85	2.85	2.76	2.69			
Employment	1,439	3,342	3,342	6,148	10,703	7,362	351	5.7%

Source: Claritas, DRCOG, Economic & Planning Systems  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Study\_Area\_TAZ.xls]THE FORECAST

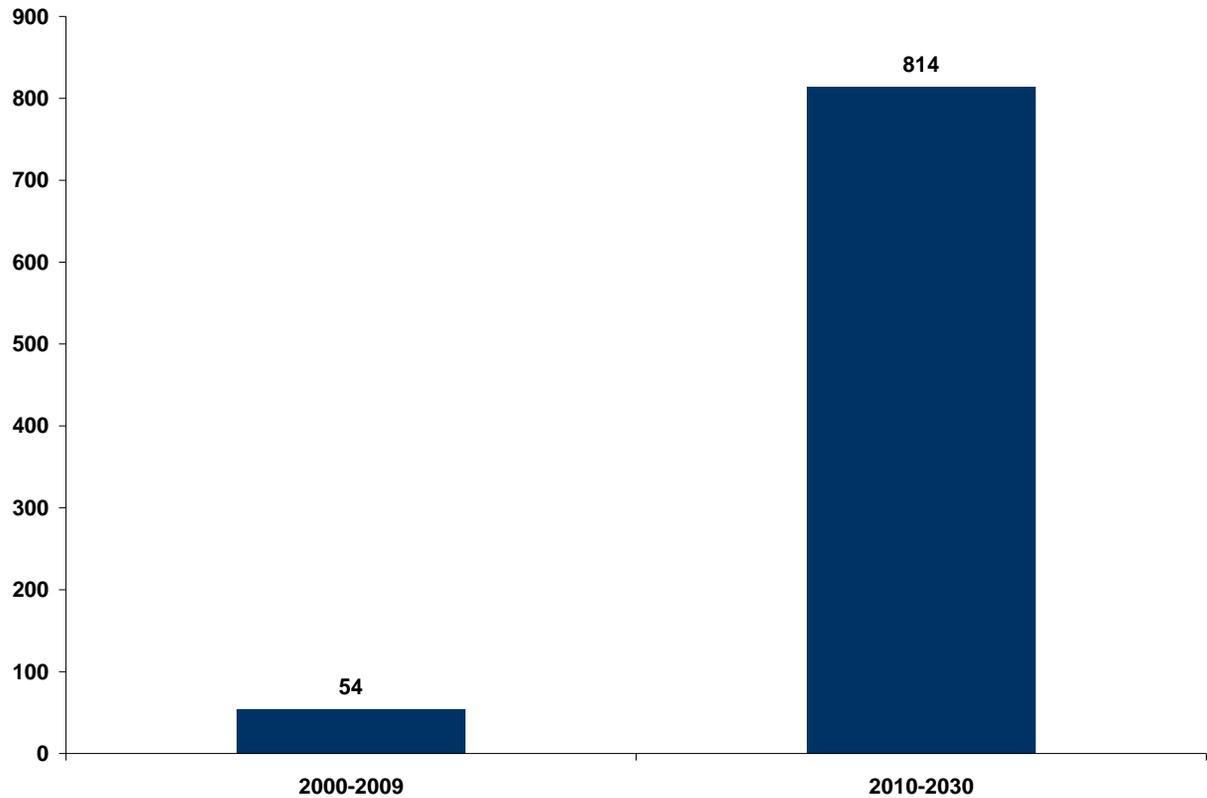
The estimated employment growth rate in the Study Corridor from 2010 to 2030 is less than experienced between 2001 and 2009. However, with a larger total base of employment, the projected 5.7 percent increase represents a substantial increase in the number of jobs. Between 2001 and 2009, employment increased by 177 jobs annually in the Study Corridor. It is estimated that between 2010 and 2030 the Study Corridor will increase in employment by approximately 350 jobs annually, as shown in **Figure 8**.

**Figure 8**  
**Study Corridor Annual Increase in Employment**  
**REAP I-70 Corridor Economic Assessment**



The estimated increase in population and households in the Study Corridor from 2010 to 2030 is large and will have dramatic effect on the communities in this area. Between 2000 and 2009, the Study Corridor increased by approximately 50 households annually. In the next 20 years, it is estimated that this number will jump to 800 households per year, as shown in **Figure 9**.

**Figure 9**  
**Study Corridor Annual Increase in Households**  
**REAP I-70 Corridor Economic Assessment**



The impact of the current economic recession is not reflected in the growth projections for the Study Corridor. There will likely be a significant reduction in population and employment growth forecasted by DRCOG when its new forecasts are released. Based on the analysis of the impact of the recession on the Denver Metro Area, shown in **Table 11**, the Study Corridor forecast was reduced by the same amount as the metro area projection reduction. Population forecasts for the metro area are estimated to be 8.3 percent lower than the DRCOG forecast and the forecasted employment totals are estimated to be 16.6 percent lower. Therefore, the DRCOG estimates for Study Corridor population and employment 2030 totals have been reduced by the same percentage to reflect the recession and are shown in **Table 13**.

**Table 13**  
**Adjusted I-70 Corridor Household Forecast, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Description	Historic		Forecast			Change 2009-2030		
	2000	2009	2009	2020	2030	Total #	Ann. #	Ann. %
<b>Adjusted Study Corridor Projection</b>								
Original Population	9,246	10,701	10,701	25,464	56,001	45,300	2,157	8.2%
Adjusted Population	9,246	10,701	10,701	24,929	51,353	40,652	1,936	7.8%
Percent Reduction			0%	2.1%	8.3%	10.3%		
Original Households	3,275	3,759	3,759	9,221	20,850	17,091	814	8.5%
Adjusted Households	3,275	3,759	3,759	9,028	19,119	15,360	731	8.1%
Percent Reduction			0%	2.1%	8.3%	10.1%		
Original Employment	1,439	3,342	3,342	6,148	10,703	7,362	351	5.7%
Adjusted Employment	1,439	3,342	3,342	5,361	8,927	5,585	266	4.8%
Percent Reduction			0%	12.8%	16.6%	24.1%		

Source: Claritas, DRCOG, Economic & Planning Systems  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Study\_Area\_TAZ.xls]THE FORECAST

The projections for population, household, and employment by county, shown in **Table 14**, are based on the projections created for the Traffic Analysis Zones (TAZ) within the Study Corridor. These estimates are made by DRCOG based on projections of transportation demand. The specific location of growth within one TAZ or several TAZ is difficult to project. The estimates of population or households or employment within the Study Corridor should be considered at an aggregate level, and the splitting of the estimates by county does not accurately estimate where growth in the corridor will occur and could be misleading. Projections for the Study Corridor are not broken down by community or area because it creates false precision to estimate at this small of a geographical area, especially for a semi-rural area such as this corridor.

**Table 14**  
**Adjusted I-70 Corridor Household Forecast, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Description	Forecast			Change 2009-2030		
	2009	2020	2030	Total #	Ann. #	Ann. %
<b>Adjusted Study Corridor Projection</b>						
Adams County	6,421	10,720	20,028	13,607	648	5.6%
Arapahoe County	<u>4,280</u>	<u>14,210</u>	<u>31,325</u>	<u>27,045</u>	<u>1,288</u>	<u>9.9%</u>
<b>Adjusted Population</b>	10,701	24,929	51,353	40,652	1,936	7.8%
<b>Adjusted Households</b>						
Adams County	2,255	3,882	7,456	5,201	248	5.9%
Arapahoe County	<u>1,504</u>	<u>5,146</u>	<u>11,663</u>	<u>10,159</u>	<u>484</u>	<u>10.2%</u>
<b>Adjusted Households</b>	3,759	9,028	19,119	15,360	731	8.1%
<b>Adjusted Employment</b>						
Adams County	1,654	3,472	6,681	5,027	239	6.9%
Arapahoe County	<u>1,687</u>	<u>1,889</u>	<u>2,246</u>	<u>559</u>	<u>27</u>	<u>1.4%</u>
<b>Adjusted Employment</b>	3,342	5,361	8,927	5,585	266	4.8%

Source: Claritas, DRCOG, Economic & Planning Systems  
 H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Study\_Area\_TAZ.xls]THE FORECAST By County

## Land Demand Forecast

Using the adjusted DRCOG projections for employment and population growth for the Study Corridor, the estimated demand for land available for development can be calculated. The increase in employment and households is translated into the demand for developed square feet by land use and then converted to the demand for land (acres). The number of jobs by land use was estimated using current employment totals by three digit NAICS categories. The current distribution of jobs by land use in the Study Corridor is 25 percent office, 28 percent industrial, 17 percent retail, 20 percent public (government and health care jobs), and 11 percent other. These percentages of jobs by land use are used to estimate current and future demand for building floor area for office and industrial uses.

### Industrial Land Demand Forecast

Industrial land demand for the Study Corridor is projected using estimated employment growth rates for the area. The Study Corridor is estimated to increase by 5,600 jobs in the next 20 years. Using the current share of industrial employment within the Study Corridor has (28 percent) the amount of new industrial jobs in the Corridor by 2030 is calculated as 1,557, as shown in **Table 15**. Using a standard factor of 750 square feet of building space per industrial job, the estimated demand for industrial space is 1.17 million square feet.

**Table 15**  
**Study Corridor Industrial Space Demand, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

<b>Industrial</b>	<b>2009</b>	<b>2020</b>	<b>2030</b>	<b>2009-2030</b>
Employment	3,342	5,361	8,927	5,585
% Industrial	28%	28%	28%	28%
Industrial Employment	932	1,495	2,488	1,557
Industrial Ratio	750	750	750	750
<b>Industrial Sq. Ft.</b>	<b>698,626</b>	<b>1,120,950</b>	<b>1,866,319</b>	<b>1,167,692</b>

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\[19903-Commercial-Industrial Land Demand.xls]Indust SF

The estimated 1.17 million square feet of industrial square feet has a typical floor area ratio of 0.15. When applied to the estimated total square feet of industrial floor area, the land demand is 7.78 million, or 179 acres. A planning factor of 1.5 times demand is applied to the estimated number to account for flexibilities to produce an estimated 268 acres of industrial land that will be required to meet industrial development demand by 2030, as shown in **Table 16**.

**Table 16**  
**Study Corridor Industrial Land Demand, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

<b>Industrial Land Demand</b>	<b>2009</b>	<b>2020</b>	<b>2030</b>	<b>2009-2030</b>
<b>Industrial Sq. Ft.</b>	<b>698,626</b>	<b>1,120,950</b>	<b>1,866,319</b>	<b>1,167,692</b>
Industrial FAR <sup>1</sup>	0.15	0.15	0.15	0.15
<b>Industrial Land (Sq. Ft.)</b>	<b>4,657,510</b>	<b>7,473,002</b>	<b>12,442,125</b>	<b>7,784,615</b>
<b>Industrial Land (Acres)</b>	<b>107</b>	<b>172</b>	<b>286</b>	<b>179</b>
Planning Factor	1.5	1.5	1.5	
<b>Gross Land (Acres)</b>	<b>160</b>	<b>257</b>	<b>428</b>	<b>268</b>

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-Commercial-Industrial Land Demand.xls\Indust Land

## Commercial Land Demand Forecast

### Office Land Demand

The demand for office space in the Study Corridor is projected using employment growth estimates in the area. The Study area is estimated to increase by 5,600 jobs in the next 20 years. Based on the current share of office employment the Study Corridor, which is 25 percent, the estimated new office jobs in the Corridor would be 1,372, as shown in **Table 17**. Using an average factor of 400 square feet of building space per office job, the estimated demand for office space is 549,000 square feet, as shown in **Table 17**.

**Table 17**  
**Study Corridor Office Space Demand, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Office	2009	2020	2030	2009-2030
Employment	3,342	5,361	8,927	5,585
% Office	25%	25%	25%	25%
Office Employment	821	1,317	2,192	1,372
Office Ratio	400	400	400	400
<b>Office Sq. Ft.</b>	<b>328,267</b>	<b>526,706</b>	<b>876,936</b>	<b>548,669</b>

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-Commercial-Industrial Land Demand.xls

The estimated demand of 549,000 square feet of office space has a typical floor area ratio of 0.20 applied to it to estimate total square feet of office land in demand, which is 2.7 million, or 63 acres. A planning factor of 1.5 is applied to the demand number to produce an estimated 94 acres of industrial land that will be required to meet industrial development demand by 2030, as shown in **Table 18**.

**Table 18**  
**Study Corridor Office Land Demand, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Office Land Demand	2009	2020	2030	2009-2030
<b>Office Sq. Ft.</b>	<b>328,267</b>	<b>526,706</b>	<b>876,936</b>	<b>548,669</b>
Office FAR <sup>1</sup>	0.2	0.2	0.2	0.2
<b>Office Land (Sq. Ft.)</b>	<b>1,641,335</b>	<b>2,633,532</b>	<b>4,384,682</b>	<b>2,743,347</b>
<b>Office Land (Acres)</b>	<b>38</b>	<b>60</b>	<b>101</b>	<b>63</b>
Planning Factor	1.5	1.5	1.5	
<b>Gross Land (Acres)</b>	<b>57</b>	<b>91</b>	<b>151</b>	<b>94</b>

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-Commercial-Industrial Land Demand.xls\Office Land

**Retail Land Demand**

Land demand for retail development is calculated by estimating the increase of retail spending attributed from new households in the Study Corridor. The following land demand estimate for retail uses assumes that Study Corridor stores will capture 100 percent of the retail demand from new residents within the Study Corridor. The Study Corridor is estimated to grow by 15,360 households by 2030, which represents an increase of \$998 million in total personal income (TPI) for Study Corridor households, as shown in **Table 19**.

**Table 19**  
**Study Corridor Total Personal Income, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Place	2009	2030	2009-2030 Change	
			Total	Annual %
<b>Study Corridor</b>				
Households	3,759	19,119	15,360	8.1%
Average HH Income	\$64,355	\$64,355		
<b>Estimated TPI (\$000's)</b>	<b>\$241,910</b>	<b>\$1,230,406</b>	<b>\$988,496</b>	

Source: Claritas; Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-TPI&Sales.xls]TPI (2)

The percent of household income spent by retail store category is used to estimate the amount of money anticipated to be spent in retail stores by Study Corridor households. On average, 32.1 percent of TPI is spent in retail stores, distributed by store categories, as shown in **Table 20**. The Study Corridor is estimated to have an increase of retail spending of \$317 million between 2009 and 2030, as shown.

**Table 20**  
**Study Corridor Retail Expenditure Potential, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Store Type	Pct. Of TPI	2009 (\$000s)	2030 (\$000s)
<b>Total Personal Income</b>	<b>100.0%</b>	<b>\$241,910</b>	<b>\$1,230,406</b>
<b>Convenience Goods</b>			
Supermarkets / Grocery	6.2%	14,998	76,285
Convenience Stores	0.1%	242	1,230
Beer, Wine, & Liquor Stores	0.8%	1,935	9,843
Health and Personal Care	<u>1.4%</u>	<u>3,387</u>	<u>17,226</u>
<b>Subtotal</b>	<b>8.5%</b>	<b>20,562</b>	<b>104,585</b>
<b>Shopper's Goods</b>			
General Merchandise	6.6%	15,966	81,207
Clothing & Accessories	2.1%	5,080	25,839
Furniture, Furnishings, & Appliances	2.9%	7,015	35,682
Miscellaneous Retail <sup>1</sup>	<u>3.0%</u>	<u>7,257</u>	<u>36,912</u>
<b>Subtotal</b>	<b>14.6%</b>	<b>35,319</b>	<b>179,639</b>
<b>Eating and Drinking</b>	<b>5.2%</b>	<b>12,579</b>	<b>63,981</b>
<b>Building Material &amp; Garden</b>	<b>3.8%</b>	<b>9,193</b>	<b>46,755</b>
<b>Total Retail Goods</b>	<b>32.1%</b>	<b>\$77,653</b>	<b>\$394,960</b>

<sup>1</sup> Includes Electronics, Sporting Goods, Hobby Supplies, Books and Music

Source: 2002 Census of Retail Trade; Claritas; Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-TPI&Sales.xls]Expend (2)

Applying average sales per square foot totals for different store categories, the retail spending by Study Corridor households can be translated into an estimated demand for retail space. It is estimated that new households in the Study Corridor will produce the demand for 1.05 million square feet of new retail space by 2030, as shown in **Table 21**.

**Table 21**  
**Retail Land Demand for the Study Corridor, 2009-2030**  
 REAP I-70 Corridor Economic Assessment

Store Type	\$/SF	2009	2030	Net New
<b>Convenience Goods</b>				
Supermarkets / Grocery	\$400	37,000	191,000	154,000
Convenience Stores	\$350	1,000	4,000	3,000
Beer, Wine, & Liquor Stores	\$250	8,000	39,000	31,000
Health and Personal Care	\$250	<u>14,000</u>	<u>69,000</u>	<u>55,000</u>
<b>Total Convenience Goods</b>		<b>60,000</b>	<b>303,000</b>	<b>243,000</b>
<b>Shopper's Goods</b>				
General Merchandise	\$300	53,000	271,000	218,000
Clothing & Accessories	\$350	15,000	74,000	59,000
Furniture, Furnishings, & Appliances	\$250	28,000	143,000	115,000
Miscellaneous Retail <sup>1</sup>	\$250	29,000	148,000	119,000
<b>Total Shopper's Goods</b>		<b>125,000</b>	<b>636,000</b>	<b>511,000</b>
<b>Eating and Drinking</b>	<b>\$300</b>	<b>42,000</b>	<b>213,000</b>	<b>171,000</b>
<b>Building Material &amp; Garden</b>	<b>\$300</b>	<b>31,000</b>	<b>156,000</b>	<b>125,000</b>
<b>Total Retail Goods</b>		<b>258,000</b>	<b>1,308,000</b>	<b>1,050,000</b>

<sup>1</sup> Includes Electronics, Sporting Goods, Hobby Supplies, Books and Music

Source: 2002 Census of Retail Trade; Claritas; Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-TPI&Sales.xls\Supportable SqFt (2)

Factoring total retail square feet in demand in the Study Corridor by using average FARs by store category produces a net new demand for land. Applying a planning factor of 1.5 produces a total demand of land for retail development of 174 acres, as shown in **Table 22**.

**Table 22**  
**Retail Land Demand for the Study Corridor, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Store Type	Net New Sq. Ft.	FAR	Net New Acres	Planning Factor	Gross Acres
<b>Convenience Goods</b>					
Supermarkets / Grocery	154,000	0.2	18	1.5	27
Convenience Stores	3,000	0.2	0	1.5	1
Beer, Wine, & Liquor Stores	31,000	0.2	4	1.5	5
Health and Personal Care	55,000	0.2	6	1.5	9
<b>Total Convenience Goods</b>	<b>243,000</b>		<b>28</b>		<b>42</b>
<b>Shopper's Goods</b>					
General Merchandise	218,000	0.2	33	1.5	50
Clothing & Accessories	59,000	0.3	5	1.5	7
Furniture, Furnishings, & Appliances	115,000	0.3	9	1.5	13
Miscellaneous Retail <sup>1</sup>	119,000	0.3	9	1.5	14
<b>Total Shopper's Goods</b>	<b>511,000</b>	<b>0.3</b>	<b>56</b>		<b>84</b>
<b>Eating and Drinking</b>	<b>171,000</b>	<b>0.3</b>	<b>13</b>	<b>1.5</b>	<b>20</b>
<b>Building Material &amp; Garden</b>	<b>125,000</b>	<b>0.2</b>	<b>19</b>	<b>1.5</b>	<b>29</b>
<b>Total Retail Goods</b>	<b>1,050,000</b>	<b>0.2</b>	<b>116</b>	<b>1.5</b>	<b>174</b>

<sup>1</sup> Includes Electronics, Sporting Goods, Hobby Supplies, Books and Music

Source: 2002 Census of Retail Trade; Claritas; Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\19903-TPI&Sales.xls\Supportable Acres (3)

## Residential Land Demand Forecast

As shown in the retail land demand analysis, the Study Corridor is estimated to increase by 15,360 households by 2030. Factoring in an average vacancy of households of 5 percent, the estimated demand for housing units in the Study Corridor is 16,168, as shown in **Table 23**.

**Table 23**  
**Study Corridor Household and Housing Unit Growth, 2009-2030**  
 REAP I-70 Corridor Economic Assessment

Description	Factor	2009	2020	2030	Change 2009-2030	
					Total #	Ann. #
<b>Study Corridor</b>						
Households		3,759	9,028	19,119	15,360	731
Housing Units	5% Vacancy	3,957	9,503	20,125	16,168	770

Source: DRCOG, Economic & Planning Systems

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The estimated 16,168 housing units are allocated by the density of residential development estimated to occur in the area based on historic trends and the growth areas in the Study Corridor. Based on DRCOG's definition of residential development, the amount of new housing units is split between rural, semi-rural, semi-urban and urban development densities. Rural development is defined as one dwelling unit on 35 acres or more of land. Semi-rural is defined as one dwelling unit per 10 to 34.9 acres. Semi-urban is defined as one unit per 1 to 9.9 acres of land. Lastly, urban development is defined as more than one unit per acre. The urban density housing units are split between low density, single family developments (1 DU per acre), medium density, single family development (5 DUs per acre), and multifamily and single family attached development (10 DUs per acre), as shown in **Table 24**.

Applying this distribution by development density allows for the calculation of estimated acres needed to accommodate new housing units. The estimated land demand for residential development in the Study Corridor by 2030 is 18,444 acres, with 5,900 of these acres expected to be needed for urban residential development. Once a planning factor of 1.25 is applied to the urban residential demand, the total demand for residential land is 19,923 acres, with 7,392 acres for urban residential development, as shown in **Table 25**.

The 5 percent of homes allocated for rural development will consume a large portion of the land, estimated at 12,500 acres, as shown in **Table 26**. The overwhelming majority of new homes (estimated at 95 percent) are expected to be in the urban category. The urban housing units are estimated to be 25 percent low density (average of one unit per acre), 60 percent medium density (average of five units per acre), and 15 percent multifamily/attached (average of 10 units per acre), which is consistent with historic development trends at the urban fringe. The remaining 5 percent of development (800 units) is expected to continue to be developed at rural densities.

**Table 24**  
**Residential Land Demand in the Study Corridor, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Housing Types	Factor	2009-2020	2021-2030	Change 2009-2030	
				Total #	Ann. #
<b>New Housing Demand</b>					
New Housing Units		5,546	10,622	16,168	770
<u>Units by Density</u>					
Rural	<b>1.5%</b>	83	159	243	12
Semi-Rural	<b>1.5%</b>	83	159	243	12
Semi-Urban	<b>2.0%</b>	111	212	323	15
Urban					
Low Density Single Family	<b>95%</b> 25%	1,317	2,523	3,840	183
Medium Density Single Family	60%	3,161	6,055	9,216	439
Multifamily/Attached	15%	790	1,514	2,304	110
<b>Total</b>	<b>100%</b>	<b>5,546</b>	<b>10,622</b>	<b>16,168</b>	<b>770</b>
<b>Land Absorption (Acres)</b>					
<u>Housing Type</u>	<u>Gross Density</u>				
Rural	<b>1 DU/35 Acres</b>	2,912	5,577	8,488	386
Semi-Rural	<b>1 DU/10 Acres</b>	832	1,593	2,425	110
Semi-Urban	<b>1 DU/5 Acres</b>	555	1,062	1,617	73
Urban					
Low Density Single Family	<b>1.0 DU/Acre</b>	1,317	2,523	3,840	175
Medium Density Single Family	<b>5.0 DU/Acre</b>	632	1,211	1,843	84
Multifamily/Attached	<b>10.0 DU/Acre</b>	79	151	230	10
<b>Total</b>		<b>6,327</b>	<b>12,117</b>	<b>18,444</b>	<b>838</b>

Source: Economic & Planning Systems

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**Table 25**  
**Residential Land Demand in the Study Corridor, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

Housing Types	Factor	2009-2020	2021-2030	Change 2009-2030	
				Total #	Ann. #
<b>Land Absorption (Acres)</b>					
<u>Housing Type</u>	<u>Gross Density</u>				
Rural	1 DU/35 Acres	2,912	5,577	8,488	386
Semi-Rural	1 DU/10 Acres	832	1,593	2,425	110
Semi-Urban	1 DU/5 Acres	555	1,062	1,617	73
Urban		2,028	3,885	5,914	269
Low Density Single Family	1 DU/Acre	1,317	2,523	3,840	175
Medium Density Single Family	5 DU/Acre	632	1,211	1,843	84
Multifamily/Attached	10 DU/Acre	79	151	230	10
<b>Total</b>		<b>6,327</b>	<b>12,117</b>	<b>18,444</b>	<b>838</b>
<b>Adjusted Land Absorption (Acres)</b>					
Housing Type					
Rural	1.00	2,912	5,577	8,488	386
Semi-Rural	1.00	832	1,593	2,425	110
Semi-Urban	1.00	555	1,062	1,617	73
Urban		2,536	4,856	7,392	320
Low Density Single Family	1.25	1,647	3,154	4,800	210
Medium Density Single Family	1.25	790	1,514	2,304	100
Multifamily/Attached	1.25	99	189	288	10
<b>Total</b>		<b>6,834</b>	<b>13,089</b>	<b>19,923</b>	<b>890</b>

Source: Economic & Planning Systems

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## Corridor Total Land Demand

The estimated demand for land to accommodate the projected urban development of household and employment growth in the Study Corridor is approximately 8,000 acres, as shown in **Table 26**, and the total demand for land to accommodate both urban development and rural residential development is 20,700 acres.

Rural residential development is estimated to need approximately 12,500 acres of land to accommodate an estimated 800 households over the next 20 years. The actual demand for rural residential development is difficult to estimate and the estimate created for this report is based on the current land use plans for the communities in the Study Corridor. Rural residential development does not require significant infrastructure improvements or changes in land use policy.

The urban development land demand is the more relevant aspect of this analysis. The demand for development at urban densities for residential, industrial and commercial space is 7,928 acres, of which 7,392 acres are needed for residential development. The urban development projected to occur in the Study Corridor requires changes in land use policies and major improvements in infrastructure to accommodate this development. The purpose of the land demand analysis is to aid in land use planning considerations for the Study Corridor in the future.

**Table 26**  
**Total Land Demand in the Study Corridor, 2009-2030**  
**REAP I-70 Corridor Economic Assessment**

	<b>Change 2009-2030</b>	
	<b>Total #</b>	<b>Ann. #</b>
<b>Land Use</b>		
Residential	19,923	890
Rural (Greater than 1 acre per DU)	12,531	570
Urban (Less than 1 acre per DU)	7,392	320
Commercial	268	13
Office	94	4
Retail	174	8
Industrial	268	13
<b>Urban Development Acres</b>	<b>7,928</b>	<b>346</b>
<b>Total Acres</b>	<b>20,727</b>	<b>1,817</b>

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Models\[19903-Summary of Land Demand.xls]5-Total Land

### 3. CORRIDOR CONDITIONS AND ASSETS

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There are three unique assets in the Study Corridor that impact growth opportunities: Denver International Airport, Front Range Airport, and Interstate 70. These assets can be economic drivers in the area, and the ability to properly leverage these assets will be paramount to attracting employment to the Study Corridor.

**Denver International Airport** – The Study Corridor’s proximity to this major airport provides communities within the corridor the opportunity leverage economic growth caused by the airport. The corridor’s commercial development sites need to be positioned to attract businesses that are related to the airport.

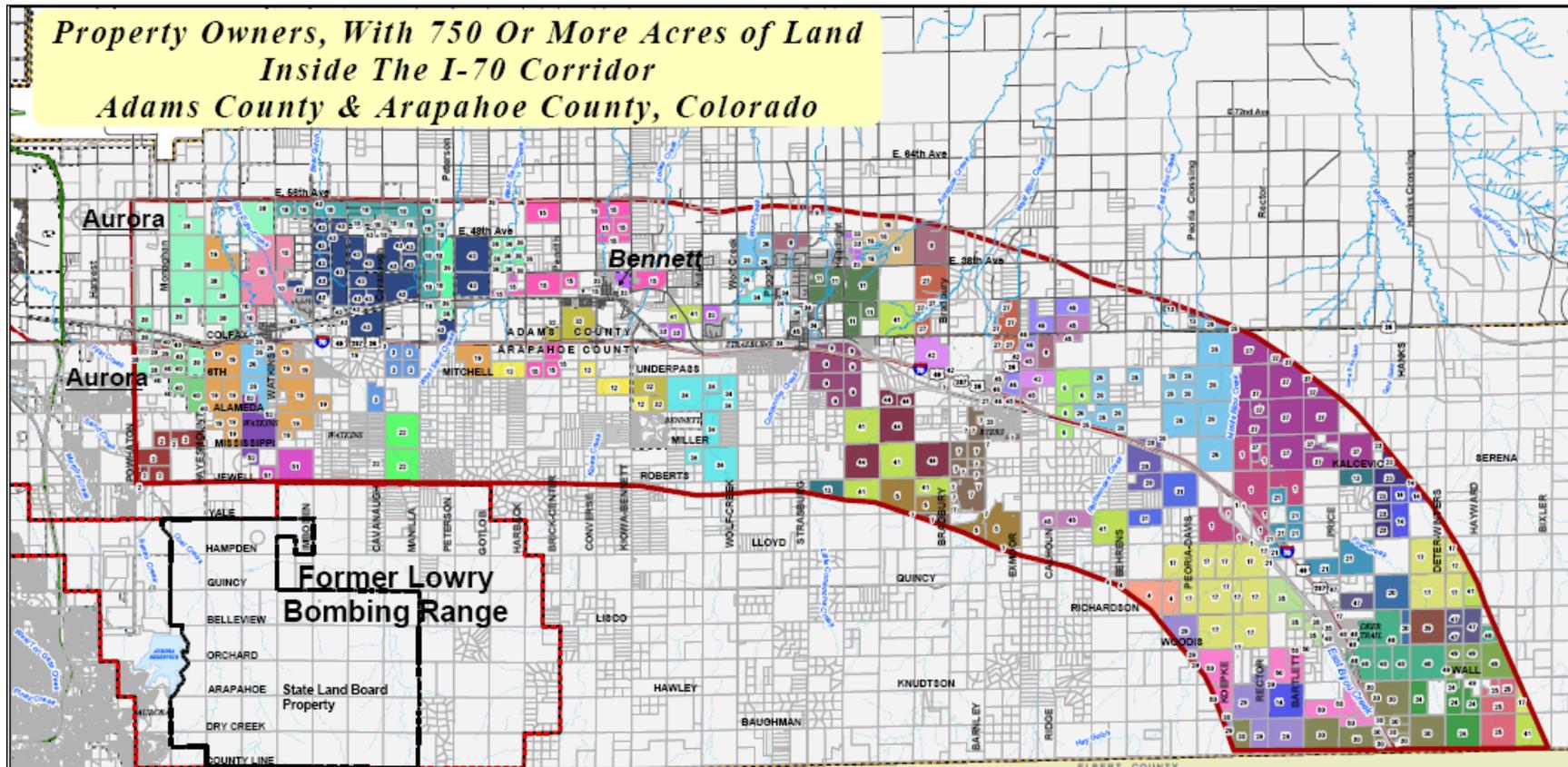
**Front Range Airport** – The Study Corridor’s position in the metro area makes it a prime area for transportation services. The proximity of Front Range Airport to Interstate 70 is a major asset. Front Range Airport has the infrastructure, amenities and the location necessary to attract development around it and businesses that use the airport. The airport is a major asset to the area but its potential has been under-utilized to this point.

**Interstate 70** – The majority of goods entering the Denver Metro Area by truck come to Denver via I-70. The eastern edge of the metro area has become the preferred location for distribution centers for area retailers. Growth in the metro area will produce an increased need for goods to be shipped to the metro area, which makes the interstate, and industrial areas along, it a major opportunity for the corridor to capture development related to the movement of goods.

#### Land Ownership Patterns

Land parcelization of ownership is often a challenge for economic development efforts. Finding sites large enough that can accommodate multiple types of uses is often difficult. This problem does not exist in the Study Corridor, which has several land owners with holdings of 750 acres or greater in size, as shown in **Figure 10**. The presence of these significant land holdings is a major factor in how the Study Corridor will develop. Large land holdings make it easier for large, master planned developments to be completed. While this major shift in land patterns can create policy challenges, Adams County, Arapahoe County and the Town of Bennett have planned to revisit and update comprehensive plans and codes in the near future to address these challenges.

Figure 10  
Study Corridor Property Owners with 750 or More Acres of Land  
REAP I-70 Corridor Economic Assessment



Many of these large land holdings are family farms that have been owned by the same family for a number of years. Some of these families have the desire to develop their land while others do not. An impactful trend in land ownership in the Study Corridor is the presence of speculative land owners with large pieces of land. Some large and notable land holders are shown in Table 27.

**Table 27**  
**Notable Land Holdings by Area**  
**REAP I-70 Corridor Economic Assessment**

<b>Area/Owner</b>	<b>Acres</b>
<b>Watkins</b>	
Transport	6,500
Furniture Row	5,000
Property Reserve Inc	4,300
Sky Ranch	950
<b>Bennett/Strasburg</b>	
Paul's Corporation	2,950
Double A Farms	2,700
Comanche Farms	1,700
Burchfield Farms	1,550
Muegge Farms	1,200
Converse Family	950
Kenneth Newby	800

Source: Arapahoe County; Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Land Holders.xls]Sheet1

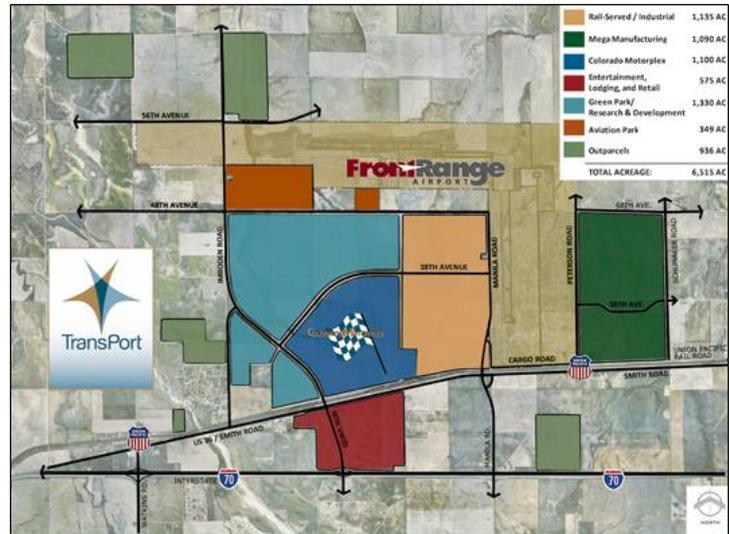
The Watkins area has four large land holdings surrounding Watkins that are owned by developers or speculative land owners. Few have immediate plans to develop and are waiting for market pressure to increase and for the presence of needed infrastructure to proceed. Barriers to immediate development include: the need to rezone land through County processes to allow for other uses or to annex into a local community; water and sewer infrastructure to serve the site; water rights or an agreement for water service; and the extension or creation of dry utilities to serve the site. Resolution to these barriers will be challenging for all landholders. The owners of the larger holdings have the benefit of economy of scale that may enable them to move forward sooner than others. A good set of regional solutions should ideally be set in place and thus allow landowners, regardless of scale, to move forward and at the same time contribute to regional infrastructure for land planning solutions.

## Major Development Projects

Major development projects that are planned in the Study Corridor are described below. The issues related to these projects are indicative of the problems that will face any future development projects under current conditions.

### Transport

Transport is a planned multi-model transportation hub, mixed use industrial and entertainment development located next to Front Range Airport. Uses planned for Transport include: an aviation park, manufacturing park, a rail to road transfer hub/distribution park, a motor-plex with supporting retail uses and light industrial space. Totalling 6,500 acres, the project is bounded by Front Range Airport on the north and east, I-70 on the south and Imboden Road on the west. Currently, all but 1,000 acres of the project have been annexed into the City of Aurora. The remaining 1,000 acres will likely be annexed into Aurora once development is ready to occur on the site. This project has several elements related to the different opportunities that may be present in the Study Corridor. The development prototypes planned at Transport are described below and are great examples of the type of development projects that could act as economic catalysts within the Study Corridor.



- **Rail-Served Industrial Park** – 1,135 acres of Transport are planned for a rail transit distribution park to capitalize on major Railway operators' preference for centralized rail to road transfer hubs for distribution. Transport currently has not completed an agreement with Union Pacific for a transfer hub to be built at Transport but is seeking an agreement. The proximity of Interstate 70, the rail line, and the location relative to the Denver Metro Area and major distribution centers makes this site (and any other site with these attributes) ideal for this type of park if an agreement can be reached with Union Pacific.
- **Aviation Park** – The Aviation Park planned at Transport is 350 acres. Transport has an "open fence" agreement which allows users in the Aviation Park to use Front Range Airport. This allows aviation related users to locate in the Transport Aviation Park and seamlessly use Front Range Airport runways. This sort of joint agreement between private developers and the publicly owned Front Range Airport should be encouraged. However, there currently seems to be a lack of an identified niche or specific use at the airport that would drive the development of aviation related uses and buildings at the Aviation Park.

A major issue facing Transport is the ability to provide water and sewer service to the site. Currently, Transport has an agreement with the City of Aurora for water and sewer service; however, existing utilities are several miles away. Extending water service to the site will be a costly endeavor and it is unclear who will pay to extend infrastructure. The Transport developer has a plan to use water wells and localized sewer treatment to serve any development that occurs on site before infrastructure is brought to the site. The lack of a renewable water source is an impediment to attracting major users to this project.

### Comanche Crossing Business Park

Comanche Crossing Business Park is a planned mixed use business and industrial park located just south of the community of Strasburg.

Phase I of Comanche Crossing is a 54-acre business park with uses including light industrial, medical office and retail. Phase I planned uses include a medical office campus, a hotel, 30,000 square feet of retail space, and 55,000 square feet of industrial manufacturing space. The project is planned to be served by well water from the Eastern Adams County Water and Sanitation District and has its own metro district for other infrastructure such as roads and dry utilities and may involve large-scale improvements. Subsequent phases of Comanche Crossing are also planned by the landowner.



### Sky Ranch

Sky Ranch is a 950-acre planned residential community in the southwestern portion of the Study Corridor. The development is not part of any incorporated Town or City. The original project developer filed for bankruptcy and the rights to the property and project were subsequently bought by Pure Cycle Corporation at the end of October 2010. The property holds zoning approval from Arapahoe County for up to 4,850 residential units and up to 1.35 million square feet of commercial and light industrial development. Pure Cycle plans to begin development of the site in 2011, with entry level housing being the main focus of the development. Pure Cycle will most likely try to find several area homebuilders to do that actual construction and it will be mostly involved in horizontal development of the project.

The important aspect of this project to the rest of the Study Corridor is how the development will be served with water. Sky Ranch developers had an agreement with the Rangeview Metro District/Pure Cycle Corporation to provide water service for this development. It is likely that Pure Cycle's purchase of this development is tied to its water plans in the area. This would be the first development project in the Study Corridor, not in the City of Aurora, served by an outside water provider with a renewable water source.

## Community Land Plans and Issues

Some of the communities within the Study Corridor have completed recent land use plans to guide development within them. A summary of the land plans created for these communities and the land use policy issues that face these communities is provided below.

### Adams County

The most recent comprehensive plan for Adams County was completed in January of 2004. Within the plan, 12 key goals for a better Adams County are outlined. Nine of these 12 goals have direct applicability to the efforts in the Study Corridor. These nine goals are: build a culture of collaboration; establish municipal growth areas; establish standards for determining appropriate locations for low-density residential development; ensure the concurrent provision of adequate public facilities; attract high-quality commercial growth and economic development; encourage the development of high quality housing; preserve the viability and character of existing agricultural areas; establish community separators; and guarantee water quantity and quality. Adams County has made substantial efforts to achieve these goals. The creation of a Transfer of Development Rights (TDR) system is a tool that helps address preserving agricultural areas and create development opportunities. The County has worked well with Arapahoe County and Study Corridor communities to adopt land use plans that are consistent. Participation in REAP's efforts is also key to aiding economic development in the County and Study Corridor.

Two of the goals shown above are essential to the success of the Study Corridor. These goals are 1) guaranteeing water quantity and quality, and 2) ensuring the concurrent provision of adequate public facilities. Adams County was active in working with REAP to try and create the opportunity to provide water to the Study Corridor when the Eastern Cherry Creek Valley water line was seeking approval from the County. These types of efforts must continue to achieve this goal. The provision of adequate public facilities for developments in the Study Corridor is a difficult task. The relatively small size of development projects that have been approved by the County in the Study Corridor makes it hard for regional public facilities efforts to be tied to development approvals. However, attracting high quality development may require public improvements, which might be hard to achieve on a project by project basis.

Adams County has a significant approval requirement for subdivisions related to water. The County requires applicants seeking subdivision approval to prove water rights and access for a 300 year water supply for the intended uses in the subdivision. This policy is aimed at conserving water in the area, for which all users in the Study Corridor use non-renewable groundwater aquifers. This policy helps restrict large scale development from occurring without supplying an adequate supply of water. Conversely, the requirement for subdivisions in Arapahoe County is a 100 year supply of water. Differing policy requirements between the two Counties may result in different development patterns in the Study Corridor.

### Arapahoe County

Arapahoe County updated its countywide comprehensive plan in 2001. Subsequent updates to certain subareas have been completed since 2001 for Strasburg and Byers. The 2001 Plan created policies that encourage the County to only allow urban growth within designated growth areas. Designated growth areas were established in the plan and development outside of these areas was limited to only large lot residential development (one dwelling unit per 10 acres in

areas south of Bennett and Strasburg, and one dwelling unit per 35 acres for areas east of Byers). The growth strategy for the Study Corridor communities was to encourage compact development only within the planned growth areas. The comprehensive plan advocated the creation of subarea plans for these rural communities to create specific land use policies for these communities. The plan encouraged joint planning with Adams County and communities such as the Town of Bennett to ensure consistency of land use policies.

The comprehensive plan also laid out several policies pertaining to the adequate public facilities and requiring these facilities to be built areas of growth. The County states in the comprehensive plan that non-tributary groundwater is not an adequate long-term water supply; therefore the plan advocates a policy of requiring water district service plans to require a 200-year supply with a 50 percent recovery factor to help preserve water until a renewable water source can be established. The County's land use regulations currently require a 100-year supply at time of subdivision approval. The comprehensive plan suggested making capital and capital maintenance investments in growth areas to support development and ensure adequate public facilities. The findings from this study are consistent with the direction of the comprehensive plan, as both recognize the need for capital investments and long term infrastructure solutions to facilitate growth.

A policy suggested in the comprehensive plan was to encourage growth in areas within the urban growth boundary. A strategy suggested to achieve this was the use of special districts to provide adequate infrastructure. Furthermore, suggestions made within the comprehensive plan included special districts as a way to provide infrastructure to areas lacking it. Having the County work with existing special districts to require adequate public facilities and define required levels of service standards is also suggested. The creation of new special districts in the eastern areas of the County was identified as an issue of concern and should be limited. A standard set of requirements and process was pointed out as need for addressing the creation of new special districts. As additional districts are created, or as existing districts are modified or expanded, the county should mandate requirements to work cooperatively on long-term regional infrastructure solutions.

### **Town of Bennett**

The Town of Bennett has been making major changes to its land use plan to address the expected growth in the area. The land use plan has large areas planned for commercial growth along I-70 and State Highway 79, which is planned to be realigned through Bennett. Industrial areas are also planned near I-70 and northeast of downtown along State Highway 79. The Town has also completed a trails master plan to increase connectivity in the Town. Changes to the zoning regulations in Downtown have been made to allow for more flexible redevelopment of parcels.

### **Byers**

The *Byers Subarea Plan* was completed in June 2003 and adopted by Arapahoe County as an element of its Comprehensive Plan. In 2007, a *Community Needs Assessment* was completed for Byers by Arapahoe County to evaluate the need to update the Subarea Plan. The Needs Assessment indicated that the 2003 subarea plan is still relevant today, despite some changes to the Byers area. Recent changes indicated that are impacting Byers include the creation of the

High Plains Raceway, the Lead Valley Gun Range built next to the raceway, and the possible rehab of the former "Dog Track" located near Byers along I-70. These area attractions are likely to increase visitors to the area, which is driving the need for services to meet visitors' needs. The need for a hotel has been expressed by community members and there are local business owners interested in creating a site for a hotel to locate. Attracting entertainment uses to the area has been a successful effort taken on by several community members. The High Plains Raceway and May Farms are two examples of successful efforts to create entertainment and recreation uses in the Study Corridor. The success of these projects has driven interest in developing similar attractions both in Byers and Strasburg, as well as the facilities, such as restaurants and hotels, needed to support them. The land use plan for Byers has land designated for such uses, but needs to be flexible enough to ensure these types of projects are accommodated. Byers has an Urban Growth Boundary/Area allocation within DRCOG's Metro Vision regional plan. This allocation allows for development at urban densities.

### **Strasburg**

The community of Strasburg is split between Adams and Arapahoe Counties with one-third of the community in Arapahoe County and two-thirds in Adams County. This split makes coordinated land planning essential to creating a consistent development environment. The *Strasburg Subarea Plan* was completed in May 2002 and adopted by both Arapahoe and Adams Counties as elements of their Comprehensive Plans. In 2009, a *Community Needs Assessment* was completed for Strasburg in a joint effort between Arapahoe and Adams Counties as a step to updating the Subarea Plan. The Needs Assessment indicated that the 2002 subarea plan is still relevant today, despite some changes to the Strasburg landscape. Recent changes indicated that are impacting Strasburg include recent residential development within the community, the approval of the Comanche Crossing Business Park, and the creation of the High Plains Raceway near Byers, which could attract visitors to Strasburg as well as Byers.

Strasburg has an Urban Growth Boundary/Area allocation within DRCOG's Metro Vision regional plan. This allocation allows for development at urban densities. Strasburg also has portions of its community designated as a TDR receiving area by Adams County. This designation means developments can increase the density of projects by using TDR rights from other parcels with designated sending areas in the County. Recent developments in Strasburg have taken advantage of the TDR program, including a recent housing development completed by the Paul's Corporation. The Urban Growth allocation and TDR program make Strasburg a more attractive place for development than other parts of Study Corridor that are restricted by land planning policies and issues. Recent residential development in Strasburg has been resisted by some members of the community who would rather see commercial development.

### **Deer Trail**

Deer Trail has a comprehensive plan and land use plan for the Town. The plans are adequate to accommodate growth within the incorporated town of Deer Trail.

## **Economic Development Efforts**

The organizations currently in economic development efforts within the Study Corridor are described below.

## **Adams County Economic Development**

Adams County Economic Development (ACED) is a nonprofit economic development agency serving Adams County. ACED's goal is to drive economic and business development in the region. Services it offers include: business attraction and retention; coordination of Enterprise Zones program in the County; marketing development locations; providing market demographic information; and other economic development efforts.

One of the major services ACED provides is the administration of the Enterprise Zones in Adams County. Enterprise zones are distressed areas that are being targeted for economic revitalization by providing tax incentives to businesses locating in the zone. State and Federal tax incentives supporting the location, expansion, and retention of businesses may include: Investment Tax Credit; Job Training Credit; New Jobs Credit; Health Insurance Credit; New Jobs-Agricultural Processing Credit; Research and Development Credit; Vacant Building Rehabilitation Credit; and Infrastructure Contributions.

Adams County enterprise zones in the Study Corridor are located along the north side of Highway 36 in Strasburg, large portions of Bennett north of I-70 and south of E 38<sup>th</sup> Avenue, and an area between Imboden Road and Petterson Road north of Colfax Avenue in the Watkins area.

Another service that ACED provides is a database of development ready sites. Development ready sites or "shovel ready" sites are parcels that have infrastructure and zoning approvals in place so the site can quickly be developed; these are more attractive to businesses, especially for smaller businesses/users. This database allows ACED to promote Adams County sites to prospective businesses looking to locate in the area and allows users to match up with sites that fit their needs. There are 23 sites profiled in the most recent posting dated September 2009.

## **I-70 Chamber of Commerce**

The I-70 Corridor Chamber of Commerce was formed in 1992 by the communities within the Study Corridor (Watkins, Bennett, Strasburg, Byers, and Deer Trail). The goal of the Chamber is to promote the planned growth and development of the communities while maintaining the quality of life within the area. The Chamber has created two taskforces to spearhead its efforts: the I-70 Regional Economic Advancement Partnership (REAP) and High Five Plains Foundation.

### ***I-70 Regional Economic Advancement Partnership (REAP)***

REAP was formed by the Chamber to assist developers and Study Corridor communities with business prospects. A primary goal of REAP is to attract employment opportunities compatible with the communities within the Study Corridor through the stimulation of private investment to increase opportunities for employment, expand the tax base, broaden the economy, and generally improve the quality of life of Study Corridor residents. REAP has been an active and leading member of the community and is the major driver to the economic efforts. REAP needs to be the leading authority in driving economic growth in the Study Corridor and needs to continue to serve as liaison between business owners, land owners, the communities, Arapahoe and Adams Counties and interested parties outside of the Study Corridor. REAP could serve as the face of economic development for the Study Corridor and should continue to work to market the communities to outside investors.

## Front Range Airport

Adams County's Front Range Airport is the only general aviation airport in the Denver Metro Area without major nearby residential areas. The Airport is 3,989 acres in size and is the largest general aviation airport in the area. Front Range Airport is located in a unique location being close to Denver International Airport, along I-70 and adjacent to major rail lines. The Airport is controlled by a five-member Airport Authority, which includes the three County Commissioners. The Airport has modern facilities and has the ability to accommodate large private jets and cargo aircrafts. Front Range Airport is the only airport in the Denver Metro Area located in an enterprise zone. The Airport is also in an Aviation Development Zone. This designation makes aviation manufacturing businesses located within the zone eligible for state income tax credits of \$1,200 per new employee. A major study on the airport's potential was completed in 1997, which suggested the airport enable its facilities to accommodate large aircrafts. The planned Transport project also creates development sites with "through the fence" access to the airport to businesses that locate at Transport.

Adams County has invested in facilities at Front Range Airport to make it the economic engine for the region. Despite this investment and the neighboring development sites, the airport still has not capitalized fully on its assets and its full potential to create jobs in the region. Traffic at the airport is down and this has impacted the airport's revenue. In 2009, Front Range Airport was operating at only 25 percent of its airfield capacity where other similar airports in the region operate at over 50 percent of capacity.

A *Front Range Airport Development Strategy* was created in August of 2010 and identifies several action items that are opportunities for the airport. This strategy was the culmination of a study completed by SH&E, an aviation consulting firm specializing in air transport, on behalf of the Aeronautics Division of the Colorado Department of Transportation and Front Range Airport. The study evaluates potential opportunities in four areas: Maintenance, Repair and Overhaul; General Aviation (GA); Air Cargo; and Commercial Air Service. Specific opportunities identified include marketing the airport's lower cost parking and fuel to attract more GA aircraft dropping off passengers at Colorado ski resort airports, leveraging its low fuel prices to market the airport as a mid-continent "Fuel Stop" airport for cross-country flights, exploring air emergency services and health care services especially due to the location of the Fitzsimons Campus, increasing flight training activity, and targeting small air cargo operations in the Denver area.

Recommendations of the study include improving the Fixed-Base Operator (FBO) facilities and exploring ways to operate the airport's FBO differently, increasing pavement strength of runways and taxi ways to accommodate larger aircrafts, and creating an airport specific incentive packet to attract users and development. This study is a comprehensive look at the opportunities present at Front Range Airport and the opportunities identified should be further explored. While the airport is in an area expected to receive a large amount of growth in the future, waiting for this growth to increase opportunities at the airport is not a feasible strategy. The significant investment made into this airport needs to be better leveraged to drive growth in the area.

## 4. INFRASTRUCTURE CONDITION AND NEEDS

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This section summarizes Vision Land Consultants' analysis of the available and future infrastructure within the I-70 corridor study area. Discussed below are the Water and Wastewater services, Stormwater, Transportation, and Dry Utilities (electric, gas, and broadband).

### Water and Sanitation Districts

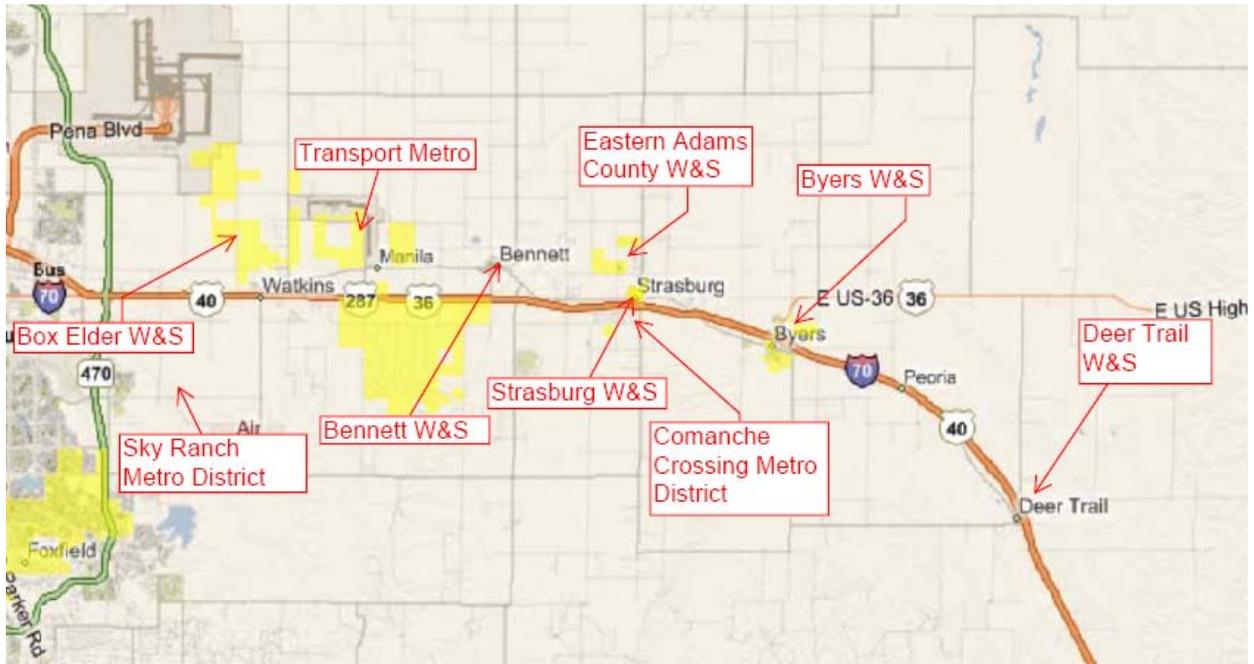
There are eight registered water and sanitation districts and two metro districts with water or sanitation plans within the Study Corridor, which are shown in **Table 28**, with their locations shown in **Figure 9**. These districts have a current water service of 2,242 single-family equivalents (SFEs) and room for an additional 1,765. There may be some metropolitan districts within the Study Corridor with water rights, but they were not included in this report. A description of each water and sanitation district is provided below.

**Table 28**  
**Water Service within Study Area**  
**REAP I-70 Corridor Economic Assessment**

District	Current Service (SFE)	Current Service Capacity	Excess Capacity	Comments
Bennett	900	1,800	900	14 wells, 9 producing
Strasburg	348	700	352	
Byers	428	555	127	Plans for adding additional well
Deer Trail	214	392	178	Completed system upgrades about 10 years ago.
Box Elder	0	0	0	No infrastructure or services
Transport	0	0	0	No infrastructure or services
Front Range	0	0	0	Dissolved
Eastern Adams	352	560	208	Working on obtaining water rights to provide up to 2,000 acre-feet
Comanche Crossing Metro District	0	0	0	Currently has no water/sewer infrastructure
Sky Ranch Metro District	0	0	0	Currently has no water/sewer infrastructure
<b>TOTAL</b>	<b>2,242</b>	<b>4,007</b>	<b>1,765</b>	

Based on Existing Infrastructure  
 Source: Interviews with Providers

**Figure 11**  
**Study Corridor Water Providers**  
**REAP I-70 Corridor Economic Assessment**



Water and Sanitation Districts

## **Town of Bennett**

### ***Water***

The Town of Bennett currently has rights for 14 water wells, but only 9 wells are in service. The Town currently has 1,107 water taps that serve the population of 2,550 and 900 residences. The Town has a water and wastewater master plan that includes plans for a future expansion to serve up to 7,500 SFEs. It is unclear what the water source is for this expansion plan.

### ***Wastewater***

The Town of Bennett has a lagoon system to treat wastewater.

## **Strasburg Water and Sanitation District**

### ***Water***

Strasburg Water and Sanitation District currently has 348 water taps and has an existing capacity for about 700 SFEs. The District has five wells, two of which are alluvial. The future potential for the district includes 39 AFY from the alluvial aquifer and 31.7 AFY from the Laramie-Foxhills aquifer.

### ***Wastewater***

The District discharges to the Eastern Adams County Water and Sanitary District.

## **Byers Water and Sanitation District**

### ***Water***

The Byers Water and Sanitation District has 428 water taps in use, with accommodations for 555 taps. The District has a large underground storage tank. Laramie-Fox Hills aquifer is the water source for the District, with five wells delivering the water with maximum supply rate of 500,000 gallons per day. The District has the ability to expand to a sixth well, which could accommodate an additional 125 homes.

### ***Wastewater***

The wastewater system is an aerated lagoon that directly discharges to a dry water channel. The system has a 175,000 gallon per day maximum, but currently processes 75,000 gallons per day.

## **Deer Trail**

### ***Water***

The Town of Deer Trail has four wells with the following capacity:

- North Well: 150 gpm
- West Well: 175 gpm
- Park Well: 200 gpm
- East Well: 250 gpm

In 2009, the four wells pumped a total of 18.4 million gallons. The system currently serves 600 residents, or about 214 SFE. Current system has capacity to serve 1,100 people, or about 178 SFE additionally.

### ***Wastewater***

Town uses a lagoon system and it has room for expansion.

## **Box Elder Water and Sanitation District**

### ***Water***

The District has no infrastructure and says it will likely try to obtain water from Aurora.

### ***Wastewater***

The District currently has no infrastructure and says it will likely discharge to City of Aurora's system.

## **Transport Metropolitan District**

District currently has no infrastructure for water or wastewater. The ultimate plan is to connect to the Aurora system through an existing agreement with Aurora to provide water. The issue for the district is how to extend the water service to the east to Transport. The District has water rights associated with property, and the developer says it is willing to serve any new

development in the project with well water and a localized sanitation system until the City of Aurora extends water and wastewater service.

### **Front Range Metro District**

This district is dissolved.

### **Eastern Adams County Metro District**

#### ***Water***

The Eastern Adams County Metro District currently has 352 EQR service with ability to expand to 560 EQR. The District has a 0.6 AF per acre water supply. The District uses Arapahoe basin, upper and lower Denver basin, and alluvial water. Wastewater discharge credits the district for alluvial use.

#### ***Wastewater***

The District's wastewater system has a 100,000-gallon per day average, with capacity for 300,000 gallons per day. The District has a sequential batch reactor treatment facility.

### **Aquifers and Designated Groundwater Basins**

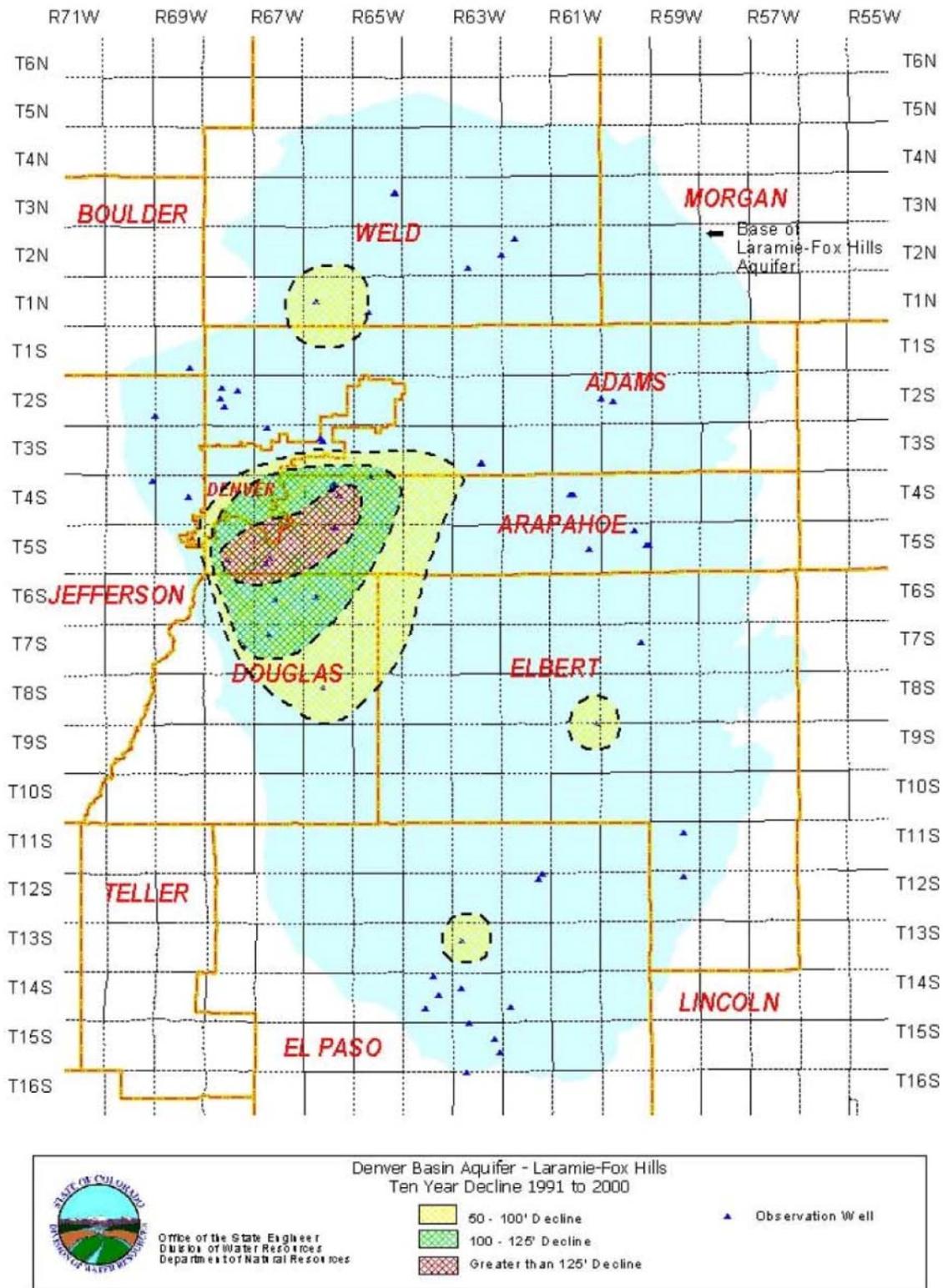
The Study Corridor lies over the Denver aquifer, a finite water resource. The Study Corridor is within two designated groundwater basins for the Denver Aquifer, which are:

- Lost Creek District
- Kiowa-Bijou District

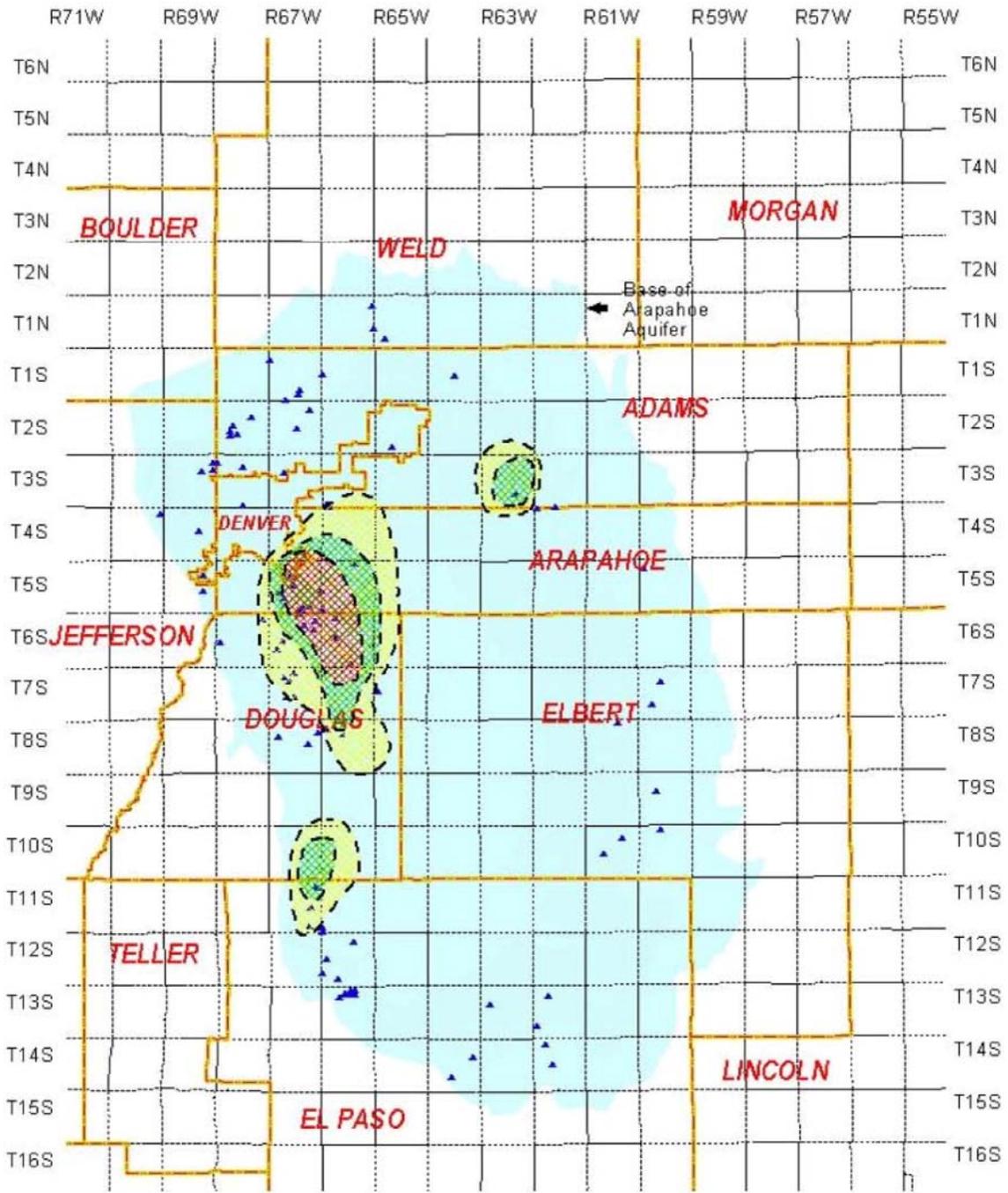
These districts are managed by the State of Colorado Groundwater Commission and are responsible for permitting new wells within the aquifer. The surface water rights and alluvial aquifers within these designated basins are over-appropriated within the Study Corridor. Numerous issues exist with groundwater, which include:

- Finite resource
- Decreased well productivity over time
- Increased power costs with more wells needed over time
- Already a 200-foot drawdown in Watkins - Bennett Area (DWR)
- Estimated 40-85 percent reduction in aquifer production in south metro area by 2050 (CWCB).

**Figure 12**  
**Laramie-Fox Hills Aquifer Decline**  
 REAP I-70 Corridor Economic Assessment



**Figure 13**  
**Arapahoe Aquifer Decline**  
 REAP I-70 Corridor Economic Assessment





Office of the State Engineer  
 Division of Water Resources  
 Department of Natural Resources

Denver Basin Aquifer - Arapahoe  
 Ten Year Decline 1991 to 2000

- 100 - 200' Decline
- 200 - 250' Decline
- Greater than 250' Decline

▲ Observation Well

## Renewable Water Supplies

The population of Colorado is expected to grow from about 5 million people today to over 7 million people by the year 2030. The estimated population in 2050 is 9.3 million people, as shown in **Table 29**.

**Table 29**  
**Colorado Population (millions)**  
**REAP I-70 Corridor Economic Assessment**

Timeline	State	South Platte River Watershed
Today	5	3.3
2030	7.5	5
2050	9.3	6

Based on these population projections, the demand for water in the State will increase by 600,000 AFY by 2030. The demand in the South Platte River Watershed is estimated to account for two-thirds of the new demand in the State.

**Table 30**  
**Colorado Water Demand (AFY)**  
**REAP I-70 Corridor Economic Assessment**

Timeline	State	South Platte River Watershed
Today	1,200,000	800,000
2030	1,800,000	1,200,000
Increase	600,000	400,000

### ***South Platte River Watershed Water Availability***

The current condition of the South Platte River Watershed is:

- No available water rights downstream of Chatfield Reservoir
- 150,000 AFY available near Kersey
- Identified projects for 310,000 AFY
- 90,000 AFY gap for Year 2030

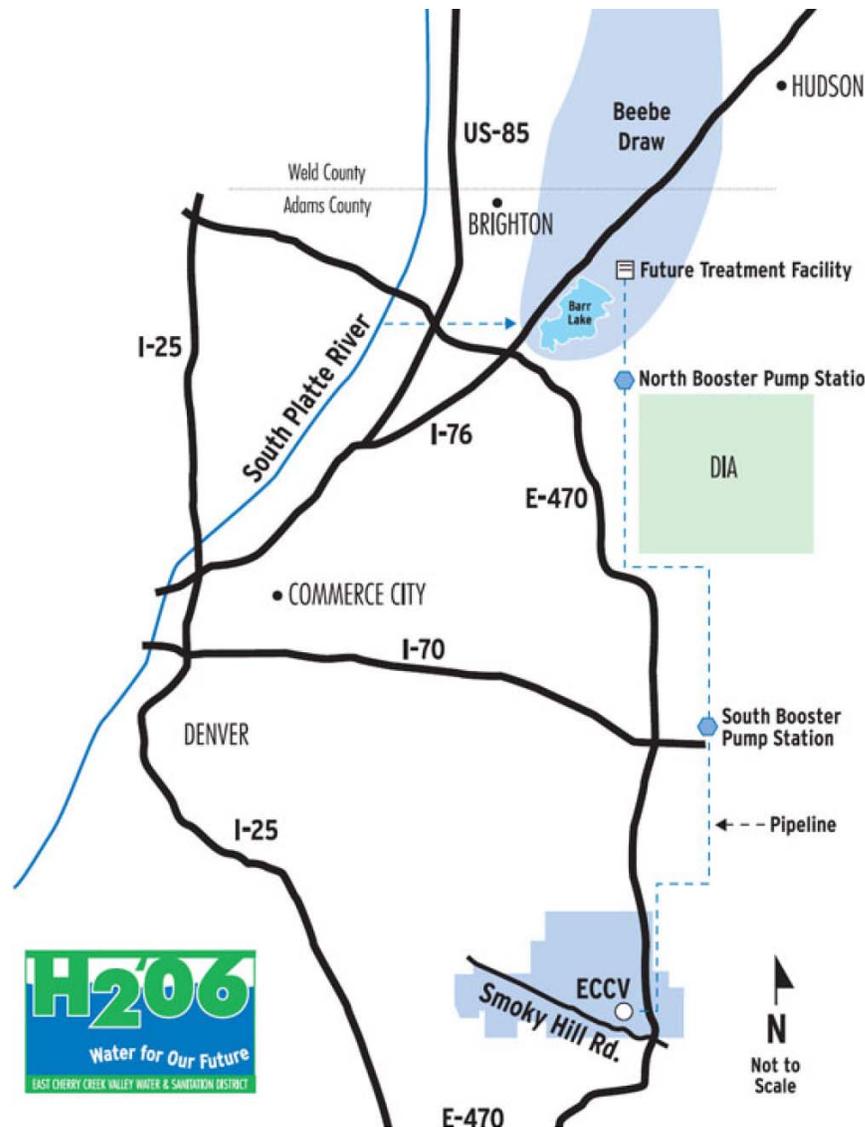
There currently are several long-term renewable water supply projects being planned, are under construction, or were recently completed that could include the study area. These are shown and described below:

- Northern System, East Cherry Creek Valley Water and Sanitation district
- Prairie Waters Project, City of Aurora
- Regional Watershed Supply Project, Million Conservation Resource Group
- Lowry Range, Rangeview Metropolitan District and Pure Cycle Corporation

### East Cherry Creek Valley (ECCV) – Northern System

The system uses the Beebe Alluvial Draw from the South Platte River near Brighton, as shown in **Figure 14**. ECCV is a member of South Metro Water Supply Authority (SMWSA). There was recently a 34-mile segment of 48-inch pipeline installed along E-470 to serve users to the south. The system has a supply of 3,000 acre feet per year. It has excess capacity during non-peak periods that communities in Adams County within the Study Corridor have the ability to access if they can create the infrastructure. However, this agreement has a time limit. There is potential for a future agreement to be established, allowing use of the excess capacity within the system. Local corridor agencies would be responsible for securing water rights that would be transported through the ECCV system as well as constructing all regional infrastructure components.

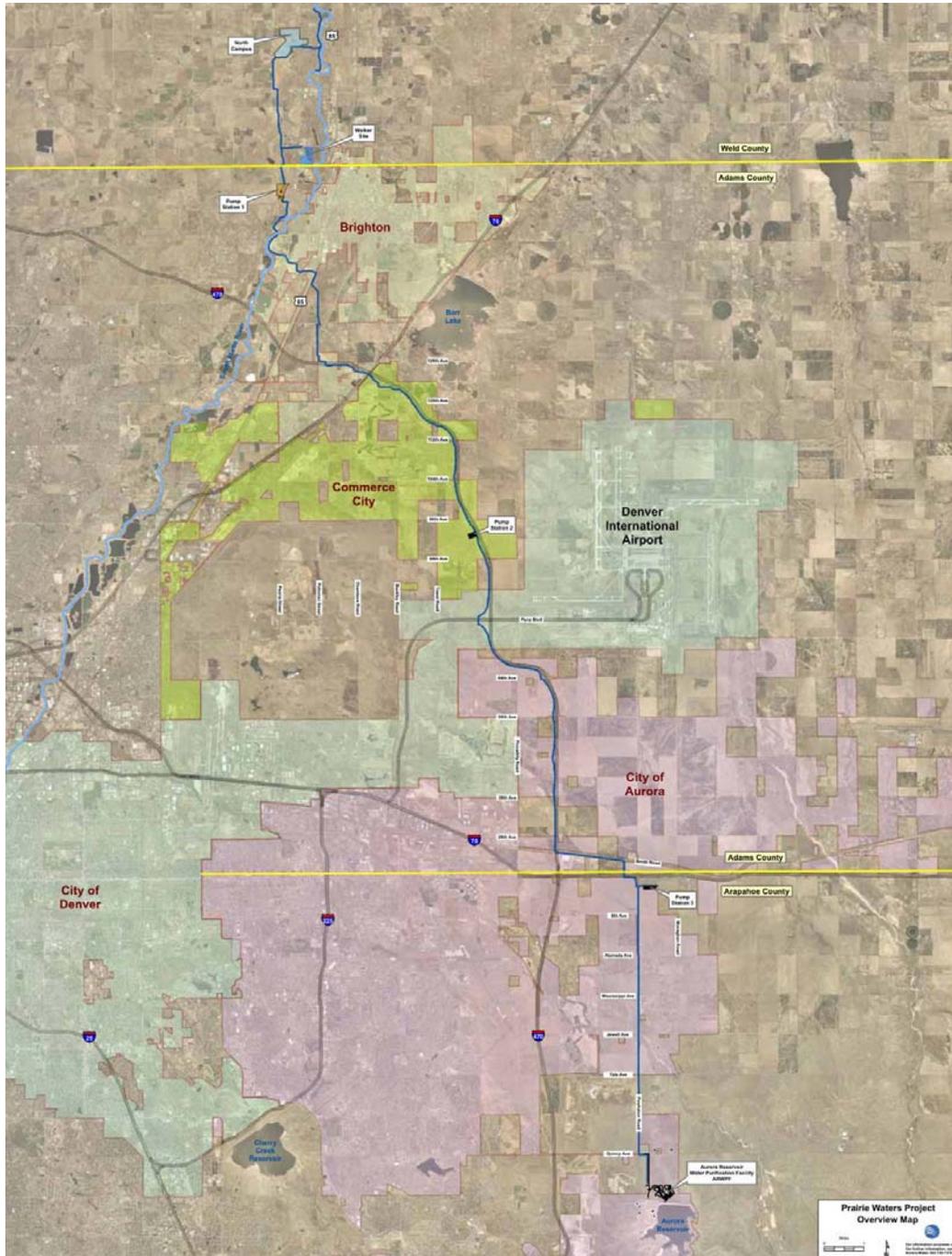
**Figure 14**  
ECCV – Northern System  
REAP I-70 Corridor Economic Assessment



Prairie Waters Project – City of Aurora

The project is a diversion system from alluvial waters along the South Platte River near Brighton. The project is a 60-inch pipeline from South Platte River near Brighton to Aurora Reservoir. The water in the pipeline is non-potable and needs to be treated prior to use. The system will provide 10,000 AFY to Aurora residents when fully utilized.

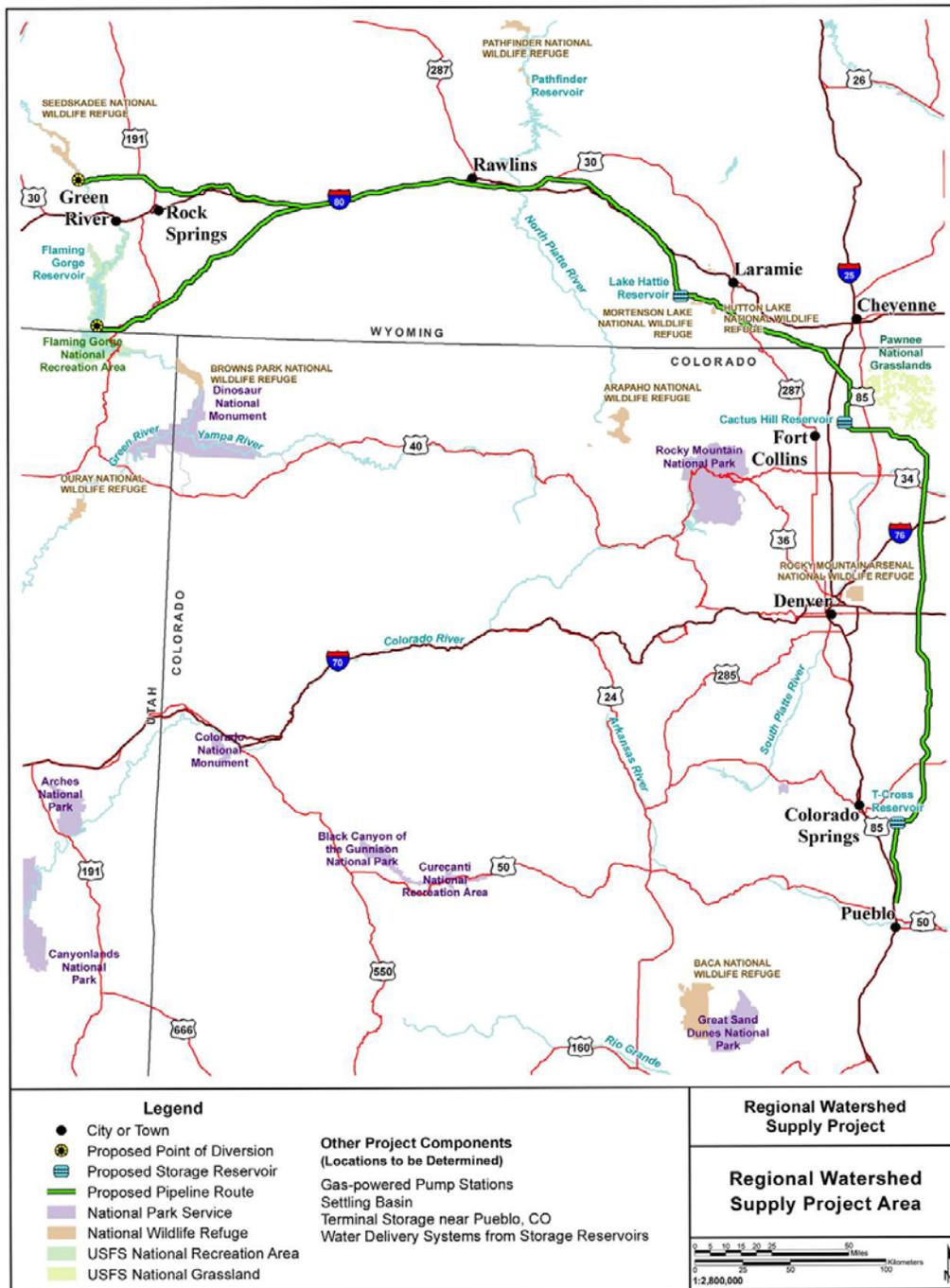
**Figure 15**  
**Prairie Waters System**  
**REAP I-70 Corridor Economic Assessment**



Regional Watershed Supply Project – Million Conservation Resource Group

This proposed plan calls for a new pipeline from Flaming Gorge Reservoir to Castle Rock, east of the Denver Metro Area. It would be 560 miles of 72- to 120-inch pipeline, with 16 pump stations and four reservoirs. The system has the ability to provide 250,000 acre-feet of water. The project is currently in Environmental Assessment Phase.

**Figure 16**  
**Regional Watershed Project**  
 REAP I-70 Corridor Economic Assessment



Lowry Range – Rangeview Metropolitan District/ Pure Cycle Corporation

The District has 8,125 acre-feet surface water rights (Coal Creek and Box Elder Creek), with an average annual yield of 3,300 acre-feet. The District is a member of South Metro Water Supply Authority.

A summary of the possible renewable water sources for the Study Corridor are shown in **Table 31**. The advantages and disadvantages of each possibility are described.

**Table 31**  
**Renewable Water Source Opportunities**  
**REAP I-70 Corridor Economic Assessment**

	Northern System	Prairie Waters Project	Lowry Range	Regional Watershed Supply Project
Owner	East Cherry Creek Valley Water and Sanitation District	City of Aurora	Rangeview Metropolitan District	Million Conservation Resource Group
Location	East of E-470	Powhatan Road	Lowry Range	Proposed Pipeline near Bennett
Description	48-inch pipeline from Brighton to Smokey Hill Road	60-inch pipeline from Brighton to Aurora Reservoir	Proposed system of reservoirs, treatment plant, and wells at Lowry Range	72-inch to 120-inch pipe from Flaming Gorge Reservoir to Colorado Springs
Total Annual Water Supply (AF)	3,000	10,000	3,300	250,000
Excess Annual Water Supply	Yes	Unlikely	3,300	250,000
Potable	Yes	No	Yes	No
Advantages	-Project is Completed  -Excess capacity for other users during off-peak periods	-Project is Completed  Pipeline within west boundary of study area	-Appears most, of not all, renewable water is still available  -Relatively close to study area	-Proposed pipeline bisects study area  -Appears renewable water is still available
Disadvantages	-Require significant storage infrastructure  -Require agreement with ECCV to provide water  -Require pipeline from E-470 to service area  -Member of SMWSA	Water is not potable, and would require water treatment plant's)  Water supply is small percentage of overall Aurora needs	-Renewable water infrastructure not constructed  -Requires 7 miles of pipeline from Lowry Range north to I-70  -Member of SMWSA	-Project in early planning stages  -Implementation is unlikely in foreseeable future  -Water is not potable, and would require water treatment plant's)

Source: Vision Land Consultants

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\19903-Water Opportunities.xls]Sheet1

## Stormwater

The conclusions from an analysis of Stormwater management in the Study Corridor are:

- Follow Adams County Standard Criteria.
- Follow Arapahoe County Stormwater Management Criteria.
- SEMSWA (Southeast Metro Storm Water Authority) manages Box Elder Creek.

## Transportation

### Arapahoe County

Arapahoe County was, at the time of review, developing a transportation master plan scheduled to be completed in 2010 (adopted December 2010). The following improvements are being considered for the study area:

- Creating a continuous 6<sup>th</sup> Avenue corridor that provides a connection to US 36;
- The realignment of Kiowa-Bijou road at I-70 near Bennett;
- Widening of Watkins Road;
- Kiowa-Bennett interchange and alignment;
- Strasburg I-70 interchange.

### Adams County

Adams County adopted a transportation plan in 1996. This plan did not identify significant transportation needs east of E-470. The DRCOG study recommends improvements to 56<sup>th</sup> Avenue, Imboden Road, and Quail Run Road to I-70. Changes planned for the Town of Bennett include creating a separated grade crossing and the realignment of State Highway 79 through Bennett. There are needs for improvements in Byers, including an I-70 grade separation and potential overpass/underpass across railroad tracks with emergency access.

### Aurora

The City of Aurora is planning on improving 56<sup>th</sup> Avenue, Imboden Road, and Quail Run Road out to Transport, as well as a new interchange at I-70 and Quail Run Road.

### DRCOG and CDOT

DRCOG and CDOT adopted a *Metro Vision Regional Transportation Plan*, which includes the study area. This plan estimates I-70 will become congested west of Watkins by 2035. East of Watkins, congestion is not anticipated.

## Dry Utilities

### Power

Power is provided by Xcel west of Bennett, and by Intermountain Rural Electric Association (IREA) east of Bennett.

- Recently completed improvements around Bennett and Strasburg due to planned growth in this area.
- System east of Strasburg is somewhat weak and not positioned for substantial growth.
- Developers pay for new system extensions; IREA pays for upgrades to existing system.
- Recently completed upgrade to serve new missile site in the area.

### **Natural Gas**

Natural gas is provided by Xcel Energy west of Bennett and by multiple smaller providers east of Bennett, including Eastern Colorado Utility Company based in Strasburg.

### **Broadband**

Broadband service is available within the Study Corridor out to Byers. Cable broadband is available within Bennett, Strasburg, and Byers, as well as along Colfax Avenue to Bennett, and along US Highway 36 to Byers. DSL broadband is available within the Study Corridor west of Strasburg. Only wireless broadband is available east of Strasburg and outside of Byers.

The broadband speed varies within the Study Corridor. Generally, speeds of 10-25 Mbps are available within Bennett, Strasburg, and Byers, along Colfax Avenue to Bennett, and along Hwy 36 to Byers. Speeds of 3-10 Mbps are available outside this corridor to Byers.

Connect Colorado has compiled this information for the State ([www.connectcolorado.org](http://www.connectcolorado.org)).

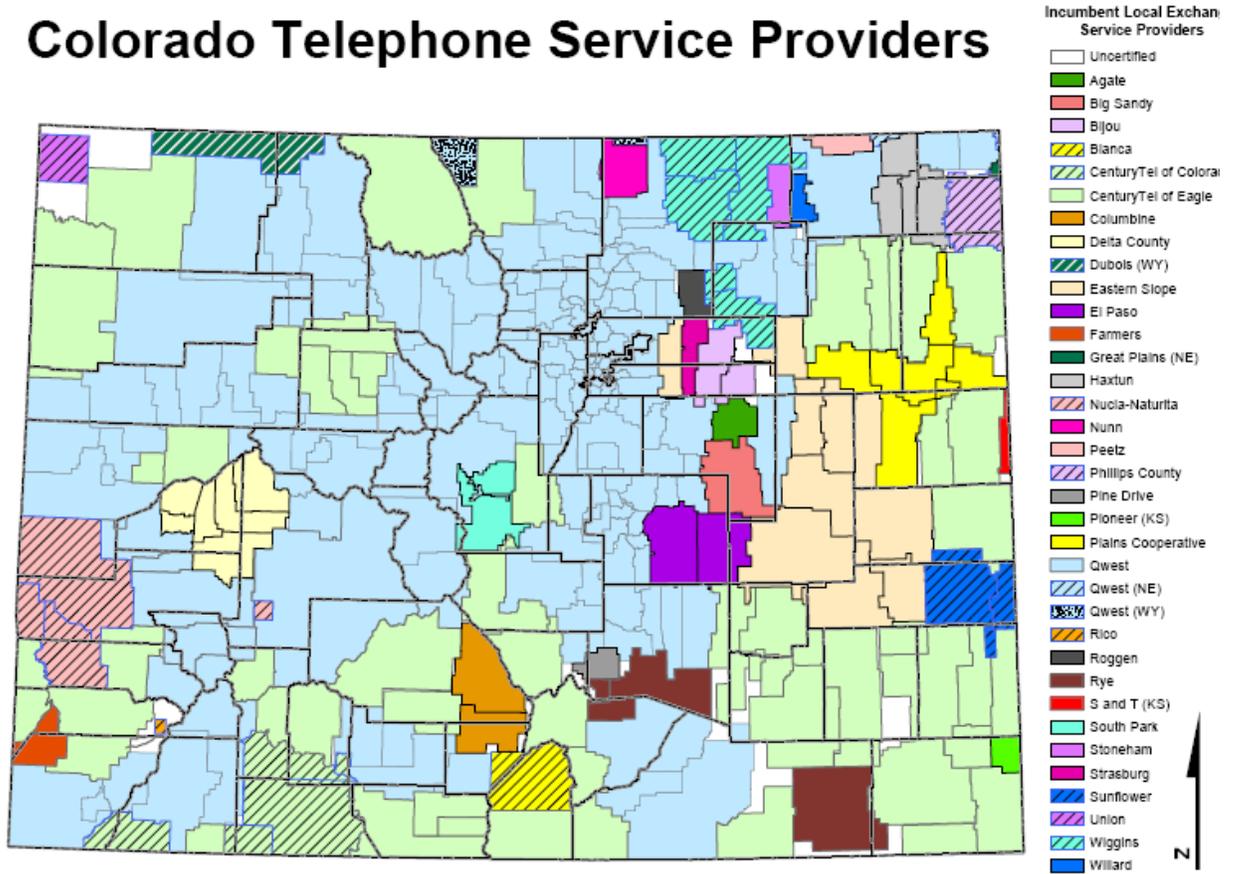
### **Communications**

There are three providers of communications services in the Study Corridor. These providers are the Bijou Telephone Cooperative, TDS Telecom, and Eastern Slope Rural Telephone. These locations and services are described below and shown in **Figure 17**.

- Bijou Telephone Cooperative – The cooperative provides telephone and internet services to homes and businesses in the Study Corridor. Telephone services are available to homes and businesses in Byers and Deer Trail. The cooperative provides two types of internet service: high speed wireless internet to the communities of Limon, Strasburg, Bennett and Watkins; and high-speed DSL internet to the communities of Deer Trail and Byers.
- Eastern Slope Rural Telephone – Provider of telephone and internet services to a large portion of eastern Colorado. Eastern Slope only provides telephone and internet service to area surrounding and including the Town of Bennett.
- TDS Telecom – A nation-wide provider of telephone, internet and TV services to rural and suburban areas. TDS provides telephone and internet services to the Strasburg area. (Note: TDS Telecom is shown as Strasburg on the following map.)

Figure 17  
Study Corridor Communications Providers  
REAP I-70 Corridor Economic Assessment

# Colorado Telephone Service Providers



Source: State of Colorado

## 5. CORRIDOR ACTION PLAN

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The communities and stakeholders within the Study Corridor including Arapahoe County, Adams County, the I-70 Corridor Chamber of Commerce, the Regional Economic Advancement Partnership (REAP), and the communities of Watkins, Bennett, Strasburg, Byers, and Deer Trail commissioned this Economic Assessment Study to understand how to best prepare the eastern I-70 corridor for economic growth. The economic assessment has multiple purposes. The major goal of this report is to provide a framework for growth potentials that is market-based and reflects the competitive strengths and weaknesses of the corridor. A second goal was to identify gaps in the infrastructure systems that are impediments to growth. The Corridor Action Plan presented in this chapter is a summary of the Corridor's competitive advantages and disadvantages, major impediments to growth, and an overview of thresholds for development. This chapter includes recommendations for how to overcome impediments, build on Study Corridor strengths, and engage stakeholders to guide future growth.

### Study Corridor Advantages

The Study Corridor has many advantages that give the communities opportunity to attract economic growth. Below is a description of these advantages.

- A critical asset of the Corridor is the current organizational structure focused on economic development. The efforts of the I-70 Chamber of Commerce and REAP are significant and provide effective leadership. Elected officials in the Study Corridor communities are active in several governing boards and entities, which provide the Study Corridor a voice in the metro area.
- The Study Corridor is in close proximity to the largest concentration of industrial uses in the Denver Metro Area and is considered part of the area's largest industrial submarket. The majority of industrial users have decided to locate in this submarket. The Airport/Montebello submarket captured 9 million square feet of industrial space in the past decade. Close proximity positions the Study Corridor well for future development.
- The Study Corridor has been successful in creating entertainment and recreation businesses that have attracted visitors to the Study Corridor. The High Plains Raceway and the Lead Valley Gun Range are local examples of business that attract visitors. May Farms has successfully created an entertainment venue in the Study Corridor that serves residents and attracts visitors. The Study Corridor also has several open spaces and trail systems that attract visitors to the area. Although modest in scale, these successes have created the need for associated services that result in greater local expenditure. The community should continue to look for opportunities to leverage the assets of the corridor as exemplified by these businesses.
- The eastern I-70 Corridor has a major asset in Front Range Airport. Front Range Airport's main goal is to be an economic engine for the eastern part of Adams County. A 2008 study completed by CDOT found that the economic impact of the airport was significant, creating \$125 million in economic activity and 1,400 direct and indirect jobs. The Airport has the

potential to be an even greater generator of economic activity. The location of the Airport creates opportunities for the users/businesses that may require access to multiple modes of transportation. The confluence of an airport, Interstate 70, and a major railroad creates the opportunity for a unique development or business to locate here. While Transport has been trying to leverage these assets, exploring other ways to leverage the opportunities present because of this confluence of transit systems would be beneficial.

- Existing transportation systems are a major asset for the Study Corridor. I-70 is the primary gateway to the Denver Metro Area for commodities traveling by truck. Major retail distribution centers have located in the area near the intersection of I-70 and I-225. The proximity of DIA to I-70 and the Study Corridor increases the importance of the highway with the confluence of air cargo distribution, truck travel distribution, and rail distribution. I-70 also provides direct access to major employment centers in the Denver Metro area including DIA, Downtown Denver, and the Fitzsimons medical campus, which results in reasonable commute times for Corridor residents.
- The Union Pacific Railroad alignment through the Corridor is an asset that can be leveraged to create economic opportunity. Further analysis is needed of the business and economic opportunities that rail access may foster.
- Potential for a major raceway to locate in the Corridor exists, as indicated by the approved conceptual plans for Transport. At this time it is unclear whether a major raceway will be developed either within Transport or at another location in the Corridor. The issue continues to resurface and may come to fruition at some point in the future. If so, it will be a unique economic asset to the area.
- The Study Corridor has several large landholdings that may enable development to occur more easily and without the need of private investors to aggregate sites for development.
- The Study Area communities and both Counties have land use plans in place to address the forecasted growth for the Corridor. Work to ensure these plans are complementary to each other is an ongoing effort.

## **Study Corridor Disadvantages**

- The Study Corridor lacks a renewable water source to support expected growth for the Corridor.
  - The additional capacity of the current and planned facilities of the Study Corridor water districts is limited. Only 30 percent of the water demand from anticipated household growth in the Study Corridor can be met (not including portions of the Study Corridor in Aurora).
  - There are several water districts in the Study Corridor. All provide water from wells drawing from groundwater aquifers or alluvial aquifers. Because the aquifer supply is finite, a renewable source is needed.

- If a renewable water source or provider is identified and can to provide water to the Study Corridor, there is inadequate infrastructure in place to provide water to all areas of the Corridor.
- The current water districts do not have the infrastructure or capacity to support large scale development projects.
- The Study Corridor has multiple governing agencies with differing development policies and goals. Divergent growth policies may result in fragmented development within the Corridor. The current infrastructure in the Corridor, specifically water infrastructure, accommodates small scale development best. A future challenge is to approve small scale development and still create large scale solutions. Consistency in development standards for the Study Corridor will help create a stable development environment and will prevent future conflicts over growth.
- The Study Corridor lacks development ready sites for business to locate and build facilities. Some development projects are planned and nearly development ready. The major issues facing the Study Corridor, such as a renewable water source and provider, are also barriers to attracting business.
- The Study Corridor is still removed from the areas that are currently experiencing major development. Development sites on I-70 west of the Study Corridor are better positioned to attract development, but development will eventually reach the corridor.

## **Study Corridor Constraints**

### ***Diminishing Water Supply and Lack of a Renewable Water Source***

The current water districts in the Study Corridor have the additional capacity for 1,765 SFEs with the existing infrastructure in the Districts. The portions of the Study Corridor outside the city boundary of Aurora are expected to grow by approximately 5,800 new households by 2030. Assuming all the additional water is used for residential use, there is current available growth capacity for 30 percent of projected households. This does not account for the demand of water from commercial development. Infrastructure and water supply could accommodate a modest amount of growth in future, but will not support the full amount of growth projected for the area.

All of the current water districts are part of the Denver Basin Aquifer well water, which is a finite resource, and are all within the Lost Creek and Kiowa-Bijou designated groundwater basins. Some wells exist that draw from alluvial aquifers, but these aquifers are over-appropriated. As more development is permitted using aquifer-based water wells, the increased usage will decrease well productivity over time. This decreased productivity will increase power costs and require more wells over time. The aquifer in the Watkins/Bennett area has been drawn down 200 feet based on State data. It is estimated that there will be a 40 to 85 percent reduction in aquifer production in the south metro area by 2050. There is currently no renewable water source serving the communities in the Study Corridor with the exception of Aurora. Four possible providers of a renewable water source to the Study Corridor are detailed Chapter 4.

## **Development Ready Sites**

### Site Requirements and Readiness

Attracting employment to the Study Corridor is constrained by the lack of development ready sites. While the Study Corridor has attractive assets that work well together, shovel-ready sites are needed to actually capture economic development. Below is a list of actions that need to be addressed to determine site readiness.

#### **Site Characteristics**

- Is the parcel the right size for the intended use?
- Is the site an unusual shape/is it easy to use efficiently?
- Are there topographic issues?
- What are the surrounding uses? Do they support or distract from intended use?
- What environmental concerns exist on the site? e.g., is the site in a flood plain?
- Are there soil or ground issues that need addressing?

#### **Infrastructure**

- Road Access
  - Do access roads accommodate types of vehicles related to intended use?
  - Do access roads accommodate the increased level of traffic?
  - What improvements are optimal? What improvements will be required?
- Water
  - How much water is required for intended use?
  - Is the site on an existing water system? Or within an existing water demand?
  - Does the water system have capacity to meet the needs of the intended use?
  - Is the water system a renewable water source?
  - What improvements are needed to provide water?
  - What is the cost of the improvements needed?
- Sewer
  - What is the estimated waste produced by intended use?
  - Is the site on an existing sewer system or within existing sanitation district?
  - Does the sewer system have capacity to meet the proposed needs?
  - What improvements are needed to provide sewer service?
  - What is the cost of the improvements needed?
- Electricity
  - Does the site have adequate electrical service?
  - What improvements are needed?
- Natural Gas
  - Does your use require gas? What level of service?

- Does the site have gas service?
- What improvements are needed?
- Communications
  - What communications systems are needed for intended use?
  - Do the systems needed on the site currently have service provided to site?
  - What improvements are needed?

**Regulatory Review**

- What jurisdiction is the site in?
- What other districts is the site a part of?
- Does the zoning accommodate intended use?
- Does this type of project work with zoning requirements?
- What are the requirements for approval?
- What are the requirements for obtaining a building permit?
- What is the timeframe for approval?

Thresholds Needed for Development (Checklist)

A checklist of these issues is a helpful tool to enable community members to understand the steps to site-readiness. Table 32 provides a checklist of items to consider for site development based on the questions presented above. It also provides an example of requirements needed for a typical industrial park to be developed.

**Table 32**  
**Site Development Checklist**  
**REAP I-70 Corridor Economic Assessment**

<b>Criteria</b>	<b>Specific Question</b>	<b>Requirements</b> (Example: General Industrial Park)	<b>Actual Site</b> (Does the Site match Requirements?)
Type of Use	What is the intended use?	Industrial Park	---
Development Size	Acres Required?	50 to 150 acres	
Pad/Building Site	Acres Required?	Minimum of 5 acres	
Development Site Configuration	Shape Required?	Square or Rectangular	
Zoning	Typical Zoning Required?	Industrial, General Commercial	
Infrastructure Road Access	Required Level of Road Access?	Proximity to Highway, Located on Major Arterial	
Rail Access	Requires Access?	Possible	
Water	Level of Water Service Required?	Moderate	
Sewer	Level of Sewer Service Required?	Moderate	
Natural Gas	Level of Gas Service Required?	Moderate	
Communications	Communication Systems Needed?	T-1 Lines Required, Possible Fiber optic infrastructure	
Physical Condition of Site	Requirements?	Flat to slightly sloping, Easy Access to Site	
Regulatory Restrictions		No environmental concerns, Outside Flood Plain or Wetlands	
Compatible Surrounding Uses		Compatible with most uses, buffer from residential is needed	

Source: Economic & Planning Systems

H:\19903-Arapahoe County I-70 Corridor Economic Assessment\Data\Land Development Process.xls Checklist

## Recommendations

The needs and opportunities within the corridor are significant. While the limitations related to the water supply are a high priority, there are several other aspects of the corridor that represent opportunities and should also be addressed. Recognizing that Adams and Arapahoe Counties represent the interests of the entire Study Corridor (including incorporated towns/cities, unincorporated places, and special districts), it is recommended that the Counties maintain involvement in future planning, public processes, and final decisions regarding regional solutions. Recommended ways the Counties can provide leadership include the following:

- **Comprehensive Plan Amendments** - Adams and Arapahoe Counties, as well as all jurisdictions within the corridor, should facilitate discussions of a Comprehensive Plan Amendment which may be completed in the future. The Comprehensive Plan Amendment should include aligning land use plans to ensure consistency among the various jurisdictions. The land use plans should account for short-term and long-term infrastructure solutions, recognizing the limitations of the current infrastructure to accommodate growth. The Comprehensive Plan Amendment should identify incentives and requirements to be used in land use approval processes that result in coherent, consistent and synergistic plans that will make the corridor a desirable, viable and sustainable location for business and residents. In addition, all Quasi-Governments (water districts, fire districts, metro districts, other special districts, etc.) should endeavor to coordinate their respective utilities during the Comprehensive Plan Amendment.
- **Intergovernmental Agreements** - Once a Comprehensive Plan Amendment has been completed, each of the communities located within the corridor, inclusive of the two Counties, should investigate the use of Intergovernmental Agreements (IGA's) as a tool to implement the objectives of these plans. The IGA's can be used to stipulate how all public and private entities can and are expected to participate in the long-term solutions. The IGA's can facilitate alignment of all jurisdictions' development policies for the area in conjunction with the Comprehensive Plan Amendment to help facilitate coordinated and well-planned growth along the corridor as a whole.

**The Comprehensive Plan Amendment process outlined above should address the following items, as well as others that will be identified during process:**

- **Targets / Opportunities** - Identify specific opportunities related to economic development. Community stakeholders expressed a desire to expand local employment opportunities with goals of achieving a better jobs:housing balance, reducing commuting and Vehicle Miles Traveled (VMT), and increasing opportunity for the next generation of current residents. Given findings from this study related to the Corridor's market position and assets, attracting economic development is achievable. Agencies within the corridor should identify target businesses and industry segments that are good candidates, the corresponding site and facility needs, and the approximate cost thresholds associated with meeting the needs for these options. These activities are intended to help focus and support the efforts of the economic development entities.
- **Front Range Airport** - The opportunities identified in the Front Range Airport Study should be pursued jointly by the Counties and the Airport (through public-private partnerships).

Policies should be identified that support implementation of recommendations from the recently completed study that would, in turn, attract business to the Corridor.

- Branding - REAP should consider leading a visioning and/or branding process that would elevate the awareness of the Corridor among Denver Metro entities and differentiate the Corridor from other metro-area growth nodes. The process should build on identified target industries, potential opportunities, and current assets of the Corridor.
- “Development-Ready” Database - As opportunities are created, a development ready site database should be established for the Study Corridor. This database should be highlighted on the REAP website and should be maintained by either REAP or in a coordinated effort with Adams County Economic Development.
- Water Resource Development/Management Task Force - Preceding formation of the comprehensive plan amendment, REAP should form a task force to identify a viable long-term, renewable water source for the corridor. The task force could include representatives from Adams and Arapahoe Counties, the incorporated towns of Bennett and Deer Trail, the unincorporated communities of Watkins, Strasburg and Byers, and the special districts in the Study Corridor.

As part of this effort, REAP should facilitate a discussion among current water and sanitation districts that identifies the roles for each and how to best coordinate efforts to serve the interests of existing districts and address future water demands of the corridor.

This study summarizes the work that has been done, to date, on various water options. The Town of Bennett has also made substantial efforts in trying to identify a renewable water source that could provide water to the Town. Bennett is emerging as a leader within the Corridor concerning water issues and could help structure long-term solutions, with active participation by the Counties to ensure the breadth of public interests is addressed.

Because of the complexity, cost, and multi-tiered approval process of any water resource development and management solution, the process will not be simple.

**REAP’s initial actions, after formation of the task force, should include the following:**

- Develop criteria to evaluate options that reflect the priorities of the Corridor;
- Identify the process for approval and identify each governing board that will be involved;
- Provide approximate costs for water and wastewater infrastructure development and management;
- Identify funding options that address the breadth of geography and extent of potential beneficiaries;
- Evaluate County/City/Regional/State regulatory process for water and wastewater providers to meet approval requirements for new development and recommend changes that would facilitate Corridor economic growth goals while protecting long-term Corridor interests.