# APPENDIX B:

# AIA MARKET ANALYSIS AND RECOMMENDATIONS

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# AIRPORT INFLUENCE AREA MARKET ANALYSIS AND RECOMMENDATIONS

To

**MEAD & HUNT**

**NORTHERN COLORADO REGIONAL AIRPORT**

From

**GRUEN GRUEN + ASSOCIATES**
*Urban Economists, Market Strategists & Land Use/Public Policy Analysts*

C1525

*APPLYING KNOWLEDGE*
*CREATING RESULTS*
*ADDING VALUE*

April 2019
(Updated July 2019)

Gruen Gruen + Associates

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# I. EXECUTIVE SUMMARY

This report summarizes research and analysis completed by Gruen Gruen + Associates ("GG+A") to evaluate market, economic, and land use conditions that will shape future development pressures and opportunities within the Airport Influence Area ("AIA"). A focus of this report is to provide perspective and an information base for off-airport land use and economic development recommendations to be adopted within an AIA component to the Master Plan update for the Northern Colorado Regional Airport (the "Airport"). The AIA contains approximately 2,900 acres of undeveloped land (outside of Airport ownership) and recommendations and actions to make the best use of this land are identified in this first section of the report. The body of the report contains individual sections organized by topic and land use and summarizes the full scope of the research and analysis upon which the key findings and recommendations summarized below are based.

## PURPOSE

Off-airport land use planning and policies will continue to have a significant impact on the future success of the Airport. The Airport and AIA are increasingly in the path of residential and nonresidential growth which presents both challenges and opportunities. Ensuring that the Airport remains adequately protected from encroachment by incompatible land uses is of critical importance. A purpose of this analysis is to identify a strategic direction for future land use and economic development in the AIA that can align aviation compatibility requirements with future land use needs and development opportunities, economic development goals and prospects, and established community values and priorities.

# Background & Work Completed

GG+A completed a target market analysis for the Northern Colorado Regional Airport in September 2017 that assessed aviation and non-aviation market opportunities to make more productive use of its land assets. GG+A was asked to provide additional analysis and recommendations for an AIA plan as part of the current Airport Master Plan update.

GG+A has completed interviews with more than 20 public and private stakeholders over the past 18 months for these assignments. Interviews with public representatives have included Airport staff, representatives of the City of Loveland and City of Fort Collins economic development and finance departments, Larimer County long-range planning, and representatives of local business/economic development organizations such as the Fort Collins Chamber of Commerce, Loveland Business Partnership, and Loveland Chamber of Commerce. GG+A has also interviewed representatives of many AIA property owners and developers including Burgener Holdings Inc., CBRE, Chrisland Real Estate Companies, Doberstein Lemburg Commercial, Inc., Lake Vista Apartments, Loveland Commercial, McWhinney Enterprises, The Neenan Company, Realtec, Richmond American Homes, Spirit Hospitality, SVN Commercial, Toll Brothers, Water Valley Development Co., William Lyon Homes, and W.W. Reynolds Companies.

GG+A completed the following additional tasks to prepare the AIA analysis and recommendations:

- Reviewed a variety of prior studies and plans including the *Create Loveland* Comprehensive Plan, City of Fort Collins *City Plan* (2019 update), Northern Colorado Regional Airport *2018 Strategic Plan*, City of Fort Collins *Economic Health Strategic Plan*, City of Loveland *Economic Development Strategic Plan*, City of Loveland *Incentive Policy*, Larimer County *Plan for the Region Between Fort Collins & Loveland*, and *Larimer County Fairgrounds and Events Complex (The Ranch) Master Plan*;
- Obtained parcel and improvement records from the Larimer County Assessor to develop an inventory of existing land use and building space within the AIA and to assess historical land use and development patterns;
- Researched the characteristics of successful research and technology parks and innovation districts, office developments, and industrial developments and compared the location of the AIA to the identified characteristics, resulting in identified actions that would be needed to position the AIA for such development;
- Analyzed up-to-date demographic, labor force, employment, and other economic data;
- Evaluated current and past performance of relevant real estate space markets (including office, industrial/flex, hotel, and residential uses) that will bear on land use needs/opportunities in the AIA;
- Reviewed household and housing characteristics of the market area and AIA, including the potential for future population and housing growth;
- Reviewed the existing hotel inventory and analyzed gross lodging room revenue trends to assess the relative strengths and productivity of lodging activities in the AIA and broader market area; and
- Developed long-term (20 year) projections to quantify order-of-magnitude demands for office, industrial/flex, hotel, and residential land uses within the AIA.

# FINDINGS & CONCLUSIONS

## Existing Land Use and Development Patterns

The AIA covers an approximately 10,000-acre area spanning five local jurisdictions. The 1,060-acre Airport property represents approximately 11 percent of the area within the AIA. Developed land uses within the AIA currently total about 2,500 acres, or 27 percent, of off-airport land area. Residential, public/institutional, and industrial uses are currently the three predominant (largest) developed uses of off-airport land in the AIA. Water bodies comprise a substantial share of the AIA geographic area, estimated to total nearly 1,400 acres or about 16 percent. Protected lands and other open space uses are estimated to comprise an additional 1,300 acres of land. Existing public Right of Ways represent 800 acres. Almost 40 percent of the off-airport area within the AIA is therefore not developable (assuming such uses do not change).

The AIA contains well over 10,000,000 square feet of physical building space. Much of this building space has been built within the past 20 years. Residential and industrial uses comprise about 70 percent of privately owned off-airport building space in the AIA. County Assessor records indicate that approximately 2,100 housing units (including manufactured homes) exist within the AIA. Figure I-1 summarizes off-airport building space in the AIA by year built.

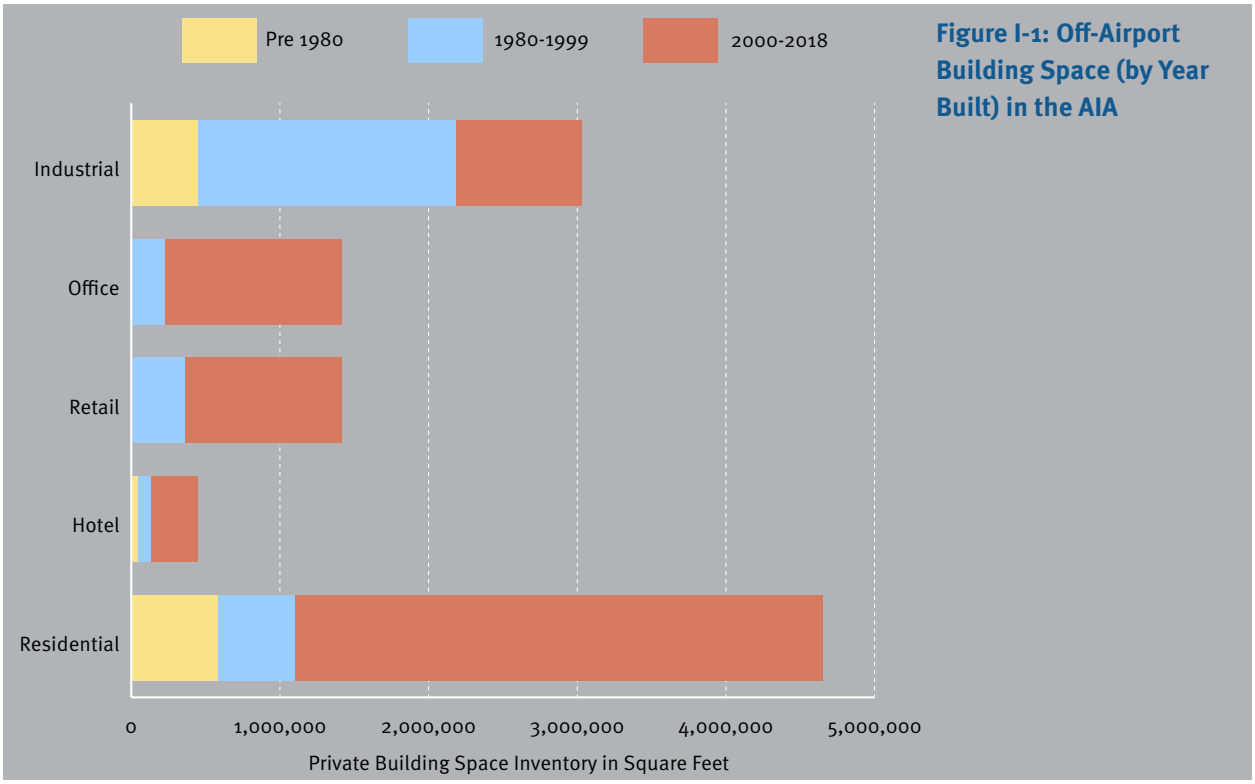
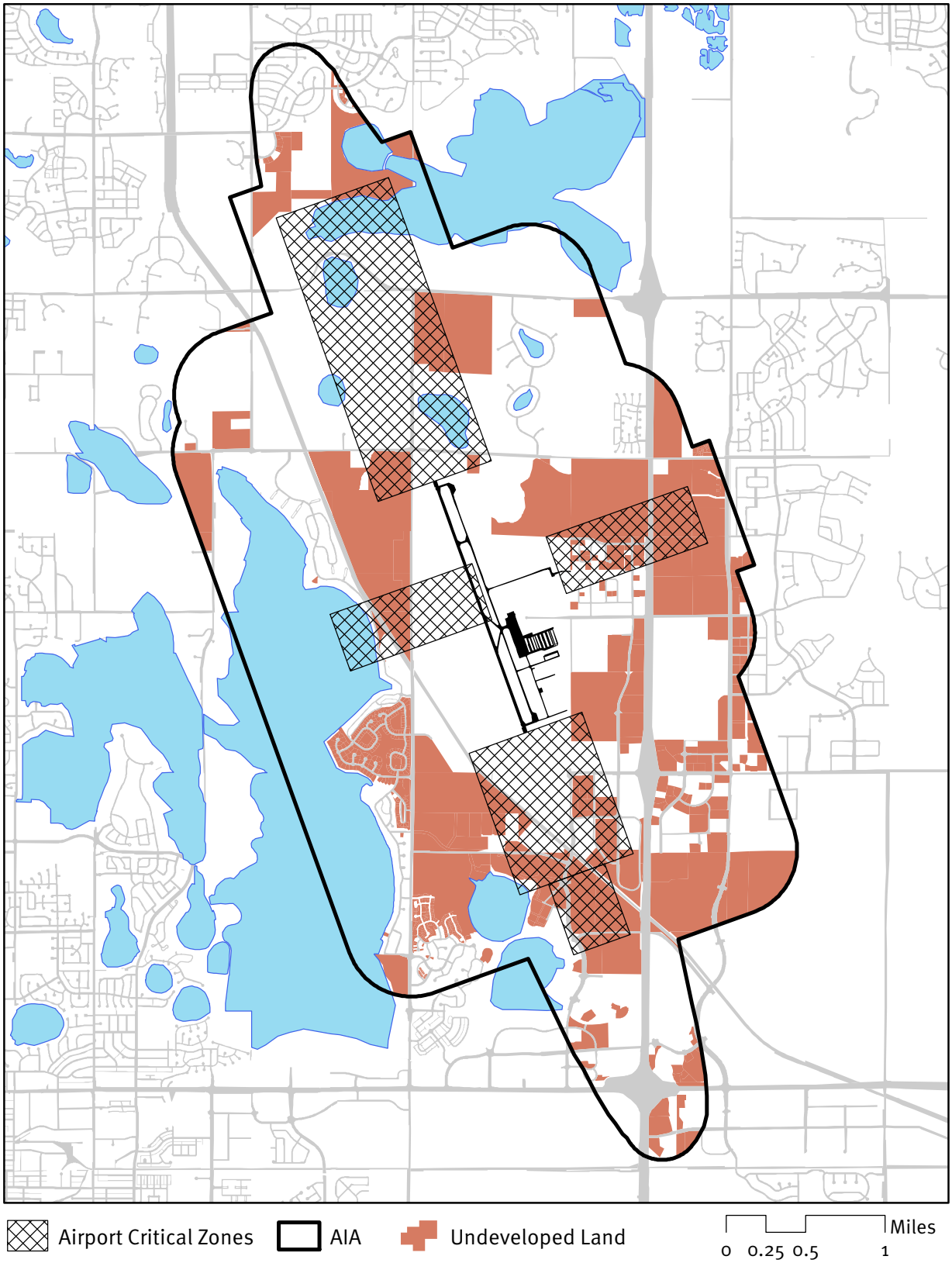



**Figure I-1: Off-Airport Building Space (by Year Built) in the AIA**

## Undeveloped Land Inventory

The AIA is estimated to contain approximately 2,900 acres of undeveloped land located outside of Airport ownership. Some additional development capacity exists on agricultural properties with minimal building/ residential improvements as well the Airport property. An estimated 2,275 undeveloped acres are located outside of the Airport Critical Zones. Most of the undeveloped off-airport land in the AIA (about 80%) is located within the City of Loveland's Growth Management Area. Figure I-2 illustrates undeveloped land in the AIA.

**Figure I-2: Off-Airport Undeveloped Land* in AIA**




*Undeveloped land refers to land on which no building or parking improvements have been constructed.

## Employment Trends and the Economic Base

The Larimer County employment base has grown by more than 30,000 wage and salary jobs over the past 10 years. All industry sectors gained jobs over this period, indicating the economic base continues to diversify. The Education and Healthcare sector continues to be a leading source of employment growth (accounting for about one-third of all job growth since 2008).

Industry sectors traditionally associated with industrial land uses, including Manufacturing, Wholesale Trade, Transportation and Warehousing, and Construction expanded by approximately 6,100 jobs between 2008 and 2018. Activities usually associated with private office land uses, including Professional and Business Services, Financial Activities, and Information grew by approximately 3,700 jobs over the period. Employment within the AIA is more concentrated in sectors typically associated with industrial land uses.

Review of private industries with high location quotients in Larimer County indicates that employment in the market area continues to be most concentrated in manufacturing activities (specifically related to beverage, machinery, computer/electronics, and plastics), information technology, and building trades and service sectors (which relate to continued high rates of household and nonresidential growth in Northern Colorado).

A large employment concentration or "cluster" pattern still exists among several technology-related sectors (including computer/electronics manufacturing, data processing, information publishing, etc.). However, some of these local industries exhibit patterns of long-term employment decline.

## Labor Force Conditions

The Larimer County population is projected to grow to about 480,000 people by 2040, representing an average annual growth rate of 1.5 percent. This is slightly below historical growth rates since 2000. The labor force is projected to expand more slowly at 1.2 percent annually. The labor force participation rate is projected to decline slightly to about 70 percent and then remain relatively stable over the longer-term.

The labor market continues to be in a full-employment condition. Economic development professionals continue to report that some companies experience challenges finding labor.

The AIA benefits from a wide and diverse labor shed because of its regional centrality and highly accessible environs. Communities represented within the AIA will continue to function as one employment and housing market area to varying degrees - significant flows of labor across municipal borders occur in many directions. Labor shed patterns exemplify how future growth and economic development of the AIA can provide indirect regional benefits: the vast majority of workers employed in the AIA have and will likely continue to reside outside the municipality in which the Airport is located.

## Characteristics of Successful Research/Technology Parks or "Innovation Districts"

Airport Commissioners and Planning and Development Subcommittee members have identified Technology and Innovation as an important developmental focus area, preferably integrated with technical education and training activities. A fully-certified remote tower and the attraction of an accredited remote air traffic control program are perceived by the Subcommittee to be first steps on a path towards aviation and high-tech industry cluster development in the AIA.

Other nearby property owners and partners have also previously discussed technology-oriented development concepts, such as those related to time-share 3D printing facilities that could benefit additive manufacturing

# Successful Research/Technology Parks

**SKYSONG**, Scottsdale, Arizona

The 1,200,000-square-foot, mixed-use development located on a 42-acre campus at the site of a former closed mall, involved a variety of commitments and contributions by Arizona State University ("ASU"), ASU Enterprise Partners, and the City of Scottsdale. The ASU Scottsdale Innovation Center occupies 135,566 square feet of space for corporate engagement, entrepreneurship, education, technology, and innovation. It links and leverages technology, research, education and entrepreneurship to create beneficial economic development and economic impacts. These services support entrepreneurial ventures and established businesses through access to the latest technologies, capital networks, and a skilled workforce. 1951 @ Skysong is a co-working and meeting space part of the Innovation Center. The innovation Center also hosts the ASU "Startup School". Initiatives based at ASU SkySong have been responsible for: over 120 companies that have collectively raised over $600 million in venture capital, and generated over 1,100 jobs; the nation's leading summit for education technology, the ASU/GSV Education Innovation Summit; the groundbreaking ASU Online/Starbucks degree program; and support of over 400 community meetings and 5,500 visitors each month.

**ISU Research Park**, Ames, Iowa

The ISU Research Park in Ames, Iowa sponsored by Iowa State University contains about 800,000 square feet of office and industrial flex/R&D space on 150 acres of land. The project began development in 1987 but only significantly installed infrastructure to serve future development in the past five years. An additional 176 acres of land remain available for development which can support an additional 1.0 million square feet of office/flex/R&D space. ISU Research Park office space and land is reserved for businesses that have linkages to research activities at Iowa State University. ISU Research Park owns and operates 10 of the 12 buildings including technology and wet-dry lab incubators. The Park provides access to specialized facilities, technology, and equipment, faculty and students as well as sources of public and private funding. ISU Startup Factory, the Park's pre-incubator accelerator started about two years ago, has launched more than 45 startups and is responsible for more than 70 jobs and $20 million in external funding. Examples of office space-using businesses in the ISU Research Park include Workiva (formerly WebFilings which creates cloud-based productivity solutions) and NewLink Genetics (developing cancer vaccines). Since the infrastructure installation about five years ago, about 200,000 square feet of building space has built. The building additions include about 50,000 square feet for an animal health research company (Boehringer Ingelheim Vetmedica), about 40,000 square feet of space for an agricultural technology company (Ag Leader Technology) and support uses including a fitness center of about 30,000 square feet, a medical/child-care center of about 30,000 square feet, and 10,000 square feet of restaurant/food service space. According to the Real Estate Development and Operations Manager for the ISU Research Park, the addition of the amenities and services have facilitated attraction of new businesses and helped attract/retain needed labor in a geographic market experiencing unemployment rates below two percent.

**UTEP Technology Research and Acceleration Park**, El Paso, Texas

An airport related relatively small-scale example of the kind of commitment and partnership arrangements required for research and technology parks or innovation districts to launch include the transformation of an underutilized portion of Fabens Airport into The University of Texas at El Paso ("UTEP") Technology Research and Acceleration Park. In 2016, UTEP and El Paso County entered into a partnership that is part of a new strategic initiative for UTEP's Center for Space Exploration and Technology Research. Through the partnership, the County contributed land under a lease to UTEP and obtained federal and state funds to improve the property with roads and utilities. The University's Center for Space Exploration Technology Research ("cSETR") obtained federal funding and provides student talent to attract industry leaders to the Fabens site as part of its continued commitment to meet the demand for engineers in aerospace and federal labs, particularly in combustion and propulsion. cSETR partners, including NASA, the U.S. Department of Energy, Lockheed Martin, and the Missile Defense Agency are anticipated to participate in projects at the Fabens Airport UTEP Technology Research and Acceleration Park. In 2017, the U.S. Department of Commerce awarded UTEP a $500,000 grant to create and expand cluster-focused proof-of-concept and commercialization programs through the Economic Development Administration's (EDA) Regional Innovation Strategies (RIS) program. The EDA grant money was matched by UTEP for a total investment of $1million and applied toward the development of the Technology Research Innovation Acceleration Park ("tRIAC") in Fabens. Renovation of the existing hangar facility started in April 2017 and since then three test cells have been developed and a wind tunnel facility is under construction. tRIAC is envisioned to include additional facilities such as a data center, a rocket tower, and incubator facilities for small businesses.

**See Appendix B for a case study summary of a technology park (the DuPage National Technology Park) that was not successfully implemented.**

processes for small or start-up companies (which may not be able to afford the capital investment of 3D printing equipment). Other emerging sectors that could evolve into industry cluster candidates also include research and development activities related to clean energy, drone technology, and agricultural/bioscience technology. Characteristics associated with successful research and technology parks or "innovation districts" frequently include:

1. Excellent accessibility to transportation links;
2. High quality technology infrastructure;
3. Participating academic institutions (with a strong reputation for encouraging technology transfer) and "bell cow"[1] educational, government, other institutional, and industry anchor occupants;
4. On-site amenities such as child care, restaurant, health club, hotel, and business support uses as well as housing uses needed to attract and retain younger talented employees on which innovative organizations depend; and especially important
5. An existing technology labor pool base and technology cluster[2].

The AIA provides excellent accessibility within the Northern Colorado region. The existing broadband communications service/infrastructure is perceived to require upgrading or enhancement. The deficiencies could be remedied through the recently approved municipal-owned broadband utility in Loveland. No formal commitments or partnerships have been established with universities in support of an innovation district or technology park in the AIA or at the Airport. Success frequently depends upon adding value to users through the provision of the anchor university or institution's assets and resources, including access to sophisticated equipment, laboratories, and faculty and students.

The AIA includes an adequate and growing base of desirable amenities and support services, including a variety of shopping, dining, fitness and lodging uses. Establishing these types of amenities "on-site" within a specific innovation district or research and technology park in the immediate vicinity of the Airport property, however, could be problematic. Uses such as housing and child care should not be encouraged to locate on or near the Airport property or Airport Critical Zones.

A base of skilled labor in high-technology occupations does exist in Larimer County, which is estimated to contain about 19,000 workers in computer, engineering, and science-related occupations representing about 10 percent of the overall labor force (roughly twice the national average). Two existing technology-related employment clusters in the county are relatively small, but highly specialized.[3] The presence of existing skilled labor and an established base of some technology-related clusters should help to support innovation initiatives in the AIA.

[1] The "bell cow" is the lead cow of a herd, having a bell attached to a collar around its neck so that the herd can be located easily. The analogy to real estate and economic development just implies a pioneering first-in "leader" tenant who can both brand a project/location and provide benefits to other tenants (thereby increasing the likelihood of attracting other tenants).

[2] Studies have indicated not only the importance of universities as participants in technology clusters but also the importance of research institutes as well as proximate companies in related sectors having access to a deep labor pool consisting of both scientists and other technical experts and managers with relevant industry experience. In successful high technology regions like Silicon Valley, social structures promote innovation because of high inter-firm mobility and firm creation by serial entrepreneurs and job hopping. In addition, proximity to venture capital sources is considered important.

[3] According to the *U.S. Cluster Mapping Project* of the Harvard Business School Institute for Strategy and Competitiveness, two highly specialized technology-related clusters exist in Larimer County: "Information Technology and Analytical Instruments" and "Biopharmaceuticals." As of 2016, approximately 4,200 workers were employed in these technology clusters, or about three percent of the overall workforce. See: https://clustermapping.us/region/county/larimer_county_co/cluster-portfolio#employment

## REAL ESTATE/LAND USE MARKET CONDITIONS

### Office and Industrial/Flex Uses

Private office space developments in the AIA are estimated to contain about 1.4 million square feet of existing building space. Existing industrial/flex space development in the AIA is approximately twice as large, estimated at approximately 3.0 million square feet of building space. Office and industrial/flex buildings differ in their function and design but share a key similarity: they provide workspace for almost all primary employment (primary jobs) located in a given area. The near-term market in many locations of the AIA is likely to be stronger for industrial/flex uses than for traditional private office uses.

The primary geographic market area within which office and industrial/flex development within the AIA will generally compete is Larimer County and the Interstate 25 Corridor. Some locations outside of Larimer County such as Greeley and Boulder/Denver are "secondary" market areas that may represent potential sources of demand for future office or industrial/flex development in the AIA, but not direct sources of competition. Internal movements, expansions, and consolidations within the primary competitive market area can be expected to account for most future office and industrial/flex space demand in the AIA. The competitive position of the AIA for new office space development will continue to improve over time as land supply in preferred Fort Collins locations declines.

*Office Market:*

- The Fort Collins/Loveland office market is very well occupied. This reflects consistent job growth over the past several years with limited new office space construction. Office space rents have increased but have not escalated at high rates comparable to other land uses in the market, indicating that landlords have kept rates comparatively "in check" to absorb existing spaces. Prevailing market rents for most office space product remain well below levels required to speculatively build new office space.

- Locations in Fort Collins provide more than 70 percent of all office space inventory in the market and Southeast Fort Collins continues to be a preferred location for private office space users. The Fort Collins/Loveland office space market is estimated to have absorbed approximately 260,000 square feet of space within the past year; all of it within Fort Collins.

- The Airport and most of the AIA are located within the "East Loveland" office space submarket. The office space vacancy rate at year-end 2018 was above average, at approximately 10 percent. The appeal of East Loveland as multi-tenant office space location has improved over time, and vacancy rates have declined, although it is not perceived to be as desirable to office space users as some competing locations to the north.

*Industrial/Flex Market:*

- The regional industrial/flex space market is similarly well occupied. Warehouse space, which comprises most of the existing inventory, had a total vacancy rate of only 2.5 percent at year-end 2018. The three largest submarkets, including North Fort Collins, South I-25/US 34, and North I-25, all have vacancy rates of 3.0 percent or less. The South I-25/US 34 submarket which encompasses the AIA is the preferred warehouse/distribution submarket within Northern Colorado while North Fort Collins has traditionally been a preferred location for manufacturing space and activity.

- From early 2015 through year-end 2018, the average asking net industrial space rent is estimated to have increased by approximately 33 percent to over $10 per square foot. Prevailing industrial space rents are typically high enough to encourage and reward speculative development.

- The Fort Collins/Loveland industrial market has absorbed approximately 385,000 square feet of space within the past year. Approximately 75 percent of this positive absorption occurred in Loveland. The five-year annual absorption average has been approximately 190,000 square feet of space. Locations within Loveland continue to absorb and deliver a greater amount of industrial space than Fort Collins.

## CHARACTERISTICS OF SUCCESSFUL OFFICE DEVELOPMENTS

Successful corporate office developments depend on how well they enable businesses to be more productive and satisfy their customers with innovations that produce better products and services. Office projects must be located and built with or near other activities that will enhance productivity and attract and hold talented labor. They must be located where a culture of innovation exists and can be enhanced by the office space. Therefore, the availability of an affordable and diverse mix of housing and a supply of land zoned for residential uses that serves to maintain a supply of competitively priced high-quality housing units is an inducement to office space-using businesses. It is difficult to be productive or innovative if the talented labor companies need is exhausted by long commutes. In an era of globalization and a shortage of well educated, highly-skilled workers, businesses and office development follow the talented labor. Successful corporate office space developments typically must meet the following criteria:

- A central or highly accessible location to major transportation modes and other activity centers in the region;
- A large commute shed providing access to a significant concentration of a highly-skilled and well-educated workforce;
- Proximity to a diverse set of housing uses. The proximity to a variety of housing product options relates well to the national trend for people to prefer to work close to their residences;
- Proximity to retail, lodging, and other support services and amenities, including eating and drinking establishments and day-care and fitness facilities;
- Market-responsive product types with appropriate technology capabilities; and most important,
- Locations within agglomerations or a “critical mass” activity that helps businesses attract and retain labor and operate cost effectively and productively.

## CHARACTERISTICS OF SUCCESSFUL INDUSTRIAL DEVELOPMENTS

Industrial building and grounds are becoming increasingly more park-like and user-friendly. Industrial buildings, which often look less like traditional factories and more like office buildings, are designed for maximum efficiency and productivity with ample loading docks and overhead doors, large truck turnaround areas, and enhanced lighting for round-the-clock operations. An increasing proportion of industrial buildings include higher amounts of office space than historically has been the case because of the need to accommodate increased administrative, data processing, and sales functions.

To succeed, an industrial park typically requires a location including the following attributes:

- Near major airports and convenient to major highways and seaports;
- High identity or visibility to/from and convenient access to major highways;
- Proximity to commercial services and activities;
- Near, but not too close, to housing uses and an appropriately skilled labor base; and
- An image or identity as a well-established place for contemporary industrial businesses.

## Hotel Uses

The cities of Loveland and Fort Collins contain a total hotel room inventory of approximately 4,000 rooms (with "limited service" hotels representing most of the inventory). Eleven hotels within the AIA, containing approximately 1,100 rooms, represent approximately one-quarter of the hotel supply. Annual occupancy rates in Loveland for 2017 and 2018 averaged approximately 70 percent, while annual occupancy in Fort Collins has been less robust at approximately 62 percent in 2017 and 58 percent in 2018. Average daily rates over the prior two years have remained relatively stable.

Business travel and general interstate travel on I-25 tend to be the primary generators of local room night demand within the AIA. The presence of the Ranch Events Complex and Budweiser Events Center within the AIA is reported to be a strong, though secondary generator of hotel room night demands. Aviation activities at the Airport also generate some room night demands within the AIA, although general aviation is not reported to be a primary driver of hotel demand.

Expanding business activity and continued population growth throughout Northern Colorado, in combination with a period following the Great Recession in which new hotel development was non-existent, have led to recent high levels of recent hotel development activity. Three recently opened properties in the AIA have alone added approximately 240 rooms to the local hotel supply within the past 18 months.

Total annual gross room revenue in Loveland and Fort Collins is estimated to have increased in real terms from approximately $56 million in 2008 to over $95 million in 2017, representing 40 percent growth over the 10-year period. Average daily revenue per available room ("RevPAR") has grown over time, indicating that the new hotel inventory added over the past 10 years has primarily captured new room night demand (as opposed to merely siphoning demand/sales from the existing hotel supply). New hotels typically require higher rates and/or occupancy than current market averages to be feasibly developed.

Projects in the development or planning stage represent well over 1,000 additional hotel rooms. Interviews suggest that some planned hotel developments have been pushed back as the market still absorbs recently built inventory.

## Residential Uses

The local and regional housing markets have experienced rapid change amid recovery from the 2008-2010 Great Recession and the housing market crash and foreclosure crisis that preceded it. New housing production, especially for owner occupied single-family uses over the past five years, has not kept pace with new household formation (demand). Housing vacancy and availability rates have declined and remain extremely low for all types of housing. This has resulted in high cost increases for existing inventory. Average single-family home resale prices in the Fort Collins and Loveland areas increased by approximately 54 percent between 2013 and 2018. Average apartment rents increased by about 30 percent over the same period.

A combination of declining residential land supply in the core/central areas of Fort Collins and Loveland and robust population and job growth have caused residential development patterns to shift toward the periphery of each community. Prior to 2000, the entire AIA contained fewer than 600 housing units or about 0.5 percent of the regional housing stock. The AIA today still represents less than two percent of the county housing stock. Since 2000,however, the AIA has accounted for about four percent of all new residential building space constructed in Larimer County. These patterns can be expected to continue and will probably intensify.

The current market for all types of housing within and near the AIA is reported to be strong. Multi-family apartment properties in the AIA report high occupancy rates of 96 to 97 percent. Representatives of single-family housing developments report that projects have sold quickly, and that the AIA appeals to homebuyers partially for the same reasons that appeal and provide advantages to nonresidential uses (centrality in the region and accessibility to Interstate 25).

**Residential land use compatibility observations:**

- Proximity to the Airport has generally been a "neutral" factor with respect to the absorption of residential units within or near the AIA.
- The Federal significance threshold for aircraft noise exposure (the 65 DNL) is entirely contained within the bounds of Airport property ownership. The current level of flight activity at the Airport, and the type of aircraft using the Airport, are not necessarily incompatible with existing locations of residential development in the AIA.
- Land use compatibility regulations/policies should be proactive in protecting against future property owner "opposition" to longer term development of commercial air service. This could arise if residential land uses of any significant scale are allowed to develop closer to Airport Critical Zones and the 65 DNL.

## Future Land Use Demand and Planning Implications

The following summarizes a projection of the type and mix of future land uses potentially in demand in the AIA.

| Land Use | 20-Year Demand | Estimated Land Requirement |
|---|---|---|
| Single-Family Residential | 2,000-2,800 units | 331-464 acres |
| Industrial/Flex | 2,254,000-3,006,000 (sq. ft.) | 172-230 acres |
| Multi-Family Residential | 1,400-1,800 units | 58-73 acres |
| Office | 869,000-1,216,000 (sq. ft.) | 57-80 acres |
| Hotel | 457 hotel rooms | 9-11 acres |

Demand for office space in the AIA over the next 20 years is projected to grow by approximately 870,000 to 1,220,000 square feet of office building space. Demand for industrial/flex space is projected to grow by about 2,250,000 to 3,010,000 square feet of building space over the next 20 years. The projections (which have been developed using published secondary employment forecasts by industry sector) indicate that market support for office and industrial/flex space development in the AIA could almost double the inventory of existing building space within the next 20 years. Based on typical densities at which suburban office space and industrial/flex buildings are currently being developed, we estimate that approximately 230 to 310 acres of land will be required over the next 20 years for these types of "Employment" land uses. More than 500 acres of land is potentially available for development of employment uses in the AIA.

The demand projection for hotels rooms in the AIA over 20 years totals approximately 460 additional rooms. At a density of 40 to 50 rooms per acre, the demand equates to approximately 10 acres of land required for future hotel uses. The projection is based on primary employment growth in the AIA, which is a primary generator of existing room night demand and does not explicitly account for external lodging needs due to increased interstate travel or significant commercial air service at the Airport. However, the projection does provide a useful comparison between likely future demand and supply. As described in Chapter V, three PUD projects within the AIA have already publicized plans or proposals to develop approximately 800 additional hotel rooms. Significant major hotel developments in other areas of the AIA should not be anticipated or planned.

Future hotel developments may depend on increased room night demand from sources unrelated to local business activity (e.g., increased non-local visitation to the Budweiser Events Center or County Fairgrounds).

Future demand for single-family residential uses over the next 20 years is projected to grow by approximately 2,000 to 2,800 additional units (attached and detached). The projection for multi-family residential uses indicates that potential demand within the AIA could total 1,400 to 1,800 units over the next 20 years. For both housing types, the projections equate to more than doubling the existing inventory of housing units within the AIA. The projected housing demand in AIA over the next 20 years would equate to a need for approximately 390 to 540 acres of gross land area allocated to residential uses. Assessor records indicate that about 280 acres of platted and unplatted residential land (currently undeveloped land) already exists within the AIA outside of the Airport Critical Zones, primarily including the next phase of the Lakes at Centerra residential development. This undeveloped land is mostly planned for single-family uses. There are 390 platted but unbuilt single-family lots within the AIA. Additional "agricultural" parcels within the Millenium General Development Plan (GDP), such as Centerra, also provide an additional 200 acres of vacant land that has already been approved through PUD agreement with residential development permitted as-of-right.

Two multi-family developments on the east side of Interstate 25 could also effectively meet most of the projected 20-year demand for multi-family units summarized above in Table VI-4. The Brands at the Ranch has entitlements to build up to 580 multi-family units. The Railway Flats project in Centerra recently broke ground with plans to provide up to 420 units in two phases. These two projects alone have capacity to add 1,000 additional multi-family units in locations that will not interfere or conflict with Airport operations. However, market support in the long-term for additional multi-family uses will likely arise.

The total land requirement estimated for the office, industrial/flex, hotel, and residential uses equates to 630 to 860 acres. This represents about 22 to 30 percent of the estimated off-airport inventory of undeveloped land in the AIA.

# AIRPORT INFLUENCE AREA RECOMMENDATIONS

1. **Develop an implementation plan and conduct further research, analysis, and outreach needed to lay the groundwork for a successful research and technology park or innovation district within the Airport Influence Area.** Securing participation from academic institutions and "bell cow" anchor occupants will be essential. In addition, roles and contributions required by participants/stakeholders must clearly be defined. It is not enough to place a university's name and brand on the park or innovation district. Instead, institutional participants must actively lead the effort to promote the park and support it until the project is substantially developed and occupied by beneficial space users and financially solid. Working capital will be required to pay for the necessary market and feasibility studies, master planning, development agreements, and operating expenses including staffing and marketing costs of the research and technology park or innovation district. Commitments of financial assistance in terms of direct financial support or contributions of in-kind services are essential for the planning, formation, and launch of a park or innovation district. Identify what sources of funding, and from whom, may be available to complete due diligence and pre-development activities well before detailed physical planning, engineering and other design-related steps are taken. The Airport should encourage and be a participant in this effort, but this needs to be a community-led plan with broad cooperation.
2. **Encourage a long-term competitive functioning land market in the AIA by allocating more land for office and industrial/flex uses than the 230 to 310 acres of demand forecast over the next 20 years.** This will help to avoid land cost increases and insufficient development of building space that can sometimes result when a limited number of property owners control a high share of developable land and land use entitlements.
3. **Identify potential sites on which to encourage additional long term industrial/flex development that is (a) compatible with adjacent uses and (b) provides the most efficient access to public infrastructure.** These areas should be identified beyond the two large entitled Planned Unit Developments in the AIA, including portions of the Airport property, and should also emphasize larger contiguous areas of land. Both Centerra and The Brands may not be in the position for a variety of reasons to accommodate the full scope of industrial activities/users that could be attracted to the AIA over time. Future successful build-out in the AIA will partly depend on how well communities in the AIA, the Airport, and private property owners can coordinate with each other to agree upon what uses work best and where, and to ensure that the physical environment is best positioned for a wide variety of industrial/flex space development opportunities. (A scarcity of sites for traditional office space development is less likely to materialize in the AIA over the next 20 years).
4. **Engage the Fort Collins-Loveland Water District and Loveland Water and Power in assessing infrastructure needs and developing joint strategies to provide adequate public utility infrastructure for undeveloped portions of the AIA. Future transportation infrastructure and roadway capacities should also be evaluated to ensure positive development outcomes in the AIA.** More than 70 percent of undeveloped land within the AIA, plus the Airport property, is served by the Fort Collins-Loveland Water District (and synonymous South Fort Collins Sanitation District). Draw on the land use findings and related recommendations in this report as a baseline from which to evaluate future needs (recognizing public infrastructure capacity is unlikely to be needed for the entire ±3,000 acres of undeveloped land in 20 years). The Fort Collins-Loveland Water District reportedly has adequate capacity to accommodate its current users but is already

planning to expand water supply capital infrastructure/delivery systems to accommodate an additional 8,000 acre-feet over the next 10 or so years. Similarly, Loveland Water and Power has issued bonds to develop its municipal broadband network. Make sure roll-out and development efforts appropriately emphasize the economic development opportunities in the AIA. Sufficient fiber and broadband service will be one of many key ingredients to successfully establishing a research/technology park or innovation district in the AIA.

5. **Encourage a thriving mixed-use environment compatible with Airport operations and dual accessibility to aviation services and Interstate 25.** Occupied building spaces and jobs/wages created within the AIA are examples of fundamental metrics of success. The AIA has enough land to accommodate and adapt to a diverse array of land uses and economic activities over the coming decades. The Airport itself and aviation activities are unlikely to be a primary catalyst for development.
6. **Encourage additional residential development within the AIA at locations that will not conflict with Airport operations and commercial air service development (i.e., locations are sufficiently buffered from flight paths, the 55-60 DNL, and Airport Critical Zones).** The biggest source of future land demand in the AIA will continue to be for residential land uses. An attempt to limit all future residential development within the AIA could have unintended or even counter-productive consequences, including a negative impact for long-term economic development. Northern Colorado is already experiencing challenges associated with inadequate housing availability and burdensome price increases that reduce housing affordability (which in turn, limit or constrain the long-term prospects for positive economic growth and development). Land in the AIA will continue to be needed for residential uses to create the "mixed-use" environment that will be sustainable and successful in the future.
7. **Position the AIA as a master planned, user-friendly environment with appropriate design and use standards.** Long term success and economic development of the AIA will require built-in flexibility and land and building opportunities that can meet the needs of a wide variety of economic activities and uses.
8. **Be proactive in planning for long term expansion of the existing medical activity center centered around the UCHealth Medical Center of the Rockies**. The healthcare sector is anticipated to maintain a high rate of growth in Northern Colorado and the AIA includes considerable land capacity to accommodate this growth in a regionally-centric location. Coordinate with property owners and medical users/providers to ensure future facility needs or plans do not create undue conflicts with aviation activity growth. Also consider whether non-medical uses such as workforce housing might be acceptable in the future near the UCHealth campus.
9. **Maintain all existing land use compatibility requirements (primarily in the City of Loveland's overlay zoning ordinance) and encourage Larimer County and the City of Fort Collins to establish the same requirements via overlay zoning or similar measure.** The area north of the Airport between the growth management areas of Loveland and Fort Collins is unlikely to experience much further urban development given the restrictive "mosaic" of density transfer requirements/credits, natural areas and conservation easements, and public infrastructure requirements for this mostly agricultural area. Nor are the policies of either jurisdiction encouraging significant development here; the recently updated Fort Collins *City Plan* envisions the corridor as an open space community buffer. However, as a simple protective measure, amend existing land use and zoning codes to incorporate the same or similar requirements as the Airport Overlay zoning adopted by the City of Loveland.
10. **Adopt additional land use compatibility measures to avoid precluding commercial air service development in the future.** For all properties wholly or partially contained within the AIA, require that the AIA boundary, Airport Critical Zones, and existing noise contours be recorded on all new or amended plats. For any new

development, changes of land use, or substantial alterations to existing buildings within the AIA, require an Aviation Activity Notice be publicly recorded which recognizes the presence of the property within the AIA and the possibility of impacts related to flight activities.

11. **All jurisdictions possessing land use review and approval authority in the AIA should establish a uniform procedure for Airport staff and/or representatives to provide written review.** Refer all future development proposals, land use applications, and proposed zoning changes to the Airport Director and Airport Commission for review.

# II: EXISTING LAND USE AND DEVELOPMENT PATTERNS

The AIA covers an approximately 10,000-acre area, portions of which span five local jurisdictions including the cities of Loveland, Fort Collins, Windsor, and Johnstown as well as unincorporated Larimer County. More than 90 percent of the AIA area however is currently located within the City of Loveland and unincorporated Larimer County. The 1,060-acre Airport Property represents approximately 11 percent of the area within the AIA.

## EXISTING LAND USE IN THE AIA

Table II-1 below presents a generalized summary of land area outside of Airport ownership. Existing off-airport land use within the AIA is also summarized in Figure II-1.

**Table II-1: Generalized Land Use in the AIA**

| Land Use [1] | Area # Acres | Percent of AIA % |
|---|---|---|
| Developed: | | |
| Residential [2] | 1,400 | 15.6 |
| Public/Institutional | 379 | 4.2 |
| Industrial | 330 | 3.7 |
| Commercial | 235 | 2.6 |
| Office | 109 | 1.2 |
| *Subtotal* | *2,453* | *27.4* |
| Water Bodies/Lakes | 1,385 | 15.5 |
| Natural Areas/Open Space [3] | 1,254 | 14.0 |
| Right of Way | 800 | 9.0 |
| Agricultural and/or Vacant | 3,057 | 34.2 |
| Total Off-Airport | 8,950 | 100.0 |

[1] Land use is summarized based on building improvements. "Developed" land area refers to parcels with building space improvements reported by the Larimer County Assessor.
[2] Includes common area lands within residential subdivisions.
[3] Includes Boyd Lake State Park; protected open space associated with the Fossil Creek Reservoir, Fossil Creek Natural Area, Flores del Sol Natural Area, and Soaring Vista Natural Area; agricultural land with conservation easements (north of Airport); properties zoned "Developing Resources" within Loveland; and environmentally sensitive areas identified within the Millenium GDP (Centerra).

Source: GG+A Analysis of Larimer County Assessment Records

Lands with developed building space or parking improvements, referred to as "developed land uses", within the AIA are estimated to currently total about 2,500 acres or 27 percent of off-airport land area. Existing residential uses are the largest category of developed land use, totaling 1,400 acres or approximately 16 percent of land area. (This includes common area lands within residential subdivisions). Institutional/Public land uses are estimated to comprise approximately 380 acres or about four percent of off-airport land area in the AIA. This primarily includes the County Fairgrounds property and Medical Center of the Rockies hospital campus. Developed Industrial land uses are estimated at 330 acres or approximately four percent of total

land. Commercial land uses such as shopping centers, retail buildings, and lodging properties are estimated to contain approximately 240 acres of developed land area or approximately three percent of off-airport land area in the AIA. Office land uses are the smallest category of developed land in the AIA, estimated to total approximately 110 acres or about one percent of off-airport land area.

Water bodies (ponds and lakes) comprise a substantial share of the AIA geographic area, estimated to total nearly 1,400 acres or about 16 percent of the area within the AIA. Protected open spaces and natural areas (such as around Fossil Creek Reservoir), land in conservation easements north of the Airport, and environmentally sensitive areas within Centerra represents an additional 1,300 acres of land. Agricultural and/or vacant properties in the AIA are estimated to total approximately 3,100 acres of gross land area. This represents approximately 34 percent of total off-airport area within the AIA.

## EXISTING BUILDING SPACE AND HOUSING UNIT INVENTORY

Parcels fully or partially contained within the AIA contain well over 10,000,000 square feet of physical building space. Much of this space has been built within the past 20 years. Table II-2 summarizes the existing building space inventory, by year built, for major use categories of industrial, office, retail, hotel, and residential.

**Table II-2: Inventory of Off-Airport Building Space (in Square Feet) within the AIA[1]**

| | Pre 1980 | 1980-1989 | 1990-1999 | 2000-2009 | 2010-2018 | **Total** |
|---|---|---|---|---|---|---|
| Industrial | 449,000 | 1,389,000 | 346,000 | 444,000 | 403,000 | **3,032,000** |
| Office | 0 | 0 | 226,000 | 929,000 | 260,000 | **1,415,000** |
| Retail[2] | 2,000 | 3,000 | 356,000 | 1,024,000 | 27,000 | **1,412,000** |
| Hotel | 46,000 | 0 | 81,000 | 180,000 | 139,000 | **446,000** |
| Residential | 584,000 | 188,000 | 324,000 | 2,366,000 | 1,189,000 | **4,652,000** |

[1] Figures are rounded. Estimates do not contain building spaces on public/exempt parcels (such as the Larimer County Fairgrounds property).
[2] Includes restaurants and automotive dealers.

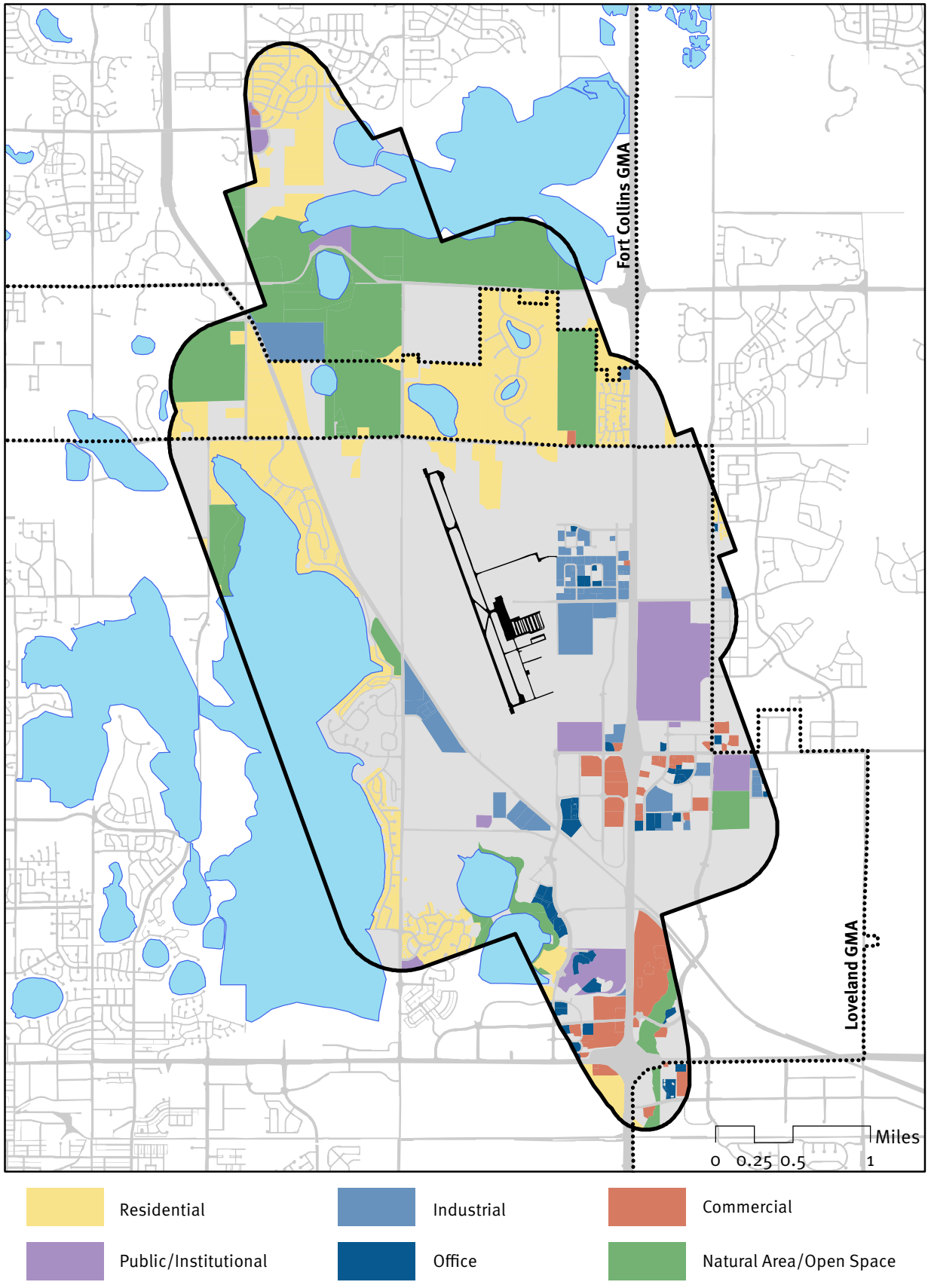
Source: GG+A Analysis of Larimer County Assessment Records

The AIA is estimated to contain approximately 3.0 million square feet of industrial building space and 1.4 million square feet of office building space on privately owned parcels. Approximately 60 percent of existing industrial building space was built prior to 1990. Just over 400,000 square feet of industrial space in the AIA has been completed since 2010 according to County assessment records. The majority or about 66 percent of office space within the AIA was built between 2000 and 2009, a period during which more than 920,000 square feet was completed. Office development activity has slowed since the Great Recession, with approximately 260,000 square feet completed between 2010 and 2018 (including medical space).

Approximately 320,000 square feet of hotel space and 1,050,000 square feet of retail and restaurant space has been built within the AIA since 2000. The AIA collectively contains approximately 1.9 million square feet of lodging and retail space on private property. Including the Embassy Suites on the Larimer County Fairgrounds property, the existing hotel room inventory in the AIA is estimated to total approximately 1,100 rooms.

Residential developments within the AIA are estimated to contain nearly 4,700,000 square feet of building space. More than one-half of all residential development – about 2,370,000 square feet – occurred between 2000 and 2009. Approximately 1.2 million square feet of residential building space is estimated to have been built between 2010 and 2018. As of 2018, residential developments within the AIA contained an estimated

**Figure II-1: Existing Off-Airport Land Use in the AIA**



2,140 housing units. Detached single-family units are estimated to comprise two-thirds of all existing housing units within the AIA or approximately 1,430 units. Attached single-family units (e.g., townhomes), multi-family units, and manufactured homes are estimated to comprise an additional 715 units or about one-third of the existing housing inventory in the AIA.

## UNDEVELOPED LAND INVENTORY

Table II-3 summarizes an estimate of undeveloped land within the AIA, not including undeveloped portions of the Airport property.

**Table II-3: Summary of Undeveloped Land in AIA by Type[1]**

| | Residential # Acres | Commercial # Acres | Other # Acres | Total # Acres |
|---|---|---|---|---|
| In Airport Critical Zones[2] | | | | |
| Loveland Growth Management Area | 0 | 70 | 450 | 520 |
| Fort Collins Growth Management Area | 0 | 0 | 75 | 75 |
| Other [3] | 0 | 0 | 0 | 0 |
| Outside Airport Critical Zones | | | | |
| Loveland Growth Management Area | 225 | 190 | 1,385 | 1,800 |
| Fort Collins Growth Management Area | 25 | 0 | 240 | 265 |
| Other [3] | 10 | 20 | 180 | 210 |
| TOTAL: | | | | |
| Loveland Growth Management Area | 225 | 260 | 1,835 | 2,320 |
| Fort Collins Growth Management Area | 25 | 0 | 315 | 340 |
| Other [3] | 10 | 20 | 180 | 210 |
| **Total** | **260** | **280** | **2,330** | **2,870** |

[1] Figures are rounded. Land type refers to Larimer County Assessor land abstract codes. Residential and Commercial parcels include platted and unplatted lots. "Other" primarily includes Agricultural and Exempt properties. Protected open space and natural areas, while undeveloped, are not included here.
[2] Airport Philosophy Statements adopted under the *Loveland Comprehensive Plan* suggest that "No residential land uses or other uses that would subject persons to an unreasonable risk or injury should be permitted within the Airport Critical Zone."
[3] Includes portions of Larimer County outside of the growth management areas for Loveland and Fort Collins, as well as small portions of Windsor and Johnstown.

Source: GG+A Analysis of Larimer County Assessment Records

The AIA is estimated to contain approximately 2,900 acres of undeveloped land located outside of Airport ownership. Properties in current agricultural use (according to the assessor) represent more than 70 percent of the undeveloped land. The total inventory of potentially developable land in the AIA is greater if some agricultural properties with minimal residential building improvements and parts of the Airport property are considered. Approximately 600 acres of the undeveloped land inventory are located inside of the Airport Critical Zones. An estimated 2,275 undeveloped acres are located outside of the Airport Critical Zones. Approximately 80 percent of the undeveloped land inventory is located within the City of Loveland Growth Management Area. A comparatively small share of the inventory, about 12 percent, is located within the City of Fort Collins Growth Management Area. The unincorporated corridor (between the two growth management areas of Loveland and Fort Collins) and properties in Windsor and Johnstown are estimated to contain approximately 200 acres or seven percent of undeveloped land area.

# III: ECONOMIC BASE AND LABOR FORCE

The purpose of this section is to identify the industry sectors likely to continue to grow or contract within the local and regional economy, and therefore the types of firms and activities that may represent potential business targets for employment land in the AIA.

The structure and composition of the Larimer County employment base is reviewed, including employment by industry sector and location quotients (industry clusters). Long-term labor force growth projections and existing commute (labor shed) patterns, which are likely to bear on future economic development in the AIA, are also described. An employment forecast for Larimer County prepared recently by the Colorado Department of Labor and Employment is also presented. The forecast of employment identifies how the composition of the local economy may continue to change and provides a baseline from which to estimate the amount of potential future building space and land demand within the market area.

## EMPLOYMENT BASE CHARACTERISTICS

Table III-1 summarizes historical wage and salary employment and average weekly wages by industry sector for Larimer County from fourth quarter 2008 through fourth quarter 2018 (the most recent quarter for which data is available). The estimates are drawn from the Quarterly Census of Employment and Wages program published by the Colorado Office of Labor Market Information.

**Table III-1: Larimer County Employment and Wages by Industry Sector, 2008-2018**

| Sector | 2008 Employment # | 2008 Weekly Wage $ | 2018 Employment # | 2018 Weekly Wage $ | 10 Year Change Employment Change # | 10 Year Change Employment AAGR* % | 10 Year Change Weekly Wage % |
|---|---|---|---|---|---|---|---|
| Natural Resources & Mining | 1,238 | 594 | 1,439 | 854 | 201 | 1.5 | 43.8 |
| Construction | 9,858 | 781 | 11,303 | 1,038 | 1,445 | 1.4 | 32.9 |
| Manufacturing | 12,019 | 1,236 | 14,324 | 1,529 | 2,305 | 1.8 | 23.7 |
| Wholesale Trade | 3,185 | 931 | 4,761 | 1,492 | 1,576 | 4.1 | 60.3 |
| Retail Trade | 17,271 | 456 | 19,260 | 560 | 1,989 | 1.1 | 22.8 |
| Transportation/ Warehousing & Utilities | 3,303 | 847 | 4,084 | 1029 | 781 | 2.1 | 21.5 |
| Information | 2,803 | 884 | 3,294 | 997 | 491 | 1.6 | 12.8 |
| Financial Activities | 5,520 | 788 | 6,736 | 1,166 | 1,216 | 2.0 | 48.0 |
| Professional & Business Services | 18,154 | 967 | 20,103 | 1,253 | 1,949 | 1.0 | 29.6 |
| Education and Health Care Services | 30,920 | 679 | 41,802 | 878 | 10,882 | 3.1 | 29.3 |
| Leisure and Hospitality | 17,215 | 279 | 22,869 | 396 | 5,654 | 2.9 | 41.9 |
| Other Services, Ex. Public Admin | 3,551 | 512 | 4,724 | 691 | 1,173 | 2.9 | 35.0 |
| Public Administration | 7,402 | 986 | 8,215 | 1,135 | 813 | 1.0 | 15.1 |
| Unclassified | 23 | 1,502 | 26 | 1,182 | 3 | 1.2 | -21.3 |
| TOTAL | 132,462 | | 162,940 | | 30,478 | 2.1 | |

* Average annual growth rate.

Sources: Colorado Office of Labor Market Information, Quarterly Census of Employment and Wages; Gruen Gruen + Associates.

The countywide employment base has grown by more than 30,000 wage and salary jobs over the past 10 years. All industry sectors gained jobs over this period. The education and health care and leisure and hospitality sectors experienced particularly strong growth. The largest source of absolute job growth has been attributable to the education and health care sector which has added nearly 11,000 jobs since 2008. The education and health care sector accounted for about 36 percent of all jobs added between 2008 and 2018.

The employment base has grown at an average annual rate of approximately 2.1 percent since 2008, expanding on average by about 3,000 jobs per year. Education and healthcare, leisure and hospitality, other services, and financial activities grew at average annual rates exceeding two percent or more. Employment sectors associated with the consumption of industrial space, manufacturing and wholesale trade have also experienced high rates of growth since 2008 and account for about 22 percent of jobs added between 2008 and 2018. Manufacturing employment grew at an average rate of 1.8 percent to over 14,300 jobs in 2018 compared to about 12,000 jobs in 2008. The wholesale trade sector added approximately 2,000 jobs.

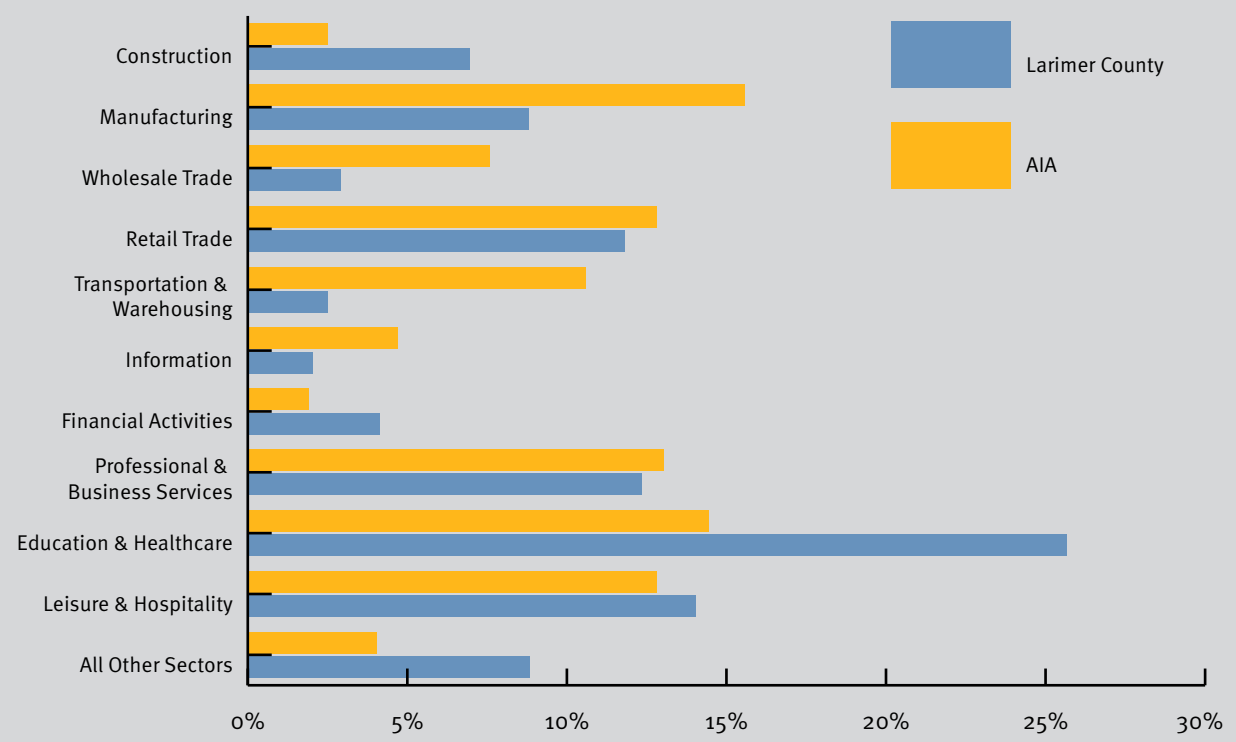
In 2008, manufacturing had the highest average weekly wages of $1,236 followed by public administration, professional and business services, and information. By 2018, manufacturing remained at the top for average weekly wages followed by professional and business services and financial activities, public administration

and construction.

## EMPLOYMENT COMPOSITION

Figure III-1 describes the employment mix for the AIA in comparison to that of the Larimer County economy.

**Figure III-1: Employment Mix Comparison***




*AIA estimate is based on most recently available data from the U.S. Census Bureau LODES program. Larimer County estimates are for 2018.

Existing employment within the AIA is more concentrated in industry sectors that typically use industrial facilities. Manufacturing, wholesale trade, and transportation and warehousing are estimated to comprise about 34 percent of all jobs located in the AIA (as of 2016 estimates). These sectors are estimated to represent a much smaller share, approximately 14 percent, of countywide employment.

AIA employment in sectors traditionally associated with the use of office space (information, financial activities, and professional and business services) comprise 20 percent of total employment, a composition that is similar to the countywide employment base.

## LOCATION QUOTIENTS

"Location Quotients" in the jargon of economic base analysis are metrics used to quantify industry sectors or activities that derive specific competitive advantages from a given region or locality and are particularly concentrated in the region or locality. High location quotients are typically considered to signal the presence of industry clusters or agglomerations within basic industries that export most of their goods and services beyond the local market area. Industry sectors with lower location quotient generally signify an activity that is local-serving.

Table III-2 summarizes industry subsectors within Larimer County (at the 3-digit NAICS level) that exhibited location quotients of 1.25 or greater (as of 2018) as well as historical job growth between 2008 and 2018 in these subsectors. In the third quarter of 2018, relative to the United States employment base, for example, the beverage manufacturing subsector had a location quotient of approximately 4.8, indicating the beverage manufacturing sector is nearly five times more concentrated in the region than the national average.

**Table III-2: Top Location Quotients in Larimer County[1]**

| | 2018 Location Quotient | 2008-2018 Job Growth |
|---|---|---|
| NAICS 312 Beverage and tobacco product manufacturing | 4.8 | 52.0% |
| NAICS 334 Computer and electronic product manufacturing | 3.4 | -3.6% |
| NAICS 333 Machinery manufacturing | 2.0 | 8.9% |
| NAICS 326 Plastics and rubber products manufacturing | 1.7 | 265.3% |
| NAICS 238 Specialty trade contractors | 1.6 | 17.3% |
| NAICS 511 Publishing industries (except Internet) | 1.6 | -22.1% |
| NAICS 518 Data processing, hosting and related services | 1.4 | 161.5% |
| NAICS 811 Repair and maintenance | 1.4 | 29.3% |
| NAICS 531 Real estate | 1.3 | 45.6% |
| [1] Does not include public sector employment. | | |
| Sources: U.S. Bureau of Labor Statistics; Gruen Gruen + Associates. | | |

Other subsectors with location quotients of 2.0 or greater (i.e., twice as concentrated as the national economy) include machinery manufacturing and computer and electronics manufacturing. Industry subsectors related to the housing and non-residential growth occurring in Northern Colorado have relatively high location quotients. These sectors include specialty trade contractors, real estate, and repair and maintenance services. These subsectors have been expanding at annual rates above 1.5 percent over the past 10 years. Businesses occupying industrial space in the AIA are frequently related to the building and trades industries. The location quotient analysis indicates that a clustering or agglomeration effect continues to exist within technology-related subsectors, including computer and electronic parts manufacturing, data processing, and information publishing. However, some of these local industries exhibit patterns of long-term employment decline.

According to the *U.S. Cluster Mapping Project*, the Larimer County economy has six "traded" employment clusters with high degrees of specialization. A cluster is a regional concentration of related industries in a

**Larimer County's Most Specialized* Traded (Export) Clusters**


*An industry cluster that has high employment specialization in a region (ranking in the top 25% of all regions by specialization and also meeting minimum criteria for employment and establishment).*

Source: U.S. Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School.

particular location, while "traded" clusters refer to industry concentrations that primarily export their goods or services beyond the local/regional market. The six largest traded clusters in Larimer County are estimated to include Distribution & Ecommerce, Information Technology (IT), Financial Services, Marketing, Biopharma, and Performing Arts. The Distribution & Ecommerce cluster is estimated to employ more people than the next five largest clusters combined. Activities related to Distribution & Ecommerce typically require some type of industrial building space.

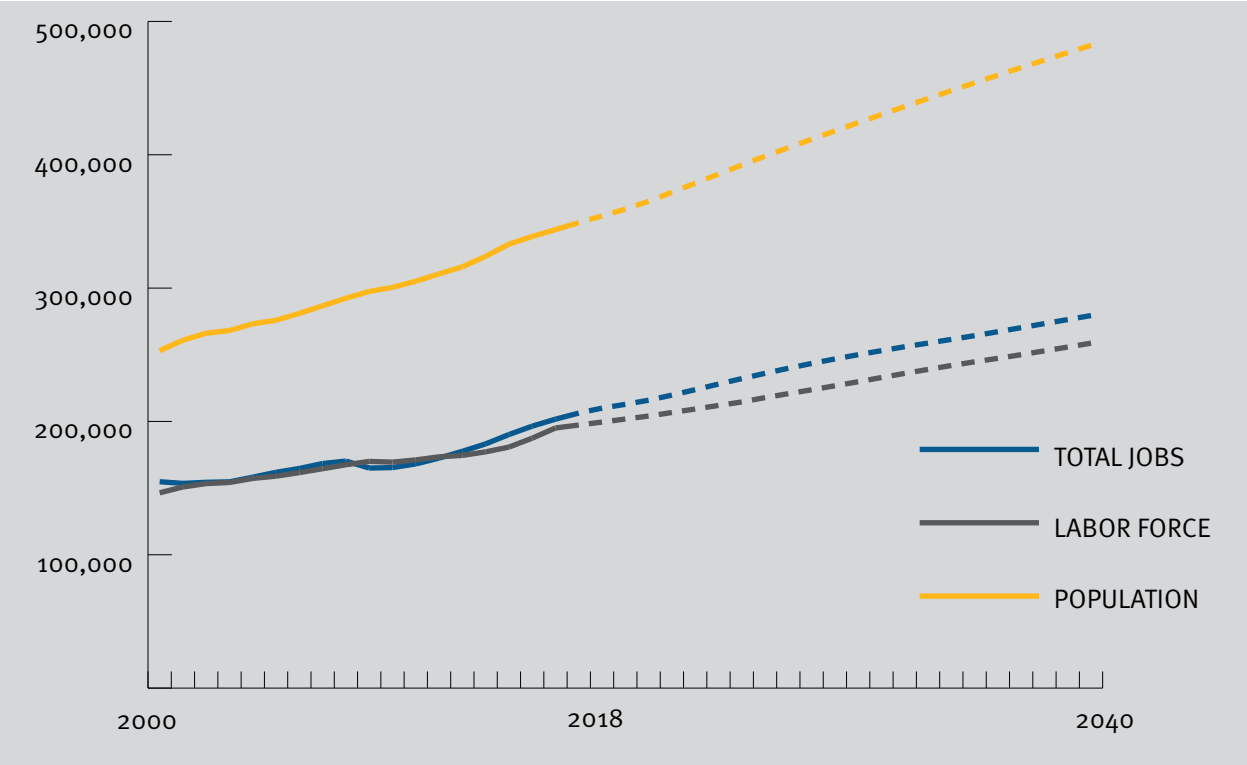
## LABOR FORCE GROWTH AND LABOR SHED PATTERNS

### Labor Force Growth and Participation

Larimer County continues to steadily grow in population. The County population has increased by about 96,000 people since 2000, representing a long-term annual growth rate of about 1.8 percent. The population is currently estimated to approximate 350,000; up from approximately 253,000 in 2000. The civilian labor force is currently estimated at about 197,000 workers.

Figure III-2 summarizes historical and projected population, labor force, and job growth in Larimer County according to Colorado Department of Local Affairs ("DOLA") estimates and forecasts.

**Figure III-2: Population, Labor Force, and Job Growth in Larimer County**




Sources: Colorado State Demography Office; Gruen Gruen + Associates.

DOLA projections indicate that the Larimer County population will grow to about 480,000 people by 2040, representing future annual growth rate of 1.5 percent. This is only slightly below historical growth rates since 2000. The labor force is projected to expand more slowly at 1.2 percent annually.

The labor force participation rate is projected to decline slightly to about 70 percent and then remain relatively

stable over the longer-term. The peak participation rate was approximately 74 percent in 2005-2006, prior to the housing market crash and Great Recession.

The unemployment rate averaged 2.5 percent in 2018, down from a high of about eight percent in 2010. The labor market continues to be in a full-employment condition, although it has been widely documented and discussed that many of Larimer County's well-educated workers may be "underemployed."[1] Long-term projections suggest that a significant change in the labor market is not anticipated. Unemployment is forecast to remain below 3.5 percent for each of the next 20 years in Larimer County. The total number of jobs is projected to eclipse the total available labor, indicating a greater likelihood that Larimer County will need to import a greater amount of labor over time.

Economic development professionals report that some companies continue to experience challenges finding labor and this may constrain economic growth moving forward, particularly as larger numbers of Baby Boomers begin to leave the workforce in coming years. This indeed suggests future employment growth may lag population and household growth, as predicted by DOLA. These trends will also encourage companies to invest in capital equipment and software to reduce the need for labor.

## Labor Shed Patterns

Because of its regional centrality and highly accessible environs, the AIA benefits from a wide and diverse labor shed. The economic base of Northern Colorado is increasingly inter-connected, especially with respect to labor. The communities represented within the AIA will continue to function as one employment and housing market area to varying degrees; significant flows of labor across municipal borders occur in many directions. Figure III-3 illustrates the labor shed served by employers in the AIA (where workers employed in the AIA are estimated to live).

A very small share of the jobs located within the AIA (less than three percent) are estimated to be held by workers who also reside within the AIA. This is not surprising given the relatively limited number of housing units available within the AIA proper.

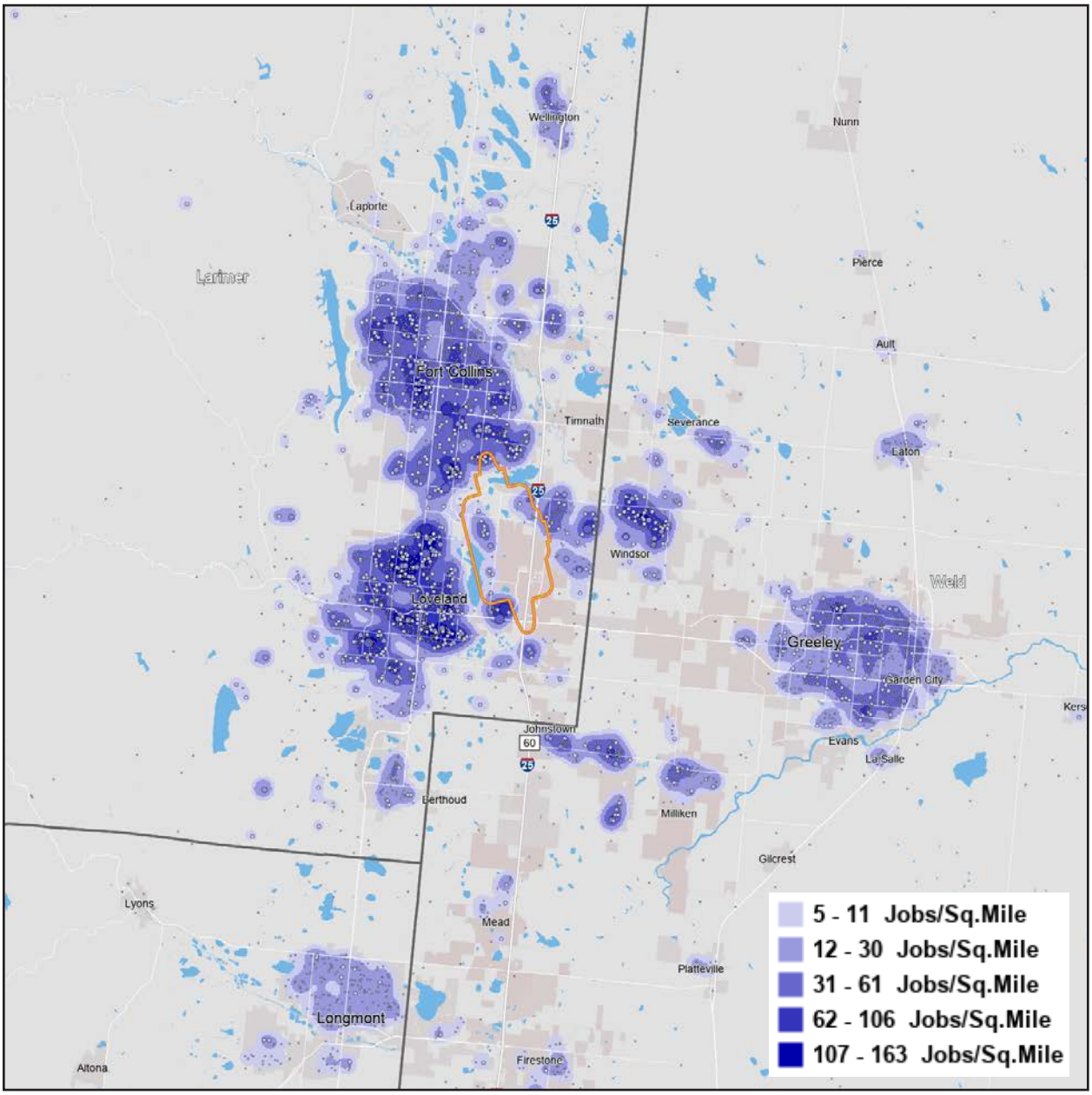
The City of Fort Collins is estimated to account for the largest source of labor employed within the AIA, representing approximately 21 percent of total jobs.[2] Labor originating from within the City of Loveland comprises just under 20 percent of total AIA jobs, while other locations in Larimer County are estimated to provide about 14 percent of labor employed in the AIA. Labor originating from Weld County to the east represents an additional 22 percent of AIA labor.

The prevailing labor shed patterns exemplify how future growth and economic development of the AIA can provide indirect regional benefits simply from the recirculation of wages and salaries paid to workers employed in the AIA, the vast majority of which are likely to reside outside the municipality in which the Airport is located.

[2] See: https://fortcollinschamber.com/wp-content/uploads/2017/02/2017-02-06-Regional-Workforce-Strategy-FINAL.pdf.

[3] U.S. Census Bureau, 2016 LODES estimates.

**Figure III-3: Origin of Workers Employed in AIA**



## COUNTY EMPLOYMENT FORECAST BY INDUSTRY

Table III-3 presents a forecast of employment growth by industry sector for Larimer County.

**Table III-3: Larimer County Employment Forecast by Sector[1]**

| | Forecast Average Annual Growth Rate % | Estimate 2017 # | Forecast 2027 # | Forecast Growth 2017-2027 # |
|---|---|---|---|---|
| Natural Resources & Mining | 1.0 | 1,341 | 1,479 | 138 |
| Utilities | 0.1 | 255 | 258 | 3 |
| Construction | 2.2 | 10,699 | 13,320 | 2,621 |
| Manufacturing | 0.7 | 13,734 | 14,748 | 1,014 |
| Wholesale Trade | 2.8 | 4,654 | 6,132 | 1,478 |
| Retail Trade | 1.0 | 19,064 | 21,128 | 2,064 |
| Transportation and Warehousing | 1.9 | 1,736 | 2,096 | 360 |
| Information | 1.2 | 2,833 | 3,193 | 360 |
| Finance, Insurance, and Real Estate | 2.0 | 6,828 | 8,349 | 1,521 |
| Professional & Business Services | 2.6 | 20,315 | 26,183 | 5,868 |
| Education and Health Care Services | 2.6 | 38,837 | 50,358 | 11,521 |
| Leisure and Hospitality | 2.7 | 21,281 | 27,783 | 6,502 |
| Other Services, Ex. Public Admin | 1.9 | 6,449 | 7,795 | 1,346 |
| Public Administration | 1.2 | 10,973 | 12,360 | 1,387 |
| TOTAL | 2.1 | 158,999 | 195,182 | 36,183 |

[1] Wage and salary employment estimate for the fourth quarter of 2017. Does not include unclassified employment or employment not disclosed due to confidentiality.

Sources: Colorado Department of Labor and Employment; Gruen Gruen + Associates.

The Larimer County employment base is projected to increase at an annual rate of 2.1 percent through 2027. This suggests that over the forecast period, employment will grow by over 36,000 jobs. Education and healthcare services are projected to increase by nearly 11,500 jobs to over 50,000 jobs. By 2027, this sector is projected to comprise approximately 26 percent of the employment base. Leisure and hospitality jobs are expected to grow at a slightly higher rate (2.7 percent) and second largest amount (6,502) to nearly 28,000 jobs. The leisure and hospitality sector is projected to comprise the second largest share of jobs at nearly 14 percent of total employment. The professional and business services sector is projected to grow at an average annual rate (2.6 percent) similar to education and healthcare employment and third largest absolute amount of added jobs (5,868 jobs) to comprise 13 percent of total employment. The retail trade sector is projected to increase by 2,000 jobs. The construction sector is projected to add about 2,600 jobs. Nearly 2,500 jobs are projected to be added to the manufacturing and wholesale trade sectors. Employment in manufacturing of approximately 14,700 is projected to comprise over seven percent of total employment in 2027. Wholesale trade employment of 6,100 (at the fastest projected growth rate of 2.8 percent) is projected to comprise three percent of total employment in 2027.

# IV: OFFICE AND INDUSTRIAL/FLEX USES

Office and industrial/flex buildings differ in their function and design but share a key similarity: they provide workspace for almost all primary employment (primary jobs) located in a given area.[3] Future land use planning designations referring to "Employment" land are commonly focused on providing adequate development opportunities for primary employers that utilize office and industrial/flex space, or combinations of such facilities in campus-type settings.

This section reviews the existing inventory of office and industrial/flex space within Northern Colorado and the competitive market area, as well as trends related to the past construction, absorption, vacancy, and average rental rates for office and industrial/flex building space. An updated 20-year projection of future office and industrial/flex space demand for the AIA is also presented with an accompanying discussion of factors that may affect the ability to capture office and industrial/flex demands.

## COMPETITIVE MARKET AREA AND DEMAND SOURCES

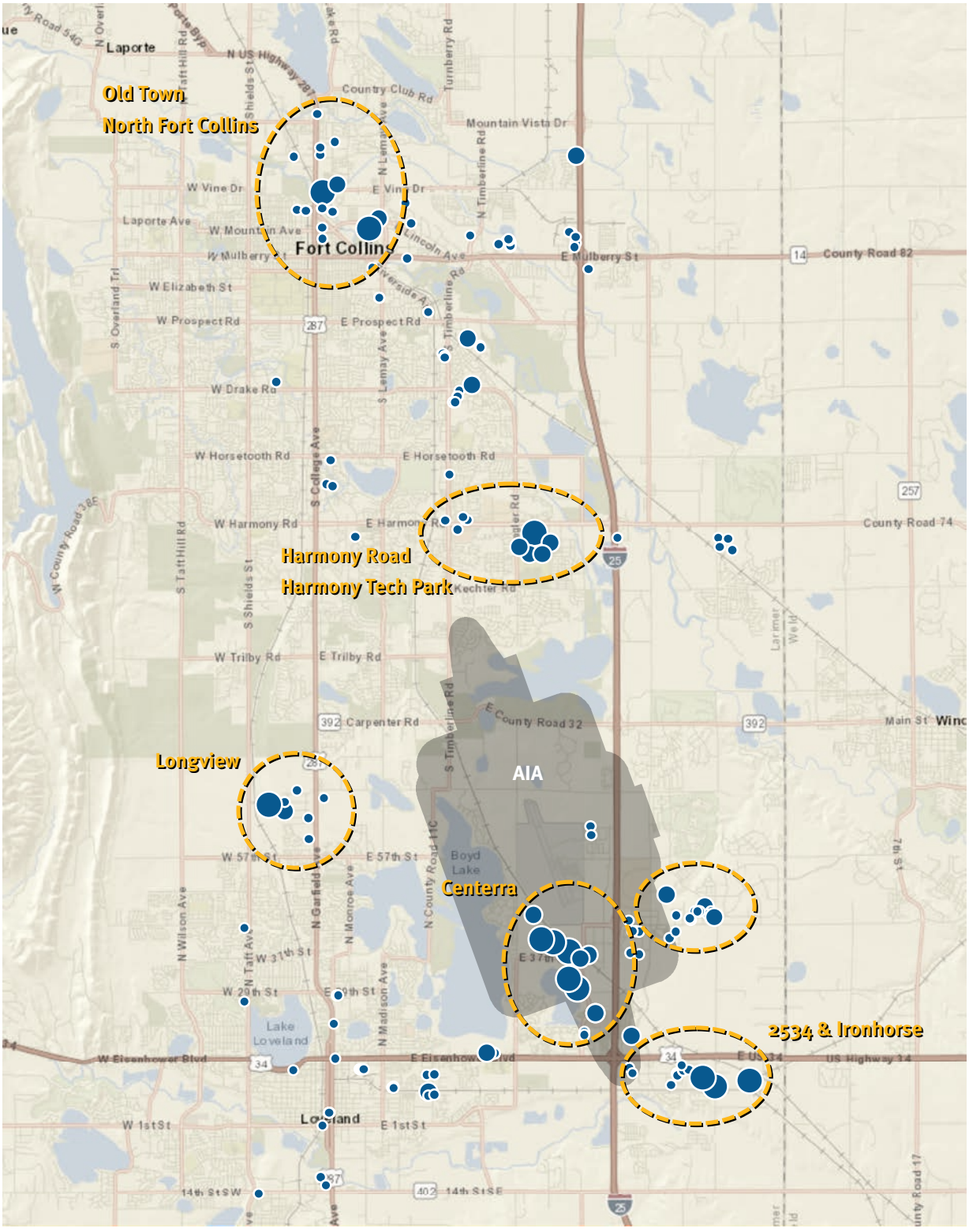
The primary geographic market area within which office industrial/flex development within the AIA will generally compete includes Larimer County and the Interstate 25 Corridor. Some locations outside of Larimer County such as Greeley and Boulder/Denver can be considered "secondary" market areas that may represent potential sources of demand for future office or industrial/flex development in the AIA, but not direct sources of competition. Some commercial brokers and economic development professionals, for example, anticipate that future industrial and office space demand may originate from Boulder and Northwest Denver as those areas continue to be space-constrained and more expensive than Northern Colorado.[4]

Figure IV-1 illustrates the primary competitive market area as well as the locations within the market area that have been experiencing recent office and industrial/flex development activity. Internal movements, expansions, and consolidations within the primary competitive market area can be expected to account for most future office and industrial/flex space demand. Northern Colorado is characterized by many small "homegrown" firms that over time have expanded and consolidated operations into larger single facilities. Non-local firms that have relocated operations to the primary market area have usually originated from out of the state; primarily because owners or key decision makers have been drawn to the high quality of life and relative affordability of Fort Collins and Loveland. Some have also grown into the largest private employers in the market area, including notable examples such as Woodward, Inc., Hach Company, Manes Machine and Engineering, and Advanced Energy, which originally relocated to Fort Collins from Midwestern and Southern California locations.

[4] There is no formal definition of what is a primary employer or primary job, though the widely accepted concept of a primary job is one that produces goods and/or services for export beyond the locality. By exporting goods and services beyond a community's borders, primary jobs are involved in attracting dollars/wealth from outside a local market, a portion of which then gets re-distributed locally through payroll and supplier networks.

[5] Average asking industrial space rents in the Boulder and Longmont markets are still ± 20-30% higher than industrial space rents in the Fort Collins/Loveland market. Class A office space rents in Boulder for example are also about 40% higher than in Fort Collins/Loveland.

**Figure IV-1: Competitive Market Area and Office and Industrial Developments (2008-2018)**



**Recent examples of larger office and industrial space-using firms expanding, consolidating and relocating from within the market area include:**

- CPP Wind - relocated its office and testing/R&D operations from Fort Collins to Windsor;
- Toddy Coffee - consolidated manufacturing operations from four locations throughout Fort Collins to Loveland (Centerra) several years ago; recently expanded again into larger industrial footprint near the Airport;
- Value Plastics – relocated/expanded manufacturing operations from Fort Collins to west Loveland;
- Numerica - moved its headquarters from Loveland to Fort Collins (Harmony Technology Park) in 2015; now proposed to expand within HTP;
- Hach Company – one of Loveland's largest private employers has now expanded operations three times at their site adjacent to the Airport;
- Madwire – the digital marketing/software company, which relocated to Fort Collins from Loveland, and recently consolidated into a new second large office space at Timberline and Horsetooth;
- High Country Beverage – which relocated from facilities near the Airport into larger space in Johnstown;
- Custom Blending – food manufacturer which expanded from Fort Collins to Loveland a few years ago;
- Prosci – a business research/training company which relocated from Loveland to Harmony Road in Fort Collins; and
- Canyon Bakehouse –consolidated several locations in Loveland to one larger manufacturing facility in Johnstown.

Sources of demand for industrial/flex building space in the market area continue to include manufacturing and wholesale trade (distribution) activities, including those in the food and beverage, machinery, plastics and medical manufacturing sectors; and firms in the construction and buildings trades industry. Current and historical drivers of office space demand in the market area typically relate to healthcare and wellness, technology sectors (increasingly related to environmental/bioscience activities), agri-business, and government/institutional users.

**Demand Sources**

"The industries driving current [industrial] market activity include manufacturing, engineering, and construction services…warehouse and distribution centers remain the most demanded product type in Northern Colorado."

"Agriculture, Government, Medical, and Technology sectors are expected to drive office tenant activity in 2019. That said, Northern Colorado's tight labor market is a challenge for firms wanting to grow and expand into new space."

- CBRE, Northern Colorado Market View, H2 2018

## OFFICE MARKET CONDITIONS AND TRENDS

Table IV-1 summarizes the Northern Colorado office market inventory as of year-end 2018. The market overall remains very well occupied, reflecting consistent job growth with limited new construction activity. The 16.7 million square feet of office space throughout Northern Colorado is estimated to have a low vacancy rate of 3.5 percent (this includes single-tenant, owner-occupied office as well as medical buildings). Class C office space has the lowest vacancy rates, while Class A space (the highest-quality and most expensive office space) has higher vacancy rates, estimated at approximately eight percent in the Fort Collins/Loveland market. Approximately 70 percent of all existing office space inventory is classified as Class B space.

**Table IV-1: Northern Colorado Office Market Inventory (Year-End 2018)**

| | Fort Collins/ Loveland | Greeley/Weld County | Northern Colorado Total |
|---|---|---|---|
| Class A | | | |
| Rentable Inventory | 1,074,670 | 673,748 | 1,748,418 |
| Vacancy Rate | 7.7% | 0.0% | 4.7% |
| Class B | | | |
| Rentable Inventory | 7,670,664 | 3,524,663 | 11,195,327 |
| Vacancy Rate | 3.7% | 4.2% | 3.9% |
| Class C | | | |
| Rentable Inventory | 2,379,485 | 1,389,745 | 3,769,230 |
| Vacancy Rate | 2.2% | 1.9% | 2.1% |
| Total | | | |
| Rentable Inventory | 11,124,819 | 5,588,156 | 16,712,975 |
| Vacancy Rate | 3.7% | 3.2% | 3.5% |
| Sources: CoStar Group, Inc.; Gruen Gruen + Associates. | | | |

Approximately 120,000 square feet of Class A and B office space is reportedly under construction in the Fort Collins/Loveland market with 70 percent of the space pre-leased (indicating primarily "build to suit" development).

The Airport and most of the AIA are located within the "East Loveland" office space submarket. Table VI-2 summarizes current direct vacancy rates by submarket and the composition of the overall office space inventory.

**Table IV-2: Office Vacancy Rates by Major Submarket (Year-End 2018)**

| | Percent of Total Office Market Inventory | Direct Vacancy Rate 2018 |
|---|---|---|
| Southeast Fort Collins | 26.6% | 4.1% |
| North/Midtown Fort Collins | 34.1% | 2.5% |
| East Loveland | 12.3% | 9.8% |
| Downtown Loveland | 6.7% | 5.5% |
| North Loveland | 6.8% | 8.6% |
| Sources: CBRE Research, H2 2018; Gruen Gruen + Associates. | | |

Locations in Fort Collins continue to provide more than 70 percent of all office space inventory in the market. Midtown Fort Collins and other northern parts of the community contain more than one-third of all office space in the market. Vacancy is very low, at 2.5 percent. Southeast Fort Collins contains about 27 percent of all office space in the market area according to CBRE estimates. The vacancy rate is currently estimated at about four percent. Southeast Fort Collins and the Harmony Road Corridor continues to be a preferred location for private office space users in the market area.

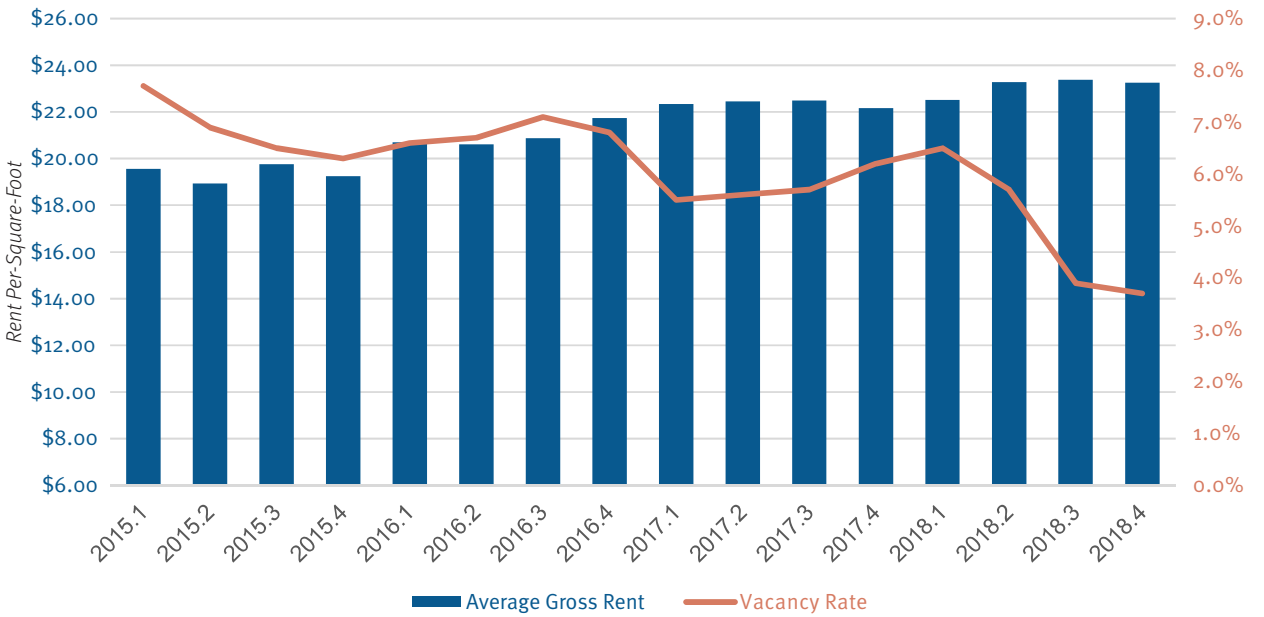
East Loveland contains approximately 12 percent of the total office space inventory and the vacancy rate at year-end 2018 was above average, at approximately 10 percent. The appeal of East Loveland as a multi-tenant office space location has improved over time, and vacancy rates have declined, although the submarket is still not perceived to be as desirable to office space users as competing locations to the north in Fort Collins.

The competitive position of East Loveland (including much of the AIA) for new office space development will likely improve over time when land supply in preferred Fort Collins locations decline. Fort Collins has a higher quality stock of a critical mass of office space in more amenity-and service-laden locations with a higher share of residents skilled in office occupations. Other submarkets in Loveland including the Downtown area include much smaller concentrations of office space, though they remain well-occupied (albeit at low rental rates) with vacancy rates below nine percent.

## Historical Office Rental Rates and Vacancy Rates

Figure IV-2 summarizes recent rental rate growth and vacancy rate changes in the Fort Collins/Loveland office market.

**Figure IV-2: Rents and Vacancy Rates in Fort Collins/Loveland Office Market**




Sources: CoStar Group; Gruen Gruen + Associates.

From early 2015 through year-end 2018, the average asking gross (full-service) office space rent is estimated to have increased by approximately 18 percent; escalating from about $20 per square foot in first quarter 2015 to about $23 per square foot by year-end 2018. The overall office vacancy rate has declined from a about 8.7 percent in early 2015 to 3.7 percent by year-end 2018. The market has shown continued signs of improvement reflecting positive office space absorption with limited new office space construction. Office rents have increased but have not escalated at high rates comparable to other land uses in the market (e.g., industrial/ flex, multi-family), indicating that office space landlords have kept rates comparatively "in check" in order to absorb existing spaces. CBRE estimates net office space rents currently average about $15.50 per square foot. Prevailing market rents for most office space product remain well below levels required to speculatively build new office space.

"Base (net) rents have been hovering between $14 and $16 per square foot as far back as Q1 2016, which is less than half of those seen in Denver and averaged across the nation. Office space in Northern Colorado is seeing a drop in vacancy rates mostly due to the fact that rents aren't high enough to justify new construction."
- Brinkman Construction, *2018 Brinkman News*

Table IV-3 summarizes office building absorption and new construction patterns for Loveland and Fort Collins. Annual figures for the past year, as well as the annual five-year average, are presented.

**Table IV-3: Office Space Absorption and Construction Trends[1]**

| | Past Year | | | 5-Year Average (Annual) | | |
|---|---|---|---|---|---|---|
| | Loveland | Fort Collins | **Total** | Loveland | Fort Collins | **Total** |
| Net Space Absorption | 0 | 259,000 | **259,000** | 55,000 | 126,000 | **181,000** |
| Total Leasing Activity | 165,000 | 444,000 | **609,000** | 150,000 | 356,000 | **506,000** |
| New Building Deliveries | 1,000 | 34,000 | **35,000** | 58,000 | 109,000 | **167,000** |
| [1] Figures expressed in square feet of rentable building space. | | | | | | |
| Sources: SVN Commercial Denver; Gruen Gruen + Associates. | | | | | | |

The Fort Collins/Loveland office space market is estimated to have absorbed approximately 260,000 square feet of space within the past year; all of it within Fort Collins. This is above the historical five-year average of about 180,000 square feet. A significant share of positive absorption in Fort Collins in the past year has related to the expansion/consolidation of a large office space user already located in the Harmony Road corridor – Madwire, which expanded into 102,000 square feet of a repurposed building.[5] Less than 40,000 square feet of new space was delivered, explaining the continued decline in vacancy rates.

The distribution of total office leasing activity reflects the differences between office space locations in Loveland and Fort Collins. Submarkets in Fort Collins have and continue to represent more than 70 percent of all office market activity.

## INDUSTRIAL/FLEX MARKET CONDITIONS AND TRENDS

Table IV-4 summarizes the current industrial/flex market inventory in Northern Colorado. Warehouse space, which comprises the vast majority of the existing inventory, has a total vacancy rate of only 2.5 percent. Flex space which represents about 20 percent of the total industrial space inventory is less well-occupied with an overall regional vacancy rate of about 12 percent. Much of the flex space vacancy, however, reflects the former Agilent/HP campus in Loveland (the Rocky Mountain Center for Innovation and Technology) which is reportedly not competitive for modern contemporary industrial uses. Buildings in the former Agilent/HP campus are obsolete and not well-attuned to modern warehousing requirements with respect to ceiling heights and loading capabilities. This property is also not highly accessible to I-25 as is land in the AIA.

[6] https://crej.com/news/madwire-leases-102000-square-feet-fort-collins/

**Table IV-4: Northern Colorado Industrial Market Inventory (Year-End 2018)**

| | Warehouse | | Flex | | Total | |
|---|---|---|---|---|---|---|
| | RBA[1] # Square Feet | Vacancy % | RBA # Square Feet | Vacancy % | RBA # Square Feet | Vacancy % |
| Fort Collins/Loveland | 14,167,607 | 3.6 | 5,966,976 | 15.0[1] | 20,134,583 | 7.0 |
| Outlying Larimer County | 1,753,897 | 0.4 | 114,447 | 0.0 | 1,868,344 | 0.4 |
| Weld County | 21,561,910 | 2.0 | 2,416,531 | 5.8 | 23,978,441 | 2.4 |
| Northern Colorado Total | 37,483,414 | 2.5 | 8,497,954 | 12.2 | 45,981,368 | 4.3 |
| [1] Rentable building area.<br>[2] The former Agilent/HP campus in Loveland (the Rocky Mountain Center for Innovation and Technology) comprises a significant share of the vacant space. | | | | | | |
| Sources: CoStar Group; Gruen Gruen + Associates. | | | | | | |

Approximately 190,000 square feet of industrial building space is currently under construction in Fort Collins/Loveland market. In 2018, about 400,000 square feet of new industrial/flex space was delivered. Major industrial leases in 2018 included 63,000 square feet in Fort Collins for SCA Performance (an OEM light-duty truck manufacturer/wholesaler), 47,000 square feet for Rubadue Wire in Loveland, and 84,000 square feet for Toddy Coffee in Loveland. The latter two users are both located in the AIA and both have manufacturing operations. (Toddy Coffee was already located in a Centerra industrial building adjacent to the Airport and expanded into a larger space).

The AIA is located within the "South I-25/US 34" industrial space submarket. Table IV-5 summarizes current direct vacancy rates by submarket and the composition of the overall industrial space inventory.

**Table IV-5: Industrial Vacancy Rates by Submarket (Year-End 2018)**

| | Percent of Total Industrial Market Inventory | Direct Vacancy Rate 2018 |
|---|---|---|
| North I-25 | 16.7% | 0.3% |
| North Fort Collins | 22.5% | 2.4% |
| South Fort Collins | 4.2% | 8.4% |
| Windsor | 14.1% | 0.1% |
| South I-25/US 34 | 20.3% | 3.0% |
| North Loveland | 4.7% | 17.0% |
| South Loveland[1] | 13.9% | 24.6% |
| [1] Excluding the former Agilent/HP campus buildings, the vacancy rate is below 5.0 percent. This space is competitively obsolete for many modern warehousing and manufacturing operations. | | |
| Sources: CBRE Research, H2 2018; Gruen Gruen + Associates. | | |

North Fort Collins, the South I-25/US 34, and North I-25 industrial submarkets contain about 60 percent of all existing space inventory. All three are very well-occupied with vacancies of 3.0 percent or less. The South I-25/US 34 submarket in Loveland and Johnstown is the preferred warehouse/distribution submarket within Northern Colorado while North Fort Collins has traditionally been a preferred location for manufacturing space and activity.

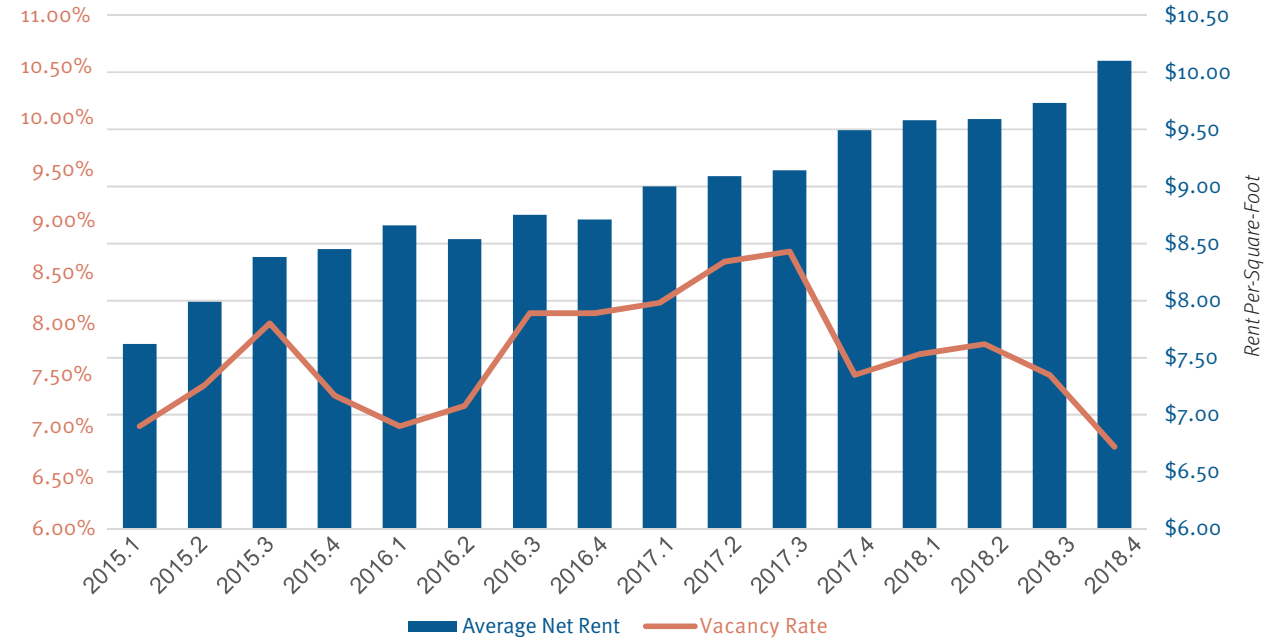
## Historical Rental Rates and Vacancy Rates

Figure IV-3 summarizes average rental rate growth and vacancy rate changes in the Fort Collins/Loveland industrial market.

From early 2015 through year-end 2018, the average asking net industrial space rent is estimated to have increased by approximately 33 percent. Average net rents have grown from about $7.50 per square foot in early 2015 to above $10.00 per square foot as of year-end 2018. Industrial rent growth has been strong and consistent. The rental growth indicates that demand continues to exceed new supply. The industrial vacancy rate has declined from a peak of approximately 8.7 percent in third quarter 2017 to a current overall rate of approximately 7.0 percent.

Industrial space rents are high enough to support new industrial space development, while office space rents are too low to support speculative office space development. New industrial buildings have been recently developed in the market area and AIA that have commanded rents comparable to the current market rent average of approximately $10 per square foot. Prevailing industrial space rents are typically high enough to encourage and reward speculative development provided land is available with appropriate entitlements, infrastructure, and reasonable pricing.

**Figure IV-3: Rents and Vacancy Rates in Fort Collins/Loveland Industrial Market**




Sources: CoStar Group; Gruen Gruen + Associates.

Table IV-6 summarizes industrial building absorption and new construction patterns for Loveland and Fort Collins.

**Table IV-6: Industrial Absorption and Construction Patterns[1]**

| | Past Year | | | 5-Year Average (Annual) | | |
|---|---|---|---|---|---|---|
| | Loveland | Fort Collins | Total | Loveland | Fort Collins | Total |
| Net Space Absorption | 289,000 | 96,000 | 385,000 | 119,000 | 74,000 | 193,000 |
| Total Leasing Activity | 390,000 | 406,000 | 796,000 | 267,000 | 446,000 | 713,000 |
| New Building Deliveries | 307,000 | 102,000 | 409,000 | 168,000 | 112,000 | 280,000 |
| [1] Figures expressed in square feet of rentable building space. | | | | | | |
| Sources: SVN Commercial Denver; Gruen Gruen + Associates. | | | | | | |

SVN Commercial reports that the Loveland and Fort Collins industrial market has absorbed approximately 385,000 square feet of space within the past year. About three-quarters of this positive absorption occurred in Loveland. The five-year annual absorption average has been approximately 190,000 square feet of space. Locations within Loveland continue to absorb and deliver a greater amount of industrial space than Fort Collins.

## FORECAST OF OFFICE AND INDUSTRIAL BUILDING SPACE AND LAND REQUIREMENTS IN THE AIA

Table IV-7 summarizes a 20-year projection of future office and industrial/flex building space demand and land requirements for the primary market area (Larimer County) and the AIA. The order-of-magnitude projection is developed from the secondary employment forecast by industry, reviewed previously (see Table III-3), which identifies how the composition of the local economy may continue to change. This provides the framework from which to estimate the amount of potential future office and industrial/flex building space and land demand within the market area. The employment forecast covering a period of 10 years is extrapolated to 20 years (i.e., forecast job growth is doubled).[6] Appendix A to this report provides further explanation of how future employment growth by industry sector is converted to estimates of future office and industrial/flex building space needs.

The future employment projection suggests that approximately 21 percent of future job growth in Larimer County is likely to utilize traditional private office space. Specialized medical support or institutional-type office space (e.g., government or educational users) are not specifically accounted for here. About 16 percent of the projected job growth in Larimer County is likely to utilize industrial and flex space. A total of 27,000 jobs occupying private office and industrial/flex uses could be added within Larimer County over the next 20 years.

Based upon an average employment density assumption for office space of one worker for every 225 square feet of space, the potential demand for office space is estimated to total approximately 3.5 million square feet over the next 20 years. This equates to average annual potential office space demand within Larimer County of 175,000 square feet. To put this into perspective, new office development activity in the primary market area is estimated to have averaged approximately 170,000 square feet per year over the past five years. Demand for industrial/flex space is estimated to total 7.5 million square feet through 2039 assuming 650 per square feet for every worker in industrial/flex space. This equates to average annual potential demand of 375,000 square feet. An average of approximately 300,000 square feet of industrial space is estimated to have been developed per year in Loveland and Fort Collins over the past five years. Strong job growth anticipated to continue in sectors such as Wholesale Trade, Construction trades, and Transportation and Warehousing could generate industrial building space and land needs slightly higher than supported by recent and historical average construction deliveries.

[7] The rate of long-term job growth is likely to slow as the market area grows larger over time so this may somewhat overstate future land needs. However, long range land use planning should always provide for more capacity than is anticipated to be needed – to ensure adequate land opportunities and avoid undue land price escalations resulting from scarcity.

## Potential AIA Capture

Demand for and absorption of office and industrial/flex land in the AIA will not be linear. The potential "capture" of long-term market area demand within the AIA will also depend upon how well communities in the AIA, the Airport, and private property owners can coordinate with each other to agree upon what uses work best and where, and to ensure that the physical environment (such as having adequate roadway capacity and sufficient public utility infrastructure) is best positioned for office and industrial/flex space development opportunities. That is indeed one purpose for presenting an office and industrial land demand forecast: to demonstrate the potential scale of need and opportunity.

**Table IV-7: Forecast Office and Industrial Building Space and Land Requirements (2019-2039)**

| | Office[1] | Industrial/Flex | Combined |
|---|---|---|---|
| Potential Countywide Employment Growth (Jobs) | 15,444 | 11,560 | 27,004 |
| Average Employment Density (Square Feet / Job) | 225 | 650 | |
| Countywide Building Space Demand in Square Feet | 3,475,000 | 7,514,000 | 10,989,000 |
| AIA Capture Rate | 25-35% | 30-40% | |
| **AIA Building Space Demand in Square Feet** | **869,000-1,216,000** | **2,254,000-3,006,000** | **3,123,000-4,222,000** |
| Average Floor-Area-Ratio[2] | 0.35 | 0.30 | |
| **AIA Land Requirement in Acres** | **57-80** | **172-230** | **229-310** |

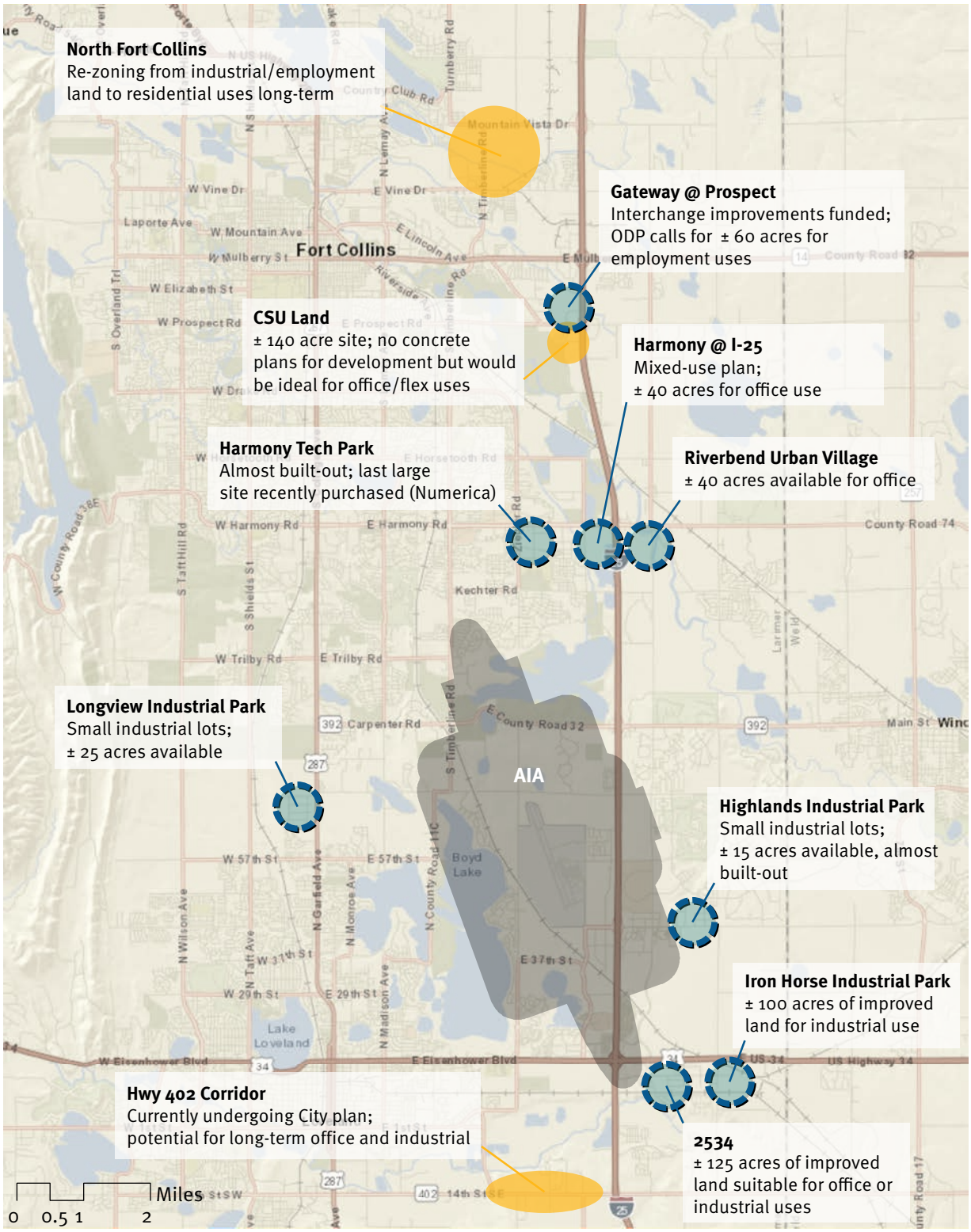
[1] Not including specialized healthcare/medical space or institutional (i.e. public) facilities.
[2] Ratio of gross floor area to gross land area. Assumptions reflect densities at which buildings are currently being developed in the AIA. If economic conditions change over time to encourage higher-density office space development, for example, less land would be required.

Source: Gruen Gruen + Associates

The share of long-term market area demand potentially captured within the AIA will also be a function of the alternative competing supply of land made available for office and industrial uses beyond the AIA. Figure IV-4 reviews existing and planned alternatives in the competitive market area. For purposes of future land use planning in the AIA, we assume that land within the AIA can likely capture 25 to 40 percent of long-term market area office and industrial space development needs. Properties specifically within the AIA boundary currently contain about 20 percent of all industrial building space and approximately nine percent of all office building space in Larimer County. The share of new construction occurring within the AIA over the past 18 years, for both uses, has exceeded 20 percent. These patterns can be expected to amplify in the future given the large undeveloped land inventory in the AIA, its competitive advantages reviewed previously including is ideal position at the "crossroads" of future growth in Northern Colorado, and especially for industrial uses, the increasingly scarce supply of developable industrial sites in highly accessible locations along Interstate 25.

Over 20 years, based on capture rates of 25 to 35 percent for office space and 30 to 40 percent for industrial space, potential building space demand in the AIA totals approximately 3.1 to 4.2 million square feet for office and industrial/flex uses. To convert estimates of building space demand into land requirements, we make assumptions about the floor-area ratios for office and industrial/flex space. Based upon our review of recent examples of development activity, we assume an average floor-area-ratio (ratio of gross floor area to gross land area) of 0.35 for office space, which is generally consistent with two- to -three-story office buildings. We apply an average floor-area-ratio of 0.30 for industrial/flex space. Land required to accommodate future office space demand in the AIA would approximate 60 to 80 acres at these densities, while land required to accommodate future industrial/flex space demand over 10 years would approximate 170 to 230 acres.

**Figure IV-4: Land Supply Competition for Employment Uses Outside of AIA**



# V: HOTEL USES

This section reviews the existing and planned hotel inventory within the AIA and an assessment of the hotel market, including current market conditions and room night demand generators. This review is used to inform a long-term projection of potential hotel demand within the AIA.

## EXISTING HOTEL ROOM INVENTORY

The cities of Loveland and Fort Collins are estimated to contain a total hotel room inventory of approximately 4,000 rooms. Limited service hotels (i.e., hotels that do not offer food and beverage service or significant amounts of on-site meeting/conference space) comprise most of the existing room inventory. The 263-room Embassy Suites Loveland Hotel Conference Center & Spa, the 229-room Fort Collins Marriot, and the recently completed 164-room Elizabeth Hotel in Downtown Fort Collins are the three primary full-service hotels.

Eleven hotels within the AIA, containing approximately 1,100 rooms, represent approximately one-quarter of the hotel supply in Loveland, Fort Collins, and Johnstown. Three recently opened properties in the AIA including a Courtyard by Marriot at the Promenade Shops of Centerra, a My Place Hotel east of I-25 along Crossroads Boulevard, and a Wingate by Wyndham in the 2534 development in Johnstown have added approximately 240 rooms to the local hotel supply within the past 18 months.

## HOTEL MARKET CONDITIONS AND ROOM NIGHT DEMAND SOURCES

Table V-1 summarizes the two basic indicators of lodging demand (average daily rate and occupancy rate) for the Loveland and Fort Collins hotel market.

**Table V-1: Loveland and Fort Collins Hotel Market Performance, 2017-2018**

| | Average Daily Rate<br>$ | Occupancy Rate<br>% |
|---|---|---|
| Loveland: | | |
| 2017 | 115 | 68.0 |
| 2018 | 119 | 70.1 |
| Fort Collins: | | |
| 2017 | 106 | 61.5 |
| 2018 | 114 | 57.5 |
| Sources: BizWest, 2018 Economic Profile & Market Facts; Gruen Gruen + Associates. | | |

Annual occupancy rates in Loveland for 2017 and 2018 averaged approximately 70 percent, while annual occupancy in Fort Collins has been less robust at approximately 62 percent in 2017 and 58 percent in 2018. Average daily rates over the prior two years have remained relatively stable. As of 2018, the average daily room rate was $114 in Fort Collins and $119 in Loveland.

Interviews with representatives of hotel operators in the AIA suggest that business travel and general interstate travel on I-25 tend to be the primary generators of local room night demand. The leisure/tourism market is strongest in summer months which typically corresponds to higher hotel occupancy rates during peak season generally from May through September. The presence of the Ranch Events Complex and Budweiser Events

Center within the AIA is reported to be a strong, though secondary generator of hotel room night demands. The on-site Embassy Suites hotel accommodates much of the overnight travel needs that "spillover" from the events center and County fairgrounds. Aviation activities at the Northern Colorado Regional Airport do generate some room night demands within the AIA. Several local hotels have arrangements with the FBO to accommodate overnight travel needs of pilots and associated activities. General aviation activity at the Airport itself is not reported to be a major generate of hotel demand in the AIA.

Expanding business activity and continued population growth throughout Northern Colorado, in combination with a period following the Great Recession in which new hotel development was non-existent, have led to recent high levels of recent hotel development activity. Interviews suggest the addition of a significant amount of new limited service hotel development within the AIA and elsewhere in the competitive hotel market area (Fort Collins, Windsor, Loveland, and Johnstown) has generally kept room rates "in check." According to BizWest's 2018 Economic Profile & Market Facts publication, for example, "the hospitality industry in Northern Colorado and Boulder isn't as hot as it once was, according to one of the developers of multiple hotels in the region, but it remains a good value if the opportunity is right."

## OVERALL HOTEL REVENUE PERFORMANCE

Table V-2 summarizes an estimate of annual room revenues in Loveland and Fort Collins in relation to on-the-ground hotel supply. Both communities impose lodging bed taxes; the gross room revenue estimates are derived from Comprehensive Annual Financial Reports available from each city.

**Table V-2: Loveland and Fort Collins Hotel Revenue Performance**

| Year | Gross Room Revenue[1] $ | Estimated Hotel Inventory # Rooms | RevPAR[2] $ |
|---|---|---|---|
| 2008 | 55,500,000 | 2,808 | 54 |
| 2012 | 79,100,000 | 3,282 | 66 |
| 2017 | 95,400,000 | 3,668 | 71 |
| Change | 39,800,000 | 860 | 17 |

[1] Adjusted for inflation to current 2019 dollars.
[2] Daily gross revenue per available room.

Sources: City of Loveland; City of Fort Collins; Larimer County Assessor; Gruen Gruen + Associates.

Total annual gross room revenue in Loveland and Fort Collins is estimated to have increased in real terms from approximately $56 million in 2008 to over $95 million in 2017, representing 40 percent growth over the 10-year period. The inventory of hotel rooms in the two cities is estimated to have grown by nearly 900 rooms over that same period. Average daily revenue per available room ("RevPAR") grew from approximately $54 in 2008 to $71 by 2017. This is one indication that the new hotel inventory added over the past 10 years has primarily captured new room night demand (as opposed to merely siphoning demand/sales from the existing hotel supply). The overall RevPAR estimate for 2017 of approximately $71 is commensurate with an average daily rate of about $100 at a 70 percent annual occupancy rate. New hotels will typically require higher rates and/or occupancy than this market average to be feasibly developed.

## FUTURE HOTEL SUPPLY

The future hotel supply pipeline is likely to satisfy most if not all near-term demand within the competitive market area and AIA. Examples of projects in the development or planning process include:

- TownPlace Suites consisting of 102 rooms under construction in Downtown Loveland in the Foundry mixed-used development;
- Staybridge Suites of 107 rooms under construction on Lincoln Avenue in Fort Collins;
- Homewood Suites and Hilton Garden Inn, consisting of approximately 200 additional rooms, planned for additional development in the Promenade Shops at Centerra;
- A dual-branded Staybridge Suites and Avita hotel, totaling 190 rooms, planned for development in the 2534 business park in Johnstown;
- Woodspring Suites extended stay hotel of 123 rooms planned for I-25 and Mulberry; and
- Brands East and West, with approximately 200 full-service and 200 limited-service hotel rooms planned for east and west of I-25 within the AIA.

Interviews suggest that some of these planned hotel developments have been pushed back as the market still needs to grow to absorb recently built inventory. Additionally, previously proposed projects such as the PeliGrande Resort and Windsor Conference Center (near the AIA) could add additional long-term lodging capacity.

## HOTEL DEMAND FORECAST

Hotel demand in the AIA and the competitive market area is primarily driven by business travel and proximity to interstate highway traffic. Historical changes in hotel demand can be partially explained by growth in primary (office and industrial) employment. We use the forecast of office and industrial employment for the AIA to estimate the potential long-term growth in hotel demand. Assuming a relationship equating to about $1,500 in annual room revenue per additional primary job[7], consistent with past trends, we estimate the total potential demand growth. To estimate the total number of potential new hotel rooms supported, we then apply a rule-of-thumb RevPAR benchmark for new hotel development to be feasible. Table V-3 summarizes these calculations and the projection of potential hotel demand.

**Table V-3: Long-Term Hotel Demand Projection for AIA**

| | 20-Year Total |
|---|---|
| Projected Office & Industrial Employment Growth (Jobs) in AIA[1] | 10,000 |
| Additional Annual Hotel Room Revenue Per Job | $1,500 |
| Total Additional Room Revenue | $15,000,000 |
| RevPAR Required for Feasible New Hotel Development [2] | $90.00 |
| **Additional Hotel Demand (# Rooms)** | **457** |
| [1] See Table IV-7. The office and industrial space demand projection for the AIA (on the high-end) would equate to approximately 10,000 additional jobs over the next 20 years.<br>[2] For limited-service hotel development. A full-service hotel product would require a higher amount of revenue per room to be feasibly developed. | |
| Source: Gruen Gruen + Associates | |

[8] Larimer County contained approximately 50,000 jobs in primary sectors (natural resources, manufacturing, wholesale trade and transportation, information, financial services, and professional and business services) in 2008, and approximately 65,000 jobs as of 2018. Total gross hotel room revenues in Loveland and Fort Collins are estimated to have equated to approximately $1,100 to $1,500 per primary job.

The demand projection over 20 years totals approximately 460 new hotel rooms. This estimate reflects total additional room revenue forecast to be about $15 million, divided by $32,850 of annual revenue per room ($90 RevPAR multiplied by 365 days/year) required to feasibly deliver new limited service hotel product.

The quantitative projection is not a precise tool, but its results lend to a basic comparison between likely future demand and supply. Three projects within the AIA have already publicized plans or proposals to develop approximately 800 additional hotel rooms – within Centerra, 2534, and The Brands.

With respect to planning for future hospitality land uses in the AIA, the primary implication is that already entitled and proposed projects should be more than adequate to meet overnight lodging needs from a wide variety of demand sources for both the foreseeable and long-term future. Significant major hotel developments in other areas of the AIA should not be anticipated or planned for absent the development of specific venues or uses expected to attract significant visitation. The projection indicates that some future hotel developments will likely depend on increased room night demand from business travel sources outside of the AIA and other sources – whether that be commercial airline enplanements or increased non-local visitation to the Budweiser Events Center or County Fairgrounds, and so forth.

# VI: RESIDENTIAL LAND USES

This section reviews household trends, housing market conditions, and potential future housing needs to provide perspective about residential development pressures that are likely to continue within the AIA. Analysis presented in this section also provides a long-term market-based estimate of residential land needs that could be captured within the AIA. Observations about residential land use compatibility are also summarized first.

## RESIDENTIAL LAND USE COMPATIBILITY OBSERVATIONS

Observations developed based on field research and interviews conducted by GG+A and our review of relevant materials (e.g. existing Airport noise contours and existing overlay zoning policies) include the following:

- Proximity to the Airport has generally been a "neutral" factor with respect to the absorption of residential units within or near the AIA. Sales and leasing representatives at recently built and active residential projects indicate that questions and/or complaints related to the Airport and associated noise or nuisances from homebuyers or renters are virtually non-existent;
- The desirability of locations within the AIA for housing is high, partially for the same reasons that appeal and provide advantages to nonresidential land uses (such as accessibility to Interstate 25 and centrality within the region);
- Active single-family residential developments with available lots on the north side of Fossil Creek Reservoir reportedly have no avigation easements, waivers, or noise-mitigation construction measures. Home buyers are generally unaware that properties are located in an area considered be influenced by the Airport;
- Other non-airport land uses/activities within the AIA have the potential to generate negative impacts to residential uses. A representative of the largest existing multi-family apartment development within the AIA, for example, indicated that the helipad at the UCHealth hospital is perceived to be a more frequent (albeit still minimal) source of complaint and nuisance to tenants; and
- The Federal significance threshold for aircraft noise exposure (the 65 DNL) is entirely contained within the bounds of Airport property ownership. Anecdotal feedback from our field research indicates that the current level of flight activity at the Airport (and the type of aircraft using the Airport) are not necessarily incompatible with existing locations of residential development in the AIA.

Land use compatibility regulations and policies should be proactive in protecting against future conflicts with residential or other noise-sensitive uses. This primarily relates to potential longer-term development of commercial air service at the Airport and public (residential property owner) opposition that could arise if residential land uses of any significant scale develop closer in proximity to Airport Critical Zones and the 65 DNL.

Land use compatibility measures also need to reflect the recognition that restricting or limiting all future residential development within the AIA may have unintended or even counter-productive consequences including a negative impact for long-term economic development. As reviewed previously and further below, Northern Colorado is anticipated to experience continued strong growth and is already experiencing challenges associated with inadequate housing availability and burdensome price increases that reduce housing affordability (which in turn, limit or constrain the long-term prospects for positive economic growth and development).

## RESIDENTIAL DEVELOPMENT CONTEXT

Secondary projections from DOLA indicate that Larimer County is anticipated to grow by more than 130,000 people over the next 20 years. Future growth is expected to slow somewhat relative to historical trends, though population is still forecast to expand at a moderate rate of about 1.5 percent annually.

The communities of Loveland and Fort Collins are anticipating similar levels of future population and housing growth. The recently completed Fort Collins Comprehensive Plan ("City Plan") update is based on expectations that the residential population will grow to nearly 240,000 people by 2040, resulting in a need for more than 30,000 new housing units over the period to accommodate that growth. The Community and Strategic Planning division of the City of Loveland expects that its housing stock inventory will need to grow by approximately 12,000 units between 2020 and 2040 to accommodate future population growth.[8]

A combination of declining residential land supply in the core/central areas of Fort Collins and Loveland and robust population and job growth have resulted in residential development shifts toward the periphery of each community. These patterns can be expected to continue and will probably intensify. Prior to 2000, for example, the entire 10,000-acre AIA contained fewer than 600 housing units which represented an infinitesimal fraction (± 0.5%) of the regional housing stock available at the time. The AIA however has accounted for a much higher share - approximately four percent - of all residential building space constructed in Larimer County since 2000.

## HOUSING UNIT ABSORPTION AND PERMIT TRENDS

Table VI-1 summarizes how the inventory of occupied housing units is estimated to have changed since 2000. The change in occupied units, by type of unit and location, in Larimer County provides an indication of residential demand and absorption patterns.

**Table VI-1: Larimer County Housing Unit Absorption Patterns, 2000-2017**

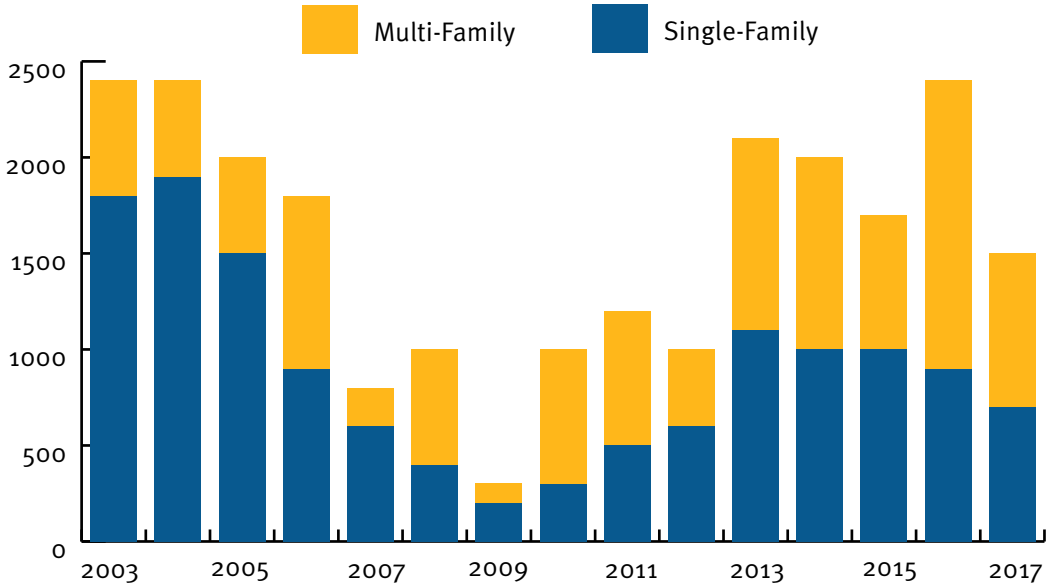
| | Change in Occupied Housing Units, 2000-2017 | | | |
|---|---|---|---|---|
| | Fort Collins # | Loveland # | Other # | County Total # |
| Owner-Occupied: | | | | |
| Single-Family Detached | 5,615 | 8,092 | 10,336 | 24,043 |
| Single-Family Attached | (201) | 670 | 150 | 619 |
| Multi-Family | 429 | (55) | (118) | 256 |
| Other[1] | 220 | (157) | (1,075) | (1,012) |
| Subtotal | 6,063 | 8,550 | 9,293 | 23,906 |
| Renter-Occupied: | | | | |
| Single-Family Detached | 3,530 | 783 | (889) | 3,424 |
| Single-Family Attached | 904 | 878 | (103) | 1,679 |
| Multi-Family | 4,083 | 3,180 | 1,145 | 8,408 |
| Other[1] | (32) | 265 | (105) | 128 |
| Subtotal | 8,485 | 5,106 | 48 | 13,639 |
| [1] Primarily includes mobile/manufactured homes. | | | | |
| Sources: U.S. Census Bureau; Gruen Gruen + Associates. | | | | |

[9] See: http://www.cityofloveland.org/home/showdocument?id=44674

Detached single-family housing units represent approximately 68 percent of the City of Loveland housing stock and 58 percent of the City of Fort Collins housing stock. The existing housing inventory within the AIA is comprised by a comparable share (roughly 60 percent) of detached single-family units. Historically, between 2000 and 2017, detached single-family units represented about 71 percent of all housing absorbed in Loveland and Fort Collins. Larimer County is estimated to have absorbed approximately 2,200 additional housing units annually between 2000 and 2017, approximately 80 percent of which occurred in Loveland and Fort Collins. Larimer County is estimated to have absorbed nearly 38,000 additional housing units since 2000.

Figure VI-1 summarizes residential permit trends within Fort Collins and Loveland for the 15-year period between 2003 and 2017.

**Figure VI-1: Residential Permit Trends in Fort Collins and Loveland**




Trends in residential development activity in Loveland and Fort Collins have fluctuated widely over the past 15 years. Nearly 2,300 total residential permits were issued in the two communities in 2003 and 2004 during the peak of the prior housing market boom, while permit levels declined to fewer than 300 collective units in 2009 during the height of the Great Recession. Particularly over the past five years, residential development activity has picked up considerably. Permit levels in the two communities returned to their prior pre-recession peak by 2016. Approximately 5,000 single-family units and 5,000 multi-family units were permitted in the five-year period from 2013 through 2017.

All indications point to similar levels of residential development occurring in the Fort Collins/Loveland market area for the foreseeable near future - meaning, somewhere between 1,500 to 2,500 new housing units per year to simply keep pace with new demand.

## RESIDENTIAL MARKET CONDITIONS

### Multi-Family Uses

The Fort Collins/Loveland multi-family apartment market is characterized by very low vacancy rates, strong rental rate growth over the past five years, and a significant amount of new development activity. Average monthly rents in the Fort Collins/Loveland apartment market increased by $0.34-per-square-foot or 28 percent over the past five years.

Table VI-2 summarizes current and past apartment market conditions for the Fort Collins/Loveland market area by unit type.

**Table VI-2: Fort Collins/Loveland Apartment Market Conditions**

| | 2013 (3rd Quarter) | 2018 (3rd Quarter) |
|---|---|---|
| Average Monthly Rent (Per Square Foot): | | |
| Efficiency | $1.70 | $2.63 |
| 1 Bedroom | $1.30 | $1.75 |
| 2 Bedroom / 1 Bathroom | $1.12 | $1.49 |
| 2 Bedroom / 2 Bathroom | $1.15 | $1.37 |
| Three Bedroom | $1.13 | $1.43 |
| All | $1.21 | $1.55 |
| Vacancy Rates: | | |
| Efficiency | 0.0 | 0.0 |
| 1 Bedroom | 2.7 | 2.9 |
| 2 Bedroom / 1 Bathroom | 1.8 | 3.0 |
| 2 Bedroom / 2 Bathroom | 4.7 | 3.2 |
| Three Bedroom | 3.1 | 1.9 |
| All | 2.8 | 2.8 |
| Sources: Colorado Department of Local Affairs, Statewide Vacancy and Rent Surveys; Gruen Gruen + Associates. | | |

As of the third quarter of 2018, the overall physical apartment vacancy rate was 2.8 percent – unchanged from the prior five years. The stable and extremely low vacancy rates indicate that new construction has been absorbed quickly and that multi-family supply additions have captured new (rather than existing) housing demands. Average rental rate growth has been particularly strong over the past three years. Average monthly rents for small units especially have escalated quickly. Rents for studio (efficiency) and one-bedroom apartment units have grown at annual rates of nine and six percent, respectively, over the past five years. The current market for multi-family rental units within and near the AIA is equally strong. Two properties we interviewed (the Lake Vista Apartments in the AIA, and the Gateway at 2534 apartments, bordering the AIA) report high occupancy rates of 96 and 97 percent.

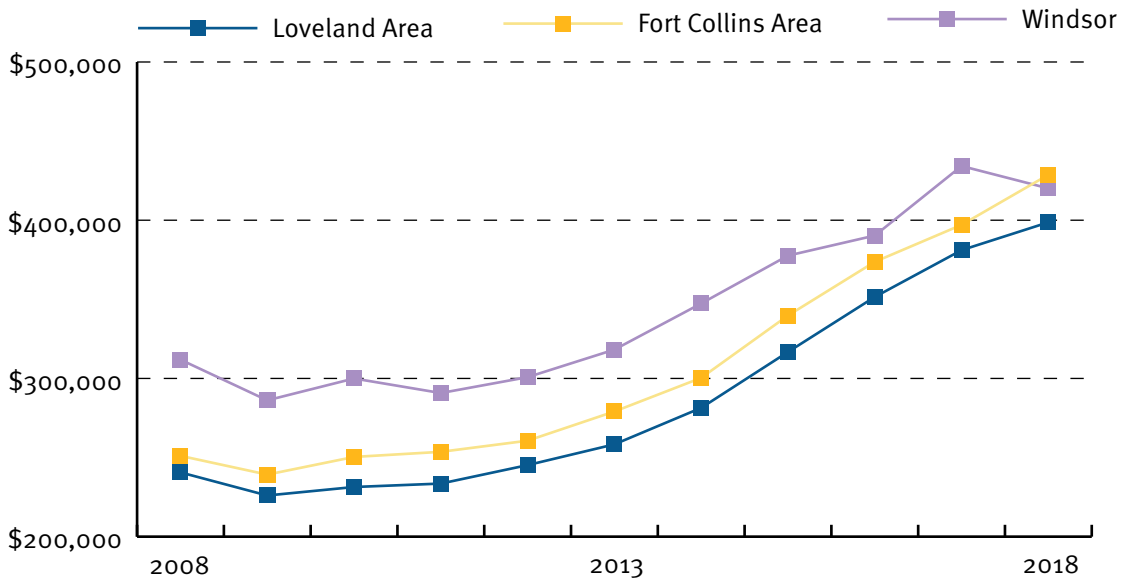
The pipeline of new apartment supply both locally and regionally may put some downward pressure on rent growth and ultimately provide greater choice and flexibility in mobility among renters. McWhinney recently broke ground on a 420-unit apartment development within the AIA, adjacent to the Promenade Shops at

Centerra. Another multi-family project bordering the AIA, Rise at 2534, is under construction with 236 units. Several additional projects are planned or proposed within or near the AIA, including the 368-unit Tanima Peak Apartments currently under review by the City of Loveland. The Brands PUD on the east side of Interstate 25 also includes approvals to develop up to 580 market-rate apartment units.

## Single-Family Uses

The local and regional housing markets have experienced rapid change amid recovery from the 2008-2010 Great Recession and the housing market crash and foreclosure crisis that preceded it. New housing production, especially for owner occupied single-family uses over the past five years, has not kept pace with new household formation (demand). Housing vacancy and availability rates have declined, which in turn has resulted in high cost increases for existing inventory. Average single-family home resale prices in the Fort Collins and Loveland areas increased by approximately 54 percent between 2013 and 2018.

**Figure VI-2: Single-Family Housing Price Escalation**

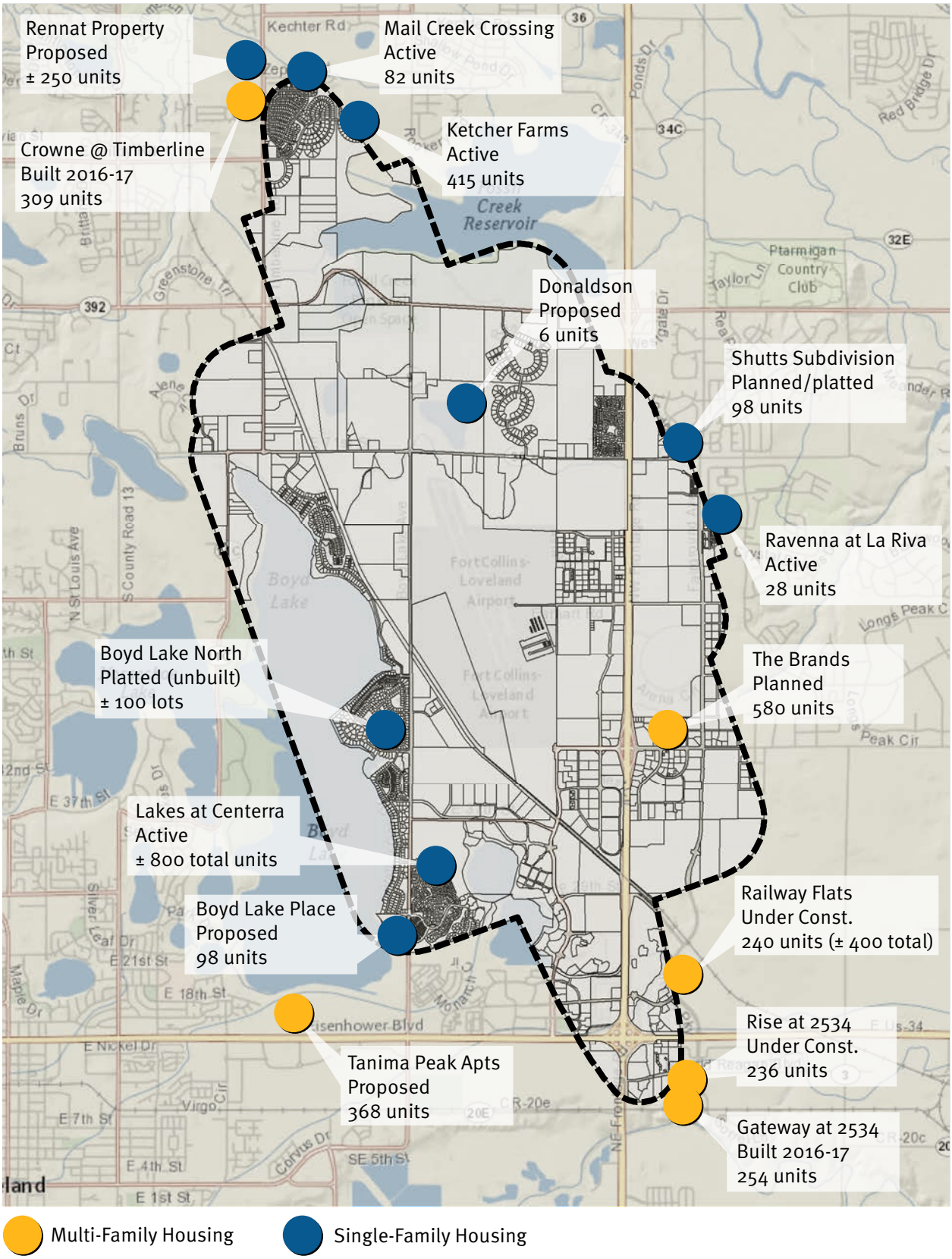



Source: The Group, Inc., Annual Market Reports

For-sale housing affordability has deteriorated rapidly over the past five years. The National Association of Home Builder's Housing Opportunity Index (HOI) for Larimer County declined from 86.1 in the first quarter of 2013 to 42.0 by the fourth quarter of 2018. The index measures the percentage of homes sold that would have been affordable to a family earning the local median income, based on standard mortgage underwriting criteria. As single-family housing affordability becomes more of a constraint, future development activities for this residential product type will largely depend on the price points at which market-responsive units can be produced within the Loveland and Fort Collins market area, including within the AIA.

Active single-family developments on the north end of the AIA around the Fossil Creek Reservoir such as Mail Creek Crossing and Kechter Farms are predominately supplying and selling single-family homes in the $500,000 to $750,000 price range; well above prices for resale inventory. Buyers of estate-type lots in these projects, with homes built to price points up to approximately $1 million, have reportedly not been concerned with proximity to the Airport (open spaces and natural areas around Fossil Creek Reservoir do provide a large

**Figure VI-3: Residential Development Activity in and near the AIA**



natural amenity that buffers from the Airport environs). New construction homes being developed in the Lakes at Centerra development closer to the Airport are more modestly priced, though many are still in the $400,000 to $600,000 price bracket. Empty-nester households and other older-age buyers "trading down" in home size are reported to be two primary sources of demand for all of these single-family developments. The market area and Northern Colorado more broadly are projected to age rapidly over the next 20 years. These trends are already evidencing themselves in the new single-family housing product being offered. Interestingly, multiple brokers also indicated that an increasing number of households from the Boulder/Denver area have considered or purchased single-family units in these subdivisions in the AIA, and either work remotely or commute a few days each week back to Denver. This points to the still "relative" affordability of new single-family housing product in the Fort Collins/Loveland market.

## LONG-TERM HOUSING DEMAND PROJECTION

Secondary household projections available from DOLA for Larimer County are utilized to estimate future housing demands within the region and to quantify the scale of potential residential demands and development pressures that may continue within and near the AIA. The historical share of residential development activity captured within the AIA, from 2000 through 2018, provides a basis to approximate the share of future demand potentially captured (provided that adequate residential land is made available).

Table VI-3 summarizes projected future household growth in Larimer County over a 20-year period from 2019 to 2039.

**Table VI-3: Projected Household Growth in Larimer County, 2019-2039**

| | 2019 | 2029 | 2039 | 20-Year Change | |
|---|---|---|---|---|---|
| | # | # | # | # | AAGR[1] |
| Single-Person Households | 37,309 | 46,111 | 53,280 | 15,971 | 1.8% |
| 2+ Person Households, No Children | 61,337 | 74,496 | 86,002 | 24,665 | 1.7% |
| 2+ Person Households, With Children | 44,066 | 50,794 | 57,818 | 13,752 | 1.4% |
| Total | 142,712 | 171,401 | 197,100 | 54,388 | 1.6% |
| [1] Average annual growth rate. | | | | | |
| Sources: DOLA; Gruen Gruen + Associates. | | | | | |

Single-person households are projected to grow by approximately 16,000 over the next 20 years at an average annual rate of 1.8 percent. Households including two or more persons, but no children, are projected to grow by approximately 25,000 households at an annual rate of 1.7 percent. Growth in family households with children are anticipated to account for a still meaningful, albeit smaller share, of additional households over the next 20 years. Households with two or more persons including children are projected to grow at an annual rate of 1.4 percent and will expand by about 14,000 households by 2039.

Table VI-4 presents a 20-year projection of possible residential land use demand in the AIA. The order-of-magnitude estimates incorporate a five percent frictional vacancy factor (to provide for adequate mobility in the housing market) and further assume that the composition of housing preferred by size/type of household does not deviate considerably from existing patterns.[9]

[9] For example: approximately 55 percent of single-person households in Larimer County are estimated to currently occupy an attached or detached single-family unit. This is not assumed to change in the projection of additional units needed.

**Table VI-4: Projection of Potential Residential Land Demand in AIA[1]**

| | Single-Family[2] # | Multi-Family # | Total # |
|---|---|---|---|
| 20-Year Countywide Household Growth | 37,700 | 16,600 | 54,400 |
| Plus: Frictional Vacancy @ ± 5% | 2,000 | 900 | 2,900 |
| 20-Year Countywide Housing Unit Demand | 39,700 | 17,500 | 57,300 |
| AIA Capture Rate | 5-7% | 8-10% | |
| **20-Year AIA Housing Unit Demand** | **1,986-2,781** | **1,402-1,753** | **3,388-4,533** |
| Average Housing Density in Dwelling Units/Acre [3] | 6 du/ac | 24 du/ac | |
| **Potential AIA Residential Land Demand in Acres** | **331-464** | **58-73** | **390-537** |

[1] Figures are rounded.
[2] Includes detached and attached units (e.g., townhomes, patio homes).
[3] Average density assumptions are consistent with active and planned residential development in the AIA. The Millenium (Centerra) General Development Plan, for example, restricts "overall" residential density to a maximum of six units per gross acre, while certain sub-areas are permitted for multi-family residential with densities of up to 30 units per acre. Built and proposed apartment developments in or near the AIA have densities generally ranging from 20 to 30 units per acre.

Sources: U.S. Census Bureau; DOLA; Gruen Gruen + Associates.

Existing and historical patterns of residential development activity and consideration of current market conditions suggest it is likely that about five to ten percent of regional housing need will materialize as future demand within the AIA. This would equate to approximately 2,000 to 2,800 additional single-family detached and attached units over the next 20 years. Applying a slightly higher capture rate to multi-family uses indicates that potential demand within the AIA could total 1,400 to 1,800 multi-family units over the next 20 years. The projections equate to more than doubling the existing inventory of housing units within the AIA.

The potential housing demand in the AIA over the next 20 years likely equates to a need for approximately 390 to 540 acres of gross land area allocated to residential uses. Assessor records indicate that about 280 acres of residential land (currently undeveloped land, both platted and unplatted) already exists within the AIA outside of the Airport Critical Zones, primarily including the next phase of the Lakes at Centerra residential development. This undeveloped land is mostly planned for single-family uses. There are 390 platted but unbuilt single-family lots within the AIA.

Two multi-family developments on the east side of Interstate 25 could also effectively meet most of the projected 20-year demand for multi-family units summarized above in Table VI-4. The Brands at the Ranch has entitlements to build up to 580 multi-family units. The Railway Flats project in Centerra recently broke ground with plans to provide up to 420 units in two phases. These two projects alone have capacity to add 1,000 additional multi-family units in locations that will not interfere or conflict with Airport operations. However, market support in the long-term for additional multi-family uses will likely arise.

Additional "agricultural" parcels within the Millenium GDP (i.e., Centerra) also provide an additional 200 acres of vacant land that has already been approved through PUD agreement with residential development permitted as-of-right.

# Appendix A: Office and Industrial Forecast Methodology

## ESTIMATING FUTURE EMPLOYMENT GROWTH BY TYPE OF SPACE

The need to provide efficient work space generates demand for building space. We use the employment forecast to project space demands by employment using GG+A's Spacewalk™ model. GG+A's Spacewalk™ model converts employment growth by economic sector into an estimate of relevant demand for different kinds of space. Firms within a specific economic sector do not use the same type of space for all their workers. Therefore, the GG+A Spacewalk™ model assigns employment within various economic sectors to occupational categories which correspond to the types of space most likely to be used. For example, while most manufacturing firms primarily demand industrial space, managers of manufacturing companies also use office space where products are typically stored in warehouse/distribution space. The amount of space primarily depends upon the number of added workers and the associated employment densities (number of square feet of space per employee).

A basic input into the model is an estimate of the percentage and amount of space the employees of a specific type of firm utilize. These basic inputs are based on the percentage of the employees that are in various kinds of occupations. That is, it is necessary to estimate the occupational makeup of an industry in order to tie employment to space. We made this estimate from a synthesis of our interviews, prior GG+A research and data drawn from the United States Department of Labor, Bureau of Labor Statistics. We made estimates concerning the type of space used by employees of differing occupational makeups within the economic sectors and employment densities for office, industrial, and warehouse and distribution space. We used GG+A's Spacewalk model to carry out a series of calculations needed to relate employment densities by occupation within economic sectors to employment forecasts to produce estimates of office and industrial building space demand.

## EMPLOYMENT DENSITY CHARACTERISTICS

GG+A reviewed a sample of existing office and industrial properties, and their occupants, within the primary market area to develop density-related benchmarks necessary to estimate the effects of employment growth on land and building space requirements. As noted, we have assumed an average office space density of 225 square feet of space per worker and an average industrial/flex space density of 650 square feet per worker. These employment density estimates are subject to some degree of change over time (such as related to automation or improved remote working capabilities for office workers), as well as variations that may relate to specific businesses or buildings. However, they provide the best approximation of current worker-to-space relationships that can be readily quantified. Relevant examples within the market area and AIA are provided below:

| | Use | Building Space # Square Feet | Workers # | Density # Square Feet per Worker |
|---|---|---|---|---|
| Rubadue Wire | Industrial | 47,500 | 75 | 630 |
| Nordson Medical | Industrial | 115,000 | 120 | 960 |
| Madwire | Office | 102,000 | 700; 1,200 (planned) | 150 (85) |
| Agrium | Office | 120,000 | 400 | 300 |
| Woodward | Campus | 360,000 | 1,600 | 230 |
| Toddy Coffee | Industrial | 42,000 | 45 | 930 |
| Leed Fabrication | Industrial | 22,000 | 50 | 440 |
| High Country Beverage | Industrial | 130,000 | 130 | 1,000 |

# Appendix B: DuPage National Technology Park Example

**DuPage National Airport, West Chicago, Illinois**

The DuPage Airport Authority ("DAA") owns over 800 acres of non-aviation property south of the Prairie Landing Golf Club and airfield. The property continues to build-out today as the DuPage Business Center ("DBC"). The DBC provides land and facilities for non-aviation industrial businesses. The largest tenants include Continuum, Simpson Strong Tie, DS Containers, Suncast, and Norix.

The DBC land was originally conceived and developed as the *DuPage National Technology Park*. The land (situated between the airport and the Fermi National Accelerator Laboratory) was initially acquired by the DAA to avoid residential land use conflicts with its landing and takeoff routes. Initial development of the *DuPage National Technology Park* was also funded by a $34 million grant from the State of Illinois.

The park was designed with infrastructure to accommodate technology-based companies in an environmentally serene atmosphere. The road system was designed in a manner to accommodate higher level development with robust minimum building design standards and significant amounts of landscaping. In addition, a network of fiber optic cable was installed that provided potential technology-based users with significant band width. An underlying premise of the technology park concept also related to collaboration and technology transfer between Northern Illinois University and nearby federal laboratories including Fermilab in Batavia and Argonne National Laboratory near Lemont. Northern Illinois University had proposed to build a cancer treatment center (built around a proton beam treatment device) that was ultimately never developed at the park.

The DAA entered into an exclusive Development and Lease Agreement with CenterPoint Properties Trust to complete "vertical" development of the technology park. The deal was executed in September 2005 and continued through September 2017. Land leases were the only deal structures permitted, with the lease rate based on appraisals that are mandated by Federal Aviation Administration regulations to achieve fair market value. Two developments occurred under this structure—Pella Windows in 2006, and a data center the following year. Unfortunately, the recession of 2008 caused demand to erode significantly and there was an extended period of time in which no new developments were realized.

Subsequent to the 2008-2010 recession, a number of key steps were taken by the DAA to market the park to a broader spectrum of users and to relax the business terms in ways that promoted the development:

- First, the DAA made the decision that it would permit the fee-simple sale of land and undertook the process of seeking formal approval from the FAA to do so. This approval was received in 2011 and the DAA sold several parcels to CenterPoint;

- Second, it was determined that marketing only to technology-based companies was imposing too narrow of a market on CenterPoint. The types of developments the DAA would consider for the park was broadened to include light manufacturing and distribution. The park signage and branding was also changed from DuPage National Technology Park to DuPage Business Center;

- Third, the minimum design standards were relaxed to reduce the costs of developing in the DBC; and

- Finally, the overall agreement with CenterPoint was restated to include significant concessions by the DAA in order to give CenterPoint more resources to devote to marketing and developing the DBC.

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