Hoosier State Rail Service Cost Benefit Analysis

Indiana Department of Transportation

Task 9.0
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Table of Contents

1.0 Introduction 1-1

1.1 Purpose 1-2

2.0 Methodology 2-1

2.1 Introduction 2-1
2.2 Existing Conditions 2-2
2.3 Stakeholder Engagement Process 2-4
2.4 Ridership and Revenue 2-5
2.4.1 Service Plan Options 2-5
2.4.2 Forecasting Ridership and Revenue 2-5
2.4.3 Forecasting Operating and Maintenance Costs 2-5
2.5 Requirements and Cost for Improved Service 2-5
2.6 Estimating Economic Benefits 2-6

3.0 Literature Review and Background 3-1

3.1 History of *Hoosier State* 3-1
3.2 Route and Station Ownership 3-2
3.3 PRIIA Section 209 3-2
3.3.1 The History and the Legislation 3-2
3.3.2 Implementing the Legislation 3-3
3.4 Best Practices in Other States 3-3
3.5 Land Use and Transportation Plans 3-5

4.0 Existing Conditions 4-1

4.1 Study Area 4-1
4.2 Operating Schedule 4-2
4.3 Ridership & Revenue 4-2
4.4 Operating Subsidies 4-2
4.5 On-time Performance of the *Hoosier State* and Cause of Service Delays 4-2
4.6 Existing Railroad Conditions and Initiatives for Improvement 4-3
4.6.1 Chicago Hub 4-3
4.6.1.1 Introduction 4-3
4.6.1.2 Initiatives to Improve Railroad Performance 4-3
4.6.2 Anticipated Corridor Improvements 4-4
4.6.2.2 CSX Infrastructure 4-5
4.6.2.3 Rolling Stock 4-5
4.6.2.4 Initiatives to Improve Rolling Stock 4-5

5.0 Stakeholder Engagement and Comments 5-1

6.0 Proposed Alternatives 6-1

6.1 Elimination of Service 6-1
6.1.1 Definition 6-1
6.1.2 Ridership & Revenue 6-1
6.2 No Build Alternative 6-1
6.2.1 Definition 6-1
6.2.2 Ridership& Revenue 6-1
6.3 Improved Service Overview 6-1
6.4 Improved Service Option 1 6-1

6.4.1 Definition 6-1
6.4.2 Ridership & Revenue 6-2
6.5 Improved Service Option 2 6-2
6.5.1 Definition 6-2
6.5.2 Ridership & Revenue 6-2
6.6 Improved Service Option 3 6-2
6.6.1 Definition 6-2
6.6.2 Ridership & Revenue 6-2
6.7 Improved Service Option 4 6-2
6.7.1 Definition 6-2
6.7.2 Ridership & Revenue 6-2
6.8 Capital Improvements for Improved Service Options 1 – 4 6-2
6.9 Comparison of Proposed Alternatives 6-4

7.0 Cost Estimates 7-1
7.1 Operating and Maintenance Cost Estimates 7-1
7.2 Capital Cost Estimates 7-1

8.0 Economic Benefits and Other Beneficial Impacts 8-1
8.1 Introduction 8-1
8.2 Benefits 8-1
8.2.1 System Revenues 8-1
8.2.2 Consumer Surplus 8-2
8.3 Highway Congestion Delay Savings 8-2
8.4 Airport Congestion Delay Savings 8-3
8.5 Emissions Reductions 8-3
8.6 Summary of Monetized Annual Benefits and Costs 8-4
8.7 Other Beneficial Impacts 8-5
8.7.1 Introduction 8-5
8.7.2 Economic Development Benefits Overview 8-5
8.7.3 Expenditure Related Economic Impacts 8-5
8.7.4 Economic Impacts on Land Usage 8-5
8.7.5 Beech Grove Maintenance Facility 8-7
8.7.6 Freight Improvement 8-8
8.7.7 Social Benefits Overview 8-8
8.7.8 Environmental Justice Populations 8-8
8.7.9 Quality of Life 8-8

9.0 Cost Benefit Analysis 9-1

10.0 Conclusion and Recommendations 10-1
10.1 Overview of Cost-Benefit Analysis 10-1
10.2 Study Questions 10-1
10.3 Alternatives Evaluation Matrix 10-1
10.4 Recommendations 10-3

Appendices

Appendix A – Operating Schedule
Appendix B - Stakeholder Engagement and Comments
Appendix C - Service Development Program Standard Budget and Schedule Form
Appendix D - Station Photos

References

The following Technical Reports have been prepared to complete this Cost Benefit Analysis and can be made available upon request:

Task 1.0 Hoosier State Profile/Existing Conditions

Tasks 1.1 and 1.5 Study Area and Operating Schedule

Tasks 1.2, 1.3. and 1.9 History, Route and Station Ownership, and Stakeholders

Tasks 1.6, 1.7. 1.8, and 1.10 Ridership and Revenue; Operating Subsidies; On-Time Performance; and goals, Key Performance Indicators and Targets

Task 2.0 Literature Review and Background

Tasks 2.1, 2.3, and 2.8 PRIIA Section 209, Chicago Hub and MWRRI Studies, and Anticipated Improvements.

Task 2.7 Published Community Development Plans and Task 6.3.3 Stakeholders Identify Facilities Sensitive to Rail Service

Task 4.0 Ridership and Revenue Forecasting

Task 4.3 Amtrak Ridership and Revenue Forecast

Task 4.4 Operating and Maintenance Cost Estimate and Fuel Consumption

Task 5.0 Best Practices in Other States/Regions

Task 6.0 Stakeholder Engagement (See Task 2.7)

Task 7.0 Requirements for Improved Service

Tasks 7.1 and 7.3 Quantity of Infrastructure Improvements for Improved Service and Capital Cost of Improvements

Task 7.2 Empirical Capacity Analysis

Task 8.0 Economic Benefit Factors

Task 8.1 Scenarios to be considered

Task 8.2 Economic Benefits

A list of other publically available references used are included after the Appendices.

List of Figures

Figure 2-1: Study Flow Diagram 2-1
Figure 2-2: Study Area 2-3
Figure 4-1: Existing Track Schematic of the Rail Corridor 4-1
Figure 6-1: Conceptual Track Schematic of the Proposed Capital Improvements 6-4

List of Tables

Table 3-1: Summary of Comparable Passenger Rail Services 3-4
Table 4-1: Boardings and Detrainings by Station FY2010 4-2
Table 4-2: Summary of On-time Performance and Cause of Service Delays 4-3
Table 4-3: Average Speed by Segment 4-4
Table 6-1: Comparison of Existing Service and Proposed Alternatives 6-5
Table 7-1: Annual Operating and Maintenance Cost Estimate 7-1
Table 7-2: Summary Costs of Infrastructure Improvements 7-2
Table 8-1: Total Annual Revenue 8-1
Table 8-2: Annual Consumer Surplus 8-2
Table 8-3: Annual Highway Congestion Delay Savings 8-2
Table 8-4: Annual Air Congestion Delay Savings 8-3
Table 8-5: Annual Emissions Reductions 8-3
Table 8-6 Summary of Total Benefits 8-4
Table 8-7: Summary of Economic Environment and Potential Development 8-6
Table 9-1: Summary of Cost vs. Benefit 9-1
Table 9-2: Summary of PRIIA 209 State Payments Compared to Transportation Benefits (Annualized Capital Costs are not shown) 9-1
Table 10-1: Alternatives Evaluation Matrix 10-2

1.0 Introduction

Under the provisions of Section 209 of the Passenger Rail Investment and Improvement Act (PRIAA) of 2008, all short-distance Amtrak Corridor services (less than 750 miles) used for intercity passenger rail service must become state-supported to continue and states must pay the proportional costs associated with the corridor route. In Indiana, Section 209 service includes the *Hoosier State*, which runs from Indianapolis to Chicago. The *Hoosier State* operates four days per week with stops in Indianapolis, Crawfordsville, Lafayette, Rensselaer, and Dyer. On the alternate three days per week that the *Hoosier State* does not operate, the Cardinal provides passenger rail service to the same stops at the same times; effectively providing seven days per week service between Indianapolis and Chicago. Because the Cardinal operates from New York City to Chicago, it exceeds the 750-mile minimum and is not subject to the funding provisions of Section 209.

The Indiana Department of Transportation (INDOT) is supportive of a multi-modal strategy to address current and future surface transportation needs of the state of Indiana and Indiana taxpayers. In general, INDOT will satisfactorily maintain, support, and operate current transportation infrastructure at the lowest cost to taxpayers. Therefore, INDOT conducted this cost-benefit analysis of the *Hoosier State* Passenger Rail Service to quantify and compare the costs and benefits of the service to determine if funding for this service, by the state or local entities, is appropriate under INDOT funding policies. Benefits related to revenue, consumer surplus, traffic congestion, airport congestion, and air emissions are compared to the annual estimated cost of operating the service and the annualized estimated capital cost of improvements. Other beneficial impacts that are not quantifiable are identified.

Six scenarios were evaluated (See **Table 10-1**):

1. Elimination of the Hoosier State
2. No Build Alternative, or continuance of the *Hoosier State* with no improvements
3. Improved Service Option 1 (one daily roundtrip)
4. Improved Service Option 2 (one daily roundtrip)
5. Improved Service Option 3 (two daily roundtrips)
6. Improved Service Option 4 (two daily roundtrips)

The specific cost, revenue, and benefit factors considered for improved service included the following:

- Capital expenditures;
- Operation & maintenance (O&M) expenditures;
- Revenue from ticket sales and other operations;
- Annual Consumer Surplus: User Benefits;
- Congestion Reduction benefits from reduced VMT;
- Airport Congestion Reduction benefits from riders diverted from air travel; and
- Reduction in air emissions resulting from the reduction in VMT.

Other Beneficial Impacts that cannot be monetized include Economic Development and Social Benefits; they include the following:

- Expenditure Related Economic Impact;
- Economic Impact on Land Usage;

- Beech Grove Maintenance Facility;
- Freight Improvements;
- Environmental justice; and
- Improved Quality of Life.

1.1 Purpose

The key purpose of this cost-benefit analysis was to determine if funding for the *Hoosier State*, by the state and local entities, is justified based on demand for and benefits of the service. To be deemed economically feasible, the total benefits, including system revenues, must exceed the total costs of the project on a present value basis. This study also provided INDOT an opportunity to evaluate different scenarios for service improvements to optimize performance, improve cost efficiencies, and increase revenues.

In addition to evaluating the costs and benefits of maintaining, improving, or discontinuing the *Hoosier State*, the cost benefit analysis aimed to answer the following three questions raised by INDOT:

- What is the long-term plan of the communities at/near the existing stations along the route for this rail service?
- What are the goals and targets of the communities at/near the existing stations along the route for this rail service?
- Who is willing to help with the cost of the passenger rail service between Indianapolis and Chicago?

In order to answer these questions, key stakeholders, including citizens, businesses, legislators, and institutions, were given opportunities to participate and provide input into the study as it relates to economic impacts and funding opportunities. Information obtained from the stakeholder engagement process was used to shape the cost benefit analysis and help INDOT answer the questions above. A description of the stakeholder engagement process is included in Section 2.3. The results of the stakeholder engagement are included in Section 5.0.

2.0 Methodology

2.1 Introduction

The Methodology of this study is intended to deliver an analysis of the costs and economic benefits of the continued operation of the *Hoosier State* in order to assist the State of Indiana in determining if it is appropriate to continue the passenger rail service and, if it is appropriate, options for funding and governing the service. The Methodology provides an analysis that is data driven. The data generally falls into two categories:

- Specific quantified costs and benefits (monetized)
- Qualified benefits to the communities, the region, and the host freight railroad (non-monetized)

Figure 2-1 presents a flow diagram of the methodology for the study. A detailed description of the methodology is included herein.

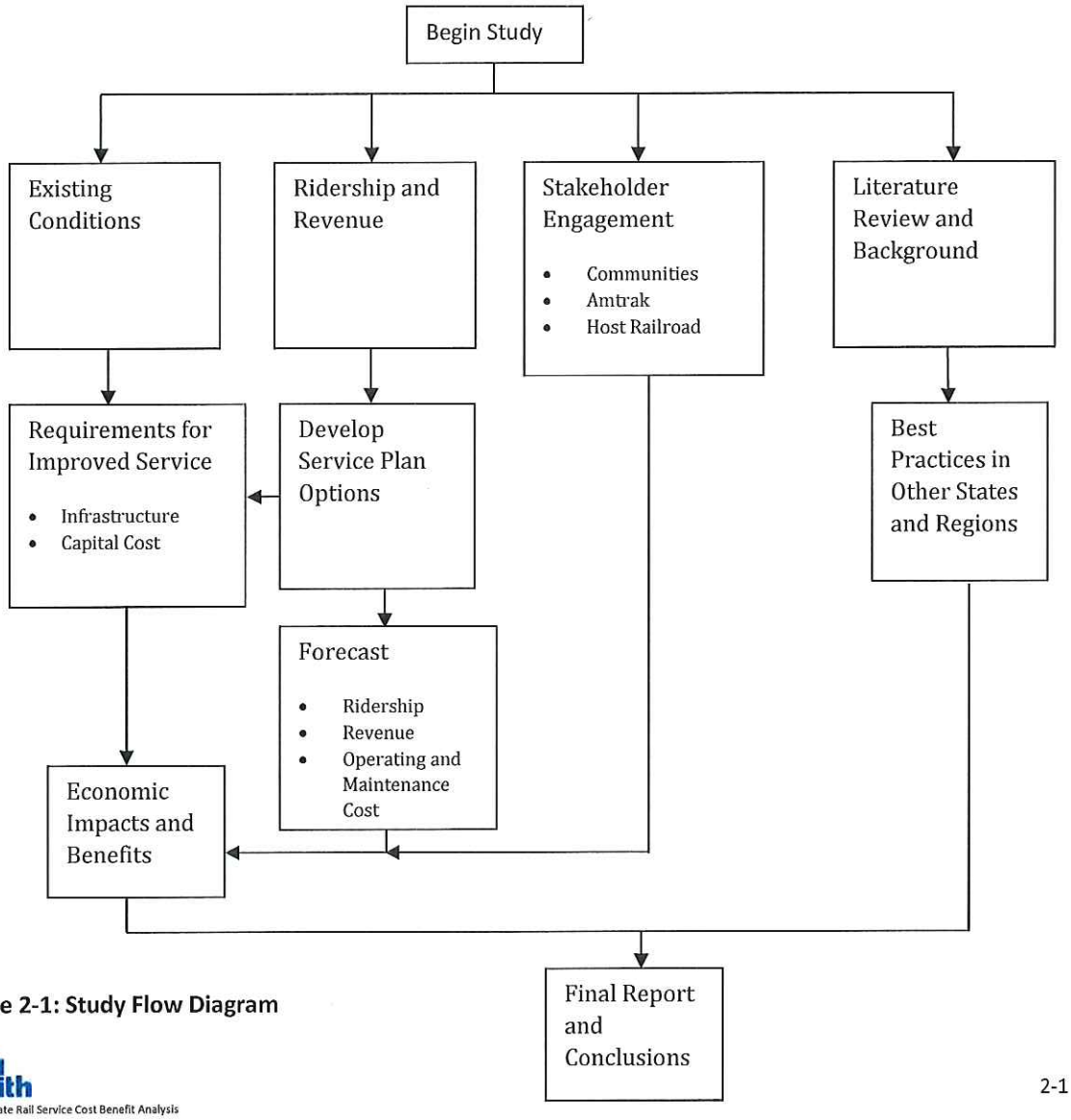

Figure 2-1: Study Flow Diagram

Each of the elements of the Flow Diagram is documented in a series of technical reports that identify the technical methodology, assumptions, data, and conclusions for each. The key information and findings from the technical papers are included in this final report. Complete technical papers can be provided upon request.

2.2 Existing Conditions

The overall corridor impacts were studied from Indianapolis to the Indiana/Illinois state line along the rail corridor. Existing conditions data was collected and included a history of the passenger rail service; passenger service operating schedules, ridership, revenue, operating subsidies, and on-time performance; and route ownership, track infrastructure, and station ownership. In addition, economic impacts within a two-mile radius around the five railroad stations in Indiana were considered unless specific impacts outside that radius were identified by the stakeholders or, in the case of Dyer, the radius is outside the state of Indiana. Specific station locations in the study area include:

- 350 S Illinois St, Indianapolis, IN 46225
- 400 N Green St, Crawfordsville, IN 47933
- 200 North 2nd Street, Lafayette, IN 47901
- 776 North Cullen Street, Rensselaer, IN 47978
- 913 Sheffield Avenue, Dyer, IN 46311

The Amtrak Beech Grove Maintenance Facility is about seven miles to the southeast of the Indianapolis railroad station. At the Beech Grove shops, over 530 highly skilled men and women do a wide variety of work for Amtrak as well as contract work for other passenger railroad operators. This includes basic repairs, cyclical maintenance, as well as repainting and completely rebuilding locomotives and coaches alike. This is Amtrak's largest repair facility. The *Hoosier State* acts as an essential shuttle for equipment coming to and from the Beech Grove Shops and Amtrak's main Midwest hub of Chicago. From Chicago, Amtrak connects to the rest of the nationwide system.

A map of the study area is included as **Figure 2-2.**

Figure 2-2: Study Area

2.3 Stakeholder Engagement Process

In order to comprehensively study the impact continuation or elimination of the *Hoosier State* would have on traffic congestion, public safety, air quality, and economic development and job growth, it was necessary to obtaining stakeholder feedback. There are numerous individuals and organizations along the corridor that are affected by and/or expressed interested in the *Hoosier State* Passenger Rail Service. These stakeholders include, but are not limited to the following:

Indiana House of Representatives

Indiana State Senators

Local Municipal Mayors and Town Managers

Transportation Stakeholders

- Amtrak
- CSX Transportation
- Midwest Passenger Rail Commission

Universities/Colleges

- Purdue University (Lafayette)
- St. Joseph's College (Rensselaer)
- Wabash College (Crawfordsville)
- Butler University (Indianapolis)
- Marian University (Indianapolis)
- Martin University (Indianapolis)
- University of Indianapolis (Indianapolis)

Planning/Economic Development Agencies

- Tippecanoe County Metropolitan Planning Organization
- Greater Lafayette Commerce
- Rensselaer Chamber of Commerce
- Indianapolis Metropolitan Planning Organization
- Indianapolis Chamber of Commerce
- Northwestern Indiana Regional Planning Commission

On May 21, 2013 and May 23, 2013, INDOT held two stakeholder meetings to introduce the *Hoosier State* cost benefit analysis study to key stakeholders and obtain feedback on the costs and benefits of the *Hoosier State*. During the meetings, stakeholders were asked to identify specific goals and targets related to the *Hoosier State*. The community stakeholders did not make cost effectiveness a goal although this issue was clearly raised by INDOT. Stakeholders were also asked to bring copies of their community's land use plans and any current or future development projects and goals. These plans were reviewed to understand the existing and planned land use development patterns at and near the stations.

Amtrak was a core stakeholder and source of operating information for the cost benefit analysis. As the operator of the *Hoosier State* and Cardinal, Amtrak provided data on current ridership and

revenue and developed practical options for service improvements, operating and maintenance costs, and ridership/revenue projections. Like the majority of Amtrak routes, the *Hoosier State* operates on freight-owned railroads.

The *Hoosier State* operates primarily over CSX Transportation track. CSX is a critical stakeholder since knowledge of the existing and proposed freight traffic is necessary in order to develop infrastructure improvements and capital costs for improving the speed and on-time performance of the *Hoosier State*.

2.4 Ridership and Revenue

2.4.1 Service Plan Options

Amtrak Market Research and Analysis developed several options for improved passenger service frequency and travel times.

2.4.2 Forecasting Ridership and Revenue

Using the AECOM Model for travel demand, Amtrak forecast the ridership and revenue impact of the proposed change on the *Hoosier State*. The AECOM travel demand model includes potential customer demographics in the study area, latent ridership potential, and potential ridership drivers (i.e. connectivity to other Amtrak trips, desirability based on time of day, and travel time). The forecasting model's inputs include the fare structure assumptions and potential service plan improvements (frequency, schedule times).

2.4.3 Forecasting Operating and Maintenance Costs

The foundation of the PRIIA 209 Cost Methodology is the newly developed Amtrak Performance Tracking (APT) system. Developed by the Volpe National Transportation Systems Center in conjunction with the FRA and Amtrak, this new system provides the basis for allocating to each route costs that are incurred solely to benefit that route. It also allocates common costs and costs benefiting multiple routes proportionally, based on factors that reflect relative use.

At this time, Amtrak does not have additional train sets (each train set consists of one locomotive and two passenger coaches) available to use for the increased trip frequency. In order to include an annualized capital cost for additional equipment it was assumed that used train sets could be made available and rehabilitated at an annualized cost 25 percent more than the existing equipment.

2.5 Requirements and Cost for Improved Service

From studying the existing *Hoosier State* operations, it was apparent that infrastructure improvements would be necessary to support a growing freight operation and faster/more frequent passenger service. Based on the service plan options used for the ridership and revenue forecasting and projected increase in freight service, infrastructure improvements to support improved service, including increased service speed and frequency, were identified by CDM Smith. In general, these included maintenance of existing railroad infrastructure and signals, extensions to existing sidings, and adding new sidings. A high level estimate of the capital cost of improvements (except for the locomotive and coaches which are included in Operating and Maintenance costs) was prepared in order to complete the Federal Railroad Administration's Service Development Program Budget and Schedule Form (Budget Form). The General Information, Detailed Capital Cost Budget, and Annual Capital Cost Budget for the Budget Form were completed by estimating quantities and unit cost of

various improvements. FY2012 is the last full year of operation and is, therefore, used as the base year for all ridership, revenue, and cost data. Unit costs were developed based on the most current data available and escalated to FY2012. The estimating process then escalates the costs to the anticipated year of expenditure (See **Appendix C**). Quantities for the various Cost Categories are based on available track charts, capacity analysis requirements to increase required capacity, and quantities of work on other comparable corridor upgrade projects.

An empirical capacity analysis was used to estimate the number of freight trains that can operate in the CSX Transportation's (CSXT) Indianapolis Line along with the existing Cardinal and the proposed Chicago-Indianapolis *Hoosier State* passenger service expansion; and to estimate the need for increased infrastructure so that the freight and passenger trains could provide on time performance. This capacity analysis is empirical only. As part of any capital investment study preceding plans for a new passenger rail implementation on the line a capacity modeling simulation would be needed, in collaboration with CSXT, to determine the actual capital improvements required for the service.

The method known as grid time analysis was used to assess the corridor's capacity and to determine the upper limit for the number of trains than can run over a corridor in a 24-hour period. The grid time analysis is driven by various assumptions, as described in Empirical Capacity Analysis Technical Report Task 7.2 Empirical Capacity Analysis.

2.6 Estimating Economic Benefits

The U.S. Department of Transportation Federal Railroad Administration's methodology for benefit/cost comparisons was used for this study (FRA 1997). Per the FRA, benefits had to meet the following four key criteria:

- **Immediately quantifiable in practical terms**: Data had to be available at a sufficient level of detail that lent itself to estimation
- **Monetizable**: Data lent itself to expression in dollar terms
- **Not duplicative**: Data could not duplicate any other element of total benefits; no double counting
- **Not a transfer effect**: Data could not be represented by a relocation of benefits from one geographic area to another (i.e. multiplier effect of station area development)

For purposes of this study, benefits that were monetized include:

- System Revenues
- Consumer Surplus
- Highway Congestion Delay Savings
- Airport Congestion Delay Savings
- Emissions Reductions

Items lacking one or more of the above characteristics that were qualitative in nature but still represented improvements in the study area fell under the rubric of "other impacts" and did not influence the quantitative results of the study. "Other impacts," while not quantified, are important to consider when making policy and funding decisions.

Vehicle miles traveled (VMT) were estimated to determine highway and air congestion delay savings. VMT reductions were based on ridership assuming that 75 percent of the increase in ridership is auto diversions, 15 percent is air diversions, and 10 percent is induced. The total carbon emissions

reduction due to the proposed service is the difference between the reduction due to VMT and the increase due to more diesel fuel consumed by locomotives.

3.0 Literature Review and Background

A review of available information in the study area was conducted in order to be sure that the study accounted for anticipated railroad infrastructure and operational improvements planned in the study area, compatibility with other regional studies, and compatibility with PRIIA Section 209. The literature review included the history of passenger rail in the study area as well as existing and future land use and development policies and plans along the corridor. Successful practices for rail passenger services in other states and regions were also studied in order to be aware of options for system governance and operations funding that have been successfully applied to passenger rail service and suggest options that would be appropriate for improved *Hoosier State* service. This section details the findings of the literature review.

3.1 History of *Hoosier State*

Amtrak's *Hoosier State* passenger rail line was inaugurated on October 1, 1980. Prior to the *Hoosier State*, passenger rail between Indianapolis and Chicago was served by several trains including the Monon, Pennsylvania Railroad's (PRR) South Wind and Kentuckian, New York Central's James Whitcomb Riley, and the Indianapolis Special and Sycamore (Schafer 1991).

The Monon, known as the Chicago, Indianapolis & Louisville Railroad from 1897 to 1956, connected Dearborn Station in Chicago, Illinois to Union Station in Indianapolis (Cox 2011). The PRR South Wind ran from 1940 to 1971 when Amtrak took over passenger service from freight companies (as part of the Rail Passenger Services Act in 1970) and renamed the line the Floridian. Due to poor track conditions, the Floridian changed routes and stopped serving Indianapolis (Dolzall & Dozall 2002). The Indianapolis-Chicago market was then only served by Amtrak's National Limited, which ran between New York and Kansas City.

Due to funding cuts in the Carter Administration, the National Limited discontinued service in 1979, separating Indianapolis from the national rail network (Dolzall & Dolzall 2002). This was a major issue for Amtrak, as its main maintenance shops are in Beech Grove, Indiana between Indianapolis and Chicago was soon replaced by the *Hoosier State*, using the ex-Pennsylvania Railroad mainline in Illinois, the ex-Monon route from Maynard to Crawfordsville, and the ex-Peoria & Eastern line from Crawfordsville to Indianapolis (Dolzall & Dolzall 2002).

In 1986, the Amtrak's Cardinal line, connecting New York Penn Station with Chicago Union Station was rerouted to use the same tracks as the *Hoosier State* from Chicago to Indianapolis, and the *Hoosier State* began running only on the days the Cardinal did not operate (Dolzall & Dolzall 2002). In 1987, the *Hoosier State* was restored to daily operation on a separate schedule from the Cardinal. Funding cuts led to the discontinuance of the *Hoosier State* in 1995, but was later restored in July 1998. From 1999 to 2003, the *Hoosier State* was extended south from Indianapolis to Louisville, KY and renamed the Kentucky Cardinal (Sanders 2006). After the discontinuance of the Kentucky Cardinal, the *Hoosier State* returned to operating four days a week from Indianapolis to Chicago.

3.2 Route and Station Ownership

Most Amtrak trains make use of the national freight network. In Indiana, the *Hoosier State* primarily operates over CSX Transportation tracks. According to the Indiana State Rail Plan and verified by calling County assessor offices, the Indianapolis station, platform, and tracks, are owned by the City of Indianapolis. The Crawfordsville station is owned by Amtrak, the parking lots are owned by CSX Transportation and private owner N. Morrison (Montgomery County Assessor Office 2013; Amtrak 2013), and the platforms and tracks are owned by CSX Transportation. The Lafayette station and parking lots are owned by the City of Lafayette, and the platforms and tracks are owned by CSX Transportation. The Rensselaer station is owned by Amtrak; the parking lots, platform and tracks are owned by CSX Transportation. The Dyer station is located at an at-grade crossing of the CSX and the Elgin, Joliet & Eastern railroad lines. The Dyer station and parking lots are owned by Amtrak. CSX Transportation owns the platforms and tracks (Amtrak 2013).

3.3 PRIIA Section 209

3.3.1 The History and the Legislation

The partnership between states and Amtrak facilitating rail service dates to Amtrak's beginning in 1971. The 1970 Rail Passenger Services Act (Section 403b) created the framework for individual states to request and fund additional passenger rail service. Three states, Massachusetts, Illinois, and Pennsylvania, were the first to add new routes. Through subsequent years and new Amtrak authorizations, the state partnership concept remained, and additional trains and routes were added. Currently 15 states sponsor services over 21 routes.

However, agreements developed under Section 403b after 1997 led to variations in how Amtrak charged for its services. Some of the changes applied to new services added, while other changes impacted all existing services. Over the years, the cost formulas ranged from solely related to short-term avoidable cost to long-term avoidable cost to full cost. Not only did state sponsored services in different states have different cost formulas, in some cases, different routes in the same state had different cost formulas. In addition, some of Amtrak's short-distance routes were initiated by Amtrak and were considered basic system trains; these routes were 100 percent funded by Amtrak (Empire Service, New York – Buffalo and some San Diegans, Los Angeles – San Diego). This created a "fairness" issue that many states lobbied to be addressed.

One underlying concept in federal transportation funding is that, if a service cannot be operated on a market basis, those directly benefiting from the service should contribute to the operating subsidy. As a result, many of the changes to the cost formulas of state-sponsored trains since 1997 were undertaken to increase state contributions and not rely on Amtrak's federal subsidy to operate these services.

All of these factors - support for state partnerships, fairness, and greater contribution by direct beneficiaries – are embodied in the Passenger Rail Investment and Improvement Act of 2008 (PRIIA Section 209) which reauthorized Amtrak and authorized programs for expanded and improved intercity rail service. It also enacted requirements aimed at restructuring the cost basis between Amtrak and its partner states for funding their intercity passenger rail trains by requiring Amtrak and the states to develop a consistent cost-sharing methodology across all corridor routes less than 750 miles. Section 209 required Amtrak and its state partners to develop and implement a transparent, fair, equitable, and standardized cost-sharing methodology allocating the operating, shared/joint and capital costs of providing state sponsored intercity passenger rail service.

3.3.2 Implementing the Legislation

Beginning in 2010 a Section 209 State Working Group (SWG) consisting of representatives of Amtrak, California, Maine, North Carolina, Virginia, and Wisconsin began developing a new cost sharing methodology. Working in a compressed timeframe through the later part of 2010 and most of 2011, the SWG worked cooperatively to develop a new cost sharing methodology. The new costing methodology was completed in August 2011 and approved by Amtrak's Board in November 2011. Indiana was the only state that did not approve the methodology as Indiana disagreed with the unfunded mandate from the federal government and thus disagreed, ultimately, with the funding methodology.

On March 13, 2012, the Surface Transportation Board issued a decision and ordered that PRIIA Section 209 Cost Methodology between Amtrak and the states should be implemented. The decision was effective April 14, 2012, to be implemented October 1, 2013.

3.4 Best Practices in Other States

A review of best practices in other state and regions with comparable passenger rail service was conducted to provide insight and guidance to INDOT as it considers funding the proposed alternatives of the *Hoosier State*. Specifically, seven state-supported, short-distance Amtrak passenger rail service (less than 750 miles) were evaluated on their governance, management structure, planning and investment strategy, target markets, and funding sources.

The seven passenger rail services included the following:

1. Capital Corridor – Auburn, CA to San Jose, CA
2. South Shore Line – South Bend, IN to Chicago, IL
3. Lincoln Service – Chicago, IL to St. Louis, MO
4. Amtrak Cascades – Vancouver, BC to Eugene, OR
5. Downeaster – Boston, MA to Portland and Brunswick, ME
6. Vermonter – Washington, DC to St. Albans, VT
7. Heartland Flyer – Oklahoma City, OK to Fort Worth, TX

The Heartland Flyer, between Oklahoma City, OK and Fort Worth, TX is an example service that is very similar to the Hoosier State providing one round trip per day of similar length and running time, and linking a medium sized city with Dallas-FTW. The state subsidies are about $3 million a year for both Texas and Oklahoma. Because the service has been popular they are considering expanding service.

Table 3-1 summaries the findings for these services. Additional analysis and information can be found in the Task 5.0 Best Practices in Other States/Regions Technical Report.

Table 3-1: Summary of Comparable Passenger Rail Services

Passenger Service	Termini and Mileage	Governance and Management	Funding Sources (In addition to Fare Box)	Target Markets and Fare Structure
Capital Corridor	Auburn, CA to San Jose, CA 168 miles	Governance: Capital Corridor Joint Powers Authority (CCJPA) Management: Bay Area Rapid Transit District (BART)	Fuel taxes, voter approved bond issues, and federal grants	Markets: Inter-city, daily commuters, and leisure. Fare: Multi-ride tickets with seamless modal transfers
South Shore Line	South Bend, IN to Chicago, IL 90 miles	Northern Indiana Commuter Transportation District (NICTD)	Regional Transportation Authority Northeastern Illinois, sales tax, and federal funds	Markets: Daily commuters, some Inter-city, and leisure. Fare: Multi-ride and single-ride tickets.
Lincoln Service	Chicago, IL to St. Louis, MO 284 miles	Governance: Illinois Department of Transportation (IDOT) Management: Amtrak	Illinois General Revenue Funds, fuel taxes, general obligation bonds, and federal grants	Markets: Leisure, students, and business travel. Fare: Amtrak's mileage-based fare structure dynamically discounted depending on demand.
Amtrak Cascades	Vancouver, BC to Eugene, OR 467 miles	Newly formed Corridor Management Organization jointly sponsored by WSDOT and Oregon DOT and coordinated with British Columbia.	Washington and Oregon non-fuel tax revenues, sales tax, state transportation funds, FRA/Amtrak operating funds, and federal grants.	Markets: Leisure, students, and business travel. Fare: Amtrak's mileage-based fare structure dynamically discounted depending on demand.
Downeaster	Boston, MA to Portland and Brunswick, ME 138 miles	Northern New England Passenger Rail Authority	Car rental taxes, CMAQ, and federal grants	Markets: Leisure, students, and business travel. Fare: Multi-ride fares and reserved seats that are revenue managed to maximize ticket revenue.
Vermonter	Washington. DC to St. Albans, VT 611 miles (about 300 miles is not on the NEC	Current Governance and Management: Amtrak system train. Future Governance: States of Vermont, Massachusetts, and Connecticut. Future Management: Amtrak	State legislature appropriations, general obligation bonds, and federal grants.	Markets: Leisure and business travel. Fare: Amtrak's mileage-based fare structure discounted depending on individuals.

Table 3-1: Summary of Comparable Passenger Rail Services (Continued)

Passenger Service	Termini and Mileage	Governance and Management	Funding Sources (In addition to Fare Box)	Target Markets and Fare Structure
Heartland Flyer	Oklahoma City, OK to Fort Worth, TX 206 miles	Governance: Oklahoma and Texas DOT Management: Amtrak	State legislature appropriations from general revenue	Markets: Leisure travel. Fare: Multi-ride fares and Amtrak's mileage-based fare structure discounted depending on individuals.

3.5 Land Use and Transportation Plans

A review of published development plans in the study area near stations was conducted in order to be able to evaluate the impact of passenger service on those community plans. The literature review focused on local, regional, or county land use and transportation plans that provide guidance on goals and objectives for future land use and/or transportation planning efforts along the corridor. The majority of policies and plans reviewed were for communities with stations along the route; however, additional policies and/or plans were reviewed if identified by the stakeholders as important or if they would impact or be impacted by the elimination or continuance of the *Hoosier State*. While the *Hoosier State* was not specifically called out in each plan, the plans recommended that future land use decisions consider transportation infrastructure improvements to promote stronger regional connections and increase mobility and accessibility for its residents and visitors. Key relevant findings of policy and planning reports for the communities along the corridor are included in Technical Reports for Task 2.7; specific communities surveyed include:

- City of Indianapolis and Marion County
- City of Crawfordsville
- City of Lafayette and Tippecanoe County
- City of Rensselaer and Jasper County
- Town of Dyer and Lake County

4.0 Existing Conditions

4.1 Study Area

The overall corridor impacts were studied from Indianapolis to the Indiana/Illinois state line along the rail corridor. **Figure 4-1** is an existing track schematic of the rail corridor. The schematic locates the existing sidings and stations and references the CSX track chart subdivision or branch.

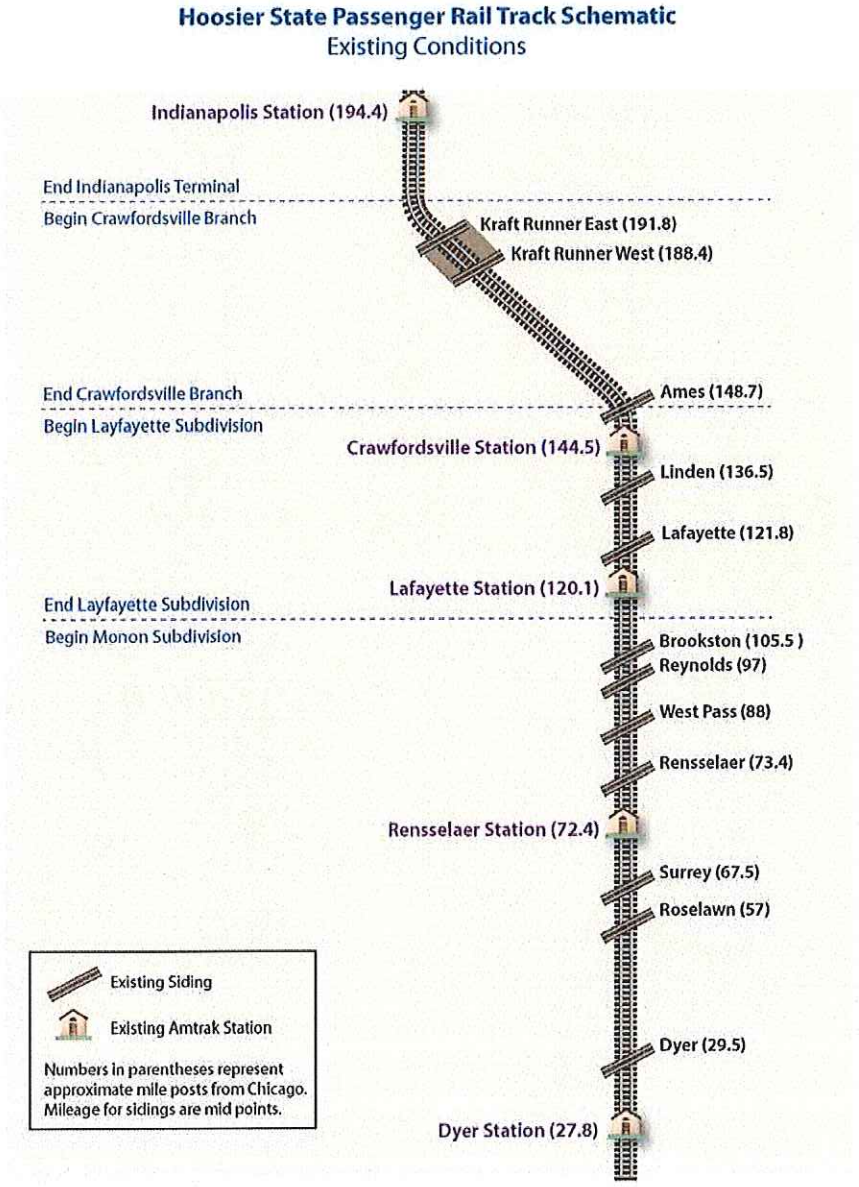

Figure 4-1: Existing Track Schematic of the Rail Corridor

4.2 Operating Schedule

The operating schedule for the Hoosier State and the Cardinal is included in **Appendix A.** The Hoosier State operates one train between Indianapolis and Chicago four days per week. The Cardinal operates one train between New York and Chicago via Indianapolis three days per week., The Hoosier State and Cardinal (two services but on differing days) combine to provide one round trip train seven days per week between Chicago and Indianapolis.

4.3 Ridership & Revenue

Ridership and ticket revenue was provided by Amtrak and was used to describe a baseline for the "No Build" scenario, from which the proposed alternative scenarios will be compared. According to Amtrak FY2012 statistics, there were 36,670 total riders where each rider is considered a "round-trip" on the *Hoosier State* in FY2012. The *Hoosier State* operated 416 train trips, 81,333 train miles, and 5,619,000 passenger miles. Total revenue was $883,000 with ticket revenue at $870,000 accounting for 98.5% of total revenue.

Boardings and detrainings by station for FY2010 is included in the Indiana State Rail Plan and is summarized in **Table 4-1** below where each boarding and detraining is considered a "one-way trip".

Table 4-1: Boardings and Detrainings by Station FY2010

Dyer	Rensselaer	Lafayette	Crawfordsville	Indianapolis
2,257	1,847	25,805	5,488	32,125

4.4 Operating Subsidies

Total FY2014 forecasted data for the *Hoosier State* calculated in accordance with PRIIA 209 Pricing Policy are:

- Expenses: $3,846,000,
- Total Passenger and Other Revenue$907,000 , and
- Total 209 State Payment: $2,939,000.

These statistics identify the extent to which the service must be subsidized; for FY2014 indicating that the *Hoosier State* would require a state subsidy of about $80 per round-trip.

4.5 On-time Performance of the *Hoosier State* and Cause of Service Delays

The standard for on time performance is 80 percent for services serving Indiana. Amtrak defines On-Time Performance (OTP) as the total number of trains arriving on-time at a station divided by the total number of trains operated on that route. A train is considered on-time if it arrives at a station within an allowed number of minutes, or tolerance, of its scheduled arrival time.

The delay statistics and the top two causes of delay on the CSX route in Indiana are summarized in **Table 4-2.**

Table 4-2: Summary of On-time Performance and Cause of Service Delays

Measure of Delay	*Hoosier State*
On-time Performance (%)	
End Point	65.7%
All Stations	74.4%
Service Delays (Min/10,000 train miles)	
Total Host Railroad Delays	**876 min**
Top two Causes of Delay	
Freight Interference	356 min
Signal Delay	349 min
Total Amtrak Responsible Delay	**461 min**
Top Causes of Delay	No Data

4.6 Existing Railroad Conditions and Initiatives for Improvement

4.6.1 Chicago Hub

4.6.1.1 Introduction

Chicago is the nation's rail hub for both freight and passenger service. Six major freight railroads serve the city, interchanging almost 40,000 rail cars a day within the Chicago Terminal Area. Almost all of Amtrak's long-distance trains service Chicago along with a substantial number of Midwest short-distance corridor routes. Metra and Northern Indiana Commuter Transportation District (NICTD) also operate a robust network of commuter rail service (12 routes), second only in size to the Long Island Railroad.

In addition to the heavy volume of freight trains (about 500 a day), Amtrak trains and many Metra trains operate on the same heavy traffic freight lines. Also the radial Amtrak and Metra routes cross key freight beltway lines at grade, delaying the flow of freight traffic on lines that were designed to facilitate the interchange of rail freight cars. Adding to the congestion issue are at-grade highway rail crossings that prevent segments of the rail network from being used to hold trains that stop for a period of time while other trains proceed ahead of them. As a result of these sections of track (which represent capacity) being off limits, a train cannot leave a yard until the entire route is clear. This blocks yard tracks and prevents other trains from entering the yard, further degrading capacity.

Growth of both freight and passenger traffic has been strong in the last two decades and is expected to grow as economic growth continues and high fuel costs and traffic congestion shift traffic from the highway to the rail mode.

4.6.1.2 Initiatives to Improve Railroad Performance

As part of the planning effort, computer operating simulations were undertaken and a list of potential capital improvement projects was compiled. The need for a comprehensive all-encompassing program led to the establishment of the CREATE (Chicago Region Environmental and Transportation Efficiency Project) initiative.

CREATE is a public-private partnership to reduce rail and highway congestion and add freight and passenger capacity in the Chicago Terminal Area. CREATE rationalized and prioritized projects generating a list of projects that would yield the greatest reduction in rail and auto delay. The projects include 36 freight rail projects, several flyovers to separate passenger routes from freight routes, highway rail separations (25), at-grade rail/highway crossings, safety enhancements, existing elevated rail line viaducts will be brought to a state of good repair or improved, and . creation of a real-time basis a Common Operational Picture dispatcher screen to integrate information from all the railroad dispatcher systems into a single display.

About one-third of the projects have been completed or are under construction. Another 30 percent are under environmental review or final design. Work has not started on the remainder of the projects (half of which are proposed rail highway grade separations).

CREATE projects completed help reduce rail freight and passenger delay, improve overall rail traffic management of the terminal area, enhance capacity, improve or bring critical infrastructure to a state of good repair, and reduce delays to motorists and emergency responders.

Improvements to the Chicago Terminal Area will directly impact intercity passenger rail including the *Cardinal/Hoosier State* in particular which travels over seven railroads, through seven junctions and multiple rail crossing as it exits Chicago. As shown in **Table 4-3**, the average terminal area speed for the *Cardinal/Hoosier State* is slower than trains on comparable corridors. For the line-haul segments, the *Cardinal/Hoosier State* is also slower than trains on comparable routes.

In order to improve the *Cardinal/Hoosier State* performance in the Chicago Terminal Area a reroute via CN track has been proposed. The new route would improve speeds and it would be more reliable due to less freight traffic, junctions, and rail crossings.

Table 4-3: Average Speed by Segment

Track Segment	Miles	Cardinal/ *Hoosier St*	Lincoln Service	Wolverine	San Joaquin
Chicago-Dyer terminal area	29	23.8 mph			
Dyer-Indianapolis	167	48.4 mph			
Chicago-Joliet terminal area	37		44.4 mph		
Joliet-Alton	220		58.7 mph		
Chicago-Hammond terminal area	16			35.6 mph	
Hammond-Dearborn	257			55.1 mph	
Emeryville-Martinez terminal area	27				41.5 mph
Stockton-Bakersfield	233				55.3 mph

Source: Amtrak Timetable 2013

4.6.2 Anticipated Corridor Improvements

4.6.2.1 Stations

Anticipated station improvements are only required at Crawfordsville. Existing station conditions as reported by Amtrak are as follows:

- Dyer is receiving a new ADA-compliant station, parking lot and platform, with construction beginning in July/August and being completed in October/November 2013. This work will be done for Amtrak.

- Rensselaer has an ADA-compliant station and parking lot that is slated to be completed in the next two weeks. They have had an ADA-compliant platform there since the spring of 2011
- Lafayette has no work anticipated; the station, access, and platform at Lafayette are ADA-compliant
- Crawfordsville has no work anticipated at this time.
- Indianapolis station is partially ADA-compliant; raised tactile edging is still needed for the platform to gain full compliance. Compliant elevator access is currently available.

4.6.2.2 CSX Infrastructure

CSX has not published a capital improvement program for the track between Indianapolis and Dyer.

4.6.2.3 Rolling Stock

Currently the *Hoosier State* Rolling Stock (the locomotive and coaches) includes Amtrak's P-42 locomotive and Amtrak's Horizon Fleet rail coaches. Amtrak's P-42 locomotives were built by General Electric between 1996 and 2001 (commercial life of 20 years). Amtrak's Horizon coaches, built by Bombardier Transportation, were constructed between the years 1988 and 1989 and are almost 25 years old. Thirty years is considered the commercial life of a rail coach. Amtrak has only one set of locomotive and coaches for the *Hoosier State.*

4.6.2.4 Initiatives to Improve Rolling Stock

As part of the PRIIA Act (Section 305) a Next Generation Equipment Committee was established to develop uniform specification for the next generation of rail cars including bi-levels.

To accommodate traffic growth, improve services on state-supported trains and in support of Amtrak's effort to replace older equipment, the states of California, Illinois, Michigan, and Missouri placed an order for 130 bi-level passenger cars using the next generation design with seating for up to 90 passengers.

It is anticipated that the replacement of rolling stock in other states would make used equipment available which could be refurbished for increased service on an improved Hoosier *State.*

5.0 Stakeholder Engagement and Comments

As described in Methodology, stakeholders from the communities along the route were hosted by INDOT at two meetings. The minutes and comments from those Stakeholder Meetings are included in **Appendix B**. These stakeholder meetings provided the basic information to define the expectations of the communities and was used to develop Table 10-1 Alternatives Evaluation Matrix.

Amtrak, the current passenger operator as a stakeholder, provided a report on the Hoosier State Chicago-Indianapolis Daily Service Options. This report identified options for service times and frequency, projected ridership and revenue, and estimated operating and maintenance costs. This information is identified and used in Sections 6.0 and 7.0.

CSX, the host railroad as a stakeholder, provided information regarding their freight traffic and information regarding their standards for improved sidings. This information was used to determine the Capital Improvements for Improved Service Options 1-4 needed to estimate the capital cost in Section 6.0.

CN, a host freight railroad that operates north of Dyer into Chicago, was not engaged as a part of this study. However, using their track would reduce current freight-passenger conflicts entering Chicago and be effective in reducing the schedule time for the Hoosier State. This route change would not require significant capital improvement to that segment.

6.0 Proposed Alternatives

6.1 Elimination of Service

6.1.1 Definition

Elimination of the *Hoosier State* would eliminate the existing quad-weekly from Indianapolis to Chicago. The Cardinal would still operate on a three-day schedule. This scenario would significantly reduce the number of passenger trains traveling from Indianapolis and Chicago, making roundtrip travel difficult for passengers.

In addition, equipment would no longer be transported on the *Hoosier State* to the Beech Grove Facility. Amtrak would need to determine another option for transporting equipment to Beech Grove, most likely the Cardinal. The Cardinal's schedule would be impacted in the form of travel time delays or schedule changes if the Cardinal replaced the *Hoosier State* as the transporter of equipment to Beech Grove.

6.1.2 Ridership & Revenue

There would be no ridership and revenue under this alternative. INDOT would not be responsible for funding the operating costs of the *Hoosier State*.

6.2 No Build Alternative

6.2.1 Definition

The No Build Alternative is the continuation of the existing quad-weekly service. The current consist includes one P42 diesel locomotive and two horizon coaches.

6.2.2 Ridership& Revenue

Ridership and revenue for the current service is described in Section 4.0, "Existing Conditions." Significant growth is not expected.

6.3 Improved Service Overview

Amtrak has recommended four service schedule options for improved service and forecasted ridership, revenue and operating costs for each option.

6.4 Improved Service Option 1

6.4.1 Definition

Improved Service Option 1 proposes adding one daily roundtrip between Indianapolis and Chicago with long distance connections. The schedule includes a 5:30 PM eastbound departure from Chicago and an 8:00 AM westbound departure from Indianapolis with a reduced travel time of about 30 minutes.

6.4.2 Ridership & Revenue

According to Amtrak Market Research and Analysis, using the AECOM Model, Improved Service Option 1 is forecast to increase the number of passengers to 89,000 and revenue to $2,259,000.

6.5 Improved Service Option 2

6.5.1 Definition

Improved Service Option 2 proposes adding one daily roundtrip between Indianapolis and Chicago with an improved local schedule. The schedule includes a 3:30 PM eastbound departure from Chicago and an 8:00 AM westbound departure from Indianapolis with a reduced travel time of about 30 minutes.

6.5.2 Ridership & Revenue

According to Amtrak Market Research and Analysis, using the AECOM Model, Improved Service Option 2 is forecast to increase the number of passengers to 86,000 and revenue by $2,201,000.

6.6 Improved Service Option 3

6.6.1 Definition

Improved Service Option 3 proposes adding two daily roundtrips between Indianapolis and Chicago. The schedule includes an 11:30 AM and 5:30 PM eastbound departure from Chicago and an 8:00 AM and 12:15 PM westbound departure from Indianapolis with a reduced travel time of about 30 minutes. This option requires three train sets.

6.6.2 Ridership & Revenue

According to Amtrak Market Research and Analysis, using the AECOM Model, Improved Service Option 3 is forecast to increase the number of passengers to 164,000 and revenue to $4,089,000.

6.7 Improved Service Option 4

6.7.1 Definition

Improved Service Option 4 proposes adding two daily roundtrips between Indianapolis and Chicago. The schedule includes a 6:30 AM and 5:30 PM eastbound departure from Chicago and an 8:00 AM and 1:30 PM westbound departure from Indianapolis with a reduced travel time of about 30 minutes. This option requires two train sets.

6.7.2 Ridership & Revenue

According to Amtrak Market Research and Analysis, using the AECOM Model, Improved Service Option 4 is forecast to increase the number of passengers to 153,000, and revenue to $3,820,000.

6.8 Capital Improvements for Improved Service Options 1 – 4

An empirical capacity analyses was conducted to determine the number of freight trains that operate in the CSXT's Indianapolis Line along with the existing Cardinal and proposed Chicago-Indianapolis *Hoosier State* passenger service expansion; and estimate the need for increased infrastructure so that

the freight and passenger trains could operate efficiently. Key assumptions are described in Tasks 7.1 and 7.3 Quantity of Infrastructure Improvements for Improved Service and Capital Cost of Improvements Technical Memorandum.

The analyses concluded that with future freight growth at 1.75% average per year (FRA's recommended growth for planning purposes), under all improved service options, the infrastructure is constrained from Dyer to Roselawn and from Ames to Kraft Runner. Therefore, a new 10,000 foot long siding is recommended to be programmed between Dyer and Roselawn at Lowell and between Ames and Kraft Runner at either Lizton or Ross. The existing sidings need to be extended to 10,000 feet and the Kraft sidings should be connected to create a 28,000- foot siding. These siding improvements would include new turnouts and signal improvements. To operate Amtrak at higher speeds some portions of the track require maintenance and tie replacement, grade crossing protection needs to be improved at selected locations, and structures need to be inspected and improved as necessary. The track from Indianapolis to Munster near the Indiana-Illinois state line has enough capacity over most of the route to operate up to six passenger trains per day (two *Hoosier State* round trips and a Cardinal round trip) at an average speed of 52.5 MPH, and the existing freight trains. These new sidings would not be necessary until the freight growth requires them. The conceptual track schematic of the proposed capital improvements are illustrated in **Figure 6-1.**

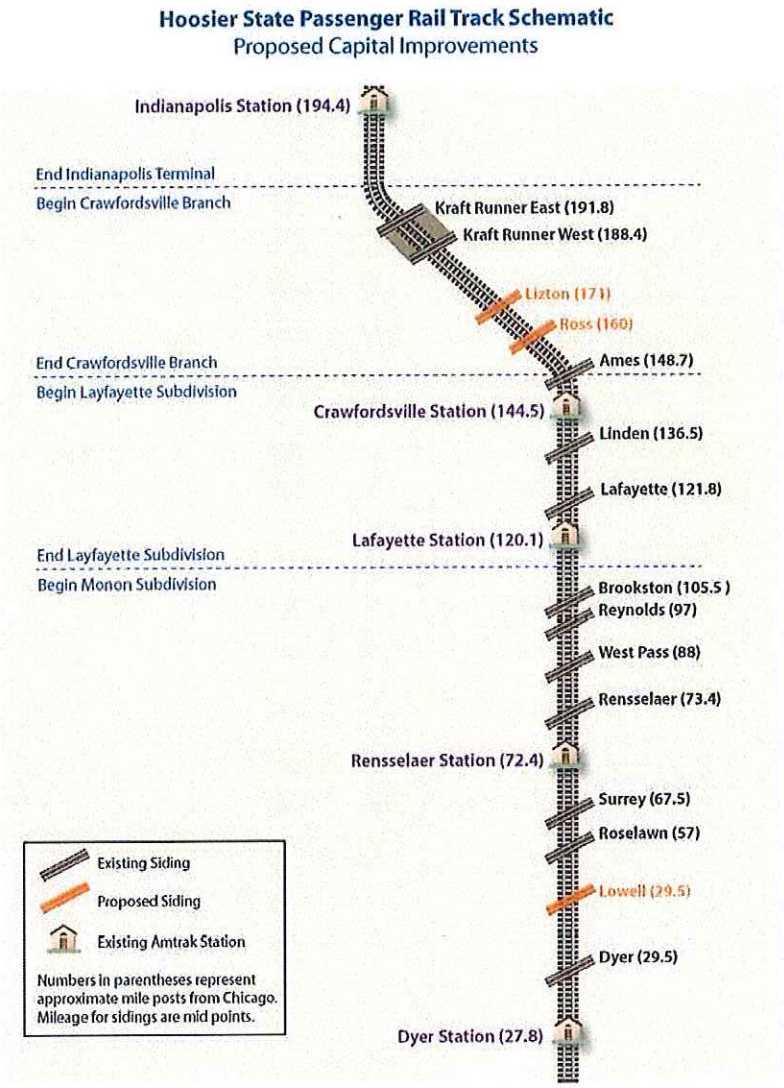

Figure 6-1: Conceptual Track Schematic of the Proposed Capital Improvements

6.9 Comparison of Proposed Alternatives

Improved Service Option 1 and Improved Service Option 2 offer one daily roundtrip. The proposed schedule under Improve Service Option 1 is timed to maximize connections with long distance trains. The proposed schedule under Improved Option 2 is timed to improve local service between Indianapolis and Chicago.

Improved Service Option 3 and Improved Service Option 4 offer two daily roundtrips. The proposed schedule under Improve Service Option 3 is timed to maximize connections with long distance trains and improve local service but requires two additional train sets. The proposed schedule under Improved Service Option 4 is designed to require only one additional train set. **Table 6-1** provides a summary of the key performance differences among the proposed alternatives.

Table 6-1: Comparison of Existing Service and Proposed Alternatives

	Proposed Alternatives					
Statistics	Elimination of Service	No Build Alternative	Improved Service Option 1	Improved Service Option 2	Improved Service Option 3	Improved Service Option 4
Days of Service	N/A	4	7	7	7	7
No. of roundtrips	N/A	1	1	1	2	2
Total Riders	N/A	36,670	88,270	86,070	163,270	152,470
Total Revenue	N/A	$907,000	$2,259,000	$2,201,000	$4,089,000	$3,820,000
Total Trip Time (minutes)	N/A	305	276	276	276	276

7.0 Cost Estimates

7.1 Operating and Maintenance Cost Estimates

The annual operating and maintenance costs as obtained through coordination with Amtrak are summarized in **Table 7.1**as incremental cost to the Base Schedule costs.

Table 7-1: Annual Operating and Maintenance Cost Estimate

		Incremental Cost of Change			
Major Expense Categories	Base Schedule	Option 1	Option 2	Option 3	Option 4
Third Party Costs	$689,000	$517,000	$517,000	$1,720,000	$1,720,000
Route Costs	$2,174,000	$563,000	$601,000	$3,354,000	$3,067,000
Equipment Capital Costs	$429,000	$0	$0	$1,071,000[1]	$541,000[2]
Additives	$554,000	$131,000	$145,000	$928,000	$850,000
Sub Total Incremental costs of the Options		**$1,211,000**	**$1,263,000**	**$7,073,000**	**$6,178,000**
Total Cost	**$3,846,000**	**$5,057,000**	**$5,109,000**	**$10,920,000**	**$10,024,000**

7.2 Capital Cost Estimates

The costs of infrastructure improvements as described in Section 6.0 and are summarized by Federal Railroad Administration Cost Categories in **Table 7-2.**

[1] Option 3 will require two additional train sets; for the purpose of this study CDM Smith estimated that used equipment could be provided at 25% more than the existing.

[2] Option 4 will require one additional train set; for the purpose of this study CDM Smith estimated that used equipment could be provided at 25% more than the existing.

Table 7-2: Summary Costs of Infrastructure Improvements

Capital Cost Budget			
FRA Cost Categories	Total Allocated Cost (Thousands of Base Yr FY12 Dollars)	Allocated Contingency (Thousands of Base Yr/FY 12 Dollars)	TOTAL COST (Thousands of Base Yr/FY 12 Dollars)
10 TRACK STRUCTURES & TRACK	$88,036	$29,052	$117,088
20 STATIONS, TERMINALS, INTERMODAL	$1,552	$512	$2,064
50 COMMUNICATIONS & SIGNALING	$29,606	$9,770	$39,376
80 PROFESSIONAL SERVICES	$54,829	$18,094	$72,923
TOTAL CAPITAL COSTS			**$231,451**

The total Capital Cost Estimate to make these improvements possible is estimated at $231.5 Million (cost in FY12 dollars including Professional Services and Contingency). These expenditures are not a currently planned project but are rather what improvements would need to be made in order to eliminate targeted delays, increase speed and improve on-time performance. Assuming the Project is completed by 2017 the Capital Cost Estimate, including escalation, is estimated as $259.4 Million. The Service Development Program Standard Budget and Schedule Form is included in **Appendix C** and cost assumptions are described in Technical Memorandum Tasks 7.1 and 7.3 Infrastructure and Improvements for Improved Service and Capital Cost of Improvements.

8.0 Economic Benefits and Other Beneficial Impacts

8.1 Introduction

From 2002 to 2012, the Hoosier State experienced a 77 percent increase in ridership with no improvements to the service (Amtrak 2012). Per Amtrak's ridership and revenue forecast, operational improvements, including more convenient departure and arrival times, improved on time performance (OTP), and increased speed to the Hoosier State are anticipated to divert passengers from other modes to the rail service and, thereby, create transportation, economic, and environmental benefits in Indiana. Improved passenger rail service means more transportation options and better mobility and connectivity within Indiana, and between Indiana and the region. The purpose of the cost benefit analysis is to compare the benefits of improving the Hoosier State to the costs, as measured in capital and operation & maintenance expenditures. This section describes and quantifies the benefits of the improved Hoosier State scenarios.

8.2 Benefits

The U.S. DOT FRA's methodology for transportation benefit/cost comparisons was used for this study (FRA 1997). "Other Beneficial Impacts," while not quantified, are important to consider when making policy and funding decisions.

8.2.1 System Revenues

Service improvement to the *Hoosier State* would result in increased ridership and revenue. Increased revenues would improve the fare box recovery rate making operation more cost efficient. In addition to passenger revenues, the system can earn revenue by charging Amtrak to deadhead passenger rail equipment to and from Beech Grove Maintenance facility. Assuming 100 to 150 deadhead equipment moves each year from Beech Grove to Chicago, additional revenue would be about $90,000.

Table 8-1 shows the change in total passenger and other revenues for each alternative compared to the No Build Alternative.

Table 8-1: Total Annual Revenue

	Option 1	Option 2	Option 3	Option 4
Total Passenger & Other Revenue[1]	$2,169,000	$2,111,000	$3,999,000	$3,730,000
Beech Grove Deadhead	$90,000	$90,000	$90,000	$90,000
Total Revenue	$2,259,000	$2,201,000	$ 4,089,000	$3,820,000

1. Amtrak. 2013. Route & Service Financial Evaluation: Financial Analysis, Business Line Planning & Strategy

8.2.2 Consumer Surplus

The consumer surplus was used to monetize the benefit to users of the Hoosier State. Consumer surplus is used to measure the demand side impact of a transportation improvement on users of the service. It is defined as the additional benefit consumers receive from the purchase of a commodity or service above the price actually paid for that commodity or service, in this case travel. Consumer surpluses exist because there are always consumers who are willing to pay a higher price than that actually paid (TEMS & HNTB 2004). The consumer surplus, therefore, measures the benefits to the users as a result of the enhanced service including trip frequency, speed, and OTP.

The Amtrak Ridership and Revenue forecasting did not perform multiple runs to determine the effect of the fare structure on ridership. However, ridership studies on other lines indicated that a $9/round trip fare increase reduced ridership by about 17 percent. Therefore, 83 percent of the riders would be willing to pay the $9 "Consumer Surplus" amount for the convenience of the improved transportation benefit. **Table 8-2** shows the value of the consumer surplus for each improved service option.

Table 8-2: Annual Consumer Surplus

	Option 1	Option 2	Option 3	Option 4
Total Riders (passengers/year)	88,270	86,070	163,270	152,470
83% of Modeled Ridership	73,264	71,438	135,514	126,550
Consumer Surplus ($000)	$659	$643	$1,220	$1,139

8.3 Highway Congestion Delay Savings

Improvements to the Hoosier State service are expected to attract new riders looking for an alternative to congested roads; thereby, resulting in a reduction in highway vehicles in the region. **Table 8-3**, indicates a vehicle decrease from three to five percent for all four improved service options. Vehicle reductions in this range are considered insignificant in terms of reducing congestion and increasing vehicle speed. Therefore, there are no appreciable highway congestion delay savings for any of the four improved service options.

Table 8-3: Annual Highway Congestion Delay Savings

	Option 1	Option 2	Option 3	Option 4
Total Riders (passengers/year)	88,270	86,070	163,270	152,470
Total Ridership (trips/year)[1]	176,540	172,140	326,540	304,940
Ridership diverted from Auto[2]	132,405	129,105	244,905	228,705
Annual Vehicle Trips Reduced[3]	132,405	129,105	244,905	228,705
Daily Vehicle Trips Reduced/day	362	352	671	627
Percent Vehicle Reduction[4]	3%	3%	5%	5%

1. Total trips include boardings and detrainings. Assumes all riders travel roundtrip from Chicago to Indianapolis.

2. Assumes 75% of ridership is diverted from auto travel.

3. Assumes single-occupancy vehicles are diverted to passenger rail based on assumption that cost savings to

choosing rail over auto decrease with additional passengers.

4. Based on 2010 Illinois Department of Transportation (IDOT) Traffic Counts- Average Daily Traffic is 13,900 on Highway I-90 in Illinois.

8.4 Airport Congestion Delay Savings

Airport congestion delay savings is measured by the value of travel time savings from the reduction of flight delays for remaining air passengers. **Table 8-4** indicates the decrease in air passengers from two to four percent for all four improved service options. Similar to highway congestion, air congestion changes in this range are considered insignificant in terms of reducing the number of flights and the attendant reduction in travel delays. Therefore, there are no airport congestion delay savings for any of the four improved service options.

Table 8-4: Annual Air Congestion Delay Savings

	Option 1	Option 2	Option 3	Option 4
Total Riders (passengers/year)	88,270	86,070	163,270	152,470
Riders diverted from Air[1]	13,241	12,911	24,491	22,871
Percent Air Passenger Reduction[2]	2%	2%	4%	4%

1. Assumes 15% of new riders are diverted from air travel.

2. Assumes total of 600,000 passengers fly on all flights between Indiana to Chicago (FAA 2009).

8.5 Emissions Reductions

Diverting passengers from auto travel reduces air emissions and particulate matter. Emissions were estimated in metric tons of carbon dioxide equivalents for auto gasoline consumption and locomotive diesel fuel consumption. The net benefit in emissions reductions is shown in **Table 8-5.**

Table 8-5: Annual Emissions Reductions

	Option 1	Option 2	Option 3	Option 4
Total Riders (passengers/year)	88,270	86,070	163,270	152,470
Total Ridership (trips/year)[1]	176,540	172,140	326,540	304,940
Emissions Reductions from Auto				
Ridership diverted from Auto[2]	132,405	129,105	244,905	228,705
Annual Vehicle Trips Reduced[3]	132,405	129,105	244,905	228,705
VMT Reduction	24,494,925	23,884,425	45,307,425	42,310,425
Auto Gasoline Consumption Savings (gallons)[4]	1,033,541	1,007,782	1,911,706	1,785,250
Emissions Reductions from auto gasoline savings (metric tons of CO2e)[5]	9,209	8,979	17,033	15,907

Table 8-5: Annual Emissions Reductions (Continued)

	Option 1	Option 2	Option 3	Option 4
Emissions from Locomotive Diesel Fuel Consumption				
Locomotive Diesel Fuel Consumption	143,000	143,000	286,000	286,000
Emissions from increased locomotive diesel fuel consumption (metric tons of CO2e)[6]	1,451	1,451	2,903	2,903
Net Reduction (metric tons of CO2e)	7,758	7,528	14,131	13,004
Value of Emissions Reduction[7]	$158,263	$153,571	$288,252	$265,282

1. Total trips include boardings and detrainings. Assumes all riders travel roundtrip from Chicago to Indianapolis.

2. Assumes 75% of new ridership is diverted from auto travel.

3. Assumes 370 miles roundtrip from Indianapolis to Chicago

4. Average fuel efficiency of U.S. light duty vehicles was 23.7 miles/gallon in 2010. Available here: http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html

5. 8.91 × 10-3 metric tons CO2/gallon of gasoline Available here http://www.eia.gov/oiaf/1605/coefficients.html#tbl2

6. 10.15 x10-3 metric tons CO2/gallon of diesel fuel Available here http://www.eia.gov/oiaf/1605/coefficients.html#tbl2

7. Average of three SCC ("Social Cost of Carbon") valuations of GHG emissions is $20.4 per metric ton of carbon dioxide equivalent for 2010 by Technical Support Document:
Social Cost of Carbon for Regulatory Impact Analysis
Under Executive Order 12866. Available http://www.epa.gov/otaq/climate/regulations/scc-tsd.pdf

8.6 Summary of Monetized Annual Benefits and Costs

The monetized annual benefits of improving the Hoosier State are summarized in **Table 8-6** below. These dollar values will be compared to the annualized cost of improving the Hoosier State.

Table 8-6 Summary of Total Benefits

	Improved Service Option 1	Improved Service Option 2	Improved Service Option 3	Improved Service Option 4
Benefits				
System Revenues	$2,259,000	$2,201,000	$4,089,000	$3,820,000
Consumer Surplus	$659,377	$642,943	$1,219,627	$1,138,951
Highway Congestion Delay Savings	N/A	N/A	N/A	N/A
Airport Congestion Delay Savings	N/A	N/A	N/A	N/A
Emissions Reductions	$158,263	$153,571	$288,252	$265,282
Total Benefits	**$3,076,640**	**$2,997,514**	**$5,596,879**	**$5,224,233**
Operating and Maintenance Cost[1]	$5,057,000	$5,110,000	$10,920,000	$10,024,000
Annualized Capital Cost[1]	$18,044,000	$18,044,000	$18,044,000	$18,044,000
1. Refer to Technical Memorandum for Tasks 71. And 7.3				

8.7 Other Beneficial Impacts

8.7.1 Introduction

Passenger rail provides a range of benefits beyond those described previously, but may not meet all four criteria to be monetized. In addition to greater connectivity, passenger rail can improve economic productivity, boost local spending, create jobs, improve freight service, and improve the overall quality of life in the region. Insofar as these benefits cannot be quantified they do not meet the FRA's requirements to be considered a direct transportation benefit but they certainly deserve to be considered on a policy basis as beneficial impacts.

8.7.2 Economic Development Benefits Overview

Continuation and improvement of the Hoosier State along with the railroad infrastructure improvements would promote economic growth which is more likely to occur in places with more and better transportation infrastructure. Passenger rail improves connectivity and increases market access. By improving market access, passenger rail increases employment, wages, and productivity, boosts regional and local economics, and encourages agglomeration. Agglomeration occurs when businesses benefit from locating close to other complementary businesses and make use of the accessibility to varied activities and skilled labor (Lincoln Institute of Land Policy. 2011). A summary of such benefits include:

- Expenditure Related Economic Impacts
- Economic Impacts on Land Usage
- Beech Grove Maintenance Facility Freight Improvements
- Freight Improvements

8.7.3 Expenditure Related Economic Impacts

Spending on building and maintaining infrastructure and operating transportation services would impact the local and regional economy by creating jobs in design, construction, and operation of the rail service. An improved Hoosier State will require about $5 to $11 Million in annual operating and maintenance costs plus as much as an annualized cost of about $18 Million to improve the existing infrastructure. A significant portion of this money would be spent in the regional economy.

8.7.4 Economic Impacts on Land Usage

Improved rail service would increase ridership and, in effect, attract business and population growth and create jobs, primarily in the areas surrounding the stations.

Land use data and zoning maps were reviewed to assess the existing economic environment and potential development and redevelopment opportunities within two miles of the Amtrak stations; note the following:

- Dyer and Rensselaer land use maps indicate significant Developed, Low Intensity land adjacent to the station.
- Crawfordsville and Lafayette land use maps indicate significant Developed, Low Intensity Land within a two-mile radius of the station.
- Indianapolis land use map does not indicate significant available Developed, Low Intensity land within two miles of the station.

To further illustrate the potential for development, each of the station areas were surveyed by field observations to characterize their existing conditions and potential development.

Table 8-7 summarizes the existing economic environment and potential economic development opportunities at each station. Photos of existing conditions are included in **Appendix D. Table 8-7** references specific photos to illustrate examples of disinvestment.

Table 8-7: Summary of Economic Environment and Potential Development

Station	Existing Conditions	Potential Development	Photo # in Appendix D
Dyer	Low to medium intensity development adjacent to station. Few parcels of high intensity development.	Vacant land on west side of Columbia with large single family residential development.	11,12,13,14,15,16
	Primarily commercial development northeast and southwest of the station.	Vacant farmland on east side of Columbia, south of hospital.	8, 10
	Retail center directly south of station, east of Sheffield Avenue.	Old gas station and abandoned gas station south of grocery store.	25,30
	Single-family and multi-family residential development east and west of the station beyond commercial strip of Sheffield Avenue.	Open space south of grocery store.	22
	Built up residential areas on east and west side of Columbia.	Two neglected buildings with no tenant southeast of station, east of Columbia.	31
		Reinvestment in buildings along commercial strip (i.e. Colombia, Sheffield).	26
		Open land for residential/commercial development.	30
Rensselaer	Area is mostly developed but several neglected buildings in poor condition throughout two-mile radius of station.	Open space between storage units north of station and residential areas	
	Mixed residential, industrial, commercial, institutional land uses as well as downtown in study area.	Two vacant buildings downtown.	8,9
	Residential and industrial land uses east of station.	Several neglected buildings.	7,10,11,12, 13, 14, 17
		Vacant lots (i.e. post office on Route 114).	16, 20

Table 8-7: Summary of Economic Environment and Potential Development (Continued)

Station	Existing Conditions	Potential Development	Photo # in Appendix D
Crawfordsville	Land uses include mix of commercial, industrial, government and residential, including Police Department, Chamber of Commerce, auto shops, convenience store and small shops.	Entire commercial area/downtown needs investment.	5,7,8,16
	Residential land use outside of main corridor; primarily single family residential.	Buildings south and NW of station run-down, boarded up.	5,11
		Several neglected buildings.	12,15,16,19, 23
		Visual presence of foreclosed homes.	
		Closed gas stations.	13,20,21
Lafayette	Station on west side of downtown, east of Wabash River.	Redevelopment opportunities on vacant lots.	14,15,16,30,32
	Downtown consists of mix of residential and commercial land uses.	Several vacant buildings (i.e. 5th and Ferry, 4th and Ferry).	10
		Several buildings in poor condition.	11,13, 25
Indianapolis	Station area heavily developed. Good mix of government, institutional, commercial, entertainment, and parks/open space.	Few vacant parcels; some reinvestment in building infrastructure needed (i.e.. McCarty and Capital, McCarty and Meridian).	5,13,.14,29,31,38
	Building on Illinois and New York Street under construction.	Underutilized parking lots (i.e. corner of Pennsylvania and South Street).	3,23,24,37
	Few vacant buildings.	McCarty stretch, behind Lucas Oil Stadium, is vacant, rundown.	3, 30, 41

8.7.5 Beech Grove Maintenance Facility

Amtrak's principal heavy maintenance facility is in Beech Grove, Indiana. Beech Grove is Amtrak's largest repair facility and the facility responsible for maintenance of all trains except those running Boston-Washington. The Beech Grove Facility is on a 300 acre site with one million square feet of production space. It maintains and overhauls many types of equipment for Amtrak and other passenger rails. At the end of 2011, Beech Grove employed over 550 Hoosiers and netted $4 million in revenue for Amtrak in Fiscal Year 2012 (Amtrak 2012). In 2012, Amtrak spent about $70 million dollars in Indiana: $49 million in employee wages, and $21 million in goods and services. According to Amtrak, this spending is largely a result of work generated out of Beech Grove.

Elimination of the Hoosier State would have some operating impact on Amtrak's Beech Grove facility. Amtrak is, however, reasonably confident that the workload can be managed such that it will not result in any staffing reductions.

Improvement of the Hoosier State would positively impact the Beech Grove Facility. Faster and more frequent daily service would provide Amtrak opportunities to improve efficiency and reduce turnaround time.

8.7.6 Freight Improvement

Freight rail service will benefit from infrastructure improvements to the line. The majority of the Hoosier State route is owned by CSX Transportation. While adequate for CSX's current needs, targeted capital investment can facilitate growth of freight services and allow CSX to better serve their customers. Greater capacity and the ability for faster trip times mean quicker access for Indiana industries to Chicago and Indianapolis.

8.7.7 Social Benefits Overview

An improved Hoosier State can provide a variety of social benefits to the region affected by this transportation service:

- Environmental Justice Populations
- Improved Quality of Life

8.7.8 Environmental Justice Populations

Beneficiaries of economic growth include low income and minority or environmental justice populations through job growth, access to jobs, and higher wages. Compared to auto and air travel from Indianapolis to Chicago, passenger rail is more affordable. By improving the reliability of the Hoosier State, the geographic options for employment increase. Time savings and increased mobility enables workers to move about more freely. The improved Hoosier State would also include mobility enhancements including complying with the American Disability Act to improve access for transit dependent and disabled passengers. There are a number of communities in the corridor with significant low income and minority populations in the study area identified in Task 8.2 Economic Benefits Technical Memorandum.

8.7.9 Quality of Life

Increasing ridership at existing stations may provide communities with transit oriented development (TOD) opportunities. Ridership numbers alone may not generate sufficient demand to result in development but when combined with community initiatives they will serve to foster economic growth. Mixed-use residential is a proven TOD mix that enhances ridership and encourages urban living in a green setting by discouraging car use and creating dense living environments.

There are a significant number of positive quality of life improvements that the development of TODs could encourage:

- Reduction of overall environmental impacts due to the encouragement of less car usage and more rail/bus usage
- Empty-nester housing, a popular TOD component, has a limited impact on the school system
- New development would increase local property tax revenues
- Reliable intercity passenger rail service will facilitate communities' ability to retain and attract businesses and population

The projected ridership volume is not anticipated to be great enough to support a significant increase in development at any single station; however, there are several reasons why the improved service can be beneficial to the communities without causing adverse impacts:

- The desire for more walkable communities is a growing trend, consistent with reduced auto usage, and encourages mixed-use development

- Cities and towns already have development plans. The addition of increased rail service and the resulting land use are generally consistent with community development plans and would be beneficial to the economic environment of the cities and towns.

9.0 Cost Benefit Analysis

The purpose of the cost benefit analysis is to compare the monetized annual benefits of improving the Hoosier State to the annual capital and operation & maintenance expenditures. As shown in **Table 9-1**, the total costs exceed the total benefits for all improved service options.

Table 9-1: Summary of Cost vs. Benefit

	Option 1	Option 2	Option 3	Option 4
Benefits				
System Revenues	$2,259,000	$2,201,000	$4,089,000	$3,820,000
Consumer Surplus	$659,377	$642,943	$1,219,627	$1,138,951
Highway Congestion Delay Savings	N/A	N/A	N/A	N/A
Airport Congestion Delay Savings	N/A	N/A	N/A	N/A
Emissions Reductions	$158,263	$153,571	$288,252	$265,282
Total Annual Benefits	**$3,076,640**	**$2,997,514**	**$5,596,879**	**$5,224,233**
Costs				
Annualized Capital	$18,044,000	$18,044,000	$18,044,000	$18,044,000
Operating & Maintenance includes equipment capital usage	$5,057,000	$5,110,000	$10,920,000	$10,024,000
Total Annual Cost	**$23,101,000**	**$23,154,000**	**$28,964,000**	**$28,068,000**

As shown in **Table 9-2**, the annual operating and maintenance costs exceed the revenue for each of the improved service options, resulting in a state payment ranging from $2.8 million to $6.8 million. Per rider, INDOT would have to subsidize from $32 (under Option 1) to $42 (under Option 3) for the continuation of the Hoosier State. With the monetized benefits are considered, there would still be a net operating deficit. This does not address the estimated annual capital expenditures to improve the line which would require an additional approximate $18.0 million annually.

Table 9-2: Summary of PRIIA 209 State Payments Compared to Transportation Benefits (Annualized Capital Costs are not shown)

	Option 1	Option 2	Option 3	Option 4
Total Riders (passengers/year)	88,270	86,070	163,270	152,470
Total PRIIA 209 Costs plus Equipment Capital Usage	$5,057,000	$5,110,000	$10,920,000	$10,024,000
Revenue	$2,259,000	$2,201,000	$4,089,000	$3,820,000
Total 209 State payment	**$2,798,000**	**$2,909,000**	**$6,831,000**	**$6,204,000**
State Payment per Rider (rounded to whole dollars)	**$32**	**$34**	**$42**	**$41**
Transportation Benefit	$817,640	$796,514	$1,507,879	$1,404,233
Transportation Benefit Including Revenue	$3,076,640	$2,997,514	$5,596,879	$5,224,233
Net Operating Benefit	$(1,980,360)	$(2,112,486)	$(5,323,121)	$(4,799,767)

10.0 Conclusion and Recommendations

10.1 Overview of Cost-Benefit Analysis

The cost benefit analysis indicated that the capital and operation and maintenance costs exceed the total monetized benefits. In no improved service option did the benefits exceed the operating and maintenance costs. Necessary capital expenditures would increase this operating deficit. The decision, therefore, to fund the continuation or improvement of the Hoosier State is not an economic one, but rather a policy decision. The State of Indiana and the stakeholders (including the communities, FRA, Amtrak, and CSX the host railroad) would need to justify funding the Hoosier State based on the "other beneficial impacts" that are identified herein but cannot be quantified or monetized for the study per FRA These "other beneficial impacts" are, however, real.

10.2 Study Questions

At the onset of this study, INDOT sought to answer three key questions as described in Section 1.0:

- **What is the long-term plan of the communities at/near the existing stations along the route for this rail service?** A summary of long term community plans is included herein as a part of Section 3.0. In addition a summary of specific developmental opportunities not included in the published plans is included herein as part of Section 8.0.
- **What are the goals and targets of the communities at/near the existing stations along the route for this rail service?** Feedback obtained during stakeholder outreach as well as from the review of community plans were used to develop **Table 10-1** Alternatives Evaluation Matrix. While the communities' goals do not include positive cost vs. transportation benefit it is important to note that cost effective transportation is a goal for the State of Indiana. The host railroads did not identify a goal of more efficient freight operations. Therefore, freight efficiency is not included as a goal in the matrix even though improved infrastructure would be beneficial to them.
- **Who is willing to help with the cost of the passenger rail service between Indianapolis and Chicago?** During the stakeholder engagement the communities, Amtrak, and the host railroad expressed no willingness to commit their financial resources directly to the capital or operating cost of the rail service. However, insofar as (via this high level study) the costs of the improvements are now quantified and the benefits to all of the stakeholders are now identified it is anticipated that, through dialogue, the stakeholders will understand the level of benefits and the necessary financial commitments. This will make rational coalitions and financial decisions possible regarding their willingness to help with the cost of the service.

10.3 Alternatives Evaluation Matrix

The following **Table 10-1** Alternatives Evaluation Matrix compares the six proposed alternatives to the Goals, Key Performance Indicators, and Targets as identified by the stakeholders. The "Goals" column in the matrix summarizes the stakeholders' long term plans for their communities along the route of this rail service. The project team added the "Key Performance Indicators" and "Targets" as a way to objectively express how the various alternatives could satisfy these goals by color coding the respective matrix cell where "Red" indicates the alternative has a negative effect on the goal, "Yellow"

indicates the alternative has neither a beneficial nor negative effect on the goal, and "Green" indicates the alternative has a beneficial effect on the goal.

Except for Positive Cost vs. Benefit, the matrix indicates that options of "Elimination of the Hoosier State" and "No Build" (keeping it at its current level of service) have either a negative or neutral effect on the stakeholders' goals; the service improvement options have a beneficial effect on the stakeholders' goals.

Only option of "Elimination of the Hoosier State" has a beneficial effect on Positive Cost vs. Benefit.

Table 10-1: Alternatives Evaluation Matrix

Goals	Key Performance Indicator	Target	Impact of the Alternative Red indicates the alternative has a negative effect on the goal, Yellow indicates the alternative has neither a beneficial nor negative effect on the goal, Green indicates the alternative has a beneficial effect on the goal.					
			Elimination of the Hoosier State	No Build	Service Improvement			
					Option 1	Option 2	Option 3	Option 4
Provide cost effective and attractive rail service between Indianapolis and Chicago and attract funding partners.	Automobile vehicle miles traveled	Reduction in automobile VMT and personal automobile usage costs						
	Total travel time and personal productivity	Reduction in total travel time and increase in time of productive use on train						
	Air emissions	Net reduction in CO2 emissions due to reduced VMT						
	Highway Congestion	Net reduction in congestion and accidents due to reduced VMT						
	Highway maintenance	Net reduction in highway maintenance due to reduced VMT						
	Hoosier State ridership	Increase in ridership on Hoosier State						
	Funding partners	Attract funding commitments from corridor stakeholders.						
	Positive Cost vs. Benefit	Cost of Service is comparable to Revenue and Transportation Benefits						

Table 10-1: Alternatives Evaluation Matrix (Continued)

Goals	Key Performance Indicator	Target	Impact of the Alternative Red indicates the alternative has a negative effect on the goal, Yellow indicates the alternative has neither a beneficial nor negative effect on the goal, Green indicates the alternative has a beneficial effect on the goal.					
			Elimination of the Hoosier State	No Build	Service Improvement			
					Option 1	Option 2	Option 3	Option 4
Community development encouraged by rail service	Underutilized properties available for development	Improve underutilized properties.						
Serve transit dependent populations (i.e. aging and disabled; environmental justice population)	Mobility and transportation choices	Increase mobility and transportation choices for transit dependent populations						
	Access to jobs	Improve access to jobs for transit dependent populations						
Serve population who choose or prefer public transportation	Public transportation choices to other cities and transportation centers	Increase public transportation choices to other cities and transportation centers						
Improve quality of life for population that lives and/or works near transportation centers	Economically stable, safe and social neighborhoods near rail stations	Improve neighborhoods near rail stations						
	Walkable communities	Increase pedestrian activity and reduce automobile reliance						

10.4 Recommendations

At this time the State of Indiana needs to weigh the economic transportation benefits along with the non-economic benefits to the region and come to a decision whether providing and financially supporting the service is, from a policy perspective, appropriate even though the revenue and monetized transportation benefits do not exceed cost. Some states are very supportive of passenger rail service because it increases mobility choices, fills a need in the region and may lead to more transportation and regional benefits, over time, than can be presently predicted. Should the State of Indiana determine that the Hoosier State service provides an overall benefit and can attract stakeholder support then, based on the review of best practices in other regions, the following actions are recommended to advance more complete operating and financial studies and institute service:

1. Create a railroad governance body with oversight that is strategic. This body negotiates with Amtrak, CSX, and CN for railroad services, infrastructure improvements, and cost allocations. There is a potential for significant schedule time savings with no significant capital improvement if Amtrak could operate on CN tracks between Dyer and Chicago.

2. Institute Option 1 or 2 on an interim basis to demonstrate that ridership and performance expectations are being achieved. Amtrak's ridership modeling is reliable. Their model forecasted ridership to increase suggesting there is a need for improved passenger rail between Indianapolis and Chicago.

3. Railroad governance body begins the following initiatives:

    a. A planning level study that includes RTC railroad modeling to accurately define the need for infrastructure improvements and environmental impacts based on the projected freight traffic and the passenger service options. This study would also inventory the existing infrastructure, Right of Way, and structures. From the results INDOT could confidently estimate the need and cost of capital improvements over a realistic timeline.
    b. A planning level study that includes all transportation and social benefits and allocate them to stakeholders or the region at large.
    c. Dialogue with the stakeholders and the state legislature regarding the project cost and benefits to seek additional revenue to support the revenue shortfall. As described in Section 3.0 there are several examples of how similar services were funded.
    d. Engage Indiana transit agencies as additional stakeholders to provide seamless transfers from the train to local transit. The transfer cost would be built into the price of the rail fare.

4. Make incremental improvements in service speed and infrastructure as ridership increases and expenses are supported by other revenue. Capital improvements could be avoided or minimized until ridership justifies the expenditure.

Appendices

Appendix A – Operating Schedule

Appendix B - Stakeholder Engagement and Comments

Appendix C - Service Development Program Standard Budget and Schedule Form

Appendix D - Station Photos

Appendix A – Operating Schedule

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Hoosier State	Cardinal	‹ Train Name ›			Cardinal	Hoosier State
851	51	‹ Train Number ›			50	850
SuTuWeFr	Dp NYC SuWeFr	‹ Normal Days of Operation ›			Ar NYC WeFrSu	SuMoWeFr
R	R	‹ On Board Service ›			R	R
Read Down		Mile			Read Up	
	8 6 45A	0	Dp	New York, NY-Penn Station (ET)	Ar 9 56P	
	8 R7 05A	10		Newark, NJ	D9 35P	
	8 R7 40A	58		Trenton, NJ	D8 53P	
	8 R8 15A	91		Philadelphia, PA-30th Street Sta.	D8 20P	
	8 R8 40A	116		Wilmington, DE	D7 56P	
	8 R9 29A	185		Baltimore, MD-Penn Station	D7 05P	
	R11 05A	225		Washington, DC	D6 06P	
	R11 24A	233		Alexandria, VA	D5 30P	
	11 57A	258		Manassas, VA	4 46P	
	12 30P	293		Culpeper, VA	4 11P	
	1 46P	340	Ar	Charlottesville, VA	2 58P	
	1 55P		Dp	Richmond—see back	2 49P	
	2 59P	379		Staunton, VA	1 37P	
	4 10P	437		Clifton Forge, VA (Homestead)	12 23P	
	5 02P	472		White Sulphur Springs, WV (Greenbrier)	11 31A	
	6 33P	496		Alderson, WV	10 59A	
	6 03P	517		Hinton, WV	10 29A	
	6 35P	540		Prince, WV (Beckley)	9 59A	
	6 51P	551		Thurmond, WV	9 40A	
	7 42P	592		Montgomery, WV	8 49A	
	8 16P	619		Charleston, WV	8 20A	
	9 38P	668	Ar	Huntington, WV	7 10A	
	9 45P		Dp		7 03A	
	10 08P	683		Ashland, KY (Kenova, WV)	6 27A	
	10 51P	712		So. Portsmouth-So. Shore, KY	5 42A	
	11 46P	768		Maysville, KY	4 49A	
	1 13A	828	Ar	Cincinnati, OH-Union Terminal	3 27A	
	1 23A		Dp		3 17A	
	3 18A	893	Dp	Connersville, IN	1 26A	
	4 57A	951	Ar	Indianapolis, IN Davenport,	11 50P	
6 00A	6 00A		Dp	Galesburg, Champaign—see page 83	11 50P	11 50P
6 58A	6 58A	998		Crawfordsville, IN	10 30P	10 30P
7 33A	7 33A	1025		Lafayette, IN (ET)	10 00P	10 00P
7 38A	7 38A	1072		Rensselaer, IN (CT)	7 49P	7 49P
8 27A	8 27A	1118		Dyer, IN	6 58P	6 58P
10 05A	10 05A	1147	Ar	Chicago, IL-Union Station (CT)	Dp 5 45P	5 45P
				Madison—see back		
Ar CHI SuTuWeFr	Ar CHI MoThSa				Dp CHI TuThSa	Dp CHI SuMoWeFr

Thruway Bus Connections

Chicago • Indianapolis • Louisville *(Greyhound Lines)*

8255	8251	8317	Thruway Number					8252	8260	8250
Daily	Daily	Daily	Mile		Days of Operation	Symbol		Daily	Daily	Daily
8 00A	7 00P	11 50P	0	Dp	Louisville, KY (ET) -Greyhound Station	O	Ar	8 55A	5 35P	11 30P
11 00A	9 10P	2 00A	111	Dp	Indianapolis, IN (ET) -Amtrak Station		Ar	6 45A	3 25P	8 40P
1 40P			306	Ar	Chicago, IL-Union Sta. (CT)		Dp			3 25P

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A	Time Symbol for A.M.	Qk	Quik-Trak self-serve ticketing kiosk
N	Time Symbol for Noon.	O	Unstaffed station
P	Time Symbol for P.M.	●	Staffed ticket office; may or may not be open for all train departures
D	Stops only to discharge passengers; train may leave before time shown.	♿	Station wheelchair accessible; no barriers between station and train
R	Stops only to receive passengers.	♿	Station wheelchair accessible; not all station facilities accessible
CT	Central time		
ET	Eastern time		
Bus	Bus stop		
Flag	Flag stop		

Service on the Cardinal*

- R **Coaches: Reservations required.**
- **Sleeping cars: Viewliner sleeping accommodations.**
  - Amtrak Metropolitan Lounge/ClubAcela available in New York, Philadelphia, Washington and Chicago, for Sleeping car passengers.
- **Dining: Combined Diner/Lounge provides food and beverage service.**
- **Checked baggage at select stations.**
- **On Sundays, Train 51 operates up to ten minutes later at this station.**

Smoking is prohibited.

The Collis P. Huntington Railroad Historical Society (CPH) narrators provide historical and sightseeing commentary on select Cardinal trips eastbound from Charleston, West Virginia to Clifton Forge, Virginia.

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Shading Key

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4051	Thruway Number					4050
SuWeFr	Mile	▼	Days of Operation	Symbol	▲	WeFrSu
12 00N	0	Dp	Richmond, VA–Staples Mill	●	Ar	4 40P
1 30P	69	Ar	Charlottesville, VA–Amtrak Station	●	Dp	3 10P

Chicago • Rockford • Madison

(Van Galder–en route transfers may be necessary)

8963	Mile	▼	Thruway Number	Symbol	▲	8968
12 35P	0	Dp	Chicago, IL–Union Station (CT)	●	Ar	3 30P
2 10P	75	Ar	Rockford, IL	O	Dp	1 20P
2 30P	92		South Beloit, IL	O		12 55P
2 55P	105		Janesville, WI	O		12 30P
			Madison, WI (CT)			
3 50P	134		–Dutchmill Park & Ride	O		11 45A
4 05P	140	Ar	–Memorial Union-Univ. of Wisconsin	O	Dp	11 30A

Additional Thruway connecting schedules between Chicago and Madison are available. Check with Amtrak.

Davenport • Galesburg • Peoria • Bloomington • Champaign • Indianapolis *(Burlington Trailways)*

8890	8892	Thruway Number					8893	8895
Daily	Daily	Mile	▼	Days of Operation	Symbol	▲	Daily	Daily
	4 00P	0	Dp	Davenport, IA (CT)	O	Ar		6 45P
	4 10P	2		Rock Island, IL –Augustana College		Ar		6 40P
	4 20P	9		Moline, IL	O	Ar		6 35P
1 25P	5 10P	45		Galesburg, IL–Amtrak Sta.	●	Ar	11 45A	5 35P
2 25P	6 15P	94		Peoria, IL	O		10 55A	4 45P
3 20P	7 20P	133		Bloomington-Normal, IL	●		10 00A	3 40P
4 40P	8 25P	187		Champaign-Urbana, IL	●		8 45A	2 35P
5 25P	9 00P	221		Danville, IL (CT)	O		7 50A	1 25P
7 50P	11 30P	314	Ar	Indianapolis, IN (ET)	●	Dp	7 30A	12 50P

The Thruway Services above connect with Amtrak trains at Indianapolis with Trains 50 and 51.

See other side for Shading Key, Route Map and Symbols.

Connecting Local Services

Chicago Airports

Chicago Transit Authority (CTA) rapid transit trains provide frequent service to O'Hare and Midway Airports. Blue Line trains to O'Hare leave from the subway station at the corner of Clinton and Congress Streets, two blocks south of Union Station. Orange Line trains to Midway leave from the elevated station at the corner of Quincy and Wells streets, three blocks east of Union Station. Pay fare in CTA station. (312) 836-7000 or www.transitchicago.com.

Appendix B - Stakeholder Engagement and Comments

Hoosier State Passenger Rail Cost Benefit Analysis
Stakeholder Meeting Minutes

Date: *May 21, 2013*

Location: *Tippecanoe County Planning Commission Conference Room*
Lafayette, IN

Attendees: See Sign-In Sheet attached

Under the provisions of Section 209 of the Passenger Rail Investment and Improvement Act (PRIIA) of 2008, all short-distance Amtrak corridor services (fewer than 750 miles) used for intercity passenger rail service must become state-supported and states must pay the proportional costs associated with the corridor route. INDOT is conducting a high level study of the Hoosier State to quantify its benefits related to traffic congestion, public safety, air quality, and its impact on economic development and job growth. As part of the study, two stakeholder meetings were held at communities along the Hoosier State to obtain feedback regarding costs and benefits of the Hoosier State passenger rail service. These minute reflect the discussion provided at the stakeholder meeting held in Lafayette, IN.

Troy Woodruff, INDOT Chief of Staff opened the meeting with an overview of the Hoosier State service.

Ralph Trepal, CDM Smith introduced the consultant team, and their mission to determine the costs for rail service (capital improvements, operating & maintenance); the benefit provided (reduced vehicle miles traveled – VMT, economic development) and deliver analysis that is easily understood.

Melissa Peters, CDM Smith presented the meeting agenda and following project overview:

- The Hoosier State operates four days per week. The Cardinal provides service to the same stations at the same time for the remaining three days per week.
- Indiana stations include Indianapolis, Crawfordsville, Lafayette, Renesselaer and Dyer
- Host railroad is CSX Transportation for the majority of the Hoosier State / Cardinal service
- Problem Statement:
    - The State of Indiana must determine if operating the costs of the Hoosier State are justified based on the return on investment
    - The current system is inefficient / inadequate and should be improved if the service is retained
- Alternatives to be considered in the cost – benefit study:
    - Elimination of the Hoosier State
    - Continuance of the Hoosier State with no improvements

  - Continuance of the Hoosier State with 79 mph, 90% on-time performance and increase frequency
- Study area will include the 167 miles within Indiana (did not include Chicago Station) and limited to two mile radius at the Indiana stations.
- Milestone schedule for completing the study culminates with a report complete in Sept. 2013

Stakeholders were directed to focus their comments on the following items:

1. Costs and benefits of the Hoosier State
2. Alternatives considered
3. Potential effects the continuation or elimination of service would have on the community
4. Existing and/or planned development that are dependent on continued/discontinued service
5. Existing facilities sensitive to rail service
6. Community long-range plans and economic benefit factors
7. Potential community investment in keeping and/or improving the service

Prior to receiving stakeholder comments, introductions were provided by all attendees.
The following comments were received:

Arvid Olson, Greater Lafayette Chamber of Commerce

- Less than a year ago a study was conducted through Lafayette Chamber of Commerce "From Good to Great" for Lafayette, West Lafayette, Purdue and surrounding region.
- Survey and focus group included 1500 responses
- 7 key points were developed of which Point # 6 clearly recognize easy access to Indianapolis and Chicago and requires mix of transportation options including railroad with improvements to the Cardinal and Hoosier State
- After the study was completed, it was learned the Hoosier State may cease operations
- Regional area group demographics includes young people who want a broad array of transportation alternates
- Purdue University has the nation's second largest student population from Asia which utilizes high speed rail
- Since fiscal year 2003 boardings have grown for Lafayette station, and it is the second most active station in Indiana
- Greater Lafayette is a transportation center with rail, water, interstate, and aviation modes, and the community has invested in transportation, including relocation of the 1902 train depot.
- Asks that rail transportation be made as critical as bus and transit
- The depot is centerpoint of the community
- Service needs to improve (79 MPH – now it's 59 MPH)
- Growth in passenger rail is occurring in other states (e.g. North Carolina)
- Lafayette has a rail transportation base that is does not want to lose through discontinued Hoosier State service
- A copy of the "Good to Great" study was provided

The Honorable Tony Roswarski, Mayor of Lafayette

- Thanked INDOT for the meeting.
- Wants to improve service to all communities along rail line.
- Lafayette Rail Relocation project was a bipartisan effort and included many jurisdictions.
  - $186M project was completed over several years
  - Many INDOT contracts
  - True cooperation
  - Proved successful in Downtown Lafayette with development of Riehle Plaza
  - Created a better relation with West Lafayette
- Lafayette has investment in passenger rail service:
  - $40K a year for Depot maintenance
  - $52K a year for Depot security
  - $94K annual for intermodal transfer station with maintenance and festival
- Riverfront redevelopment is under study
  - Wabash River Greenway Master Plan
  - Improved River community
  - North Central Health Services has purchased Right-of-Way for the project
  - Project is moving along
- Purdue acknowledges improvements in economic development - $400M expansion of SIA / Subaru Automotive plant (900 jobs)
- Japan comparison – Lafayette is a global community
- Alcoa global market- $100M expansion to compete in aerospace market
- Engineer Studies – ADA ramps, sidewalks, elevators, etc. mussel study for bridge in Wabash
- Lafayette is an investment partner.
- Look for all to help improve Amtrak Hoosier State

Sally Fayhe – Executive Director, Tippecanoe Metropolitan Planning Organization (MPO)

Sally provided a flash drive with the following community plans:

- Wabash River Enhancement with Corridor Plan
- Centennial Neighborhood Plan improvements (2014 – 2017 TIP)
- Riehle Plaza pedestrian improvements
- CityBus improvements

Information is also available online @ www.tippecanoe.in.gov/APC

Helen Hudson – Crawfordsville

- High School Students improved the rail station in 2004
  - Received technology grant
  - Maintain a pocket park at the station
  - Met with State Legislators
  - Station improvements received award from NARP (National Association of Railroad Passengers)
- Rail ridership is increasing nationwide

- In Crawfordsville, rail ridership has improved
  - People travel to Chicago.
  - Rural areas also use passenger rail
- Graduate students want to travel hands free.
- United States is slow to see benefit of rail
- People visit Crawfordsville station as a destination, and to access Amtrak instead of Indianapolis
  - Lawyers from Lebanon board at Crawfordsville for Chicago destination
  - The station area is better known in the doughnut counties than in Crawfordsville

The Honorable Todd Barton, Mayor of Crawfordsville

- To build for the future, extensive planning is required
- Invest in transportation hub – daily rail and bus service
- Why discuss Hoosier State today when Indianapolis champions for light rail?
- Get vehicles off the roadway
- Thanked INDOT for meeting
- Hoosier State needs INDOT's support

Roger Sims, Highland

- Commented why the 2 mile radius to review around station
- Requested the study evaluate beyond this limit (e.g. a 30 minute drive)

Linda Comingore -Greater Rensselaer Chamber of Commerce

- Amtrak station draws riders from Logansport
- Smaller college (St. Joseph College) than at other stations
- Amtrak rider herself
- Similar to Crawfordsville, Rensselaer needs to educate public about Hoosier State service
- Rensselaer station ridership has increased 255% since 2003

Donald Yehle – National Association of Railroad Passenger (NARP)

- Lafayette - 143 residents signed petition to keep Hoosier State
- Train day in Lafayette event
- Schedule difficulty with 3-day service for out-of-state Cardinal
- Hoosier State needs more than 1 trip a day
- Bloomington / Normal, Illinois is a great facility
- Champaign to New Orleans ?
- Requests increased frequency of service for Hoosier State
- Connectivity improvements are needed between Greyhound and Amtrak
- Larger Amtrak presence will help CityBus
- International Students (130 countries) attend Purdue University – they are familiar with safe, reliable rail service

The Honorable Stephen Wood Mayor of Rensselaer

- Similar comments as Crawfordsville Mayor
- Ridership (per Amtrak) has increased >200%
- New station at Rensselaer is forthcoming
- Sympathize with unfunded mandates
- Small rural community -FEMA flood money made green space downtown and ADA compliant rail station
- Annex along I-65 to improve economic development
- Need the train service

Joe Krause – Amtrak Station Volunteer

- City of Lafayette provided $92k improvement to station platform
- City transfer center to open in July
- Development near station includes apartments, bank, and hotel
- Tri- weekly service via Cardinal only will hurt Lafayette. Saturday is heaviest travel day
- Handicapped /disabled people use rail service
- Protect Amtrak Corridor for potential "higher speed" rail (reliable rail)
- Make passenger rail service safe, frequent, reliable, and convenient,
- Ann Arbor, Grand Rapids, Lansing, Urbana, Champaign, McComb all increased ridership (provided hard copy)

Roger Sims – Indiana High Speed Rail Association

- Presented two short PowerPoint presentations. (provided copies)
- Hoosier State is a foundation for high speed rail
- Indiana has largest route mile of vision for high speed rail
- NE Corridor – Acela is an European model for service amenities
- MWRRI Map –potential 110 MPH for the Hoosier State
- Economic Data
    - Illinois ridership increased with new services – attracted business traveler
    - Railroad invest $0.40 of every $1.00 back into their system
    - Beech Grove maintenance facility employees 700 persons
    - 1997 study by Rodney Slater provided components and criteria to include in rail benefits

Elizabeth Solberg – Community Volunteer

- Member of the Midwest Interstate Passenger Rail Commission (MIPRC) since 1996
- Indiana was the first State to join MIPRC and was a leader in the organization. Since then, Indiana has slipped is their participation.
- Midwest has invested $2.5B for rail service since PRIIA
- Indiana Gateway Project is a $72M investment (FRA Grant) to mitigate rail congestion in northern Indiana
- Eliminate Hoosier State service, and Indiana would not be eligible for federal funds for passenger rail improvements
    - Why would any agency reward Indiana with money grant funding

- Agrees with comments addressed by others.

Tim Maloney – Hoosier Environmental Council

- Supports improved rail service in Indiana
- Favors rail as both energy benefit and economic benefit
- Noted other speakers and their demographic trends
  - There is a need to serve other users: older drivers, young professional people
  - 9 Indiana colleges along Hoosier State
- 17 states provide State support to Amtrak
- Stations provide economic development to community
- Rail vendor investment (supply chain)
  - Indiana has 99 companies (2nd greatest) providing service to rail
- Ask that study include route to Cincinnati to improve rail service. Add their voices for Ohio to join rail network. Indiana needs to be a partner.

Kevin Kelly – Jasper County Economic Development

- Connectivity will improve economic development
- Learned about passenger rail service during Rensselaer station improvement
- Would offer support to INDOT to help with cost

Steve Sostaric – Northwestern Indiana Regional Planning Commission (NIRPC)

- Wants multi modal network
- Comprehensive Regional Planning – encourage multi modal
  - Rail, bus, pedestrian, etc...,
- 3 counties – 3 Amtrak stations (Lake, Porter, LaPorte)
- Connections to Michigan as well as Lafayette
- Give close consideration to study and alternates
- Every little bit can help air quality

Joe Seaman – Greater Lafayette Chamber of Commerce

- Concur with others comments
- 40% of the local community employed by international firms
- Recommended improving the corridor to Cincinnati (6 trips daily)
- Invest in passenger rail corridor
  - It is not a subsidy for I-65
  - Passenger rail improvements are an investment
- The Midwest is the 5th largest economy in US
- It will be hard to recover the Hoosier State service if investment is not made
- Passenger rail is not a system
- Combine Midwest markets: Milwaukee, Chicago, & Indianapolis,
- Funding passenger rail service will be recovered from people investing outside rail improvements

Rick Harnish – Executive Director, Midwest High Speed Rail

- Provided handout on city comparisons along passenger rail routes

General Discussion:

Goal Setting

- What would make Hoosier State a viable service?
- What would increase ridership? (e.g. frequency, speed)

People who ride the Hoosier State today, do so willingly with poor service

- Compare 4 hours driving vs. 6 hours working on train - what is the benefit to use current service?

Items to increase ridership:

- Improved WiFi connection
- Speed: Arrive in Chicago or Indianapolis in 2.5 hours would be a big increase to ridership.
- Increase other fees, such as parking. Parking garage in Chicago is expensive
- Improve on-time reliability
- Adequate parking at train station
- Signage for station locations
- Educate the public about Hoosier State service

Long term competitiveness: High Speed Rail compared to High Speed Internet

Publication about passenger rail decline:

- "When the Railroad Leaves Town: American Communities in the Age of Rail Line Abandonment," Joseph P. Schwieterman (2001)

Comment sheets and Goal Setting sheets were provided to all attendees and collected at the end of the meeting. Subsequent to the meeting, comments and goals were submitted to CDM Smith and INDOT. Comment and goal sheets returned are provided as attachments to these minutes.

Attachments
cc: Project File

Note: The information contained in these minutes is the writers' understanding of the issues discussed at the meeting. If any of the attendees has a different view of the issues, he/she should forward the corrections to the writer, within three working days after the receipt of the meeting minutes.

HOOSIER STATE – CONNECTING INDIANAPOLIS TO CHICAGO
INDOT Stakeholders Meeting, Tippecanoe Co Office Building
Tuesday 21 May 2013, 1:30pm

CITY OF LAFAYETTE, Mayor Tony Roswarski
20 N 6th Street, Lafayette, Indiana, 47901

Summary Statement: It is the position of the leadership of the City of Lafayette that the Hoosier State rail service should be maintained. The benefits are felt statewide, not simply by those communities through which the line passes; therefore, its costs should be covered by the state as part of its statewide transportation policy. The communities that host the Amtrak stations along the route contribute to rail service by maintaining and investing in the facilities that serve the rail line and its growing number of rail users. Greater Lafayette is placing renewed emphasis on the rail corridor along the Wabash River in its recently completed master plan that calls for a multi-million dollar investment. This and the combined investments in all forms of transportation form a comprehensive approach to transportation services that provide essential options for all citizens. Passenger rail is a growing transportation choice among Hoosiers. And it's a green and energy efficient form of travel that makes the best use of our energy resources. To discontinue service would send the wrong message to businesses and industries considering Indiana as a location to locate or expand. Forward thinking states and communities are investing in passenger rail service; expanding service, not eliminating it. Lafayette has spent decades and invested millions of dollars improving the safety of commercial rail and convenience of passenger rail service in our community through railroad relocation. Lafayette's commitment is unquestionable.

A. TRENDS IN URBAN DEVELOPMENT AND TRANSPORTATION OPTIONS

1. New and expanding businesses are choosing communities with an eye on the future. Communities that offer the best quality of life and opportunities for current and future residents are more desirable locations for businesses to build and expand. Quality of life issues include transportation choices in addition to available recreation, schools, higher education, entertainment, services and culture.

2. Younger generations are more interested in transportation choices. Many are choosing urban centers to live in; fewer are automatically opting to own cars if they don't have to.

3. Public transportation is "green"; passenger rail is convenient and energy efficient.

4. Ridership in the Lafayette Amtrak station between 2003-2012 is up and continues to rise.

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
7,772	11,141	12,672	14,242	18,483	23,083	24,677	25,805	26,827	27,363

B. RECENT ECONOMIC DEVELOPMENT / INVESTMENT IN LAFAYETTE THAT WILL IMPACT THE COMMUNITY NEED FOR CONTINUED SERVICE BY THE HOOISER STATE

1. Nanshan Aluminum Technologies – New aluminum plant
   a. Investment = $150 million +
   b. New jobs = 200*
   c. Expected completion – Spring 2014

2. Alcoa – Aluminum lithium plant expansion
   a. Investment = $90 million
   b. New jobs = 90*
   c. Expected completion – Fall 2014

3. SIA/Subaru – Automotive plant expansion
   a. Investment = $400 million
   b. New jobs = 900*
   c. Expected completion – Fall 2016

* Multiplier effect: the region can expect ten (10) additional jobs for every one (1) newly created automotive job at SIA/Subaru. That means the region will experience 9000 new jobs as a result of the expansion at SIA/Surbaru alone. The multiplier for the Alcoa and Nanshan investments are between five (5) and ten (10) resulting in another 1,450-2,900 jobs in the region.

C. ANNUAL AND FUTURE FINANCIAL COMMITMENT TO AMTRAK STATION

1. Month estimates of general and special maintenance cost spent by City Facilities Department on the Amtrak station site.

Supplies and Labor	
Lighting, Ballasts, bulbs	= $300/mo
General supplies	= $400/mo
HVAC	= $300/mo
Labor/maintenance	= $1571/mo
Labor/custodial	= $861/mo

	$3432/mo
	x 12

	$41,184/yr
Special Maintenance	= $1500/yr

Total costs	**$42,684/yr**

2. Monthly cost spent by City Economic Development Department on the Amtrak station security.

Depot Security	= $4,400/mo
	x 12

Total costs	**$52,800/yr**

3. Previous and future expense to infrastructure planned by City Engineering Department

Platform Project	= $94,356 spent
Bridges, Elevators	= $2,621,000 in process (2014)
	http://www.tippecanoe.in.gov/egov/documents/1367502184_37295.pdf
HC Ramps over RR	= $790,000 in process (2014)

Total costs	**$3,505,356**

Hoosier State Passenger Rail Cost Benefit Analysis
Stakeholder Meeting Minutes

Date: *May 23, 2013*

Location: *INDOT Traffic Management Center*
Indianapolis, IN

Attendees: See Sign-In Sheet attached

Under the provisions of Section 209 of the Passenger Rail Investment and Improvement Act (PRIIA) of 2008, all short-distance Amtrak corridor services (fewer than 750 miles) used for intercity passenger rail service must become state-supported and states must pay the proportional costs associated with the corridor route. INDOT is conducting a high level study of the Hoosier State to quantify its benefits related to traffic congestion, public safety, air quality, and its impact on economic development and job growth. As part of the study, two stakeholder meetings were held at communities along the Hoosier State to obtain feedback regarding costs and benefits of the Hoosier State passenger rail service. These minute reflect the discussion provided at the stakeholder meeting held in Indianapolis, IN.

Troy Woodruff, INDOT Chief of Staff opened the meeting with an overview of the Hoosier State service

Janette Fulkerson, CDM Smith introduced the consultant team and called attention to the comment sheets and goal setting sheets available for attendees to complete and return.

Melissa Peters, CDM Smith presented the meeting agenda and following project overview:

- The Hoosier State operates four days per week. The Cardinal provides service to the same stations at the same time for the remaining three days per week.
- Indiana stations include Indianapolis, Crawfordsville, Lafayette, Renesselaer and Dyer
- Host railroad is CSX Transportation for the majority of the Hoosier State / Cardinal service
- Problem Statement:
    - The State of Indiana must determine if operating the costs of the Hoosier State are justified based on the return on investment
    - The current system is inefficient / inadequate and should be improved if the service is retained
- Alternatives to be considered in the cost – benefit study:
    - Elimination of the Hoosier State
    - Continuance of the Hoosier State with no improvements
    - Continuance of the Hoosier State with 79 mph, 90% on-time performance and increase frequency

- Study area will include the 167 miles within Indiana (did not include Chicago Station) and limited to two mile radius at the Indiana stations.
- Milestone schedule for completing the study culminates with a report complete in Sept. 2013

Stakeholders were directed to focus their comments on the following items:

1. Costs and benefits of the Hoosier State
2. Alternatives considered
3. Potential effects the continuation or elimination of service would have on the community
4. Existing and/or planned development that are dependent on continued/discontinued service
5. Existing facilities sensitive to rail service
6. Community long-range plans and economic benefit factors
7. Potential community investment in keeping and/or improving the service

Prior to receiving stakeholder comments, introductions were provided by all attendees. The following comments were received:

Tom Beck, Indianapolis Metropolitan Planning Organization (MPO)

- Asked if the Chicago CREATE project will be included in the study
  - (Response: It will be mentioned; however, study area is within Indiana)
- Consider partnerships with others as well as with INDOT
- Asked if route to Cincinnati would be included in the study
  - (Response: Study Area is for the Hoosier State only)
- Indianapolis Northeast rail line study is evaluating added stations. Potential future users of Indianapolis transit facility could board the Hoosier State.

Leonard Hoop, Visit Indy

- Asked if majority of the passengers board in Lafayette. If so, there is no station for MegaBus in Lafayette when comparing bus / rail service.
- Asked if Indiana declined high speed rail service.
- High speed rail service may affect Hoosier State service options.
- Asked if funding recommendations will be included in the study
  - (Response: Study does not include funding recommendations)

Kim Irwin, Executive Director Alliance for Health Promotion

- Provided Amtrak fact sheet
- Noted there is Federal investment into high speed rail (Illinois, Michigan)
- Indiana jeopardize ability to participate with high speed rail.
- Asked if the study will include a ridership survey
  - (Response: The study will use Amtrak ridership data)
- Asked if the study will include Hoosier State comparison to other shortline Amtrak routes.
  - (Response: The study will include evaluation of best practices in states)

Ehren Bingaman, Executive Director, Central Indiana Regional Transportation Authority (CIRTA)

- Asked if ridership model will be included in the study.
  - (Response: Amtrak is providing ridership information)
- Study must distinguish between intercity rail service and passenger rail service.
  - Don't do work with Amtrak that jeopardize local transit.
- Evaluate P3 for long term funding/partners.
- Asked about the time frame for public comment
  - (Response: The study does not include public comments, only stakeholder comments)

Mandla Moyo, AARP

- AARP Indiana membership is over 860,000
- Supports continued service of Hoosier State
- Asked about improvements with high speed rail
- Improve Hoosier State service and actively market the line
- Asked if INDOT is in discussion with Amtrak and CSX railroads.
  - (Response: Study will include coordination with Amtrak and CSX railroads)

Mike Fisher, Amtrak Beech Grove Maintenance Facility

- Trip time from Indianapolis to Chicago is too long
- Concerned about INDOT's position of $3M cost to maintain the Hoosier State.
- Discontinue the Hoosier State will jeopardize jobs
- After dropping off Indianapolis passengers, railroad continues to Beech Grove maintenance facility
- If Amtrak is to rely on Cardinal for equipment maintenance, it will take more time to get cars to Beech Grove facility.
- Big Picture: elimination of Hoosier State would require adjustment to move equipment back and forth to get them out to other states.
- Beech Grove Maintenance facility puts back $17M into local economy through their work.
- Without the Hoosier State service, the Cardinal schedule will be hampered
- Acknowledges the significant cost for Indiana to maintain the Hoosier State, but asked that it compares that cost to the $17M returned to Indiana due to work at Beech Grove
- Asked if the study would address impacts to Cardinal.
- Asked how much economic impact to route is being considered in the study.
  - Look at statewide business improvements
  - Look at expanding study radius more than 2 mile at the stations
  - (Response: Study will include economic development benefits)
- Train Day was held May 11, and 50 volunteers cleaned the station
- Expressed concern about signage for Hoosier State passenger rail service
  - Small Amtrak sign – Large Greyhound sign

Justin Moed, Indiana State Representative House District 97

- Asked if the report will include effects to Beech Grove Maintenance Facility
  - (Response: Beech Grove Maintenance Facility will be addressed in study)

Doug Yerkeson, Indiana Rail Association

- Remember to include benefits from the Beech Grove Maintenance facility
- Every few years, there are rumors that Michigan will snatch maintenance facility from Beech Grove
- INDOT received authorization this year from the Indiana General Assembly to provide funding for Amtrak
- Maintaining current service of Hoosier State is not good option. Improvement would be a good sell (compare rail service amenities to automobile)
- Hoosier State is located near Indianapolis International Airport, but no station is located there. Asked if the study will evaluate adding this station.
    - (Response: Study will address existing stations only)
- He has heard discussion of Cardinal daily services and that CSX had issues with daily service east of Indy.
    - If Hoosier State service is discontinued, CSX will say freight schedule is revised and no passenger will be allowed anymore.

Jeff Hill , Director of Engineering, Town of Fishers

- Asked if the study would address additional pick up points /stations.
- Look at commuters in Zionsville to provide access to Hoosier State
    - (Response: Study will address existing stations only)

Ambre Marr, State Director for State Advocacy, AARP

- Asked if at the end of the study, will INDOT say yes or no for continued service.
    - (Response: INDOT to review study conclusions to understand viable service options. Once that is understood, then look at potential funding partners)
- Requested the study look at options from other stakeholders.
- Asked when would coordination with other stakeholders occur.

Cristina Hale, Indiana State Senator District 16

- Requested the study provide an explanation for the business case return on investment
- Provide vivid details of the economic impact
- Requested that the Stakeholders be provided the methodology for return on investment

Mike Hollenbaugh, Director, Department of Community Services, Carmel

- Asked why the study area stops at Dyer.
    - If there is a problem with the last stretch into Chicago, why not coordinate with Illinois?
    - Indianapolis to Chicago is the business market, the constraints into Chicago ought to be addressed.
- Asked if discontinue service an option. If stakeholders unite, will continued service remain?
    - (Response: The study will include discontinued service as an option. Subsequent to the study, INDOT is open to discuss options for continued services with stakeholders)
- Noted that the window to complete the study is short, considering the October 1, 2013 deadline for States to assume funding responsibilities to maintain service.

General Discussion:

Indiana is the only state that has not chosen to fund continued services for Amtrak facility less than 750 miles.

INDOT is coordinating with Amtrak regarding the Hoosier State service, and has requested Amtrak provide costs for the Beech Grove Maintenance facility without Hoosier State service.

Amtrak will provide the ridership data for the study.

INDOT will coordinate with stakeholders regarding flexibility with October 1 deadline for continued service.

Subsequent to completion of the study report, INDOT will allow public comment on their website.

Comment sheets and Goal Setting sheets were provided to all attendees and collected at the end of the meeting. Subsequent to the meeting, comments and goals were submitted to CDM Smith and INDOT. Comment and goal sheets returned are provided as attachments to these minutes.

Attachments
cc: Project File

Note: The information contained in these minutes is the writers' understanding of the issues discussed at the meeting. If any of the attendees has a different view of the issues, he/she should forward the corrections to the writer, within three working days after the receipt of the meeting minutes.

Hoosier State

Connecting Indianapolis to Chicago

Stakeholder Meetings
May 2013

Hoosier State Passenger Rail Cost Benefit Analysis

Stakeholder Meetings
May 21 & 23, 2013

Purpose of the Meeting

- Inform stakeholders of project
- Solicit stakeholder input

Meeting Agenda

- Project Overview
  - Background
  - Study Area
  - Problem Statement
  - Project Scope / Alternatives Considered
- Stakeholder Comments
- Next Steps

Project Background

- Section 209 of PRIIA (2008) requires all short-distance Amtrak corridor services, including Hoosier State, to become state-supported
- Beginning on October 1, 2013, the State of Indiana is responsible for funding the Hoosier State
- Hoosier State operates four days/week
- The Cardinal provides passenger service to the same stops at the same times for the remaining three days/week

Study Area

- 196-mile corridor from Indianapolis to Chicago
- Stops in Crawfordsville, Lafayette, Rensselaer, and Dyer
- Currently operated by Amtrak on CSX Rail Lines

Problem Statement

- The State of Indiana must determine if operating costs of the Hoosier State are justified based on the return on investment.
- Current system is inefficient / inadequate and should be improved if the service is kept

Project Overview

Project Scope:

- Conduct a cost benefit analysis to determine if the benefits of the Hoosier State justify state and local funding
- Quantify benefits related to traffic congestion, public safety, air quality, and economic development
- Compare the values of these benefits to the estimated cost of operating the service

Project Overview

Alternatives Considered:

- Elimination of the Hoosier State
- Continuance of the Hoosier State with no improvements
- Continuance of the Hoosier State with 79 MPH, 90 percent On-Time Performance, and increased frequency

"Milestone" Schedule

- April 25, 2013 – Notice To Proceed
- May 21, 2013 – Kick-off Meeting with Amtrak
- May 21 & 23, 2013 – Stakeholder Meetings
- June 2013 – Amtrak Service Plan Proposed
- August 2013 – Conceptual Capital Improvements and Cost Identified
- August 2013 – Economic Benefits of Project Identified
- September 2013 – Report Completed

Stakeholder Comments

Focus comments on:

- Costs and benefits of the Hoosier State
- Alternatives considered
- Potential effects the continuation or elimination of service would have on the community
- Existing and/or planned development that are dependent on continued/discontinued service
- Existing facilities sensitive to rail service
- Community long-range plans and economic benefit factors
- Potential community investment in keeping and/or improving the service

Goal Setting

Goals	Discontinue Service	Continue Service	Improve Service
1.	+	O	+
2.	O	+	O
3.	O	O	+
4.	O	O	O
5.	-	-	+
6.	+	+	O
7.	+	+	O
8.	O	O	+
Summary	+2	+2	+2

Open Discussion

Question and Comment Period

Additional Comments

Please send additional questions & comments to:

Abigail Weingardt
Legislative Affairs Director
Indiana Department of Transportation
100 N. Senate Ave. IGCN 758
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May 21st and May 23rd

Sign In Sheets

and

Stakeholder Comments

are available upon request.

Appendix C - Service Development Program Standard Budget and Schedule Form

- General Information (1 sheet)
- Detailed Capital Cost Budget (2 sheets)
- Annual Capital Cost Budget (1 sheet)

General Information

Below, please indicate the Service Development Program name. The Service Development Program name must be identical to the name listed in the Application Form.

1. Please enter the requested data into the yellow cells.
This information will auto-populate other areas of the form.

Service Development Program Name *(same as on Application Form)*	Hoosier State Passenger Service

Application Assumptions

1. Please use this section to capture two separate sets of assumptions that will affect the costs shown in subsequent sheets. The contingency rate is the allowance for uncertainties in projected costs. The Annual Inflation Rate will be used to convert between 2012 constant dollars and Year of Expenditure dollars. Enter the assumed annual inflation rate for each category for each year, with the exception of 2012. Inflation rates for 2012 are not used in Year of Expenditure calculations in other sections of this form.

Cost Categories*	Contingency Rate Assumption (%)	Annual Inflation Rate Assumptions by Year (%)									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Categories for Detailed Capital Cost Budget											
10 Track Structures and Track	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
20 Stations, Terminals, Intermodal	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
30 Support Facilities: Yards, Shops, Admin. Bldgs	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
40 Sitework, Right of Way, Land, Existing Improvements & Special Conditions	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
50 Communications & Signaling	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
60 Electric Traction	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
70 Vehicles	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
80 Professional Services (applies to Cats. 10-60)	33.0%		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
90 Unallocated Contingency	0.0%										
100 Finance Charges											
Category for Operating, Financial, and Sustainability Information		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating, Financial, Sustainability Information– All-Purpose Inflation Rates											

*** See the "Capital Cost Info." tab for definitions and explanations of the Standard Capital Cost (SCC) Categories.**

**** For 2020 Operating, Financial, and Sustainability Inflation Assumptions, enter a single annual inflation rate for 2020 that will be used for 2020 and all subsequent years.**

If not using the FRA formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

		Unit	Quantity	Unit Cost (Thousands of Base Yr/FY12 Dollars)	Non-Unit Based Costs	Total Allocated Cost (Thousands of Base Yr FY12 Dollars)	Allocated Contingency (Thousands of Base Yr/FY12 Dollars)	TOTAL COST (Thousands of Base Yr/FY 12 Dollars)	Explanation Provided? (If so use *)
10 TRACK STRUCTURES & TRACK						$ [illegible]	$ [illegible]	$ [illegible]	
10.01	Track structure: Viaduct	Miles	0.00			$ -	$ -	$ -	
10.02	Track structure: Major/Movable bridge					$ -	$ -	$ -	
10.03	Track structure: Undergrade Bridges	#	28	$ 600		$ 16,800	$ 5,544	$ 22,344	
10.04	Track structure: Culverts and drainage structures	#	5	$ 600		$ 3,000	$ 990	$ 3,990	
10.05	Track structure: Cut and Fill (> 4' height/depth)	Miles				$ -	$ -	$ -	
10.06	Track structure: At-grade (grading and subgrade stabilization)	Miles	14	$ 521		$ 7,294	$ 2,407	$ 9,701	
10.07	Track structure: Tunnel					$ -	$ -	$ -	
10.08	Track structure: Retaining walls and systems	Miles				$ -	$ -	$ -	
10.09	Track new construction: Conventional ballasted	Miles	14	$ 1,393		$ 19,502	$ 6,436	$ 25,938	
10.10	Track new construction: Non-ballasted					$ -	$ -	$ -	
10.11	Track rehabilitation: Ballast and surfacing	Miles	100	$ 169		$ 16,870	$ 5,567	$ 22,437	
10.12	Track rehabilitation: Ditching and drainage					$ -	$ -	$ -	
10.13	Track rehabilitation: Component replacement (rail, ties, etc)	Miles	50	$ 202		$ 10,094	$ 3,331	$ 13,425	
10.14	Track: Special track work (switches, turnouts, insulated joints)	#	22	$ 658		$ 14,476	$ 4,777	$ 19,253	
10.15	Track: Major interlockings					$ -	$ -	$ -	
10.16	Track: Switch heaters (with power and control)					$ -	$ -	$ -	
10.17	Track: Vibration and noise dampening					$ -	$ -	$ -	
10.18	Other linear structures including fencing, sound walls	Miles	0.00			$ -	$ -	$ -	
20 STATIONS, TERMINALS, INTERMODAL						$ [illegible]	$ [illegible]	$ [illegible]	
20.01	Station buildings: Intercity passenger rail only	#	0.00			$ -	$ -	$ -	
20.02	Station buildings: Joint use (commuter rail, intercity bus)	#	0.00			$ -	$ -	$ -	
20.03	Platforms	#	1.00	$ 491		$ 491	$ 162	$ 653	
20.04	Elevators, escalators	#	0.00			$ -	$ -	$ -	
20.05	Joint commercial development	#	0.00			$ -	$ -	$ -	
20.06	Pedestrian / bike access and accommodation, landscaping, parking lots	#	1.00	$ 1,061		$ 1,061	$ 350	$ 1,411	
20.07	Automobile, bus, van accessways including roads	#	0.00			$ -	$ -	$ -	
20.08	Fare collection systems and equipment	#	0.00			$ -	$ -	$ -	
20.09	Station security	#	0.00			$ -	$ -	$ -	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS						$ -	$ -	$ -	
30.01	Administration building: Office, sales, storage, revenue counting					$ -	$ -	$ -	
30.02	Light maintenance facility					$ -	$ -	$ -	
30.03	Heavy maintenance facility					$ -	$ -	$ -	
30.04	Storage or maintenance-of-way building/bases					$ -	$ -	$ -	
30.05	Yard and yard track					$ -	$ -	$ -	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS						$ -	$ -	$ -	
40.01	Demolition, clearing, site preparation					$ -	$ -	$ -	
40.02	Site utilities, utility relocation					$ -	$ -	$ -	
40.03	Hazardous material, contaminated soil removal/mitigation, ground water treatments					$ -	$ -	$ -	
40.04	Environmental mitigation: wetlands, historic/archeology, parks					$ -	$ -	$ -	
40.05	Site structures including retaining walls, sound walls					$ -	$ -	$ -	
40.06	Temporary facilities and other indirect costs during construction					$ -	$ -	$ -	
40.07	Purchase or lease of real estate					$ -	$ -	$ -	
40.08	Highway/pedestrian overpass/grade separations					$ -	$ -	$ -	
40.09	Relocation of existing households and businesses					$ -	$ -	$ -	

		Unit	Quantity	Unit Cost (Thousands of Base Yr/FY12 Dollars)	Non-Unit Based Costs	Total Allocated Cost (Thousands of Base Yr FY12 Dollars)	Allocated Contingency (Thousands of Base Yr/ FY 12 Dollars)	TOTAL COST (Thousands of Base Yr/FY 12 Dollars)	Explanation Provided? (If so use ")
50 COMMUNICATIONS & SIGNALING						$ 29,986	$ 9,720	$ 39,706	
50.01	Wayside signaling equipment					$ -	$ -	$ -	
50.02	Signal power access and distribution	Miles	14	$ 554		$ 7,756	$ 2,559	$ 10,315	
50.03	On-board signaling equipment					$ -	$ -	$ -	
50.04	Traffic control and dispatching systems					$ -	$ -	$ -	
50.05	Communications					$ -	$ -	$ -	
50.06	Grade crossing protection (extend detection zone)	#	130	$ 120		$ 15,600	$ 5,148	$ 20,748	
50.06	Grade crossing protection (active warning devices)	#	25	$ 250		$ 6,250	$ 2,063	$ 8,313	
50.07	Hazard detectors (dragging equipment, , slide, etc.)					$ -	$ -	$ -	
50.08	Station train approach warning system					$ -	$ -	$ -	
60 ELECTRIC TRACTION						$	$	$	
60.01	Traction power transmission: High voltage					$ -	$ -	$ -	
60.02	Traction power supply: Substations	#	0.00			$ -	$ -	$ -	
60.03	Traction power distribution: Catenary and third rail	#	0.00			$ -	$ -	$ -	
60.04	Traction power control					$ -	$ -	$ -	
Construction Subtotal (10-60)						$ 179,194	$ 59,334	$ 198,528	
70 VEHICLES						$	$	$	
70.00	Vehicle acquisition: Electric locomotive	#				$ -	$ -	$ -	
70.01	Vehicle acquisition: Non-electric locomotive	#				$ -	$ -	$ -	
70.02	Vehicle acquisition: Electric multiple unit	#				$ -	$ -	$ -	
70.03	Vehicle acquisition: Diesel multiple unit	#				$ -	$ -	$ -	
70.04	Veh acq: Loco-hauled passenger cars w/ ticketed space	#				$ -	$ -	$ -	
70.05	Veh acq: Loco-hauled passenger cars w/o ticketed space	#				$ -	$ -	$ -	
70.06	Vehicle acquisition: Maintenance of way vehicles	#				$ -	$ -	$ -	
70.07	Vehicle acquisition: Non-railroad support vehicles	#				$ -	$ -	$ -	
70.08	Vehicle refurbishment: Electric locomotive	#				$ -	$ -	$ -	
70.09	Vehicle refurbishment: Non-electric locomotive	#				$ -	$ -	$ -	
70.10	Vehicle refurbishment: Electric multiple unit	#				$ -	$ -	$ -	
70.11	Vehicle refurbishment: Diesel multiple unit	#				$ -	$ -	$ -	
70.12	Veh refurb: Passeng. loco-hauled car w/ ticketed space	#				$ -	$ -	$ -	
70.13	Veh refurb: Non-passeng loco-hauled car w/o ticketed space	#				$ -	$ -	$ -	
70.14	Vehicle refurbishment: Maintenance of way vehicles	#				$ -	$ -	$ -	
70.15	Spare parts					$ -	$ -	$ -	
80 PROFESSIONAL SERVICES						$ 46,829	$ 15,046	$ 61,875	
80.01	Service Development Plan/Service Environmental				$ 1,192	$ 1,192	$ 393	$ 1,585	
80.02	Preliminary Engineering/Project Environmental				$ 5,960	$ 5,960	$ 1,967	$ 7,926	
80.03	Final Design				$ 11,919	$ 11,919	$ 3,933	$ 15,853	
80.04	Project management for design and construction				$ 5,960	$ 5,960	$ 1,967	$ 7,926	
80.05	Construction administration & management				$ 11,919	$ 11,919	$ 3,933	$ 15,853	
80.06	Professional liability and other non-construction insurance				$ 2,384	$ 2,384	$ 787	$ 3,171	
80.07	Legal; Permits; Review Fees by other agencies, cities, etc.				$ 2,384	$ 2,384	$ 787	$ 3,171	
80.08	Surveys, testing, investigation				$ 5,960	$ 5,960	$ 1,967	$ 7,926	
80.09	Engineering inspection				$ 5,960	$ 5,960	$ 1,967	$ 7,926	
80.10	Start up				$ 1,192	$ 1,192	$ 393	$ 1,585	
Subtotal (10-80)						$ 174,023	$ 57,428	$ 231,451	
90 UNALLOCATED CONTINGENCY									
Subtotal (10-90)								$ 231,451	
100 FINANCE CHARGES									
TOTAL CAPITAL COST (10-100)								$ 231,451	

Space provided for additional descriptions or explanations.
See example entries "explanations" above. Please use letter references to specific cost estimate numbers.

Annual Capital Cost Budget

Instructions:
This form provides a breakdown by year of the capital costs entered in the previous "Detailed Capital Cost Budget". The data you enter in this form should be drawn from budget estimates or analyses you have available for your project.

1. In the yellow cells in the "Base Year/FY 2012 Dollars" table, enter the annual dollar figures for each cost category in thousands of Base Year/FY 2012 Dollars.

2. In the "Base Year/ FY 2012 Dollars" table, the numbers in the "Double Check Total" column will auto-populate from the "Detailed Capital Cost Budget" in the previous tab. The numbers in the "Base Yr/FY 12 Total" column will be the sum of the annual data entered to the left. The two columns should match for each Standard Cost Category. If the entries in the "Double Check Total" column are not identical, the Base Year/FY 12 values you entered in the previous tab do not match the values entered in this tab.

3. The light blue cells in the Year of Expenditure (YOE) table will auto-populate using inflation rates from the "General Info" tab.

Program Name: Hoosier State Passenger Service

BASE YEAR FY 2012 DOLLARS (Thousands)	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total in Base Yr/FY 12 Dollars*	Check Figures, Taken from Detailed Budget‡
10 TRACK STRUCTURES & TRACK				$ 39,029	$ 39,029	$ 39,030				$ 117,088	$ 117,088
20 STATIONS, TERMINALS, INTERMODAL				$ 688	$ 688	$ 688				$ 2,064	$ 2,064
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS				$ -	$ -	$ -				$ -	$ -
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS				$ -	$ -	$ -				$ -	$ -
50 COMMUNICATIONS & SIGNALING				$ 13,125	$ 13,125	$ 13,126				$ 39,376	$ 39,376
60 ELECTRIC TRACTION				$ -	$ -	$ -				$ -	$ -
70 VEHICLES				$ -	$ -	$ -				$ -	$ -
80 PROFESSIONAL SERVICES (applies to Cats. 10-60)			$ 18,231	$ 18,231	$ 18,231	$ 18,231				$ 72,923	$ 72,923
90 UNALLOCATED CONTINGENCY										$ -	$ -
100 FINANCE CHARGES										$ -	$ -
Total Program Cost [10-100]	$ -	$ -	$ 18,231	$ 71,073	$ 71,073	$ 71,075	$ -	$ -	$ -	$ 231,451	$ 231,451

YEAR OF EXPENDITURE (YOE) DOLLARS	2012	2013	2014	2015	2016	2017	2018	2019	2020	YOE Total**
10 TRACK STRUCTURES & TRACK	$ -	$ -	$ -	$ 42,648	$ 45,927	$ 45,246	$ -	$ -	$ -	$ 133,821
20 STATIONS, TERMINALS, INTERMODAL	$ -	$ -	$ -	$ 752	$ 774	$ 798	$ -	$ -	$ -	$ 2,324
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50 COMMUNICATIONS & SIGNALING	$ -	$ -	$ -	$ 14,342	$ 14,773	$ 15,217	$ -	$ -	$ -	$ 44,332
60 ELECTRIC TRACTION	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70 VEHICLES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
80 PROFESSIONAL SERVICES (applies to Cats. 10-60)	$ -	$ -	$ 19,941	$ 19,921	$ 20,519	$ 21,134	$ -	$ -	$ -	$ 80,915
90 UNALLOCATED CONTINGENCY	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
100 FINANCE CHARGES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Program Cost [10-100]	$ -	$ -	$ 39,941	$ 77,643	$ 79,993	$ 82,395	$ -	$ -	$ -	$ 259,392

* For the purpose of this application, base year dollars are considered FY 2012 dollars.
****Year-of-Expenditure(YOE) dollars are inflated Base Year dollars. Applicants must determine their own inflation rate and enter it on the "General Info" tab. Applicants should also explain their proposed inflation assumptions (and methodology, if applicable) in the Application Form.**
‡ As a convenience to applicants in cross-checking their figures, this column shows the "Total Costs" by category in FY 2012 dollars carried over from the "Detailed Capital Cost Budget" sheet.

If not using the FRA-provided formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

Appendix D - Station Photos

Dyer, Indiana:

The following photographs illustrate land-use and economic-development potential within a 2-mile radius of the Dyer, Indiana, Amtrak station. These photographs were taken on July 15, 2013 by Melissa Peters.

Photograph #1

Photograph #2

Photograph #3

Photograph #4

Photograph #5

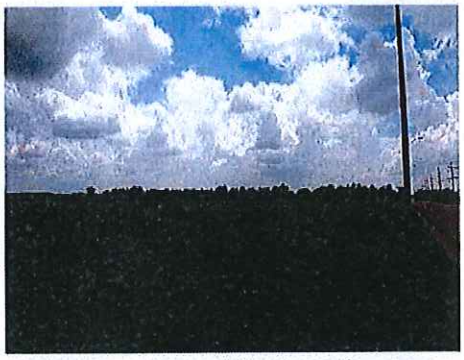
Photograph #6

Photograph #7

Photograph #8

Photograph #9

Photograph #10



Photograph #11

Photograph #12

Photograph #13

Photograph #14

Photograph #15

Photograph #16

Photograph #17

Photograph #18

Photograph #19

Photograph #20

Photograph #21

Photograph #22

Photograph #23

Photograph #24

Photograph #25

Photograph #26

Photograph #27

Photograph #28

Photograph #29

Photograph #30

Photograph #31

Rensselaer, Indiana:

The following photographs illustrate land-use and economic-development potential within a 2-mile radius of the Rensselaer, Indiana, Amtrak station. These photographs were taken on July 15, 2013 by Melissa Peters.

Photograph #1

Photograph #2

Photograph #3

Photograph #4

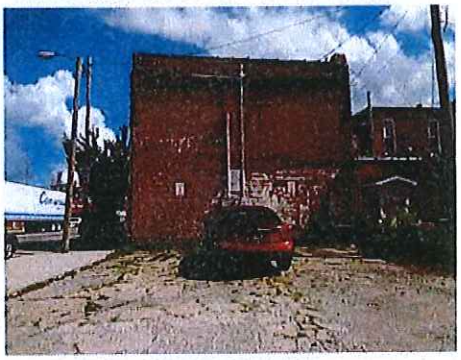
Photograph #5

Photograph #6

Photograph #7

Photograph #8

Photograph #9



Photograph #10

Photograph #11

Photograph #12

Photograph #13

Photograph #14

Photograph #15

Photograph #16

Photograph #17

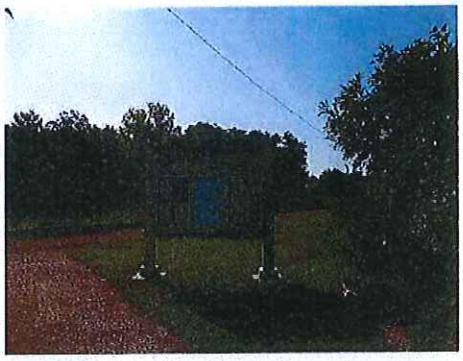
Photograph #18

Photograph #19

Photograph #20

Crawfordsville, Indiana:

The following photographs illustrate land-use and economic-development potential within a 2-mile radius of the Crawfordsville, Indiana, Amtrak station. These photographs were taken on July 16, 2013 by Melissa Peters.



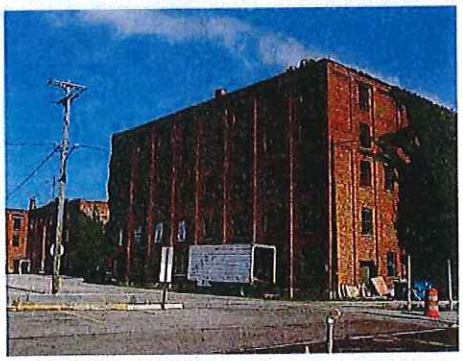
Photograph #1

Photograph #2

Photograph #3

Photograph #4

Photograph #5



Photograph #6

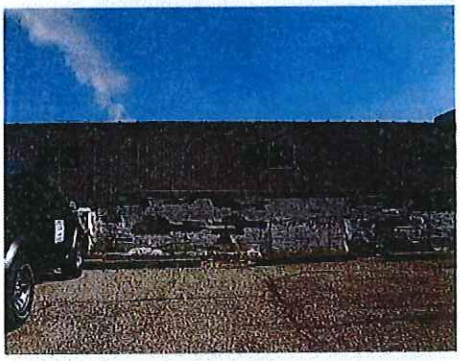
Photograph #7

Photograph #8

Photograph #9

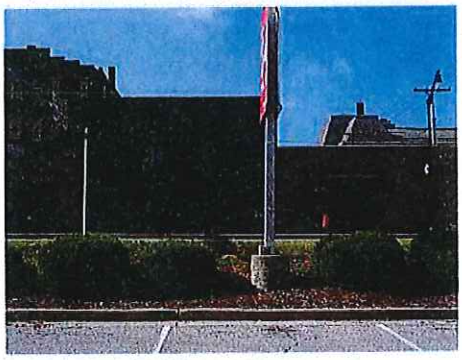
Photograph #10

Photograph #11



Photograph #12

Photograph #13



Photograph #14

Photograph #15

Photograph #16

Photograph #17

Photograph #18

Photograph #19

Photograph #20

Photograph #21

Photograph #22

Photograph #23

Photograph #24

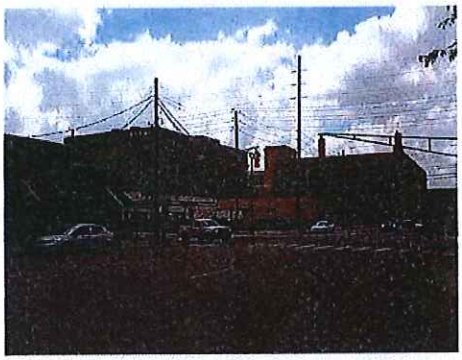
Indianapolis, Indiana:

The following photographs illustrate land-use and economic-development potential within a 2-mile radius of the Indianapolis, Indiana, Amtrak station. These photographs were taken on July 16, 2013 by Melissa Peters.

Photograph #1

Photograph #2

Photograph #3



Photograph #4

Photograph #5

Photograph #6

Photograph #7

Photograph #8

Photograph #9

Photograph #10

Photograph #11

Photograph #12

Photograph #13

Photograph #14

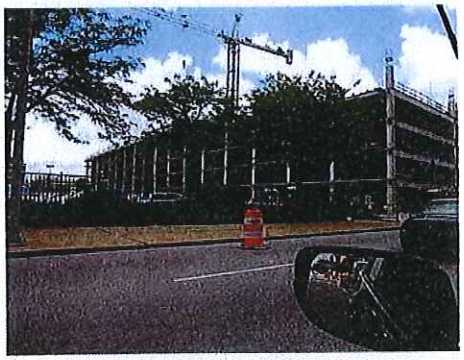
Photograph #15

Photograph #16

Photograph #17

Photograph #18

Photograph #19



Photograph #20

Photograph #21

Photograph #22

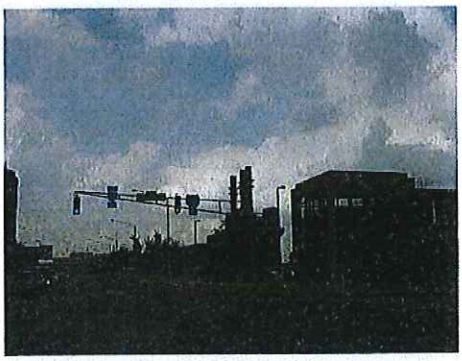
Photograph #23

Photograph #24

Photograph #25

Photograph #26

Photograph #27



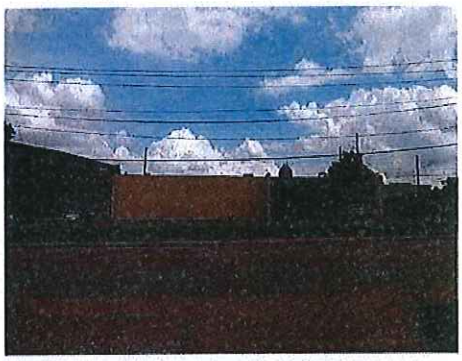
Photograph #28

Photograph #29

Photograph #30

Photograph #31

Photograph #32



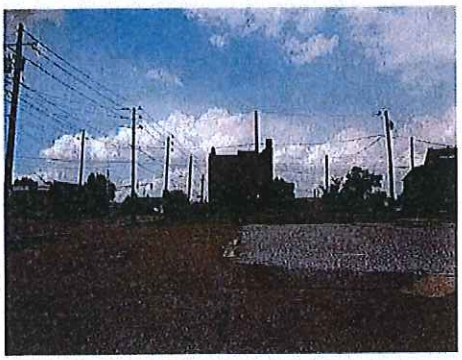
Photograph #33

Photograph #34

Photograph #35

Photograph #36

Photograph #37



Photograph #38

Photograph #39

Photograph #40

Photograph #41

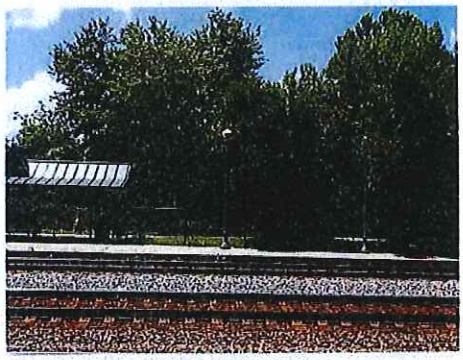
Lafayette, Indiana:

The following photographs illustrate land-use and economic-development potential within a 2-mile radius of the Lafayette, Indiana, Amtrak station. These photographs were taken on July 16, 2013 by Melissa Peters.

Photograph #1

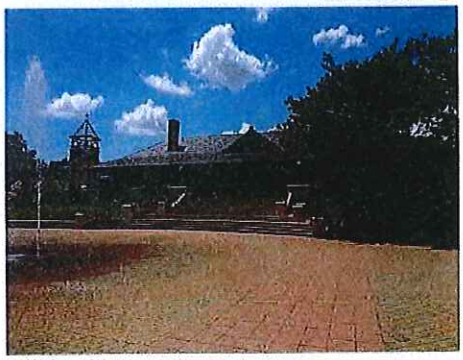
Photograph #2

Photograph #3



Photograph #4

Photograph #5



Photograph #6

Photograph #7

Photograph #8

Photograph #9

Photograph #10

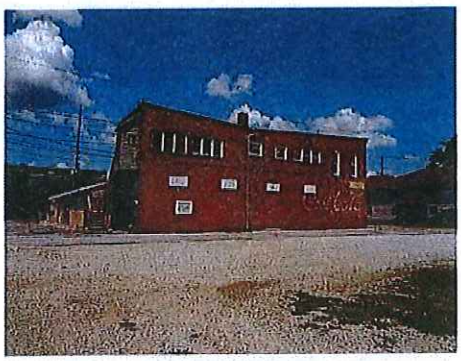
Photograph #11

Photograph #12

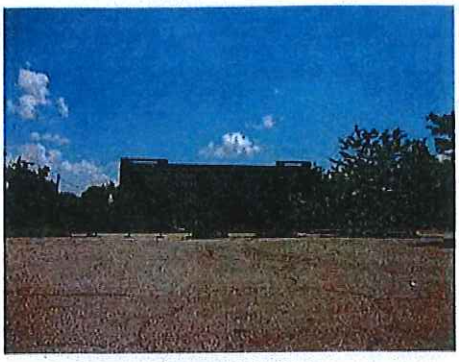
Photograph #13

Photograph #14

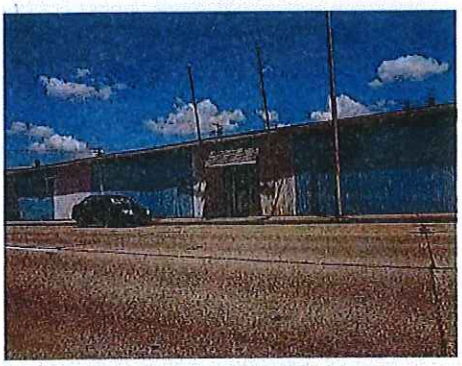
PHOTO LOG



Photograph #15

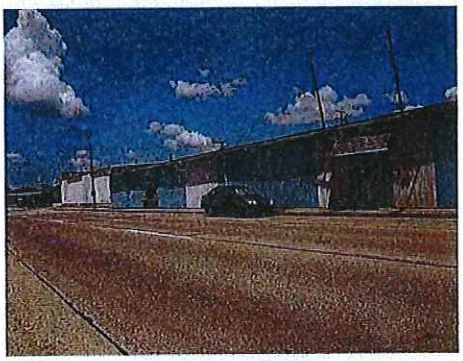


Photograph #16



Photograph #17

Photograph #18



Photograph #19

Photograph #20

Photograph #21

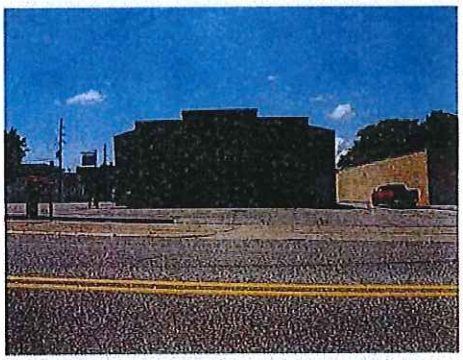
Photograph #22

Photograph #23

Photograph #24

Photograph #25

Photograph #26



Photograph #27

Photograph #28

Photograph #29

Photograph #30

PHOTO LOG

Photograph #31

Photograph #32

Photograph #33

Photograph #34

Photograph #35

Photograph #36

Photograph #37

Photograph #38

PHOTO LOG

Photograph #39

Photograph #40

Photograph #41

Photograph #42

Photograph #43

Photograph #44

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