

BENEFIT-COST ANALYSIS



Prepared for City of East Moline, Illinois
Greater Downtown Revitalization Project
2021 RAISE Grant Application
July 12, 2021

Introduction

A Benefit-Cost Analysis (BCA) was performed for the City of East Moline’s “Greater Downtown Revitalization Project” for submission to the U.S. Department of Transportation (U.S. DOT). Benefit-cost analysis is required as part of the grant application for the 2021 RAISE program. The analysis was completed to determine the possible benefit-cost ratios of proposed street, bicycle, pedestrian, and transit improvements providing multi-modal connections to East Moline’s downtown and The Bend areas. Recommended U.S. DOT methodologies for benefit-cost analysis were followed in order to provide the department with “apples-to-apples” comparisons and to make analysis strategy transparent. Benefit-cost methodologies were captured in “Benefit-Cost Analysis Guidance for Discretionary Grant Programs”¹. Additional categories of monetized benefits and costs that are not shown in the guide have been developed using alternative strategies. Sources, detailed calculations, and rationale are identified in this report for determining these monetized benefits/costs.

This BCA is based on the difference between the “no-build” scenario and the proposed improvements scenario. The “no-build” scenario is for baseline projections if the project were not to take place and is to go without improvements to the existing roadway areas. The baseline projections were then used to estimate the proposed scenario where improvements for roadways were taken into account.

General Assumptions

Constant Dollar Values and Discount Rates

Benefit-cost investments for the projects are shown in constant 2019-dollar values. Most benefit valuations and some costs were expressed in dollar values in a past year dollar value amount. In order to adjust and translate these monetized historical year values into 2019 dollars, the U.S. Bureau of Labor Statistics’ Consumer Price Index (CPI) for Urban Consumers² was applied to historical values. Analyzing everything in a single base year of 2019 dollar values helps to further establish an “apples-to-apples” comparison of monetized benefits and costs for the U.S. DOT.

A real discount rate of 7.0% was used in this BCA as recommended by the U.S. DOT guidance for RAISE grants and the White House Office of Management and Budget (OMB Circular A-4)³.

¹ US Department of Transportation: Benefit-Cost Analysis Guidance for Discretionary Grant Programs, February 2021; <https://www.transportation.gov/sites/dot.gov/files/2021-02/Benefit%20Cost%20Analysis%20Guidance%202021.pdf>.

² U.S. Bureau of Labor Statistics. Consumer Price Index, All Urban Consumers, U.S. City Average, Series CUSR0000SA0. 1982-1984=100.

³ White House Office of Management and Budget, Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs (October 29, 1992). (<https://www.whitehouse.gov/sites/default/files/omb/assets/omb/circulars/a004/a-4.pdf>).



“As a default position, OMB Circular A-94 states that a real discount rate of 7 percent should be used as a base-case for regulatory analysis. The 7 percent rate is an estimate of the average before-tax rate of return to private capital in the U.S. economy. It is a broad measure that reflects the returns to real estate and small business capital as well as corporate capital. It approximates the opportunity cost of capital, and it is the appropriate discount rate whenever the main effect of a regulation is to displace or alter the use of capital in the private sector.... The effects of regulation do not always fall exclusively or primarily on the allocation of capital. When regulation primarily and directly affects private consumption (e.g., through higher consumer prices for goods and services), a lower discount rate is appropriate. The alternative most often used is sometimes called the “social rate of time preference.” This simply means the rate at which “society” discounts future consumption flows to their present value. If we take the rate that the average saver uses to discount future consumption as our measure of the social rate of time preference, then the real rate of return on long-term government debt may provide a fair approximation. Over the last thirty years, this rate has averaged around 3 percent in real terms on a pre-tax basis.”⁴

Evaluation Period

The evaluation period for the City of East Moline’s “Greater Downtown Revitalization Project” includes both the construction period and the post-construction period. The post-construction period considered was 20-years of operations and allows for benefit accrual to take place. The construction period is considered to be when capital investment costs are used. This study has assumed the construction period to take place during years 2023-2025. Operations are assumed to begin in year 2026 and designed for 20-years of operations through 2045.

Results & Methodology

The analysis results in a positive return on investment for the 7 percent discount rate over the evaluation period. These discounted net-present values are based upon undiscounted costs and undiscounted benefits for the period. Undiscounted costs totaled \$24.8 million dollars over the evaluation period and include both capital costs and operations/maintenance costs. Total undiscounted benefits were \$808.6 million dollars over the 20-year period. Analysis yielded a benefit-cost ratio of 19.38 discounted at 7 percent. The cost summary table is in Appendix D – Page 14. It should be noted that benefits do not include operation and maintenance (O&M) cost savings from doing proposed road improvements. The O&M costs for “no-build” situation would likely create an even larger savings benefit for the proposed improvements situation, further increasing the Benefit-Cost Ratio.

⁴ White House Office of Management and Budget, Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs (October 29, 1992). (<https://www.whitehouse.gov/sites/default/files/omb/assets/omb/circulars/a004/a-4.pdf>).

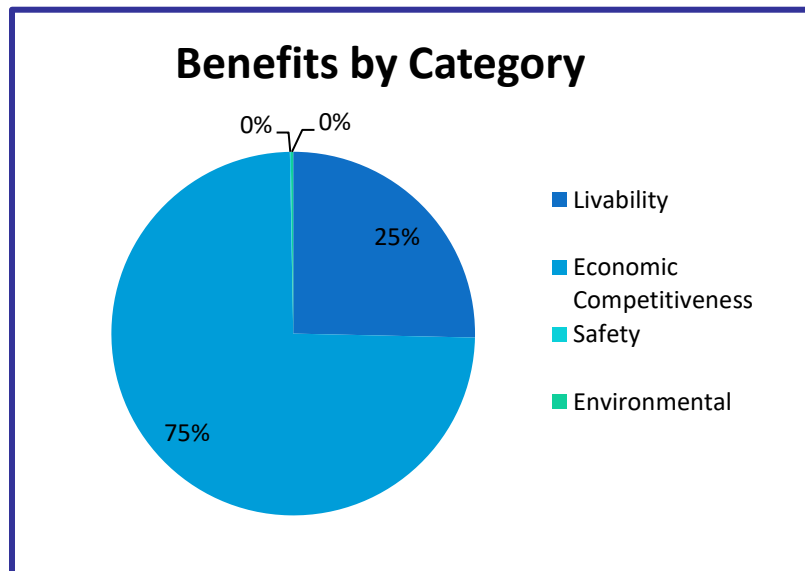


| Benefit-Cost Summary in 2019 Dollars | |
|--------------------------------------|----------------|
| 7% Discount | |
| Total Benefits | \$ 290,711,368 |
| Total Costs | \$ 15,004,095 |
| Benefit-Cost Ratio | 19.38 |

Impacts from proposed improvements that created the largest benefit were from additional annual revenue from increased business attraction and increased property values.

| Benefits Summary in Constant 2019 Dollars | | | |
|---|---|-----------------------|-----------------------|
| Type of Impact | Benefit | Undiscounted Benefit | Value @ 7% Discount |
| Livability | Increased Property Value | \$ 9,643,400 | \$ 5,612,547 |
| | New Properties - Values | \$ 195,515,000 | \$ 85,516,963 |
| Economic Competitiveness | Increased Business/Tourism | \$ 589,554,000 | \$ 194,476,757 |
| | Vehicle Operating Costs (VMT Reduction) | \$ 12,286,862 | \$ 3,965,455 |
| Safety | Crash Reduction | \$ 624,108 | \$ 252,206 |
| Environmental | Reduced Emissions | \$ 1,756,920 | \$ 887,441 |
| Total Benefits | | \$ 809,380,290 | \$ 290,711,368 |

The categorical pie chart below gives a conceptual look at the percentages that each benefit provided compared to the overall improvement benefits.



Human health benefits were not estimated with monetary values such as the ones shown above. With the “Complete Streets” initiative and apart of the proposed improvements, increased physical activity is linked to improved health and will benefit and have a positive impact on the community of East Moline.

Increased Property Value

Improved roadway/pedestrian-based infrastructure along East Moline’s Downtown and The Bend areas is likely to increase property value in both areas. The proposed implementation of “Complete Streets” along downtown 15th Avenue, Bend Boulevard, and 12th Avenue will make these areas more accessible for people on foot or bicycling. The National Complete Streets Coalition states that increased walkability leads to increased property values and has showed cases where property value increased \$3,000-\$9,000 as a result of “Complete Streets” type projects (added trees, bike paths, sidewalks, green spaces, increased walkability, etc.)⁵. A conservative estimate of 5 percent increase in property value due to accessibility for pedestrian travel and enhanced multi-modal infrastructure as a result of “Complete Streets” was applied to the existing downtown and The Bend property value in East Moline. An existing property value of \$96.4 million in the downtown area and The Bend was obtained from correspondence with the City of East Moline.

For this analysis, the current value of property is considered the “no-build” scenario where improvements would not take place. Overall, the improvements are estimated to result in a 5 percent increase in downtown and The Bend properties. The increased property value benefit was considered a one-time "stock" benefit applied in 2025 (first year post-construction) in this analysis and led to a total undiscounted benefit of \$9,643,400. Property value benefits of \$5.61 million was calculated for the 7 percent discount.

Also, the project will bring new commercial buildings for retail, office, music venues, mid- to large-size events, hotels, and restaurants to the downtown and The Bend once improved. Average increases to property values were determined based on average values per square foot of new development/rehabilitation by type of property on an annual basis, multiplied by a 10-year development period. Estimated property values by square-foot were obtained through information from multiple organizations: REDEEM, area developers in the project area, East Moline SSA, East Moline Main Street, and the City of East Moline. Values were based on increased valuations from recent improvements completed on properties contained within the project area. The new properties will fill in over a 10-year period after construction. This analysis led to a total undiscounted benefit of \$19,551,500. Property value benefits of \$85.5 million was calculated for the 7 percent discount. Pages 16 and 17 of this appendix contain tables for estimated value increases by property location and total new property value benefits.

⁵ "Economic Development." *Smart Growth America*. (2016). <http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/factsheets/economic-revitalization>.



Increased Spending (Business/Tourism)

Improved transportation infrastructure is seen as a way to improve economic development in the City of East Moline. Multi-modal “Complete Streets” improvements are estimated to increase visitor spending by \$29.48 million (undiscounted 2019 dollars) annually. For this analysis, the \$29.48 million was assumed to stay constant over the 20-year post-construction period and applied at a discount of 7 percent. Total benefits from increased spending were calculated to be \$194.48 million for a 7 percent discount. In this case, the “no-build” scenario assumes that no annual increase is seen during the evaluation period.

| 2026 Proposed Additional Visitors to City of East Moline Project Area | | | | |
|---|---------------------------------|---------------------|---------------------|--|
| Event | Additional Attendance per Event | Estimated # of Days | Economic Impact | Notes |
| Music at Runners Park Downtown | 300 | 14 | \$352,800 | extra 100 people per event; day trip |
| La Pulgita | 1800 | 6 | \$907,200 | expanding from 3 Sundays to every Sunday; day trip |
| Freedom Fest | 700 | 1 | \$58,800 | day trip |
| Cinco de Mayo | 600 | 1 | \$50,400 | day trip |
| Firecracker Run/July 4th | 1000 | 1 | \$84,000 | day trip |
| Rock Island County Fair Talent Show | 150 | 1 | \$12,600 | day trip |
| Downtown Pub Crawl | 600 | 2 | \$100,800 | New event beginning 2021; day trip |
| Shop Small (partnered with City of Silvis) | 600 | 1 | \$50,400 | day trip |
| Downtown Halloween | 200 | 1 | \$16,800 | day trip |
| Downtown Christmas Event | 500 | 1 | \$42,000 | day trip |
| River Bend Park in the Bend (music) | 700 | 30 | \$1,764,000 | day trip |
| The Rust Belt music events | 1500 | 36 | \$6,048,000 | overnight |
| Freedom Run | 400 | 1 | \$33,600 | day trip |
| Labor Day Parade | 600 | 1 | \$50,400 | day trip |
| Mecum Auctions | 6000 | 36 | \$18,144,000 | New event beginning 2021; day trip |
| Shopping/Dining | 400 | 52 | \$1,747,200 | day trip |
| Riverfront Bicycle Trail | 150 | 0.5 | \$6,300 | additional daily use, including residents; day trip |
| East Moline Farmers Market | 200 | 0.5 | \$8,400 | Relocating to downtown from Kennedy Square; day trip |
| Total | 16,400 | | \$29,477,700 | |



Additional visitors to the East Moline Greater Downtown Area are estimated at 9,725 and are based on larger event attendance, attendance to new events, and auxiliary increased business. The following table shows projections on additional visitors.

In the calculated spending increase estimate, it is assumed that the additional attendance spent an average amount of dollars based on visit type per visitor and was multiplied by the estimated number of days spent in the community. Estimated dollars spent by trip type was made available through Visit Quad Cities. Projections were obtained from aggregate data provided through REDEEM and The Bend and The Rust Belt developments. Appendix D – Page 9 shows calculated present value benefits for increased spending.

| Visit Quad Cities Estimated Sales Values Per Person | |
|---|--------|
| Day Trip | \$ 84 |
| Overnight | \$ 112 |
| Sporting event | \$ 150 |
| Meeting/Convention | \$ 184 |

Reduced Average Daily Traffic (ADT)

A travel-related improvement expected as a result of the improved road infrastructure and pedestrian-based infrastructure is the reduction in ADT along 12th Avenue and Downtown 15th Avenue. Impacts to ADT along these roads create a reduction benefit for vehicle operation costs (VOC) and emissions reductions.

VOC is directly related to the amount of vehicle miles traveled (VMT). In this analysis, it was assumed there would be a 20% decrease in ADT. U.S. DOT FHWA Road Diet case studies showed cases for "Complete Streets" programs with 18-29 percent volume reduction⁶, as well as a case with 36 percent reduction. A value of 20 percent decrease for the proposed improvements project in East Moline is considered conservative. The 20 percent reduction is based on the assumption that 20 percent of the traveling vehicle population will use walking, biking and other modes of transit in this area. ADT traffic information in these corridors was found on 2020 IDOT AADT mapping and averaged 8325 vehicles/day in the project area along 12th Avenue and 1125 vehicles/day along downtown 15th Avenue. The vehicles/day counts were multiplied by 365 to give an annual estimate for the “no-build” scenario. The “no-build” was based on current ADT rates and is assumed to increase 1 percent per year over the project period. The reduction benefit of 20 percent of the current “no-build” rates was used. This benefit of vehicles/year was then multiplied by the distances of 12th Avenue and 15th Avenue within the project corridor to get VMT reductions. Total distance in this area is 2.14 miles and was considered the total trip length. These

⁶ "Case Studies - Safety | Federal Highway Administration." Case Studies - Safety | Federal Highway Administration. (http://safety.fhwa.dot.gov/road_diets/case_studies/).



reductions were multiplied by the IRS 2019 Standard Mileage Rates⁷ used for cost/mile (\$0.58/mile) to create the VOC savings.

An undiscounted VOC benefit savings of \$12.29 million was calculated, while present benefit values of \$3.97 million was calculated for the 7 percent discount. The detailed VOC cost savings table is shown in Appendix D – Page 11.

Reduced ADT also create emission reductions in the project area. Emission rates were analyzed at the current speed limit of 25 MPH for 15th Avenue downtown and 35 MPH for 12th Avenue. The speeds are assumed to stay the same with the improvement projects. The following table summarizes monetary values of emissions in accordance with the benefit-cost analysis values as recommended by the U.S. DOT and emissions rates taken from ICAAP emissions tables⁸. ICAAP emissions tables as calculated by the Iowa DOT were used for emissions calculations as East Moline is a part of the bi-state Davenport designated Urban Area and would share similar ridership and driving style to this area than to larger Illinois cities.

| Monetary Values of Emissions | |
|------------------------------|--|
| | Emission Rate at 35 MPH ¹ (gram/ VMT) |
| CO ₂ | 563.19 |
| NO _x | 1.806 |
| PM | 0.0327 |
| SO _x | 0.0097 |

¹Source: ICAAP emissions tables

² 7 % Social Cost of Carbon as outlined in Benefit-Cost Analysis Guidance for Discretionary Grant Programs. Dollar values were converted to 2019 dollars.

| Emission Type | NO _x | SO ₂ | PM _{2.5} | CO ₂ |
|---------------|-----------------|-----------------|-------------------|-----------------|
| 2020 | \$ 15,700.00 | \$40,400.00 | \$729,300.00 | \$ 50.00 |
| 2021 | \$ 15,900.00 | \$41,300.00 | \$742,300.00 | \$ 52.00 |
| 2022 | \$ 16,100.00 | \$42,100.00 | \$755,500.00 | \$ 53.00 |
| 2023 | \$ 16,400.00 | \$43,000.00 | \$769,000.00 | \$ 54.00 |
| 2024 | \$ 16,600.00 | \$43,900.00 | \$782,700.00 | \$ 55.00 |
| 2025 | \$ 16,800.00 | \$44,900.00 | \$796,600.00 | \$ 56.00 |
| 2026 | \$ 17,000.00 | \$45,500.00 | \$807,500.00 | \$ 57.00 |
| 2027 | \$ 17,300.00 | \$46,200.00 | \$818,600.00 | \$ 58.00 |
| 2028 | \$ 17,500.00 | \$46,900.00 | \$829,800.00 | \$ 59.00 |
| 2029 | \$ 17,700.00 | \$47,600.00 | \$841,200.00 | \$ 60.00 |
| 2030 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 61.00 |

⁷ 2019 Standard Mileage Rates. (<https://www.irs.gov/pub/irs-drop/n-19-02.pdf>)

⁸ Source: Iowa DOT, ICAAP emissions tables (http://www.iowadot.gov/systems_planning/icaap.htm).



| | | | | |
|------|--------------|-------------|--------------|----------|
| 2031 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 62.00 |
| 2032 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 63.00 |
| 2033 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 64.00 |
| 2034 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 66.00 |
| 2035 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 67.00 |
| 2036 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 68.00 |
| 2037 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 69.00 |
| 2038 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 70.00 |
| 2039 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 71.00 |
| 2040 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 72.00 |
| 2041 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 73.00 |
| 2042 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 75.00 |
| 2043 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 76.00 |
| 2044 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 77.00 |
| 2045 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 78.00 |
| 2046 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 79.00 |
| 2047 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 80.00 |
| 2048 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 81.00 |
| 2049 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 83.00 |
| 2050 | \$ 18,000.00 | \$48,200.00 | \$852,700.00 | \$ 84.00 |

Present benefit values for emissions totaled \$0.89 million was calculated at the 7 percent discount. The detailed emissions reduction benefit savings table is shown in Appendix D – Page 11.

Reduction in Accidents

The Benefit-Cost Analysis assumes a 40 percent reduction in the number of accidents as a result of safety improvements along the roadway. The “Complete Streets” improvements include bicycle lanes and enhanced pedestrian walkways. The U.S. DOT FHWA Road Diet “Complete Streets” case studies showed strong reinforcement of crash reduction as a result of complete streets programs. Most studies found between 20 percent and 70 percent reduction for crash/injury incidents⁹. A conservative estimate of 40 percent was used for the analysis due to evidence through “Road Diet” documentation. The case studies show decreased speeding in these improved traffic areas.

The “no-build” scenario considers current crash data obtained from the Illinois DOT. Through provided historical data of crashes from the past 5 years along 12th Avenue and 15th Avenue, data

⁹ "Case Studies - Safety | Federal Highway Administration." Case Studies - Safety | Federal Highway Administration. (http://safety.fhwa.dot.gov/road_diets/case_studies/).



was used to create average incidents per year for baseline projections. The table below shows Illinois DOT data.

| 2015-2019 Crash Injury Summary | | |
|--------------------------------|-----------|-------------------|
| Crash Type | Incidents | Avg. Incidents/Yr |
| Unknown | 0 | 0 |
| Possible Injury/Unknown | 5 | 1 |
| Minor Injury | 0 | 0 |
| Major Injury | 0 | 0 |
| Fatal | 0 | 0 |
| Total Injury | 5 | 1 |
| Property Damage Only (PDO) | 14 | 2.8 |

For the improvement scenario, the average incidents/year was calculated by multiplying 40 percent to the incidents/year values in the crash data table shown. In order to get monetized values, the obtained data was converted to U.S. DOT recommended AIS scale which allows an “apples-to-apples” comparison. The AIS scale conversion table is on Page 12 of this Appendix. Annual cost reduction benefits of approximately \$31,205 were calculated and used for the 20-year post construction period. An undiscounted accident cost savings of \$0.62 million was calculated, while a present benefit value of \$0.25 million was calculated for a 7 percent discount. The detailed crash reduction benefits table is shown in Appendix D – Page 13.



Increased Spending Benefits Table (2019 Dollars)

| Economic Increase Benefit 2019 Dollars | | | |
|--|---------------|------------------------------|------------------------------|
| Project Year | Analysis Year | Increased Business & Tourism | Total Benefits @ 7% Discount |
| 1 | 2019 | \$ - | \$ - |
| 2 | 2020 | \$ - | \$ - |
| 3 | 2021 | \$ - | \$ - |
| 4 | 2022 | \$ - | \$ - |
| 5 | 2023 | \$ - | \$ - |
| 6 | 2024 | \$ - | \$ - |
| 7 | 2025 | \$ - | \$ - |
| 8 | 2026 | \$ 29,477,700.00 | \$ 17,156,289.78 |
| 9 | 2027 | \$ 29,477,700.00 | \$ 16,033,915.68 |
| 10 | 2028 | \$ 29,477,700.00 | \$ 14,984,967.93 |
| 11 | 2029 | \$ 29,477,700.00 | \$ 14,004,642.92 |
| 12 | 2030 | \$ 29,477,700.00 | \$ 13,088,451.33 |
| 13 | 2031 | \$ 29,477,700.00 | \$ 12,232,197.51 |
| 14 | 2032 | \$ 29,477,700.00 | \$ 11,431,960.29 |
| 15 | 2033 | \$ 29,477,700.00 | \$ 10,684,075.03 |
| 16 | 2034 | \$ 29,477,700.00 | \$ 9,985,116.85 |
| 17 | 2035 | \$ 29,477,700.00 | \$ 9,331,884.91 |
| 18 | 2036 | \$ 29,477,700.00 | \$ 8,721,387.77 |
| 19 | 2037 | \$ 29,477,700.00 | \$ 8,150,829.69 |
| 20 | 2038 | \$ 29,477,700.00 | \$ 7,617,597.84 |
| 21 | 2039 | \$ 29,477,700.00 | \$ 7,119,250.32 |
| 22 | 2040 | \$ 29,477,700.00 | \$ 6,653,504.97 |
| 23 | 2041 | \$ 29,477,700.00 | \$ 6,218,228.94 |
| 24 | 2042 | \$ 29,477,700.00 | \$ 5,811,428.92 |
| 25 | 2043 | \$ 29,477,700.00 | \$ 5,431,241.98 |
| 26 | 2044 | \$ 29,477,700.00 | \$ 5,075,927.08 |
| 27 | 2045 | \$ 29,477,700.00 | \$ 4,743,857.09 |
| Totals | | \$ 589,554,000.00 | \$ 194,476,756.83 |



Reduced ADT - Vehicle Operating Costs Savings Benefits Table (2019 Dollars)

| Project Year | Analysis Year | ADT ¹ x 365 (No-Build) | 365*ADT After (20% Reduction ²) | Reduction Benefit | 12th Ave Annual VMT Savings | ADT ¹ x 365 (No-Build) | 365*ADT After (20% Reduction ²) | Reduction Benefit | 15th Ave Annual VMT Savings | Total Annual VMT Savings | \$/Mile ³ | Cost Savings Undiscounted | Total VMT Benefits @ 7% Discount |
|--|---------------|-----------------------------------|---|-------------------|--|-----------------------------------|---|-------------------|-----------------------------|--------------------------|----------------------|---------------------------|----------------------------------|
| 1 | 2019 | 3,008,540 | 2,406,832 | 601,708 | 836,374 | 406,559 | 325,248 | 81,312 | 60,984 | 897,358 | 0.58 | \$ - | \$ - |
| 2 | 2020 | 3,038,625 | 2,430,900 | 607,725 | 844,738 | 410,625 | 328,500 | 82,125 | 61,594 | 906,332 | 0.58 | \$ - | \$ - |
| 3 | 2021 | 3,069,011 | 2,455,209 | 613,802 | 853,185 | 414,731 | 331,785 | 82,946 | 62,210 | 915,395 | 0.58 | \$ - | \$ - |
| 4 | 2022 | 3,099,701 | 2,479,761 | 619,940 | 861,717 | 418,879 | 335,103 | 83,776 | 62,832 | 924,549 | 0.58 | \$ - | \$ - |
| 5 | 2023 | 3,130,698 | 2,504,559 | 626,140 | 870,334 | 423,067 | 338,454 | 84,613 | 63,460 | 933,794 | 0.58 | \$ - | \$ - |
| 6 | 2024 | 3,162,005 | 2,529,604 | 632,401 | 879,037 | 427,298 | 341,838 | 85,460 | 64,095 | 943,132 | 0.58 | \$ - | \$ - |
| 7 | 2025 | 3,193,625 | 2,554,900 | 638,725 | 887,828 | 431,571 | 345,257 | 86,314 | 64,736 | 952,564 | 0.58 | \$ - | \$ - |
| 8 | 2026 | 3,225,562 | 2,580,449 | 645,112 | 896,706 | 435,887 | 348,709 | 87,177 | 65,383 | 962,089 | 0.58 | \$ 558,011.71 | \$ 324,767.89 |
| 9 | 2027 | 3,257,817 | 2,606,254 | 651,563 | 905,673 | 440,246 | 352,196 | 88,049 | 66,037 | 971,710 | 0.58 | \$ 563,591.82 | \$ 306,556.61 |
| 10 | 2028 | 3,290,395 | 2,632,316 | 658,079 | 914,730 | 444,648 | 355,718 | 88,930 | 66,697 | 981,427 | 0.58 | \$ 569,227.74 | \$ 289,366.52 |
| 11 | 2029 | 3,323,299 | 2,658,640 | 664,660 | 923,877 | 449,095 | 359,276 | 89,819 | 67,364 | 991,241 | 0.58 | \$ 574,920.02 | \$ 273,140.36 |
| 12 | 2030 | 3,356,532 | 2,685,226 | 671,306 | 933,116 | 453,585 | 362,868 | 90,717 | 68,038 | 1,001,154 | 0.58 | \$ 580,669.22 | \$ 257,824.08 |
| 13 | 2031 | 3,390,098 | 2,712,078 | 678,020 | 942,447 | 458,121 | 366,497 | 91,624 | 68,718 | 1,011,165 | 0.58 | \$ 586,475.91 | \$ 243,366.65 |
| 14 | 2032 | 3,423,999 | 2,739,199 | 684,800 | 951,872 | 462,703 | 370,162 | 92,541 | 69,405 | 1,021,277 | 0.58 | \$ 592,340.67 | \$ 229,719.92 |
| 15 | 2033 | 3,458,239 | 2,766,591 | 691,648 | 961,390 | 467,330 | 373,864 | 93,466 | 70,099 | 1,031,490 | 0.58 | \$ 598,264.08 | \$ 216,838.43 |
| 16 | 2034 | 3,492,821 | 2,794,257 | 698,564 | 971,004 | 472,003 | 377,602 | 94,401 | 70,800 | 1,041,805 | 0.58 | \$ 604,246.72 | \$ 204,679.27 |
| 17 | 2035 | 3,527,749 | 2,822,199 | 705,550 | 980,714 | 476,723 | 381,378 | 95,345 | 71,508 | 1,052,223 | 0.58 | \$ 610,289.19 | \$ 193,201.93 |
| 18 | 2036 | 3,563,027 | 2,850,421 | 712,605 | 990,521 | 481,490 | 385,192 | 96,298 | 72,224 | 1,062,745 | 0.58 | \$ 616,392.08 | \$ 182,368.17 |
| 19 | 2037 | 3,598,657 | 2,878,926 | 719,731 | 1,000,427 | 486,305 | 389,044 | 97,261 | 72,946 | 1,073,372 | 0.58 | \$ 622,556.00 | \$ 172,141.92 |
| 20 | 2038 | 3,634,644 | 2,907,715 | 726,929 | 1,010,431 | 491,168 | 392,934 | 98,234 | 73,675 | 1,084,106 | 0.58 | \$ 628,781.56 | \$ 162,489.10 |
| 21 | 2039 | 3,670,990 | 2,936,792 | 734,198 | 1,020,535 | 496,080 | 396,864 | 99,216 | 74,412 | 1,094,947 | 0.58 | \$ 635,069.37 | \$ 153,377.56 |
| 22 | 2040 | 3,707,700 | 2,966,160 | 741,540 | 1,030,741 | 501,041 | 400,832 | 100,208 | 75,156 | 1,105,897 | 0.58 | \$ 641,420.07 | \$ 144,776.95 |
| 23 | 2041 | 3,744,777 | 2,995,822 | 748,955 | 1,041,048 | 506,051 | 404,841 | 101,210 | 75,908 | 1,116,956 | 0.58 | \$ 647,834.27 | \$ 136,658.62 |
| 24 | 2042 | 3,782,225 | 3,025,780 | 756,445 | 1,051,458 | 511,111 | 408,889 | 102,222 | 76,667 | 1,128,125 | 0.58 | \$ 654,312.61 | \$ 128,995.52 |
| 25 | 2043 | 3,820,047 | 3,056,038 | 764,009 | 1,061,973 | 516,223 | 412,978 | 103,245 | 77,433 | 1,139,406 | 0.58 | \$ 660,855.74 | \$ 121,762.13 |
| 26 | 2044 | 3,858,247 | 3,086,598 | 771,649 | 1,072,593 | 521,385 | 417,108 | 104,277 | 78,208 | 1,150,801 | 0.58 | \$ 667,464.29 | \$ 114,934.34 |
| 27 | 2045 | 3,896,830 | 3,117,464 | 779,366 | 1,083,319 | 526,599 | 421,279 | 105,320 | 78,990 | 1,162,309 | 0.58 | \$ 674,138.94 | \$ 108,489.43 |
| VMT Savings along 12th Avenue (1.39 miles) | | | | | VMT Savings along 15th Avenue (0.75 miles) | | | | | | | \$ 12,286,862.01 | \$ 3,965,455.42 |

¹ Average Daily Traffic (ADT) values were averaged along both 12th Avenue and 15th Avenue with Illinois DOT AADT Maps. 1% annual increase in traffic was applied. (<http://www.gettingaroundillinois.com/gai.htm?mt=aadt>).

² US DOT FHWA Road Diet case studies showed cases for "Complete Streets" programs with 18-29% volume reduction, as well as a case with 36% reduction. A conservative estimate of 20% reduction was estimated due to increased use of other modes of transportation. (http://safety.fhwa.dot.gov/road_diets/case_studies/roaddiet_cs.pdf).

³ The IRS 2019 Standard Mileage Rates were used for cost/mile. (<https://www.irs.gov/pub/irs-drop/n-19-02.pdf>).



Reduced ADT - Emission Reduction Benefits Table (2019 Dollars)

| Project Year | Analysis Year | Total VMT Savings/Yr @ 25 MPH | Total VMT Savings/Yr @ 35 MPH | CO ₂ (Metric Tons/Yr) | CO ₂ (\$/Metric Ton) | NO _x (Metric Tons/Yr) | NO _x (\$/Metric Ton) | PM _{2.5} (Metric Tons/Yr) | PM _{2.5} (\$/Metric Ton) | SO ₂ (Metric Tons/Yr) | SO ₂ (\$/Metric Ton) | Undiscounted Total Non-CO ₂ Emissions | NPV CO ₂ at 3% Avg SCC | Total Emissions Benefits @ 7% Discount |
|---------------|---------------|-------------------------------|-------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|------------------------------------|-----------------------------------|----------------------------------|---------------------------------|--|-----------------------------------|--|
| 1 | 2019 | 60,984 | 836,374 | 505.38 | | 1.62 | | 0.029 | | 0.009 | | | | |
| 2 | 2020 | 61,594 | 844,738 | 510.44 | | 1.64 | | 0.030 | | 0.009 | | | | |
| 3 | 2021 | 62,210 | 853,185 | 515.54 | | 1.65 | | 0.030 | | 0.009 | | | | |
| 4 | 2022 | 62,832 | 861,717 | 520.70 | | 1.67 | | 0.030 | | 0.009 | | | | |
| 5 | 2023 | 63,460 | 870,334 | 525.90 | | 1.69 | | 0.031 | | 0.009 | | | | |
| 6 | 2024 | 64,095 | 879,037 | 531.16 | | 1.70 | | 0.031 | | 0.009 | | | | |
| 7 | 2025 | 64,736 | 887,828 | 536.47 | | 1.72 | | 0.031 | | 0.009 | | | | |
| 8 | 2026 | 65,383 | 896,706 | 541.84 | \$ 30,884.82 | 1.74 | \$ 29,538.06 | 0.031 | \$ 25,404.20 | 0.009 | \$ 424.62 | \$ 55,366.88 | \$ 24,380.76 | \$ 56,604.79 |
| 9 | 2027 | 66,037 | 905,673 | 547.26 | \$ 31,740.93 | 1.75 | \$ 30,359.91 | 0.032 | \$ 26,010.95 | 0.009 | \$ 435.46 | \$ 56,806.32 | \$ 24,326.78 | \$ 55,225.65 |
| 10 | 2028 | 66,697 | 914,730 | 552.73 | \$ 32,611.07 | 1.77 | \$ 31,018.00 | 0.032 | \$ 26,630.50 | 0.010 | \$ 446.48 | \$ 58,094.98 | \$ 24,265.70 | \$ 53,798.24 |
| 11 | 2029 | 67,364 | 923,877 | 558.26 | \$ 33,495.44 | 1.79 | \$ 31,686.22 | 0.032 | \$ 27,266.32 | 0.010 | \$ 457.68 | \$ 59,410.21 | \$ 24,197.81 | \$ 52,423.18 |
| 12 | 2030 | 68,038 | 933,116 | 563.84 | \$ 34,394.23 | 1.81 | \$ 32,545.51 | 0.033 | \$ 27,915.46 | 0.010 | \$ 468.08 | \$ 60,929.05 | \$ 24,123.42 | \$ 51,176.65 |
| 13 | 2031 | 68,718 | 942,447 | 569.48 | \$ 35,307.65 | 1.83 | \$ 32,870.96 | 0.033 | \$ 28,194.62 | 0.010 | \$ 472.76 | \$ 61,538.34 | \$ 24,042.79 | \$ 49,579.02 |
| 14 | 2032 | 69,405 | 951,872 | 575.17 | \$ 36,235.90 | 1.84 | \$ 33,199.67 | 0.033 | \$ 28,476.56 | 0.010 | \$ 477.49 | \$ 62,153.72 | \$ 23,956.20 | \$ 48,060.48 |
| 15 | 2033 | 70,099 | 961,390 | 580.92 | \$ 37,179.18 | 1.86 | \$ 33,531.67 | 0.034 | \$ 28,761.33 | 0.010 | \$ 482.26 | \$ 62,775.26 | \$ 23,863.90 | \$ 46,616.55 |
| 16 | 2034 | 70,800 | 971,004 | 586.73 | \$ 38,724.44 | 1.88 | \$ 33,866.99 | 0.034 | \$ 29,048.94 | 0.010 | \$ 487.09 | \$ 63,403.01 | \$ 24,131.79 | \$ 45,608.59 |
| 17 | 2035 | 71,508 | 980,714 | 592.60 | \$ 39,704.29 | 1.90 | \$ 34,205.66 | 0.034 | \$ 29,339.43 | 0.010 | \$ 491.96 | \$ 64,037.04 | \$ 24,021.75 | \$ 44,294.24 |
| 18 | 2036 | 72,224 | 990,521 | 598.53 | \$ 40,699.86 | 1.92 | \$ 34,547.71 | 0.035 | \$ 29,632.83 | 0.010 | \$ 496.88 | \$ 64,677.41 | \$ 23,906.88 | \$ 43,042.59 |
| 19 | 2037 | 72,946 | 1,000,427 | 604.51 | \$ 41,711.37 | 1.94 | \$ 34,893.19 | 0.035 | \$ 29,929.15 | 0.010 | \$ 501.84 | \$ 65,324.19 | \$ 23,787.41 | \$ 41,850.09 |
| 20 | 2038 | 73,675 | 1,010,431 | 610.56 | \$ 42,739.04 | 1.96 | \$ 35,242.12 | 0.035 | \$ 30,228.45 | 0.011 | \$ 506.86 | \$ 65,977.43 | \$ 23,663.57 | \$ 40,713.39 |
| 21 | 2039 | 74,412 | 1,020,535 | 616.66 | \$ 43,783.10 | 1.98 | \$ 35,594.54 | 0.036 | \$ 30,530.73 | 0.011 | \$ 511.93 | \$ 66,637.21 | \$ 23,535.57 | \$ 39,629.33 |
| 22 | 2040 | 75,156 | 1,030,741 | 622.83 | \$ 44,843.76 | 2.00 | \$ 35,950.49 | 0.036 | \$ 30,836.04 | 0.011 | \$ 517.05 | \$ 67,303.58 | \$ 23,403.62 | \$ 38,594.92 |
| 23 | 2041 | 75,908 | 1,041,048 | 629.06 | \$ 45,921.25 | 2.02 | \$ 36,309.99 | 0.037 | \$ 31,144.40 | 0.011 | \$ 522.22 | \$ 67,976.61 | \$ 23,267.92 | \$ 37,607.37 |
| 24 | 2042 | 76,667 | 1,051,458 | 635.35 | \$ 47,651.16 | 2.04 | \$ 36,673.09 | 0.037 | \$ 31,455.84 | 0.011 | \$ 527.44 | \$ 68,656.38 | \$ 23,441.21 | \$ 36,976.59 |
| 25 | 2043 | 77,433 | 1,061,973 | 641.70 | \$ 48,769.38 | 2.06 | \$ 37,039.82 | 0.037 | \$ 31,770.40 | 0.011 | \$ 532.72 | \$ 69,342.94 | \$ 23,292.53 | \$ 36,068.91 |
| 26 | 2044 | 78,208 | 1,072,593 | 648.12 | \$ 49,905.19 | 2.08 | \$ 37,410.22 | 0.038 | \$ 32,088.10 | 0.011 | \$ 538.05 | \$ 70,036.37 | \$ 23,140.77 | \$ 35,200.72 |
| 27 | 2045 | 78,990 | 1,083,319 | 654.60 | \$ 51,058.84 | 2.10 | \$ 37,784.33 | 0.038 | \$ 32,408.99 | 0.011 | \$ 543.43 | \$ 70,736.74 | \$ 22,986.13 | \$ 34,369.82 |
| Totals | | | | | \$ 807,360.89 | | \$ 684,268.18 | | \$ 587,073.23 | | \$ 9,842.29 | \$ 1,281,183.70 | \$ 475,736.52 | \$ 887,441.12 |



AIS Crash Data Conversion Calculations

| NO-BUILD | No Injury | | Possible Injury | | Non-incapacitating | | Incapacitating | | Killed | | Injured Severity Unknown | | Property Damage Only | |
|--------------------|-----------|---------------|-----------------|---------------|--------------------|---------------|----------------|---------------|----------|---------------|--------------------------|---------------|----------------------|---------------|
| | 0 | 2019 \$ Value | 1 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 2.8 | 2019 \$ Value |
| AIS Accident Scale | 0 | \$ - | 0.23437 | \$ - | 0.0000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 1 | \$ - | 0.68946 | \$ 19,856.45 | 0.0000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 2 | \$ - | 0.06391 | \$ 28,836.19 | 0.0000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 3 | \$ - | 0.01071 | \$ 10,795.68 | 0.0000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 4 | \$ - | 0.00142 | \$ 3,626.11 | 0.00000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 5 | \$ - | 0.00013 | \$ 740.06 | 0.0000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | Fatality | \$ - | 0.000000 | \$ - | 0.00000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 0.0 | \$ - | 1.0 | \$ 63,854.50 | 0.0 | \$ - | 0.0 | \$ - | 0.0 | \$ - | 0.0 | \$ - | 3.5 | \$ 15,750.00 |
| | | | | | | | | | | | | | | \$ 79,604.50 |

Notes: This case assumes that improvements are NOT built and crash/injury stays consistent with historical data given by Illinois Department of Transportation crash data from 2015-2019. This table has converted available IDOT crash data (shown on a KABCO scale) into AIS Data in accordance to the U.S. DOT'S RAISE BENEFIT-COST ANALYSIS GUIDANCE FOR DISCRETIONARY GRANTS. This table, provided by the National Highway Traffic Safety Administration (NHTSA), makes a conversion from available reported data into re-interpreted AIS data for apples-to-apples comparisons for the U.S. DOT. Property Damage Only (PDO) - This is not originally part of the AIS conversion table, but has been added to this table to account for PDO damage costs. Monetary values for injury/PDO are given by U.S. DOT's RAISE BENEFIT-COST ANALYSIS GUIDANCE FOR DISCRETIONARY GRANT PROGRAMS and amounts have been converted to 2019 dollars.

| REDUCTION OF 40% ¹ | No Injury | | Possible Injury | | Non-incapacitating | | Incapacitating | | Killed | | Injured Severity Unknown | | Property Damage Only | |
|-------------------------------|-----------|---------------|-----------------|---------------|--------------------|---------------|----------------|---------------|----------|---------------|--------------------------|---------------|----------------------|---------------|
| | 0 | 2019 \$ Value | 0.4 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 0 | 2019 \$ Value | 1.12 | 2019 \$ Value |
| AIS Accident Scale | 0 | \$ - | 0.093748 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 1 | \$ - | 0.275784 | \$ 7,942.58 | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 2 | \$ - | 0.025564 | \$ 11,534.48 | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 3 | \$ - | 0.004284 | \$ 4,318.27 | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 4 | \$ - | 0.000568 | \$ 1,450.44 | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 5 | \$ - | 0.000052 | \$ 296.03 | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | Fatality | \$ - | 0.000000 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | 0.000000 | \$ - | 0.00 | \$ - | N/A | N/A |
| | 0.0 | \$ - | 0.4 | \$ 25,541.80 | 0.00 | \$ - | 0.00 | \$ - | 0.0 | \$ - | 0.00 | \$ - | 1.4 | \$ 5,663.60 |
| | | | | | | | | | | | | | | \$ 31,205.40 |

¹ Assumption: US DOT FHWA Road Diet "Complete Street" case studies showed strong support for crash reduction as a result of the complete streets program. Most case studies found reductions between 20% and 70% for crash/injury incidents. A conservative estimate of 40% reduction was used for analysis of crash reduction due to improvements project and is strongly reinforced by "Road Diet" documentation. (http://safety.fhwa.dot.gov/road_diets/case_studies/roaddiet_cs.pdf)

Crash Reduction Benefits (2019 Dollars)

| Crash Reduction Savings Benefits in 2019 Dollars | | | |
|--|---------------|-----------------------|------------------------------|
| Project Year | Analysis Year | Crash Reduction (40%) | Total Benefits @ 7% Discount |
| 1 | 2019 | \$ - | \$ - |
| 2 | 2020 | \$ - | \$ - |
| 3 | 2021 | \$ - | \$ - |
| 4 | 2022 | \$ - | \$ - |
| 5 | 2023 | \$ - | \$ - |
| 6 | 2024 | \$ - | \$ - |
| 7 | 2025 | \$ - | \$ - |
| 8 | 2026 | \$ 31,205.40 | \$ 22,249.02 |
| 9 | 2027 | \$ 31,205.40 | \$ 20,793.48 |
| 10 | 2028 | \$ 31,205.40 | \$ 19,433.16 |
| 11 | 2029 | \$ 31,205.40 | \$ 18,161.83 |
| 12 | 2030 | \$ 31,205.40 | \$ 16,973.67 |
| 13 | 2031 | \$ 31,205.40 | \$ 15,863.24 |
| 14 | 2032 | \$ 31,205.40 | \$ 14,825.46 |
| 15 | 2033 | \$ 31,205.40 | \$ 13,855.57 |
| 16 | 2034 | \$ 31,205.40 | \$ 12,949.13 |
| 17 | 2035 | \$ 31,205.40 | \$ 12,101.99 |
| 18 | 2036 | \$ 31,205.40 | \$ 11,310.27 |
| 19 | 2037 | \$ 31,205.40 | \$ 10,570.35 |
| 20 | 2038 | \$ 31,205.40 | \$ 9,878.83 |
| 21 | 2039 | \$ 31,205.40 | \$ 9,232.55 |
| 22 | 2040 | \$ 31,205.40 | \$ 8,628.55 |
| 23 | 2041 | \$ 31,205.40 | \$ 8,064.07 |
| 24 | 2042 | \$ 31,205.40 | \$ 7,536.51 |
| 25 | 2043 | \$ 31,205.40 | \$ 7,043.47 |
| 26 | 2044 | \$ 31,205.40 | \$ 6,582.68 |
| 27 | 2045 | \$ 31,205.40 | \$ 6,152.04 |
| Totals | | \$ 624,108.01 | \$ 252,205.88 |



Costs Summary Table (2019 Dollars)

| Cost Summary in Constant 2019 Dollars | | | | | |
|---------------------------------------|---------------|----------------------------|------------------------|--------------------------|---------------------------|
| Project Year | Analysis Year | Cost of Improvements | Maintenance | Total Costs Undiscounted | NPV of Costs |
| | | Capital Costs Undiscounted | O&M Costs Undiscounted | | Total Costs @ 7% Discount |
| 1 | 2019 | \$ - | \$ - | \$ - | \$ - |
| 2 | 2020 | \$ - | \$ - | \$ - | \$ - |
| 3 | 2021 | \$ - | \$ - | \$ - | \$ - |
| 4 | 2022 | \$ - | \$ - | \$ - | \$ - |
| 5 | 2023 | \$ - | \$ - | \$ - | \$ - |
| 6 | 2024 | \$ 3,329,886 | \$ - | \$ 3,329,886 | \$ 2,218,843 |
| 7 | 2025 | \$ 9,035,236 | \$ - | \$ 9,035,236 | \$ 5,626,691 |
| 8 | 2026 | \$ 9,904,681 | \$ - | \$ 9,904,681 | \$ 5,764,615 |
| 9 | 2027 | \$ 2,562,714 | \$ - | \$ 2,562,714 | \$ 1,393,946 |
| 10 | 2028 | \$ - | \$ - | \$ - | \$ - |
| 11 | 2029 | \$ - | \$ - | \$ - | \$ - |
| 12 | 2030 | \$ - | \$ - | \$ - | \$ - |
| 13 | 2031 | \$ - | \$ - | \$ - | \$ - |
| 14 | 2032 | \$ - | \$ - | \$ - | \$ - |
| 15 | 2033 | \$ - | \$ - | \$ - | \$ - |
| 16 | 2034 | \$ - | \$ - | \$ - | \$ - |
| 17 | 2035 | \$ - | \$ - | \$ - | \$ - |
| 18 | 2036 | \$ - | \$ - | \$ - | \$ - |
| 19 | 2037 | \$ - | \$ - | \$ - | \$ - |
| 20 | 2038 | \$ - | \$ - | \$ - | \$ - |
| 21 | 2039 | \$ - | \$ - | \$ - | \$ - |
| 22 | 2040 | \$ - | \$ - | \$ - | \$ - |
| 23 | 2041 | \$ - | \$ - | \$ - | \$ - |
| 24 | 2042 | \$ - | \$ - | \$ - | \$ - |
| 25 | 2043 | \$ - | \$ - | \$ - | \$ - |
| 26 | 2044 | \$ - | \$ - | \$ - | \$ - |
| Totals | | \$ 24,832,516 | \$ - | \$ 24,832,516 | \$ 15,004,095 |

Note: O&M costs savings due to improvements and not having a “no-build” situation would further increase benefits. An annual O&M savings was not used due to lack of available information on current cost of operations and maintenance on the roadways.



Average New Property Value Table (2019 Dollars)

| New Commercial/Residential Properties | Square Feet | Value/Square Foot | Increased Property Value | Increased Average Increased Property Value (10yr) |
|---------------------------------------|-------------|-------------------|--------------------------|---|
| THE BEND | | | | |
| Hotel | 80,000.00 | \$ 300.00 | \$ 24,000,000.00 | \$ 2,400,000.00 |
| Healthcare Clinic | 7,000.00 | \$ 325.00 | \$ 2,275,000.00 | \$ 227,500.00 |
| Bank | 6,000.00 | \$ 350.00 | \$ 2,100,000.00 | \$ 210,000.00 |
| Pharmacy | 15,000.00 | \$ 250.00 | \$ 3,750,000.00 | \$ 375,000.00 |
| Retail | 11,000.00 | \$ 250.00 | \$ 2,750,000.00 | \$ 275,000.00 |
| Restaurant | 7,000.00 | \$ 275.00 | \$ 1,925,000.00 | \$ 192,500.00 |
| Restaurant | 7,000.00 | \$ 275.00 | \$ 1,925,000.00 | \$ 192,500.00 |
| Retail | 11,000.00 | \$ 250.00 | \$ 2,750,000.00 | \$ 275,000.00 |
| Apartment Complex 100 units | 83,000.00 | \$ 150.00 | \$ 12,450,000.00 | \$ 1,245,000.00 |
| Apartment Complex 100 units | 83,000.00 | \$ 150.00 | \$ 12,450,000.00 | \$ 1,245,000.00 |
| Grocery Store | 74,000.00 | \$ 225.00 | \$ 16,650,000.00 | \$ 1,665,000.00 |
| Office Building | 45,000.00 | \$ 300.00 | \$ 13,500,000.00 | \$ 1,350,000.00 |
| Office Building | 45,000.00 | \$ 300.00 | \$ 13,500,000.00 | \$ 1,350,000.00 |
| Office Building | 45,000.00 | \$ 300.00 | \$ 13,500,000.00 | \$ 1,350,000.00 |
| Condo | 30,000.00 | \$ 150.00 | \$ 4,500,000.00 | \$ 450,000.00 |
| Condo | 30,000.00 | \$ 150.00 | \$ 4,500,000.00 | \$ 450,000.00 |
| Condo | 30,000.00 | \$ 150.00 | \$ 4,500,000.00 | \$ 450,000.00 |
| Retail/Bar | 8,000.00 | \$ 275.00 | \$ 2,200,000.00 | \$ 220,000.00 |
| THE QUARTER | | | | |
| Townhomes | 49,400.00 | \$ 100.00 | \$ 4,940,000.00 | \$ 494,000.00 |
| Townhomes | 26,600.00 | \$ 100.00 | \$ 2,660,000.00 | \$ 266,000.00 |
| Townhomes | 30,400.00 | \$ 100.00 | \$ 3,040,000.00 | \$ 304,000.00 |
| Trailer Park Condos | 45,000.00 | \$ 125.00 | \$ 5,625,000.00 | \$ 562,500.00 |
| Trailer Park Condos | 45,000.00 | \$ 125.00 | \$ 5,625,000.00 | \$ 562,500.00 |

| New Commercial/Residential Properties | Square Feet | Value/Square Foot | Increased Property Value | Increased Average Increased Property Value (10yr) |
|---|-------------|-------------------|--------------------------|---|
| DOWNTOWN 15TH AVE | | | | |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Retail | 4,500.00 | \$ 250.00 | \$ 1,125,000.00 | \$ 112,500.00 |
| Retail | 4,500.00 | \$ 250.00 | \$ 1,125,000.00 | \$ 112,500.00 |
| Retail | 4,000.00 | \$ 250.00 | \$ 1,000,000.00 | \$ 100,000.00 |
| Office Building | 5,000.00 | \$ 300.00 | \$ 1,500,000.00 | \$ 150,000.00 |
| Office Building | 5,000.00 | \$ 300.00 | \$ 1,500,000.00 | \$ 150,000.00 |
| Office Building | 6,000.00 | \$ 300.00 | \$ 1,800,000.00 | \$ 180,000.00 |
| Office Building | 6,000.00 | \$ 300.00 | \$ 1,800,000.00 | \$ 180,000.00 |
| Restaurant | 6,000.00 | \$ 275.00 | \$ 1,650,000.00 | \$ 165,000.00 |
| Restaurant | 6,000.00 | \$ 275.00 | \$ 1,650,000.00 | \$ 165,000.00 |
| Restaurant | 6,000.00 | \$ 275.00 | \$ 1,650,000.00 | \$ 165,000.00 |
| Restaurant | 6,000.00 | \$ 275.00 | \$ 1,650,000.00 | \$ 165,000.00 |
| Apartment Complex 8 units | 7,200.00 | \$ 175.00 | \$ 1,260,000.00 | \$ 126,000.00 |
| Apartment Complex 8 units | 7,200.00 | \$ 175.00 | \$ 1,260,000.00 | \$ 126,000.00 |
| Apartment Complex 12 units | 10,800.00 | \$ 175.00 | \$ 1,890,000.00 | \$ 189,000.00 |
| Apartment Complex 12 units | 14,400.00 | \$ 175.00 | \$ 2,520,000.00 | \$ 252,000.00 |
| Apartment Complex 16 units | 14,400.00 | \$ 175.00 | \$ 2,520,000.00 | \$ 252,000.00 |
| Apartment Complex 20 units | 20,000.00 | \$ 175.00 | \$ 3,500,000.00 | \$ 350,000.00 |
| Converted to 2019 dollar values: | | | \$ 195,515,000.00 | \$ 19,551,500.00 |



Total New Property Benefits Table (2019 Dollars)

| Total New Commercial/Residential Property Value Benefits | | | |
|--|---------------|------------------------------------|------------------------------|
| Project Year | Analysis Year | Property Protection (2019 Dollars) | Total Benefits @ 7% Discount |
| 1 | 2019 | \$ - | \$ - |
| 2 | 2020 | \$ - | \$ - |
| 3 | 2021 | \$ - | \$ - |
| 4 | 2022 | \$ - | \$ - |
| 5 | 2023 | \$ - | \$ - |
| 6 | 2024 | \$ - | \$ - |
| 7 | 2025 | \$ - | \$ - |
| 8 | 2026 | \$ 19,551,500.00 | \$ 11,379,151.01 |
| 9 | 2027 | \$ 19,551,500.00 | \$ 10,634,720.57 |
| 10 | 2028 | \$ 19,551,500.00 | \$ 9,938,991.19 |
| 11 | 2029 | \$ 19,551,500.00 | \$ 9,288,776.81 |
| 12 | 2030 | \$ 19,551,500.00 | \$ 8,681,099.82 |
| 13 | 2031 | \$ 19,551,500.00 | \$ 8,113,177.40 |
| 14 | 2032 | \$ 19,551,500.00 | \$ 7,582,408.79 |
| 15 | 2033 | \$ 19,551,500.00 | \$ 7,086,363.35 |
| 16 | 2034 | \$ 19,551,500.00 | \$ 6,622,769.49 |
| 17 | 2035 | \$ 19,551,500.00 | \$ 6,189,504.20 |
| 18 | 2036 | \$ - | \$ - |
| 19 | 2037 | \$ - | \$ - |
| 20 | 2038 | \$ - | \$ - |
| 21 | 2039 | \$ - | \$ - |
| 22 | 2040 | \$ - | \$ - |
| 23 | 2041 | \$ - | \$ - |
| 24 | 2042 | \$ - | \$ - |
| 25 | 2043 | \$ - | \$ - |
| 26 | 2044 | \$ - | \$ - |
| Totals | | \$ 195,515,000.00 | \$ 85,516,962.62 |

