The Economic and Fiscal Benefits of Development in the Jefferson Parkway Area

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JEFFERSON COUNTY
ECONOMIC DEVELOPMENT CORPORATION

Jefferson Parkway
Connecting Metro Denver

Prepared By:

Development Research Partners

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The Jefferson Parkway is the last 10-mile segment of roadway needed to complete the beltway encompassing the Denver metropolitan area, currently consisting of E-470, C-470, and the Northwest Parkway. Completion of the beltway is expected to influence residential and nonresidential development along the Jefferson Parkway as regional access improves. While it is expected that development will eventually occur with or without the completion of the Jefferson Parkway, the parkway will impact development patterns, especially related to the timing and types of uses along the corridor.

While highway infrastructure and the completion of the beltway will likely have far-reaching transportation and economic benefits throughout the Denver metropolitan area, estimating the benefits throughout the region is beyond the scope of this study. Instead, this study estimates the economic benefits in Jefferson County of development with and without completion of the Jefferson Parkway over a 20-year period from 2018 to 2037. Further, the report estimates the net fiscal benefits to Jefferson County only; any governmental costs and revenues to the region, state, school district, or other local governments and special districts are not included.

There are more than 12,000 acres of open space and the Rocky Flats National Wildlife Refuge that cannot be developed in the vicinity of the Jefferson Parkway corridor. In addition, other areas bordering the parkway corridor are already built out, are undevelopable, or current ownership has no plans to develop the properties within the study timeframe. As a result, the developable area considered in this study totals about 2,250 acres at three properties: 1) the Verve Innovation Park and Rocky Mountain Metropolitan Airport site, 2) Candelas, and 3) a Jefferson County-owned parcel located southwest of Highway 93 and 56th Avenue. Impacts of development outside of these areas are not included.

Benefits Summary

The economic and fiscal benefits to Jefferson County of the Jefferson Parkway are estimated as the difference between the benefits with the roadway compared with the status quo, or no build scenario. The economic and fiscal benefits are calculated within the framework of four categories of impacts and activities, consisting of one-time construction spending, business operations, employee spending, and resident spending. This analysis reveals that **the net economic and fiscal benefits in Jefferson County are 17 percent higher from 2018 to 2037 with completion of the Jefferson Parkway compared with the status quo, representing an increase of $1.2 billion.**

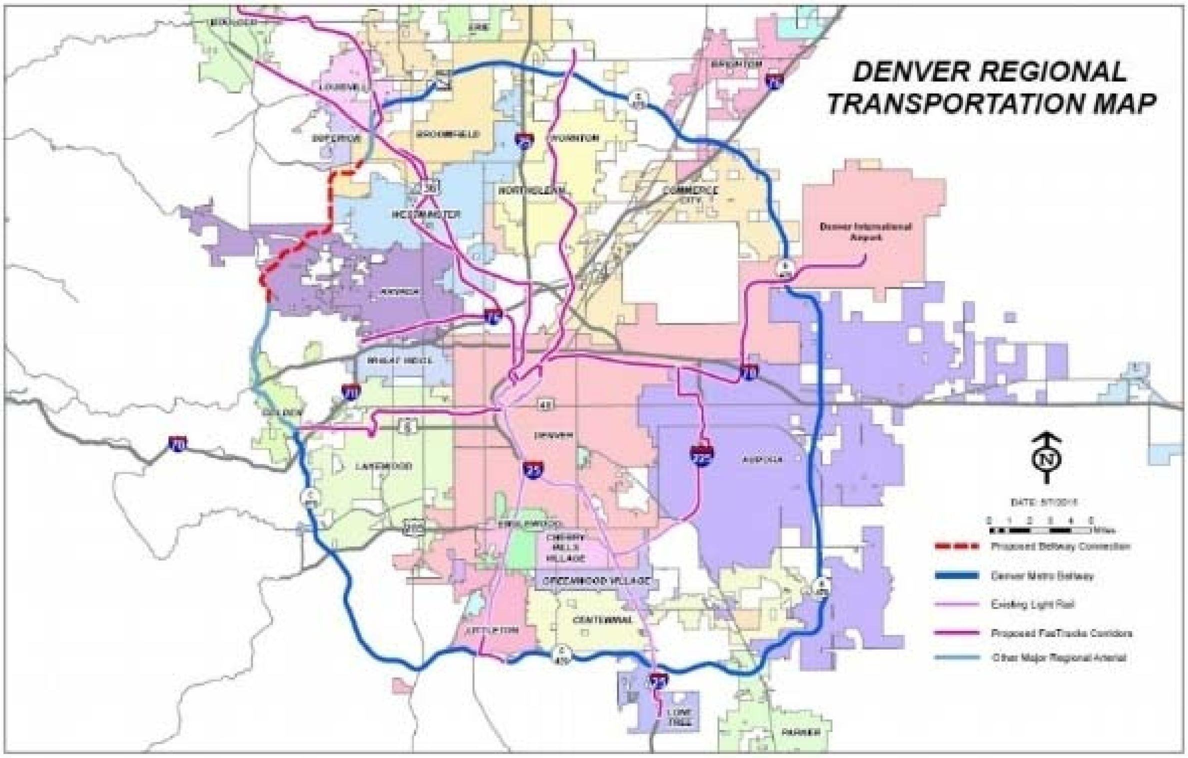
Development and Net Benefits Summary

	Build	No Build	Difference	Percent Change
Development Summary in 2037 (Year 20):				
Nonresidential Square Feet	7,592,500	6,543,400	1,049,100	16.0%
Total Employment	19,530	16,330	3,200	19.6%
Total Payroll ($millions)	$1,117.6	$941.0	$176.6	18.8%
Housing Units	4,179	4,179	0	0.0%
Number of Residents	9,803	9,803	0	0.0%
Total Impacts over 20 Years (2018-2037, $millions):				
Total Economic & Fiscal Benefits	$8,675.2	$7,429.5	$1,245.7	16.8%
Total Government Revenues	$373.7	$325.6	$48.1	14.8%
Total Government Costs	$236.1	$213.8	$22.2	10.4%
Net Economic & Fiscal Benefits	$8,439.2	$7,215.7	$1,223.5	17.0%
Net Fiscal Benefits	$137.6	$111.8	$25.8	23.1%

The net fiscal benefits to Jefferson County will increase by 23 percent with completion of the Jefferson Parkway, representing a $25.8 million increase.

The difference in the economic and fiscal benefits of the two scenarios comes from the shift to more nonresidential development if the roadway is constructed. Without the roadway, about 6.5 million square feet of nonresidential space is likely to exist in the corridor by 2037. If the Jefferson Parkway is constructed, nonresidential development is projected to increase by 16 percent to 7.6 million square feet, leading to higher employment and greater business and resident spending opportunities.

The Jefferson Parkway is the last 10-mile segment of roadway needed to complete the beltway encompassing Metro Denver,[1] currently consisting of E-470 (toll road, 47 miles, completed 2003), C-470 (26 miles, completed 1990), and the Northwest Parkway (toll road, 11 miles, completed 2003). After years of negotiations with state and local authorities, and final acquisitions of rights of way, permits have been filed with the Colorado Department of Transportation that will enable the Jefferson Parkway Public Highway Authority (JPPHA) to plan, design, finance, and construct the parkway. Current plans from the JPPHA project parkway completion by the end of 2022.



Transportation and infrastructure projects have significant economic impacts in local and regional communities. In addition to the temporary impacts of constructing a roadway, businesses and residents respond to the project through changes in development plans and location decisions. Infrastructure can improve the feasibility of various types of projects, improve regional access, and enable different uses.

The purpose of this study is to highlight the importance of the Jefferson Parkway to the existing community and potential new businesses and residents. Completion of the beltway is expected to influence development along the Jefferson Parkway as regional access improves. While it is expected that development will eventually occur with or without the completion of the Jefferson Parkway, the parkway will impact development patterns, especially related to the timing and types of uses along the corridor.

This study estimates the economic and fiscal benefits in Jefferson County of development with and without completion of the Jefferson Parkway over a 20-year period from 2018 to 2037.

[1] Metro Denver is a seven-county area consisting of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties.

ECONOMIC AND FISCAL IMPACT ANALYSIS DEFINED

Economic impact analysis is the analytical approach used to assess the measurable direct and indirect benefits resulting from a project over a specific time period for a specific geographic area. Only those benefits that can be measured or quantified are included. Intangible benefits, such as enhancement of community character or diversification of the job base, are not included. The economic benefits are calculated within the framework of four categories of impacts and activities, including one-time construction spending, business operations, employee spending, and resident spending. This study focuses on the Jefferson Parkway's influence on the direct economic benefits of development only; it does not include any indirect benefits that would be calculated through an economic multipliers analysis.

Fiscal impact analysis is used to assess the direct public revenues and public costs resulting from a project over a specific time period. A project may generate a broad array of public revenues ranging from sales and use tax, property tax, franchise fees, licenses and permits, and other charges for services. In turn, the local government provides a variety of public services such as police protection, public works, community social and recreational programs, and community development services, to name a few. This report estimates the net fiscal impacts to Jefferson County; any fiscal benefits to the region, state, school district, or other local governments and special districts are not included.

METHODOLOGY

Geographic Selection

This analysis estimates the economic and fiscal impacts of potential development along the Jefferson Parkway in Jefferson County. While highway infrastructure and the completion of the beltway will likely have far-reaching benefits throughout the Metro Denver region, estimating these benefits is beyond the scope of this study. Additionally, while economic benefits such as employment and business spending may have regional impacts, fiscal impacts are narrower in scope and are only applicable to the county. The economic and fiscal impacts estimated from this study should specify the particular geography when reported.

Project Parameters and Study Variables

The project benefits in this study were calculated within the framework of the SiteStats™ economic and fiscal impact model, a proprietary economic modeling system development by Development Research Partners. In addition, developers along the future parkway provided land use plans and potential development guidance that was used to estimate the construction, operations, employee, and resident spending benefits. It should be noted that changes in land use, construction timelines, economic conditions, parkway alignment, or other variables that factor into the construction and business operations of the proposed developments may change the impacts reported in this analysis. The parameters used in this analysis were carefully considered and selected to accurately report and avoid overstating potential economic and fiscal impacts. The economic and fiscal impacts estimated in this report are dependent on the project parameters and are not guaranteed.

Development Research Partners estimated the economic and fiscal impacts described in this report based on primary data and estimates provided by local developers and when necessary, data from a variety of secondary sources including the U.S. Census Bureau, U.S. Bureau of Labor Statistics, Jefferson County, and the state of Colorado.

I. INTRODUCTION

This study does not endorse a specific Jefferson Parkway alternative, but acknowledges that completion of the beltway will result in varying development patterns. Specific alignments, access points, and toll structures may influence certain commercial and residential sites. This study does not attempt to consider individual, micro impacts from the completion of the parkway but analyzes the macro-level impacts on development in the corridor with and without parkway completion. Further, the economic and fiscal benefits of the actual roadway construction are not included.

There are more than 12,000 acres of open space and the Rocky Flats National Wildlife Refuge that cannot be developed in the vicinity of the Jefferson Parkway corridor. This leaves four key properties totaling over 3,400 acres that represent the majority of the developable land in the parkway area. Impacts of development outside of these properties was not included. The properties are: 1) the Verve Innovation Park and Rocky Mountain Metropolitan Airport site, 2) Candelas, 3) a Jefferson County-owned parcel located on Highway 93, north of Golden, and (4) Keller Farm. However, it was determined that Keller Farm is a long-term plan projected to be developed beyond the 20-year study time frame. Therefore, there is no economic contribution from the Keller Farm development to the study. As a result, the developable area considered in this study totals about 2,250 acres.

The emphasis on these properties was based on the findings of the Induced Growth Expert Panel - a group of county and municipal planners, representatives, and private experts – whose findings were included in the Northwest Corridor Environmental Impact Statement in 2005. The panel concluded that construction of the roadway would not significantly influence future population and employment levels in much of the corridor area. Much of the area was already built out, designated as open space, undevelopable, or was too remote from the corridor. As a result, any impacts of roadway completion on development patterns would likely occur at the properties cited above.

A number of general assumptions are included in this analysis and are described below:

- The build scenario assumes the parkway is completed in 2022, consistent with current plans from the JPPHA.
- The study analyzes the construction, business operations, employee, and resident spending impacts from 2018 to 2037, a 20-year period.
- The economic and fiscal impacts are extrapolated over a 20-year build-out period, although actual development may occur beyond the 20-year period.
- The analysis is not intended to simulate any specific year of development. Rather, the analysis is intended to provide a reasonable estimation of development patterns over a 20-year period.
- Development generally occurs equally throughout the 20-year period. For instance, if 200,000 square feet of office development is expected over 20 years, the analysis is based on 10,000 square feet being built each year.
- The development plans used in the analysis are believed to be consistent with long-range planning documents for the area.
- This study is not a market feasibility study. There has been no attempt to analyze the area’s ability to support the level of development assumed in the study. Rather, it is assumed that the market will successfully support the level of development completed within the 20-year timeframe based on the project parameters.

Some numbers in the study may not add exactly due to rounding. In general, numbers reported in the text of the report are rounded to the nearest hundred million if over $1 billion and to the nearest hundred thousand if more than $1 million. This analysis considers the economic and fiscal impact in 2017 dollars.

DEVELOPMENT DESCRIPTIONS

The Verve Innovation Park and Rocky Mountain Metropolitan Airport

The Verve Innovation Park is located near the junction of US-36 and 120th Avenue, southwest of and adjacent to the Rocky Mountain Metropolitan Airport (RMMA). The development is a public-private partnership between Jefferson County and Urban Frontier. The 656-acre site is zoned for a variety of commercial uses, including office, light industrial and R&D, aviation uses, and mixed-use. Development recently commenced on the property with the development of a 212,000-square-foot FedEx Ground distribution center and the new 118,000-square-foot North and South America headquarters building of Pilatus Business Aircraft. The site is a 30-year master planned development.

Candelas

Northwest of the Coal Creek Canyon Road and Indiana Street intersection, Candelas includes residential and commercial land uses. The area is being developed by Arvada Residential Partners and Cimarron Commercial LLC. The 1,450-acre site is expected to incorporate single-family residential, multi-family, office, industrial, retail, hospitality, and noncommercial uses, such as a school and fire protection. About 200 residential units currently exist at the site and recent announcements included the purchase of 22-acres for a new King Soopers location. In addition, Jefferson County Public Schools opened the new Three Creeks K-8 School in Candelas in fall 2017.

Jefferson County Property

The Jefferson County property is located on the west side of Highway 93, south of 56th Avenue. Based on current county land use plans, about 63 acres of the property is zoned for light industrial, office, or R&D uses, while about 78 acres is reserved for open space. There is no development at the site and future development will be contingent on interest from private developers and negotiations with the county.

REPORT ORGANIZATION

Following the Introduction, Sections II-IV describe the economic and fiscal benefits of development by spending category. The second section describes the economic and fiscal benefits assuming completion of the Jefferson Parkway, also referred to as the "build scenario." Section III details the estimated economic and fiscal benefits assuming status quo in the county and along the corridor, also referred to as the "no build scenario." The fourth section of the report summarizes the estimated economic and fiscal benefits of the preceding sections to compare the benefits of parkway completion with the no build scenario. The difference between the completion and status quo scenarios represents the net benefits of the parkway in Jefferson County. The final section of the report describes benefits that may be attributed to the parkway, but are not quantified in this analysis. Other potential benefits include reduced traffic congestion, improved safety, and regional economic benefits.

This section describes the economic and fiscal benefits of development along the Jefferson Parkway corridor to Jefferson County assuming the parkway is completed in 2022. Completion of the parkway is expected to influence the timing of development as better regional access attracts more businesses and residents to the area. Indeed, a recent study of projected traffic volumes on a future parkway noted that significant congestion on I-25 and I-70 would attract a portion of the regional through trips to the Jefferson Parkway as travelers seek a faster route.[2] The following bullets describe the main assumptions for potential development assuming parkway completion for each of the three study properties.

The Verve Innovation Park and Rocky Mountain Metropolitan Airport

- Completion of the parkway will enable buildout of the site's aviation, office, and industrial properties within a shorter 25-year timeframe rather than the originally planned 30-year timeframe from 2011 to 2040.
- Potential retail and hospitality uses will be initiated with the expected completion of the parkway in 2022. With completion of the parkway, retail and hospitality will be completed by 2035.

Candelas

- Medical office, school, and fire district properties will be developed by 2020.
- Office development will occur equally over a 50-year timeframe starting in 2022.
- Industrial development will occur equally over a 15-year timeframe starting in 2020.
- Residential and neighborhood retail will be developed equally from 2018 to 2031. Single-family will be developed at about 150 units each year and multi-family at about 200 units each year in order to achieve economies of scale.
- Completion of the parkway will improve the feasibility of regional retail uses and an entertainment district, condensing expected buildout to 15 years from 30 years. Additionally, the parkway will improve the timeline for potential hospitality uses, following the same buildout assumptions.

Jefferson County Property

- Completion of the parkway will enable buildout of 100 percent of the industrially-zoned land during the study's 20-year time period, compared with 75 percent completion if the parkway is not constructed.

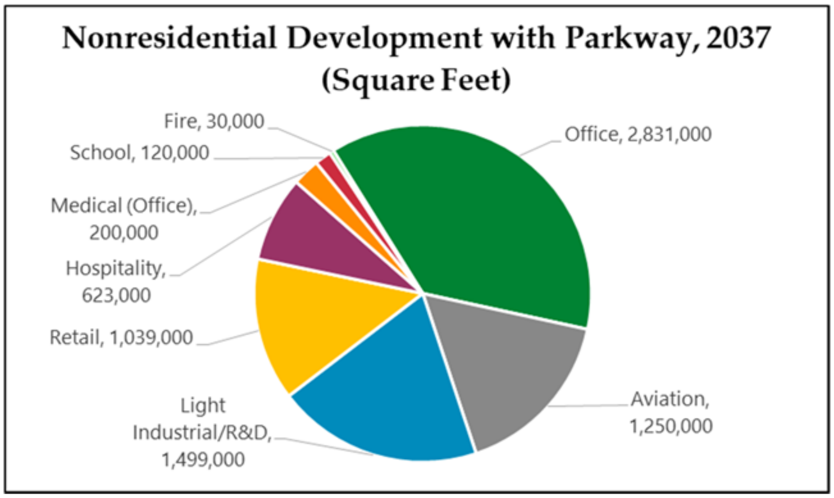
CONSTRUCTION

Residential and nonresidential construction activity associated with completion of the parkway - comprised of materials and equipment, soft costs, and labor - will total an estimated $2.1 billion from 2018 to 2037. Over the 20-year time period, there will be an estimated 7.3 million square feet of new nonresidential space and nearly 4,000 housing units added to the existing base of 331,800 square feet of commercial space and 200 housing units.

Construction activity results in an increase in real property values, generates tax and fee revenue for the county, sales for county-based construction goods and services suppliers and vendors, and payroll for construction workers.

[2] Michael Baker International, "Jefferson Parkway Traffic Modeling Study," October 2016.

Economic Benefits of Construction Spending



- Based on construction cost estimates utilizing RS Means data for potential building types, real estate comparisons, and floor-to-area ratios for the nonresidential development consistent with developer plans, construction with the parkway will be comprised of an estimated $1 billion for construction materials and equipment; $309.6 million in soft costs; and $722.3 million in construction payroll and employee benefits.[3] Based on the average annual wage for construction workers in Jefferson County from the Colorado Department of Labor and Employment, there will be an estimated 8,800 full-time equivalent[4] (FTE) workers employed throughout the 20-year construction period, or an annual average of about 440 workers (Table 1).
- Not all of the construction costs associated with the development will be transacted with businesses and suppliers located in Jefferson County. Of the total $2.1 billion project cost, the amount spent directly in the county on materials and equipment, soft costs, and labor is an estimated $331.1 million, consisting of the following components (Table 1).
    - Based on the concentration of establishments, employees, and sales in the Metro Denver region for construction materials, Jefferson County-based vendors and suppliers will capture about 15 percent of purchases, or $155.8 million.
    - A portion of the development soft costs, including such items as design and engineering, may be purchased in the county. Based on the concentration of Metro Denver establishments, employees, and sales, an estimated 23 percent of the project soft costs will be captured in the county, or $71.2 million.
    - Based on an analysis of U.S. Census Bureau data describing the occupations of Jefferson County residents, it is estimated about 1,575 FTE construction workers will be residents of the county. The remaining workers will likely travel to the site from other parts of the Metro Denver region. Compensation for these local workers will total an estimated $104.1 million.
- Construction benefits are one-time impacts that occur only during the construction period.

Fiscal Benefits for Jefferson County

- The total estimated fiscal benefits of the projects over the 20-year buildout period based on sales tax and impact fee revenue is $23.4 million, consisting of the following components (Table 1).

[3] SiteStats™ assumes 50 percent of construction cost is spent on materials and equipment, 15 percent is spent on soft costs, and 35 percent is spent on construction labor. Based on data from the U.S. Bureau of Labor Statistics, National Compensation Survey, construction worker benefits will comprise an estimated 30 percent of total compensation.

[4] A full-time equivalent construction worker is defined as one worker working full time for one year.

- o Jefferson County will receive sales tax revenue from purchases of construction materials and equipment for the developments. The county levies a 0.5 percent sales tax, and does not have a use tax. Estimated sales tax revenue from the construction of the developments from 2018 to 2037 will be about $777,000.
- o Jefferson County charges impact fees based on the number of residential units and the total square footage of development. Based on the current impact fee schedule, the projects will generate an estimated $22.6 million over the 20-year period.

Table 1: Summary of Construction Impacts
Build Scenario, 2018-2037

Local Government Revenue	
Sales Tax on Construction Materials	$777,000
Impact Fees	$22,618,000
Total Local Government Revenues	**$23,395,000**
Construction Spending	
Construction Materials	$1,031,836,000
Soft Costs	$309,551,000
Construction Employment (work years)	8,801
Construction Payroll	$505,600,000
Construction Benefits	$216,686,000
Total Construction Costs	$2,063,672,000
Total Jefferson County Local Purchases	*$331,082,000*
Construction Net Economic Impact	**$354,476,000**
Construction Net Fiscal Impact	**$23,395,000**

BUSINESS OPERATIONS

The economic and fiscal benefits of business operations in Jefferson County are derived from employment in the county, business to business purchases, and retail sales activity. Business spending is estimated to total $16 billion from 2018 to 2037 with an estimated 19,530 employees at buildout. The following analysis describes the expected impacts of business operations over the 20-year period.

Economic Benefits of Business Spending

- Based on real estate comparisons, and utilizing a cost method of valuation, the estimated actual value of the nonresidential space will be about $1.2 billion by 2037. Utilizing the ratio of personal property to real property for various product types, real estate comparisons in Jefferson County, projected occupancy of the various product types, and economic life estimates for personal property from the Colorado Division of Property Taxation,[5] Jefferson Parkway area businesses will have purchased an estimated $1.4 billion of initial and replacement, furniture, fixtures, and equipment for their operations.
- Estimates of other operational purchases including materials and utilities were derived from data from the U.S. Census Bureau's Economic Census and Business Expenses Survey. Further, estimates were scaled based on the

[5] Based on recommended economic life estimates, an estimated 12.5 percent of furniture and fixtures, 33.3 percent of computer equipment, and 8.3 percent of heavy/manufacturing equipment will be replaced each year.

number of employees estimated for various product types at the developments, meaning more employees will require more operational materials, higher utility costs, and telecommunication services. Overall, purchases of operational materials from 2018 to 2037 will total an estimated $1.5 billion, utilities purchases will be an estimated $404.6 million, and telecommunications services will be an estimated $261.7 million.

- Employment in the existing and future businesses located at the study sites in the Jefferson Parkway corridor will increase over time as new construction is completed and occupied. From 2018 to 2037, businesses will have supported an estimated 213,040 work years, defined as one FTE for one year. This represents annual average employment increasing from 740 workers in 2018 to 19,530 workers by 2037. Based on average annual wages for Jefferson County, payroll over the 20-year period will total an estimated $12.4 billion.
- Not all of the business spending associated with the development will be transacted with businesses and suppliers located in Jefferson County. Of the total $16 billion in estimated operational purchases from 2018 to 2037, the amount spent directly in the county on personal property, operational materials, and county-resident employees is an estimated $5.6 billion, consisting of the following components (Table 2).
    - Based on the concentration of establishments, employees, and sales in the Metro Denver region for purchases of furniture, fixtures, and equipment, Jefferson County-based vendors and suppliers will capture about 17 percent of purchases, or $234.3 million.
    - Based on the concentration of establishments, employees, and sales in the Metro Denver region for operational materials, Jefferson County-based vendors and suppliers will capture about 24 percent of purchases, or $364.5 million.
    - Based on recent commuting patterns data,[6] businesses at the site will have supported an estimated 86,490 work years for employees who will also be residents of the county, earning an estimated $5 billion in payroll from 2018 to 2037.

Retail and Hotel Sales Activity

- Based on the expected mix of regional, neighborhood, and entertainment-oriented retail businesses and weighted retail sales data, the retail space could generate an estimated $422 in sales per square foot. From 2018 to 2037, retail sales will total an estimated $4.5 billion for the study sites.
- Developers expect some hotel development and hospitality uses at the sites. Based on expected occupancy and an average number of square feet per room,[7] hospitality uses could support an estimated 215,300 annual room nights of demand by 2037. Based on development assumptions with completion of the parkway, over the 20-year study period there will be an estimated 1.96 million room nights of demand. Based on room rate data for the area, hotel sales will total an estimated $224.5 million from 2018 to 2037.
- Total retail and hotel sales activity from 2018 to 2037 with completion of the parkway will be an estimated $4.7 billion (Table 2).

[6] According to data from the U.S. Census Bureau's Local Employment Dynamics database, about 40.6 percent of employees in Jefferson County are also residents of the county.

[7] According to data from the Colorado Hotel and Lodging Association's *Rocky Mountain Lodging Report*, the occupancy rate for the west Denver region in 2016 was 74.3 percent and the average room rate was about $114 per night. Hotel rooms estimated based on an average of 500 square feet per room.

Net Fiscal Benefits to Jefferson County

- The net fiscal benefits to Jefferson County from the business activity at the study sites from 2018 to 2037, considering all tax revenue, other revenue, and costs, will be an estimated $115.6 million, consisting of the following components (Table 2).
  - Based on the estimated actual value of real and personal property at the study sites, the state's 29 percent commercial assessment rate, and the current county mill levy of 24.709, Jefferson County will benefit from an estimated $118.2 million in property tax revenue from 2018 to 2037.
  - Based on the mix of retail options estimated for the study sites, an estimated 84.4 percent of sales will be taxable. Based on the county sales tax rate of 0.5 percent, retail and hotel activity and business purchases along the corridor will generate an estimated $26.3 million in sales tax revenue for the county over the 20-year period.
  - The county will benefit from other revenue related to the business activity. The county will also incur costs of services for the businesses and employees. Using an intensity of land use analysis based on an Urban Land Institute methodology and the Jefferson County budget, revenues other than taxes and the costs of providing city services were estimated on a per employee basis, which was used as the proxy for business operations. Other revenue includes such things as charges for services, licenses and permits, and fines and forfeitures. Revenue other than sales and property taxes is an estimated $31.9 million for the county from 2018 to 2037. The cost of providing county services to the businesses over this period will be an estimated $60.8 million. Subtracting the cost of services from other revenue yields an estimated net cost of $28.9 million.

Table 2: Summary of Business Operations Impacts
Build Scenario, 2018-2037

Local Government Revenue	
Real Property Tax Revenue	$88,523,000
Personal Property Tax Revenue	$29,641,000
Sales Tax Revenue	$26,353,000
Total Other Revenue Less Governmental Service Costs	($28,874,000)
Total Local Government Revenues	**$115,643,000**
Employment & Earnings	
Total Employment (work years)	213,038
Total Employee Earnings	$12,407,425,000
Local Jefferson County Employee Earnings	*$5,037,415,000*
Business Activity	
Retail & Hotel Sales	$4,721,301,000
Business to Business Purchases	$3,574,186,000
Total Business Activity	$8,295,486,000
Total Jefferson County Business to Business Purchases	*$598,815,000*
Business Operations Net Economic Impact	**$5,751,873,000**
Business Operations Net Fiscal Impact	**$115,643,000**

EMPLOYEE SPENDING

The Jefferson Parkway area employees will receive paychecks and will purchase goods and services to support their households. This employee spending creates sales and property tax revenue for the county and generates sales revenue for local businesses. The following analysis describes the expected impacts of employee spending over the 20-year period with completion of the Jefferson Parkway.

Economic Benefits of Employee Spending

- Business operations at the study sites will support an estimated 86,490 work years for county residents from 2018 to 2037, earning an estimated $5 billion in payroll. This reflects an increase in average annual employment for county residents from 300 workers in 2018 to 7,930 workers in 2037.
- Some of the employees that live and work in the Jefferson Parkway corridor will also live in the residential areas of the study sites. For this study, an estimated 10 percent of homeowners in the Jefferson Parkway area will also be employed at businesses in the area. To avoid double counting, employees that live and work at the study sites are accounted for under the Resident Spending section.
- Based on the Consumer Expenditure Survey by the U.S. Bureau of Labor Statistics, the typical household in Jefferson County spends approximately 34.7 percent of its income on taxable retail sales, suggesting that employees will spend an estimated $1.6 billion on taxable retail sales throughout the Metro Denver region. Based on a retail leakage analysis for the county, taxable retail sales were then isolated to reflect only that spending occurring in the county, or an estimated 79 percent. Therefore, employees at the study sites residing in the county will spend an estimated $1.2 billion at county-based businesses over the 20-year period (Table 3).

Net Fiscal Benefits to Jefferson County

- The net fiscal benefits to Jefferson County from the employee spending activity associated with businesses at the study sites from 2018 to 2037 considering all tax revenue, other revenue, and costs will be an estimated $9.4 million, consisting of the following components (Table 3).
    - o Based on estimated payroll and home affordability,[8] the value of the residential real estate occupied by employee residents in the county will be an estimated $1.9 billion by 2037. Based on the current residential assessment rate of 7.2 percent and the county mill levy, property tax revenue generated by the employee residents will be an estimated $34.5 million from 2018 to 2037.
    - o Employee spending in Jefferson County on taxable goods and services will generate sales tax revenue for the county. Based on the estimated taxable retail sales in the county and the county sales tax rate, the county will benefit from $6.2 million in sales tax revenue over the 20-year period.
    - o Jefferson County will benefit from other revenue related to the employees at the study sites who reside in the county. Based on the county budget and intensity of land use of residential development, revenues other than taxes and the costs of providing county services are estimated on a per resident basis. Revenue other than sales and property taxes is an estimated $34.6 million for the county from 2018 to 2037. The cost of providing county services to the employees who live and work

[8] Home affordability based on 33 percent of income spent on housing, a 5 percent down payment, a 30-year loan term, 4.6 percent annual interest rate, an annual insurance premium as a percent of home value of 0.5 percent, and average mill levy of 95.022.

in the county over this period will be an estimated $65.9 million. Subtracting the cost of services from other revenue yields an estimated net cost of $31.3 million.

Table 3: Summary of Employee Spending Impacts
Build Scenario, 2018-2037

Local Government Revenue	
Real Property Tax Revenue	$34,459,000
Sales Tax Revenue	$6,222,000
Total Other Revenue Less Governmental Service Costs	($31,323,000)
Total Local Government Revenues	**$9,358,000**
Business Activity	
Employee to Business Purchases	$1,573,185,000
Total Jefferson County Local Purchases	*$1,244,389,000*
Employee Spending Net Economic Impact	**$1,253,747,000**
Employee Spending Net Fiscal Impact	**$9,358,000**

RESIDENT SPENDING

The Jefferson Parkway study sites will have an estimated 4,179 housing units by 2037 and about 9,800 residents. The plans for residential development include single-family detached, townhomes, and multi-family units. Some of the multi-family will be in mixed-use areas of the sites. The residents will generate economic activity in the county through their spending habits, which in turn generates sales and property tax revenue for the county. The following analysis describes the expected impacts of resident spending over the 20-year period with completion of the Jefferson Parkway.

Economic Benefits of Resident Spending

- Assuming future residential vacancy rates reflect the current average rates in Metro Denver, specifically 99.3 percent for single-family and 96.6 percent for multi-family, there will be an estimated 4,082 occupied housing units by 2037. Based on the income that is needed to afford the housing mix offered,[9] annual household income will be $306 million at buildout. From 2018 to 2037, household income will total an estimated $4.2 billion.
- Based on the typical household spending an estimated 34.7 percent of its income on taxable retail sales, residents will spend $1.5 billion on taxable retail sales throughout the Metro Denver region. Based on retail leakage for the county, residents living at the study sites will spend an estimated $1.1 billion at county-based businesses over the 20-year period (Table 4).

[9] Based on an average price of $530,000 for single-family product offered at Candelas as of September 2017 and $230,000 per unit for multi-family product based on asking rents in the county at comparable properties.

Net Fiscal Benefits to Jefferson County

- The net fiscal cost to Jefferson County from the residents at the study sites from 2018 to 2037, considering all tax revenue, other revenue, and costs, will be an estimated $10.8 million, consisting of the following components (Table 4).
  - Based on the value of the residential real estate occupied by residents at the study sites, housing will have an estimated value of $1.5 billion by 2037. Based on the current residential assessment rate and the county mill levy, property tax revenue generated by the residents will be an estimated $35.8 million from 2018 to 2037.
  - Resident spending in Jefferson County on taxable goods and services will generate sales tax revenue for the county. Based on the estimated taxable retail sales in the county and the county sales tax rate, the county will benefit from $5.4 million in sales tax revenue over the 20-year period.
  - Jefferson County will benefit from other revenue related to the residents at the study sites. Based on the estimated per resident value of revenues other than taxes, and the estimated costs of providing county services per resident, revenue other than sales and property taxes is an estimated $57.4 million for the county from 2018 to 2037. The cost of providing county services to the residents will be an estimated $109.4 million. Subtracting the cost of services from other revenue yields an estimated net cost of $52 million.

Table 4: Summary of Resident Spending Impacts
Build Scenario, 2018-2037

Local Government Revenue	
Real Property Tax Revenue	$35,777,000
Sales Tax Revenue	$5,449,000
Total Other Revenue Less Governmental Service Costs	($51,983,000)
Total Local Government Revenues	**($10,757,000)**
Demographics of the Residents (Year 20)	
Total Number of Housing Units	4,179
Total Value of Housing Units	$1,462,770,000
Total Number of Residents	9,803
Total Household Income	$306,045,000
Business Activity	
Resident to Business Purchases	$1,470,215,000
Total Jefferson County Local Purchases	*$1,089,818,000*
Resident Spending Net Economic Impact	**$1,079,061,000**
Resident Spending Net Fiscal Impact	**($10,757,000)**

TOTAL NET ECONOMIC AND FISCAL BENEFITS

- The total net economic and fiscal benefits, comprised of all construction activity, business, employee, and resident spending at study sites in the Jefferson Parkway area from 2018 to 2037 will be an estimated $8.4 billion with completion of the parkway, including a net fiscal benefit of $137.6 million (Table 5).

Table 5: Total Economic and Fiscal Impacts
Build Scenario, 2018-2037

Local Gov't Economic and Fiscal Benefits	
Construction	$354,476,000
Business Operations	$5,812,632,000
Off-Site Employees	$1,319,661,000
On-Site Residents	$1,188,451,000
Total Local Gov't Economic Benefits	**$8,675,221,000**
Local Government Revenues	
Construction	$23,395,000
Business Operations	$176,403,000
Off-Site Employees	$75,272,000
On-Site Residents	$98,633,000
Total Local Government Revenues	**$373,703,000**
Local Government Costs	
Construction	$0
Business Operations	$60,760,000
Off-Site Employees	$65,914,000
On-Site Residents	$109,390,000
Total Local Government Costs	**$236,063,000**
Net Economic Benefit (Gov't Econ Benefits less Gov't Costs)	
Construction	$354,476,000
Business Operations	$5,751,873,000
Off-Site Employees	$1,253,747,000
On-Site Residents	$1,079,061,000
Total Net Economic Benefit	**$8,439,158,000**
Net Fiscal Benefit (Gov't Revenues less Gov't Costs)	
Construction	$23,395,000
Business Operations	$115,643,000
Off-Site Employees	$9,358,000
On-Site Residents	($10,757,000)
Total Net Fiscal Benefit	**$137,640,000**

This section describes the economic and fiscal benefits of development at the study sites in Jefferson County assuming the parkway is not completed, which is also referred to as the "no build scenario." Developers have already broken ground at the Verve Innovation Park and Candelas and will proceed with development based on status quo transportation policy and conditions, even if the parkway is not completed. There may also be interest in the coming years in developing the Jefferson County property with the area's existing infrastructure.

The following bullets describe the main assumptions for potential development assuming status quo infrastructure along the parkway corridor for each of the three study properties. Estimates were derived utilizing similar data and methods as described in the previous section.

The Verve Innovation Park and Rocky Mountain Metropolitan Airport

- The site's aviation, office, and industrial properties will be built out over a 30-year timeframe, from 2011 to 2040, pushing the last phases of the development past the study period.
- Construction of potential retail and hospitality uses will begin in 2022, but with a longer completion schedule and buildout by 2040.

Candelas

- Medical office, school, and fire district properties will be developed by 2020.
- Office development will occur equally over a 50-year timeframe starting in 2022.
- Industrial development will occur equally over a 15-year timeframe starting in 2020.
- Residential and neighborhood retail will be developed equally from 2018 to 2031. Single-family will be developed at about 150 units each year and multi-family at about 200 units each year.
- Assuming status quo, regional retail uses and an entertainment district will be built out over 30 years starting in 2023. Potential hospitality uses will follow the same buildout assumptions.

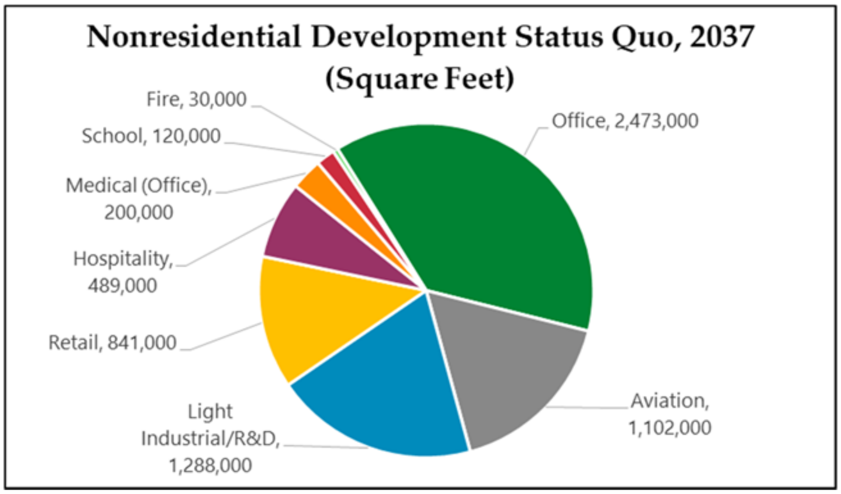
Jefferson County Property

- Assuming status quo, an estimated 75 percent of the planned uses at the Jefferson County property will be constructed from 2018 to 2037.

CONSTRUCTION

Residential and nonresidential construction activity assuming status quo - comprised of materials and equipment, soft costs, and labor - will total an estimated $1.9 billion from 2018 to 2037. Over the 20-year time period, there will be an estimated 6.2 million square feet of new nonresidential space constructed and nearly 4,000 housing units added to the existing base of 331,800 square feet of nonresidential space and 200 housing units.

Economic Benefits of Construction Spending



- Construction assuming status quo will be comprised of an estimated $961.2 million for construction materials and equipment; $288.4 million in soft costs; and $672.8 million in construction payroll and employee benefits. There will be an estimated 8,200 FTE workers employed throughout the 20-year construction period, or an annual average of about 410 workers (Table 6).
- Not all of the construction costs associated with the development will be transacted with businesses and suppliers located in Jefferson County. Of the total $1.9 billion project cost, the amount spent directly in the county on materials and equipment, soft costs, and labor is an estimated $308.4 million, consisting of the following components (Table 6).
    - o Based on the concentration of establishments, employees, and sales in the Metro Denver region for construction materials, Jefferson County-based vendors and suppliers will capture an estimated $145.1 million.
    - o Based on the concentration of Metro Denver establishments, employees, and sales for project soft costs, Jefferson County-based businesses will be capture an estimated $66.3 million.
    - o Based on the occupations of Jefferson County residents, it is estimated about 1,470 FTE construction workers will be residents of the county. The remaining workers will likely travel to the site from other parts of the Metro Denver region. Compensation for these local workers will total an estimated $97 million.
- Construction benefits are one-time impacts that occur only during the construction period.

Fiscal Benefits for Jefferson County

- The total estimated fiscal benefits of the projects over the 20-year buildout period based on sales tax and impact fee revenue is $20.1 million, consisting of the following components (Table 6).
    - o Jefferson County will receive construction sales tax revenue from the developments. Based on the county sales tax rate, estimated sales tax revenue from the construction of the developments from 2018 to 2037 will be about $724,000.
    - o Jefferson County charges impact fees based on the number of residential units and the total square footage of development. Based on the current impact fee schedule, the projects will generate an estimated $19.4 million over the 20-year period.

Table 6: Summary of Construction Impacts
No Build Scenario, 2018-2037

Local Government Revenue	
Sales Tax on Construction Materials	$724,000
Impact Fees	$19,402,000
Total Local Government Revenues	**$20,126,000**
Construction Spending	
Construction Materials	$961,198,000
Soft Costs	$288,359,000
Construction Employment (work years)	8,198
Construction Payroll	$470,987,000
Construction Benefits	$201,852,000
Total Construction Costs	$1,922,396,000
Total Jefferson County Local Purchases	*$308,416,000*
Construction Net Economic Impact	**$328,542,000**
Construction Net Fiscal Impact	**$20,126,000**

BUSINESS OPERATIONS

The economic and fiscal benefits of business operations in Jefferson County are derived from employment in the county, business to business purchases, and retail sales activity. Business spending is estimated to total $13.3 billion from 2018 to 2037 with an estimated 16,330 employees at buildout, assuming status quo. The following analysis describes the expected impacts of business operations over the 20-year period.

Economic Benefits of Business Spending

- The estimated actual value of the nonresidential space assuming status quo will be about $1 billion by 2037. Based on estimates of purchases of initial personal property and on-going replacement purchases, businesses at the study sites will have spent an estimated $1.1 billion for their furniture, fixtures, and equipment.
- Purchases of operational materials from 2018 to 2037 will total an estimated $1.3 billion, utilities purchases will be an estimated $334.8 million, and telecommunications services will be an estimated $214.9 million.
- Employment in the existing and future businesses located at the study sites will increase over time as new construction is completed and occupied. From 2018 to 2037, businesses will have supported an estimated 175,660 work years, reflecting the increase in average annual employment from 740 workers in 2018 to 16,330 workers in 2037. Payroll over the 20-year period will total an estimated $10.3 billion.
- Not all of the business spending associated with the development will be transacted with businesses and suppliers located in Jefferson County. Of the total $13.3 billion in estimated operational purchases from 2018 to 2037, the amount spent directly in the county on personal property, operational materials, and county-resident employees is an estimated $4.7 billion, consisting of the following components (Table 7).
    - Based on the concentration of establishments, employees, and sales in the Metro Denver region for purchases of furniture, fixtures, and equipment, Jefferson County-based vendors and suppliers will capture an estimated $195.2 million.

- Based on the concentration of establishments, employees, and sales in the Metro Denver region for operational materials, Jefferson County-based vendors and suppliers will capture an estimated $303.2 million.
- Based on recent commuting patterns data, businesses at the site will have supported an estimated 71,320 work years for employees who will also be residents of the county, earning an estimated $4.2 billion in payroll from 2018 to 2037.

Retail and Hotel Sales Activity

- Based on the expected mix of regional, neighborhood, and entertainment-oriented retail businesses and weighted retail sales data, the retail space could generate an estimated $426 in sales per square foot. From 2018 to 2037, retail sales will total an estimated $3.6 billion for the study sites.
- Developers expect some hotel development and hospitality uses at the sites. Assuming status quo, hospitality uses at the study sites could support an estimated 162,200 annual room nights of demand by 2037. Over the 20-year study period there will be an estimated 1.4 million room nights of demand. Based on room rate data for the area, hotel sales will total an estimated $156.2 million from 2018 to 2037.
- Total retail and hotel sales activity from 2018 to 2037 will be an estimated $3.8 billion (Table 7).

Net Fiscal Benefits to Jefferson County

- The net fiscal benefits to Jefferson County from the business activity at the study sites from 2018 to 2037, considering all tax revenue, other revenue, and costs, will be an estimated $94.6 million assuming status quo, consisting of the following components (Table 7).
    - Based on the estimated actual value of real and personal property at the study sites, the commercial assessment rate, and the current county mill levy, Jefferson County will benefit from an estimated $97.5 million in property tax revenue from 2018 to 2037.
    - Based on the mix of retail options estimated for the study sites, an estimated 83.2 percent of sales will be taxable. Based on the county sales tax rate, retail and hotel activity and business purchases at the study sites will generate an estimated $20.9 million in sales tax revenue for the county over the 20-year period.
    - The county will benefit from other revenue related to the business activity. The county will also incur costs of services for the businesses and employees. Revenue other than sales and property taxes is an estimated $26.3 million for the county from 2018 to 2037. The cost of providing county services to the businesses over this period will be an estimated $50.1 million. Subtracting the cost of services from other revenue yields an estimated net cost of $23.8 million.

Table 7: Summary of Business Operations Impacts
No Build Scenario, 2018-2037

Local Government Revenue	
Real Property Tax Revenue	$72,273,000
Personal Property Tax Revenue	$25,190,000
Sales Tax Revenue	$20,933,000
Total Other Revenue Less Governmental Service Costs	($23,808,000)
Total Local Government Revenues	**$94,588,000**
Employment & Earnings	
Total Employment (work years)	175,660
Total Employee Earnings	$10,285,145,000
Local Jefferson County Employee Earnings	*$4,175,769,000*
Business Activity	
Retail & Hotel Sales	$3,761,588,000
Business to Business Purchases	$2,969,841,000
Total Business Activity	$6,731,429,000
Total Jefferson County Business to Business Purchases	*$498,342,000*
Business Operations Net Economic Impact	**$4,768,698,000**
Business Operations Net Fiscal Impact	**$94,588,000**

EMPLOYEE SPENDING

The Jefferson Parkway area employees will receive paychecks and will purchase goods and services to support their households. This employee spending creates sales and property tax revenue for the county and generates sales revenue for local businesses. The following analysis describes the expected impacts of employee spending over the 20-year period assuming status quo.

Economic Benefits of Employee Spending

- Business operations at the study sites will support an estimated 71,320 work years for county residents from 2018 to 2037, earning an estimated $4.2 billion in payroll. This reflects an increase in average annual employment for county residents from 300 workers in 2018 to 6,630 workers in 2037.
- Some of the employees that live and work in the Jefferson Parkway corridor will also live in the residential areas of the study sites. For this study, an estimated 10 percent of homeowners in the Jefferson Parkway area will also be employed at businesses in the area. To avoid double counting, employees that live and work at the study sites are accounted for under the Resident Spending section.
- Based on the typical portion of household income spent on taxable retail sales in Jefferson County, the employees will spend an estimated $1.3 billion on taxable retail sales throughout the Metro Denver region. Adjusting taxable retail sales to reflect only that spending occurring in the county, employees at the study sites that reside in the county will spend an estimated $1 billion at county-based businesses over the 20-year period (Table 8).

Net Fiscal Benefits to Jefferson County

- The net fiscal benefits to Jefferson County from the employee spending activity associated with businesses at the study sites from 2018 to 2037 considering all tax revenue, other revenue, and costs will be an estimated $7.9 million, consisting of the following components (Table 8).
  - Based on estimated payroll and home affordability, the value of the residential real estate occupied by employee residents in the county will be an estimated $1.6 billion by 2037. Based on the current residential assessment rate and county mill levy, property tax revenue generated by the employee residents will be an estimated $28.5 million from 2018 to 2037.
  - Employee spending in Jefferson County on taxable goods and services will generate sales tax revenue for the county. Based on the estimated taxable retail sales in the county and the county sales tax rate, the county will benefit from $5.2 million in sales tax revenue over the 20-year period.
  - Jefferson County will benefit from other revenue related to the employees at the study sites who reside in the county. Based on the county budget and intensity of land use of residential development, revenue other than sales and property taxes is an estimated $28.5 million for the county from 2018 to 2037. The cost of providing county services to the employees who live and work in the county over this period will be an estimated $54.3 million. Subtracting the cost of services from other revenue yields an estimated net cost of $25.8 million.

Table 8: Summary of Employee Spending Impacts
No Build Scenario, 2018-2037

Local Government Revenue	
Real Property Tax Revenue	$28,521,000
Sales Tax Revenue	$5,158,000
Total Other Revenue Less Governmental Service Costs	($25,827,000)
Total Local Government Revenues	**$7,851,000**
Business Activity	
Employee to Business Purchases	$1,304,093,000
Total Jefferson County Local Purchases	*$1,031,537,000*
Employee Spending Net Economic Impact	**$1,039,388,000**
Employee Spending Net Fiscal Impact	**$7,851,000**

RESIDENT SPENDING

The Jefferson Parkway study sites will have an estimated 4,179 housing units by 2037 and about 9,800 residents. The plans for residential development are not expected to change assuming status quo or completion of the Jefferson Parkway. The net economic benefit will be an estimated $1.1 billion, including a net fiscal cost of $10.8 million from 2018 to 2037.

TOTAL NET ECONOMIC AND FISCAL BENEFITS

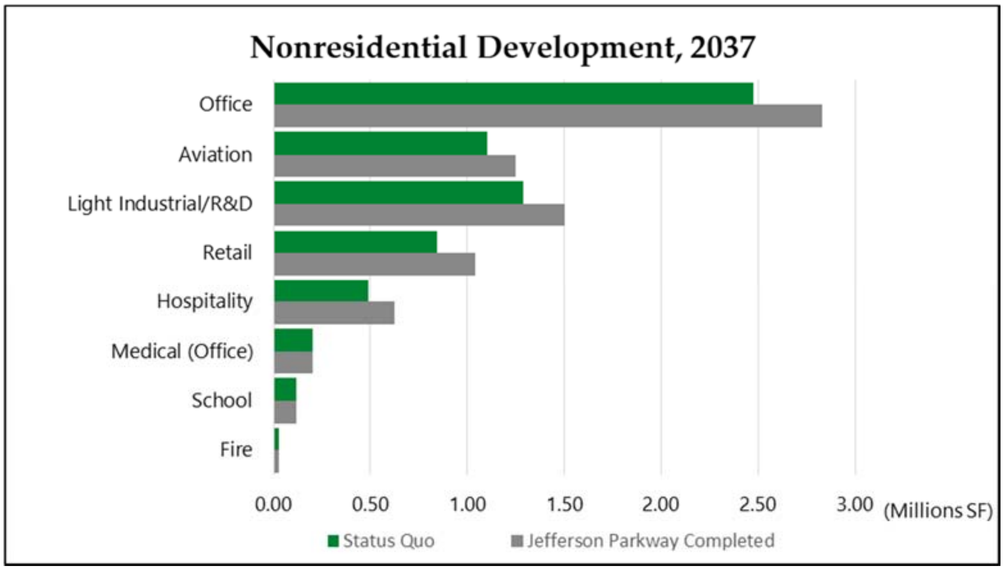
- The total net economic and fiscal benefits, comprised of all construction activity, business, employee, and resident spending at study sites in the Jefferson Parkway area from 2018 to 2037 will be an estimated $7.2 billion assuming status quo, including a net fiscal benefit of $111.8 million (Table 9).

Table 9: Total Economic and Fiscal Impacts
No Build Scenario, 2018-2037

Local Gov't Economic and Fiscal Benefits	
Construction	$328,542,000
Business Operations	$4,818,798,000
Off-Site Employees	$1,093,737,000
On-Site Residents	$1,188,451,000
Total Local Gov't Economic Benefits	**$7,429,528,000**
Local Government Revenues	
Construction	$20,126,000
Business Operations	$144,687,000
Off-Site Employees	$62,200,000
On-Site Residents	$98,633,000
Total Local Government Revenues	**$325,646,000**
Local Government Costs	
Construction	$0
Business Operations	$50,099,000
Off-Site Employees	$54,349,000
On-Site Residents	$109,390,000
Total Local Government Costs	**$213,838,000**
Net Economic Benefit (Gov't Econ Benefits less Gov't Costs)	
Construction	$328,542,000
Business Operations	$4,768,698,000
Off-Site Employees	$1,039,388,000
On-Site Residents	$1,079,061,000
Total Net Economic Benefit	**$7,215,690,000**
Net Fiscal Benefit (Gov't Revenues less Gov't Costs)	
Construction	$20,126,000
Business Operations	$94,588,000
Off-Site Employees	$7,851,000
On-Site Residents	($10,757,000)
Total Net Fiscal Benefit	**$111,808,000**

Development in the Jefferson Parkway area will likely occur with or without the proposed roadway. However, the timing and product mix of development is likely to differ. Based on the assumptions of this analysis, **the total net economic and fiscal benefits in Jefferson County are 17 percent higher from 2018 to 2037 with completion of the Jefferson Parkway compared with the status quo, representing an increase of $1.2 billion.**

The net fiscal benefits to Jefferson County will increase by 23 percent with completion of the Jefferson Parkway, representing a $25.8 million increase (Table 10).



Construction

- The net economic and fiscal benefits of construction activity will increase by an estimated 7.9 percent with completion of the Jefferson Parkway, or by $25.9 million. This includes a 16.2 percent increase in net fiscal benefits to Jefferson County of $3.3 million (Table 10).

Business Operations

- The net economic and fiscal benefits of business operations will increase by an estimated 20.6 percent with completion of the Jefferson Parkway, or by $983.2 million. This includes a 22.3 percent increase in net fiscal benefits to Jefferson County of $21.1 million (Table 10).

Employee Spending

- The net economic and fiscal benefits of employee spending will increase by an estimated 20.6 percent with completion of the Jefferson Parkway, or by $214.4 million. This includes a 19.2 percent increase in net fiscal benefits to Jefferson County of $1.5 million (Table 10).

Resident Spending

- Residential development is not expected to differ between the build and no build scenarios.

Table 10: Total Economic and Fiscal Impacts
Comparison of the Build and No Build Scenarios, 2018-2037

	Build	No Build	Difference (Build-No Build)	Percent Change
Local Gov't Economic and Fiscal Benefits				
Construction	$354,476,000	$328,542,000	$25,934,000	7.9%
Business Operations	$5,812,632,000	$4,818,798,000	$993,834,000	20.6%
Off-Site Employees	$1,319,661,000	$1,093,737,000	$225,924,000	20.7%
On-Site Residents	$1,188,451,000	$1,188,451,000	$0	0.0%
Total Local Gov't Economic and Fiscal Benefits	**$8,675,221,000**	**$7,429,528,000**	**$1,245,693,000**	**16.8%**
Local Government Revenues				
Construction	$23,395,000	$20,126,000	$3,269,000	16.2%
Business Operations	$176,403,000	$144,687,000	$31,716,000	21.9%
Off-Site Employees	$75,272,000	$62,200,000	$13,072,000	21.0%
On-Site Residents	$98,633,000	$98,633,000	$0	0.0%
Total Local Government Revenues	**$373,703,000**	**$325,646,000**	**$48,057,000**	**14.8%**
Local Government Costs				
Construction	$0	$0	$0	NA
Business Operations	$60,760,000	$50,099,000	$10,661,000	21.3%
Off-Site Employees	$65,914,000	$54,349,000	$11,565,000	21.3%
On-Site Residents	$109,390,000	$109,390,000	$0	0.0%
Total Local Government Costs	**$236,063,000**	**$213,838,000**	**$22,225,000**	**10.4%**
Net Economic Benefit (Econ and Fiscal Benefits less Gov't Costs)				
Construction	$354,476,000	$328,542,000	$25,934,000	7.9%
Business Operations	$5,751,873,000	$4,768,698,000	$983,175,000	20.6%
Off-Site Employees	$1,253,747,000	$1,039,388,000	$214,359,000	20.6%
On-Site Residents	$1,079,061,000	$1,079,061,000	$0	0.0%
Total Net Economic Benefit	**$8,439,157,000**	**$7,215,690,000**	**$1,223,467,000**	**17.0%**
Net Fiscal Benefit (Gov't Revenues less Gov't Costs)				
Construction	$23,395,000	$20,126,000	$3,269,000	16.2%
Business Operations	$115,643,000	$94,588,000	$21,055,000	22.3%
Off-Site Employees	$9,358,000	$7,851,000	$1,507,000	19.2%
On-Site Residents	($10,757,000)	($10,757,000)	$0	0.0%
Total Net Fiscal Benefit	**$137,639,000**	**$111,808,000**	**$25,831,000**	**23.1%**

There are many potential benefits of the Jefferson Parkway beyond the changes in development patterns analyzed in this study. The parkway is a regional project and will have extensive benefits throughout Metro Denver, benefits that are also not analyzed in this report. Potential benefits include traffic reductions, improved safety, and regional construction and business purchases. This section of the report discusses some of these potential benefits and highlights the findings of studies of another portion of the beltway, namely E-470.

Traffic

A recent traffic modeling study commissioned by the JPPHA supported the need for the Jefferson Parkway project. A model of traffic utilizing a no-build scenario for several existing intersections found a significant deterioration of level of service measures by 2040. Several intersections were projected to be at failure, defined as a breakdown in traffic flow with excessive congestion and delay, assuming a no-build scenario. The study concluded that the Jefferson Parkway would provide reduced travel times and another safe transportation option for Metro Denver.

Improved highway infrastructure reduces travel time and the cost of traffic congestion. A study examining the economic contributions of E-470 found that the tollway saved residents of Metro Denver from 14.8 million more hours of drive time and 20 million hours of congestion each year. The reduced drive time was associated with an estimated saving for commuters of $26.1 million annually, after netting out the cost of tolls.

Safety

Based on the E-470 economic contributions study, moving traffic to a safer roadway type, such as E-470, produced cost savings associated with fewer accidents, injuries, and fatalities. Researchers noted that at the federal and state levels, a divided highway is safer than other roadways such as arterials, collectors, and local roads. The study estimated the cost savings totaled $24 million each year.

Regional Economic Activity

The E-470 economic contributions study found the roadway's impact area had a $14.2 billion impact on the gross regional product of the Metro Denver area in 2015. This included $8.4 billion in aggregate wages and $461.7 million in total property taxes. The E-470 impact area accounted for 12 percent of the Denver metro area's economic activity. The study estimated approximately 21,000 households and 7,800 jobs were dependent on E-470 for daily commuting and personal travel.

As a business, the E-470 Public Highway Authority employed 272 full- and part-time workers both directly and through contract services. Indirect and induced jobs in the region supported by E-470's administrative operations totaled an estimated 243 jobs. Based on its spending patterns, the E-470 Public Highway Authority supported $80.6 million of economic activity in Metro Denver.

After completion, the Jefferson Parkway may have similar impacts. Jobs will be created and supported by on-going administrative and maintenance operations for the roadway, as well as potentially increasing property values. Similar to development that has occurred around E-470, the completion of the parkway is expected to facilitate additional development. The business spending associated with development along the Jefferson Parkway will also have regional benefits as dollars spent on employees and business purchases are circulated throughout the regional economy.

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Economic and Demographic Research

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