Colorado Department of Transportation

Inland Port Study Near DEN

July 2022

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1 Introduction

Purpose of Analysis (Study)

The territory surrounding Denver International Airport (DEN) has been the focal point of recent industrial growth in the Denver metropolitan market, as residential and mixed-use development has pushed businesses engaged in or dependent on freight transportation further to the east. This has been happening while significant forces are transforming the regional market:

- Continuing growth in electronic commerce (e-commerce) and the boost it received during the global pandemic have driven unprecedented demand for warehousing property, because e-commerce requires three times the physical space per sales dollar as traditional brick-and-mortar retail[1]. While the pandemic boost has faded and e-commerce growth has reverted to trend, the trend is a steady increase in retail market share for e-commerce activity and in related demand for warehousing.
- E-commerce freight volumes are driven by individual consumer orders of merchandise rather than consolidated orders from stores, and orders increasingly are tied to same day and next day delivery. Shipments tend to be smaller, more frequent, and occurring in narrower service time windows. The result is more trucks required for a given quantity of freight, travelling with more urgent schedules. Air freight continues to grow as well and adds trucks to access routes.
- Modern warehouses have adopted automated material handling systems that enable goods to be retrieved from inventory within narrow and tall storage aisles, surpassing the capabilities of traditional forklift operations. The effect is that more goods are stored per square foot, and thus that more freight is generated per acre – particularly truck freight.
- These three factors add up to larger numbers of warehouses, each producing more freight per acre, and the freight itself requiring more trucks to handle. The implications for transportation infrastructure are obvious. At the same time, the State of Colorado is moving toward zero-emission vehicles (ZEVs), and major corporations are paying more serious attention to the carbon footprints of their supply chains. This means that at the minimum, three things are happening:

    - The larger numbers of trucks coming from Colorado's warehouse and distribution districts need access to clean energy – electricity now, perhaps hydrogen later.
    - The more efficiently these trucks can travel across the transportation network, the more freight they can deliver between refueling
    - The same network efficiency reduces air emissions from trucks still operating with internal combustion engines.

The two largest counties in Colorado for outbound shipping from warehouse and distribution activities are Denver and Adams Counties in the Denver metropolitan region. According to the S&P Global Transearch freight flow database, this pair of adjacent counties accounts for about 43 percent of

[1] McLaughlin, Linda, Global SVP for Research at Prologis, (May 2022), The Value of Place: Logistics Real Estate and Urban Freight. Presentation to Metrans International Urban Freight Conference, Long Beach CA.

outbound warehouse and distribution shipping in Colorado. Moreover, the volume of such traffic from these counties will double by 2040 and will account for approximately half of the growth in the entire state forecast for the warehouse and distribution sector. Developments in these counties in the vicinity of DEN and the Colorado Air and Space Port have been attracting logistics and manufacturing businesses for some time. In addition, the Union Pacific (UP) and Burlington Northern and Santa Fe Railway (BNSF) have properties and terminals in this area and in nearby portions of Weld County that serve or are positioned for the future development of logistics parks.

The type of development occurring in this district is reminiscent of inland ports established in other parts of the country. Inland ports began as methods for expanding capacity at landlocked seaports, but they have evolved as multimodal logistics parks at interior sites with good connections to global trade gateways. The availability of land with strong air, rail, and highway access by itself is a stimulus, enabling many inland ports to arise organically from private development with government support coming later. One of the industrial sites in Adams County is already styling itself as Port Colorado, reflecting this kind of dynamic. The utility for Colorado Department of Transportation (CDOT) of examining inland ports around the U.S. is to improve understanding of what is coming and the significance of what is happening on the ground. This is helpful for recognizing economic opportunity, and it is beneficial for anticipating demand on the Front Range freight network; not only the traffic it must support, but the important interaction between the road, rail, air and space transportation and logistics systems. The trucks upon which much of that interaction depends on, will be sharing roads with commuters working in the new developments and will be delivering goods to their homes, as well as to commercial recipients. With multiple counties, municipalities, and public agencies affected, it is beneficial for CDOT to recognize the bigger picture that many individual developments are beginning to paint, and to prepare for the implications through its upcoming State Freight Plan and other CDOT efforts. The purpose of this study is to help provide that benefit.

Scope Adjustments

The CDOT and WSP Team collaborated on the original scope of work, defining the Inland Port Study effort through three main work elements, in the order of their planned completion.

- Research Examples and Best Practices
- Identify and Engage Stakeholders
- Develop Recommendations

The intent was to provide recommendations on how CDOT should be involved with developers and local agencies to facilitate coordinated transportation planning.

The project team began presenting research findings to stakeholders and internal CDOT units following the completion of the research phase and early in the stakeholder engagement phase. After the first meeting with an Inland Port development group headed by the One World Trade Center it was decided to focus engagement on CDOT internal units and local agencies' Public Works Directors, Planners, and Traffic Engineers. This included the CDOT team working with the Aerotropolis Regional Transportation Authority (ARTA) on interchange approvals and the I-70 System Study.

A debrief to CDOT leadership presented the research findings, recommended options for advancing the study, and requested strategic direction. The debrief resulted in a new understanding of what this study would accomplish. To avoid a duplication of effort with the CDOT team working with ARTA and to manage expectations of CDOT's involvement, the CDOT/WSP Inland Port Study Team ended stakeholder engagement efforts and pivoted the Develop Recommendations work element to concentrate on preparing the CDOT freight unit with material and recommendations that can be used in the upcoming Colorado Freight Plan.

Content Overview

The information contained within is based on previously generated research phase and stakeholder engagement materials and newly gathered information. It is organized based on an outline agreed on by the CDOT/WSP Inland Port Study team.

Within Case Studies: Best Practices at Inland Ports and Real Estate: Existing Conditions and Trends, there are two elements that help set the stage for the area's potential to develop into a multimodal transportation hub; the examples and best practices research findings in National Trends and Local Trends identify what is working and where the national and regional/local warehousing and logistics sector is headed. This is summarized in the opinion of area development. Also included in Real Estate: Existing Conditions and Trends is the identification and mapping of developments in the study area with brief descriptions of intended use.

The existing transportation system that surrounds and supports the study is captured in Existing Transportation Inventory, with data and information about the roadway, rail, and air systems and facilities. The information and data is high level, from readily accessible sources, and is intended to provide an overview of the available multimodal transport options in the area.

This report includes two sources of information on which travel trends and potential magnitude of traffic change can be obtained. A forward-looking analysis of Transearch data provides an indication of predicted increase in commodity production, consumption, and movement. The Tolling and Revenue data from E-470 provides a localized travel forecast of the E-470 toll facility that serves the study area. The final chapter provides an opinion of what the continued development can mean to the transportation system and energy sectors. Because this study was always intended to be at a higher level, it provides an insight into the area's freight transport potential without completing a more detailed trip generation or transportation system capacity analysis. Recommendations for elements to include in the Colorado Freight Plan completes this report.

2 Case Studies: Best Practice at Inland Ports

The first step in our study was to identify inland ports with comparable geographies and multimodal transportation networks. Desk research was undertaken based on a framework matrix with criteria and components determined by the project team. The research centered on four main categories:

- Organization
- Market Factors and Trends
- Modal Access
- Challenges

A summary of the findings and common best practices are noted below. See 8 Appendix A: Summary of Reviewed Case Studies for detailed individual profiles of the 10 inland ports that were analyzed to support the summary of findings and best practices.

Summary of Findings

1. Ownership and management under the Port Authority model is a common approach. A majority of the inland ports in this study are owned and operated by a Port Authority and illustrate operational and funding flexibility. The role of government otherwise typically is supportive and facilitating, with DOTs more often in the background.

2. Funding patterns include federal and local grants, operating revenues, and user fees.

3. Key tenants include e-commerce suppliers and modal and shipping services like Norfolk Southern (NS) Rail, BNSF Rail, FedEx, Amazon and others.

4. E-commerce is now a major driver of inland port development. The rise in e-commerce and freight congestion on the coastal ports is pushing demand for intermodal rail, trucking, and last mile services, which is leading to new developments and land uses, including:
    - Warehouses or distribution centers (e.g., Amazon, FedEx, UPS, medical supplies).
    - Business or logistics parks (e.g., BNSF Logistics Parks).
    - Truck parking and staging facilities.

5. Advancements in technology hubs for supply chain management, creative development, and innovation including electric vehicle (EV) charging facilities (both independent and shared) and other technology improvements (e.g., signal and communication upgrades, automated gate systems).

6. Inland Port developments may also provide the following benefits:
    - Increased land values by attracting new residential and mixed-use developments and offering competitive services with benefits like increased tax revenues, employment, and economic development.
    - If inland port developments facilitate a mode split away from heavy trucks, state transportation agencies can look to private funds for some infrastructure investments and can reduce maintenance expenditures.

- Expansion of multimodal transportation options, which tends to reduce logistics costs, improve global market access, and attract new development.

Best Practices

Successful locations offer multiple mobility opportunities. Every inland port reviewed has excellent rail service to seaports as well as domestic markets. Interstate access is crucial, and crossroads locations help (such as Denver has with I-70 and I-25). International airports are a frequent asset and are important for advanced manufacturing clientele. Land for development and its proximity to regional business and activity hubs is essential, along with a qualified workforce. Locations usually occupy a geographic niche, such as a top national market or a population center for a topographical region (as are Salt Lake City, Denver, and Kansas City in respect to the Rocky Mountains and the Great Plains).

- Establishment of a resource technology hub for innovation, partnerships, testing, supply chain management and optimization, and foreign trade is necessary to compete for business from modern supply chains. This could include technology pilot zones to attract logistics-oriented tech companies.
- Securing anchor tenants provides a revenue baseload for financing and seeds the growth of industrial ecosystems. Developing a partnership strategy builds on this, attracting businesses to supply and support local industries and e-commerce networks.
- Developing a funding strategy and organizational structure should support economic growth, port expansion, and flexibility in business development or delivery, and should incorporate both private business and local government features.

3 Real Estate: Existing Conditions and Trends

Market Information

The focus of this study is a triangular area in Adams, Denver, and Weld counties, depicted in Figure 1, and described in greater detail later in this chapter. This section begins with a review of national trends in the industrial real estate market, then turns to related trends and developments in the Denver market of which the study area is a dynamic part.

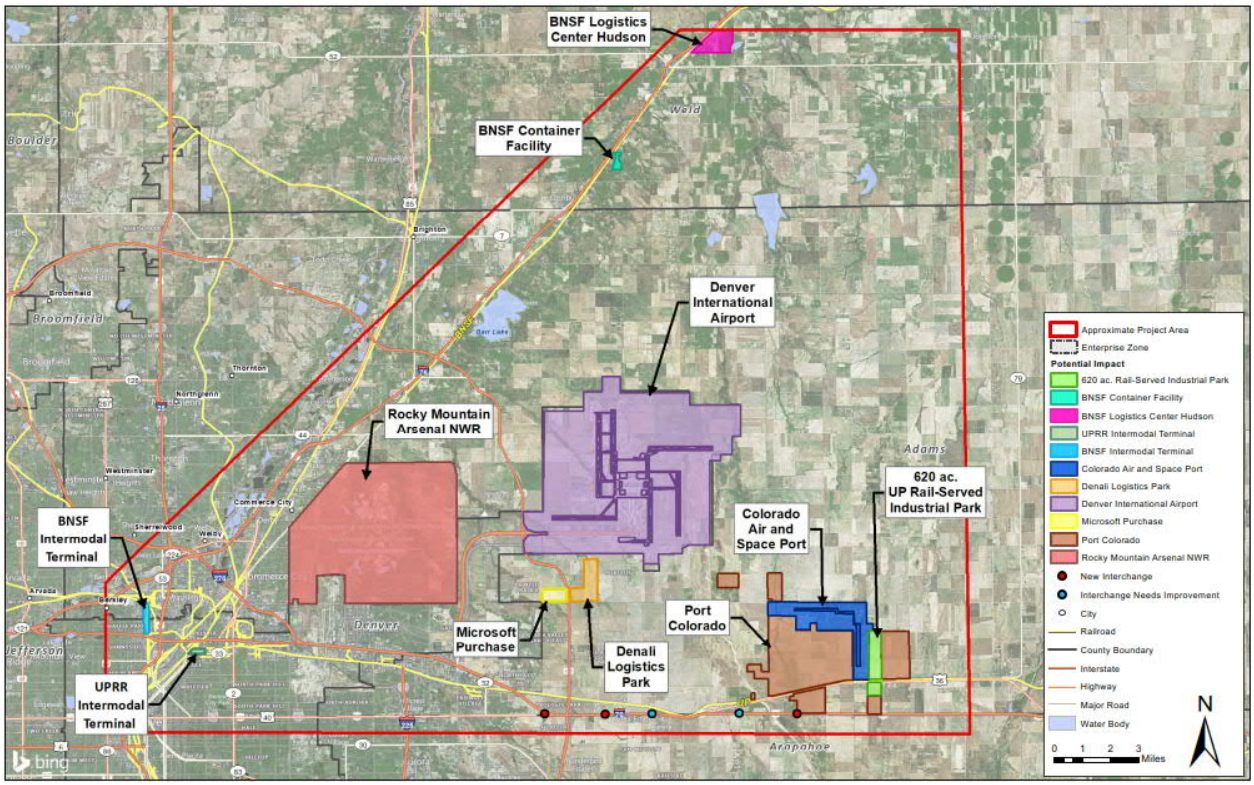


Figure 1. Project Study Area.

National Trends

The national trends show that growth in intermodal rail, trucking, and last mile services lead to new development and land uses, such as warehouses or distribution centers (e.g., Amazon, FedEx, UPS, medical supplies), business or logistics parks (e.g., BNSF Logistics Parks), truck parking and staging facilities, EV charging facilities (both independent and shared) and other technology improvements (e.g., signal and communication upgrades, automated gate systems). Residential and mixed-use developments are also taking place at the fringes of these uses, given that industrial uses are no longer as dirty or intensive as in the past. Inland ports are gaining importance because of e-commerce, rising freight congestion on the coastal seaports, and as part of improving the United States' multimodal freight systems for national, regional, and metropolitan economic development.

In 2015, Amazon obtained $107 billion in sales revenue and was one of many companies reshaping the strategic significance of inland ports. Also in 2015, Utah began the exploratory stage for an inland port, Iowa was advancing inland port plans, and there was inland port expansion in Ohio and Illinois (Wallack 2017).

In Q3 2016, Amazon began operations at a new one million square foot fulfillment center in Ohio's Rickenbacker Global Logistics Park. This is in addition to Amazon's 800,000 square foot center in Etna, Ohio and their three data centers in Central Ohio for a total investment of approximately $1.1 billion over the past three years. Also, the other major warehouse/fulfillment center users in the Rickenbacker area include companies such as BASF, American Showa, Boars Head, Gap, Eddie Bauer, Kraft, and Build-A-Bear (Wallack 2017).

In Q1 2017, Illinois' CenterPoint Intermodal Center was North America's largest inland port. This port is situated 40 miles southwest of Chicago, Illinois and encompasses an area of 6,400 acres. Will County Center for Economic Development and CenterPoint Properties developed this inland port over a 15-year period. The 2015 volume handled three million (six million capacity) 20 equivalent units (TEUs) containers, which was just behind the ocean ports of New York/New Jersey and Los Angeles/Long Beach. Anchor tenants include the BNSF Logistics Park-Chicago in Elwood, Illinois on 780 acres and the Union Pacific (UP) Joliet Intermodal Terminal on 835 acres (Wallack 2017).

In 2018, JLL published an industrial report that identified a direct linkage between rail volume growth and warehouse inventory growth. The report indicated that the inland ports of Atlanta, Chicago, and Dallas have seen, "warehouse inventory growth between three to twelve percent over the past five years". The report also indicated that industrial parks or hubs anchored by intermodal facilities are attracting, "distribution centers, warehouses, and manufacturing plans, as well as commodity and/or automotive transload facilities." JLL also noted that over the past three decades, inland ports have been developed by port authorities (e.g., Virginia Port Authority's 1989 Front Royal), by private investors (e.g., Ross Perot's 1992 development in Alliance, Texas[2]), by railroads (e.g., BNSF's Kansas City logistics park), and the clustering of distribution centers. Further, there is a continued trend of land banking around the BNSF and UP intermodal terminals, such as those in Joliet, Illinois or Dallas, Texas (JLL 2018).

In Q2 2020, the Columbus Regional Airport Authority noted that Twin-Med and Woodfield Distribution Services are two of several medical distribution companies that have located in the Columbus/Rickenbacker area over the last few years to take advantage of the region's logistics benefits. The President of the Kansas City SmartPort stated that "the rapid growth of e-commerce has fueled development of warehouses and distribution centers, specifically with U.S. inland-port markets such as Kansas City." A key advantage of inland ports is that they give companies access to land and buildings at lower prices and operating costs than most crowded coastal port cities. The clustering of distribution facilities in these locations also promotes lower costs and long-distance rail transport by concentrating volumes in trainload quantities (Crowley and Jorge 2020).

[2]In 2002, the University of Texas at Austin reported that "the overall economic impact of Alliance, Texas is estimated at $19.1 billion. This development houses more than 110 companies, which have built more than 20.8 million square feet of warehouse, distribution, and related facilities. And created more than 20,000 jobs. Alliance Texas's major tenants operating large regional, national, or global warehouse distribution centers include: General Motors, Georgia Pacific, Hewlett-Packard, Honeywell, Nestlé, Nokia, Randall Foods, and Zenith."

Economic development officials recognize that inland ports in proximity to major rail lines and interstate highways offer significant potential for warehouse and distribution facilities, business parks, and more, coupled with advancements in technology. Inland port investments typically result in higher land values and more competitive services with benefits in the form of increased tax revenues, employment, and economic development. Location and access to multi-modal transport (including highways, rail, and air) are keys to the eventual success of inland ports. Benefits to state transportation agencies include opportunities to utilize private funds for roadway investments and reduce maintenance expenditures, if inland port developments facilitate a mode split away from heavy trucks. With that said, the reduction of heavy trucks lessens the damage to road infrastructure caused by increasing truck numbers and heavier axle loads.

Local Trends

Similar development and land use trends as those described for the national marketplace are active in Colorado.

Quantum 56
Hines, in partnership with EnviroFinance Group (EFG), is currently designing (October 2021) and will build a 60-acre logistics park near the northwest corner of 56th Avenue and I-25, in the heart of the central submarket of Denver. Hines and EFG will develop a Class-A business park with approximately 860,000 square feet of office warehouse space distributed across six buildings. The project will accommodate tenants for a range of uses – from 20,000-square-foot tenants looking for office warehouse and showroom space, to larger tenants of 350,000-square-foot seeking infill and last-mile delivery locations.
Rocky Mountain Rail Park
Shown in Figure 1 as the UP Rail-Served Industrial Park, the Rocky Mountain Rail (RMR) site is a potential 620+ acre industrial park in Adams County that is being marketed as shovel ready in Q3 2021. The site is well served by utilities and zoned for planned unit development (PUD) from light to heavy industrial with rail capabilities and outside storage. In addition, the RMR site is within a registered Foreign Trade Zone (FTZ) service area. UP railroad connects to the site and that would provide linkages to 23 U.S. states, Canada, and Mexico via rail systems. The site provides easy access to I-70, the Colorado Air and Space Port (CASP) and DEN. With surrounding land, there is reportedly as much as 4,000 acres available for development (Rocky Mountain Rail Park n.d.a). For more information, see Future Rail-Served Facilities.

Amazon, FedEx, UPS, and other last mile distribution centers, as well as BNSF or similar logistics parks, are likely future tenants for development in the study area given the proximity to major transportation nodes (airport, rail, interstate highways).

CenterPoint Properties is another likely future tenant/developer for the area given their expertise and strategic locations across the U.S. They typically acquire, develop, redevelop, manage, lease, and sell state-of-the-art warehouse, distribution, and manufacturing facilities near major transportation nodes (i.e., large rail, port, and trucking infrastructure assets). CenterPoint serves East coast, West coast, and Central U.S. markets. Their current inland port markets include Chicago, Kansas City and Dallas.

Denver Submarket

In Q1 2022, JLL issued a Denver market report that described a robust development pipeline with, "over 10.5 million square feet under construction." It noted that absorption trended downward with an average of 1.3 million square feet occupied, which was down 68 percent from Q4 2021. Several tenants occupied larger spaces over 100,000 square feet and included the following companies: Meati Foods/Emergy, Sascho, International Paper, Pet Food Experts, Kroger, Subaru, and Basalite.

The report noted that, "with 9.5 million square feet of speculative space in the pipeline, in addition to the more than five million square feet of planned projects we are aware of, it is time to be more critical of the size, type and timing of future development."

Further the average lease size dropped from, "49,000 square feet to 36,000 square feet for the two million square feet" in contract. I-70 East remains the most popular submarket and the Southeast is growing, with almost 14 percent of the leasing activity in Q1 2022 (JLL 2022).

Area Development

The development in the area is occurring near the transportation corridors, with large developments near the UP/I-70/Front Range Airport corridor and near the BNSF/I-76 corridor. These developments are freight focused, with bulk material transfer and container transfer facilities as the only tenant/owner or as a main anchor. Developments planned around the highway only corridors leading to DEN are light or clean industries, reliant on the roadway network for employee access and shipping. Interspersed amongst the known larger developments are multiple single user warehousing and distribution hubs.

Aside from the physical location of development, the new building layout and design generally apply Leadership in Energy and Environmental Design (LEED) principles. Environmental sustainability is increasingly becoming a corporate value and new facilities are incorporating environmental stewardship in new developments, from energy efficiency to landscaping.

New Large Developments

There are several large developments operating, in development, or planned in the area. We have identified five rail centric developments and two light industrial/technology developments (see Figure 1).

Light Industrial and Clean Tech Development

The large light industrial and clean tech developments are located near E-470 and DEN. The largest is the 420-acre Denali Logistics Park[3]. Denali plans for 21 buildings totaling six million square feet of space and is being marketed by Jones Lang LaSalle Brokerage, Inc. (JLL), a firm referenced in National Trends. To put this in perspective, at buildout, Denali will provide almost 10 times the square footage as the

[3] A logistics park is defined as an industrial area specifically designed for storage, management, distribution and transportation of various goods. In addition, companies operating from logistics parks often use them to assemble, package, process or do light manufacturing of products (Agility 2021).

recently constructed Colorado Logistics Park near 112th Ave. and Havana St. in Commerce City. A key marketing point is the park's access to E-470 via 56th Ave and 64th Ave.

In March 2022, Microsoft purchased 260 acres near the Denali Logistics Park with an agenda that is unknown. With that said, the acquisition appears consistent with other property investments Microsoft has made across North America in areas with an e-commerce, logistics, and distribution focus.

Rail Centric Development

This section provides an overview of the rail centric development. For additional and detailed information on current and future rail facilities see Rail below.

In addition to the 620-acre UP served Rocky Mountain Rail Park mentioned above in Local Trends, other rail centric developments include:

- Port Colorado with an advertised 65-acre rail/truck transload facility and over 4,000 acres of "rail served" light and heavy industrial zoned sites adjacent to the UP mainline and I-70. Port Colorado also adjoins the Colorado Air and Space Port (CASP) and advertises a "through-the-fence" agreement.
- UP has an existing transload facility in the southwest corner of the study area southeast of the I-25 and I-70 interchange.
- BNSF is operating the 430-acre Hudson Logistics Center near I-76 and CO 52 on the northern reaches of the study area. This logistics center with its "access to Denver and surrounding markets" is the second largest of five logistics centers that BNSF operates in the U.S.
- BNSF is in early planning stages of a container facility near I-76 and Weld County Road 6, a few miles south of the existing logistics center.

The five identified rail centric developments total over 5,000 acres, or about eight square miles of property reliant on the intersection of rail and roadway transportation.

Other Complementary Development

The area is expected to follow national trends, where the influx of large development, logistics, and distribution players follow and precede the smaller developments or individual builds. Costco, Kroger, Ceva Logistics, JAG Logistics, and Karcher have warehousing/distribution centers near the Denali development. The land north of I-70 near the Pena Blvd. and the E-470 interchanges is inundated with distribution centers, including Amazon, food and beverage distributers, trucking and logistics companies, and auto part and home improvement supplier warehousing. As the larger developments mature, the land between will continue to fill with these types of use as transportation corridors are improved and access to goods and services are enhanced. In addition, support services for the industry and employees will migrate to the area.

There is a large amount of residential development in addition to the industrial, logistics, and commercial development. To better understand the effects of development, the City of Aurora completed an update in 2018 to the 2007 Northeast Area Transportation Study (NEATS). See Local Roadway Networks for further information about NEATS and its current and future role in development patterns.

Local Relocation

The migration of existing businesses to newly developed areas is a known phenomenon as the benefits of relocating outpace the cost to move. Factors in the decision to move include, but are not limited to: transportation cost, property value, connections with suppliers/customers, and compatibility with the surrounding neighborhood. As the land surrounding the historic industrial areas continue to develop, companies look at new areas that are a better fit for their operations. Another oft-mentioned factor is changes in rules, laws, and regulations when the cost to relocate and build green is less than the cost or more efficient than to retrofit an older facility.

Mapping

A GIS based mapping effort was undertaken to show the municipality, county, and enterprise zone borders, and the spatial relationships of development to each other and to the transportation corridors and facilities (see Figure 1). The Rocky Mountain Arsenal is also shown because of its prominence in the area. An outline of the study area is displayed, not as a hard border, but to visually depict the general study area that is bordered by I-70, I-76, CO 52, and CO 79.

Zoning was also mapped, with a compilation of Adams and Weld Counties, Aurora, City and County of Denver, and Commerce City zoning amalgamated into seven basic zoning categories, pictured in Figure 2. The zoning and development information is the best available information that was pulled from accessors records and publicly available sources.

Development Map

As noted above, the main developments are located near the transportation corridors. This visually depicts that the rail centric developments are located near the northwest and southeast edges of the study area with room for additional migration towards the already developed southeast corner. Along E-470, roadway focused development has room to expand south, tying into the existing cadre of distribution facilities located near I-70/Pena Blvd. and I-70/E-470.

Zoning Map

As expected, the current development patterns above follow the zoning, and in large part, the enterprise zone boundaries. One outlier in the zoning review is Weld County, which uses the agricultural

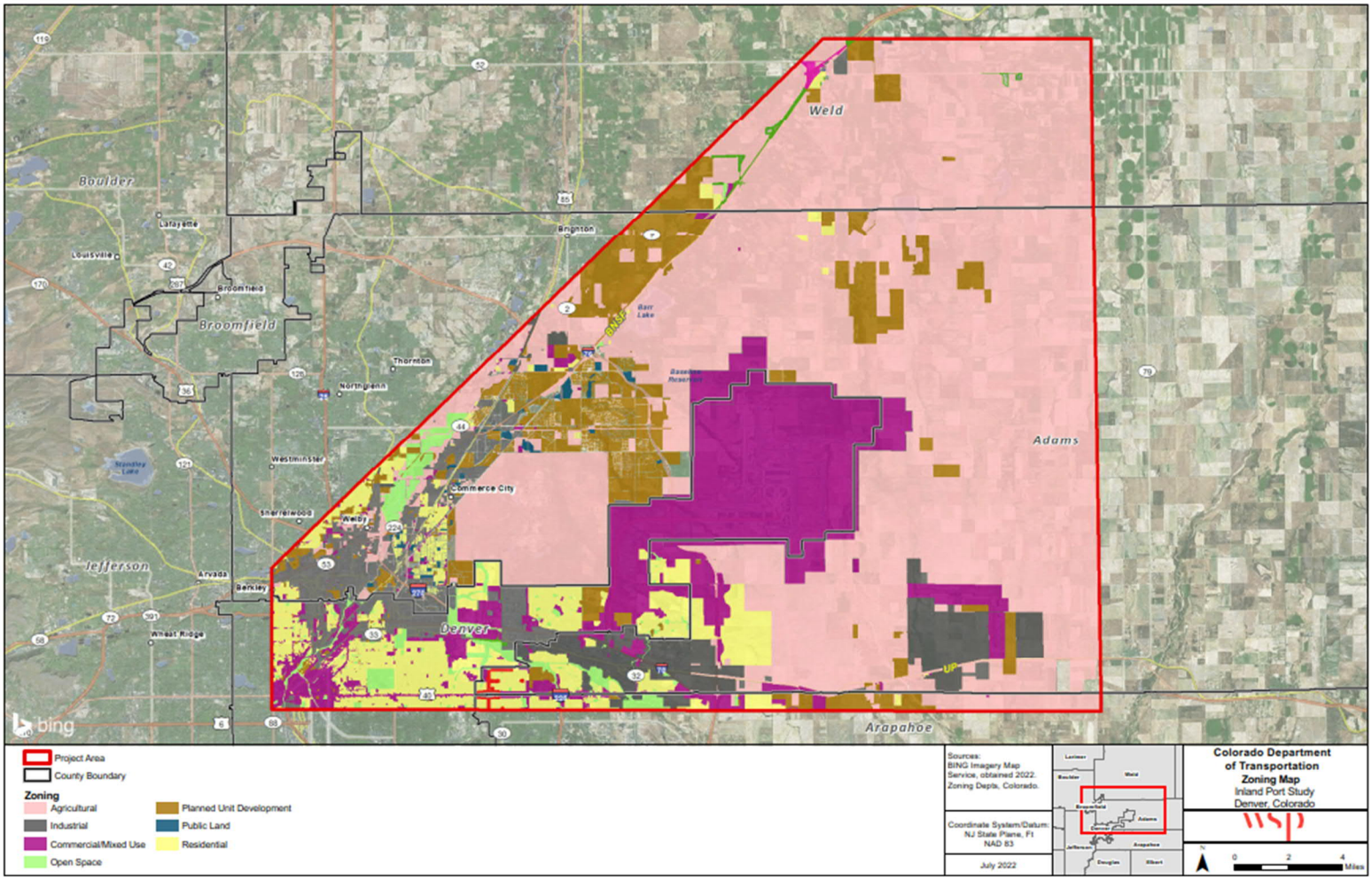


Figure 2. Colorado Department of Transportation Zoning Map.

zoning definition for most of the unincorporated land with a Use by Special Review designation for non-agricultural use.

Study Area Development Pattern Similarity

The 10 inland ports reviewed were selected for their geographic or logistical similarities to the study area. Of the 10 sites, two locations were defined as inland ports early in their lifecycle – Salt Lake City, UT and Alliance, TX. Two were developed by companies or authorities that owned other inland or coastal ports – Greer and NE GA. The others, though now operating within the governorship of authorities, began more organically with development occurring around the intersection of transportation corridors and hubs, some rail-based and others airport-based. The synergies created by consolidating companies with transportation, logistics, and feeder industry provide incentive for additional tenants.

Zero Emission

Policies and regulations on Zero Emissions and Clean Trucks have implications for the development patterns, freight movement, and the energy needs in the study area. Colorado, and CDOT as a state agency, are actively implementing policies and regulations to decrease emissions. This is evident in CDOT's recently adopted rulemaking, 2 CCR 601-22, establishing GHG Mitigation planning rules. The preamble to the rule best describes Colorado and CDOT's effort:

The passage of House Bill (HB)19-1261 set Colorado on a course to dramatically reduce GHG emissions across all sectors of the economy. In HB 19-1261, now codified in part at §§ 25-7-102(2) and 105(1)(e), C.R.S., the General Assembly declared that "climate change adversely affects Colorado's economy, air quality and public health, ecosystems, natural resources, and quality of life[,]" and acknowledged that "Colorado is already experiencing harmful climate impacts[,]" and that "many of these impacts disproportionately affect" certain Disproportionately Impacted Communities. see § 25-7-102(2), C.R.S. The General Assembly also recognized that "[b]y reducing [GHG] pollution, Colorado will also reduce other harmful air pollutants, which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment." see § 25-7-102(2)(d), C.R.S.

Since 2019, the State has been rigorously developing a plan to achieve the ambitious GHG pollution reduction goals in § 25-7-102(2)(g), C.R.S. In January 2021, the State published its Greenhouse Gas Pollution Reduction Roadmap (Roadmap). The Roadmap identified the transportation sector as the single largest source of statewide GHG pollution as of 2020, with passenger vehicles the largest contributor within the transportation sector. Additionally, the Roadmap determined that emissions from transportation are a "significant contributor to local air pollution that disproportionately impacts lower-income communities and communities of color." see Roadmap, p. XII.

A key finding in the Roadmap recognized that "[m]aking changes to transportation planning and infrastructure to reduce growth in driving is an important tool" to meet the statewide GHG pollution reduction goals. see Roadmap, p. 32. Section 8 of these Rules also advances the State's goals to reduce emissions of other harmful air pollutants, including ozone.

This rule is for addressing and mitigating GHG emissions during the Statewide and Regional Planning Process, but it provides context for the effort CDOT is undertaking to meet the GHG Reduction Roadmap. This same thought process should be used while looking at the development occurring in the study area.

Clean Trucks

A joint effort by CDOT, the Colorado Energy Office (COE), and the Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE), produced the Clean Truck Strategy for Colorado. This strategy focuses on medium- and heavy-duty (M/HD) vehicles ranging from semitrucks to large pick-up trucks. The Clean Truck Strategy identifies benefits including:

- M/HD vehicles include semi-trucks, school buses, snowplows, delivery vans, large pick-up trucks, along with many other different vehicle types. M/HD vehicles are the second-largest source of

greenhouse gas (GHG) emissions in the transportation sector, contributing 22 percent of on-road GHG emissions despite being less than 10 percent of all Colorado vehicles (CDOT 2022).
- The M/HD Vehicle Study found that if Colorado pursues an accelerated transition to M/HD zero-emission vehicles (ZEVs), it could result in a M/HD truck GHG emissions reduction of 45 percent to 59 percent, nitrogen oxide (NOx) emissions 54 percent to 93 percent, and also further reduce particulate matter emissions 53 percent to 68 percent below 2005 levels by 2050 (CDOT 2022).
- This will help fight climate change, improve air quality, and especially benefit communities disproportionately impacted by transportation pollution emissions. The study also found that owners of M/HD trucks (most of whom are small businesses) could save an estimated $5.8 billion by 2050 from reduced vehicle maintenance and fuel cost by switching to ZEVs (CDOT 2022).

Within the Clean Truck Strategy are goals and objectives to increase the use of ZEVs, including:

- Increased adoption of M/HD ZEVs to at least 30 percent of new sales by 2030, and 100 percent of sales by 2050.
- Increased adoption of M/HD ZEVs to 35,000 vehicles on the road by 2030, with a long-term goal of 100 percent of M/HD ZEVs.
- State agencies will plan for and support public, utility, public-private partnership, and private sector funding for sufficient M/HD charging and hydrogen fueling infrastructure to serve the identified clean truck and bus adoption goals. Additional planning is needed to identify the right quantity and mix of technologies, charging speeds, use cases, and locations for this infrastructure.

To move toward the goals, several actions are identified. Of the near-term actions, these provide the most relevancy to this study:

- Conduct a planning study for M/HD charging that identifies the quantity, type, and locations of charging infrastructure needed to support ZEV truck adoption goals.
- Develop a comprehensive set of incentive offerings for depot and public truck charging and leveraging funding from the federal government and state enterprises.
- Conduct exploratory work on potential indirect source standards to reduce air pollution from facilities that generate significant M/HD vehicle traffic (any potential regulatory actions would be a medium-term strategy).

4 Existing Transportation Inventory

Roadways

This study area is served by four interstates and three major highways. These interstates are inclusive of Interstate 70 (I-70), Interstate 270 (I-270), Interstate 76 (I-76), and Interstate 225 (I-225). The highways include State Highway 52 (CO 52), State Highway 79 (CO 79), and Extension 470 (E-470). CO 52 borders the study area along the north and I-70 borders the south. On the west border, I-76 is present, while on the east, CO 79 borders.

Interstates

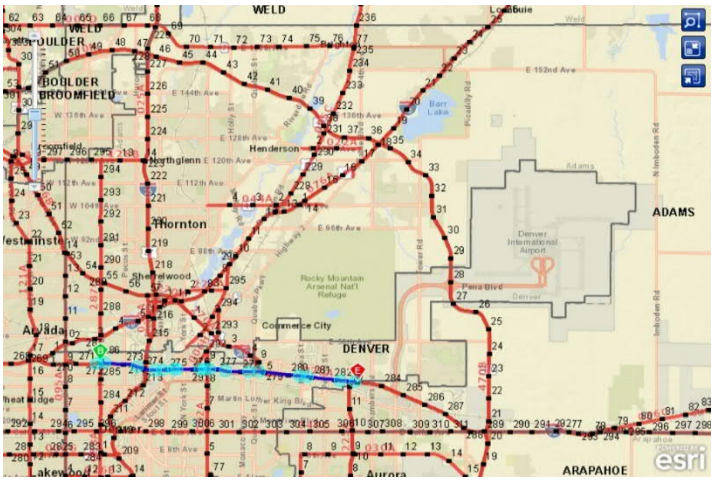
Interstate access is a common thread amongst the existing inland ports, providing them a transportation option for shipping and distribution. The two interstates that border the study area, I-70 and I-76, provide connections to the west coast and to the nation's mid-west region. I-270 and I-225 provide linkages to the larger interstate system and the western metro area. An interstate in the general study area, but not included in the data collection is Interstate 25 (I-25). For the purpose of this report, only interstates directly impacted by the freight focused development are included. Based on the highway configuration, we believe that I-25 is far enough removed from the area's development with dispersed access from I-70, I-270, E-470, and I-225, that a reasonable linking to the DEN area development can not be made.

I-70

I-70 is a major east to west Interstate Highway in the U.S. that traces the approximate path of historic U.S. Highway 40 (US 40). East of the Rocky Mountains, I-70 connects with Kansas City, St Louis, and Indianapolis. To the west, I-70 crosses the Rocky Mountains through the Eisenhower-Johnson Memorial Tunnel with connections to Salt Lake City, UT and eventually Las Vegas, NV and Los Angeles, CA.

The study area includes a 32 mile stretch of I-70. At the east border of the study area, I-70 is met by CO 79 in Bennett, Colorado that runs north to south. At the west border of the study area, I-70 is met by U.S. Highway 287 (US 287), which is two miles west of I-25. This stretch of I-70 within the study area is between mile marker (MM) 272 and 305.

I-70 West Segment (US 287 to I-225)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
7.56	12,754	132,538	11,623	8.7 %	0.84	0.99



This western segment of I-70 runs from MM 272 at the intersection of U.S. Highway 287 (US 287) to MM 279 at the intersection of I-270. The segment is about eight miles in length, with a speed limit of 55 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to eight. This route segment does not have any tolls and is considered a National Truck Route. The route capacity ranges from 12,100 to 14,100 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 132,538 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 9 percent, which represents a volume range of 3,500 to 8,500 trucks.

The hourly traffic volume divided by the hourly capacity of the segment, thus, the volume/capacity (V/C) ratio measures capacity sufficiency and can be used to estimate congestion as a measure of the quality of service. The V/C ratio for this western segment of I-70 averages 0.84. In 20 years, the V/C Ratio is estimated at 0.99. This is estimated by forecasting traffic volume increases based on the highway's current configuration. A large portion of the western segment is under construction, adding toll-express lanes as part of the Central 70 project and other geometric improvements.

Central 70 Project

Within this western segment of I-70, the Central 70 Project is located between MM 275 and MM 283.

The Central 70 Project will reconstruct a 10-mile stretch of I-70 between Brighton Boulevard, just east of 1-25, and Chambers Road. One new Express Lane will be added in each direction, the aging 57-year-old

viaduct will be removed, the interstate will be lowered between Brighton and Colorado boulevards, and a four-acre park will be placed over a portion of the lowered interstate (CDOT n.d.).

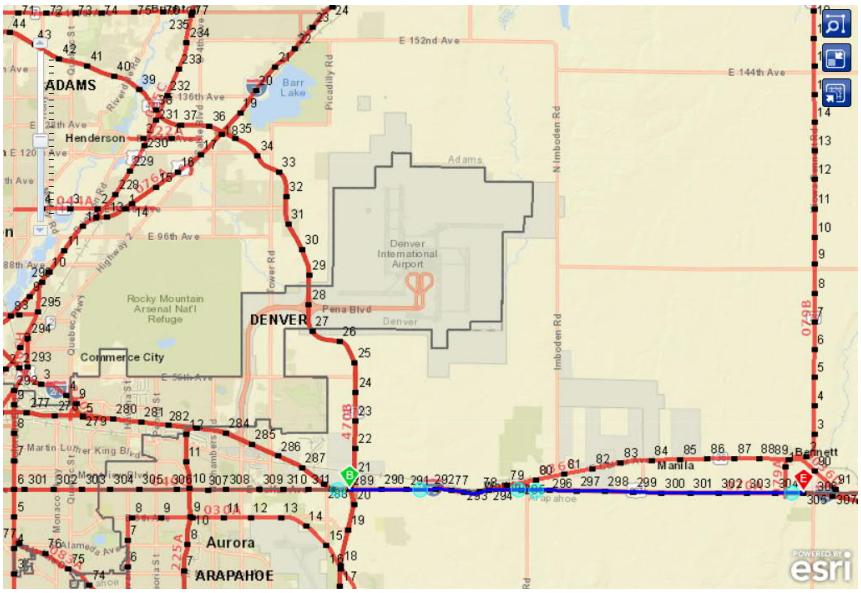
The Project will enhance mobility by providing transportation choices via a congestion-free lane (tolled Express Lane) in each direction on I-70. Drivers will have the choice to use the Express Lane trip in exchange for a toll, or to use one of the three to four general-purpose lanes for free. The Project will provide for realistic capacity expansion and minimized future congestion to ensure the efficient movement of people and goods. This will create flexibility for future expansion and modification by preserving right-of-way, especially in the lowered section of the highway (CDOT n.d.).

I-70 Middle Segment (I-225 to E-470)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
6.7	12,571	126,286	11,129	9.3 %	0.84	1.11

This middle segment of I-70 runs from MM 279 at the intersection of I-270 to MM 289 at the intersection of E-470. The segment is about seven miles in length, with a speed limit ranging from 55 to 75 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to six. This route segment does not have any tolls and is considered a National Truck Route. The route capacity ranges from 7,650 to 17,300 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 126,000 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about nine percent, which represents a volume range of 6,500 to 14,900 trucks.

The V/C ratio for this middle segment of I-70 is 0.84. In 20 years, the V/C Ratio is estimated at 1.11. This is estimated by a traffic forecasting statistic of hourly V/C Ratios. Two miles of the Central 70 project overlap in to the I-70 middle segment of this study and V/C will need to be adjusted.

I-70 East Segment (E-470 to CO 79)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
19.88	6,783	27,667	4,652	17.17 %	0.44	0.59



This eastern segment of I-70 runs from MM 288 at the intersection of E-470 to MM 305 near CO 79 that runs north to south. CO 79 is also known as "Kiowa–Bennett Road." The segment of I-70 is about 20 miles in length, with a speed limit of 75 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to six.

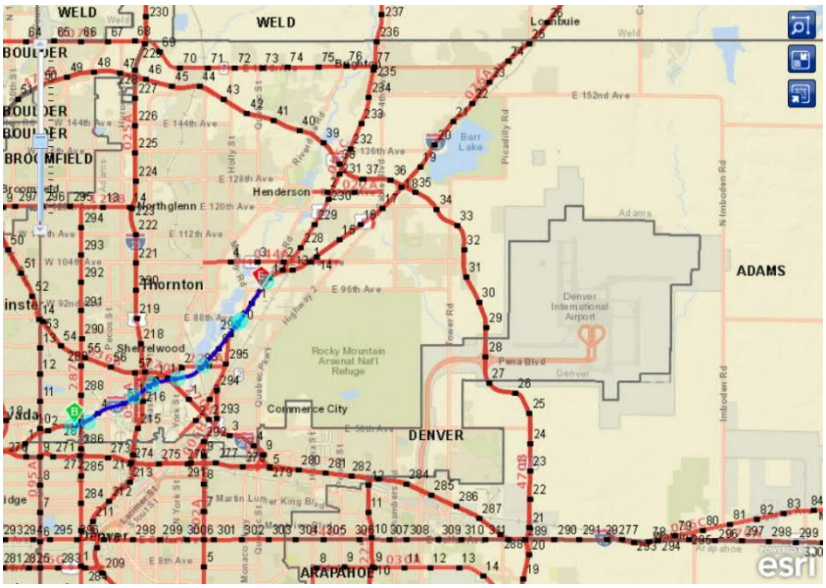
There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 6,500 to 7,150 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 27,667 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 17 percent, which represents a volume that ranges from 4,200 to 5,320 trucks.

The V/C ratio for this western segment of I-70 is 0.44. In 20 years, the V/C Ratio is estimated at 0.59. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

I-76

I-76 traverses northeasterly across the Colorado eastern plains, connecting Denver to I-80 and points west and east, including Chicago. I-76 serves as a more direct route for vehicles moving east from the Denver area toward the upper mid-west.

I-76 South Segment (US 287 to US 85)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
11	9,222	75,889	9,167	12.09 %	0.79	1.12

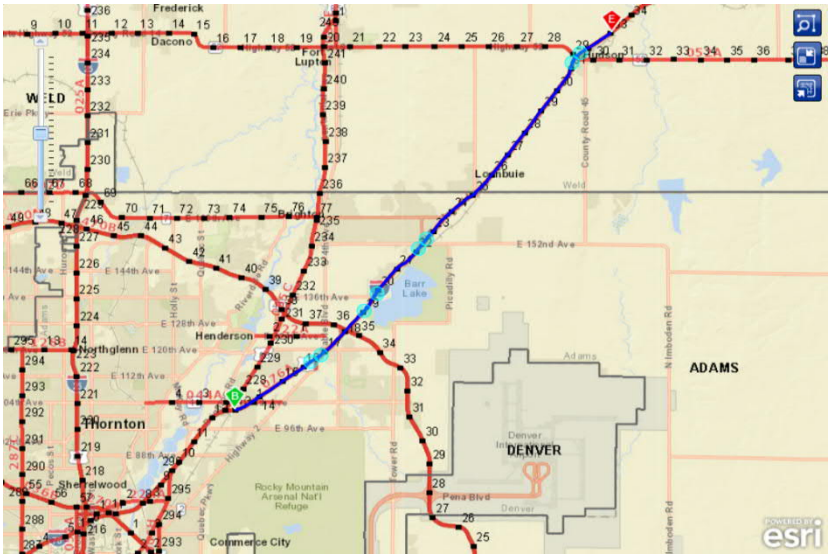


This southern segment of I-76 runs from MM 3 at the intersection of U.S. Highway 287 (US 287) to MM 12 at the intersection of U.S. Highway 85 (US 85). This segment runs northeast to southwest. The segment is about 11 miles in length, with a speed limit of 65 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to eight.

There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 7,800 to 11,850 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 75,889 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 12 percent, which represents a volume that ranges from 6,800 to 11,800 trucks.

The V/C ratio for this southern segment of I-76 is 0.79. In 20 years, the V/C Ratio is estimated at 1.12. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

I-76 North Segment (US 85 to CO 52)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	%Trucks	V/C Ratio	V/C Ratio in 20 yrs
21.94	6,669	32,250	5,500	17.18 %	0.47	0.79



This northern segment of I-76 runs from MM 12 at the intersection of US 85 to MM 33, just north of CO 52. This segment runs southwest to northeast. The segment is about 22 miles in length, with a speed limit of 65 to 75 MPH. The prevailing number of lanes carrying through traffic in both directions is four.

There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 6,550 to 6,750 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 32,250 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 17 percent, which represents a volume that ranges from 3,590 to 7,100 trucks.

The V/C ratio for this northern segment of I-76 is 0.47. In 20 years, the V/C Ratio is estimated at 0.79. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

I-270

I-270 connects I-25 with I-70 and crosses the northeastern metro area through Commerce City, Denver, and Adams County. It serves as a cutoff for travel between the two interstates without going through the I-25/I-70 interchange, which is historically known as the mousetrap.

I-270 (I-76 to I-70)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
5.77	8,050	86,800	9,675	11.44 %	0.83	1.02

This segment of I-270 runs southeasterly from MM 1 at the intersection of I-76 to MM 5 where it intersects with I-70. The segment is about six miles in length, with a speed limit of 55 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to six.

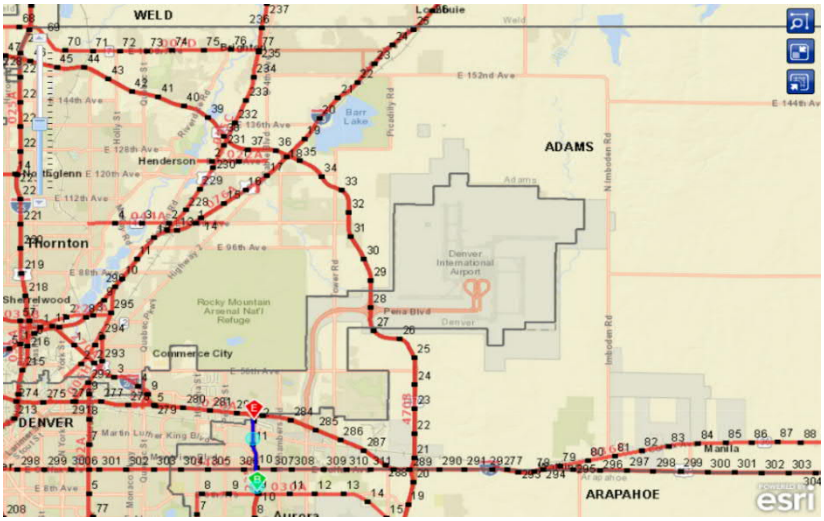
There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 7,800 to 8,600 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 9,885 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 11 percent, which represents a volume that ranges from 8,700 to 10,700 trucks.

The V/C ratio for this segment of I-270 is 0.83. In 20 years, the V/C Ratio is estimated at 1.02. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

I-225

I-225 is an optional route for travel south from I-70 near DEN to I-25 south of the main metro area, traveling through and making connections in Aurora, Arapahoe County and Denver.

I-225 (I-70 to CO 30)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
3.49	12,600	130,500	9,450	7.3 %	0.84	1.06



This segment of I-225 runs north to south from MM 12 at the intersection of I-70 to MM 9 at the intersection of State Highway 30 (CO 30). CO 30 can also be known as 6th Avenue. The segment is about three and a half miles in length, with a speed limit of 55 to 65 MPH. The prevailing number of lanes carrying through traffic in both directions range from four to eight.

There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 12,450 to 12,750 vehicles per hour, while the annual average daily traffic (AADT) count for this segment is 130,500 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 7 percent, which represents a volume that ranges from 8,900 to 10,000 trucks.

The V/C ratio for this segment of I-225 is 0.84. In 20 years, the V/C Ratio is estimated at 1.06. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

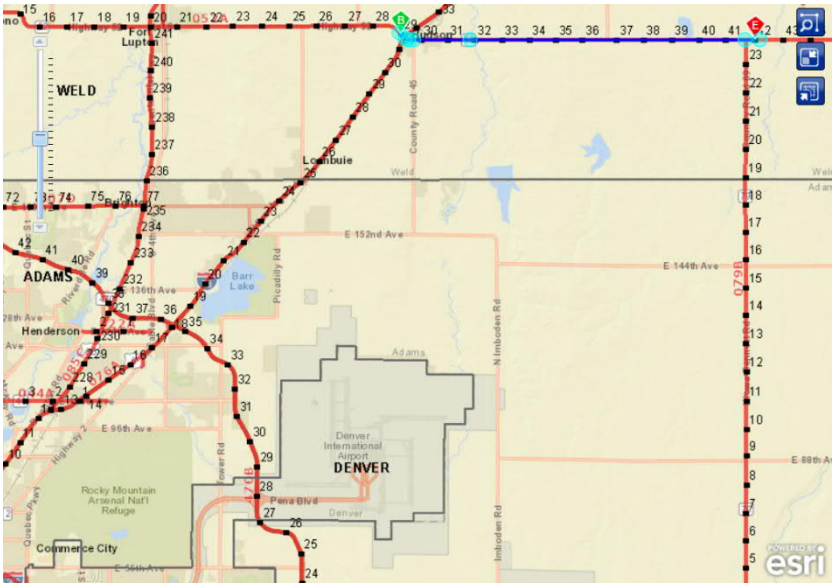
Colorado Highways

The Colorado Highways in the study area provide higher speed connections to the interstate system, other Colorado Highways, and to cities and towns, providing a critical link in the transport of freight and travel between homes and jobs. Similar to Interstates, this study is focused on the highways more directly connected to the development in the study area and its freight transport.

State Highway 52

CO 52 borders the northern side of the study area, providing highway access to I-76 and, farther to the west, I-25 and the cities of Fort Lupton, Boulder, and Longmont.

CO 52 (I-76 to CO 79)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
14.37	1,868	3,733	368	12.28 %	0.26	0.4



This segment of State Highway 52 (CO 52) runs east to west from MM 29 at the intersection of I-76 to MM 42 at the intersection of State Highway 79 (CO 79). The segment is about 14 miles in length, with a speed limit of 25 to 65 MPH. The prevailing number of lanes carrying through traffic in both directions is two.

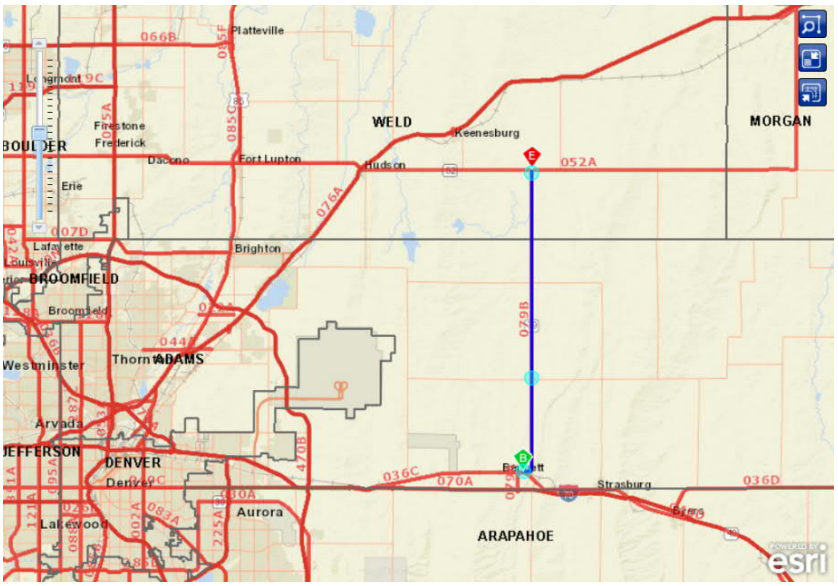
There are no tolls and this route segment is considered a National Truck Route. The route capacity ranges from 1,700 to 2,260 vehicles, while the annual average daily traffic (AADT) count for this segment is 3,733 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 12 percent, which represents a volume that ranges from 180 to 560 trucks.

The V/C ratio for this segment of CO 52 is 0.26. In 20 years, the V/C Ratio is estimated at 0.4. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

State Highway 79

CO 79 borders the eastern side of the study area, connecting to CO 52 and to I-76 on the north and I-70 on the south. CO 79 provides highway access to still undeveloped land on the eastern portion of the study.

CO 79 (US 36 to CO 52)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
22.49	2,859	2,133	367	19.67 %	0.09	0.11



This segment of State Highway 79 (CO 79) runs north to south from MM 1 at south end intersection of U.S. Highway 36 (US 36) to MM 24 at the north end intersection of CO 52. The segment is about 22.5 miles in length, with a speed limit of 35 to 65 MPH. The prevailing number of lanes carrying through traffic in both directions is two. The average width of a single lane to the nearest foot ranges from 10 to 12.

There are no tolls, no truck restrictions, and this route segment is not considered a National Truck Route. The route capacity ranges from 2,700 to 2,950 vehicles, while the annual average daily traffic (AADT) count for this segment is 2,133 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 20 percent, which represents a volume that ranges from 360 to 370 trucks.

The V/C ratio for this segment of CO 79 is 0.09. In 20 years, the V/C Ratio is estimated at 0.11. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

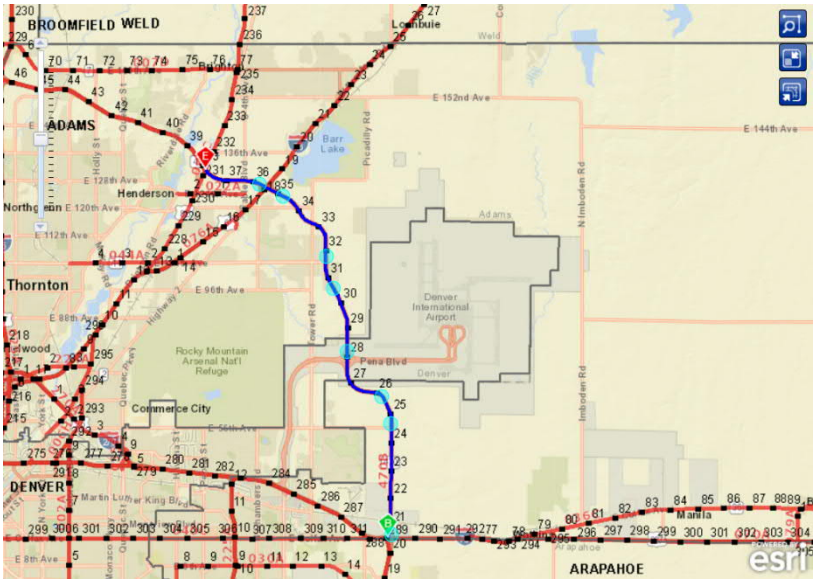
E-470

E-470 is a private toll road that encircles the eastern metro area, with connections to I-70 in the study area and I-25 to the north and south. In addition, E-470 crosses Pena Blvd. near DEN, serving as an alternative route to access the airport.

E-470 ExpressToll and License Plate Toll Rates are listed below. Overall, two-axle vehicles, which include passenger cars, motorcycles, vans, and SUVs, accounted for about 96 percent of all transactions. Vehicles with 3-or-more axles accounted for about four percent of total transactions, which is consistent with historically observed percentages (E-470 Public Highway Authority 2020 ,ES-11).

E-470 Toll Rates					
		Mainline Toll Plaza A	Mainline Toll Plaza C	Mainline Toll Plazas B, D and E	Toll Ramps
ExpressToll	2 Axles (All Hours)	$2.60	$2.65	$2.90	$1.25
	3 Axles (9-12pm)	$3.95	$4.05	$4.40	$1.25
	Each Additional Axle	$2.00	$2.00	$2.20	
	3 Axles (12-9am)	$4.95	$5.05	$5.50	$1.25
	Each Additional Axle	$2.50	$2.55	$2.75	
License Plate Toll	2 Axles (All Hours)	$4.20	$4.25	$4.60	$2.05
	3 Axles (All Hours)	$8.40	$8.50	$9.20	$2.05
	Each Additional Axle	$4.20	$4.25	$4.60	

E-470 (I-70 to US 85)						
Segment Length (mi)	Hourly Route Capacity (vehicles)	Traffic Volume (AADT)	Truck Volume (all truck types)	% Trucks	V/C Ratio	V/C Ratio in 20 yrs
17.44	8,675	19,375	660	3.43 %	0.31	0.54



Extension 470 (E-470) is a controlled-access toll road that traverses the eastern portion of the Denver metropolitan region. This segment of E-470 runs from MM 20 at the intersection of I-70 to MM 37 at the intersection of US 85. The segment is about 17 miles in length, with a speed limit of 65 MPH. The prevailing number of lanes carrying through traffic in both directions is two.

There are toll lanes for about 46.5 miles from MM 0 to MM 46 with a toll booth at milepost 22.5. This route segment is considered a National Truck Route. The route capacity ranges from 8,400 to 10,050 vehicles, while the annual average daily traffic (AADT) count for this segment is 19,375 vehicles. Of this, the Off-Peak percent of AADT that is composed of trucks of all types is about 3 percent, which represents a volume that ranges from 550 to 850 trucks.

The V/C ratio for this segment of E-470 is 0.31. In 20 years, the V/C Ratio is estimated at 0.54. This is estimated by a traffic forecasting statistic of hourly V/C Ratios.

Local Roadway Network

The local roadway network provides the direct connection to homes, businesses, and jobs, connecting to the interstates and tollway at interchanges and the highways mainly at intersections. These local roadways run the gamut from low-speed, two-lane residential streets to 45 MPH, four-lane major arterials. There are two plans referenced below that discuss the area's growth and identify improvements to local roadways.

NEATS

The Aurora Northeast Area Transportation Study (NEATS) supported Aurora's Comprehensive Plan with justification for planning and construction of future transportation facilities (City of Aurora 2007). Given the near term and future high development potential within the area, the City of Aurora identified the need for a comprehensive and detailed update of the NEATS multimodal

transportation plan. This NEATS Refresh will help guide public and private development decisions within Aurora's greater Northeast Area and the E-470 Corridor (City of Aurora 2018).

Pictured in Figure 3, NEATS was principally focused in two areas, totaling approximately 130 square miles. The first area is generally situated south of DEN and north of I-70, within the Inland Port Study area. The second area, is generally situated to the south of I-70, extending further south to Jewell Ave. At full buildout, NEATS estimated this area will encompass 87,300 households and 213,000 jobs.

In Table 1, NEATS developed the list of recommended roadway improvements. This includes a combination of new and widened roadways.

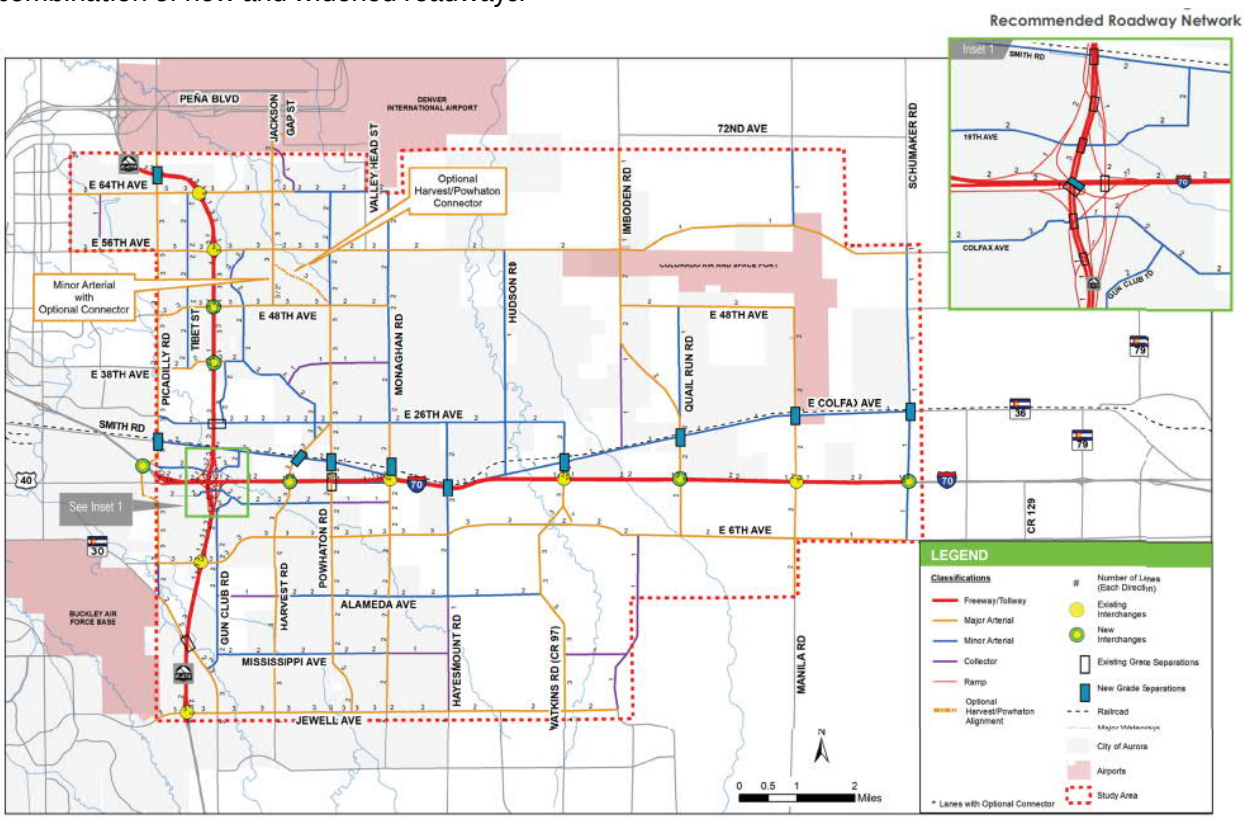


Figure 3. NEATS Study Area (City of Aurora 2018).

Roadway		Lanes and Classification	Length (miles)	2040 Daily Traffic
E 64th Ave	Dunkirk St to Harvest Rd	6 lane Major Arterial	3.9	13,300 - 20,500
	Harvest Rd to Jackson Gap St	4 lane Major Arterial	1.6	11,000
	Jackson Gap St and Monaghan Rd	4 lane Minor Arterial	1.6	1,000 – 10,500
E 56th Ave	Dunkirk St to Powhaton Rd	6 lane Major Arterial	4.5	18,300 - 32,800
	Powhaton Rd to Imboden	4 lane Major Arterial	5.0	17,900 - 19,900
	Imboden to Schumaker Rd	2 lane Major Arterial	5.0	5,000 - 10,000
E 48th Ave	Picadilly to Powhaton Rd	6 lane Major Arterial	3.0	20,900 - 24,400
	Powhaton Rd to Monaghan Rd	4 lane Major Arterial	1.0	5,300
	Imboden Rd to Manila Rd	4 lane Major Arterial	3.0	700 - 800
E 38th Ave	Picadilly to E-470	4 lane Major Arterial	1.0	10,400 - 15,100
	E-470 to Frontage Rd	6 lane Major Arterial	0.1	32,000
	Collector to TAH Parkway	4 lane Minor Arterial	1.8	9,300 – 10,100
	TAH Parkway to Monaghan Rd	2 lane Collector	1.0	2,700
E 26th Ave	Picadilly Rd to Watkins Rd	4 lane Minor Arterial	7.0	6,600 – 15,700
E Smith Rd	Picadilly Rd to Powhaton Rd	4 lane Minor Arterial	3.0	7,800 – 16,500
	Powhaton Rd to Monaghan Rd	2 lane Minor Arterial	1.0	8,200
I-70 Frontage Rd	Powhaton Rd to Monaghan Rd	2 lane Minor Arterial	0.9	300
E Colfax Ave/CO 36	Picadilly Rd to Powhaton Rd	4 lane Minor Arterial	3.2	12,500 – 12,900
	Powhaton Rd to Monaghan Rd	2 lane Collector	0.9	2,900
	Monaghan Rd to Schumaker Rd	2 lane Minor Arterial	7.8	2,300 – 8,400
Stephen D. Hogan Pkwy	Picadilly Rd to E-470	6 lane Major Arterial	0.8	30,200
E 6th Ave	E-470 to Watkins Rd	6 lane Major Arterial	6.3	17,000-27,800
	Watkins Rd to Manila Rd	4 lane Major Arterial	4.0	3,500 – 5,700
	Manila Rd to Schumaker Rd	2 lane Major Arterial	2.0	2,600
Alameda Ave	Gun Club Rd to Harvest Rd	2 lane Collector	1.0	3,600
	Harvest Rd to Watkins Rd	4 lane Minor Arterial	5.0	2,800 – 7,900
Mississippi Ave	Gun Club Rd to Monaghan Rd	4 lane Minor Arterial	3.0	1,000 – 12,700
	Watkins Rd to S Bonnie Ln	2 lane Collector	2.5	1,000
Jewell Ave	Picadilly Rd to Monaghan Rd	6 lane Major Arterial	4.0	16,900-54,300
	Monaghan Rd to S Bonnie Ln	4 lane Major Arterial	5.5	500 – 10,700
Tibet Street	E. 64th Ave to E 38th Ave	4-lane Minor Arterial	3.0	4,700 – 12,900
Picadilly Road	North Study Area boundary to E 56th Ave	6 lanes Major Arterial	1.6	8,100-17,300
	E 56th Ave to E 48th Ave	6 lanes Major Arterial	1.0	14,600
	E 48th Ave to 6th Pkwy	6 lanes Major Arterial	4.4	19,200 – 26,100
	E 6th Pkwy to CO 30	4 lanes Minor Arterial	0.5	8,200
Gun Club Rd	Colfax Ave to Mississippi Ave	4 lane Minor Arterial	3.0	12,200 – 27,600
	E 6th Rd to Mississippi Ave	4 lane Minor Arterial	0.3	16,800
Powhaton Rd	E 64th Ave to E 48th Ave	4 lane Minor Arterial	2.0	9,400 – 15,100
	E 48th Ave to E 26th Ave	6 lane Major Arterial	2.0	25,500 – 26,500
	E 26th Ave to Jewell Ave	4 lane Major Arterial	5.0	10,900 – 26,300
Harvest Rd	Peña Blvd to E 48th Ave	6 lane Major Arterial	3.4	35,000-53,900
	56th Ave to 48th Ave (with Optional Connector)	4 lane Minor or Collector	0.9	-
	Optional Connector, Powhaton Rd to Harvest Rd	6 Lane Major	1.0	-
	E 26th Ave to Jewell Ave	6 lane Major Arterial	5.0	14,800-26,300
The Aurora Highlands (TAH) Parkway	east of E-470 to E 26th Ave	4 lane Minor Arterial	1.8	32,000 – 10,100
	E 26th Ave to Harvest Rd	4 lane Minor Arterial	0.3	8,000
Monaghan Rd	E 64th Ave to E 26th Ave	4 lane Minor Arterial	4.0	1,000 - 3,300
	E 26th Ave to Jewell Ave	4 lane Major Arterial	5.0	4,100 – 16,500
Hayesmount Rd	E 26th Ave to Alameda Ave	4 lane Minor Arterial	3.0	3,500 – 7,400
	Alameda Ave to Jewell Ave	2 lane Collector	2.0	2,400
Hudson Rd	E 56th Ave to E Colfax Ave	2 lane Minor Arterial	3.8	200 – 700
Watkins Rd	E 26th Ave to I-70	4 lane Minor Arterial	1.0	3,000
	I-70 to Jewell Ave	6 lane Major Arterial	4.3	4,400 – 11,700
Imboden Rd	North Study Area Boundary to E 56th Ave	2 lane Major Arterial	1.8	7,300
	E 56th Ave to south of E 48th Ave	4 lane Major Arterial	1.6	12,900
	south of E 48th Ave to E Colfax Ave	2 lane Collector	1.8	3,700
	E 6th Ave to Jewell Ave	2 lane Collector	3.2	600
Quail Run/Imboden Rd	E 48th Ave to Imboden Rd	2 lane Minor Arterial	1.5	500
	Imboden Rd to I-70	4 lane Major Arterial	3.6	9,400 – 9,500
Manila Rd	North Study Area Boundary to E 56th Ave	2 lane Minor Arterial	1.8	4,500
	E 48th Ave to Jewell Ave	4 lane Major Arterial	5.0	900 – 5,300
Schumaker Rd	E 56th Ave to E 6th Ave	2 lane Minor Arterial	5.2	400 – 3,200
E-470	E-470 and E 38th Ave	New interchange	-	-
	E-470 and E 48th Ave	New interchange	-	-
I-70	I-70 and Picadilly Rd	New interchange	-	-
	I-70 and Harvest Rd	New interchange	-	-
	I-70 and Monaghan Rd	Improved Interchange	-	-
	I-70 and Watkins Rd	Improved Interchange	-	-
	I-70 and Quail Run Rd	New interchange	-	-
	I-70 and Schumaker Rd	New interchange	-	-

Table 1. Summary of Recommended Roadways (City of Aurora 2018).

ARTA

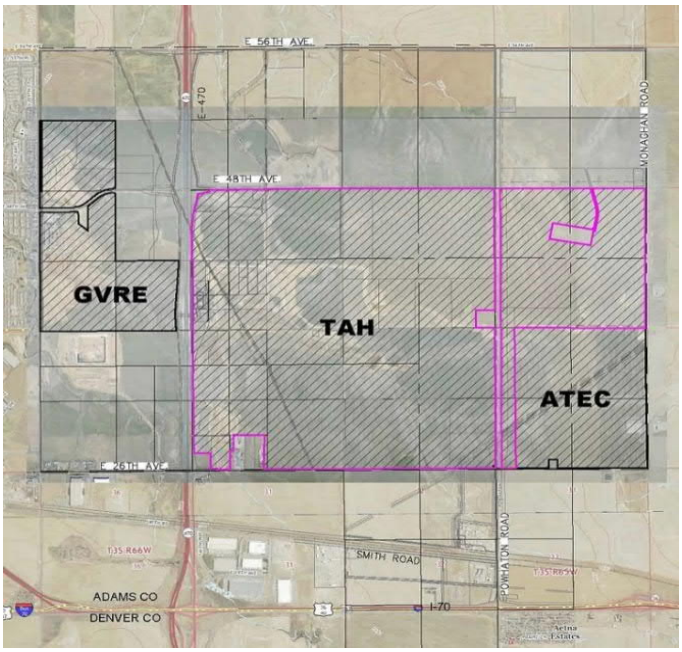


Figure 4. ARTA Boundary Map (CDOLA 2021).

The Aerotropolis Regional Transportation Authority (ARTA) encompasses roughly 3,000 acres south of Denver International Airport (DEN) pictured in Figure 4. The Board of Directors consists of three voting member jurisdictions including Adams County, The City of Aurora, and the Aerotropolis Area Coordinating Metropolitan District (AACMD). The Aurora City Council, The Board of County Commissioners of Adams County, and the AACMD executed an intergovernmental agreement establishing ARTA.

ARTA oversees the budget and phasing plans for critical regional transportation infrastructure and finance regional transportation improvements needed to improve access across Aurora and Adams County including additional connections from I-70 to DEN, new interchanges on E-470, as well as extensions of several critical arteries throughout the district (ARTA n.d.).

The projects within the ARTA boundaries are a subset of the improvements identified in NEATS. The improvements described below are the full buildout of the roadways, in some instances the initial roadway template will not be constructed to the full buildout, i.e. ARTA may be constructing four of a planned six lane facility.

ARTA Projects Under Construction

The Aurora Highlands Parkway Phase 1

- Utility and roadway infrastructure is complete from Main St. to Denali Blvd. and open to public traffic (ARTA 2022).

ARTA Projects Under Design

E470 Interchange

- Project purpose is to link the freeway and tollway systems, I-70 and E-470 (CDOT 2007).
- Final design plans have gone through the first of two reviews with the City of Aurora (ARTA 2022).

I-70 & Aerotropolis Parkway (formerly Harvest Rd.) Interchange

- Harvest Rd. has long been identified in numerous transportation and land-use plans as a key north-south transportation corridor and has more recently been included in the Denver Regional Council of Governments (DRCOG) 2040 Metro Vision Regional Transportation Plan as well as the update of NEATS.
- Intended to extend to the south of I-70, providing additional connectivity to growth areas (ARTA 2019).

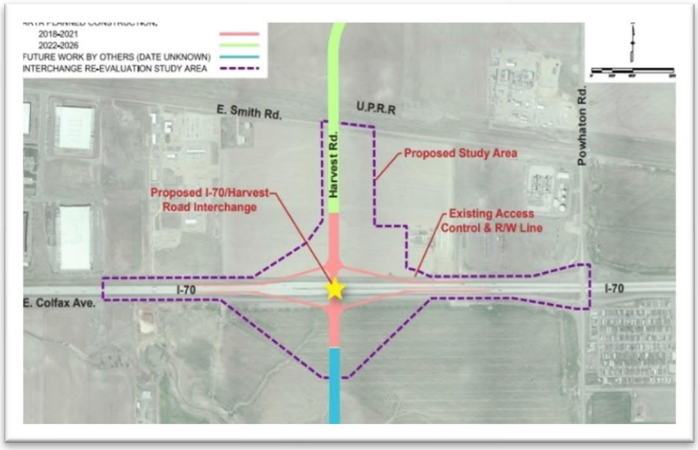


Figure 5. I-70/Harvest Road Interchange EA Reevaluation Study Area (ARTA 2022).

Aerotropolis Parkway (Harvest Rd) I-70 to 48th

- Roadway design is being completed for a new six lane road (ARTA 2022).

The Aurora Highlands Parkway Phase 2

- Continued coordination with adjacent development to 32nd Avenue (ARTA 2022).

26th Avenue Main St to Harvest

- Anticipated final design completion is Spring 2023 (ARTA 2022).

48th Ave (E470 to Aerotropolis Parkway)

- Conceptual and final design of this project has just been contracted and is expected to take 15 months for completion (ARTA 2022).

38th Avenue

- The project has been split into three phases (1. Piccadilly-Tibet; 2. Tibet-E470; 3. Odessa - Piccadilly).

Rail

Denver is served by the two major western U.S. railroads, the BNSF Railway (BNSF) and the Union Pacific Railroad (UPRR). Both railroads connect Denver to economic and population centers west of the Mississippi River, and ports on both the Pacific and Gulf of Mexico coasts. In addition, each railroad provides connections to railroads in the east giving Denver's industries access to markets not directly served by either BNSF or UPRR. BNSF operates over 1,339 miles in Colorado. UPRR operates slightly more mileage, at 1,505 miles.

Intermodal

Intermodal transportation, containers and trailers moving on rail flat cars, is an important contributor to commerce in Colorado. Intermodal is the leading cargo transported by rail into the state. It accounts for 32 percent of terminating rail carloads. As a comparison, the next highest volume is coal at 23 percent of inbound carloads, a commodity that continues to experience reduced production.

BNSF Denver Intermodal Profile

The BNSF intermodal network comprises 25 terminals on its lines in 13 states and two terminals, Atlanta and Northwest Ohio, that it accesses by agreement with eastern railroads as shown in Figure 7. The network handles international and domestic traffic, both containers and trailers. BNSF also serves intermodal terminals at each of the West Coast ports and the Port of Houston.

BNSF Intermodal Network

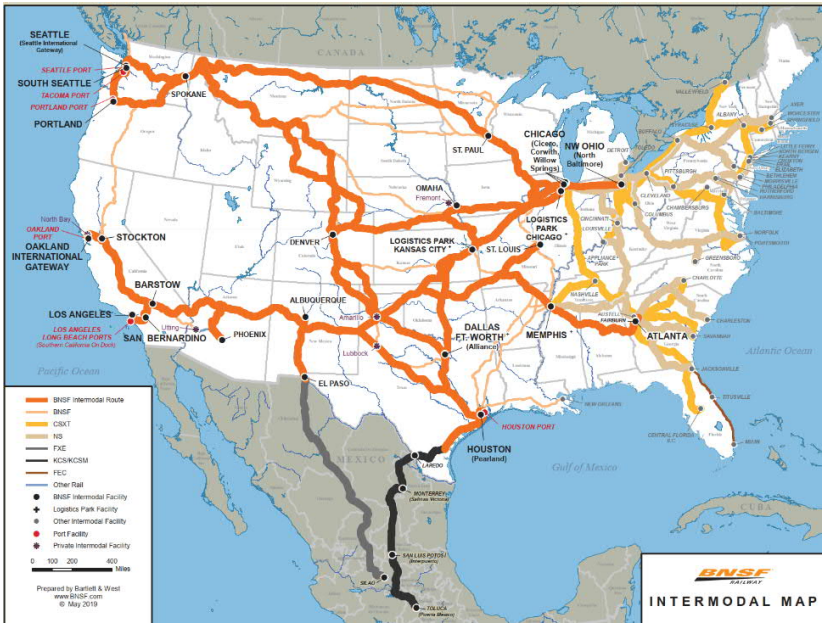


Figure 6. BNSF Intermodal Network (BNSF Railway n.d.b).

BNSF's Colorado intermodal terminal is located at 585 W 53rd Place in Denver. The facility operates 24/7. The Denver terminal has direct intermodal connections from five locations with Chicago having two types of service, Guaranteed service and priority UPS-LTL service. Denver is also served by intermodal trains from two international gateways, the Port of Tacoma and the Port of Long Beach. Denver has outbound BNSF intermodal trains to eight locations, with two services to Chicago.

Train Origins	Type of Service	Train Destinations	Type of Service
Chicago	Guaranteed Intermodal	Chicago	Guaranteed Intermodal
	Priority UPS-LTL		Priority UPS-LTL
Dallas	Guaranteed Intermodal	Portland	Guaranteed Intermodal
Omaha	Guaranteed Intermodal	Omaha	Guaranteed Intermodal
		Spokane	Guaranteed Intermodal
Long Beach - Pier 300	Standard Double Stack	Lincoln	Standard Double Stack
Tacoma - Port Yard	Standard Double Stack	Port Yard, Tacoma	Standard Double Stack
		Seattle	Standard Double Stack

Table 2. BNSF Denver Intermodal Services.

The reach of Denver's intermodal customers is not limited to the BNSF markets represented by the intermodal terminals directly served from the Denver facility. Other markets can be reached through intermediates terminals where intermodal freight cars can be switched from one train to another.

UPRR Intermodal Denver Profile

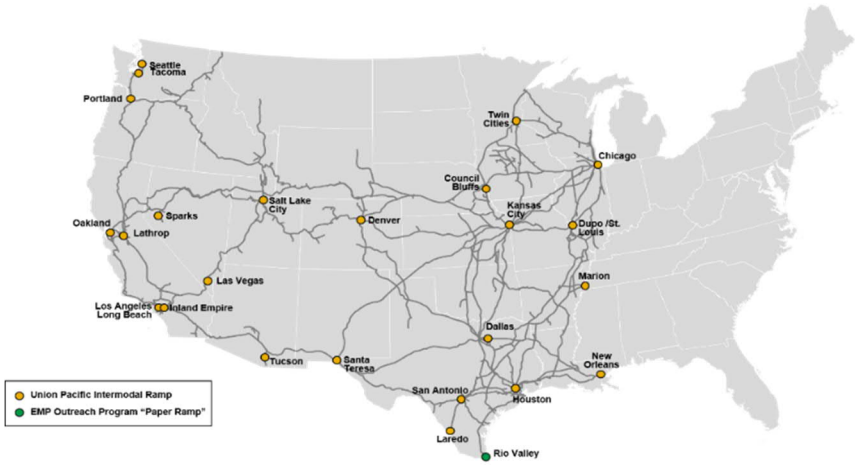


Figure 7. UPRR Intermodal Network.

The UPRR intermodal network serves international gateways at Pacific and Gulf ports as well as major metropolitan areas. The UPRR intermodal network is shown in Figure 7.

UPRR serves nine transloads in the Denver area, three of which, two in Henderson and one in Commerce City are located in the study area. Like BNSF, they handle a wide range of products. Facilities operate 24/7 and UPRR's Colorado intermodal terminal is located in metropolitan Denver at 4085 York St. The UPRR Denver terminal has direct inbound service from five markets and direct outbound service to four of those markets' terminals. Pictured in Table 3, the UPRR Denver terminal has direct inbound service from five markets and direct outbound service to four of those markets terminals. While BNSF offers direct intermodal to both markets in to the east and west, UPRR Denver direct intermodal service is oriented to markets west of the city.

Train Origins	Category	Equipment	Type of Service
Chicago	Domestic	Containers	Standard/Expedited Loading
Houston	International	Containers	Standard Schedule
Long Beach	Domestic	Containers/Trailers	Priority Schedule
Long Beach	Domestic/International	Containers/Trailers	Standard/Expedited Loading
Oakland	Domestic/International	Containers	Standard/Expedited Loading
Salt Lake City	Domestic	Containers/Trailers	Standard/Expedited Loading
Train Destinations	Category	Equipment	Type of Service
Long Beach (Port Terminal)	International	Containers	Standard/Expedited Loading
Long Beach	Domestic/International	Containers/Trailers	Standard/Expedited Loading
Oakland	Domestic/International	Containers	Standard/Expedited Loading
Salt Lake City	Domestic	Containers/Trailers	Standard/Expedited Loading

Note: The UPRR table is structured differently from the BNSF table due to different information provided.

Table 3. UPRR Denver Intermodal Services.

Transload Facilities

Complementing the railroads' intermodal facilities are transload terminals. A transload terminal provides rail customers with connectivity to the rail network to have access to rail service. It is a "drive-up" facility where trucks deliver or pick up freight handled by trains. Most also offer various types of storage capacity. Typically, transloads are independent operations not affiliated with any one customer.

Table 4 describes the four principal BNSF transload terminals in the Denver area. As shown, each handle a broad spectrum of industrial and agricultural products shipped by rail: dry bulk, liquid bulk, dimensional freight, food grade, pelletized materials, among others. The BNSF transload terminals are located on the BNSF line that proceeds in a northeasterly direction from Denver through the study area. Three, two in Henderson and one in Commerce City serve the area. Each has excellent highway access due to their proximity to I-76.

Operator	Location	Products
American Warehouse, LLC	Denver	Ingots, Plywood, Particle Board, Structural Steel, Copper, Paper Waste/scrap, Gypsum Wallboard, Oriented Strand Board, Beverages, Household Appliances
Cast Transportation, Inc	Henderson	Steel Sheet, Structural Steel, Bars, Pipe, Plate, Machinery, Generators, Plywood, Oriented Strand Board
Savage Services Corp	Henderson	Pipe, Structural Steel, Lubes/oils/waxes, Fuels, Fly Ash, Plywood, Oriented Strand Board, Roofing Materials, Gypsum, Polypropylene, Polystyrene, Bentonite, Borates, Cullet, Diatomaceous Earth, Perlite, Sand, Scoria/pumice

Rocky Mountain Transload	Commerce City	Fly Ash, Polypropylene, Malt, Sand, Corn Starch, Barley, Bricks, Insulation/siding, Polyethylene, Bentonite

Table 4. BNSF Denver Area Transload Facilities.

Operator	Location	Products
Loup Network Partner	Denver	Dry Bulk, Ferrous Metals, Food, Hazmat-Dry, Lumber, Merchandise, Non Ferrous Metals, Paper, Plastics
Loup Network Partner	Denver	Hazmat-Liquid, Liquid Bulk, Plastics
Loup Network Partner	Denver	Dry Bulk
Loup Network Partner	Denver	Food
Loup Network Partner	Denver	Hazmat-Liquid
Loup Logistics Rail Port	Denver	Aggregates, Ferrous Metals, Lumber, Non Ferrous Metals
Loup Network Partner	Henderson	Dry Bulk, Ferrous Metals, Food, Hazmat-Dry, Hazmat-Liquid, Liquid Bulk, Lumber, Non Ferrous Metals, Paper, Plastics
Loup Network Partner	Henderson	Aggregates, Dry Bulk, Liquid Bulk
Loup Network Partner	Commerce City	Aggregates, Dry Bulk, Ferrous Metals, Food, Hazmat-Liquid, Lumber, Non Ferrous Metals, Plastics

Table 5. UPRR Denver Area Transload Facilities.

Railroad Owned Logistics Facilities

BNSF Hudson Logistics Center

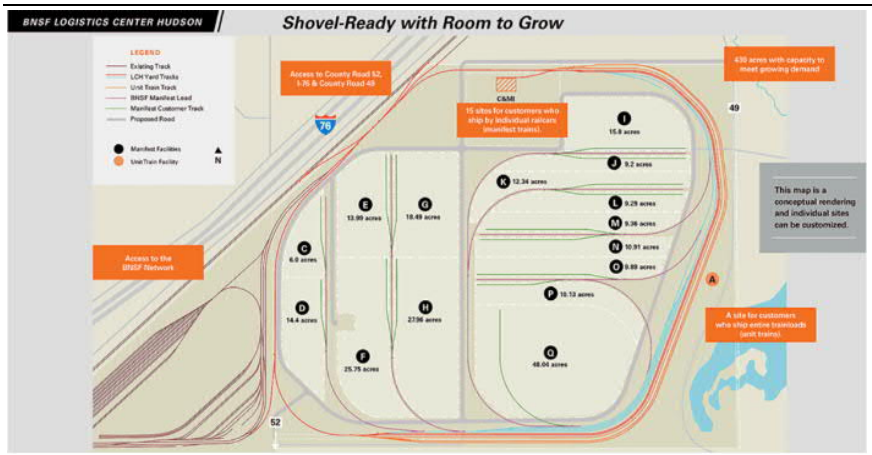


Figure 8. BNSF Logistics Center in Hudson, CO (BNSF Railway n.d.a).

BNSF Logistics Center is located in Hudson, CO and encompasses 430 acres. BNSF operates four logistics centers with an additional three under development, each as a multi-customer, multi-commodity business park with a transload terminal. BNSF Hudson Logistics Center differs from private business parks by investing directly in the development of the facility to create sites in under-served, strategic, and primarily end-user markets. Sites are completely permitted and shovel-ready with rail infrastructure, including mainline connections and on-site common track and inner roads already in place. These facilities are designed to serve both manifest mixed freight and unit train single commodity customers. BNSF Hudson Logistics Center has access to the BNSF network, CO 52, I-75, and CO 49. Pictured in Figure 8, there are 15 sites for customers who ship by individual railcars (manifest trains) and a site for customers who ship entire train loads (unit trains). This logistics center has the capacity to meet growing demand (BNSF Railway n.d.a).

Future Rail-Served Facilities

Port Colorado

Port Colorado is located in the Denver metro region as part of Adams County and the City of Aurora. The site sits on 6,500+ acres of land with major cross-country trucking routes close by on I-25 and I-70. It is adjacent to the Colorado Air and Space Port (CASP), which gives access to "through the fence" rights. Port Colorado also fronts about three miles of the UPRR mainline where there are plans to position an on-site rail/ truck transload facility. Future rail infrastructure for both high-capacity unit trains and manifest operations exists with potential build to suit Industry tracks. This inland port is a privately owned, master-planned, mixed-use inland port that works as a hub for industrial and innovation development. Services include comprehensive water solutions, sanitary sewer, diverse fiber capacity, Xcel Energy electricity, and renewable energy. Port Colorado supports the local community, regional users, and global interests (Port Colorado 2022).

Figure 9. Port Colorado Logistics Park (Port Colorado 2022).

Rocky Mountain Rail Park

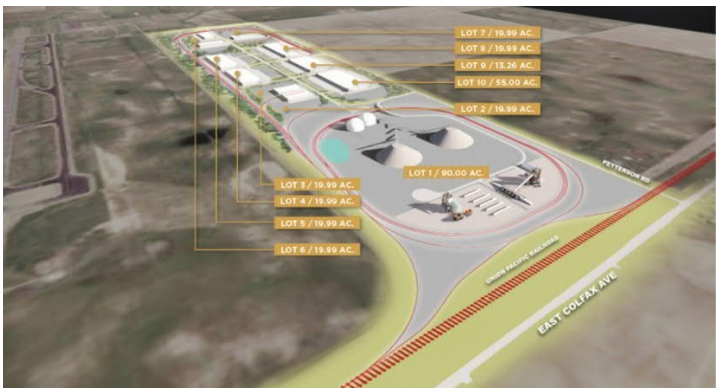


Figure 10. Rocky Mountain Rail Park Rendering (Rocky Mountain Rail Park n.d.b).

As noted in Local Trends, the Rocky Mountain Rail Park is a 620-acre rail served industrial park. It is in Unincorporated Adams County and is adjacent to Colorado Air and Space Port (CASP), with the only UP (serviced or accessible) rail sites in the east Denver Metro area. Figure 10 shows that the park offers both rail and non-rail served industrial zoned parcels on 10 lots. (Rocky Mountain Rail Park n.d.b).

Airports

There are two airports in the area, DEN (Denver International Airport) and the Colorado Air and Space Port. For the purposes of this report, the information obtained and displayed is focused on the freight and cargo capabilities. They can serve the passenger travel needs associated with the developing area.

Denver International Airport (DEN)

DEN serves the city of Denver, Colorado. Opened in 1995, the airport is one of the busiest in the United States and among the busiest in the world. DEN covers an area of 53 square miles, making it one of the largest airports in the world by land area (CAPA 2022).

DEN is a leader when it comes to the ability to move and handle large volumes of air cargo, making the airport a perfect place to locate companies that require steady and reliable shipments of materials and components from overseas. There are no operation curfews, making DEN a 24-hour cargo operation. DEN is home to several world-class cargo movers and support facilities, including ABX Air, Inc. and Air Transport International, Inc. (both of whom contract with Amazon Air), Alpine Air Express, Inc., Amerijet International Inc./DHL, Bemidji Aviation Services, Inc., Federal Express Corporation Kalitta Air, LLC, Mesa/DHL and United Parcel Service Co. In addition to this, the U.S. Postal Service facility is located nearby, providing a wide array of competitive shipping and receiving options. The airport also has a joint-use cargo facility that currently serves nine airline operations. The layout of the airfield and a 39-acre cargo ramp make freight handling especially efficient at DEN (City and County of Denver Department of Aviation 2022).

The City and County of Denver's Department of Aviation Cargo and Operations Traffic Report from May 2020, May 2021, and May 2022 indicate an increase in freight and express cargo weight in pounds as seen in Figure 11. Also, Figure 11 clearly shows that inbound freight and express cargo weight is higher every year than outbound freight and express cargo, which could represent an opportunity to expand.

There is a direct correlation with increasing cargo weight on both inbound and outbound traffic. From 2020 to 2021, inbound cargo was elevated by 14.3 percent, with outbound cargo weight by 6.5 percent (City and County of Denver Department of Aviation 2021). This trend continues from 2021 to 2022, with inbound cargo weight elevated by 19.3 percent and outbound cargo weight by 23.9 percent (City and County of Denver Department of Aviation 2022).

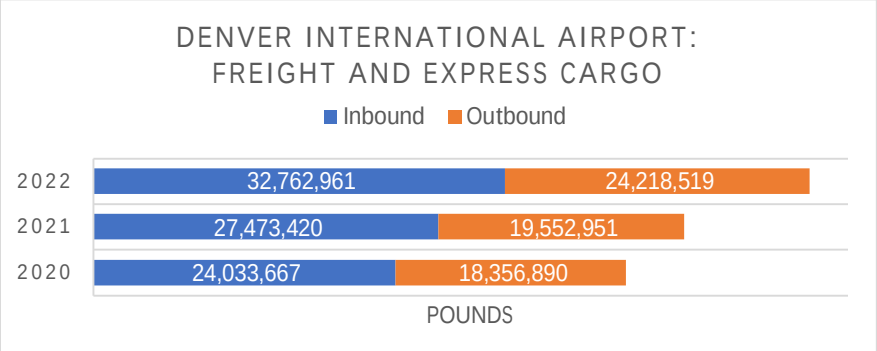


Figure 11. Denver International Airport freight and express cargo from 2020 to 2022 (City and County of Denver Department of Aviation 2022b; 2021).

Colorado Air and Space Port

Adams County's Colorado Air and Space Port (CASP), also known as the Front Range Airport (FTG), is unique in the Denver metropolitan area, as it is the only general aviation airport without major nearby residential areas. The airport's 3,100 acres of land, makes CASP larger than all other general aviation airports in the area combined. CASP is located six miles from Denver International Airport, and provides all-weather aviation facilities, with access to I-70 (CASP n.d.).

CASP supports local and state governments with being the location of a Colorado National Guard armory, as well as the Colorado Department of Transportation Aeronautical Division and Colorado State Patrol office. CASP maintains a foothold in the technological development of sub-orbital flight and aerospace research and development. This horizontal launch facility establishes Colorado as a major North American commercial space hub and positions Colorado as an integral part of an emerging international system of spaceports (CASP n.d.).

The airport's 2004 Master Plan focused on the long-term development of the airport with a focus on promoting and enhancing general aviation activities, providing opportunities to develop air cargo operations to satisfy regional demands, providing continued growth prospects for aviation-related industries, and promoting continued local economic growth and development. While the 2004 Master Plan reflected an aggressive development plan, most of those projects have yet to be executed. In particular, the focus on air cargo operational development at CASP has been tabled indefinitely (Jviation, Inc. 2019).

The 2004 Airport Master Plan anticipated air cargo playing a prominent role in the future of CASP, assuming that CASP and neighboring DEN would enter into a Joint Operating Agreement (JOA) to create a non-competitive and synergistic air cargo environment that would enable the two airports to open new markets and maximize operational efficiencies. This JOA ultimately did not materialize and air cargo operators are not currently based at CASP, with all primary cargo operators electing to operate at DEN (Jviation, Inc. 2019).

Adams County's latest Comprehensive Plan was completed in 2012 and includes multiple references to CASP, including:

- Establishment of Policy 18.1 to continue to support and develop CASP to accommodate large aircraft, as a general aviation and intermodal cargo hub for the state and region.
- Establishment of Policy 18.2 to support compatible commercial and industrial development around CASP.

5 Transportation Forecast

Transearch Data

The forecast for freight traffic in the study region and the surrounding Denver metropolitan market reveals the magnitude, sources and locations of growth expected in the next two decades. The portrayal of traffic in this section is based on the Transearch freight flow database produced by S&P Global, which is a standard source of such information widely used for public freight planning across the country.

Transearch depicts freight volumes moving between counties nationwide, by commodity type and mode, and by tonnage and product value. Tonnage is a physical measure comparable across modes and reflects demand on infrastructure; value is an economic measure also comparable across modes and reflects the activity and growth of industrial sectors. S&P Global is one of the leading econometric forecasting companies in the country; their freight projections derive from global, national, and regional economic models of commercial and demographic activity. The Transearch data used here was provided by CDOT for the base year 2019 and the forecast year 2040. This is a post-pandemic forecast, incorporating the shifts in the global outlook and market patterns evident in the past few years.

Transearch data is organized by county. The Metropolitan Statistical Area (MSA) for Denver is composed of counties and we have used the MSA to define the metropolitan market. The study area does not conform to counties; it contains the western portion of Adams County, the northeast portion of Denver County, and the southwest corner of Weld County. However, most of the commercial activity in Adams County is to the west, most of the commercial activity in Weld County is to the north toward Greeley, and the portion of Denver County within the study area contains the airport. For analytic practicality in this section, we have defined the study area as Adams and Denver Counties, excluding Weld. This is roughly accurate for Adams, overstates Denver, and offsets the overstatement somewhat by not including Weld. Since patterns and relative degrees of growth are more important for our purposes than precise quantities of traffic, we believe this approach is reasonable.

Forecasted Overall Freight Growth by County

Freight volumes in the state of Colorado totaled 185 million tons in 2019, worth $183 billion. This reflects traffic with origin and/or destination in Colorado moved by truck, rail, or air, and excludes traffic passing through Colorado between markets outside the state. Tonnage is projected to grow 34 percent to 247 million over the following two decades, while the value of goods climbs 66 percent to more than $300 billion (as shown in Table 6). The Denver MSA represents about half the state tonnage, nearly 70 percent of the state value, and grows somewhat faster. Growth in the study area is faster yet, rising 40 percent in tonnage and almost 80 percent in value. More significantly, the study area accounts for two-thirds of tonnage and four-fifths of the value of goods in the MSA, including most of the growth in value. (The "Delta" column in this chart signifies the incremental volume added between 2019 and 2040. The study area is responsible for 69 percent of the incremental tons and 84 percent of the incremental value.) In short, Denver is 50 to 70 percent of the freight market in Colorado, and the study area is the center of forecast growth in Denver.

	Tons (000)					Value ($Mil)			
Location	2019	2040	Delta	Growth Rate		2019	2040	Delta	Growth Rate
Colorado	185,067	247,185	62,117	34%		182,576	303,103	120,527	66%
Denver MSA	98,813	137,276	38,464	39%		125,425	217,171	91,746	73%
MSA % State	53%	56%	56%			69%	72%	76%	
Study Area* Total	66,631	93,271	26,640	40%		98,441	175,948	77,507	79%
Study Area % MSA	67%	68%	69%			78%	81%	84%	

Table 6. State Freight Forecasts. (*Two main counties)

Denver Forecasted Growth by Mode

The modal tonnage and growth in the Denver MSA are virtually all by truck, as Table 7 indicates. Rail accounts for half of one percent of the total and grows faster than trucking, so that the modal shares change slightly in 2040. Air traffic increases much faster, yet air carries small amounts from a tonnage perspective. The study area in round numbers represents about 70 percent of truck and rail tonnage in the MSA and grows at a higher rate. All air traffic in the MSA is within the study area because it houses DEN airport.

Location	TONS (000)											
	Truck				Rail				Air			
	2019	2040	Delta	Growth Rate	2019	2040	Delta	Growth Rate	2019	2040	Delta	Growth Rate
Denver MSA	98,118	136,154	38,036	39%	442	683	240	54%	252	439	188	75%
Study Area* Total	66,066	92,333	26,268	40%	313	499	185	59%	252	439	188	75%
Study Area % MSA	67%	68%	69%		71%	73%	77%		100%	100%	100%	

Table 7. Table 7. Denver Freight Tonnage Forecast by Mode. (*Two main counties)

Viewed by product value in Table 8, the modal activity is more complex. The modal mix is roughly three-quarters trucking and one-quarter air, indicating an important reliance on air freight for Denver supply chains and signaling the influence of e-commerce. Air in fact grows more quickly than trucking and raises its modal share by one point through 2040. Rail is small yet the dollar volume doubles, driven by increases in intermodal traffic. The study area sees about half the rail growth in Denver (as discussed above, Weld County should witness more rail intermodal development, but is outside the MSA.) All MSA growth in air cargo value is in the study area, of course, but the trucking forecast is more dramatic: the study area grows more rapidly than the MSA and generates four out of five incremental dollars of trucked goods in Denver.

Location	VALUE ($MIL)											
	Truck				Rail				Air			
	2019	2040	Delta	Growth Rate	2019	2040	Delta	Growth Rate	2019	2040	Delta	Growth Rate
Denver MSA	91,931	157,096	65,165	71%	293	586	294	100%	33,201	59,489	26,288	79%
Study Area* Total	65,075	116,160	51,085	79%	165	300	134	81%	33,201	59,488	26,287	79%
Study Area % MSA	71%	74%	78%		57%	51%	46%		100%	100%	100%	

Table 8. Denver Freight Value Forecast by Mode. (*Two main counties)

Denver Forecasted Growth by Commodity

The Denver MSA forecast by tonnage of its top commodities appears in Table 9, along with the portions within the study area. The top 10 commodities account for 95 percent of total tonnage in Denver, with nonmetallic minerals (chiefly construction aggregates) representing about one-third of the volume by itself. Warehouse and distribution traffic is the second largest group and grows by far the fastest, more than doubling over the next two decades. The overall growth for the leading commodities unsurprisingly matches the 39 percent total for the MSA – however, the growth rates for most goods individually are below the MSA average, while distribution traffic and chemical products (which include pharmaceuticals and biotechnology) drive the average higher. The study area contains 68 percent of the MSA tonnage in the top commodities and for many particular commodities the percentage is less. Although two-thirds of the delta in MSA top commodity tonnage is within the study area, a sharper picture emerges when industrial growth is viewed by product value.

Top 10 Commodities by 2019 TONS (000)								Study Area* Portion of TONS				
Rank	STCC2	Commodity	2019	% MSA	2040	Delta	Growth Rate	2019	% MSA	2040	Delta	Delta % MSA
1	14	Nonmetallic Minerals	31,870	32%	37,385	5,515	17%	19,459	61%	21,877	2,418	44%
2	50	Warehouse & Distribution	12,844	13%	31,318	18,475	144%	9,574	75%	23,830	15,157	77%
3	29	Petroleum or Coal Products	10,572	11%	10,997	426	4%	9,038	85%	9,335	297	70%
4	40	Waste or Scrap Materials	10,521	11%	13,284	2,764	26%	8,738	83%	10,864	2,125	77%
5	20	Food or Kindred Products	8,600	9%	12,272	3,673	43%	4,747	55%	7,434	2,687	73%
6	32	Clay, Concrete, Glass, or Stone	8,128	8%	11,059	2,931	36%	4,992	61%	6,782	1,790	61%
7	01	Farm Products	6,896	7%	7,845	948	14%	4,340	63%	4,982	642	68%
8	34	Fabricated Metal Products	1,965	2%	2,270	305	16%	954	49%	1,214	260	85%
9	24	Lumber or Wood Products	1,556	2%	1,878	322	21%	855	55%	1,109	254	79%
10	28	Chemicals or Allied Products	1,294	1%	2,300	1,005	78%	869	67%	1,572	703	70%
Sum Top 10			94,246	95%	130,608	36,362	39%	63,665	68%	89,000	25,335	70%
MSA Total			98,813		137,276	38,464	39%					
Top 10% of MSA Delta						95%						

Table 9. Denver Freight Tonnage Forecast by Commodity. (*Top 10 Delta % of MSA Delta)

The 2040 forecast for top commodities measured by value is presented in Table 10. The first thing to observe is the different composition of the list, with distribution traffic now number one and such product groups as transportation equipment and electronics displacing many heavy and bulk commodities. The growth rate in chemicals, for example, now exceeds 100 percent, implying that volumes for the more valuable product types in this group are rising faster. The top 10 commodities together account for 86 percent of the total value in the MSA, and their incremental volume represents 95 percent of the MSA growth. The study area alone contains 82 percent of the dollar volume from these top commodities and 85 percent of the delta. In miscellaneous products (which include most rail intermodal traffic) and scientific instruments, upwards of 90 percent or more of the volume and growth lies in the study area.

Top 10 Commodities by 2019 Value ($Mil)								Study Area* Portion of Value				
Rank	STCC2	Commodity	2019	% MSA	2040	Delta	Growth Rate	2019	% MSA	2040	Delta	Delta % MSA
1	50	Warehouse & Distribution	29,559	24%	69,796	40,236	136%	25,651	87%	60,564	34,913	87%
2	37	Transportation Equipment	15,239	12%	23,717	8,748	56%	12,550	82%	20,063	7,514	89%
3	20	Food or Kindred Products	11,304	9%	17,129	5,825	52%	7,568	67%	11,031	3,463	59%
4	36	Electronics & Electrical Eqt.	10,874	9%	19,808	8,934	82%	8,647	80%	15,686	7,039	79%
5	39+46	Misc. Manufacturing Products	8,867	7%	13,302	4,435	50%	8,586	97%	12,773	4,188	94%
6	28	Chemicals or Allied Products	8,468	7%	17,427	8,960	106%	6,889	81%	14,686	7,797	87%
7	38	Scientific Instruments, Photo & Optical Eqt.	6,738	5%	12,497	5,759	85%	6,134	91%	11,276	5,142	89%
8	34	Fabricated Metal Products	6,624	5%	8,145	1,521	23%	3,542	53%	4,804	1,262	83%
9	29	Petroleum or Coal Products	5,867	5%	6,043	176	3%	5,153	88%	5,351	198	113%
10	35	Machinery	4,703	4%	7,182	2,479	53%	3,842	82%	5,927	2,085	84%
Sum Top 10			108,243	86%	195,046	86,804	80%	88,561	82%	162,162	73,601	80%
MSA Total			125,425		217,171	91,746	73%					
Top 10 Delta % of MSA Delta						95%						

Table 10. Denver Freight Value Forecast by Commodity. (*Top 10 Delta % of MSA Delta)

The conclusion from this analysis is that most of the high value goods transported by supply chains in the Denver market, and most of the forecast increase in the volume of these goods over the next two decades, are concentrated in the area studied by this report. The leading role taken by warehouse and distribution traffic, both in its volume and the expected vigor of its growth, hearkens back to the pattern observed among inland ports around the country. The projected increase in the high value products of advanced manufacturing similarly conforms to pattern. Taken together, the outlook is for economic growth in the Denver market to stem from a core location in Adams and Denver counties. This location capitalizes on multimodal freight transportation with national and global reach, and it generates steadily greater demands on the capacity and performance of the transportation network – for moving goods, and for supporting jobs.

E-470 Traffic Projections

E-470 traffic projections are included as a bellwether of anticipated traffic growth in the study area. E-470, as a private toll facility, relies on traffic forecasting for revenue projections, bonding, and planning for their capital development program. Their May 2020 Tolling and Revenue Study is some of the best available information on future traffic volumes.

The T&R used the DRCOG model as a base and updated the land use for the E-470 influence area, including a large part of our study area. The 2020 T&R study relies on population and employment forecast for the 11 counties in the metro area. The regional forecast used observed base-year values that are lower than the estimated values used in the DRCOG model, so while the projected growth in population and employment are relatively similar the overall forecast is lower. However, the forecast also placed a greater percentage of the growth in the E-470 influence area, with 40~60 percent of the region growth occurring in it.

The E-470 traffic modeling forecasts the Pena Boulevard to 88th Ave. segment as being the busiest in the whole E-470 system, and the I-70 to Pena as having the highest percentage growth. The mix of vehicle type is expected to stay constant, the increased traffic is primarily passenger vehicles accessing the new residential development and employment centers.

E-470 Widening Plan

E-470 has five highway widening projects planned in the study area, resulting in a final configuration in 2040 of 3 lanes in each direction from I-70 to Pena Boulevard and four lanes in each direction from Pena to I-76 (E-470 Public Highway Authority 2020).

- 2024 – I-70 to Peña Boulevard – from 2 to 3 lanes per direction
- 2027 – Peña Boulevard to I-76 – from 2 to 3 lanes per direction
- 2035 – I-76 to US 85 – 2 to 3 lanes per direction
- 2038 – US 85 to I-25 (North End) – 2 to 3 lanes per direction
- 2040 – Peña Boulevard to I-76 – 3 to 4 lanes per direction

6 Conclusions

What This Means to Transportation and Energy Demand

As a high-level review, this study did not estimate the potential impact of the area's development, travel demand, traffic patterns or energy supply on the transportation network and energy grid. It does however provide a qualitative framework through which the area's future can be envisioned.

There is no question that development in the study area resembles inland ports elsewhere in the country. The robust local market combined with excellent multimodal freight options and global reach creates the foundation for growth. The best practices research shows consistently that the success of early tenants draws more development to inland ports, which creates efficiencies in the supply lines and logistics. This in turn draws even further development and the associated rise of industrial ecosystems. The study area is in the early stages of the growth, with several national retail companies and logistics firms locating near the transportation corridors, and large properties available with service from major railroads. Commodity flow analysis shows that four-fifths of the value of goods in the Denver MSA comes from the study area, including most of the forecast growth in value. Moreover, the expected growth is in the sectors typical of inland ports: warehouse and distribution facilities including e-commerce that thrive on good highway networks, and advanced manufacturing firms capitalizing on access to world markets by air and by rail links to ports.

The composite picture is a location where the seeds are in fertile ground, the first shoots have risen, and the approaching growth across the field can be foreseen. This has occurred and is evolving without public agency direction, which mirrors the history of many inland ports. Nevertheless, that history also tells us to expect that growth will be substantial as the years progress, and the freight forecast agrees with history. It is well to be prepared. For example, public policies in pursuit of zero emissions require fueling capacity in the right places, and buildings able to support it. It is most efficient to incorporate such factors while development takes place. Until hydrogen fuels become fully practical for long distance trucking, the greenest option for long distance shipping may be rail intermodal service with drayage by electric trucks. That means the access routes to and from rail terminals – and the industrial development that accompanies them – become important considerations for the surrounding communities and the freight system overall. Companies need workers to fill jobs from affordable

housing with realistic and green commuting options. Distribution and fulfillment centers need routes to businesses and neighborhoods throughout the region, able to satisfy commercial and consumer demands for faster delivery of goods. Truck parking is a necessity at these centers and for logistical staging while serving customers. In short, development has begun to arrive, it is likely to reach large scale, and the ramifications can be anticipated.

Evaluation of the implications from study area growth for the region and the state are an appropriate facet of the upcoming state freight plan, as discussed further below. Looking at transportation assessments that have already been made, the E-470 Comprehensive Tolling and Revenue Study identify the segment from I-70 to Pena as being one of the busiest, growing at 3.4 percent per year to near the volumes at the southern reach of E-470. As noted above, the E-470 plans to address this additional traffic volume with two widening projects, adding two lanes in 2027 and two more in 2040, doubling the tollway's capacity. We note this is predominantly passenger vehicle traffic, but it provides an insight into the residential and employment growth the E-470 Authority anticipates.

NEAT identified three new interchanges and two reconfigured interchanges within a 10 mile stretch on I-70 to accommodate the additional growth north and south of the interstate. The NEAT planning area encompasses Port Colorado, Denali Logistics Park, CASP, Rocky Mountain Rail Park, and the Microsoft acquired property. There are multiples of land available for continued additional development north and east of DEN.

It is not expected the additional development will be as dense as the land within the NEAT plan, nor the same mix of vehicles and use as E-470, however it does provide insight into the potential travel demand the remaining undeveloped land holds. This additional demand will travel on I-70, I-76, CO 52, CO 79, E-470 and the other local, regional, and interstates in the NE metro area.

Economic Impacts

The study scope did not provide for analysis of the economic impacts, however we would be remiss in not recognizing the economic impact of concentrated freight logistics. These impacts are both beneficial and not. Beneficial impacts include the increase in employment, reduced shipping cost, economic competitiveness, attraction of new companies to the area, and wealth creation from increased land

values. Dis-benefits include increased congestion, increased infrastructure costs, and increase in modal interactions (train/car/truck/pedestrian).

Jobs and Job Access

As demonstrated in the NEAT plan, there will be a major increase in employment in the area. Accommodation for residential and employment trips is included by increasing the number of access interchanges on I-70. Consideration should be given for local bus routes or micro-transit, with connections to the A-Line and regional bus service that can reduce the need for additional infrastructure.

Elements to be Considered in Upcoming Freight Plan

Colorado DOT will undertake update of its statewide freight transportation plan later in 2022. The findings of this study make an important contribution to the development of that plan. To begin with, economic geography is a foundational element in any freight plan, and this study identifies a critical location from which much regional growth will emanate. E-commerce represents a consequential shift in consumer behavior; much e-commerce demand will be served from the study area with expectations for reliable same-day delivery. Intermodal service is a primary way that rail provides highway relief, and the study area is a locus for the intermodal business. Advanced manufacturing brings good jobs and depends on global supply chain networks that the study area supports by air and ground.

These considerations reflect trends, multimodal systems and performance requirements that the freight plan is required to address and can be seen in the study area in microcosm. National freight policy goals such as economic competitiveness, network efficiency, productivity and technology application can be addressed as the plan explores how to prepare for growth, using the study area as a prime location where growth will occur. Alternative fueling consistent with federal and state environmental policies must be accommodated throughout Colorado. The study area with its new facilities might serve as a demonstration site for some applications, including support services such as electric vehicle maintenance. Equity issues can be evaluated and solutions created in the context of new industry, new housing and new travel patterns.

Inland ports are major economic assets for the states that have them. The character of industrial development in the study area and the multimodal freight system that enables it matches the Inland Port profile. Whether public agencies adopt a proactive role or not, the area is likely to evolve into an economic asset like those that other states value. Protecting that asset and its future thus is a fitting strategic component of the Colorado freight plan.

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8 Appendix A: Summary of Reviewed Case Studies

Ten inland ports in the U.S. and Canada were analyzed as part of this study, with the intent of identifying best practices across five business dimensions: organizational structure, business purpose, competitive advantages, modal access, and key technology implementations (if any). As this analysis was completed primarily through data gathered from publicly available reports and secondary research, the information presented in the following case studies may not fully characterize the operations of the respective inland ports, in connection for example to commercial strategies and institutional negotiations as the ports were formed. Interviews with primary contacts or references at the respective owner/operator of these ports could validate and enhance the cases presented below.

Table 11 provides a summary of the key characteristics and practices of the 10 inland ports reviewed as part of this study:

- Utah Inland Port – Salt Lake City, UT
- Rickenbacker Inland Port – Columbus, OH
- AllianceTexas Logistics Hub – Alliance, TX
- Greer Inland Port – Greer, SC
- Kansas City SmartPort – Kansas City, MO
- Port of Huntsville – Huntsville, AL
- CenterPoint Intermodal Center – Joliet/Elwood, IL
- Northeast Georgia Inland Port – Gainesville, GA
- Port of Tucson – Tucson, AZ
- CentrePort Canada – Winnipeg, Canada

Table 11: Inland Ports Characteristics and Operations

Port Location	Funding Type	Owner/Operator			DOT Involvement	Direct Modal access	Anchor Tenants or Occupants	Technology
		P3	Port Authority	Other				
Salt Lake City, Utah	– Property taxes/ state appropriations – Infrastructure development – Business development/ financing		✓		Advisory (but Port Authority development doc provides Board seat to DOT representative)	Intermodal Rail Airport access Freeway/inter state access	– Rio Tinto – NWQ – SITLA – Suburban Land Reserve	– Transloading – Satellite Ports – Truck Parking – Renewables/EV Charging – Digital Infrastructure
Rickenbacker (Columbus), Ohio	Act via Airport Business Model[4] Operating Revenues from landing fees, concessions, FTZ revenue, hotel Federal grants to the Heartland rail corridor		✓[5]		Some role in rail corridor development	– Rickenbacker International Airport (CMH nearby) – NS Intermodal Rail (CSX nearby) – Interstates/freeway – Supported by freight forwarders	– The Limited was original anchor tenant – Airport – NS Intermodal Rail – Amazon/FedEx/ XPO/DHL	– None directly, but Columbus is a key focus of the DOT's DriveOhio technology development program

[4] The new airport business model leverages the airport's privileged competitive position to maximize shareholder value, endorsing concentric diversification and flexible and creative strategy (Brilha 2019).
This approach, replicated on diverse industries from telecoms to banking to airlines, commands the comprehension that each strategic vector:
a) has a unique business focus
b) requires distinctive competencies and skills
c) develops different relationships

[5] Government entity created in 2003 via merger of Columbus Airport Authority and Rickenbacker Port Authority

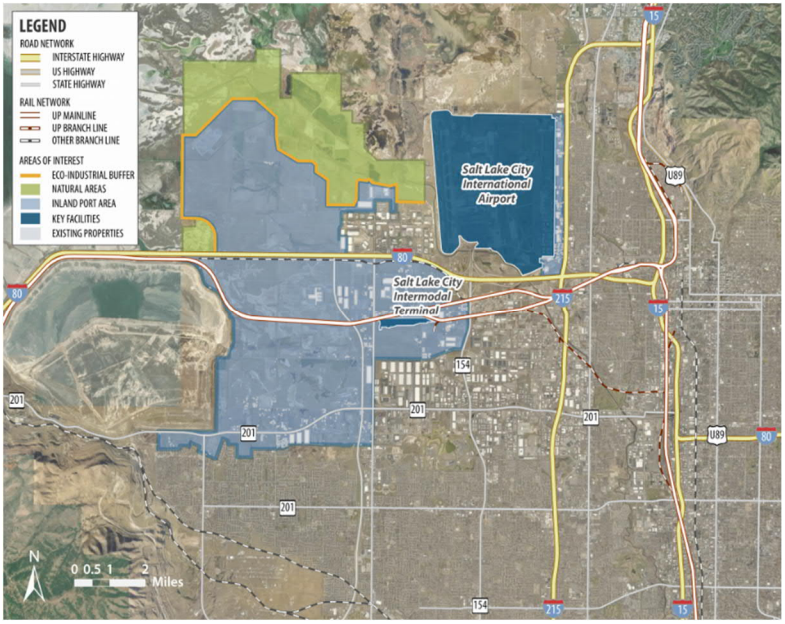
Alliance, Texas	P3 Tenant charges/Leases	✓			State department funded development of highway	Fort Worth Alliance Airport BNSF intermodal rail UP line SH170 and I-35	American Airlines FedEx tenants 230 corporate businesses 3PL/Freight Forwarders	Mobility Zone (MIZ) Testing ground Autonomous transport Remote operations Self-driving/done delivery
Greer, South Carolina	– Quasi-governmental organization – Can acquire grants and use own revenue stream		✓		Indirect	– NS Intermodal Rail – Overnight express shuttle – Air-cargo services – I-85 corridor	– BMW – Norfolk Southern – Michelin – Adidas – Dollar General – Eastman Chemical	
Kansas City, Missouri	Membership Dues Regional Government (MPO/COG) grants			Kansas City Area Development Council	BOD member	4 class 1 intermodal rail lines KCI Airport nearby I-35, I-70, I-29, and I-49		Trade Data Exchange access for supply chain hub Distributed foreign trade zones (FTZ)

Huntsville, Alabama	PFC charges Public Corporation Debit Issuance Federal grants Construction Revenue Bonds Tenant charges/Leases			Airport Authority	N/A	– Huntsville International Airport – NS Intermodal Rail – BNSF Rail line – I-565 corridor	Jetplex Industrial Park 70+ companies in automotive, electrics, aviation/aerospace, aircraft MRO Boeing Northrop Grumman Raytheon UPS Air Cargo Georgia-Pacific XPO Logistics LG Electronics DSV/Panalpina	
Joliet/ Elwood, IL	Private activity bonds (PABs) Equity financing from CenterPoint Tax increment financing from city of Elwood, IL Federal and State grants EPA Superfund funding Operating revenues through tenant rents			CenterPoint – a private for-profit entity	USDOT involvement in PAB authorization	– BNSF and UP intermodal terminals – NS Railway and CSX Interline services to East Coast ports – Highway access through I-80 and I-55 – 40 miles to O'Hare International Airport	Intermodal terminals themselves, which are the chief inland destinations of west coast import traffic	
Gainesville, GA	Quasi-governmental organization Can acquire grants and use own		✓		Indirect	NS rail service with overnight express shuttle between Port of Savannah and Northeast Georgia Inland Port Direct access to I-985 Less than 20 miles to I-85	Kubota Manufacturing Auto Metal Direct ZF Gainesville Fox Factory Future customers	TBD

	revenue stream						include Petco Carter's, Wayne Farms	
Tucson, AZ	Federal grants Internal revenue stream via tenant rents			Family-owned enterprise	N/A	Dock and grade level access to UP mainline Interstate access to I-10 and I-19 Air cargo access with Tucson International Airport	Anchor tenants not available Current occupants include: Amazon Freeport McMoran Comex Biagi Barlow Philips Genco	
Winnipeg, Canada	Generates operating revenues through tenant rents Federal and provincial funds			CentrePort Canada	Federal and provincial funds for on-site roadway	CentrePort Canada Rail Park has direct access to CP Federal interswitching access to CN and BNSF Onsite CentrePort Canada Way ("5 min to 55mph") provides access to interstate-quality highways Winnipeg Richardson International Airport freight terminal	Anchor tenants not available Current occupants include: Boeing Winpak Conviron Paterson GlobalFoods ASL Distribution TransX Several major 3PL/Freight Forwarders located within facility	

Inland Port Case Studies in North America

Utah Inland Port



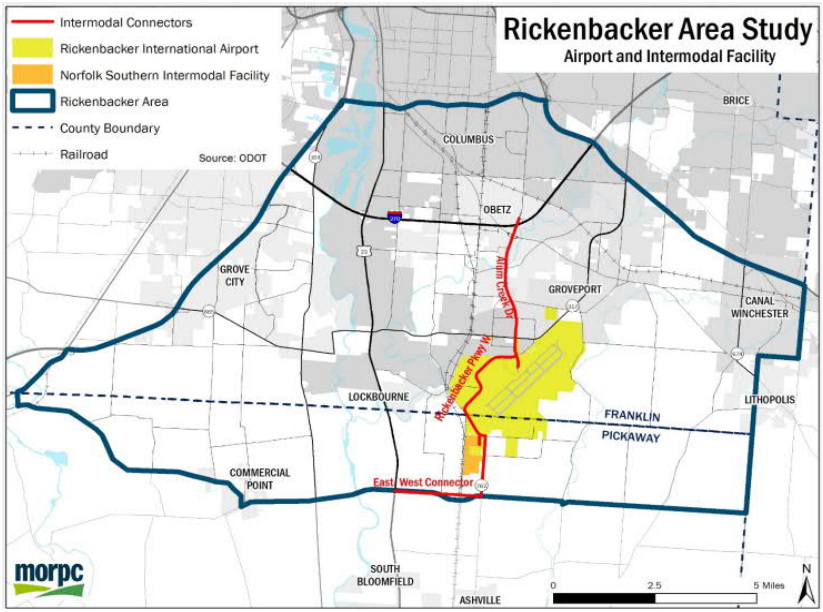
The Utah Inland Port is positioning itself as an 'Inland Port of Choice' for West Coast seaports because it leverages Utah's multimodal transportation assets, geographic location, skilled labor force, global trade relationships, and logistics-dependent industry mix to establish a major multimodal logistics hub. The newly created Utah Inland Port Authority's (UIPA) jurisdiction includes the local logistics activity hub poised to grow significantly over the coming decades, fueled by regional population growth, explosive e-commerce fulfillment demand, and the proximity of critical multimodal transportation facilities. This activity hub is concentrated in the northwestern part of Salt Lake County—north of Highway 2100 South, West of I-215, and the location of the Salt Lake City International Airport, UPRR's intermodal container terminal, and hundreds of freight-focused businesses. The hub includes various logistics-intensive enterprises—which tend to cluster along major transportation routes in Utah's cities and towns. The Utah Inland Port in several ways offers a good model for Colorado: major infrastructure is in place, geographies are similar, relief of west coast ports is part of the picture, and local development has been proceeding through various players. With principal markets on opposite sides of the Rockies, Utah and Colorado could form a complementary pair.

Location: Salt Lake City, Utah	
Port Name: Utah Inland Port	
Size and Volume of Activity: Projection of 440B$ worth of cargo movements in 2045 in Utah	
Organization	
Ownership & operators	Utah Inland Port Authority
Coalition/associations membership	11 Board of Directors (BOD) members - Salt Lake City Council, Utah State House, Go Utah, Utah State Senate, Salt Lake Mayor's Office, Salt Lake County Economic Development, and others
How was group established/formed and public role	State Corporation formed in 2018
How is the group funded, public sources, private investment, or 3P	UIPA obtains funding from state appropriations and property tax differential. Property tax differential is based on the difference between current land values and increased values after improvements are made. The Authority primarily uses the tax differential to advance desired activities and outcomes through Tax Increment Financing. Additionally, UIPA may obtain funding from other sources: infrastructure development, strategic investments, development financing, and advisory services.
Market Factors and Trends	

Motivation/business purpose	The port's objective is to become an 'Inland Port of Choice' for West Coast seaports - leverage Utah's multimodal transportation assets, geographic location, skilled labor force, global trade relationships, and logistics-dependent industry mix to establish a major multimodal logistics hub.
What made the location competitive	Local logistics activity hubs that tend to cluster along major transportation routes in Utah's cities and towns, include – distribution and fulfillment centers, – trucking and rail terminals, – manufacturing facilities, and – other logistics-intensive enterprises. The northwestern part of Salt Lake County has the highest concentration of activity hubs—located north of Highway 2100 South, west of I-215, Salt Lake City International Airport, UPRR's intermodal container terminal, and hundreds of freight-focused businesses. This area is adjacent to the boundaries of the UIPA and is expected to grow significantly over the coming decades due to population growth, e-commerce fulfillment demand, and multimodal access.
Anchor tenant/s	Build on current
Current industry / occupants	Rio Tinto, NWQ, SITLA, Suburban Land Reserve
Technologies incorporated into Port	Transloading, Satellite Ports, Truck Parking, Renewable Charging, Digital Infra
Domestic & foreign trade	Strategy to Maximize Foreign Trade Zone opportunities

Workforce Access	Public Transit (planned), Roadways
Modal Access	
Modes and ease of access	Intermodal rail, access to airports
Other	– Considered the first of many potential statewide inland port initiatives to centralize logistics activities in cohesive areas to facilitate sustainable and smart planning and coordination. – The UIPA intends to develop a statewide inland port system with multiple facilities throughout the state to catalyze local economic development – especially in rural Utah. – The state port facilities are also intended to divert cargo traffic from the Wasatch Front (roughly, metropolitan Salt Lake City). This means that cargo that does not need to flow through the Wasatch Front will instead be processed in satellite locations. From these satellites, cargo can then be transported to domestic and international markets.

Rickenbacker Inland Port



The Rickenbacker Inland Port is advantageously located within a 10-hour drive of half of the U.S. and a third of Canadian populations. The port's proximity to Chicago facilitates service as a significant intermodal hub, in addition to the Rickenbacker Airport which facilities direct plane-to-truck access within one hour.

The port is narrowly defined as an all-cargo air facility located about twenty miles from the Columbus international airport. It began as a site for freighter aircraft bringing Asian goods to the national distribution facilities of The Limited retail chain. However, a second source of development emerged as the Norfolk Southern (NS) railway opened the Heartland Corridor double-stack rail connection between the Norfolk, Virginia container ports and the NS intermodal terminal, which is adjacent to Rickenbacker. The combination spurred development of distribution and production facilities, aided in addition by the Columbus rail intermodal terminal of CSX, which has similar port connections.

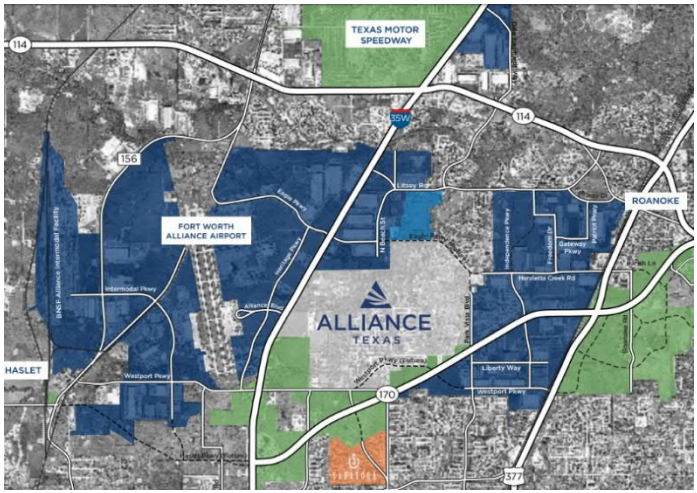
The port itself is focused on maximizing utilization of the local airport and attracting more logistics businesses based on ease of access to multiple intermodal services including freeways/interstates, and the intermodal rail terminals.

Location: Rickenbacker (Columbus, OH)
Port Name: Rickenbacker Inland Port

Organization	
Ownership & operators	Columbus Regional Airport Authority
Coalition/associations membership	Government Entity with 9 BOD members
How was group established/formed and public role	Established through Ohio Revised Code; created in 2003 when the Columbus Airport Authority merged with the Rickenbacker Port Authority
How is the group funded, public sources, private investment, or 3P	Parking/Airline (landing), concessions, FTZ revenue, hotel. The Heartland Corridor was supported by a federal grant.
Methods and motivations for securing funding	Operate via airport business model
Market Factors and Trends	
What made the location competitive	Rickenbacker offers a low-cost business model with lower operating costs compared to major gateways (i.e., lower landing fees). The uncongested airport allows cargo to be offloaded and enroute within an hour given direct plane-to-truck access by the industry's top trucking companies. Parallel development of rail facilities and rail corridors helped development take off. Interstate access is excellent, with Columbus at the crossroads of I-70 and I-71.

Anchor tenant/s	– The Limited original anchor tenant – Heartland corridor double-stack rail (created a second baseload)
Current industry / occupants	– Rickenbacker International Airport – Norfolk Southern Intermodal Terminal next to Rickenbacker; CSX is 20 miles away – Freight forwarders including Amazon, FedEx, XPO, DHL and others have fulfilment/logistics centers here
Domestic & foreign trade	US Foreign Trade Zone established in port
Workforce Access	Roadways
Modal Access	
Modes and ease of access	Air, road and rail transport companies supported by a mix of premier freight forwarders, consolidators, customs brokers and 3PLs.

AllianceTexas Logistics Hub



The location of the AllianceTexas Global Logistics Hub serves the area and region with competitive economic development opportunities and multimodal access. The port's strategic investment includes attracting logistics-oriented businesses, generating jobs, and leveraging the economic development in the Dallas-Fort Worth market.
Dalla/Fort Worth is a top metro market and one of the principal distribution hubs of the country. The port has overnight access to major US cities and the Mexican border, and it enjoys direct rail access to the Long Beach/Los Angeles container ports. Additional direct connections include the Fort Worth Alliance Airport, BNSF intermodal rail, the UP line, SH170 and I-35.

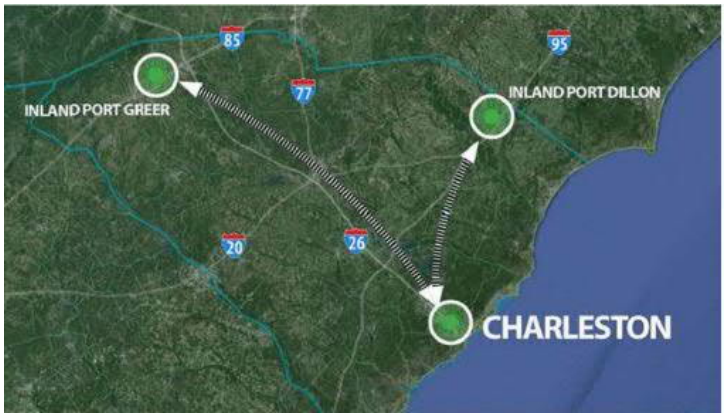
Location: Fort Worth, TX	
Port Name: Alliance Texas Global Logistics Hub	
Organization	
Ownership & operators	Hillwood
How was group established/formed and public role	FAA for P3, City of Fort Worth, State of Texas provided funding/services as part of P3

How is the group funded, public sources, private investment, or 3P	Airport was funded through P3 between Hillwood and City of Fort Worth - Hillwood donated land to City of Fort Worth (who were required to contribute 10 percent equity as part of P3 to FAA) who provided services - water, sewer, and infrastructure to support operations. Another P3 between Hillwood and the State of Texas to build a new state highway — State Highway 170 — with access to Dallas-Fort Worth International Airport
Methods and motivations for securing funding	Operating revenues (tenant rents), P3
Market Factors and Trends	
What made the location competitive	There are many large tracts of undeveloped land adjacent to the Fort Worth Metroplex. Large markets such as Dallas (distribution hub for southwest/southcentral) Proximity to US and Mexico markets with rail access to LB/LA
Anchor tenant/s	American Airlines, FedEx were the initial anchor tenants, with many new tenants being organized
Current industry / occupants	— BNSF, FedEx, Motorola, American Airlines — The facility is currently home to more than 230 corporate businesses. There are also several major 3PL/Freight Forwarders located within the facility.

Technologies incorporated into Port	Mobility Innovation Zone (MIZ) - access to testing ecosystem, resources, and partnerships. Initial two focus areas: a UAS Proving Grounds for aerial technologies and a set of Autonomous Trucking use cases expanding from short- to long-haul, ITS Conglobal/Phantom Auto (remotely operate various types of industrial and logistics equipment), Bell (autonomous pod transport), TuSimple (self-driving heavy-duty trucks), Gatik, Wing Partner (commercial drone delivery) for Walgreens
Domestic & foreign trade	Foreign Trade Zone in port
Modal Access	
Modes and ease of access	Fort Worth Alliance Airport within port, an intermodal terminal (BNSF), access to two Class I railroads (BNSF and UP), direct highway access through SH170 and I-35
Other	
Financial	To facilitate better supply-chain management, AllianceTexas' Foreign-Trade Zone #196 delivers duty and tax benefits and consultation services that are not available through any other mechanism, reducing costs and streamlining customs clearance. At Alliance, all three taxing entities, city, county, and school district have enacted the Freeport Tax Exemption on all eligible inventories. This exemption applies to inventory that is forwarded out of Texas within 175 days of the date acquired or brought into the state.

Community Support	"The citizens of Fort Worth were initially hesitant to accept the proposal for the new facility, as the city would be financing some of the infrastructure improvements with public funds, with significant uncertainty on the return on this public investment. However, there has been a vast improvement in the level of public support in the region as the planned community has gained success over time and generated significant economic activity, jobs and property tax revenue"

Greer Inland Port



The Greer Inland Port is operating as an extension of the Port of South Carolina, more than 200 miles inland. This connection is facilitated by the Port of Charleston overnight freight rail services through Norfolk Southern Rail (NS). The BMW automotive assembly plant in Greer provided a baseload for NS trains. The Piedmont district in the Carolinas where Greer is located is an established manufacturing region, lying between Charlotte and Atlanta.
The inland port is strategically located where the seaport can terminate and source "empties" close to the origin/destination, in addition to supporting a reduction in empty miles, and lower chassis per diem detention charges.

Location: Greer, SC	
Port Name: Greer Inland Port	
Size and Volume of Activity: Rail lift volume approx. 160,000 in CY2019	
Organization	
Ownership & operators	South Carolina Ports Authority
Coalition/associations membership	Government Entity with 9 BOD members, appointed by Governor and confirmed by State Senate

How was group established/formed and public role	Established by SC General Assembly in 1942, Greer Inland Port opened in 2013
How were roles and responsibilities solidified	Owner/operator of a series of ports and inland ports including public port and transportation facilities in Charleston, North Charleston, Charleston County, Georgetown, Dillon and Greer.
How is the group funded, public sources, private investment, or 3P	Although a public agency, the Ports Authority does not receive direct appropriations from the state for capital or operations expenses. Instead, the Ports Authority operates like a private business, and funds its operations and investment efforts through its own revenue stream and ability to issue bonds.
Methods and motivations for securing funding	Revenue bonds and operating revenues, including State of SC funds for port infrastructure improvements. Received BUILD grant and receive funds from NS for expansions
Market Factors and Trends	
Motivation/business purpose	– Extend reach of Port of SC (largest ocean port in state) inland by over 200 miles to ensure swift movement of goods. – With presence of BMW, increase in container traffic over time and attract automotive suppliers
What made the location competitive	Greer closer to other population centers in the state and key clients Connected to the Port of Charleston via overnight rail offered by the NS, operates 24x7

	Reduces truck-based traffic - located along important/busy I-85/Piedmont corridor, reduced empty miles, higher truck productivity, lower chassis/per diem/detention charges. Ability to terminate and source empties closer to the origin/destination. Trucks can often enter and exit inland locations within 15 minutes, whereas marine container terminals can take an hour
Anchor tenant/s	BMW; Michelin, Adidas, Dollar General, and Eastman Chemical also important
Current industry / occupants	Norfolk Southern Rail
Domestic & foreign trade	Mostly foreign trade through connection to Port of Charleston
Modal Access	
Modes and ease of access	Rail service exclusive NS, overnight express shuttle service between port of SC and Greer. Adjacent air-cargo services (Greenville-Spartanburg International Airport), I-85 corridor (fastest growing)

Kansas City SmartPort

The Kansas City SmartPort is in the heart of a region in Missouri rich in agriculture, manufacturing, and distribution.
The port acts as a comprehensive inland port governed by institutional design. Its location facilitates a large freight market and acts as a critical connection point between North American trade routes. The port's strategic location also promotes economic growth in the region by attracting private investments from freight businesses, warehousing/distribution, manufacturing, and trade data exchange to improve efficient regional freight distribution. Connections include the I-35 "NAFTA Highway" freight corridor with Mexico and I-70.
Kansas City Southern (KCS), a class I railway company, expanded the I-35 corridor with its direct link to Mexico and its Mexican subsidiary (Kansas City Southern de México), reaching to Mexico City and the port of Lazaro Cardenas on the Pacific Coast.

Location: Kansas City, MO	
Port Name: Kansas City SmartPort	
Organization	
Ownership & operators	Kansas City Area Development Council
Coalition/associations membership	Numerous public and private entities

How was group established/formed and public role	Non-profit economic development organization - Born out of the Mid-Continent TradeWay Study; an analysis to "determine the feasibility and national benefits of establishing the Kansas City region as a place where international trade processing activities can be carried out". The study was jointly commissioned, in 1998, by the Mid-America Regional Council, the Greater Kansas City Chamber of Commerce, and the Kansas City Area Development Council
How is the group funded, public sources, private investment, or 3P	KC SmartPort has a cooperative governance model of a regional freight distribution system acting as a comprehensive inland port. Under such a governance framework, the Board of Directors focuses on strategic issues, the member companies and institutions are the main actors in operationalizing the strategies agreed upon by the Board. — Grants from Kansas City Area Development Council — Dues from paying members - generally private companies
Other	KC SmartPort is a private economic development entity with ties to public development agencies. Unlike other models of freight governance, KC SmartPort has no authority to prioritize or construct infrastructure improvements. The Board determines the agency's strategic economic development direction, but it is up to individual members to operationalize this strategy. As such, KC SmartPort's institutional design has significant limitations beyond economic development and business services.
Market Factors and Trends	

Motivation/business purpose	Promoting economic growth in the region by attracting firms related to freight distribution as well as undertaking strategies to improve the efficiency of regional freight distribution. Attract private investments from freight businesses, warehousing/distribution, manufacturing Trade data exchange Provide services/attract service firms for customs and activities
What made the location competitive	As a large metro market at the eastern edge of the Great Plains (Denver is at the western edge), Kansas City is in the heart of a rich agricultural and manufacturing region, and it has long been an important rail center and interchange point. This makes it a substantial freight market and intermediate staging location within North American trade routes. Freight corridor with east/west connections via I-70 and the freight rail system, as well as the north/south I-35 "NAFTA highway" and KCS rail service into Mexico.
Technologies incorporated into Port	Trade Data Exchange (originally begun as a federally funded pilot) - "The TDE is a collaborative environment for all supply chain parties to connect to trading partners, share supply chain data, communicate via electronic messaging, receive electronic alert notifications and proactively monitor shipment progress. – Participating members make more confident logistics decisions because the TDE helps them make informed choices. – The TDE electronically forwards notification to ground carriers (truck and rail) and alerts them of a shipment that is

	ready for transport, at the point of origin. Supply chain users access the TDE to review trade documentation and electronically commit to the required delivery service. – The TDE evaluates updated commercial trade data to assess commercial risk associated with the shipment and supply chain participants, and electronically forwards any necessary notifications to all appropriate, interested parties associated with the shipment. – The TDE provides visibility into a user's supply chain; removes shipping and delivery uncertainty; increases efficiency; and ensures shipments are received as promised". Distributed foreign trade zones (FTZ), which convey several operational advantages in managing freight distribution, particularly when foreign cargo is involved. Each FTZ is not a unique real estate asset at a single location, but a set of sites (sub-zones), each enabled to exploit a specific locational advantage such as an airport, intermodal rail yard, or highway interchange. A total of 14 FTZ sites accounting for 10,000 acres of land are available.
Modal Access	
Modes and ease of access	Kansas City in general - Four class 1 rail lines with intermodal facilities, KCI Airport nearby, four major US Interstate Highways (I-35, I-70, I-29, and I-49).

Port of Huntsville

The Port of Huntsville is strategically located close to major employment centers and regional multi-modal transportation services. Its location is attractive for the Redstone Arsenal federal campus which includes various federal agencies like the NASA Marshal Space Flight Center, in addition to industries like the Toyota/Mazda and Mercedes-Benz auto assembly plants.
This port is strategically located within one to five hours of multimodal facilities and economic centers such as Atlanta, Birmingham, and Nashville.

Location: Huntsville, Alabama	
Port Name: Port of Huntsville	
Organization	
Ownership & operators	Huntsville-Madison County Airport Authority (HMCAA)
How was group established/formed and public role	HMCAA is a public corporation in state of Alabama Governed by five-member Board of Directors appointed by the City Council of Huntsville and the Madison County Commission Inland port consists of Huntsville International Airport

	International Intermodal Center (Air and Rail Cargo) Runways 10,000 ft. and 12,600 ft. Cargo ramp 1mil+ sq. ft. Jetplex Industrial Park
How is the group funded, public sources, private investment, or 3P	– Airport operating revenues – PFC charges – Public corporation debt issuance – Federal grants – Issued revenue bonds associated with construction of associated with Jetplex Industrial Park; tenant charges and leases cover payments to issued revenue bonds
Market Factors and Trends	
Motivation/business purpose	Provide multi-modal transportation services to regional customer base, and stimulate economic growth and development of the Tennessee Valley region
What made the location competitive	Redstone Arsenal (RSA) - 38,000-acre diversified federal campus Includes NASA Marshall Space Flight Center among many other federal agencies Cummings Research Park (CRP), which is the 2nd largest research park in the U.S Many aerospace contractors moved to the vicinity

	Port serves these businesses Strategically located close to many automotive assembly plants: Toyota/Mazda near Huntsville Mercedes-Benz, Honda, Hyundai, Volkswagen, BMW, etc. in Alabama and Tennessee
Current industry / occupants	– Jetplex Industrial Park more than 70 companies in automotive, electronics, aviation/aerospace, aircraft MRO etc. – Examples include Boeing, Northrop Grumman, Raytheon, UPS Air Cargo, Georgia-Pacific, XPO Logistics, LG Electronics, DSV/Panalpina etc.
Domestic & foreign trade	U.S. Foreign Trade Zone established within port
Modal Access	
Modes and ease of access	Huntsville International Airport Direct NS service to/from ports of Charleston and Savannah BNSF provides inbound service from west coast via NS at Memphis UP also connects via NS Memphis I-565 corridor (fast growing) and I-65

CenterPoint Intermodal Center

The CenterPoint Intermodal Center (CIC) is combined with the UP Joliet Intermodal Terminal in Elwood, IL, within the Chicago metroplex. The location of this facility supports efficient access to the huge Chicago and midwestern market, convenient access to I-80 and I-55, and rail services to California, Washington, and Texas – plus connections east. Joliet is 40 miles from Chicago O'Hare International Airport, the largest airport in the US interior with superb cargo access to the globe.

Chicago is the nation's rail hub, another (like Dallas) of the nation's principal distribution hubs, and a major manufacturing center. The CenterPoint Intermodal Center lies between BNSF and UP intermodal terminals that are the chief destinations for container traffic imported from Asia via west coast ports.

The CenterPoint Intermodal Center capitalizes on private land acquired by CenterPoint to attract businesses and generate jobs, due to siting within a top metro market and national logistics hub.

Location: Joliet/Elwood, Illinois

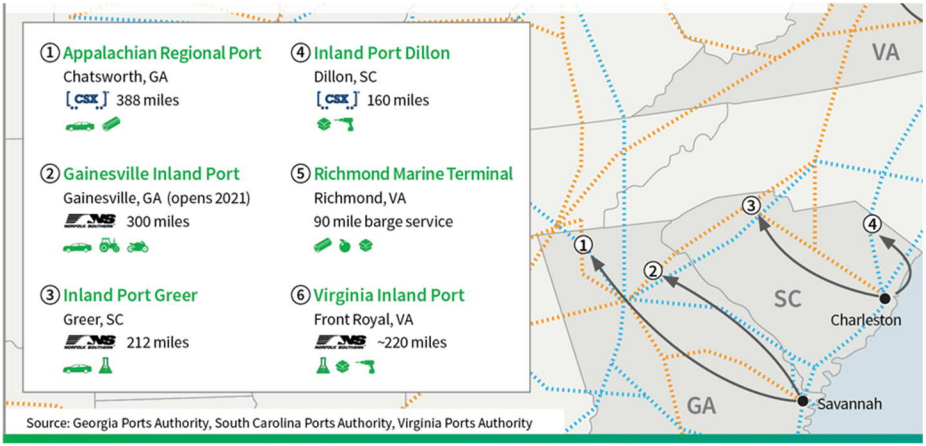
Port Name: CenterPoint Intermodal Center	
Organization	
Ownership & operators	The Joliet center is combined with the existing CenterPoint Intermodal Center in Elwood (located two miles south). CenterPoint owns and operates both the Joliet Center and CenterPoint Intermodal – Private for-profit entity – Developer and manager of warehouse, distribution, and manufacturing facilities
How was group established/formed and public role	The EPA has declared the site a Superfund. The Intermodal Center is a brownfield development on the US Army Joliet Arsenal site, and the Illinois-formed Joliet Arsenal Development Authority contracted a portion of the site out to CenterPoint for redevelopment.

How is the group funded, public sources, private investment, or 3P	Private activity bonds (PABs) ~$225M with $700M future possible issuance capacity Note: PABs, if approved by USDOT, are considered tax-exempt municipal bonds Equity financing from CenterPoint Tax increment financing from the City of Elwood, IL ($150M) for the original BNSF intermodal complex in Elwood Grants from IDOT, USDOT, and Illinois Department of Commerce and Economic Development CenterPoint also used EPA Superfund funding for environmental cleanup as part of developer contract Generates operating revenues through tenant rents among other sources
Market Factors and Trends	

Motivation/business purpose	The rail yards in Chicago were reaching capacity and needed more room. The CenterPoint Intermodal Center provided facilities to consolidate West Coast containers, distributing goods to Midwestern markets or transferring to East Coast facilities. This approach: – Maximizes utilization of private land owned and acquired by CenterPoint – Attracts logistics-oriented businesses and distribution centers to the area – Generates jobs and state revenue
What made the location competitive	The facility is located southwest of Chicago, amidst the largest MSA in the US for intermodal traffic. It has excellent access to east/west and north/south interstate highways and is 40 miles from O'Hare International Airport. Chicago itself is the US Midwestern hub and one of the top markets in the country. The facility's campus-like setting keeps trucks off major roadways as much as possible. This system also reduces drayage costs to Chicago destinations, provides convenient highway access to the nearby Midwest markets, and has direct rail access to Long Beach/Los Angeles, Seattle/Tacoma, and Houston ports.
Anchor tenant/s	The rail intermodal terminals themselves established the baseload through sheer volume of import freight.
Current industry / occupants	There are more than 30 tenants including BNSF, UP, Walmart, XPO Logistics, Sanyo Logistics, Georgia Pacific, Home Depot, ConGlobal, and Lafarge. There are also several major 3PL/Freight

	Forwarders located within the facility such as DSC Logistics and Maersk.
Domestic & foreign trade	The U.S. Foreign Trade Zone is established within the CenterPoint Intermodal Center, which allows for processing of US customs on a weekly basis, versus per entry basis. There is also an Enterprise Zone which facilitates tax exemptions and investment credit for qualifying companies and jobs.
Modal Access	
Modes and ease of access	– BNSF intermodal terminal in Elwood section; UP intermodal terminal in Joliet section – Highway access through I-80 and I-55 – Interline services via the Norfolk Southern Railway and CSX available to East Coast markets and ports

Northeast Georgia Inland Port



The Northeast Georgia Inland Port in Gainesville is a new facility connected to the Port of Savannah via NS overnight rail. It is part of a strategic initiative by Georgia Ports – a State agency that owns and operates the Port of Savannah – to move cargo rapidly inland and relieve pressure on the port itself, which faces space constraints. In addition, it serves a state strategy to build Georgia assets into a national center for trade, manufacturing, and logistics.

Gainesville is at the northeast corner of the Atlanta metroplex, already the manufacturing and distribution hub of the Southeast. Truck traffic from Savannah moves to the southeast corner due to turnaround times (by which trucks can complete a full round trip each day); Gainesville offers an alternative entry point to the notoriously congested Atlanta region. Atlanta has excellent highway connections via I-85, I-75 and I-20, and the Gainesville location also will compete with Greer, SC for industrial traffic in the Piedmont section of the Carolinas.

Location: Gainesville, Georgia	
Port Name: Northeast Georgia Inland Port	
Organization	
Ownership & operators	The Port is owned and operated by Georgia Ports Authority (GPA). The GPA is a State Government Entity created in 1945

	and is governed by 13 Board of Directors appointed by the Governor and confirmed by the Senate. The GPA is also owner/operator of a series of ports and inland ports, including public port and transportation facilities in Savannah and Brunswick, and the Appalachian Regional Port.
How is the group funded, public sources, private investment, or 3P	Like SCPA, the Ports Authority does not receive direct appropriations from the State for capital or operations expenses. Instead, the Port Authority operates like a private business, and funds its operations and investment efforts through its own revenue stream and ability to issue bonds. The Port also receive funds from Norfolk Southern for port expansion projects including the Northeast Georgia Inland Port and has received federal grants as well.
Market Factors and Trends	
Motivation/business purpose	The strategic location will extend reach of the Northeast Georgia Inland Port by over 300 miles into northwest Georgia. The facility is able to stage cargo closer to population centers, save truck miles and operating costs for shippers, and attract new businesses by providing opportunity for economic development.
What made the location competitive	The Port is closer to key clients in manufacturing and logistics while serving the manufacturing and logistics corridor along I-85 in Northeast Georgia and the Carolinas. The Port is connected to the Port of Savannah via overnight rail offered by NS. This connection operates 24x7 will help reduce truck-based traffic along the I-85/Piedmont corridor. The Port reduces transportation costs for manufacturers across the

	region by facilitating rail deliveries that shorten local truck delivery times. The Ports location also reduces empty miles, lowers chassis per diem detention charges, and reduces congestion on Georgia highways.
Anchor tenant/s	Kubota Manufacturing, Auto Metal Direct
Current industry / occupants	ZF Gainesville and Fox Factory
Future industry / occupants	Future customers include Petco Carter's and Wayne Farms
Domestic & foreign trade	The Port's connection to the Port of Savannah facilitates foreign trade.
Modal Access	
Modes and ease of access	From the Northeast Georgia Inland Port there is rail service exclusive to Norfolk Southern with overnight express shuttle service between the Port of Savannah and Northeast Georgia Inland Port. The Port provides direct access to I-985, connecting within 20 miles to I-85.

Port of Tucson

The Port of Tucson is in the Tucson, AZ urban area, situated between the Nogales gateway with Mexico and the large Phoenix metropolitan market, with connections via I-10 to Southern California. The Port utilizes the UPRR to serve Southwestern markets with international intermodal containers from the Los Angeles/Long Beach ports. The Port of Tucson also facilitate partnerships with key major employers like Amazon and Freeport MacMoran. Such partnership supports employment opportunities and economic development for the Port and Tucson area.

Location: Tucson, Arizona	
Port Name: Port of Tucson	
Organization	
Ownership & operators	The Port of Tucson is a family-owned enterprise, with Mike Levin acting as Executive Vice President. The land was purchased in cash from Citibank. Citibank received the property out of bankruptcy.

How is the group funded, public sources, private investment, or 3P	The Port of Tucson generates operating revenues through tenant rents, among other sources. The Port has also received federal grants.
Market Factors and Trends	
Motivation/business purpose	The Port of Tucson is strategic in connecting Southwest markets to the ports of Long Beach and Los Angeles by rail. This positioning saves truck miles and operating costs for shippers, while attracting new businesses and providing opportunity for economic development.
What made the location competitive	This Port is 70 miles north of the U.S. - Mexico border which facilitates cross border traffic and trade. The Port is also 90 miles from the Phoenix metro market which is the growth engine of the Sun Corridor megaregion. The Port is adjacent to the UP mainline and has provided 50k feet of working rail track with intra-plant switching services. The Port is also adjacent to I-10 and I-19 which connect to the U.S.-Mexico border, California, and Texas.
Anchor tenant/s	N/A
Current industry / occupants	Amazon selected the site for an 855,000-square-foot fulfillment center that opened in 2019. Current occupants include Freeport McMoran, Comex, Biagi, Barlow, Philips, and Genco among others.
Domestic & foreign trade	The Port of Tucson does have an active foreign trade zone in addition to a State of Arizona Enterprise Zone.

Modal Access	
Modes and ease of access	Dock level and grade level access to UP mainline Nearby interstate access to I-10 and I-19 Nearby air cargo access to Tucson International Airport, plus the larger Phoenix Sky Harbor International Airport further north

CentrePort Canada

CentrePort Canada is in Winnipeg, Manitoba, the only city in the Canadian prairies with access to three major rail carriers: Canadian Pacific, Canadian National, and BNSF.
The Port is strategically situated to provide access to various local, regional, and international trade corridors. It also has an Inland Port Special Planning Area that can expedite the land development process for companies interested in building projects in the area.

Location: Winnipeg, Manitoba, Canada	
Port Name: CentrePort Canada	
Organization	
Ownership & operators	Owned and operated by CentrePort Canada which was created by provincial legislation and is governed by a Board of Directors, including nominees from 11 nominating organizations and 4 directors-at-large. CentrePort Canada also develops and manages the warehouse, distribution, and manufacturing facilities.

How is the group funded, public sources, private investment, or 3P	CentrePort Canada generates most of its operating revenues through tenant rents. It also received federal and provincial funds for construction of onsite CentrePort Canada Way, a 4-lane roadway.
Market Factors and Trends	
Motivation/business purpose	CentrePort Canada is set up to provide access to air, rail, and truck intermodal transportation to businesses in Manitoba. The Port also facilitates government industrial policy and provides greenfield investment opportunities to attract manufacturing industries (such as advanced manufacturing, biomedical, agribusiness, E-commerce, and energy).
What made the location competitive	CentrePort Canada is in Winnipeg, the only city in the Canadian prairies with access to CP, CN and BNSF railroads. The Port provides strategic access to trade corridors with Western and Eastern Canada ports as well as the Mid-Continent Trade and Transportation Corridor (which are CN and CP rail lines into the US) to ports in Texas and Louisiana, and soon Mexico. Companies that are building projects within the facility will have direct access to the Inland Port Special Planning Area which expedites the planning and land-development approval process. This setup enables the companies to move through the subdivision and rezoning applications concurrently.
Anchor tenant/s	N/A

Current industry / occupants	Current occupants include Boeing, Winpak, Conviron, Paterson GlobalFoods, ASL Distribution, and TransX. Additional occupants include several major 3PL/Freight Forwarders located within facility.
Domestic & foreign trade	The Canada Foreign Trade Zone is established within the Port.
Modal Access	
Modes and ease of access	CentrePort Canada Rail Park has direct access to CP which includes Federal inter-switching access to CN and BNSF. The Onsite CentrePort Canada Way ("5 min to 55mph") provides access to interstate-quality highways on both sides of the facility. The freight terminal of Winnipeg Richardson International Airport is part of CentrePort Canada port.