# Town of Berthoud:
# Economic Impact of a Dedicated Passenger Rail Stop

## EXECUTIVE SUMMARY

Passenger rail in Colorado holds a number of opportunities for Colorado residents, including but not limited to addressing the transportation needs of a growing population, an avenue for economic growth and opportunity, and a means to reduce vehicle traffic congestion. Planning for Colorado's proposed Front Range Passenger Rail (FRPR) system continues in earnest, with stops planned spanning Pueblo to Fort Collins. Current planning, however, excludes some communities along its route, including the Town of Berthoud.

This analysis explores the foregone economic impacts of the Town of Berthoud should FRPR be put into place and Berthoud skipped. We assess the economic impacts with a review of existing literature and through a series of interviews with communities, largely in Colorado, that recently acquired rail stations.

Existing literature and interviews suggest an overarching theme and opportunity posed by rail–the opportunity for placemaking. Placemaking is a term commonly used among architects and urban planners to describe the process of collaboratively planning and creating location-specific environments that are desirable to those living or traveling to the location. Placemaking confers value to the residents, businesses, and tourists in an area, and can elicit stronger economic growth as well as other intangible benefits.

**Economic benefits of rail.** Existing literature suggests several potential economic benefits to a city or town engendered by the presence of a rail station, including:

- increased residential and commercial property values;
- access to higher payer jobs;
- attracting higher income earners to the area;
- stronger foot traffic and business activity for retail and restaurants; and
- one-time employment, income, and business activity gains from construction activity.

The impacts of rail, however, vary widely across regions and depend on a variety of factors. Relatedly, interviews with Colorado city officials suggest that the development of a station alone does not ensure positive economic impacts, but if that station development is complemented with other conditions, positive economic impacts are achievable. Conditions identified by city officials include:

- pre-existing strength in the local economy;
- a local government willing to enact zoning policies that facilitate leveraging the rail infrastructure;
- other land use conditions that facilitate leveraging the rail infrastructure, including ease of development or redevelopment of the station area;
- excess demand for residential or other non-residential space;
- coincident timing of other development in coordination with the rail line;
- availability of land;
- placement of the station near areas of interest or high demand; and
- other public investments of interest to residents and tourists.

In our assessment, Berthoud possesses each of these factors, positioning it to take advantage of the economic benefits of rail.

**Fiscal benefits of rail for the Town of Berthoud.** Our assessment is that the most significant developments that will result from the placemaking opportunities afforded by rail in Berthoud are residential. Rail would likely promote additional population growth and with it, more and higher-density residential development. Based on representative households, each additional household could generate $547 in sales tax revenue to the Town of Berthoud each year. Each additional housing unit valued at $800,000 would contribute $303 to city property tax collections based on 2024 property tax rates. Further, every additional $10,000 in value to existing property contributes an additional $4 to the property tax. On top of these estimates, use tax collections from permit fees will generate additional one-time revenue to the town.

If a station is not put into place in Berthoud, the town will likely experience less economic growth and with it less revenue and diminished opportunities for placemaking. Importantly, these impacts are not one-time impacts, but are instead consequential for Berthoud's long-term economic future.

## INTRODUCTION

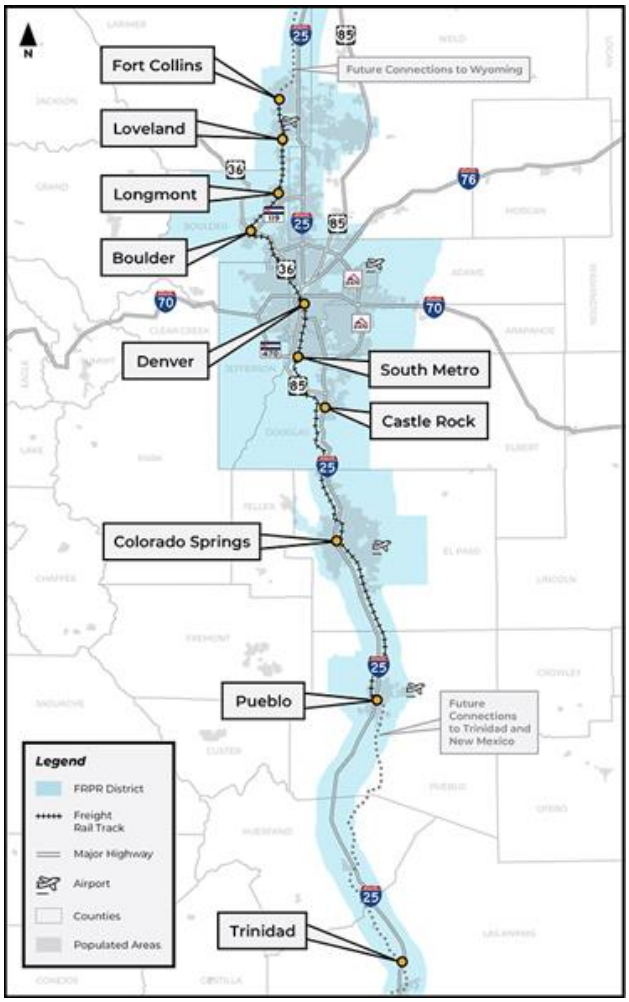
Passenger rail in Colorado has long been considered as a potential solution to the transportation needs of a growing population, an avenue for economic growth and opportunity, and a means to reduce vehicle traffic congestion. In recent years, several state and regional initiatives and the availability of federal funding have brought passenger rail closer to reality. Following prior planning efforts by the Colorado Department of Transportation (CDOT) and regional transportation districts, the Colorado General Assembly created the Front Range Passenger Rail (FRPR) District in 2021 under Senate Bill 21-238[1] with the purpose of planning, financing, constructing, and operating an interconnected passenger rail system along the front range.

The FRPR District rail system is expected to use existing rail lines along the route shown in Figure 1, with proposed station stops indicated in the figure. As planned, the first train would be operational within the next 10 to 15 years. In 2024, the FRPR District continues to evaluate routes, station locations, route schedules, and financing options, and to solicit feedback from stakeholders as a part of this process. FRPR District communications in May 2024 indicate that the board will likely seek to place a measure asking Coloradans to help fund the rail system on the ballot in 2026, once additional plan details are available.

While the proposed passenger rail route runs through the Town of Berthoud, a dedicated stop is not currently planned for the town. Instead, the nearest stops would be located in Loveland to the north and Longmont to the south of Berthoud under proposed plans. This analysis evaluates the economic and fiscal impacts of a foregone dedicated passenger rail stop for the Town of Berthoud.

[1] https://leg.colorado.gov/bills/sb21-238

**Figure 1. Proposed Rail Line and Stop Locations**




Source: FRPR District website: ridethefrontrange.com
Accessed June 18, 2024.

# BERTHOUD AS IT EXISTS TODAY

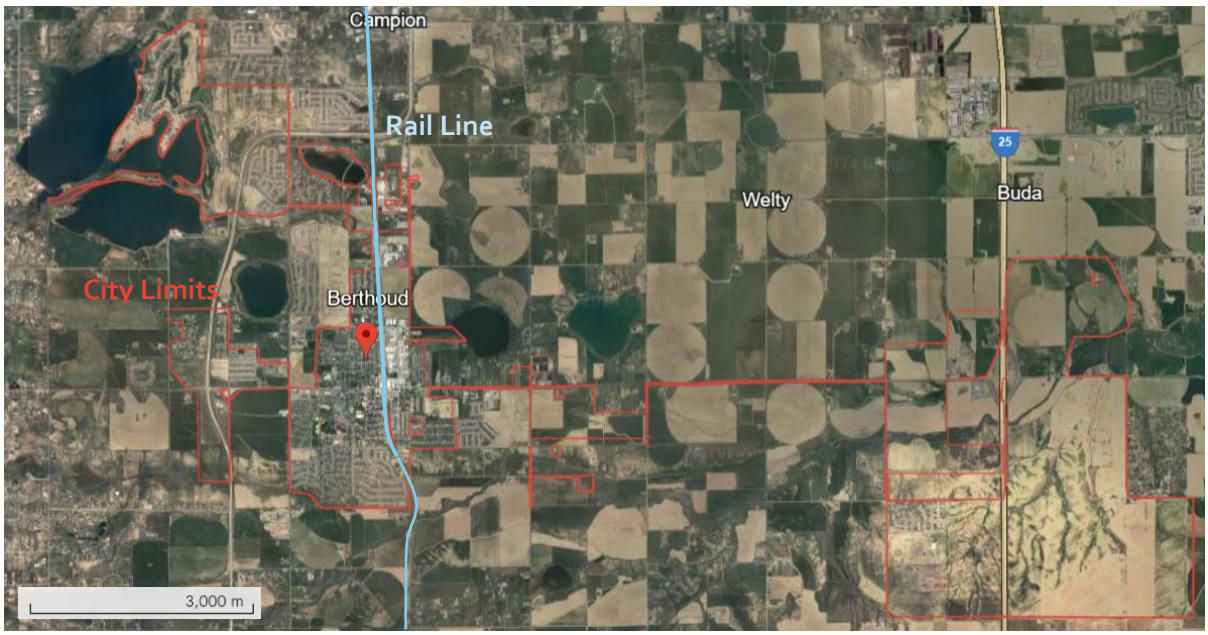
## Population, Housing, Development, and Geography

In 2022, the Town of Berthoud was home to 11,474 residents and 5,266 housing units according to data published by the Colorado State Demography Office. Berthoud has experienced significant growth in recent years, doubling its population and housing stock over the past decade. Berthoud continues to pursue strategically planned development that builds upon the town's existing culture and character and offers attractive new amenities to Berthoud residents as well as residents in neighboring areas, such as the TPC Colorado golf course.[2] Berthoud is surrounded by agricultural and vacant land, offering significant future growth opportunities.

Based on data published by Zillow, home values in Berthoud are higher than the statewide average. As of May 2024, the median home value in Berthoud was about $616,000, relative to a statewide value of about $523,000.[3]

Figure 2 provides an aerial view of Berthoud's town limits (in red) and the proposed FRPR line (in blue). As the figure suggests, the proposed FRPR line runs directly through the Town of Berthoud, including the areas currently most populated by residents. Based on current plans, the nearest cities with planned stops along the FRPR line are Longmont and Loveland. Longmont's city center 11.4 miles south of Berthoud's town center, and Loveland's city center 6.5 miles north.

**Figure 2. Town of Berthoud and Surrounding Area**



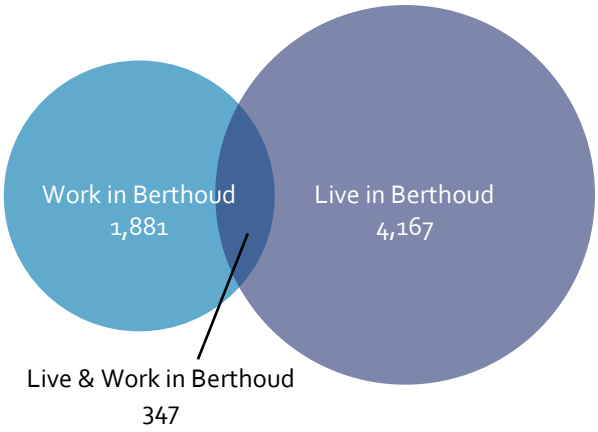

[2] https://tpc.com/colorado/

[3] Zillow Home Values Index (2024). Home values for Berthoud are available at: https://www.zillow.com/home-values/48972/berthoud-co/ Home values for Colorado are available at: https://www.zillow.com/home-values/10/co/

## Existing Commuting Patterns in Berthoud

A majority of Berthoud residents work outside of the town (Figure 3). Census Bureau data for the most recent year available, 2021, show that 7.7% of residents work within the town's limits (Table 1). More than half of working Berthoud residents are employed in cities where the FRPR is slated to have stops, including Fort Collins, Loveland, Longmont, Denver, and Boulder.

**Figure 3. Berthoud Residents vs. Employee Populations, 2021**




Source: U.S. Census Bureau On the Map. Accessed April 17, 2024.

About 15.6% of Berthoud's workforce is sourced from within the town's limits. Those commuting into Berthoud to work reside primarily in metropolitan areas in the northern front range region, with the highest shares from Loveland, Longmont, and Fort Collins, collectively totaling 28% of Berthoud workers. Each of these cities will have stops along the FRPR line according to current proposed plans.

**Table 1. Commuting Patterns in Berthoud, 2021**

| Where Berthoud Residents Work | Count | Share |
|---|---|---|
| Longmont, CO | 609 | 13.5% |
| Fort Collins, CO | 451 | 10.0% |
| Loveland, CO | 439 | 9.7% |
| Boulder, CO | 409 | 9.1% |
| Berthoud, CO | 347 | 7.7% |
| Denver, CO | 277 | 6.1% |
| Greeley, CO | 113 | 2.5% |
| Aurora, CO | 108 | 2.4% |
| Johnstown, CO | 88 | 1.9% |
| Colorado Springs, CO | 79 | 1.8% |
| All Other Locations | 1,594 | 35.3% |
| Total | 4,514 | 100.0% |

| Where Berthoud Workers Live | Count | Share |
|---|---|---|
| Berthoud, CO | 347 | 15.6% |
| Loveland, CO | 333 | 14.9% |
| Longmont, CO | 160 | 7.2% |
| Fort Collins, CO | 132 | 5.9% |
| Greeley, CO | 104 | 4.7% |
| Johnstown, CO | 92 | 4.1% |
| Windsor, CO | 57 | 2.6% |
| Denver, CO | 43 | 1.9% |
| Aurora, CO | 33 | 1.5% |
| Frederick, CO | 29 | 1.3% |
| All Other Locations | 898 | 40.3% |
| Total | 2,228 | 100.0% |

Source: U.S. Census Bureau On the Map. Accessed April 17, 2024.

## APPROACH TO ANALYSIS

The intention of this analysis is to assess the foregone economic and fiscal opportunity should the FRPR exclude a rail stop in Berthoud. Foregone economic opportunity is difficult to measure as it is hard to quantify something that did not happen. Our approach to this challenge is to assess the economic impact of recent rail projects that did happen and extrapolate from the findings the foregone opportunity potentially facing Berthoud.
We assess the economic impacts with two approaches: (1) a review of the literature, academic and grey (information produced outside of traditional publishing), to identify the impacts of rail elsewhere in the U.S. and in limited cases throughout the world; and (2) through a series of interviews with communities, largely in Colorado, that recently had rail access come to the city. Since, to date, Colorado has only developed light rail and limited commuter rail in the Denver metropolitan region, we extended the interviews to the Salt Lake City, Utah FrontRunner passenger rail experience. The following Colorado cities were interviewed for this analysis:

- Arvada
- Wheat Ridge
- Littleton
- Lakewood
- Westminster
- Golden

The explicit responses from the interviews with cities and regions are not reported verbatim in this report. However, they form the basis for the takeaways and conclusions reported below and in many instances are incorporated into the findings to lend support to the analysis. The findings also benefited from first person interactions with officials in Berthoud. Throughout the project, we conducted interviews with staff from the Town of Berthoud as well as participated in a site visit in Berthoud. The purpose of these interactions with the Town was to identify possible differences in planning and development attributable to the presence of a rail station relative to planning and development without a station.

While most often economic impact refers to the quantitative measure of economic or fiscal activity, many of the impacts reported in the literature or by the interviewees are not directly amenable to explicit quantitative modeling. For this reason, we present both quantitative and more qualitative findings, all of which can be summarized under the global opportunity provided by rail–placemaking.

The following sections detail the specific findings regarding potential foregone economic impact.

## PLACEMAKING: THE OPPORTUNITY OF RAIL

Both the interviews and the findings from the literature suggest that the most universal opportunity provided by rail is placemaking. Placemaking is a term commonly used among architects and urban planners to describe the process of collaboratively planning and creating location-specific environments that are desirable to those living or traveling to the location. Placemaking confers different opportunities in different locations, but the evidence suggests that the lost opportunity for the placemaking provided by rail can result in missing out on the following positive direct economic impacts:

- The economic and fiscal stimulus provided by the one-time construction impacts associated with a rail station and associated development.
- Increases in commercial and residential property values.
- Opportunities to more easily accommodate higher density housing.
- Opportunities to attract higher levels and more diversity in primary employment.
- Greater access to employees and talent.
- Increased access to larger labor markets and higher paying jobs for the residents of the community.

Positive secondary economic impacts, include:

- Increased economic activity in non-primary industries, such as retail and leisure and hospitality.
- Stronger population growth.
- Potential for higher household incomes resulting from greater access to labor markets which then translates into higher levels of local spending and consumption activity.
- Greater levels of travel to the area.
- Positive fiscal impacts, particularly to the sales/use and property tax revenue collections but secondarily to other fiscal streams such as permitting and other local fees.

While placemaking is a general overall benefit of rail, as a concept it lacks the specificity of discrete analytical findings. The following sections explore more deeply the specific quantitative and qualitative opportunities conveyed by access to rail.

## QUANTITATIVE ANALYSIS

The following summarizes existing literature analyzing the impact of rail stations on economic activity in surrounding areas. Taken as a whole, this body of literature suggests several potential economic benefits from the presence of rail station, including increased residential and commercial property values, access to higher payer jobs, increased local employment, attracting higher income earners to an area, stronger foot traffic and business activity for retail and restaurants, and one-time employment, income, and business activity gains from construction activity. The literature exploring each of these avenues is summarized in greater detail below.

### Property Value Impacts of Rail

Hundreds of studies exist exploring the impact of proximity to rail stations on property values across locations in the U.S. and beyond. The impacts range widely across studies, from negative to no impacts, to strong positive impacts. The positive property value impacts attributable to rail are commonly called "uplift" or a "premium".

**Residential home value impacts.** The home value uplift and premium impacts identified in the existing empirical literature vary widely across locations and studies. While some studies suggest negative or no premium associated with a transit station, a majority of studies indicate some level of positive uplift.[4] A 2016 meta-analysis[5] of 114 studies assessing the impact of rail station proximity on residential home values found an average single-family home premium of 2.3%.

[4] Rennert, Lindiwe (2022). "A meta-analysis of the impact of rail stations on property values: Applying a transit planning lens." *Transportation Research, Part A* 163: 165-180.
[5] Hamidi, S., Kittrell, K., & Ewing, R. (2016). "Value of Transit as Reflected in U.S. Single-Family Home Premiums: A Meta-Analysis." *Transportation Research Record* 2543(1): 108-115. Available at: https://doi.org/10.3141/2543-12

The 2016 meta-analysis identified the importance of housing density in maximizing premium gains, suggesting that multi-family housing may experience greater premiums and also afford a higher number of housing units. Indeed, studies estimating single-family and multifamily premiums separately suggest higher premiums for multi-family housing. For example, a study of North Carolina neighborhoods with light rail stations found 4.0% higher single-family property values and 11.3% higher condominium values for properties sold within 1 mile of a station relative to neighborhoods where a station was announced but not placed.[6]

**Commercial real estate impacts.** A majority of the existing literature examines the impact of rail on residential real estate, with relatively few studies exploring its impact on commercial real estate. Among those that exist, results differ widely from city to city, similar to the variation for residential real estate.[7] For example, among studies of the impact of rail proximity on U.S. commercial real estate:

- Properties in Santa Clara, California experienced an increased capitalization rate of 23% for land near a light rail stop and 120% for land within a business district and within 0.25 miles of a commuter rail stop.[8]
- In Phoenix, Arizona, light rail stations were found to increase commercial property values by up to 1.8 times.[9]
- Commercial property near light rail stations in Charlotte, North Carolina did not see a measurable impact.[6]
- A meta-analysis conducted in 2007 identified an average commercial property value premium of 16.4%.[10]

**Area of impact: Proximity to a station.** Most studies suggest that uplift is limited to within about a mile of a rail stop.[4] While many studies suggest that closer proximity produces higher premiums, variation exists across studies. For example, a 2003 analysis from the St. Louis Federal Reserve Bank[11] reported a range of findings, with some rail infrastructure resulting in property value increases that declined with distance from the station to other circumstances where value increases were not detected. Specifically:

- A Portland, Oregon study found that residential values increased $75 for every 100 feet closer the home is to a light rail station.
- The average price of a home in New York was found to decline by $2,300 for every 100 feet further from a station.
- Another Portland, Oregon study found that home prices increased in the proximity of light rail but the effect was only significant within 1,500 feet of the station.
- In California, a typical home in San Diego sold for $272 more for every 100 meters closer to a station, while distance to a station had no effect in Sacramento.

Some studies identify a 'nuisance' effect, where property values–typically within 250 meters of the station–may be lower. Nuisances contributing to lower values may include noise, parking congestion, higher population levels, 'loiterers', and the perception or incidence of increased crime.[4,6]

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[6] Billings, Stephen B. (2011). "Estimating the value of a new transit option." *Regional Science and Urban Economics* 41(6): 525-536. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0166046211000500

[7] Berawi, Mohammed Ali, Perdana Miraj, Gunawan Saroji and Mustika Sari. 2020. "Impact of rail transit station proximity to commercial property prices: utilizing big data in urban real estate." *Journal of Big Data* 7 (71): 1-17.

[8] Cervero, R, and M. Duncan (2002). "Transit's value-added effects: Light and commuter rail services and commercial land values." *Transp Res Rec.* 1805 (1): 8-15.

[9] Seo K, Salon D, Kuby M, and Golub A. (2019). "Hedonic modeling of commercial property values: distance decay from the links and nodes of rail and highway infrastructure." *Transportation (Amst)* 46: 859–82.

[10] Debrezion, G., Pels, E. & Rietveld, P. (2007) "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-analysis." *J Real Estate Finan Econ* 35: 161-180. Available at: https://doi.org/10.1007/s11146-007-9032-z

[11] "Light Rail Transit: Myths and Realities." St Louis Federal Reserve Bank. December 31, 2003. Available at: https://www.stlouisfed.org/publications/bridges/winter-20032004/lightrail-transit-myths-and-realities

**Factors contributing to variation in impact estimates.** The literature identifies several factors that may explain variation in uplift across studies, including the type of property analyzed (residential or commercial, single-family and/or multifamily) and whether property sales prices or rental prices are analyzed. Methodological factors also contribute to variation among studies, including differences in the source of data used, the proximity measure used (e.g., radius, linear distance, walking time), and modeling methods (e.g., hedonic pricing, repeat sales approach, difference-in-difference approach).

Additionally, meta-analyses suggest several contextual factors that may influence the extent to which the presence of a rail stop impacts property values. Factors identified in the literature include the location of the stop, point in time when the stop was put into place, its maturity, and when impacts were measured, and relatedly, development stage of the area, the housing market, and land use.[4,12] More specific contextual factors include:

- The presence of other transportation accessibility options. Specifically, when other accessibility modes are available, rail stations generally have a lower impact on property value.[10]
- Socioeconomic status of the neighborhood. Studies show mixed findings, where some found higher income neighborhoods had higher premiums, while others found lower premiums in higher income neighborhoods.[4]
- Comfort and familiarity with transit among local residents and travelers.[4]
- The pedestrian environment, including the quality of the journey, which can be influenced by amenities such as tree canopy, high visibility crosswalks, small-scale commercial offerings, and proper lighting at night.[4,8,12]
- Type of rail, where commuter rail tends to see higher premiums than light rail or metro services.[8,12,13]
- Land use diversity, where greater diversity is associated with a higher property value premium.[12] Specifically, mixed residential and commercial land use that includes activity opportunities (e.g., stores, restaurants, etc.) is found to have stronger residential property value premiums.[14]
- The presence of a Park-and-Ride facility. One study of Los Angeles, California found that the residential land value premium is discounted when a Park-and-Ride is present.[12]

**Potential property value impacts for Berthoud.** As the existing literature suggests that property value impacts are generally limited to 1 mile from a station, we identify a 1-mile radius from two potential rail station locations (sites A and B) in Figure 4. The areas surrounding both site locations are largely residential, though some commercial use and mixed use is present.[15] Notably, a sizable portion of planned mixed-use development and redevelopment, the 1st Street Corridor, falls within a 1-mile radius of each potential stop location.[16] This development offers a placemaking opportunity to maximize amenities for residents and area businesses, which may contribute to higher property values and business activity.

Based on the existing literature, residential and commercial real estate within the 1-mile radius may experience positive uplift. However, given significant variation among studies and Berthoud's unique location, attributes,

[12] Zhong, Haotian, and Wei Li. 2016. "Rail transit investment and property values: An old tale retold." *Transp. Policy* 51: 33-48. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0967070X16302402

[13] Landis, J., Guhathakurta, S., Zhang, M., 1994. Capitalization of transit investments into single-family home prices: A comparative analysis of five California rail transit systems.

[14] Choi, Kwangyal, Han John Park, and Francisco Alaniz Uribe. 2023. "The impact of light rail transit station area development on residential property values in Calgary, Canada: Focus on land use diversity and activity opportunities." Case Studies on Transport Policy 12. Article 100924. Available at: https://www.sciencedirect.com/science/article/abs/pii/S2213624X22002139

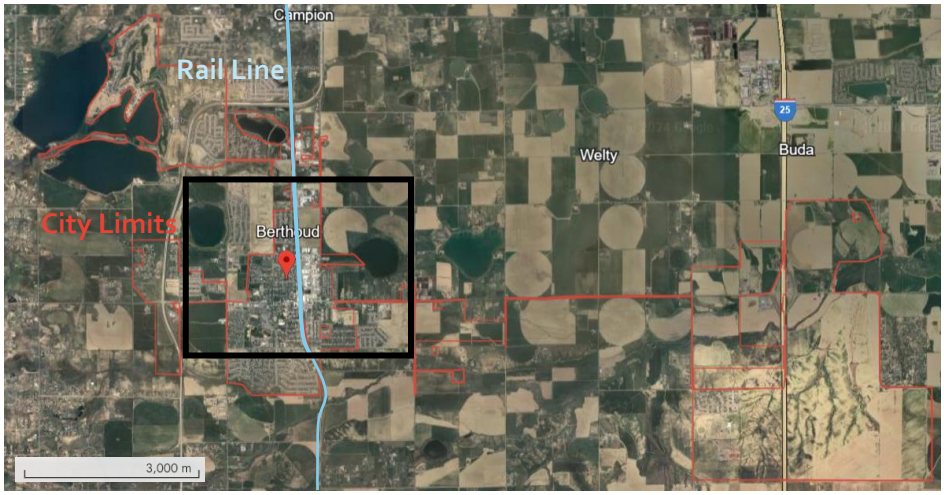
[15] An interactive map of Berthoud zoning is available at: https://berthoudpubworks.maps.arcgis.com/apps/instant/basic/index.html?appid=a1bbb10886f14e5287743c88026b1ca2

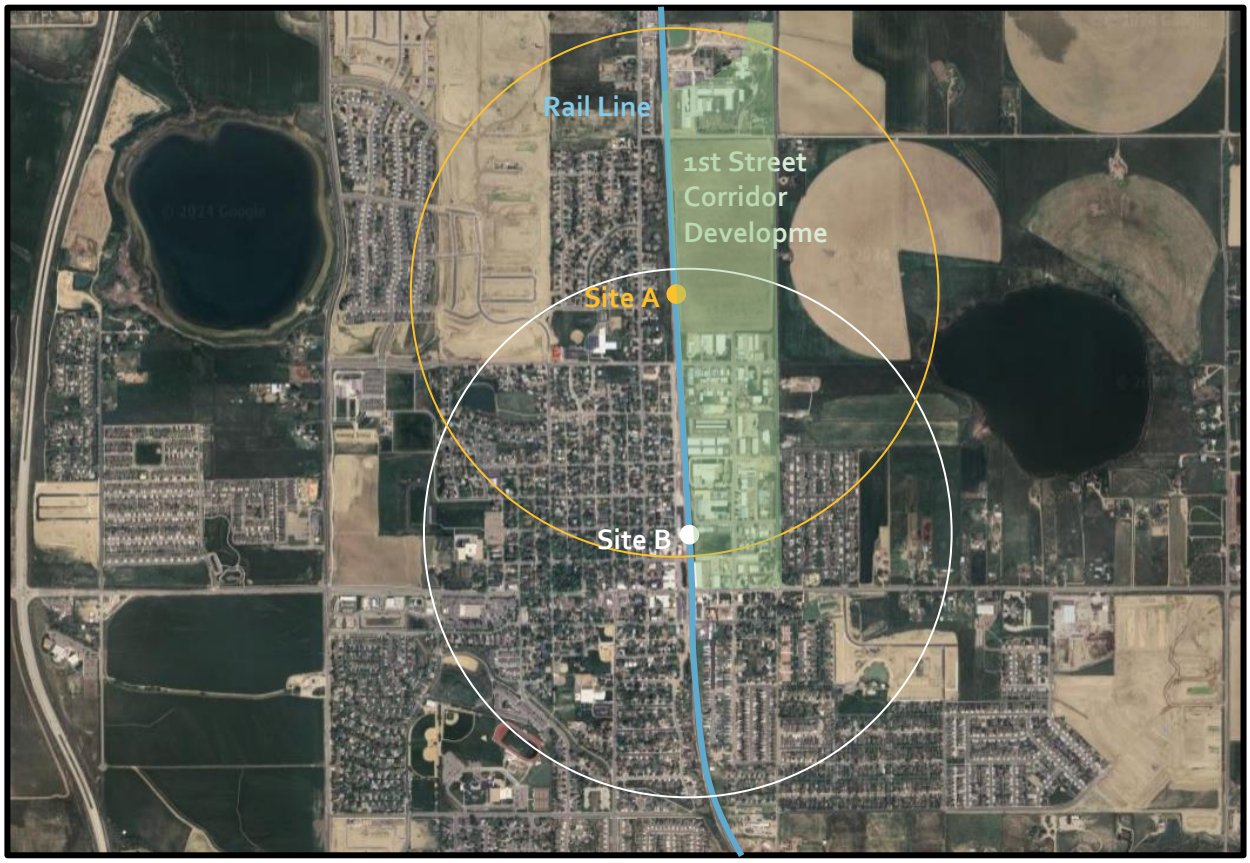
[16] Additional information about the 1st Street Corridor is available at: https://www.berthoud.org/DocumentCenter/View/4582/1st-Street-Overlay-District-Plan?bidId=

and place in time, this analysis does not assume a specific property value premium associated with the presence of a rail stop.

Based on interviews with Berthoud staff, we expect higher-density housing in new developments near a Berthoud rail stop. Higher density housing may contribute to higher property values per square foot within the 1-mile radius identified in Figure 4. To the extent that a rail station property value premiums also occur in Berthoud, higher density housing may compound these impacts.

**Figure 4. Potential Rail Stop Locations and Impacted Areas (1-mile Radius)**



## Employment, Income & Business Activity Impacts of Rail

**Employment impacts near stations.** In a 2017 study perhaps most relevant for the Berthoud experience because it studies longer-distance commuter rather than light rail, Nelson[17] assesses the economic impact around rail stops along five commuter and passenger rail systems in different regions of the U.S. The study defines economic impact solely in the context of employment and measures the extent to which the station areas received a larger share of job changes than elsewhere in the region. All differences from the regional experience were attributed to the impact of rail. The research assesses employment around stations along the following five rail systems:

- Tri-rail - Miami to West Palm Beach, Florida
- Rail Runner - Albuquerque to Santa Fe, New Mexico
- FrontRunner - Ogden to Salt Lake City, Utah
- Coaster - Serving metro San Diego, California
- Sounder - Tacoma to Seattle, Washington

The results were mixed. The main finding was that for all systems combined, within 0.5 miles of the station the net change in jobs was negative. However, the change in certain sectors, such as office and health care, was positive. This mixed finding is likely due to a change in the industrial mix of employment before and after the station was created and not because the station was a deterrent to employment. Notably, the one exception was the FrontRunner in Utah for which the share of jobs increased for all sectors. Arguably, the FrontRunner is the system and in the region most similar to the Front Range Passenger Rail in Colorado.

**Employment impacts from station construction and rail maintenance.** Several economic impact analyses have been conducted on passenger rail in the U.S., finding positive economic impacts from the construction and maintenance of rail.[18] These studies demonstrate and estimate the income and employment impacts of one-time rail station construction, much of which is proximate to the area surrounding the construction site and is proportional to the station development. Ongoing economic activity attributable to rail maintenance and operation, however, may not be proximate to the location of a station.

**Access to higher paying jobs.** A 2018 study[19] of employment impacts in Charlotte, North Carolina showed no significant relative increase in the level of employment in neighborhoods near rail stations. However, the study did find that the line connected neighborhoods to areas with significantly higher shares of high-wage workers and industries. Findings are mixed for the equity impacts across low- and high-wage workers, with some studies showing benefits primarily to higher wage workers. A study[20] of the Twin Cities region in Minnesota suggest gains to low-wage workers as well.

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[17] *Commuter Rail Transit and Economic Development.* November, 2017. Arthur C. Nelson. Available at https://ppms.trec.pdx.edu/media/project_files/Commuter_Rail_Transit_and_Economic_Development_xeRs4uw.pdf

[18] Examples include: AECOM (2014). "Amtrak's Economic Contribution." Available at: https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/nationalfactsheet
Zumwalt, J.A. (2019). "Impacts from a Second Train to Minnesota." Rail Passengers Association Research Note. Available at: https://www.allaboardmn.org/site/assets/files/1144/economic_and_other_benefits_of_2nd_train_twin_cities_-_chicago.pdf
s/Amtrak-Economic-Contribution-Brochure-083016.pdf

[19] Canales, Kristine Laura, Isabelle Nilsson, Elizabeth Delmelle (2018). "Do light rail transit investments increase employment opportunities? The case of Charlotte, North Carolina." *Regional Science Policy & Practice* 11(1): 189-203. Available at: https://www.sciencedirect.com/science/article/pii/S1757780223003451

[20] Fan, Yingling, Andrew Guthrie, and David Levinson (2012). "Impact of light-rail implementation on labor market accessibility: A transportation equity perspective." *Journal of Transport and Land Use*, 5(3), 28–39. http://www.jstor.org/stable/26201699

**Attracting higher income earners.** Studies suggest that the presence of a rail station can attract higher income earners to the area. For example, a 2018 study[21] of Denver's light rail network finds that the presence of a light rail station is associated with higher household income and housing values in neighborhoods up to a mile from the station. A 2019 study[22] found that Los Angeles rail station neighborhoods saw a sizable decline in the share of low-income households and an increase in the share of middle- to upper-middle income households from 1994 to 2012.

**Impacts on business activity.** Studies suggest that business activity, particularly for restaurants and retail establishments, may improve from rail access through increased foot traffic attributable to a rail station. For example, a recent study[23] conducted in-depth interviews with small business owners in proximity to new transit stations in Phoenix, Arizona, Seattle, Washington, and Charlotte, North Carolina identify positive business contributions from increased foot traffic and access to customers. These interviews also identify challenges raised by the presence of a transit stop, including perceptions of an increased homeless population around stations, higher rents, and greater vehicle traffic.

## Fiscal Impacts of Rail

The economic impacts detailed above will translate into fiscal impacts for the Town of Berthoud. Municipalities in Colorado are generally most reliant on sales tax and secondarily on property taxes and other fees, some related to development. This section more deeply explores the expected sales and property tax impacts of passenger rail.

Our assessment is that the most significant developments that will result from the placemaking opportunities afforded by rail in Berthoud are residential. Given that a stop in Berthoud would be an intermediate stop between the major employment centers of Fort Collins, Boulder, and Denver, we expect that the Berthoud stop will most likely catalyze additional housing to support workers accessing those larger labor markets. To the extent that a rail stop induces non-residential development, we expect that a significant portion would be local service type development, including restaurants, retail, personal services, and secondarily office and other employment centers.

Additional residential and local service type non-residential development will boost both sales and property tax revenue for the Town of Berthoud. First, to the extent that the rail opens up a wider radius to workers seeking employment, it is reasonable to expect that this access to broader employment markets will translate into an increase in household income. Data show that households spend the majority of their service and retail related dollars close to home. This will result in increased sales tax revenue from restaurants and retail. The second effect is to the property tax: each new residence and any new business developments will contribute to local property tax collections for Berthoud. The exact magnitude of tax revenue increases is difficult to forecast, as the number of new housing units that would be developed if a stop is put into place is unknown, and household income impacts will depend on a number of factors. However, the following examples are illustrative of the potential magnitude of tax revenue increases:

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[21] Bardaka, Eleni, Michael S. Delgado, Raymond J.G.M. Florax (2018). "Causal identification of transit-induced gentrification and spatial spillover effects: The case of the Denver light rail." *Journal of Transport Geography*, 71: 15-31. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0966692318301820

[22] Boarnet, Marlon G., Evgeny Burinskiy, Raphael Bostic, Seva Rodnyansky, and Allen Prohofsky (2019). "Effect of New Rail Transit Stations on Income Distribution of Nearby Residential Moves." National Center for Sustainable Transportation Policy Brief. Available at: https://escholarship.org/content/qt2hv4hor8/qt2hv4hor8.pdf

[23] Sukaryavichute, Elina, Elizabeth Delmelle, Colleen Hammelman (2021). "Opportunities and challenges for small businesses in new transit neighborhoods: Understanding impacts through in-depth interviews." *Regional Science Policy & Practice* 13(3): 1025-1042. Available at: https://www.sciencedirect.com/science/article/pii/S1757780223000793

***Illustrative example 1: Consumption activity and sales tax per household.*** The 2021-2022 Consumer Expenditure Survey from the U.S. Bureau of Labor Statistics (the most recent data available) reports on spending activity for the Denver Metropolitan Statistical Area (the closest available geography to Berthoud).[24] The reference household is one with income of $115,112, a household size of 2.5 with 1.4 earners and 1.8 vehicles. That reference household dedicates just over 32 percent of its annual expenditures and almost 24 percent of its income to spending on food and other personal services, a significant amount of which are likely to be purchased locally. This translates into approximately $27,300 in annual spending. If only half of that were spent in Berthoud, each additional household, on average, would contribute approximately $13,675 in spending to the local economy. Since most of the spending would be subject to Berthoud's 4.0% sales tax, that half would contribute just under $547 per household to the city's sales tax collections from each new residential unit.

To put the household sales tax in context, the Town of Berthoud reported 3,262 residential building permits between 2015 and 2023.[25] If each of these permits resulted in additional household spending, on average, at the rate outlined above, the additional annual sales tax revenue to the Town would be in the range of $1.75 million. There is every reason to expect rail could catalyze residential development over a later ten-year period that is greater than the previous rate, thus resulting in larger annual tax collections. And, during the development phase, each of these residences will generate one-time permitting and use tax revenues for the Town.

***Illustrative example 2: Sales tax collections from remote sales.*** In 2018, the U.S. Supreme Court ruled, in *South Dakota v. Wayfair*, that physical presence was no longer a requirement for compelling a retailer to collect and remit sales tax on remote purchases. This led to increased enforcement of tax codes by state and local governments. Two years later, the COVID-19 pandemic accelerated the shift to on-line shopping, a shift that has not reversed but instead is accelerating. As a result, every residential rooftop can now be considered a "mini revenue center" resulting in sales tax collections by place of residence rather than place of sale.

The City of Arvada shared that in the wake of the Wayfair ruling and the pandemic, remote sales are now the third largest sales tax category and the fourth fastest growing, outpacing the increases in the growth rate of taxable purchases at brick-and-mortar establishments by just under 2 to 1. In 2023, the remote sales category was responsible for between $180 and $190 per household in sales tax collections in Arvada. In a town like Berthoud, with a smaller retail base than Arvada, the impact of remote sales could be even more significant, and each additional residential rooftop will contribute. *Note that these collections are a subset of, not an addition to, the total taxable sales described in illustrative example 1.*

***Illustrative example 3: Property tax impacts to existing and new residential development.*** Clear among the placemaking opportunities afforded by rail is the opportunity for Berthoud to increase residential development activity. In addition, while the literature is not unanimous, there is ample evidence that proximity to rail increases property values for existing residences. While the property tax is not the workhorse for local public finance for municipalities in Colorado, it also is not insignificant as the following illustrative examples demonstrate:

- Under Berthoud's 2024 mill levy rate and the 2024 residential assessment rate incorporating the $55,000 exemption, each new residence in Berthoud valued at $800,000 contributes $303 to city property tax collections.[26] This is just over half of the estimate for sales collections impacts outlined in example #1.

[24] https://www.bls.gov/cex/tables/geographic/mean.htm
[25] Permitting data were supplied to the consultants by staff of the Town of Berthoud.
[26] Amounts are based on the property tax structure under current law for 2024, including a local mill levy rate of 6.072 mills and 6.7% residential assessment rate. Amounts for future years will vary based on changes to the residential assessment rate under current law and any future changes to state or local property tax rates.

- Every additional $10,000 in value to existing property contributes an additional $4 to the property tax, again at 2024 mills and residential assessment rates.

While the exact quantitative impacts to Berthoud from rail, and thus the potential lost economic opportunity should Berthoud be skipped, are unique to the particular circumstances of the town, this section illustrates the magnitude of what might be expected, both to the broader economy and to the revenue position of the Town of Berthoud. However, often quantitative impacts do not tell the full story. The section that follows expands the analysis to many of the impacts that are real but harder to quantify. We consider these qualitative findings to be equally important and to provide context beyond what the illustrative numbers offer.

## QUALITATIVE ANALYSIS

A general theme of the academic literature as well as the local interviews was that rail access can be considered necessary but not sufficient for positive economic development. That is, the development of a station alone does not ensure economic impacts, but if that station development is complemented with other conditions, positive economic impacts may arise. The conditions cited in interviews with contacts from Colorado municipalities with rail stations are listed below. In our assessment, all of these conditions are currently met by Berthoud, positioning the town well for a maximal economic impact from a rail station.

- Pre-existing strength in the local economy.
- A local government that is willing to enact zoning policies that facilitate leveraging the rail infrastructure.
- Other land use conditions that facilitate leveraging the rail infrastructure, including ease of development or redevelopment of the station area.
- Excess demand for residential or other non-residential space.
- Coincident timing of other development in coordination with the rail line.
- Availability of land.
- Placement of the station near areas of interest or high demand.
- Other public investments of interest to residents, businesses, and tourists.

Many of these conditions form the basis for the following qualitative findings. While these findings are less amenable to quantification in the context of this inquiry, they nonetheless are important factors contributing to economic impacts of a rail station. In addition, they are strongly aligned with the themes we heard in our one-on-one interviews with cities along the light rail lines in the Denver metropolitan area.

**Finding 1. A rail station can catalyze other development.** As noted above, most literature and all the respondents from the interviews stressed that the station in and of itself is not sufficient for economic benefits, but combined with other investments and conditions can result in economic benefit. There is the opportunity for a symbiotic relationship between rail and other community assets that together provide opportunities for economic impacts. Arvada, Wheat Ridge, and Golden all reported housing developments that resulted from access to rail. Arvada further reported a hotel development in close proximity to the Olde Town rail station. Berthoud is well poised for similar, if not more station area development.

**Finding 2. Capturing the full potential of a rail investment requires that the host city ensure that zoning, land use, and development is consistent with the goals of the transit-oriented development (TOD).** This is an opportunity for Berthoud in particular for the following reasons:

- The town is willing to zone land to best take advantage of the rail station.

- The town owns some of the land adjacent to the locations of a potential rail stop, allowing the town to streamline and determine land use.
- Other adjacent land currently is undeveloped, facilitating the station area planning and development.

**Finding 3. Transit offers access to higher-income jobs or may attract higher-income earners to locations with a rail station.** Our assessment is that one of the largest economic benefits to Berthoud from passenger rail is access to larger employment markets for Berthoud residents, resulting in higher household income and spending potential. The position of Berthoud along a regional rail line that connects employment centers to potential workers makes this a significant opportunity for a largely residential community such as Berthoud. Further, empirical evidence suggests that rail stations attract higher-income earners to the area. As the illustrative examples 1 and 2 above demonstrate, this has the potential to be an economically and fiscally powerful engine for Berthoud.

**Finding 4. Planning benefits may extend beyond economic benefits.** For economists, an economic benefit results only if there is a net increase in activity. Simply rearranging development toward a station area will not result in an economic benefit if it transfers the activity from elsewhere in the city. Planners recognize benefits even without a net economic increase if the station development supports larger planning visions or goals. In Berthoud, any economic benefits will be augmented with non-economic benefits if the infrastructure supports larger community planning goals.

**Finding 5. There is near unanimous consensus that the construction phase of putting a rail station into place brings economic and fiscal benefits.** However, Berthoud should recognize the limitations of these benefits. By the nature of one-time development, they are temporary and in the case of a small town like Berthoud, the economic benefits might leak to neighboring communities if workers do not live and spend in Berthoud.

**Finding 6. Decreases in transportation costs facilitated by rail modifies the spatial distribution of economic activity over the medium to long-term.**[27] If Berthoud is "left out" without station access it is precluded from participation in the longer-term transformations of economic distribution that likely will result from the rail investment.

**Finding 7. Strong rail ridership isn't needed to experience economic gains from rail.** Interviews with Colorado city officials suggest that economic gains are possible regardless of whether or not residents utilize rail. Economic activity from station and related infrastructure development boosts economic gains. Additionally, the option of ridership presents a value added to businesses and residents in the area. While many commuters use the Colorado rail systems for the morning and evening commutes to work, interviewees reported that ridership has been underwhelming—with the COVID pandemic contributing to lower levels of ridership. Ridership is highest for major sporting and other events in downtown Denver when traffic congestion and parking fees are higher than usual.

## CONCLUSION

Drawing from quantitative and qualitative findings in other cities, this analysis explores the potential foregone economic and fiscal opportunities of the Town of Berthoud should the FRPR system be put into place and exclude a rail stop in Berthoud. Existing studies report a wide range of possible economic impacts resulting from

[27] Blanquart, Corinne, and Martin Koning (2017). "The local economic impacts of high-speed railways: theories and facts." *Eur. Transp. Res. Rev.* 9: 12. Available at: https://link.springer.com/content/pdf/10.1007/s12544-017-0233-0.pdf

the presence and proximity to a rail station. Most studies cite positive impacts, including positive residential and commercial home value premiums, access to higher-paying jobs among residents living near a station, increased foot traffic for retail and restaurant establishments, and employment and business activity attributable to one-time construction activity of the rail station itself.

The existing body of literature also suggests that achieving positive impacts from rail depends on several factors, including land use, development, and amenities surrounding a rail station. Interviews with city officials in Colorado municipalities with light rail and commuter rail stations echo the importance of these factors in promoting economic activity and add additional contextual factors contributing to economic benefits from rail. Berthoud possesses each of these key attributes, listed below, and is therefore well positioned to benefit from a rail station.

1) **Pre-existing strength in the local economy.** The Town of Berthoud's economy continues to grow at a rapid pace, with strong population growth and housing development boosting demand for new and expanded business activity.
2) **A local government that is willing to enact zoning policies that facilitate leveraging the rail infrastructure.** Town officials and staff have demonstrated an interest in maximizing emerging opportunities for Berthoud through recent development and redevelopment opportunities. Additionally, the zoning for the proposed 1st Street Corridor development offers an opportunity for transit-oriented development.
3) **Other land use conditions that facilitate leveraging the rail infrastructure, including ease of development or redevelopment of the station area.** The Town of Berthoud owns a portion of the land surrounding possible station development sites, enabling greater ease with redevelopment.
4) **Excess demand for residential or other non-residential space.** Berthoud is a high-growth area, supporting the growing economy of the northern front range—one of the fastest growing regions in Colorado. Berthoud's population and housing stock doubled over the past year with additional development planned, supported by high demand.
5) **Coincident timing of other development in coordination with the rail line.** A significant portion of the land is already planned for mixed use development—the 1st Street Corridor.
6) **Availability of land.** As noted above, the 1st Street Corridor development offers tens of acres of land immediately surrounding potential rail station sites.
7) **Placement of the station near areas of interest or high demand.** Potential station sites in Berthoud are within short walking distance of several restaurants and retail establishments and a significant portion of the Town's residential population. Additionally, proposed mixed-use development offers additional leisure and hospitality and retail options, and demand from additional residential development.
8) **Other public investments of interest to residents, businesses, and tourists.** The Town of Berthoud has recently invested in several amenities that enhance the experience of Berthoud residents, businesses, and visitors. Examples include recent development of the state-of-the-art Berthoud Recreation Center at Waggener Farm Park,[28] and investment in the Town's parks, open space, and trail system.[29] Additionally, the Town is home to the TPC golf course, an 18-hole championship golf course with picturesque views of the Rocky Mountains.

[28] For more information about the Berthoud Recreation Center at Waggener Farm Park, see: https://www.berthoud.org/244/Memberships-Admission

[29] For more information, see the Town's parks, open space, recreation, and trails plans: https://www.berthoud.org/266/Parks-Open-Space-Recreation-Trails

Given Berthoud's positioning and the economic opportunities rail stations engender, skipping Berthoud likely will restrain the town's economic growth and will diminish its development and placemaking opportunities.


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