The mission of the NFA is to restore passenger rail to the area between Oklahoma City and Kansas City.

This area has lacked passenger rail service since the closing of the Lone Star route in 1979. The Heartland Flyer has been serving the southern portion of the route for 10 years.

In order to make this route continuation a reality, it is important to demonstrate a Return on Investment (ROI) substantial enough to merit support from the legislature.

The best way to quantify this return is through an economic impact study considering all of the benefits passenger rail can bring.
Objective

Perform an analysis to ascertain the economic justification for renewing passenger rail between KC and OKC.

Additionally, the analysis will determine the economic impact that the proposed passenger rail service would have on the states, counties, and municipalities along the route.
Parameters

- Use reliable data from trusted sources
  - Kansas Department of Transportation data
  - US Census data
  - Previous study data

- Avoid making assumptions without justification

- Limited to economic impact

- Provide an unbiased analysis

- Simple Return on Investment

- Focus on KC-OKC route with Heartland Flyer in mind
Timeline

Project Initiation (9/7) → Initial Project Meeting (9/16) → Secondary Research Gathering (9/26)

Project Approach (10/3) → Information Research and Analysis (10/31) → Midcourse Meeting (11/4)

Complete Research and Analysis (November) → Interpret Findings (November/December) → Final Project Delivery (12/17)
Discussion of proposed route running from Kansas City to Oklahoma City

Existing Heartland Flyer route from Oklahoma City to Ft. Worth

Revitalizing train depots along the route in Kansas and Oklahoma.

Challenges of overcoming myths of trains

Economic impacts of cities along route
Alexander King, Senior Freight Planner/ Analyst
Joseph Gurskis
Wilbur Smith Associates

Pat Oslund
KU Institute for Policy & Social Research

Robert Honea and Ariel Heckler
KU Transportation Research Institute

Art Hall
Director of Center for Applied Economics

Alexander Metcalf
Transportation & Economics Management Systems, Inc.

Ron Kauffman and John Maddox
Kansas Department of Transportation

Jeremy Hill
Wichita State University
Gather and evaluate NFA materials to better understand the group and its objectives

- NorthernFlyerAlliance.com resource documents and news
- NFA Intercity Passenger Rail Initiative 2007-2010
- NFA Cost-Benefit Study Scope
- Amtrak’s 1979 Lone Star Discontinuance
- Carter Burgess Heartland Flyer Economic Benefit Report
Research Other Economic Benefit Projects

- Collecting and analyzing previous studies of similar magnitude, including:
  - 2000 Kansas Rail Feasibility Study
  - Midwest Regional Rail Initiative Cost & Economic Analysis Study
  - Economic benefits of Amtrak Down-easter Service Study
  - Wichita State Economic & Fiscal Impact of Air Tran
  - Commonwealth of Virginia Department of Rail and Public Transportation Economic Assessment
  - American Public Transportation Association Resource Library

- Determine features of study materials to consider for the NFA Economic Benefit Study
Additional Research Materials

- US Census Bureau Data
- Amtrak Boarding & Alighting figures
- Amtrak State Fact Sheets: Kansas, Oklahoma, Texas
- MassTransitMag.com transit news, including Louisiana Governor’s Rejection of Funding for High-Speed Rail
- KDOT State-Supported Amtrak Service Report
- Articles on High-Speed Rail Stimulus Funding
Research on Economic Impact Models

- Evaluate leading transportation economic impact models
  - Regional Input-Output Modeling System (RIMS II)
  - Regional Economic Models, Inc. (REMI)
  - Local Economic Impact Model (LOCI)
  - IMPLAN Input-Output Modeling System (IMPLAN)

- Reports on credible economic impact models
  - Economic Impact Models Explained, University of Georgia Business Outreach Services
  - Analyzing the Economic Impact of Transportation Projects Using RIMS II, IMPLAN, and REMI

- Selection of the model: IMPLAN
  - Breaks down impacts into direct, indirect, and induced effects
  - Ability to analyze impacts on counties, states, and regions
  - Produces multiple impacts on individuals and industries
Project Approach: 4 Component Strategy

- KDOT Feasibility Study as Baseline for Ridership and Costs
- Creative Marketing Programs to Build Ridership
- Execute IMPLAN Model
- Enhancement of Value/Cost Avoidance

ECONOMIC BENEFIT
Estimated Annual Gain (Loss) from Operations:

Revenues $ 9.79M
Operating Costs (22.33)
Gain (Loss) from Operations ($12.54M)

Figures in 2010 Dollars

Figures updated to 2010 dollars using US Bureau of Labor & Statistics Inflation Calculator

Source: Kansas Rail Feasibility Study, March 2000
Develop marketing strategies to attract incremental ridership from:

- Big XII Travelers
- VIP Travelers
- Senior Travelers

Construct advertising strategy to enhance potential traveler awareness and substitution for auto, bus choices.
Big 12 Travelers

- 7 of the 12 universities in the Big 12 can be accessed via the Heartland Flyer route and a connecting route.
- Hundreds of thousands of alumni of Big 12 universities live in the KC, OKC, and DFW areas or along the route.
- Students, fans, and alumni can use passenger rail to travel with their team on road games.
VIP Travelers

- First class and/or lounge coach cars
- Charters and tours
- Premium food and beverage services
- Allow parties to reserve entire coach cars
Senior travelers

- Senior citizens who are unable/unwilling to drive long distances could use the train for transportation

- Provide an opportunity to travel along the corridor to visit family or travel recreationally that might not otherwise exist

- Potential discount for seniors to increase ridership
Train Wrap Advertising

- Creates a large moving billboard that will be seen over a large area.
- Customizable to all companies needs.
- Additional revenue stream to Amtrak
- New age of media advertising
Calculation of Ridership Estimate

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas Rail Feasibility Ridership (2000)</td>
<td>130,000</td>
</tr>
<tr>
<td>Average Midwest Gas Prices (Cents per Gallon)</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>147.4</td>
</tr>
<tr>
<td>2008</td>
<td>319.1</td>
</tr>
<tr>
<td>Difference</td>
<td>171.7</td>
</tr>
<tr>
<td>*% Ridership Increase per $.01 Increase in Gas Price</td>
<td>0.06%</td>
</tr>
<tr>
<td>% Increase in Ridership</td>
<td>10.302%</td>
</tr>
<tr>
<td>Tentative Ridership Estimate</td>
<td>143,393</td>
</tr>
<tr>
<td>Creative Marketing Impact on Ridership Growth</td>
<td>5%</td>
</tr>
<tr>
<td>Total Ridership Estimate (Including 5% Growth from Creative Marketing Impact)</td>
<td>150,562</td>
</tr>
</tbody>
</table>

*Transit Ridership Models: Present Status and Future Needs
Regional Transportation Authority

Base Ridership and Costs  Creative Marketing  IMPLAN  Enhancement/ Cost Avoidance  Economic Benefit ROI
About the IMPLAN Model:

- Allows users to conduct customized input-output analysis

- Measure the effect on surrounding economies from new projects

- Database includes current county, state, zip code, and federal economic statistics
How Does IMPLAN Work?

- **Social Accounting Matrix (SAM)**
  - Identifies accounting flows across industry sectors, households, corporations, and governments
  - Describes transactions between producers, intermediates, and consumers
  - “Snapshot” of economy spending patterns

- **Multipliers measure effects on economies**
  - Direct
  - Indirect
  - Induced
Applying IMPLAN to NFA:

- **Construct economic impact models**
  - Infrastructure
  - Station area spending and operational costs
  - Tourist and business traveler spending

- **Economic impact results for each model**
  - Direct, indirect, and induced effects
  - Employment, labor income, total output
  - Total Value Added: Best measure of economic impact
Selection of Event Impacts:

- **Infrastructure Impacts**
  - Track improvements
  - Station improvements

- **Station Area and Operational Impacts**
  - Rider spending
  - Operational costs

- **Tourism and Business Traveler Impacts**
  - Visitor spending
  - Lodging
Constructing the Impact Models:

- Identify station counties in Oklahoma and Kansas
- Select impact events to be measured in 2010 dollars
- Determine inputs and sectors for each impact
- Evaluate results with a focus on Total Value Added
Infrastructure Impact Models:

- Counties analyzed: All counties along the route

- Sector: Construction of other non-residential structures

- Estimated infrastructure cost: $47,704,564
  - 2000 KDOT Feasibility Study: $38,000,000
  - Updated to 2010 dollars
Infrastructure Input Values

- Infrastructure costs allocated by miles of rail in KS & OK

<table>
<thead>
<tr>
<th>State</th>
<th>Miles of Rail</th>
<th>Allocation</th>
<th>Amount Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>281.72</td>
<td>70.836%</td>
<td>$33,791,783</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>115.99</td>
<td>29.164%</td>
<td>$13,912,782</td>
</tr>
</tbody>
</table>

Total Infrastructure Cost of Proposed Railway* $47,704,565

* 2010 Figure (updated for inflation)
## Infrastructure Economic Impact Summary

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Labor Income</th>
<th>Total Output</th>
<th>Total Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kansas</strong></td>
<td>439.4</td>
<td>$21,003,200</td>
<td>$59,304,832</td>
<td>$27,230,912</td>
</tr>
<tr>
<td><strong>Oklahoma</strong></td>
<td>162.4</td>
<td>$7,280,560</td>
<td>$21,474,432</td>
<td>$9,171,584</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>601.8</td>
<td>$28,283,760</td>
<td>$80,779,264</td>
<td>$36,402,496</td>
</tr>
</tbody>
</table>

- **Total Value Added**: Best dollar figure estimate of economic impact
Rider Spending and Operational Impact Models:

- Counties analyzed: All KS and OK station counties

- Sectors impacted
  - Rider spending at station area stops
    - Retail – general merchandise
    - Food services and drinking places
  - Operational spending
    - Support activities for transportation

- Estimated Annual Operating Costs: $22,333,268
  - 2000 KDOT Feasibility Study: $17,790,000
  - Updated to 2010 dollars
Economic Impact - Stations

Conservative estimate of $10 spent per rider
## Projected Rider Spending

<table>
<thead>
<tr>
<th>Station</th>
<th>County</th>
<th>Ridership by Station</th>
<th>% of Total Ridership</th>
<th>*Station Area Spending (per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas City</td>
<td>Wyandotte/Johnson</td>
<td>43,763</td>
<td>29.07%</td>
<td>$437,626</td>
</tr>
<tr>
<td>Lawrence</td>
<td>Douglas</td>
<td>7,295</td>
<td>4.85%</td>
<td>$72,949</td>
</tr>
<tr>
<td>Topeka</td>
<td>Shawnee</td>
<td>11,107</td>
<td>7.38%</td>
<td>$111,068</td>
</tr>
<tr>
<td>Emporia</td>
<td>Lyon</td>
<td>2,261</td>
<td>1.50%</td>
<td>$22,608</td>
</tr>
<tr>
<td>Strong City</td>
<td>Chase</td>
<td>178</td>
<td>0.12%</td>
<td>$1,783</td>
</tr>
<tr>
<td>Newton</td>
<td>Harvey County</td>
<td>2,141</td>
<td>1.42%</td>
<td>$21,408</td>
</tr>
<tr>
<td>Wichita</td>
<td>Sedgwick</td>
<td>30,697</td>
<td>20.39%</td>
<td>$306,972</td>
</tr>
<tr>
<td>Winfield - Ark City</td>
<td>Cowley</td>
<td>2,166</td>
<td>1.44%</td>
<td>$21,656</td>
</tr>
<tr>
<td>Newkirk - Ponca City</td>
<td>Kay</td>
<td>2,901</td>
<td>1.93%</td>
<td>$29,010</td>
</tr>
<tr>
<td>Perry</td>
<td>Noble</td>
<td>710</td>
<td>0.47%</td>
<td>$7,100</td>
</tr>
<tr>
<td>Guthrie</td>
<td>Logan</td>
<td>2,422</td>
<td>1.61%</td>
<td>$24,223</td>
</tr>
<tr>
<td>Edmond</td>
<td>Oklahoma</td>
<td>5,604</td>
<td>3.72%</td>
<td>$56,040</td>
</tr>
<tr>
<td>OKC</td>
<td>Oklahoma</td>
<td>39,318</td>
<td>26.11%</td>
<td>$393,180</td>
</tr>
</tbody>
</table>
## Projected Operational Spending

- Operational costs allocated by miles of rail in KS & OK

### Calculation of Operational Costs by State

<table>
<thead>
<tr>
<th>State</th>
<th>Miles of Rail</th>
<th>Allocation</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>281.72</td>
<td>70.83%</td>
<td>$15,819,890</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>115.99</td>
<td>29.16%</td>
<td>$6,513,378</td>
</tr>
<tr>
<td>Totals</td>
<td>397.71</td>
<td>100%</td>
<td>$22,333,268</td>
</tr>
</tbody>
</table>

**Base Ridership and Costs**

**Creative Marketing**

**IMPLAN**

**Enhancement/ Cost Avoidance**

**Economic Benefit ROI**
## Execute IMPLAN Model

### Rider Spending and Operational Inputs

#### Kansas

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sector (s) Impacted</th>
<th>Input Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Area Rider Spending</td>
<td>Retail-General</td>
<td>$498,035</td>
</tr>
<tr>
<td></td>
<td>Food &amp; Drinking</td>
<td>$498,035</td>
</tr>
<tr>
<td>Operational Spending</td>
<td>Support Activities for Transportation</td>
<td>$15,819,890</td>
</tr>
</tbody>
</table>

#### Oklahoma

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sector (s) Impacted</th>
<th>Input Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Area Rider Spending</td>
<td>Retail-General</td>
<td>$254,777</td>
</tr>
<tr>
<td></td>
<td>Food &amp; Drinking</td>
<td>$254,777</td>
</tr>
<tr>
<td>Operational Spending</td>
<td>Support Activities for Transportation</td>
<td>$6,513,378</td>
</tr>
</tbody>
</table>
**Execute IMPLAN Model**

**Rider Spending and Operational Economic Impact Summary**

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Labor Income</th>
<th>Total Output</th>
<th>Total Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>277.7</td>
<td>$14,858,112</td>
<td>$26,555,584</td>
<td>$20,738,560</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>114.6</td>
<td>$5,884,720</td>
<td>$10,193,504</td>
<td>$8,082,672</td>
</tr>
<tr>
<td>Totals</td>
<td>392.3</td>
<td>$20,742,832</td>
<td>$36,749,088</td>
<td>$28,821,232</td>
</tr>
</tbody>
</table>

**Total Value Added:** Best dollar figure estimate of economic impact
Tourism & Business Traveler Impact:

- Counties analyzed: 5 largest metro areas based on ridership estimates
  - Kansas City (Johnson/Wyandotte)
  - Lawrence (Douglas)
  - Topeka (Shawnee)
  - Wichita (Sedgwick)
  - Oklahoma City (Oklahoma)
Tourism & Business Traveler Impact:

- **Sectors impacted**
  - Amusement & Recreation Industries
  - Hotels/Motels, including Casino Hotels
  - Food Services & Drinking Places
  - Retail – General Merchandise

- **Visitor data provided by Chambers of Commerce for each of the 5 metropolitan areas**
  - Average # of visitors per year
  - Estimated annual visitor revenue generated
Kansas City

Visitors Per Year: 16,500,000
Annual Visitor Revenue: $3,150,000,000
Average Dollars Spent Per Visitor: $191

*www.visitkc.com
Visitors Per Year:
Chamber of Commerce Data N/A

Annual Visitor Revenue:
Chamber of Commerce Data N/A

Average Dollars Spent Per Visitor:
$35 *

*Estimated by comparing ridership to Kansas City/Wichita
Visitors Per Year:
Chamber of Commerce Data N/A

Annual Visitor Revenue:
Chamber of Commerce Data N/A

Average Dollars Spent Per Visitor:
$53*

*Estimated by comparing ridership to Kansas City/Wichita
Visitors Per Year: 3,400,000

Annual Visitor Revenue: $356,000,000

Average Dollars Spent Per Visitor: $105

*www.360wichita.com*
Visitors Per Year:
7,500,000

Annual Visitor Revenue:
$1,500,000,000

Average Dollars Spent Per Visitor:
$200

*www.okccvb.org
### Estimates of Tourist & Business Traveler Spending

<table>
<thead>
<tr>
<th>Major Metropolitan Area</th>
<th>Dollars Spent Per Visitor</th>
<th>Ridership to Area</th>
<th>Rider Tourism Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas City</td>
<td>$191</td>
<td>43,763</td>
<td>$8,354,672</td>
</tr>
<tr>
<td>Lawrence</td>
<td>$35</td>
<td>7,295</td>
<td>$251,830</td>
</tr>
<tr>
<td>Topeka</td>
<td>$53</td>
<td>11,107</td>
<td>$583,777</td>
</tr>
<tr>
<td>Wichita</td>
<td>$105</td>
<td>30,697</td>
<td>$3,214,175</td>
</tr>
<tr>
<td>Oklahoma City</td>
<td>$200</td>
<td>39,318</td>
<td>$7,863,600</td>
</tr>
<tr>
<td><strong>Kansas</strong></td>
<td></td>
<td></td>
<td><strong>$12,404,454</strong></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td><strong>$20,683,600</strong></td>
</tr>
</tbody>
</table>

**Oklahoma**

**Combined**

$20,268,054
## Tourism & Business Traveler Spending Inputs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sector (s) Impacted</th>
<th>Input Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism/Business Spending</td>
<td>Amusement &amp; Recreation Industries</td>
<td>$3,101,113</td>
</tr>
<tr>
<td>Lodging</td>
<td>Hotels/Motels, Incl. Casino Hotels</td>
<td>$3,101,113</td>
</tr>
<tr>
<td>Retail Spending</td>
<td>Food &amp; Drinking</td>
<td>$3,101,113</td>
</tr>
<tr>
<td></td>
<td>Retail-General</td>
<td>$3,101,113</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$12,404,454</strong></td>
</tr>
</tbody>
</table>
## Tourism & Business Traveler Spending Inputs

### Oklahoma

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sector(s) Impacted</th>
<th>Input Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism/Business Spending</td>
<td>Amusement &amp; Recreation Industries</td>
<td>$1,965,900</td>
</tr>
<tr>
<td>Lodging</td>
<td>Hotels/Motels, Incl. Casino Hotels</td>
<td>$1,965,900</td>
</tr>
<tr>
<td>Retail Spending</td>
<td>Food &amp; Drinking</td>
<td>$1,965,900</td>
</tr>
<tr>
<td></td>
<td>Retail-General</td>
<td>$1,965,900</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$7,863,600</strong></td>
</tr>
</tbody>
</table>
### Tourism & Business Traveler Spending Economic Impact Summary

<table>
<thead>
<tr>
<th></th>
<th>Employment</th>
<th>Labor Income</th>
<th>Total Output</th>
<th>Total Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>183.4</td>
<td>$5,269,040</td>
<td>$17,477,312</td>
<td>$8,991,744</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>115.8</td>
<td>$3,038,606</td>
<td>$10,270,342</td>
<td>$5,169,088</td>
</tr>
<tr>
<td>Totals</td>
<td>299.2</td>
<td>$8,307,646</td>
<td>$27,747,654</td>
<td>$14,160,832</td>
</tr>
</tbody>
</table>

- **Total Value Added**: Best dollar figure estimate of economic impact

---

**Research and Analysis**

- Execute IMPLAN Model
- Base Ridership and Costs
- Creative Marketing
- IMPLAN
- Enhancement/Cost Avoidance
- Economic Benefit ROI
### Summary of Total Value Added Impact

<table>
<thead>
<tr>
<th></th>
<th>Kansas</th>
<th>Oklahoma</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>$27,230,912</td>
<td>$9,171,584</td>
<td>$36,402,496</td>
</tr>
<tr>
<td>Station/Operational</td>
<td>$20,738,560</td>
<td>$8,082,672</td>
<td>$28,821,232</td>
</tr>
<tr>
<td>Spending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism/Business</td>
<td>$8,991,744</td>
<td>$5,169,088</td>
<td>$14,160,832</td>
</tr>
<tr>
<td>Spending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>56,961,216</td>
<td>22,423,344</td>
<td>$79,384,560</td>
</tr>
</tbody>
</table>
# ROI: Marketing Strategies Employed

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Benefit</th>
<th>Operating Loss</th>
<th>Capital Outlay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$79,400,000</td>
<td>($12,540,000)</td>
<td>$66,500,000</td>
</tr>
<tr>
<td>2</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>3</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>4</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>5</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>6</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>7</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>8</td>
<td>43,000,000</td>
<td>($12,540,000)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>9</td>
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</tr>
</tbody>
</table>

**1-Year** | **5-Year** | **10-Year Return**
---|---|---
Economic Benefit | $66,860,000 | $188,700,000 | $341,000,000
CAPEX | $66,500,000 | $86,500,000 | $111,500,000
Return | 1.01 | 2.18 | 3.06

**Base Ridership and Costs** | **Creative Marketing** | **IMPLAN** | **Enhancement/Cost Avoidance** | **Economic Benefit ROI**
## Partial Return on Investment

Base Ridership + Marketing Strategies Only

<table>
<thead>
<tr>
<th></th>
<th>1-Year</th>
<th>5-Year</th>
<th>10-Year</th>
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<tbody>
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<td>Economic Benefit</td>
<td>$66,860,000</td>
<td>$188,700,000</td>
<td>$341,000,000</td>
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<tr>
<td>Investment</td>
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<tr>
<td>Return on Investment</td>
<td>1.01</td>
<td>2.18</td>
<td>3.06</td>
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</table>
Passenger rail can reduce the cost of:

- Car (Property) Accident Costs
- Car (Fatalities) Accident Costs

Sources for value of cost avoidances:

- Federal Railroad Administration
- KDOT
- National Safety Council
- U.S. Department of Transportation
- Office of Management and Budget
- National Highway Safety Administration
- U.S. Environmental Protection Agency
Research and Analysis

Life and Limb

- Economic value of preventing a human fatality: $5.8 million
  - Sources: US Department of Transportation and US Bureau of Transportation, Statistic and Federal Transit Administration

Fatalities
Rail vs. Passenger Vehicle

Injuries
Rail vs. Passenger Vehicle

- Base Ridership and Costs
- Creative Marketing
- IMPLAN
- Enhancement/Cost Avoidance
- Economic Benefit ROI
## Return on Investment

**Base Ridership + Marketing Strategies + Cost Avoidance**

<table>
<thead>
<tr>
<th></th>
<th>1-Year</th>
<th>5-Year</th>
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<tbody>
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<td>Economic Benefit</td>
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<tr>
<td>Return on Investment</td>
<td>1.09</td>
<td>2.52</td>
<td>3.58</td>
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</tbody>
</table>

**Base Ridership and Costs**

**Creative Marketing**

**IMPLAN**

**Enhancement/ Cost Avoidance**

**Economic Benefit ROI**
Return on Investment (after tax impact)

Net out of pocket investment*: $ .64

Value produced from investment: $3.58

Incremental economic benefit: $2.94

Tax considered ROI: 4.6:1

For each $.65 of net investment, NFA project produces $2.94 in economic benefits, a 4.6 to 1 economic development ratio

*assumes average 10% all taxes impact on value produced