Economic Evaluation Complete Report  
Riverbend

# Analysis Base Information

* Number of Alternatives: 2
* Planning Horizon: 50 years
* Discount Rate: 5%
* Disaster Rate: Every 25 years
* Disaster Magnitude: ['6']% of build cost
* Risk Preference: neutral
* Statistical Value of a Life: $7500000

# Summary

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Plan Title | Total Benefits ($) | Total Costs ($) | Net ($) | SIR (%) | IRR (%) | ROI (%) | Non-Disaster ROI (%) |
| Base | 0 | 0 | 0 | 0.00 | --- | 0.00 | 0.00 |
| Retrofit | 2,717,764 | 3,500,000 | -782,236 | -0.22 | 3.45 | 1.55 | 0.00 |
| Second Bridge | 6,407,376 | 4,791,531 | 1,615,845 | 0.38 | 7.39 | 2.67 | 0.79 |

# Base

### Alternative 0

## Fatalities Averted

Number of Statistical Lives Saved: 0.00

Value of Statistical Lives Saved: $0

## Disaster-Related Benefits

|  |  |  |
| --- | --- | --- |
| Title | Amount ($) | Effective Present Value ($) |
| Response and Recovery Cost Reductions |  | 0 |
| Direct Losses Prevented |  | 0 |
| Indirect Losses Prevented |  | 0 |
| Total |  | 0 |

## Resilience Dividend

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Cost Reductions |  |  |  | 0 |
| Recurring Cost Reductions |  |  |  | 0 |
| Total |  |  |  | 0 |

## Costs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| Direct Costs |  |  |  | 0 |
| Indirect Costs |  |  |  | 0 |
| OMR Costs: One-Time |  |  |  | 0 |
| OMR Costs: Recurring |  |  |  | 0 |
| Total |  |  |  | 0 |

## Externalities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Positive Externalities |  |  |  | 0 |
| Recurring Positive Externalities |  |  |  | 0 |
| One Time Negative Externalities |  |  |  | 0 |
| Recurring Negative Externalities |  |  |  | 0 |
| Total |  |  |  | 0 |

# Retrofit

### Alternative 1

## Fatalities Averted

Number of Statistical Lives Saved: 0.20

Value of Statistical Lives Saved: $564,632

## Disaster-Related Benefits

|  |  |  |
| --- | --- | --- |
| Title | Amount ($) | Effective Present Value ($) |
| Response and Recovery Cost Reductions |  | 451,706 |
| RESREC | 600,000 | 451,706 |
| Direct Losses Prevented |  | 195,739 |
| DIRECT BEN | 260,000 | 195,739 |
| Indirect Losses Prevented |  | 1,505,687 |
| ID BEN | 2,000,000 | 1,505,687 |
| Total |  | 2,153,132 |

## Resilience Dividend

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Cost Reductions |  |  |  | 0 |
| Recurring Cost Reductions |  |  |  | 0 |
| Total |  |  |  | 0 |

## Costs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| Direct Costs |  |  |  | 3,000,000 |
| Direct | Start-Up | N/A | 3,000,000 | 3,000,000 |
| Indirect Costs |  |  |  | 500,000 |
| ID | Start-Up | N/A | 500,000 | 500,000 |
| OMR Costs: One-Time |  |  |  | 0 |
| OMR Costs: Recurring |  |  |  | 0 |
| Total |  |  |  | 3,500,000 |

## Externalities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Positive Externalities |  |  |  | 0 |
| Recurring Positive Externalities |  |  |  | 0 |
| One Time Negative Externalities |  |  |  | 0 |
| Recurring Negative Externalities |  |  |  | 0 |
| Total |  |  |  | 0 |

# Second Bridge

### Alternative 2

## Fatalities Averted

Number of Statistical Lives Saved: 0.40

Value of Statistical Lives Saved: $1,129,265

## Disaster-Related Benefits

|  |  |  |
| --- | --- | --- |
| Title | Amount ($) | Effective Present Value ($) |
| Response and Recovery Cost Reductions |  | 752,843 |
| RESREC | 1,000,000 | 752,843 |
| Direct Losses Prevented |  | 0 |
| Indirect Losses Prevented |  | 2,634,951 |
| ID BEN | 3,500,000 | 2,634,951 |
| Total |  | 3,387,795 |

## Resilience Dividend

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Cost Reductions |  |  |  | 0 |
| Recurring Cost Reductions |  |  |  | 1,890,317 |
| Reduced Commute Time | 0 | 1 | 100,000 | 1,890,317 |
| Total |  |  |  | 1,890,317 |

## Costs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| Direct Costs |  |  |  | 4,250,000 |
| DIRECT LOSS | Start-Up | N/A | 4,250,000 | 4,250,000 |
| Indirect Costs |  |  |  | 50,000 |
| ID LOSS | Start-Up | N/A | 50,000 | 50,000 |
| OMR Costs: One-Time |  |  |  | 0 |
| OMR Costs: Recurring |  |  |  | 491,531 |
| RECURRING | 0 | 0.96 | 25,000 | 491,531 |
| Total |  |  |  | 4,791,531 |

## Externalities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Title | Start Year | Recurrence (Years) | Amount ($) | Effective Present Value ($) |
| One Time Positive Externalities |  |  |  | 0 |
| Recurring Positive Externalities |  |  |  | 0 |
| One Time Negative Externalities |  |  |  | 0 |
| Recurring Negative Externalities |  |  |  | 0 |
| Total |  |  |  | 0 |