

**High Speed Intercity Rail Program
Chicago to Iowa City**

Financial Plan

August 6, 2010

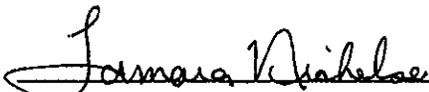
Letter of Certification

The Iowa Department of Transportation (Iowa DOT) and the Illinois Department of Transportation (Illinois DOT) have developed a comprehensive Financial Plan (Plan) for the Chicago-Iowa City High-Speed Intercity Passenger Rail Program (Program). The Plan provides detailed cost estimates to complete this project and the estimates of financial resources to be used to fully finance the project. The Plan covers the project from Project-Level Tier2 NEPA environmental documentation, to final design, and through construction.

The cost data in the Financial Plan provides an accurate and realistic estimate of costs based on engineers' estimates and expected construction cost escalation factors. The financial resources represent the available federal and state monies to fully fund the entire Program.

We believe the Financial Plan provides an accurate basis upon which to schedule and fund the identified segments of the Program. Iowa DOT and Illinois DOT will review and update the Financial Plan on a regular basis.

To the best of our knowledge, this Financial Plan fairly and accurately presents the financial information for the Program, cash flow, and expected conditions for the Program's life cycle. The financial data in the Financial Plan are based on our judgment of the expected Program conditions and our expected course of action. We believe that the assumptions underlying the Financial Plan are reasonable and appropriate. We have made available all significant information that we believe is relevant to the Financial Plan and, to the best of our knowledge, the documents and records supporting the assumptions are appropriate.

 8/6/10

Tamara Nicholson
Office of Rail Transportation, Director
Iowa Department of Transportation

 Section Chief - on behalf of 8/6/10

George Weber
Bureau of Railroads, Bureau Chief
Illinois Department of Transportation

Contents

1.	Introduction	1
2.	Program Structure.....	2
3.	Program Description	2
4.	Capital Cost Estimate Structure	4
5.	Cost Estimate Detail.....	6
6.	Financing and Revenues	10
7.	Key Assumptions, Risks, and Mitigation	12
7.1	Revenue Risk Identification.....	12
7.2	Cost Risk Identification.....	12
	Impact of Future Cost Changes.....	12
	Cost Containment Strategies	13
	Risk Mitigation	13
8.	Cash Flow of Capital Expenditures.....	14
9.	Operating and Maintenance Costs, Compared to Revenue	16

1. Introduction

The Chicago-Iowa City High Speed Intercity Passenger Rail Program (Program) is a joint undertaking of the Iowa Department of Transportation (Iowa DOT) and the Illinois Department of Transportation (Illinois DOT). The purpose of the Program is to re-establish passenger rail services from Chicago, Illinois to Iowa City, Iowa. This Program will expand transportation options by creating a rail transportation alternative to private automobile, bus, and air travel between Chicago and Iowa City, and intermediate points, and to create new transportation opportunity and capability for people who cannot meet their transportation needs with existing modes. The Chicago to Iowa City corridor is one part of the vision established by the MWRRI to expand existing and develop new regional passenger rail service to meet existing and future travel demands in the Midwest.

The Program fulfills the need for travelers to have improved transportation services consisting of reduced travel times, and costs, and improved travel convenience, reliability, connectivity, frequency, and safety.

The Program requires a comprehensive financial plan that includes Federal and non-Federal funding committed to the program. The Program area is shown below, in Figure 1.



Figure 1. Chicago-Iowa City Corridor

This Financial Plan addresses cost estimates, implementation plan, financing and revenues, cash flow, and risk identification and mitigation factors. The Financial Plan defines how the Program will be implemented and financed. Contained in this document are the Program cost estimates, funding, and schedule dates for the design, permitting, construction, and commissioning of the passenger service, and Program's revenues, operation, and maintenance costs going forward. The Financial Plan will be updated on a regular basis.

2. Program Structure

The Program Management Team is structured as a partnership between the Illinois DOT and the Iowa DOT. The two DOT's have a Memorandum of Understanding and an Agreement in Principle to develop the service. The two states have agreed that the Iowa DOT will be the lead agency and will be the recipient of the funds granted by the Federal Railroad Administration (FRA). The Iowa DOT will disburse the funds to the Illinois DOT for improvements in Illinois and to the City of Iowa City for improvements at the Iowa City station. Both the Iowa DOT and Illinois DOT have the authority to accept funds granted by the FRA and to spend these funds and, in fact, both state DOTs have previously received funds from the U.S. Department of Transportation and from the FRA. The respective state legislatures have appropriated matching funds for the program.

Both the states of Iowa and Illinois have documented their budgets on their respective websites:

- Illinois budget website: <http://www.state.il.us/budget/>
- Iowa budget website: <http://www.dom.state.ia.us/state/index.html>

The states have authority to raise funds through taxing, implementation of user fees, and bonding authority.

3. Program Description

The Program consists of a passenger-train service that provides twice-daily, round-trip, maximum 79-mph train service between Chicago Union Station and Iowa City, Iowa, a distance of 219.5 miles between station platforms.

During development of the Tier 1 Service Level NEPA document, the 219.5 mile corridor was sub-divided into the following 10 study segments:

1. Railroad track in Illinois from Chicago to the Mississippi River Bridge;
2. Railroad track in Iowa from the Mississippi River Bridge to Iowa City;
3. Passenger rail station in Geneseo, Illinois;

4. Passenger rail station in Iowa City, Iowa;
5. Passenger rail station in Moline (Quad Cities), Illinois;
6. Train layover facility at or near Iowa City, Iowa;
7. BNSF crossing at Colona, Illinois;
8. Rail yard bypass at Rock Island, Illinois; and
9. BNSF and IAIS connection track near Wyanet, Illinois.
10. Main line improvements at Eola, Illinois.

These 10 segments will each require Tier 2 Project Level NEPA studies.

In addition, the Program was subdivided into 12 construction projects. These are:

1. Railroad track in Illinois from Chicago to the Government (Mississippi River) Bridge, including capacity improvements at Moline, Illinois;
2. Railroad track in Iowa from the Government Bridge to Iowa City, including capacity improvements at Walcott, American, and Iowa City, Iowa;
3. Passenger rail station in Geneseo, Illinois;
4. Passenger rail station in Iowa City, Iowa;
5. Passenger rail station in Moline (Quad Cities), Illinois;
6. Train layover facility in Iowa City, Iowa;
7. BNSF crossing in Colona, Illinois;
8. Rail yard bypass at Rock Island, Illinois;
9. BNSF and IAIS connection track near Wyanet, Illinois;
10. Main line improvements at Eola, Illinois.
11. Train control and communications system in Illinois; and
12. Train control and communications system in Iowa.

Each construction project will require final design before construction.

The Tier 2 Project Level NEPA studies and construction projects combined with equipment acquisition and operation of the corridor make up the six project phases of the Program. The following table indicates the schedule summary for each phase.

Table 1. Program Schedule Summary

Chicago-Iowa City High-Speed Intercity Passenger Rail Program Schedule Summary					
Project Phase	2011	2012	2013	2014	2015
Phase 1—Equipment (passenger cars and locomotives)* Order and test new passenger cars and locomotives					
Phase 2—Tier 2 Project Level NEPA and Preliminary Engineering					
Phase 3 – Final Design construction projects					
Phase 4—Construction of: <ol style="list-style-type: none"> 1. Passenger rail station in Geneseo, Illinois 2. Passenger rail station in Iowa City, Iowa 3. Passenger rail station in Moline (Quad Cities) 4. Train layover facility in Iowa City, Iowa 5. BNSF crossing in Colona, Illinois 6. Rail yard bypass in Rock Island, Illinois 7. BNSF and IAIS connection near Wyanet, Illinois 					
Phase 5—Construction of: <ol style="list-style-type: none"> 1. Railroad track in Illinois from Chicago to the Quad Cities, including reconfiguration of the 7th Street connection between IAIS, BNSF and CP in East Moline 2. Railroad track in Iowa from the Quad Cities to Iowa City, including the siding extension at Walcott, passing track near Iowa City, and extension of south siding 3. Train control and communications systems in Illinois 4. Train control and communications systems in Iowa 					
Operations of Passenger Rail Service Commence: Combination of Iowa DOT and Illinois DOT funding sources					

* Assumed equipment order is progressed under a Categorical Exclusion.

4. Capital Cost Estimate Structure

Cost estimates were prepared for each of the phases of the Program. All design and construction costs for the Program were developed utilizing a base year of 2011. Due to the scope of the Program, final design is anticipated to take several years, concluding at the end of 2013. Construction is anticipated to begin in 2013 and conclude in 2014 with operations beginning in 2015. In order to more accurately capture the design and construction costs for the Program, the costs associated with individual activities were escalated by 4.5 percent per

year to account for inflation between the base year (2011) and the year when the costs are anticipated to be incurred (year of expenditure). An annual inflation rate was not applied to equipment acquisition.

A summary of the total Program cost is shown in the following table for base year and YOE for Phase 1 through Phase 5. The costs in the table include a contingency applied based on FRA Standard Cost Categories for Capital Projects/Programs, described under Cost Estimate Overview. An unallocated contingency of 5 percent has also been applied to the full Program costs.

More details about the cost estimate methodology are described in the Service Development Program (see attachment to Grant Application).

Table 2. Total Program Cost Summary

Program Phase	Completion Date	Total Cost (Year 2011\$) in thousands	Total Cost (YOE) in thousands
<u>PHASE 1</u> Order new passenger cars and locomotives	January 2015	\$62,961	\$63,024
<u>PHASE 2</u> Tier 2 Project Level NEPA and Preliminary Engineering	December 2011	\$5,198	\$5,198
<u>PHASE 3</u> Final Design for Construction Projects	December 2013	\$12,775	\$13,815
<u>PHASE 4</u> Construction of: 1. Passenger rail station in Geneseo, Illinois 2. Passenger rail station in Iowa City, Iowa 3. Passenger rail station in Moline (Quad Cities) 4. Train layover facility in Iowa City, Iowa 5. BNSF crossing in Colona, Illinois 6. Rail yard bypass in Rock Island, Illinois 7. BNSF and IAIS connection near Wyanet, Illinois	December 2013	\$62,436	\$68,181

<p>PHASE 5</p> <p>Construction of:</p> <ol style="list-style-type: none"> 1. Railroad track in Illinois from Chicago to the Quad Cities, including reconfiguration of the 7th Street connection between IAIS, BNSF and CP in East Moline 2. Railroad track in Iowa from the Quad Cities to Iowa City, including the siding extension at Walcott, passing track near Iowa City, and extension of south siding 3. Train control and communications systems in Illinois 4. Train control and communications systems in Iowa 	<p>December 2014</p>	<p>\$126,671</p>	<p>\$144,544</p>
<p>Unallocated Contingency (5%)</p>		<p>\$14,213</p>	<p>\$15,741</p>
<p>Total Capital Cost</p>		<p>\$284,254</p>	<p>\$310,503</p>

5. Cost Estimate Detail

The Program cost estimating process includes development of cost estimates at each stage of the development process. Each cost model was structured to be consistent with the level of engineering definition available at a specific stage of the process.

Cost estimates for the Tier 2 Project Level NEPA studies to be awarded in early 2011 are based on actual costs for comparable NEPA studies recently completed. A 5 percent contingency factor is included for these studies.

The final design cost is based on preliminary engineering studies and assessments of comparable and recent rail design projects. A 5 percent contingency factor was applied to the final design cost.

The current cost estimates for the construction projects were established based on detailed engineering calculations. A range between 20 percent and 30 percent contingency factor was applied based on FRA Standard Cost Categories for Capital Projects/Programs for construction project costs.

This Financial Plan includes Program funding and expenditures from 2011 through 2014, which is the scheduled end of construction for Phase 4 and Phase 5. The following tables include detailed Program costs for each of these five implementation phases, by State, in Base Year (2011) dollars, including unallocated contingency.

Table 3. Phase One Program Costs

PHASE 1—Order New Equipment (Locomotives and Passenger Cars)		
Costs Reflect Two Operating Train-sets	Total Number of Cars	Total Cost (Base Year) in thousands
Locomotives (1 per train set) plus spare	3	\$19,500
Coaches (3 per train set)	6	\$15,600
Food Service car (1 per train set) plus spare	3	\$11,700
Coach/Cab Cars (1 per train set) plus spare	3	\$9,750
Spare Parts		\$5,500
Project Management and Construction Observation		\$911
	TOTAL COST	\$62,961

Table 4. Phase Two Program Costs

PHASE 2—Tier 2 Project Level NEPA Environmental Studies and Preliminary Engineering		
Project Segment	State DOT Responsible for Project Completion	Total Cost (Base Year) in thousands
Railroad track in Illinois from Chicago to the Mississippi River Bridge	Illinois	\$1,297
Railroad track in Iowa from the Mississippi River Bridge to Iowa City	Iowa	\$1,222
Passenger rail station in Geneseo, Illinois	Illinois	\$249
Passenger rail station in Iowa City, Iowa	Iowa	\$381
Passenger rail station in Moline (Quad Cities)	Illinois	\$245
Train layover facility in Iowa City, Iowa	Iowa	\$258
BNSF crossing in Colona, Illinois	Illinois	\$72
Rail yard bypass in Rock Island, Illinois	Illinois	\$232
BNSF and IAIS connection near Wyanet, Illinois	Illinois	\$417
BNSF Eola Main Line Improvements	Illinois	\$825
	TOTAL COST	\$5,198

Table 5. Phase Three Program Costs

PHASE 3—Final Design for Construction Projects		
Project Segment	State DOT Responsible for Project Completion	Total Cost (Base Year) in thousands
Railroad track in Illinois, including additional capacity at Moline	Illinois	\$1,703
Railroad track in Iowa, including additional capacity at Walcott, American, and Iowa City	Iowa	\$1,564
Passenger rail station in Geneseo, Illinois	Illinois	\$138
Passenger rail station in Iowa City, Iowa	Iowa	\$257
Passenger rail station in Moline (Quad Cities)	Illinois	\$211
Train layover facility in Iowa City, Iowa	Iowa	\$139
BNSF crossing in Colona, Illinois	Illinois	\$80
Rail yard bypass in Rock Island, Illinois	Illinois	\$150
BNSF and IAIS connection near Wyanet, Illinois	Illinois	\$415
BNSF Eola Main Line Improvements	Illinois	\$1,483
Train-control and communications systems in Illinois	Illinois	\$3,408
Train-control and communications systems in Iowa	Iowa	\$3,227
	TOTAL COST	\$12,775

Table 6. Phase Four Program Costs

PHASE 4—Construction of Seven Projects		
Project Segment	State DOT Responsible for Project Completion	Total Cost (Base Year) in thousands
Passenger rail station in Geneseo, Illinois	Illinois	\$2,404
Passenger rail station in Iowa City, Iowa	Iowa	\$4,466
Passenger rail station in Moline (Quad Cities)	Illinois	\$3,662
Train layover facility in Iowa City, Iowa	Iowa	\$3,619
BNSF crossing in Colona, Illinois	Illinois	\$2,096
Rail yard bypass in Rock Island, Illinois	Illinois	\$3,901
BNSF and IAIS connection near Wyanet, Illinois	Illinois	\$10,810
BNSF Eola Main Line Improvements	Illinois	\$31,478
	TOTAL COST	\$62,436

Table 7. Phase Five Program Costs

PHASE 5—Construction of Four Projects		
Project Segment	State DOT Responsible for Project Completion	Total Cost (Base Year) in thousands
Railroad track in Illinois, including additional capacity at Moline	Illinois	\$44,030
Railroad track in Iowa, including additional capacity at Walcott, American, and Iowa City	Iowa	\$39,978
Train-control and communications systems	Iowa and Illinois	\$42,663
	TOTAL COST	\$126,671

Refer to the Conceptual Engineering Cost Estimate (Grant Application attachment) for detailed costs estimates with unit cost background information.

6. Financing and Revenues

The Program will be financed through a combination of federal and state funding.

Iowa has committed to providing the 20 percent match required. In 2010, Iowa identified \$20 million of committed revenue over the next 4 years for equipment purchases, studies, construction costs, and operating subsidies for the Program. In 2009, Iowa committed \$3 million to the Passenger Rail Revolving Fund. These funds, combined with in-kind services, make up the 20% match required.

The Cities of Moline, Geneseo, and Iowa City have also committed in writing to providing the 20 percent match for passenger station capital related costs, and agreed to fund ongoing maintenance of the passenger rail stations. Refer to the City Agreements in Principle for additional information.

To the extent allowable and approved by the FRA, the stakeholders, including the Iowa and Illinois DOTs and the cities, may provide in-kind contributions as part of the Program match. Examples of currently proposed in-kind matches include right-of-way, construction services for stations by municipal forces, and staff time.

Neither Iowa nor Illinois plans to use debt financing for the Program. The states will meet annual cash flow needs through Legislative appropriations.

Remaining construction funding will come from the FRA High-Speed Intercity Passenger Rail Program.

Table 8. Program Revenue Sources

Chicago to Iowa City Intercity Passenger Rail Program Revenue Sources (in thousands)				
	Funding Source	Operating Subsidy	Equipment, Studies, and Construction	Total
Iowa DOT	Legislative Appropriation	See Discussion	\$20,574	\$20,574, to be provided thru legislative commitment of \$20m plus in-kind services plus operating subsidy
Illinois DOT	Legislative Appropriation	See Discussion	\$38,786	\$38,786 plus operating subsidy
City of Moline, IL	City Funds and In-Kind Services	NA	\$940	\$940
City of Geneseo, IL	City Funds and In-Kind Services	NA	\$636	\$636
City of Iowa City, IA	City Funds and In-Kind Services	NA	\$1,164	\$1,164
Federal Railroad Administration	HSIPR Program	\$0	\$248,403	\$248,403
Total		See Discussion	\$310,503	\$310,503

7. Key Assumptions, Risks, and Mitigation

The following list describes possible risks to both revenue and costs, as well as strategies evaluated to mitigate such risks.

7.1 Revenue Risk Identification

The following table summarizes the assumptions and risks associated with each of the revenue sources associated with the Program.

Table 9. Assumptions and Risks Associated with Program Revenue Sources

Revenue Source	Assumptions and Justification	Discussion/Potential Risks	Risk Mitigation
Iowa Legislative Appropriations	Assumes continued average commitment of funds	Revisions and/or changes required by unforeseen situations, Congressional or legislative action, or by general economic conditions.	Adjustment of individual project schedules or possibly the Program schedule
Illinois Legislative Appropriations	Assumes continued average commitment of funds	Revisions and/or changes required by unforeseen situations, Congressional or legislative action, or by general economic conditions.	Adjustment of individual project schedules or possibly the Program schedule
FRA's HSIPR Program	Assumes funding available through the HSIPR Program	Special federal funding is not released by the federal government in a timely manner	Adjustment of individual project schedules or the Program schedule

7.2 Cost Risk Identification

A list of possible cost risks is identified below.

Impact of Future Cost Changes

Each state is responsible for cost increases based upon their participation percentage and contractual responsibility. Potential unforeseen events that may occur throughout the life of the Program of this magnitude include, but are not limited to:

- Acts of God
- Changed environmental and track conditions

- Changes in design concepts
- Changes in design specifications
- Changes in government rules and regulations
- Increased scope of mitigation
- Litigation
- Major shift in inflation, cost increase factor, and bid costs
- Material delays, labor disputes, and material costs
- New technology
- Unanticipated federal or state budget changes
- Weather delays

Cost Containment Strategies

All project costs through the construction phase will be tracked through the project scheduling system and documented on a regular basis. Adjustments in estimated project costs during the development phases of the project in excess of two percent of the total project cost or estimates changed due to a significant concept change will be documented with a cost estimate change form and included in updates to the Financial Plan. The Program Co-Managers, in coordination with the Project Engineer, will be responsible for updating the data for the Financial Plan updates including any contract modifications that affect cost for the projects in construction.

Risk Mitigation

During the summer of 2009, Iowa DOT and Illinois DOT conducted a cost and schedule validation and risk assessment for the Program. The risk management session looked at the treatment of various risks in an attempt to better control cost and schedule, or other important performance measures, through some cost-effective combination of the strategies listed below. However, when evaluating these strategies, their impact on the desired outcomes of the Program and its stakeholders must be considered.

- a. Avoidance—changing the plan to eliminate the risk or its impacts to the project
- b. Mitigation/reduction—changing the plan to reduce the likelihood and/or consequences of the risk
- c. Transference/allocation—allocating the financial impact of the risk to the party best able to manage it (e.g. via risk-allocation matrix), or sharing when appropriate, in which case the risk might be absorbed by the project’s contingency budget

- d. Acceptance—recognizing and absorbing the risk (i.e. because it's beyond control of the team), in which case the cost of the risk would likely be absorbed by the project's contingency budget.

For the Program, relatively few risk-management actions were identified during the session.

This was likely because:

- a. Much of the risk identified is design uncertainty, which cannot be mitigated (rather, it will simply be resolved over time, either favorably or unfavorably, as the design matures; and/or
- b. Much of the risk for this project is beyond the team's control or is already being mitigated by the team.

Risk mitigation strategies will continue to be reviewed and analyzed throughout the life of the Program.

8. Cash Flow of Capital Expenditures

Based on the implementation plan for the Program, the projected costs through project completion for each of the 5 phases are outlined in the following table.

Table 10. Costs and Revenues (YOE dollars in thousands)

Development Costs and Revenues	2011	2012	2013	2014	Total
<u>PHASE 1</u> Order new or refurbished rolling stock	\$15,740	\$15,750	\$15,761	\$15,772	\$63,023
<u>PHASE 2</u> Tier 2 Project Level NEPA and Preliminary Engineering	\$5,198				\$5,198
<u>PHASE 3</u> Final Design for Construction Projects		\$3,003	\$10,813		\$13,816
<u>PHASE 4</u> Construction Projects			\$68,181		\$68,181
<u>Phase 5</u> Construction Projects				\$144,544	\$144,544
Unallocated Contingency	\$1,102	\$1,024	\$5,062	\$8,553	\$15,741
Total Development Costs	\$22,040	\$19,777	\$99,817	\$168,869	\$310,503

9. Operating and Maintenance Costs, Compared to Revenue

Operating and maintenance cost estimates were estimated on a conservative basis, as aspects of the operating costs are subject to commercial negotiations with the host railroads (Amtrak, BNSF, and IAIS), the operating railroad (Amtrak), and potential third-party maintenance contractors. Operating and maintenance costs were developed using a base year of 2011, and inflated at 4.5 percent in subsequent years. Passenger ridership was increased at 2.0% per year, and passenger ticket revenue was inflated at 4.5 percent per year. All inflation rates are compound. Because the operating and maintenance costs are inflated on a larger base than the revenue, the operating subsidy requirement increases going forward.

Operating and maintenance costs are frequently estimated on a train-mile basis. The train miles are 4 trains * 219.5 miles * 365 days = 320,470 train-miles per year. Operating costs are estimated at \$15,900,000 per year. $\$15,900,000 / 320,470$ train-miles = \$49.61 per train-mile. This has similarity to operating and maintenance costs in other rail corridors with comparable passenger train-miles per route-mile (because fixed costs have few train-miles over which to be allocated). Actual operating and maintenance costs will be subject to negotiations with host railroads and Amtrak.

Table 11. Ongoing Operations and Maintenance Costs

<u>(2011 dollars in millions unless noted otherwise)</u>	
Operations of Passenger Rail Service, related to annual funding need (source of ongoing funding is Iowa DOT and Illinois DOT funds)	
REVENUE	
Passenger Revenue	\$6.0
Food & Beverage Revenue	\$0.4
Total Revenue – Year 1	\$6.4
EXPENSES	
Host Railroad	\$1.9
Fuel	\$1.7
T & E Labor	\$2.3
Onboard Services (4)	\$0.9
Mechanical	\$3.3
Stations	\$1.2
Remaining Direct Costs (Incl. Yard Ops & MT)	\$4.6
Total Direct Costs – Year 1	\$15.9
Net Required Operating & Maintenance Subsidy, Year 1 (YOE)	\$9.5
Net Required Operating & Maintenance Subsidy, Year 5 (YOE)	\$11.0
Net Required Operating & Maintenance Subsidy, Year 10 (YOE)	\$12.6
Fare Box Recovery – Year 2015	40.3%
Total Projected Ridership – Year 2015	246,800
Passenger Miles – Year 2015	36,060,000
Average Ticket Revenue per Rider -	
Chicago - Iowa City – Year 2015	\$24.31

FOOTNOTES:

(1) Projected annual financial performance based upon the hypothetical start-up and 12-month operation of proposed service between Chicago-Quad Cities-Iowa City as contemplated in the Amtrak Route Feasibility Study of February 2008. All amounts presented herein are for illustrative purposes only and are subject to change due to variation in service level, service attributes, route, economic conditions and numerous other factors that may have a material effect on actual financial performance.

(2) Includes the projected cost of both onboard labor & support and the allocated cost of food & beverage items sold.

(3) Ridership and Revenue Data per Amtrak on 8/2/10.