The Heartland Flyer

Oklahoma's Passenger Rail Service Economic Benefit Report

April 2005

Carter-Burgess

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Economic Benefit Report

Prepared for:

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Rail Programs Division

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EXECUTIVE SUMMARY

- For the past five years the Oklahoma Department of Transportation has partnered with Amtrak to operate a daily passenger service from Oklahoma City to Fort Worth, Texas with intermediate station stops in Norman, Purcell, Pauls Valley, Ardmore, and Gainesville, Texas. Over this initial 5-year period the ridership numbers for the service have far exceeded all original expectations.

- The $11,445,607 in direct spending within the state of Oklahoma attributed to the operation of the Heartland Flyer since June 1999 has yielded $23,142,364 in economic activity for the state. While the state of Oklahoma has subsidized the Heartland Flyer, the net effect of that investment ($22,083,568) has resulted in $6,922,601 in earnings to Oklahoma residents, the generation (either directly or indirectly) of 349 full-time jobs for Oklahoma residents and approximately $775,825 in state and local taxes.

- The improvements associated with the addition of rail transportation have enhanced several of the central business districts in the communities located along the route. The federal government awarded $5,286,328 to the five Oklahoma communities served by the Heartland Flyer for depot renovation.

- The Heartland Flyer saves travelers time and money. In the year 2004, these user benefits were estimated at $1.548 million and have been growing in conjunction with ridership. 2005 is on track to match or surpass the peak ridership rates experienced prior to September 11, 2001.

- The Heartland Flyer provides an important alternative means of traveling between Oklahoma City and Dallas-Ft. Worth. When the Will Rogers Airport and the Red River Bridge were closed during the winter 2002 ice storm, the Heartland Flyer continued to operate providing standing room only service during the crisis.

- The Heartland Flyer links Oklahoma to the national passenger rail system. Most passengers travel all the way between OKC and Ft. Worth and 30% of all Heartland Flyer passengers transfer to other Amtrak trains.

Additional Points:

- The Heartland Flyer dominates all forms of travel between downtown Oklahoma City and downtown Ft. Worth. No other means of travel comes close to the Heartland Flyer in cost and convenience.

- Travelers to the DFW Airport can get there almost as fast on the Heartland Flyer as they can by flying. The cost of the Heartland Flyer is substantially lower than airfare. This market will grow in importance as congestion increases at both the Will Rogers and DFW airport.

- Future rail development in the State of Oklahoma relies heavily on the continuous operation of the Heartland Flyer Service with potential for extensions of service to both

Tulsa and northward to the national rail system providing a through route for Heartland Flyer operations. The proposed next phase for the extension of the Heartland Flyer would be to Newton, Kansas on the through route previously utilized by Amtrak in the 70's, which would provide service to Newkirk, Ponca City, Perry, Guthrie, and Edmond.

- The ongoing successful operation of the Heartland Flyer helped legitimize the concept of expanding Oklahoma passenger rail service in the future, allowing the corridors between Ft. Worth, Oklahoma City, and Tulsa to be designated as High-Speed Rail Corridors. Similar to Europe, High-Speed rail operations are expected to become increasingly more popular in the United States as traffic congestion and air traffic congestion increase. Consequently, the most promising High-Speed routes tend to be associated with existing passenger rail routes where alternative modes capable of competing with air travel are deemed feasible.

- The Heartland Flyer is the mode of choice for those with mobility limitations. Up to 10% of the riders fall into this category.

- Elimination of the Heartland Flyer would leave Purcell without regular public transportation service.

- The Heartland Flyer provides transportation services to several demographic groups that will most likely reduce their travel to and from Oklahoma if the service is discontinued including: older adults no longer comfortable with driving long distances, young children of divorce parents living at different locations along the route, people who currently utilize the service for travel to receive specialized medical services, and Job Corp attendees being transported from Texas to the facilities in Guthrie.

Figure 1: Existing Heartland Flyer Route

CHAPTER 1 - PURPOSE OF THE STUDY

Since the inaugural run on June 14, 1999 of the "Heartland Flyer", the State of Oklahoma has enjoyed additional alternative long range transportation options via passenger rail service for first time in nearly twenty years. For nearly six years the Oklahoma Department of Transportation (ODOT) in partnership with Amtrak, has operated a daily passenger rail service from Oklahoma City to Fort Worth, Texas with intermediate station stops in Norman, Purcell, Pauls Valley, Ardmore, and Gainesville, Texas. Over this initial five and a half year period the ridership numbers for the service have far exceeded all original expectations, and improvements associated with the addition of rail transportation have enhanced several of the central business districts in the communities located along the route. The primary purpose of this study is to attempt to delineate the overall economic impact that the implementation of the Heartland Flyer Service has contributed or instigated in the State of Oklahoma.

1.1 AMTRAK HISTORY

After World War II in the late 1940s the availability of automobiles to most Americans and the expansion of the roadway network prompted the demise of passenger train service. While being the premier mode of long distance travel during the first half of the 20th Century, the passenger train was hard pressed to compete with the airplane and publicly supported infrastructure that has been developed for both highway and air transportation in later years. By the early 1960's passenger train service had lost a significant amount of ridership to both the aviation industry and private automobiles. Passenger rail service became non-profitable for major freight rail operators, schedules were not consistent or reliable, and the passenger train equipment was becoming more and more run down, resulting more often than not, in a journey that was a less than desirable experience. Consequently, major carriers began to slowly reduce or eliminate passenger rail operations as they became non-profitable until passenger rail operations were primarily only utilized in urban markets with an established profitable service.

In October 1970, The Rail Passenger Service Act signed by President Nixon authorized the formulation of the National Railroad Passenger Corporation, whose primary focus would be to attempt to revive passenger rail service throughout the country. Consequently, Congress passed the Rail Passenger Service Act, which ultimately resulted in the development of AMTRAK, a private company, which on May 1, 1971 began managing a nation-wide rail system

dedicated to passenger service[1]. While providing relief to the rail industry, Amtrak embarked on a long and painful history of under-capitalization and over-extended assets, leading to poor service and never ceasing criticism of its need of cash subsidy. To date, the hard choices needed to fully reform Amtrak's operating situation, including funding sources and the establishment of what are considered adequate levels of service have been avoided.

In the difficult process of selecting the routes to constitute the new system, a number of criteria were carefully applied. These were:

Market opportunity: Adequate population along the routes and the promise of sufficient passenger traffic between major cities on those routes.

Cost economics: Evaluation of the losses experienced over the current routes and by individual trains operating over these routes.

Ridership: Current and previous ridership along routes and on specific trains. This measure was used carefully because it was recognized that poor service in the past could have driven away riders who under better conditions would have remained customers.

Physical characteristics: Current conditions of track and roadbed, including operating speed, safety, necessary future capital demands, and any unusual natural beauty along the routes.

Alternative modes: Adequacy of other means of travel for the public on routes to be eliminated.

What resulted was a basic system that served all but one of the 29 cities over one million population, and all but one of the 27 cities with populations between 500,000 and one million, with over 250 smaller communities being served as well.

The American system of railroading, while not totally unique, is an extremely rare practice in the industrialized world. In most other countries, the rail infrastructure has remained part of the public infrastructure, which also includes highways, airports, and waterways similar to the present practices in the United States. In these countries, passenger rail service has evolved into a modern high-speed train system that effectively competes with air service for distances

[1] AMTRAK website, www.AMTRAK.com

between 100 and 500 miles. France, Germany and Japan are the most heralded examples where this application of rail technology has been successful. However, numerous other countries, many of which are not economic power players, have adopted and are installing high-speed passenger rail as part of their economic agendas including China, Greece, Italy, Spain, and Korea. The United States has made some strides to establish High-Speed passenger service with the recent upgrading of the Washington, New York, and Boston corridors to higher operating speeds that include a 50-mile section with operations up to 150 mph.

1.2 HEARTLAND FLYER HISTORY

This reimplementation of passenger rail service in Oklahoma became a reality on March 19, 1998, after $23 million of funding was secured for passenger rail service, through the Taxpayer Relief Act of 1997.

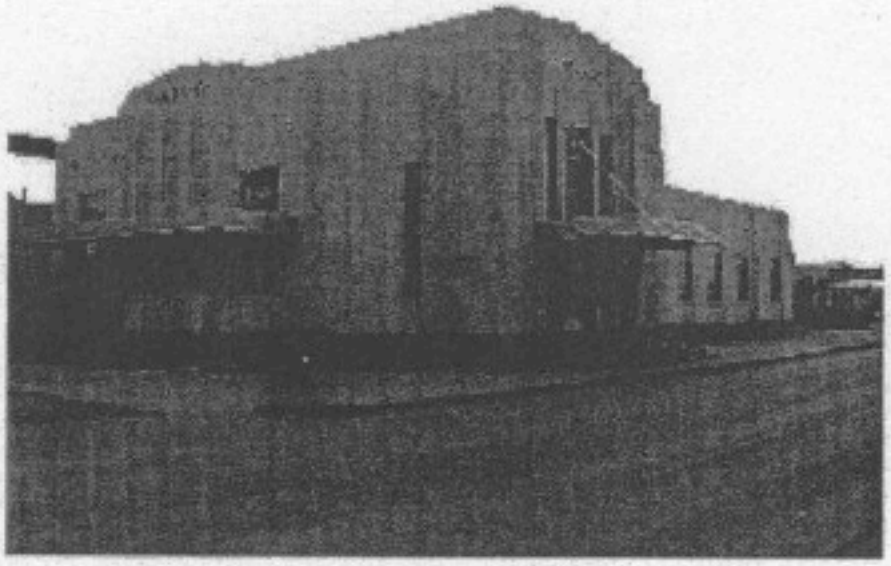


Figure 2: OKC Santa Fe Depot

The partnership between Amtrak and State officials was initiated immediately with the formulation of an Oklahoma/Amtrak Project Team and the inaugural train for the "Heartland Flyer Service" ran on June 14, 1999. Corresponding infrastructure improvements were implemented by individual community led efforts to modify five Oklahoma and one Texas station/platforms with federal enhancement funding. Originally, Amtrak also expressed an interest in expanding its national passenger rail network in the south central United States beyond Oklahoma City reporting that the addition of a Tulsa to Oklahoma City service would benefit its overall operation as well as help revive passenger rail service in this area.

Consequently, the present Heartland Flyer Service was originally initiated as "Phase 1" of planned passenger rail services in the State of Oklahoma and a passenger rail study was conducted by the State of Oklahoma exploring the possibilities associated with providing passenger rail service to Tulsa and additional connections to the national rail system in St. Louis and Kansas City, Missouri, and Denver, Colorado[2].

The Heartland Flyer has maintained ridership levels above those originally projected even through the lean months following the events occurring on September 11, 2001. The ticket and café car concession revenues have consistently been proportional to the actual ridership throughout the history of the service indicating that specific events or ticket prices do not have a significant impact on the overall revenues generated by the service.

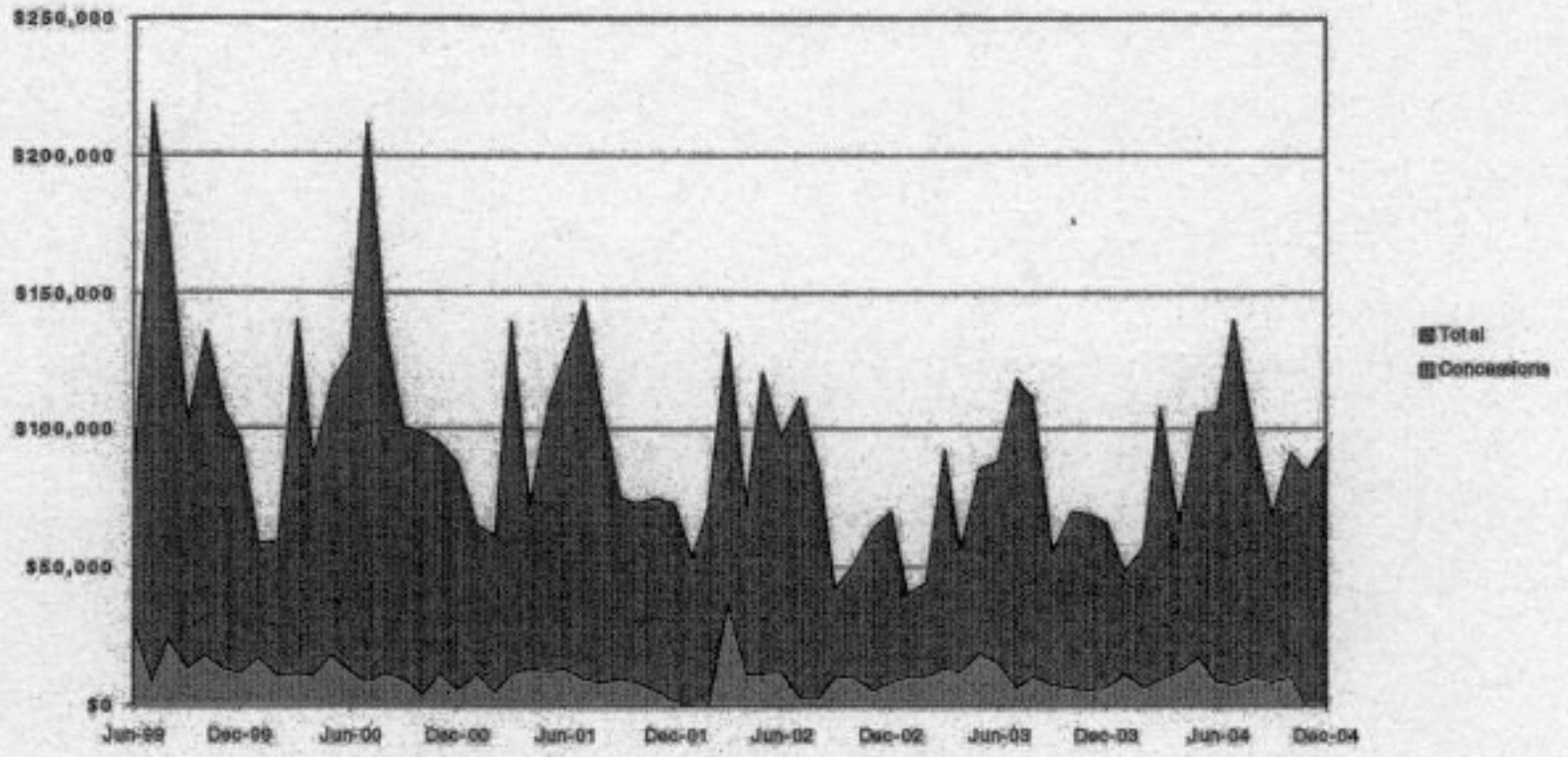


Figure 3: Heartland Flyer Revenues and Concessions

Throughout its history, the operation of the Heartland Flyer has scored at the top in all of the nineteen categories that Amtrak incorporates into the Customer Satisfaction Index (CSI), which includes satisfaction ratings for long distance, regional, and short distance (S.D.) passenger rail routes. The CSI indices are presented in Figure 4 as a comparison of overall customer

[2] *High Speed Passenger Rail Feasibility Study*, Oklahoma Department of Transportation, Carter & Burgess, Inc., Oklahoma City, OK, May 2001.

satisfaction for the Heartland Flyer in relation to all the short distance routes, with the closest competitor on the entire Amtrak system being the Piedmont Service in North Carolina. As depicted in Figure 4, the Heartland Flyer has maintained or tied for the highest customer service rating for the entire system with the exception of July 2004 when it came in a close second to the Piedmont.

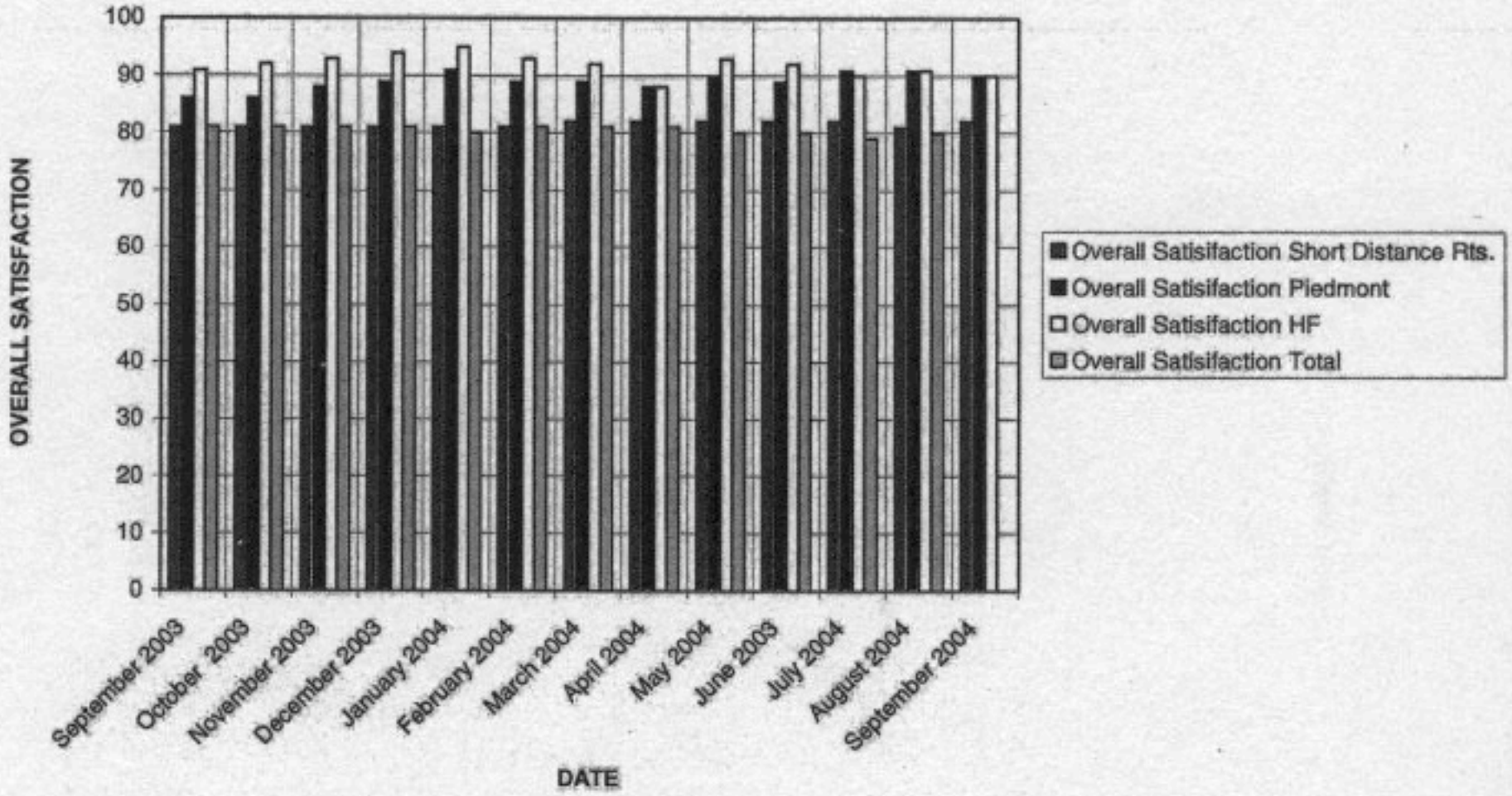


Figure 4: Customer Satisfaction Index Comparison

A further breakdown of the performance characteristics of the Heartland Flyer are provided in Figure 5, indicating that the Heartland Flyer scores well above average in primary rating categories including: On-Time Performance, Value Paid, and Overall Satisfaction.

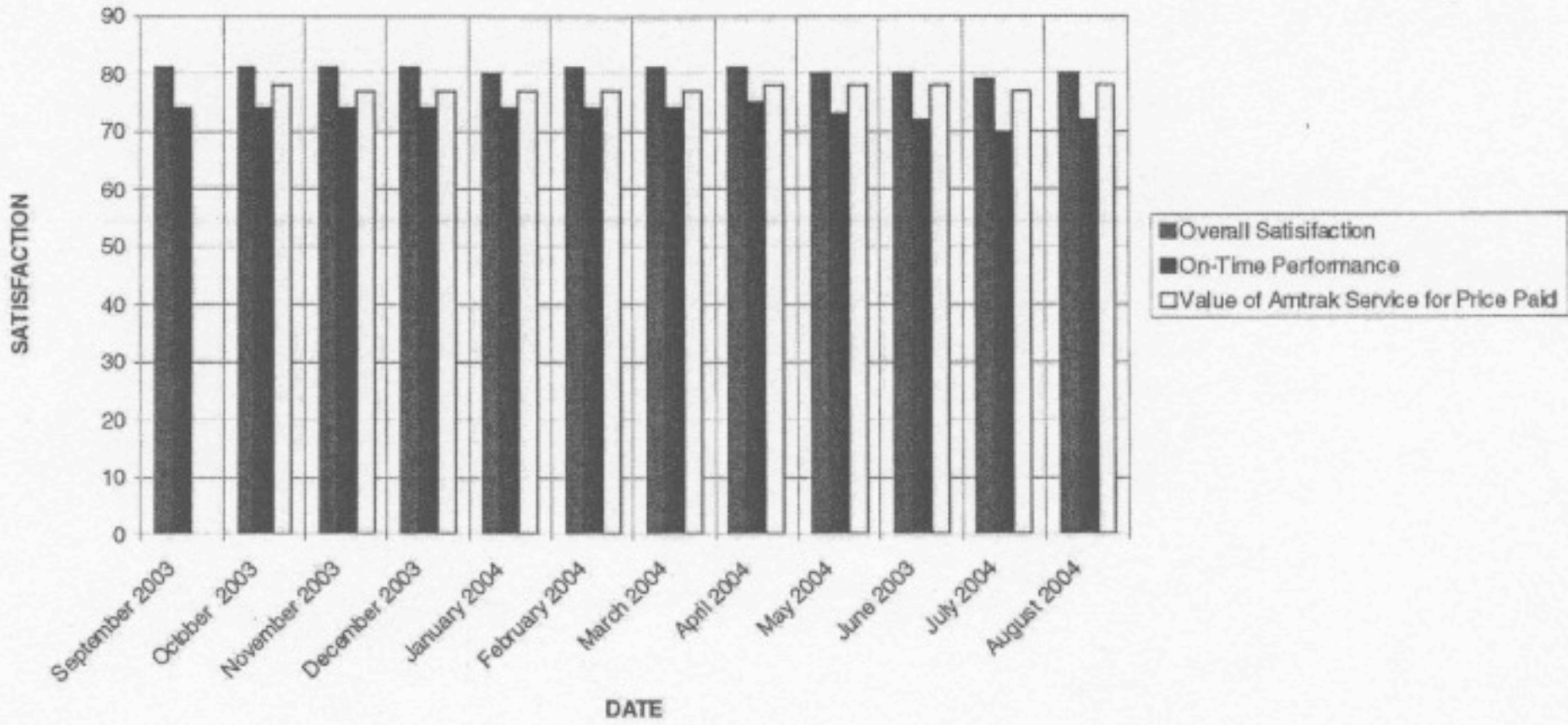


Figure 5: Heartland Flyer Customer Satisfaction Characteristics

CHAPTER 2 - METHODOLOGY

2.1 QUALITATIVE ANALYSIS

Qualitative Analysis includes analyses techniques that cannot necessarily be measured in scientific or monetary terms, but nonetheless illustrate the overall impacts associated with infrastructure improvements.

2.1.1 Operator Surveys

To improve understanding of Heartland Flyer user characteristics, we surveyed crew members on Thursday, February 24, 2005, to obtain their observations regarding passenger trip purposes, frequency of travel, and reasons for choosing to travel via the Heartland Flyer. An example of the crew survey is provided in the Appendix[3]. Each crew member was separately interviewed according to a structured questionnaire. Altogether we spoke with five crew members consisting of two conductors and two assistant conductors and the snack car operator. One of the conductors has worked continuously on the Heartland Flyer since its very first run in June, 1999. In addition, we spoke with a random sample of adult passengers regarding the purpose of our study.

The survey revealed that Heartland Flyer passengers travel for a variety of purposes including work, school, and shopping, as well as for medical treatment and recreation. In the summer and around holidays recreation travel tends to dominate. Weekend travel is much heavier than weekday. Families with young children in particular enjoy traveling by Amtrak. School related travel concentrates around school holidays. Work related travel is prevalent among regular riders as is travel for medical treatment. Amtrak has the best accommodations for passengers with mobility limitations of all modes in the corridor. All crewmembers mentioned that during non-holiday seasons, the elderly and mobility impaired constituted a significant proportion of the ridership. While 70% of the Heartland Flyer's passengers rode round trip, another 30% transferred to the Texas Eagle for destinations elsewhere in the U.S.

[3] R. Marshment, 10 Dec. 2004

2.1.2 Station Improvements

Improvements to the stations were completed in specific phases of construction while utilizing Federal Funding designated for beautification improvements. These funds were requested through a formal application process for Federal programs, which provided funding for improvements at all of the rail stations along the route including; Ardmore, Pauls Valley, Purcell, Norman, and Oklahoma City.

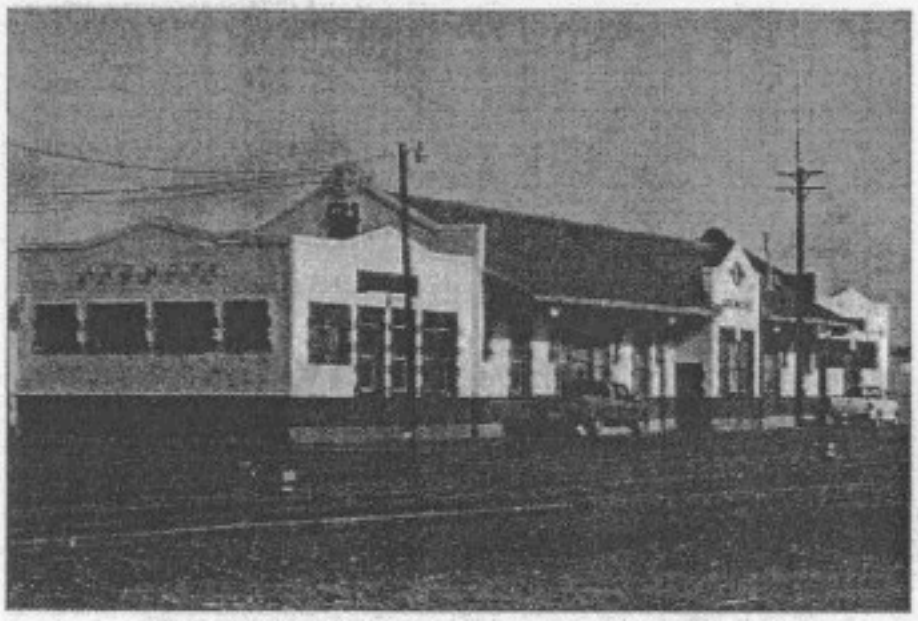


Figure 6a: Previous Ardmore Depot

Figure 6b: Present Ardmore Depot

The Ardmore Station received $415,000 in federal funds for the Ardmore Platform Renovation Project, which focused on repaving and improving the platform to better facilitate passenger ingress/egress to the train. A separate $550,000 was allocated to fund improvements for the restoration of the Ardmore Santa Fe Depot, bringing the total amount of federal funding that the Ardmore Station received to $965,000. An additional $377,133 was provided through local sources as partial matching funding for some of the federal funding obtained. The total funding dedicated for improvements to the station was $1,342,133.

Figure 7a: Previous Pauls Valley Depot

Figure 7b: Present Pauls Valley Depot

Funding for the station improvements in Pauls Valley included $240,000 in federal funds for the Pauls Valley Depot and Platform Construction Project, and an additional $207,328 allocated to fund the Pauls Valley Depot Phase II. The funding for phase II required a local match of $62,832, bringing the total funding for the Pauls Valley Station improvements to $509,160.

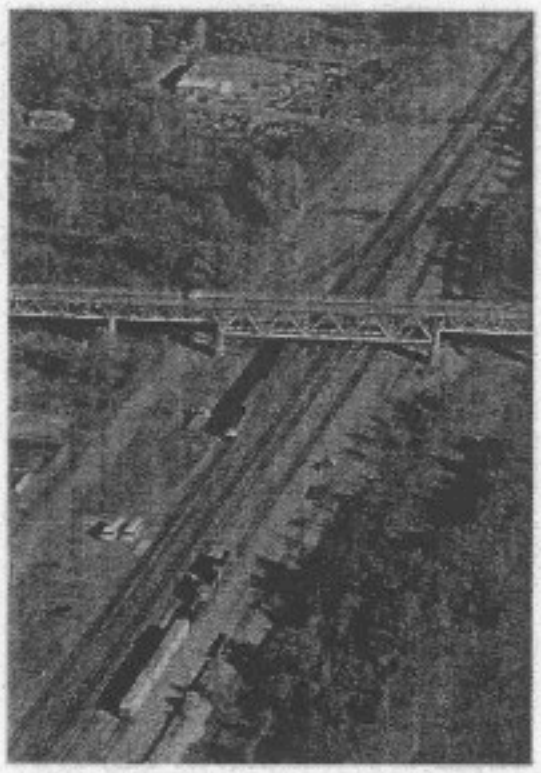


Figure 8a: Previous Purcell Depot

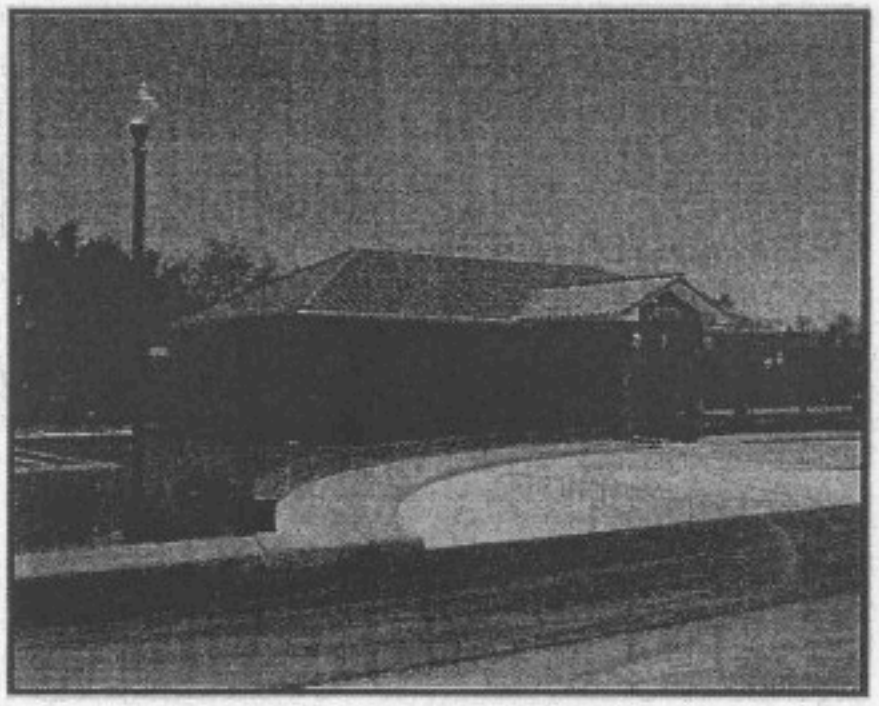


Figure 8b: Present Purcell Depot

Funding for the Purcell Station improvements included $240,000 in federal funds for the Purcell Historic Rail Exhibit Project during Phase I and an additional $40,000 for Phase II, bringing the

total funding received for the improvements for the Pauls Valley Station to $280,000, with no local matching funds required.

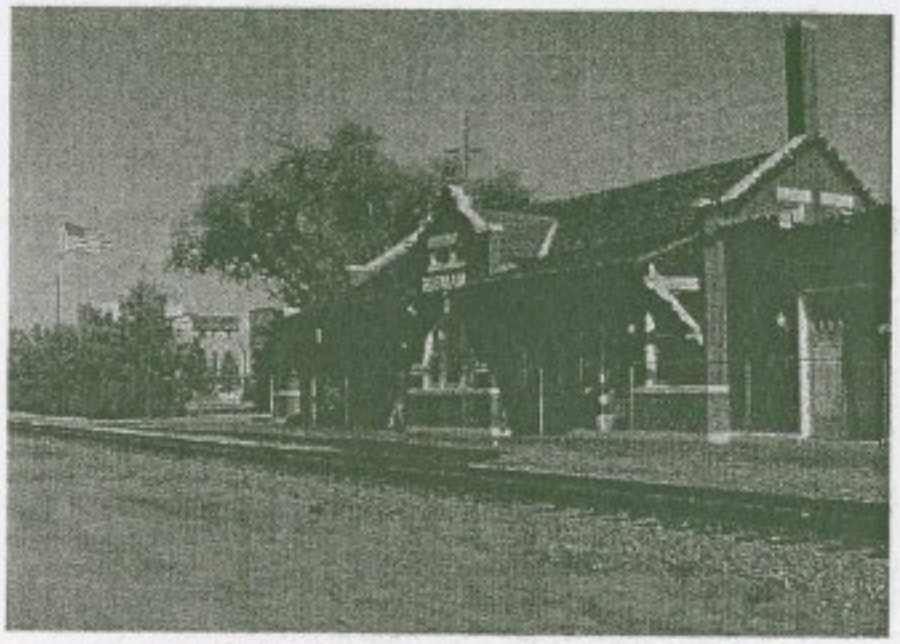


Figure 9a: Previous Norman Depot

Figure 9b: Present Norman Depot

The Norman Station received $480,000 in federal funds for the Norman Santa Fe Depot and Platform Restoration Project during Phase I and an additional $14,000 was received during the second phase, bringing the total funding for the Norman Station improvements to $494,000 with no local matching funds required.

Figure 10a: Previous Oklahoma City Depot

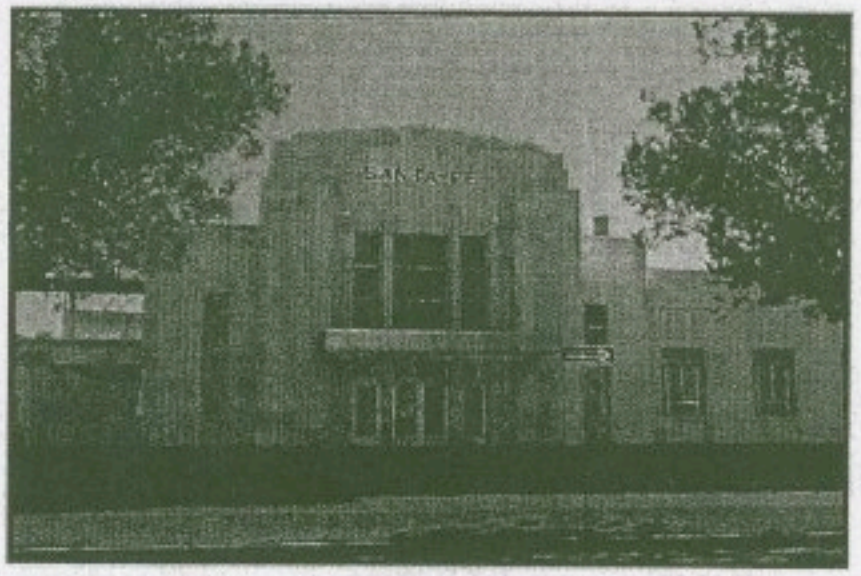


Figure 10b: Present Oklahoma City Depot

The Oklahoma City Station improvements were initiated with $1,000,000 in federal funds for the Oklahoma City – Santa Fe Restoration Project during Phase I, and an additional $100,000 were received for the second phase. A separate funding allocation of $2,000,000 was obtained for

the Oklahoma City Santa Fe Depot Platform Renovation Project, bringing the total funding received for the Oklahoma City Station improvements to $3,100,000.

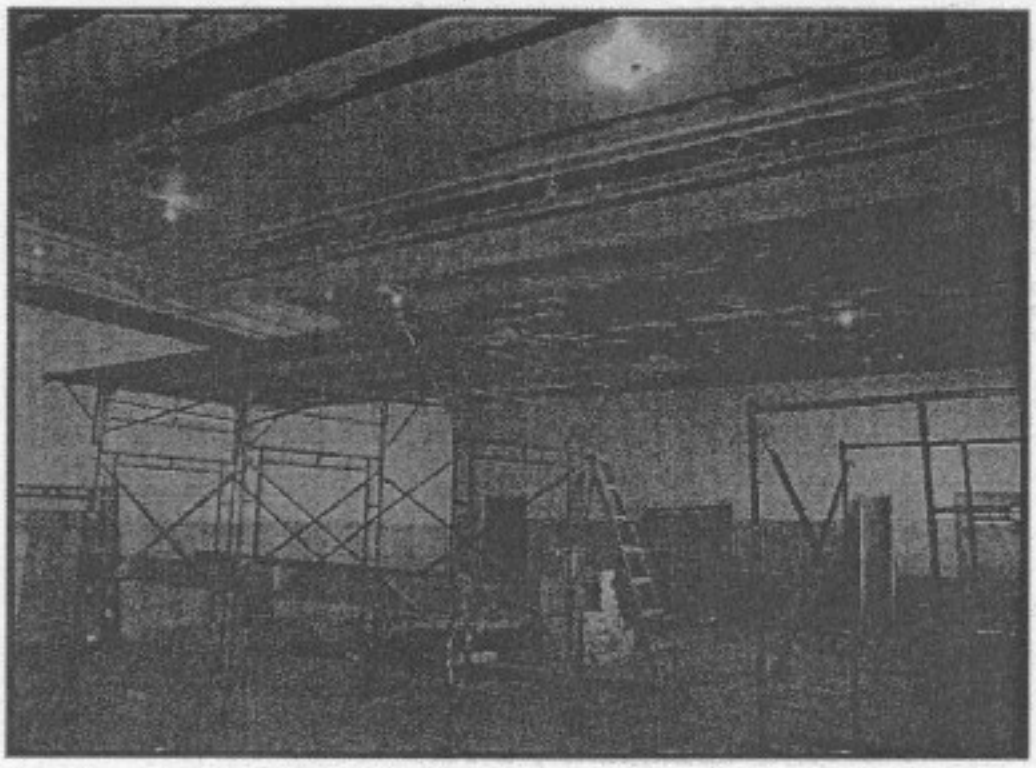


Figure 11: OKC Depot Renovations

2.2 QUANTITATIVE ANALYSIS

Economic theory holds that land values accurately reflect all location factors such as resources present on a site, proximity to markets, and transportation access. In this model, transportation is considered an intermediate good or a factor of production rather than a consumer commodity. Consumers attempt to minimize their transportation costs as they travel for economic purposes such as commuting to work or for business, recreation, medical treatment, school, and shopping. If it were possible to accurately measure the market value of all land, this model could be used to determine the contribution of a transportation service to society. In practice, however, land valuation remains an inexact science and the real estate market requires government regulation to operate efficiently. Consequently other methods of valuing transportation services have been devised.

We measure the economic benefits of the Heartland Flyer two different ways. One is the income method and the other is the transportation benefits method. Note that these two methods are alternative rather than cumulative ways of determining benefits. That is, they are

different ways of estimating the contribution of transportation to land values. Consequently, adding them together would double count benefits resulting in an over-estimation.

2.2.1 Income Method

The income effect of a transportation service rests on the reasonable assumption that household income directly reflects land values. Income multipliers derived from input-output models developed and maintained by the Bureau of Economic Analysis (BEA)[4] can be used to estimate the amount of income generated by certain categories of expenditures including transportation. These multipliers vary according to the geographic scope of the study and refer to all households within the study area. Larger study areas produce greater income impacts than smaller study areas.

2.2.2 Spending impacts

Quantitative analysis is also conducted to determine the annual, total and net spending impacts to the state of Oklahoma due to the operation of the Heartland Flyer. Regional Input-Output Modeling System (RIMS II) of the Bureau of Economic Analysis (BEA), United States Department of Commerce[3] is used to forecast the impacts in terms of economic output, (fully loaded) earnings, average earnings and average number of jobs. Please note that this analysis focuses on the spending impacts only and not user or non-user benefits.

2.2.3 Input-Output Analysis: RIMS II

RIMS II analysis allows an estimate of both direct and indirect economic effects of investments by tracing the supply chains (input-output) of goods and services through the economic region of interest. RIMS II estimates economic impact by quantifying how spending generates income and employment by following the chain of transactions that occur within and between industries as incomes are spent. This chain acts as a trigger within the RIMS II model logic to identify the inter-dependent industry multipliers to be used for calculating the impacts. For example, construction or modification of a railroad station equates to triggering a demand requiring an increase in the final output for the construction industry. However, materials (steel, concrete, gravel, etc.) utilized by the construction industry may be purchased from suppliers while trucking may be a service industry utilized by the construction industry for transporting the material to the

[4] Bureau of Economic Analysis, U.S. Department of Commerce, *www.doc.gov*.

construction site. Steel, concrete, gravel and trucking are the inputs to the construction industry where each of these input industries will realize a demand for increasing their output and correspondingly, each of these industries may utilize other industry input to meet their own demand. RIMS II thus traces these input/output chains (supply chains) back through the economy to arrive at the total requirements needed to support a given increase in final demand for the construction industry of an economic region.

Consequently, the RIMS II multiplier effects consider the direct input (in terms of the capital spent) and the indirect input from the supplier industries when forecasting impacts. The multipliers are expressed in terms of the effect expenditures have on industries of a particular region. Specifically, the multipliers are the dollars of increased earnings (or output) resulting from each dollar of initial expenditure or the number of years of employment resulting from each $1 million of initial expenditure.

RIMS II multiplier analysis yields three impacts (measures) of economic activity:

1. Economic Output (Output): Typically referred to as the Gross National Product (GNP) at the national level, it is a measure of the economic activity created at the regional level by the expenditures. It measures the change in the dollar value of goods or services in all sectors of the region's economy to satisfy the new demands resulting from the expenditures. Since goods and services as well as labor are considered in the Output measure, this value tends to be significantly larger than the measure of Earnings (described below).
2. Earnings: This measure is the change in value of earnings received by households from the production of regional goods and services. The measure includes the change in value of earnings for both employees directly impacted by the project (e.g. the construction employees) and employees indirectly impacted by the project (e.g. industries and services realizing increased consumer demand from households). In RIMS II, earnings are calculated as the sum of wages and salaries, proprietors' income, directors' fees and employer contributions for health insurance, less personal

contributions for social insurance[5]. For the purposes of this report, Earnings are referred to as fully-loaded earnings.

3. Jobs: Expressed as full time person years of employment, this measure is independent of the time period in which the expenditure occurs. Since the jobs multiplier for the estimate is expressed in jobs per million dollars of spending.

2.2.4 Direct and Indirect Transportation Benefits Method

A second method of valuing transportation services measures how much users and non-users of a service are willing to pay to have it available. This method divides transportation benefits into those going directly to users of the service and those to non-users. Direct user benefits include shorter travel times, lower fares, and fewer accidents. Some of these benefits, such as fare savings, can be determined by comparing fares and other travel costs among the modes available to travelers. Other direct benefits, especially travel time savings, depend on the value travelers assign to their time in transit.

Indirect transportation benefits include less congestion on competing modes, improved air quality, energy savings, and redundancy in the transportation network. The extent of indirect benefits depends on conditions in the corridor under study. As there is congestion in the Heartland Flyer corridor, especially at the terminals in Oklahoma City and Dallas-Ft. Worth, indirect transportation benefits are potentially significant. At this time, however, Heartland Flyer capacity and ridership are insufficient to allow accurate measurement of air quality improvement, congestion mitigation, and energy savings.

The contribution of a transportation improvement to land value increases, when measured using the transportation benefits procedure, appears as savings to users and non-users when compared to not having the service. The benefit of the Heartland Flyer is the difference between what users and non-users currently pay to have the service compared to what they would have to pay were it not available. Travel demand models employ a concept called generalized cost to determine the full cost considered by travelers when deciding on how and whether or not to travel. Generalized cost includes not only the monetary cost of a trip but also

[5] Daley, W.M., Ehrlich, E. M. Landefeld, J. S. and B. L. Barker (1997), " Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS-II)," Third Edition, United States Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis and Economics and Statistics Administration, Appendix A.

the amount of time required to make trips via different modes, comfort and convenience, and safety.

Persons traveling in the Heartland Flyer corridor have a choice of private and public transportation. Private transportation refers to travelers operating their personal automobiles on Interstate Highway 35. Public transportation includes intercity bus service, commercial airline service between Oklahoma City and Ft. Worth, and the Heartland Flyer. The key to estimating benefits for Heartland Flyer patrons is determining what they would do if the service were not available.

User cost via the Heartland Flyer must be lower than other modes available in the corridor for at least some travelers because the Heartland Flyer attracts significant ridership. Absent the Heartland Flyer, some Heartland Flyer patrons would switch to a higher cost alternative mode while others will be deterred from traveling at all. In both cases the Heartland Flyer produces benefits. Those who would still travel enjoy lower user cost on the Heartland Flyer than they would on alternative modes, and those who are deterred from traveling lose the benefit of the trips they were making which must at least equal the user cost they paid to travel on the Heartland Flyer.

We can approximate these benefits by assuming all Heartland Flyer patrons except those to and from Purcell, which would lose all public transportation service with elimination of the Heartland Flyer, divert to the next lowest cost public transportation mode, intercity bus. Travelers switching to the bus from the Heartland Flyer would pay higher fares and spend more time in transit. The fare savings to Heartland Flyer patrons are straightforward to calculate while the value of the travel time savings requires an estimate of the value travelers assign to their time in transit. The only reliable way to obtain these values is through passenger surveys. Since this data is not available, we assigned a travel time value of $8.00 per hour based on the hourly wage rate thought to prevail in the Heartland Flyer corridor.

This procedure entails a risk of both overestimation and underestimation. Overestimation of benefits occurs because some Heartland Flyer passengers would stop traveling instead of

paying higher fares to take the bus. Underestimation occurs because some Heartland Flyer travelers would be willing to pay even more than the bus fare to make their trip.

CHAPTER 3 - BENEFITS OF HEARTLAND FLYER SERVICE TO OKLAHOMA

The analysis of the benefits of the existing Heartland Flyer Service to the State of Oklahoma have been categorized into three primary categories including: the economic benefits, transportation benefits, and community benefits. The economic benefits are associated with direct and indirect spending within the State, whereas, the transportation benefits are associated with added travel options and savings realized in other modes of transportation because of reductions in congestion, maintenance, or accidents. The community benefits are associated with infrastructure investments or the addition of more amenities and any related "Quality of Life" enhancements to the community that can be attributed to the implementation of passenger rail service.

3.1 ECONOMIC BENEFIT

The economic benefits that can be attributed to the Heartland Flyer Service include any non-resident spending by visitors arriving via rail in the communities along the route, any indirect spending by Amtrak, Amtrak employees, or train passengers, or direct spending by Amtrak or through federal grants for infrastructure improvements and operations.

3.1.1 Data Description and Sources

In preparing these estimates we relied on data provided by Amtrak on passenger traffic by month for the entire history of the Heartland Flyer, from June, 1999 through December, 2004.[6] The estimated percentage of Heartland Flyer patrons who transferred to the national Amtrak network in Ft. Worth were provided by Bill Pollard from the University of Arkansas. Dr. Pollard is a member of the Tempo Group, which supports the Texas Eagle.[7] Published time and fare schedules for the Heartland Flyer, American Airlines, and Greyhound Lines were used to determine which alternative public transportation service diverted Heartland Flyer patrons might choose. The specific flights and buses used for comparison are cited in the text. Auto travel times were derived from published official state maps and assumptions about travel speeds under different operating conditions, specifically urban and rural interstate highways, local streets, and rural and state highways. Traffic volumes were provided by the Oklahoma Department of Transportation.

[6] Amtrak Data provided by ODOT, 23 Dec. 2004
[7] Via email from Bill Pollard, Tempo Group, 26 Jan 2005

3.1.1.1 RIMS II Analysis, Data Description, Sources and Assumptions

The following data sources, their description and assumptions are provided since they have either have direct effect on the forecast of the impacts presented or, they are required to understand the results of the RIMS II analysis:

1. Amtrak provided annual expenditures in terms of total procurement dollars paid by Amtrak to Oklahoma-based businesses (via zip code identification) and wages paid by Amtrak to Oklahoma residents (again, via zip code identification). For this analysis, procurements are assumed to be for rail related services and wages are assumed to be not 'fully-loaded'. Also it is assumed that all wages for Oklahoma residents are spent in Oklahoma.
2. The Oklahoma Department of Transportation provided the renovation dollars spent by each community for their depots and surrounding facilities (e.g., parking lots and sidewalks). Only the monies obtained through federal appropriations for the depot renovations were used to predict state-wide impacts
3. An estimate of non-resident Oklahoma patrons taking the Heartland Flyer to Oklahoma was obtained from the percentage of boarding passes sold to Heartland Flyer patrons for connections from (or to) out-of-state destinations. Historically, approximately 30% of all patrons on the Heartland Flyer also have boarding pass connections sold to them for (or from) destinations outside the Fort Worth depot (e.g., Ohio and California). A conservative estimate is that half of those patrons are non-residents of Oklahoma and therefore, 15% of all patrons on the Heartland Flyer are non-residents of Oklahoma, or tourists visiting Oklahoma.
4. Based on the Amtrak schedule for the Heartland Flyer, a conservative estimate for the number of days a tourist on the Heartland Flyer will spend in Oklahoma is an average of 1.5 days.
5. A conservative estimate of the amount of spending per day by a tourist who came to Oklahoma via the Heartland Flyer is $45 per day in Oklahoma (this amount reflects the per diem rate Amtrak allows for its personnel when traveling to Oklahoma).
6. Over the past five years, national indicators have shown no evidence of inflation. Thus, the analysis ignores inflation and all results are in year 2000 dollars (the same base year as the RIMS II multipliers).

7. State and local taxes, which we assume are paid by Amtrak, its employees and all tourists. The assumed rate is 8%.
8. RIMS II analysis has a tendency to overestimate earnings and job impacts when a state is chosen as the region to be utilized for the analysis, since RIMS II analysis relies on generating regional multipliers through use of national multipliers. Thus, if a state lacks the correct business composition for the inputs to be purchased in the state (the economic region of interest), RIMS II analysis adjusts the national data to generate regional data and the result is an overestimate in the impact measures.

3.1.2 Benefits of Existing Heartland Flyer Service to Oklahoma

The following section outlines the various quantitative benefits that could be identified and associated with the present Heartland Flyer Service.

3.1.2.1 Impacts of non-resident Oklahoma patrons of Heartland Flyer

Table 1 and Figure 12 reveal the annual and total spending impacts non-resident Oklahoma patrons of the Heartland Flyer have had on the state of Oklahoma since June 1999. The total estimated direct spending to Oklahoma by non-residents traveling on the Heartland Flyer is $3,260,455. Tracing those dollars through their 'supply chain' yields $6,503,304 of output to the state of Oklahoma's economy, $1,858,137 in earnings to Oklahoma residents, and the generation of 126 full-time jobs (at an average fully-loaded salary of $14,985). The direct expenditures by non-residents traveling on the Heartland Flyer also generated approximately $241,516 in state and local tax revenues. *In other words, every dollar spent by a non-resident Heartland Flyer patron in Oklahoma generates $0.5699 in earnings for Oklahoma residents and every $26,294 in expenditures supported 1 full-time job.*

Table 1: Spending impacts of non-residents in Oklahoma

Annual Year	Direct Expenditures	Output	Earnings	Employment (jobs)
1999	$287,753	$573,953	$163,991	11
2000	$714,960	$1,426,060	$407,456	28
2001	$603,518	$1,203,778	$343,945	23
2002	$571,388	$1,139,691	$325,635	22
2003	$494,573	$986,476	$281,858	19
2004	$588,263	$1,173,350	$335,252	23
Total	$3,260,455	$6,503,308	$1,858,137	126

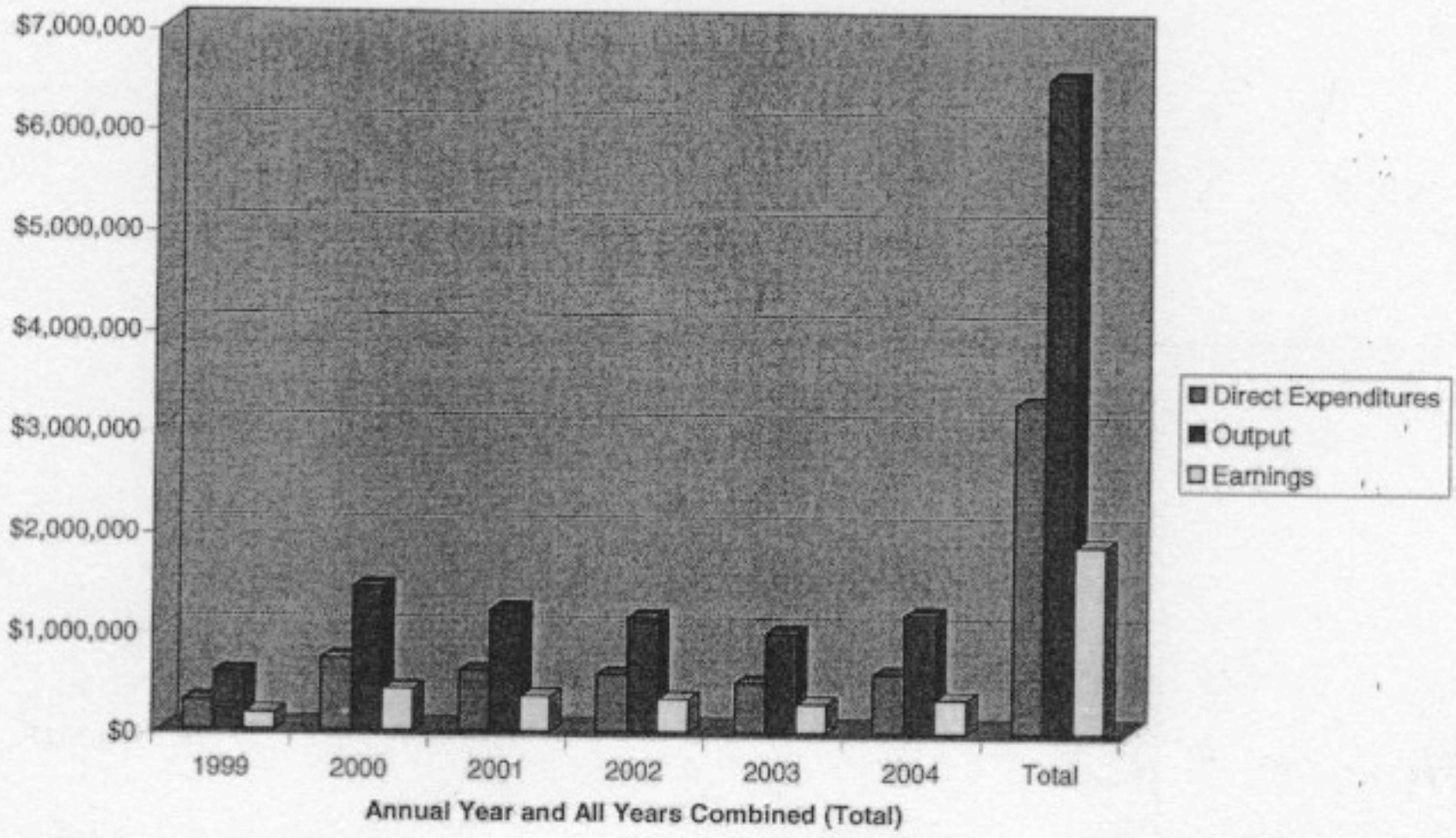


Figure 12: Annual and Total Spending Impacts for Non-Resident Heartland Flyer Patrons

3.1.2.2 Amtrak Spending in Oklahoma Heartland Flyer Operations

Table 2 and Figure 13 depict the annual and total spending impacts Amtrak's operation of the Heartland Flyer has had on the state of Oklahoma since June 1999. In total, the direct spending in Oklahoma by Amtrak was $2,898,824, with 28 Oklahoma residents employed directly by Amtrak on the

Table 2: Spending impacts of Amtrak

Annual Year	Direct Expenditures	Output	Earnings	Employment (jobs)
1999	$345,751	$654,860	$199,453	7
2000	$372,670	$598,920	$172,455	8
2001	$423,982	$678,590	$195,088	8
2002	$461,406	$804,454	$238,545	9
2003	$381,896	$678,393	$202,435	8
2004	$913,119	$1,712,331	$519,934	17
Total	$2,898,824	$5,127,548	$1,527,910	57

Heartland Flyer, with a wage base of $1,173,753. Tracing those dollars through their 'supply chain' yields $5,127,544 in output to the state of Oklahoma's economy, an additional $1,527,910 in earnings to Oklahoma residents, and another 57 full-time jobs (at an average fully-loaded salary of $26,805) for a total of 85 full-time jobs. Direct expenditures by Amtrak also generated approximately $214,729 in state and local tax revenues.

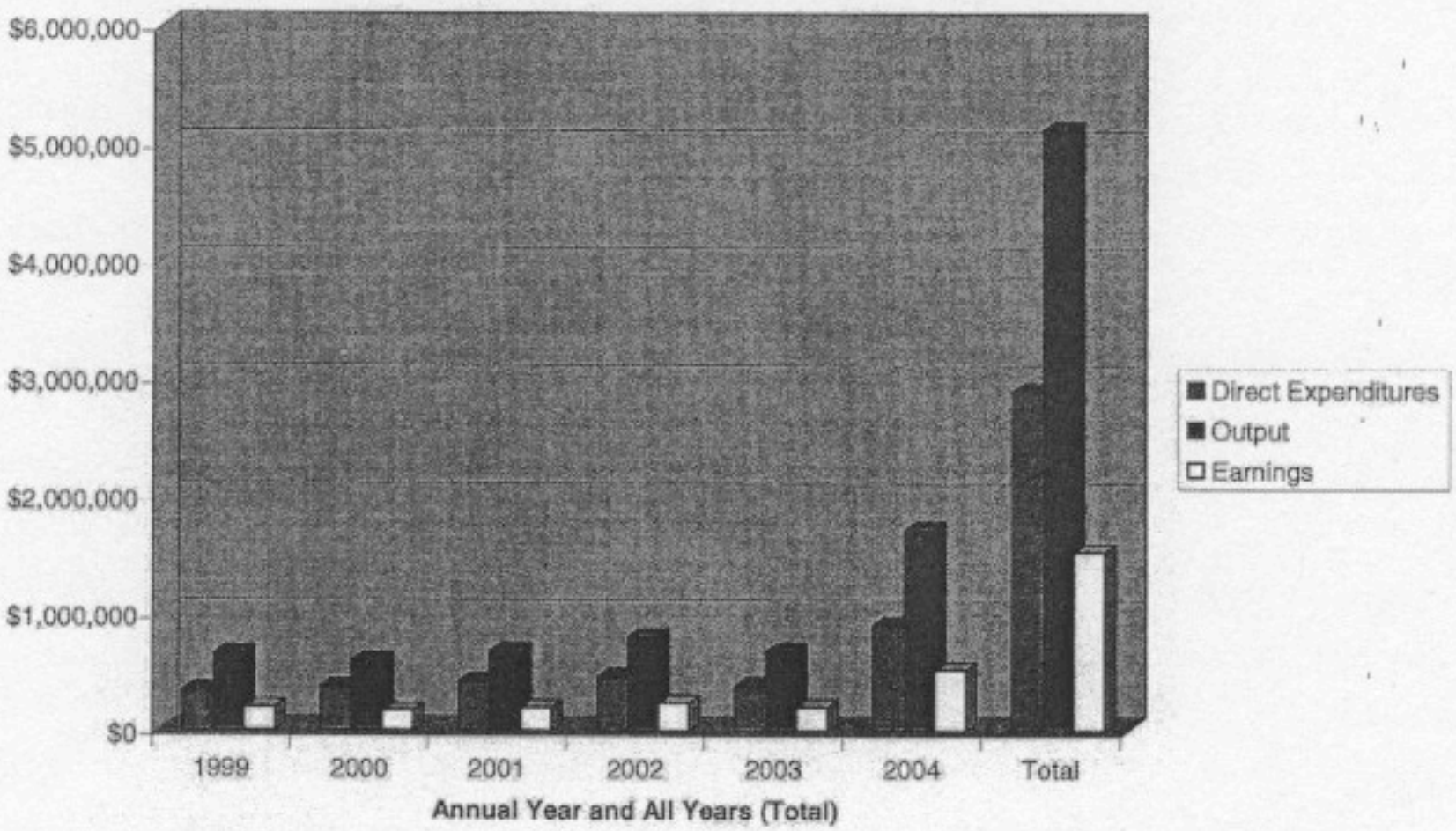


Figure 13: Annual and Total Spending Impacts to the State of Oklahoma due to Amtrak

3.1.3 Impacts of Depot Renovations

The federal government awarded $5,286,328 to the five Oklahoma communities served by the Heartland Flyer for depot renovation. As a result, $11,511,508 was realized in output, $3,536,554 in earnings went to Oklahoma residents and 136 full-time jobs (at an average fully-loaded salary of $26,005) were supported. The direct expenditures for depot renovations yielded approximately $319,580 in state and local tax revenues.

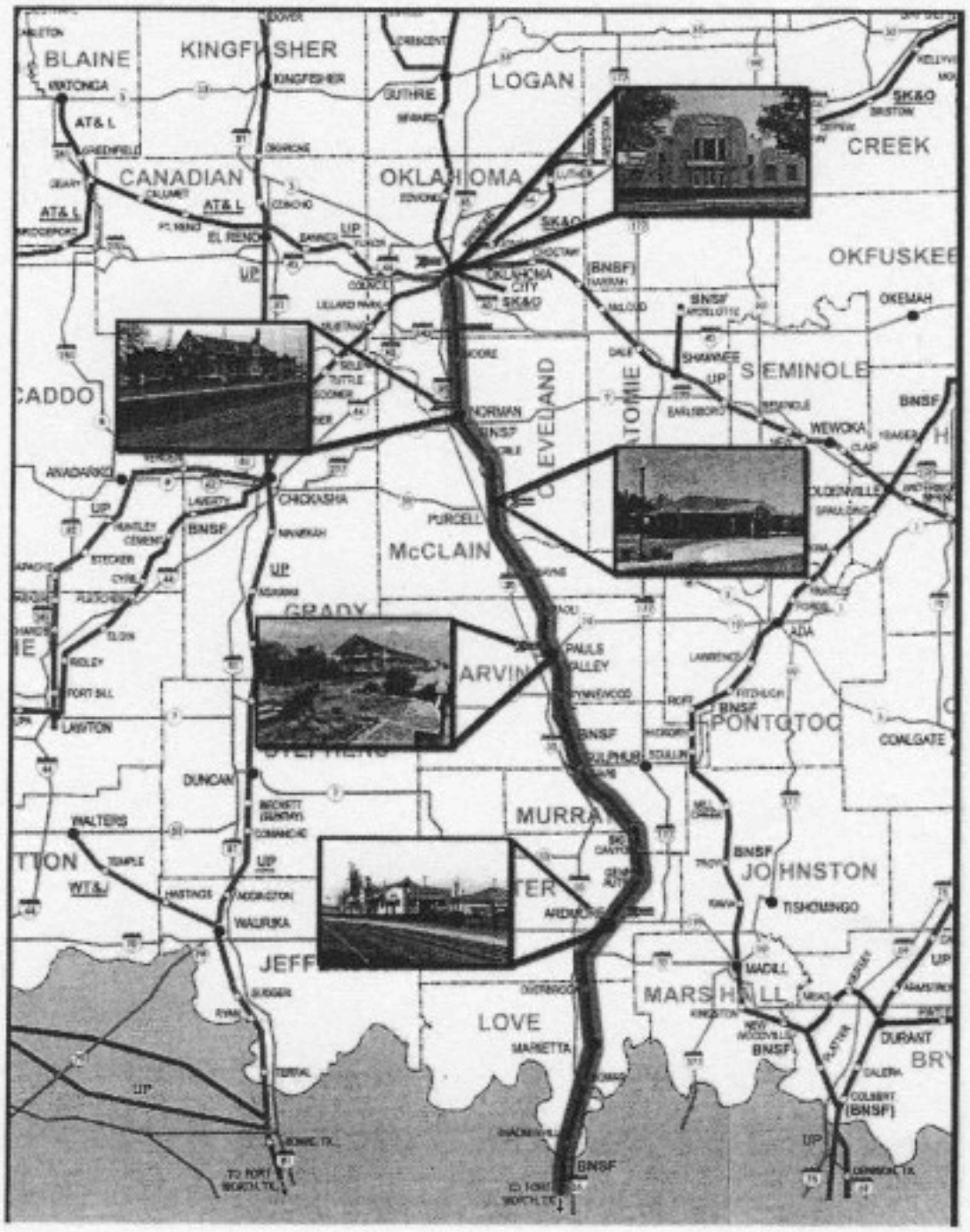


Figure 14: Heartland Flyer Station Stop Locations

3.1.4 Total Expenditure Impacts to the State of Oklahoma

Total impacts to the state of Oklahoma due to the operation of the Heartland Flyer since June 1999 has equated to $11,445,607 in direct spending in the state of Oklahoma, $23,142,364 in output to the state's economy, $6,922,601 in earnings to Oklahoma residents, 349 full-time jobs for Oklahoma residents and approximately $775,825 in state and local taxes..

3.1.5 Net Cost to the State of Oklahoma for Subsidizing the Heartland Flyer

The state of Oklahoma provides a subsidy to Amtrak for the operation of the Heartland Flyer and previously shared in the ticket and food sales generated by the Heartland Flyer. The contract between ODOT and AMTRAK regarding the operation of the Heartland Flyer was

renegotiated in 2002 to allow ODOT to pay a lower subsidy while AMTRAK would keep any revenues and assume responsibility for the marketing efforts. Table 3 indicates the subsidy since June 1999 paid to Amtrak, the amount of revenue returned to the state of Oklahoma, and the resulting net cost to subsidize the Heartland Flyer.

Table 3: Yearly and Total Net Cost of Subsidizing the Heartland Flyer

Year	Subsidy	State Revenues	Net Cost
1999	$1,879,668	$910,647	$969,021
2000	$5,557,169	$1,326,802	$4,230,367
2001	$5,794,332	$1,127,208	$4,667,124
2002	$5,584,668	$454,280	$5,130,388
2003	$4,666,668	$0	$4,666,668
2004	$2,420,000	$0	$2,420,000
Total	$25,902,505	$3,818,937	$22,083,568

3.2 TRANSPORATION BENEFITS

Transportation generates benefits directly and indirectly. Most direct benefits go to users of the transportation service. Heartland Flyer user benefits include shorter travel times and lower travel and accident costs. Travelers are willing to pay for these benefits but the fares they pay are often less than the benefits they enjoy. The difference between what people are willing to pay and what they must pay is termed *direct user benefit*. Indirect transportation benefits include less congestion on competing modes, improved air quality, and redundancy in the transportation network. The Heartland Flyer produces both direct and indirect transportation benefits.

Direct benefits to Heartland Flyer passengers are straightforward to estimate, given accurate information on ridership and the travel alternatives available, should the Heartland Flyer service be terminated. Amtrak provided detailed data on passenger traffic by month for the entire history of the Heartland Flyer, from June, 1999 through December, 2004.[8] The estimated percentage of Heartland Flyer patrons who transferred to the national Amtrak network in Ft. Worth were provided by Dr. Bill Pollard from the University of Arkansas. Dr. Pollard is a member of the Tempo Group, which supports the Texas Eagle.[7] Published time and fare schedules for the Heartland Flyer, American Airlines, and Greyhound Lines were used to

[8] Via email from Ray Lang of AMTRAK Office of Government Affairs, 23 Dec 2004
[7] Via email from Bill Pollard, 26 Jan 2005

determine which alternative public transportation service diverted Heartland Flyer patrons might choose. The specific flights and buses used for comparison are cited in the text. Auto travel times were derived from published official state maps and assumptions about travel speeds under different operating conditions, specifically urban and rural interstate highways, local streets, and rural and state highways. Traffic volumes were provided by the Oklahoma Department of Transportation.

3.2.1 The Oklahoma City to Fort Worth Travel Market

Travel between Oklahoma City and Fort Worth has many parallels with private commercial markets. Customers (travelers) choose to consume certain products (types of transportation) based on cost and quality considerations. Although more costly than alternative means of travel, faster speeds and convenience lead most travelers in the Oklahoma City to Fort Worth, Texas, corridor to drive their own cars. A 2003 study estimated the proportion of travel by means of transport between the Dallas-Fort Worth and Oklahoma City metropolitan areas at 88.5% by automobile, 1.1% by Heartland Flyer, 0.4% by bus, and 10% by commercial airline.[9] For those using public transportation, the Heartland Flyer is superior to all other modes including intercity bus and airline and consequently dominates the downtown-to-downtown travel market. The trip from Oklahoma City to Fort Worth takes a third less time by train than by intercity bus and costs half as much. The Heartland Flyer can match downtown-to-downtown travel times by air from Will Rogers Airport and costs a third as much.

Table 4 illustrates the travel time and cost for a trip between downtown Oklahoma City and downtown Fort Worth via automobile, the Heartland Flyer, intercity bus, and airline. Flight times include *terminal time*, that is, the time required to access the mode. Airline travel requires security screening and travel from the airport to downtown Fort Worth.

Half of the Heartland Flyer passengers travel the whole distance between Oklahoma City and Fort Worth. The two terminal cities account for more than half of the destinations (Figure 15).

[9]Marshment, R.S., M. Court, M. Mantell, D. Karapanagiotis, and S. Polzin, *Patronage forecast for the proposed high speed passenger rail service between Tulsa and Oklahoma City*, Oklahoma Transportation Center, University of Oklahoma, May, 2003, p.22.

	Travel time (minutes)	Travel cost (dollars)
Heartland Flyer	254	$23
Automobile	212	$92[a]
Intercity bus	360	$41
Airline	250	$180[b]

NOTES: [a]Includes a $10.00 parking charge in downtown Fort Worth. [b]Airline cost includes a $5.00 parking fee and a $5.00 local transportation charge to go from the Dallas-Fort Worth airport to downtown Fort Worth. The airline fare is one half of a round trip ticket.

Table 4: Travel Times and Cost from OKC to Fort Worth via available modes

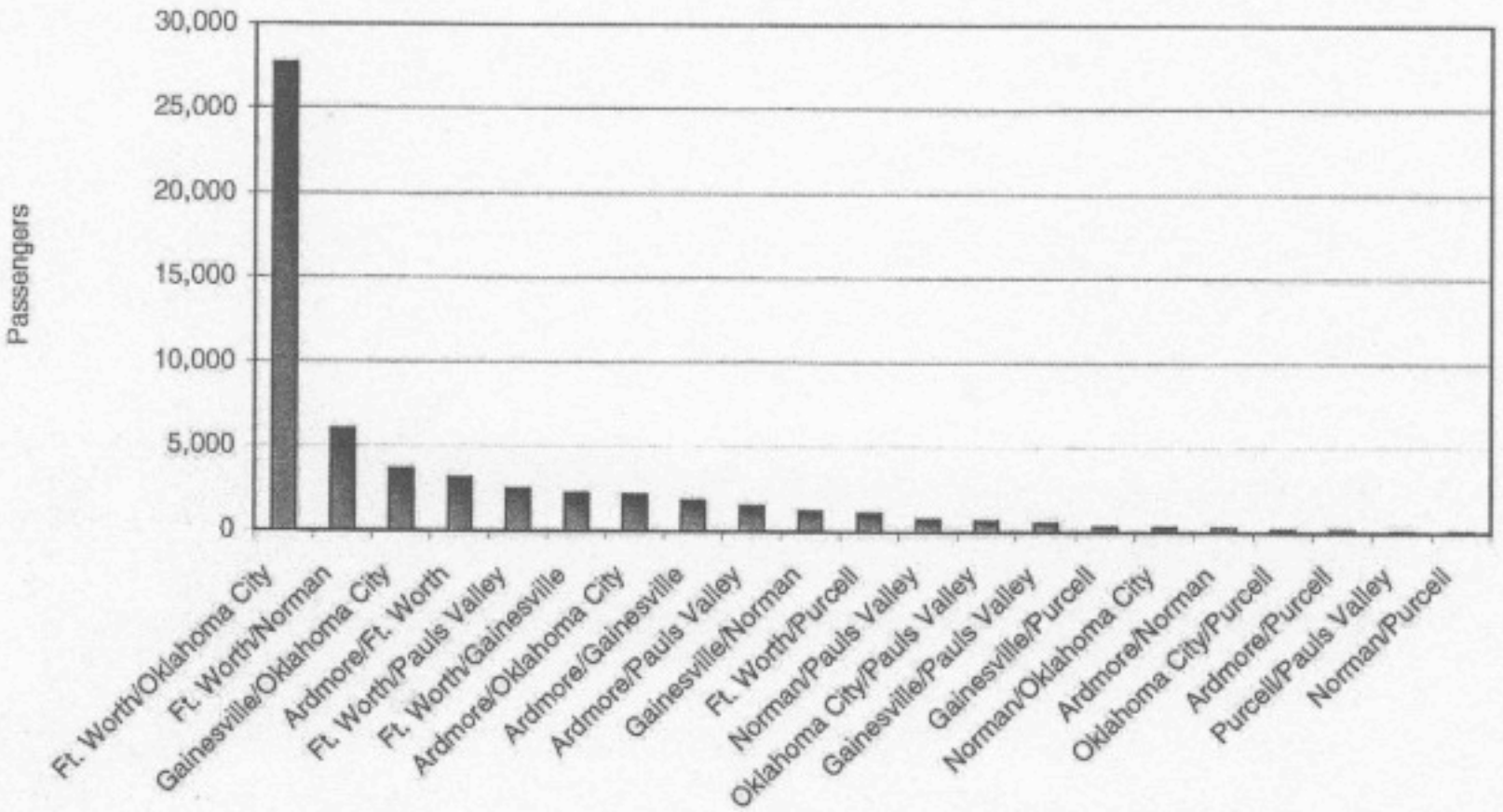


Figure 15: Heartland Flyer Market Size by City Pair, 2004

Oklahoma City	41503
Norman	8320
Purcell	2004
Pauls Valley	5949
Ardmore	8953
Gainesville	9593
Fort Worth	33442

Table 5: Heartland Flyer Boardings and Alightings by Station, 2004

Air travel is unavailable outside the two metropolitan areas. Four of the five Heartland Flyer stations between Oklahoma City and Fort Worth have intercity bus service. Purcell has very limited bus service.[10] To reach Fort Worth by intercity bus from any of the Heartland Flyer stations requires a transfer in Dallas.

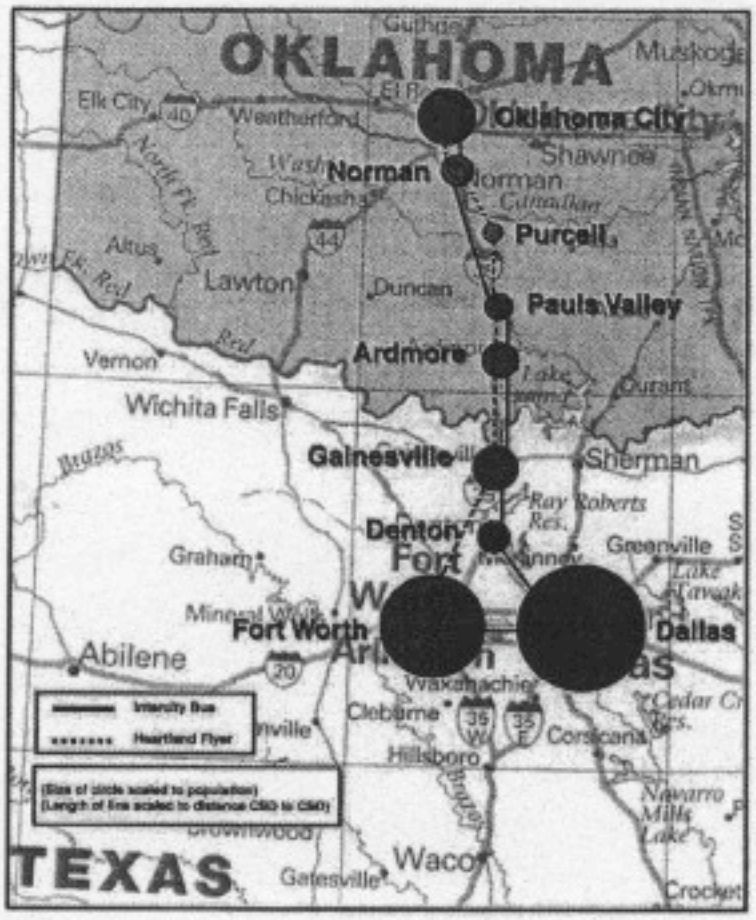


Figure 16: Surface Public Transportation Service in the I-35 Corridor

[10] The bus does not enter Purcell but is boarded near Interstate 35. Of the six intercity bus routes operating in the I-35 corridor, only the late night route serves Purcell.

3.2.2 Methodology

Direct user benefits result from savings in travel time and cost. Savings are the travel time and cost of a trip via the Heartland Flyer compared to the most likely alternative mode. Auto travel is consistently faster albeit more expensive than the Heartland Flyer. Since the benefits of auto use must not be sufficient to induce rail passengers to choose this mode, the best available alternative for Heartland Flyer patrons is intercity bus. The sole exception is Purcell, which would effectively lose all public transportation service with elimination of the Heartland Flyer.

Tables 6 and 7 show the amount of time travelers save by using the Heartland Flyer rather than intercity bus by the direction of travel. There are no entries for Purcell as there can be no savings when no alternative exists. The special case of Purcell is discussed later. Note in some instances the bus is slightly faster than the train. However, the train is always less expensive (Table 8).

Although Heartland Flyer passengers enjoy substantial fare savings when compared to intercity bus, the biggest gains are in the form of travel time-savings to travelers making the whole trip between Oklahoma City and Fort Worth. The trip by train is one-and-one-half hours faster than by intercity bus. As half the Heartland Flyer passengers travel the whole distance between Oklahoma City and Fort Worth, these savings are substantial (Table 9).

3.2.3 Travel Time Savings

The amount of money people are willing to pay to save on travel time rises with the amount of time saved and the income of the traveler. For long distance trips, air travel will be faster than driving but cost more. Passengers choosing to fly reveal their preference for paying higher travel cost to conserve travel time. The difference between their driving cost and airfare yields the minimum value of travel time; people might be willing to pay even more than the airfare to save the time air travel makes possible. Since the Heartland Flyer is both the fastest and least expensive means of public transportation in the Oklahoma City to Fort Worth corridor, there is no revealed preference but it is reasonable to assume Heartland Flyer passengers assign some value to their time.

	Destination City[a]					
Origin City	Norman	Purcell[b]	Pauls Valley	Ardmore	Gainesville	Fort Worth
OKC	6.00		19.00	15.00	14.00	106.00
Norman			19.00	15.00	14.00	106.00
Purcell[b]						
Pauls Valley				-4.00	-5.00	87.00
Ardmore					-1.00	91.00
Gainesville						92.00

NOTES: [a]Comparable intercity bus service is Jefferson Line bus number 0803 departing OKC at 7:10 am and arriving Fort Worth at 1:10 pm via Greyhound Line bus number 6443. [b]There is no intercity bus service to Purcell comparable in time to the Heartland Flyer.

Table 6: Time Savings between O/D Pair via southbound Heartland Flyer vs Intercity Bus

	Destination City[a]					
Origin City	Gainesville	Ardmore	Pauls Valley	Purcell[b]	Norman	OKC
FTW	94.00	98.00	94.00		107.00	106.00
Gainesville		-1.00	-5.00		8.00	-8.00
Ardmore			-4.00		9.00	-7.00
Pauls Valley					-2.00	-18.00
Purcell[b]						
Norman						-16.00

NOTES: [a]Comparable intercity bus service is Greyhound Lines bus number 1418 departing Fort Worth at 5:25 pm and arriving OKC at 11:10 pm via Greyhound Line bus number 6208.[b] There is no intercity bus service to Purcell comparable in time to the Heartland Flyer.

Table 7: Time Savings between O/D Pair via northbound Heartland Flyer vs Intercity Bus

	Destination[a]					
Origin	Norman	Purcell[b]	Pauls Valley	Ardmore	Gainesville	FTW
OKC	$4.50		$6.50	$13.00	$12.50	$18.00
Norman			$6.50	$11.50	$15.50	$21.00
Purcell[b]						
Pauls Valley				$6.50	$9.50	$19.50
Ardmore					$5.50	$17.50
Gainesville						$17.00

Notes: [a]Fare savings are the same in both directions. [b]There is no intercity bus service to Purcell comparable in time to the Heartland Flyer.

Table 8: Heartland Flyer fare savings between O/D Pair versus Intercity Bus

	Annual passengers	Hours saved per year[a]	Value of time saved[b]
Oklahoma City – Fort Worth	27,677	48,896	$391,168
All others	28,653	24,158	$193,264
Total	56,330	73,054	$584,432

[a]Includes only positive ravel time savings. [b]Assumes $8.00 per hour.

Table 9: Travel time-savings by Origin-Destination Pair: 2004

The 2000 census put the median wage rate in Oklahoma for the highest income group at $9.35 per hour assuming 2080 hours of work per year.[11] Conventional practice recognizes that train travelers comprise workers and non-workers alike so some fraction of the wage rate is normally employed. We assume $8.00 per hour based on the value from the 2000 census and our observations on the mix of passengers on board the Heartland Flyer. The travel time savings shown in Table 4 remain substantial using any reasonable hourly value.

[11] Table *P157A. PER CAPITA INCOME IN 1999 (DOLLARS) (WHITE ALONE) [1] - Universe: White alone population,* Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data, www.census.gov, accessed 17 February 2005.

3.2.4 Savings in Travel Cost

Table 8 shows that the Heartland Flyer fare is lower than the intercity bus fare for all city pairs served in the corridor. Every Heartland Flyer traveler realizes a cost savings compared to any alternative mode of transportation. The number of travelers between any two pairs of cities served in the corridor multiplied by the difference between the Heartland Flyer fare and the corresponding bus fare yields the fare savings. In the year 2004 these savings amounted to $895,816, exceeding even the travel time savings.

3.2.5 Accident Reduction Potential

A secondary benefit associated with the Heartland Flyer is the reduction of automobile traffic on the I-35 Corridor, which reduces the potential for accidents, property damages, injuries, and fatalities. Accident data for the year 2003 was obtained from ODOT that categorized the total number of collisions and the value of any associated property damage, injury or fatality related costs along the corridor. Traffic counts, in the form of Average Annual Daily Traffic, AADT, for the year 2003, were obtained for counties along the corridor to be utilized in the evaluation because the passengers riding the train each year actually help reduce the amount of AADT on I-35. The AADT for each respective county was averaged and combined with similar values for all of the counties within the limits of service provided by the Heartland Flyer (I-40 and the Red River), and converted to Total Vehicles per year that traveled on I-35 in order to make a comparison to the total number of accidents for the segment. The annual ridership for the Heartland Flyer was equated into the anticipated total number of equivalent vehicles potentially traveling on I-35, to establish what additional safety impact would potentially occur on the southern segment of I-35 if the Heartland Flyer Service was not available. The impact of the displaced commuters was calculated by dividing by the total vehicles per year without the Heartland Flyer to determine the percentage of commuters utilizing the Heartland Flyer in lieu of driving or riding a bus on I-35. The corresponding percentage of commuters using the Heartland Flyer was multiplied by the costs given for incidents occurring in 2003 in order to establish an estimated cost for additional property damage that would potentially occur if the Heartland Flyer were not in operation. The average value calculated for any anticipated additional property damage that would occur if the Heartland Flyer were discontinued and all of the patrons were forced to drive, came out to be $33,847 based on 2003 accident statistics.

3.3 SUMMARY OF TRANSPORTATION BENEFITS

Table 10 summarizes the monetary transportation benefits of the Heartland Flyer. These values are minimums as consumers in the corridor would likely be willing to pay even more than they are presently paying for the service.

Fare savings to Heartland Flyer users compared to intercity bus	$895,816
Travel time savings to those traveling between Oklahoma City and Fort Worth[a]	$391,168
Travel time savings to those traveling between all other origins and destinations[a]	$193,264
Transportation benefits to Purcell	$67,924
Total user benefit	**$1,548,172**

NOTE: [a]Travel time savings valued at $8.00 per hour.

Table 10: Minimum Value of Direct User Benefits for Calendar Year 2004

3.4 SUMMARY OF INDIRECT TRANSPORTATION BENEFITS

Some of the Heartland Flyer's transportation benefits cannot be quantified in monetary terms yet are obviously economically important. For example, the Heartland Flyer links Oklahoma to the national passenger rail network through Fort Worth. Amtrak reports that 30% of the Heartland Flyer's passengers transfer either to or from the Texas Eagle.[6] Undoubtedly extensions to the north and northeast would stimulate even more patronage.

Other primary impacts of the transportation benefit associated with the Heartland Flyer are the provision of a transportation alternative to travelers whom have limited alternative modes of travel. These travelers include older adults who are not comfortable with driving long distances or after dark, individuals without cars, or individuals who have health related issues that may limit their travel options.

In this time of heightened security, the Heartland Flyer provides redundancy in the transportation network between the Dallas – Fort Worth area and central and southern

[6] Via email from Bill Pollard, University of Arkansas, 26 Jan 2005.

Oklahoma. Interruptions in one or even two modes of transportation between the two regions would not completely sever linkages.

As noted in Table 4, the Heartland Flyer is about as fast as air travel between downtown Oklahoma City and downtown Fort Worth and costs substantially less. Passenger trains have a competitive advantage over air travel for distances between 150 and 500 miles. This advantage increases as delays at airports grow. Over the longer term we can expect train and auto travel to both increase between Oklahoma City and Dallas – Fort Worth but air travel to grow very slowly if at all. However, air travel is likely to remain the mode of choice for distances exceeding 500 miles.

3.5 COMMUNITY BENEFITS

The primary benefit to the communities have been the addition of an alternative transportation mode, which that also provides a means for producing additional tourism, as well as generating Federal funding for station improvements that enhance the individual communities central business districts.

3.5.1 Summary of Response to Interviews Conducted with Mayors

The general responses of the Heartland Flyer's overall impacts from the five mayors whose cities have stations along route were consistent. There was no alternative public transportation that could replace the type of service that the Heartland Flyer provides. Other modes of public transportation included inefficient bus services that ran through the city. Only two mayors knew of individuals that had used the Heartland Flyer for Medical treatment transportation. Unfortunately, this knowledge would only come from knowing someone personally who has used the service for medical related treatment and may not present a truly representative sample of people who have benefited by utilizing the service to meet critical transportation needs. All of the communities indicated that they rely on the Heartland Flyer for tourism, which includes travelers arriving for activities ranging from simple historic visits or antique shopping, to modern dining and entertainment activities. In addition, all of the communities have experienced economic growth that they felt could be directly attributed to the Heartland Flyer. Much of the growth that can be directly related to the train service is evident in the revitalized efforts around the stations, which have included the renovation of existing buildings, new

businesses being developed, and current plans for future expansion. If the Heartland Flyer were to cease operations, the impacts on the communities would include a decrease in tourism dollars, lower visitor exposure, and potentially even a loss of identity for some of the communities. All of the mayors polled considered the Heartland Flyer to be a valuable asset to their community and voiced their support for its continued operation. The Mayors from Norman and Oklahoma City even mentioned that they would like to see the current route expanded northward to serve a greater area of Oklahoma, provide an additional link to the national passenger rail system and provide cities along the route even greater exposure to outside visitors.

CHAPTER 4 - IMPACTS OF CANCELLATION

4.1 IMPACTS OF LOSS OF HEARTLAND FLYER SERVICE ON PURCELL

For Purcell travelers dependent on public transportation, elimination of the Heartland Flyer would result in cancellation of trips or force travel to either Norman or Paul's Valley to catch the bus. We cannot know how many travelers would make either choice, but we do know that the value of those trips is at least equal to what the Purcell travelers were willing to pay for them if the Heartland Flyer were available.

The minimum benefit of the Heartland Flyer to Purcell is the amount of money and travel time Purcell residents were willing to spend to travel via the Heartland Flyer. The calculation is shown in Table 11. It must be stressed that this is the minimum benefit to Purcell as no doubt some of the affected Purcell travelers would be willing to incur substantially higher costs in order to make essential trips.

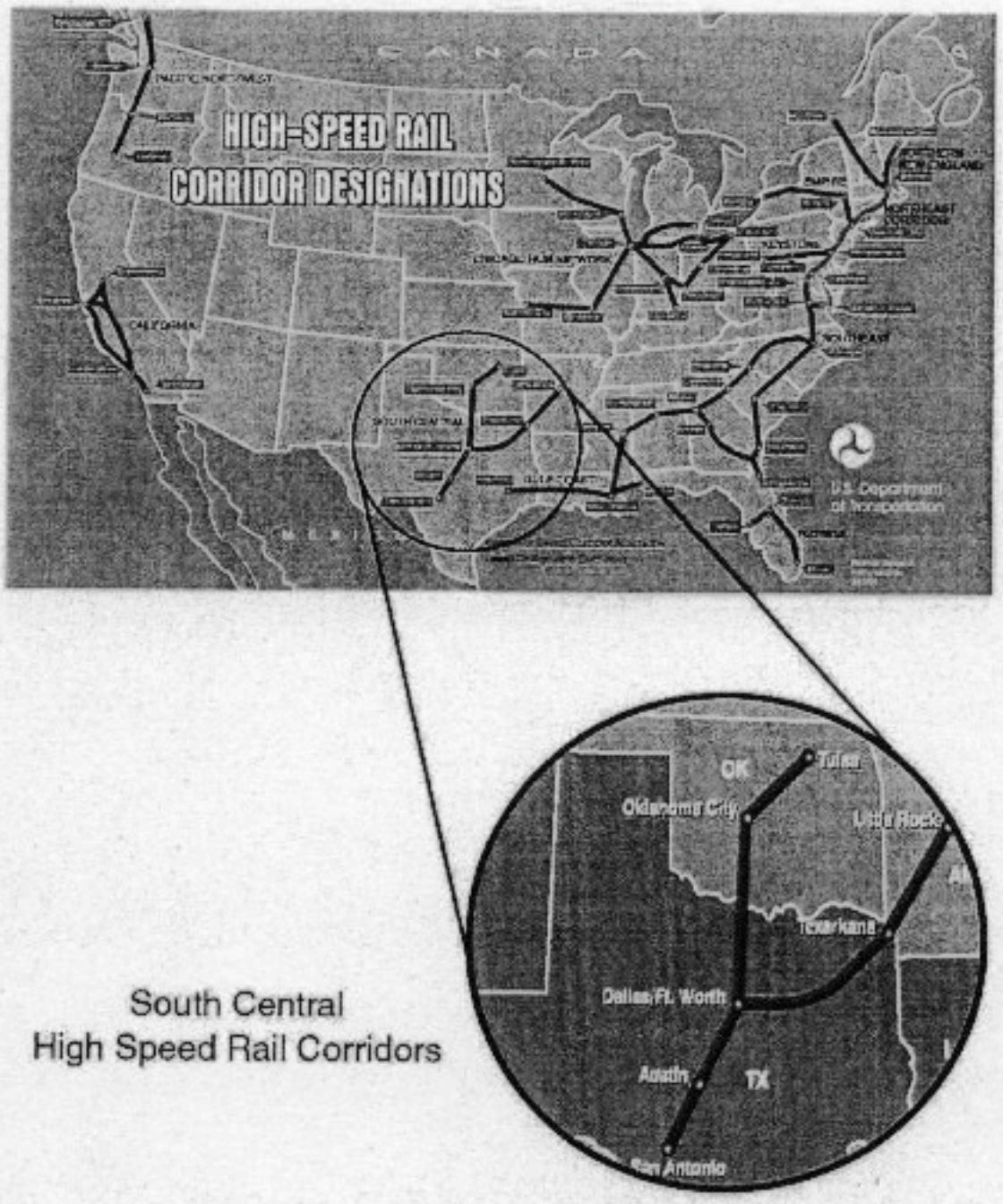
City pair	Passengers	Fare	Travel time (min.)	Value of time[a]	Total value
Purcell – Oklahoma City	176	$ 6	41	$ 962	$ 2,018
Purcell – Norman	73	5	17	165	530
Purcell – Pauls Valley	91	5	25	303	758
Purcell – Ardmore	171	9	74	1,687	3,226
Purcell – Gainesville	365	13	115	5,597	10,342
Purcell – Fort Worth	1077	19	213	30,587	51,050
Total	1953			$39,301	$67,924

[a]Travel time valued at $8.00 per hour.

Table 11: Passenger volumes, fares, & travel time between Purcell & other stations, 2004

4.2 POTENTIAL HIGH SPEED PASSENGER RAIL SERVICE

The original High Speed Passenger Rail Feasibility Study[1] conducted by the Oklahoma Department of Transportation Rail Programs Division underscored the importance of a solid passenger rail connection between the States' two largest economic centers to facilitate the ridership and connectivity necessary to develop a feasible passenger rail system in the State of Oklahoma and throughout the remainder of the region. A significant accomplishment of the original Oklahoma High Speed Passenger Rail Feasibility Study[1] was the completion of a successful application for designation by the Federal Railroad Administration (FRA) and the Department of Transportation (DOT) as a High Speed Rail Corridor from Fort Worth to Tulsa.



South Central
High Speed Rail Corridors

Figure 17: Federally Designated High-Speed Rail Corridors

The primary route selected for the Fort Worth to Oklahoma City segment follows the existing Heartland Flyer route on the Burlington Northern Santa Fe (BNSF) Red Rock and Fort Worth Subdivisions. The ongoing successful operation of the Heartland Flyer helped legitimize the concept of expanding passenger rail service for the future through the proposed High-Speed service. High-Speed rail operations are expected to become increasingly more popular in the United States as traffic congestion and air traffic congestion increase. Consequently, the most promising High-Speed routes tend to be associated with existing passenger rail routes where alternative modes capable of competing with air travel are deemed feasible.

Establishing High-Speed service in the State of Oklahoma would be highly dependent on establishing an Oklahoma City to Tulsa segment, which would in turn rely heavily on a connection to Fort Worth either via the existing Heartland Flyer Service or through the extension of High-Speed service from Oklahoma City to Fort Worth[12]. These proposed segments remain extremely important components of the proposed High-Speed passenger rail service for the South Central Region because of the potential for through service on to Kansas City linking the Midwest Regional Rail System to the designated South Central corridors. A study conducted by the Kansas Department of Transportation[13] indicates that the Tulsa to Kansas City route has the second highest potential for successful high-speed rail operations in the State of Kansas just behind a proposed high-speed connection between Wichita and Kansas City. An extension of the Heartland Flyer Service to the north would reintroduce train service into Wichita and greatly enhance the potential for establishing competitive rail service between Oklahoma City and Kansas City. If the Heartland Flyer Service didn't exist the potential for future passenger rail expansion would be a significant challenge in the future development of High Speed Rail service in the State of Oklahoma.

Another accomplishment of the previous passenger and High-Speed Rail studies associated with the implementation and continued operation of the Heartland Flyer was the development of a High-Speed Rail development plan worthy of receiving Federal funding for aerial mapping activities conducted by the Federal Railroad Administration (FRA) on designated High Speed

[12] *High Speed Rail Initiative*, Oklahoma Department of Transportation, Carter & Burgess, Inc., Oklahoma City, OK, February 2002.
[13] *Kansas Rail Feasibility Study*, Kansas Department of Transportation, Transportation Economics & Management Systems, Inc., Topeka, KS, March 2000.

Corridors for select segments throughout the nation[13]. The "fly mapping" funding presently available for the incremental development of High-Speed Rail service on designated corridors is one of the only sources of funding presently available for High-Speed Rail development, is highly sought after, and very difficult to obtain. The fly mapping information collected to further enhance the existing service between Fort Worth and Oklahoma City as well as establish additional service to Tulsa would not have been made available without the ongoing operation of the Heartland Flyer providing the core service on which to build future passenger rail operations in the State of Oklahoma. The successful operation of the Heartland Flyer over the past 5 and a half years and the completion of the Oklahoma High Speed Rail Initiative Report[12] facilitated the development of the information necessary to further the proposed High Speed Rail development efforts between Fort Worth, Oklahoma City, and Tulsa.

4.3 NATIONAL THROUGH LINK

The proposed further extension of the Heartland Flyer to provide a north/south connection in the south central region would connect Fort Worth with the Amtrak Southwest Chief which provides daily service between Chicago and Los Angeles. The previous service provided by Amtrak in the State of Oklahoma connected with other national routes in Newton, Kansas and was terminated in 1979. Proposed operations that facilitate a northern connection to the national rail passenger rail system and provide through train movements in the State of Oklahoma have been evaluated examining a couple of variations in operating scenarios.

4.3.1 Newton, Kansas Connection

One option for the extension of the present Heartland Flyer Service would be to connect to the existing Southwest Chief service via Newton, Kansas. Expansion of the Heartland Flyer Service from Oklahoma City to Newton, Kansas would establish a connection to the national passenger system on the north end of the route.

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[12] *High Speed Rail Initiative*, Oklahoma Department of Transportation, Carter & Burgess, Inc., Oklahoma City, OK, February 2002

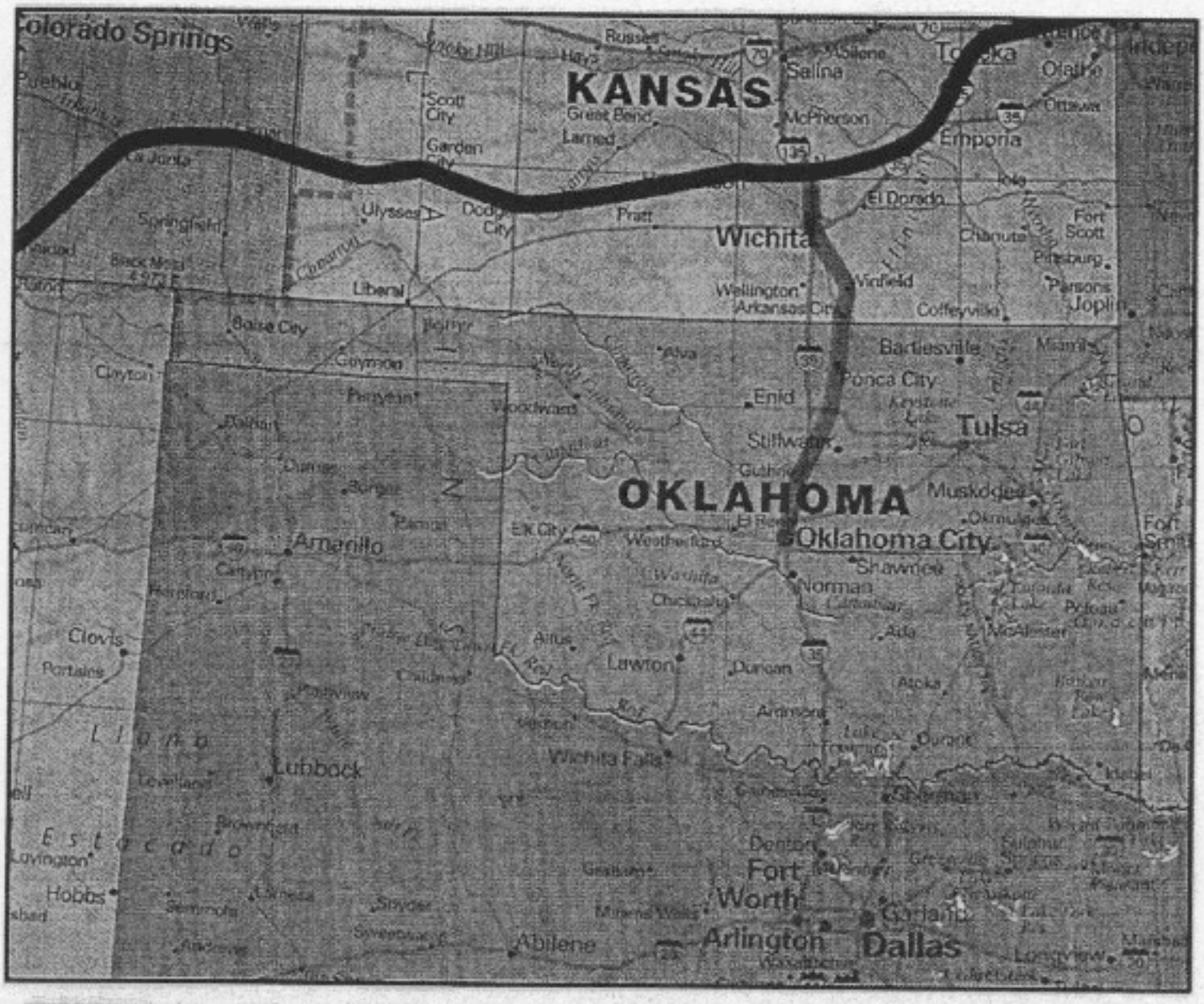

Figure 18: Proposed Northern Connection to Newton, Kansas

Increased passenger revenues through a continuous passenger rail connection between the Southwest Chief and Texas Eagle services would have the potential to greatly improve the long-term success of the Heartland Flyer. Expanded Heartland Flyer Service through Newton, Kansas is anticipated to be feasible using the existing equipment and without any additional equipment maintenance facilities. Extension of the Heartland Flyer Service, excluding any station improvements, is anticipated to cost approximately $5 million, with $2.9 million of track-related improvements in the State of Oklahoma and $2.1 million of track-related improvements in the State of Kansas. The recommended schedule for the expanded service would maintain existing service schedules between Oklahoma City to Fort Worth and allow an acceptable connection to the Southwest Chief service (Los Angeles to Chicago). The ongoing railroad

safety improvements coordinated by the Oklahoma Department of Transportation – Rail Programs Division would be continued in an effort to reduce the travel time on the Oklahoma City to Fort Worth, Texas and Oklahoma City to Newton, Kansas segments to approximately three and a half hours each. These improvements would provide the incentive for future expansion of north/south through passenger train operations and significantly enhance any priority freight service that could potentially be operated on the entire route.

4.3.2 Perry Connection

Another option for the extension of the present Heartland Flyer Service would be to connect to the existing Southwest Chief service in Perry. This would require the Southwest Chief to be rerouted off of the current route between Newton, Kansas and just south of Albuquerque, New Mexico, resulting in an increase in overall mileage of approximately 188 miles, but serving an additional population of 580,000 along the proposed rerouting.

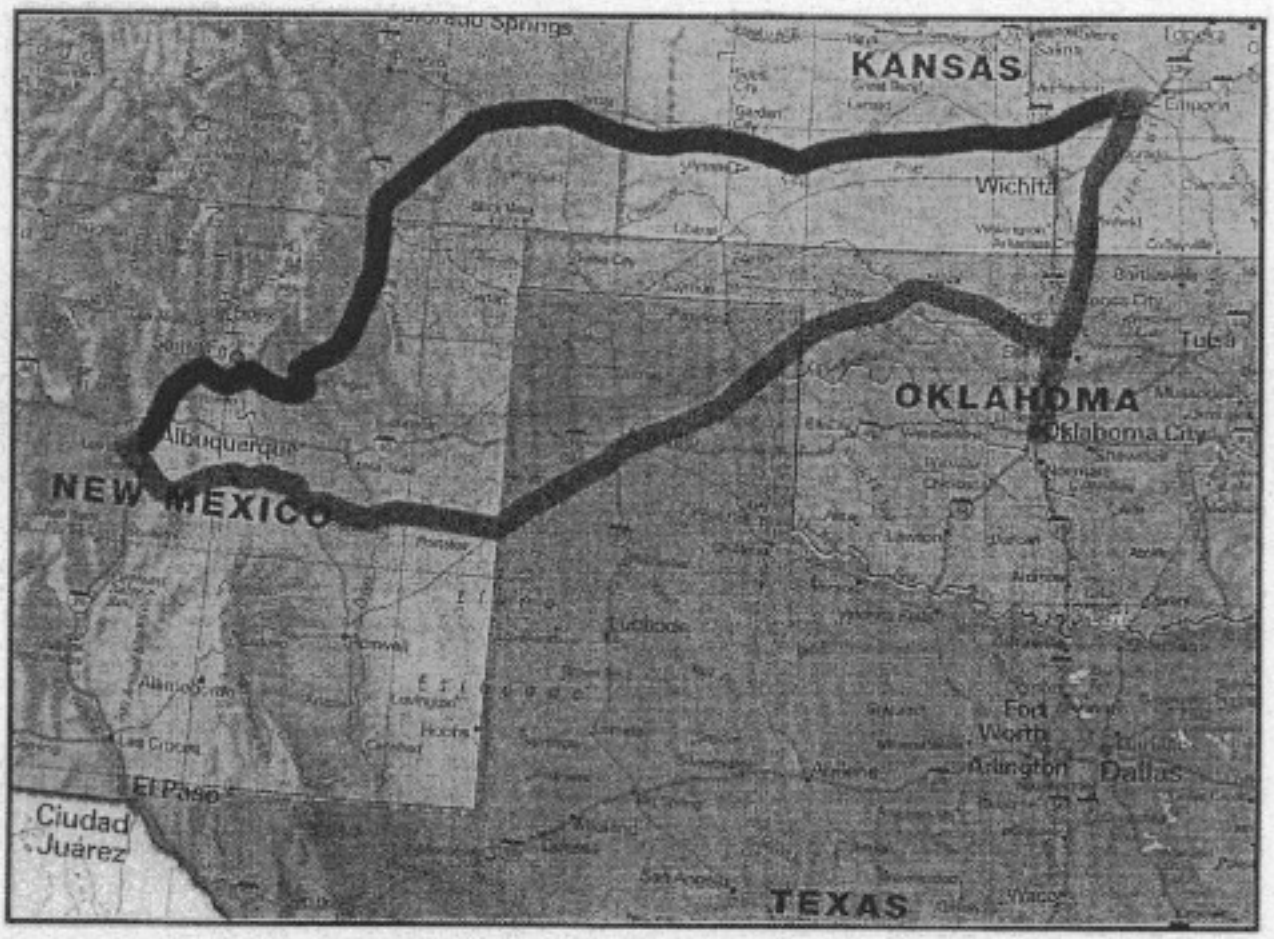

Figure 19: Proposed Northern Connection at Perry

Station stops discontinued on the existing route would include Hutchison, Dodge City, and Garden City, Kansas, Lamar, La Junta, and Trinidad, Colorado, and Raton, Las Vegas, and Lamy, New Mexico. Proposed new station stops would include Newton, Wichita, Winfield, and Arkansas City, Kansas, Ponca City, Perry, Enid, and Woodward, Oklahoma, Pampa, Amarillo, and Hereford, Texas, and Clovis, Fort Sumner, and Vaughn, New Mexico. The proposed rerouting of the Southwest Chief would facilitate a Heartland Flyer connection that would only require an additional 62.5 miles of operation for the Heartland Flyer, and would also establish a connection to the national passenger system on the north end of the route. It would add passenger rail as a transportation alternative for the Oklahoma communities of Ponca City, Perry, Enid, Woodward, Guthrie, and possibly Edmond. Increased passenger revenues from the additional population served as well as those associated through a continuous passenger rail connection between the Southwest Chief and Texas Eagle services would also have the potential to greatly improve the long-term success of the Heartland Flyer. Expanded Heartland Flyer service through Perry would be feasible using the existing equipment and without any additional equipment maintenance facilities.

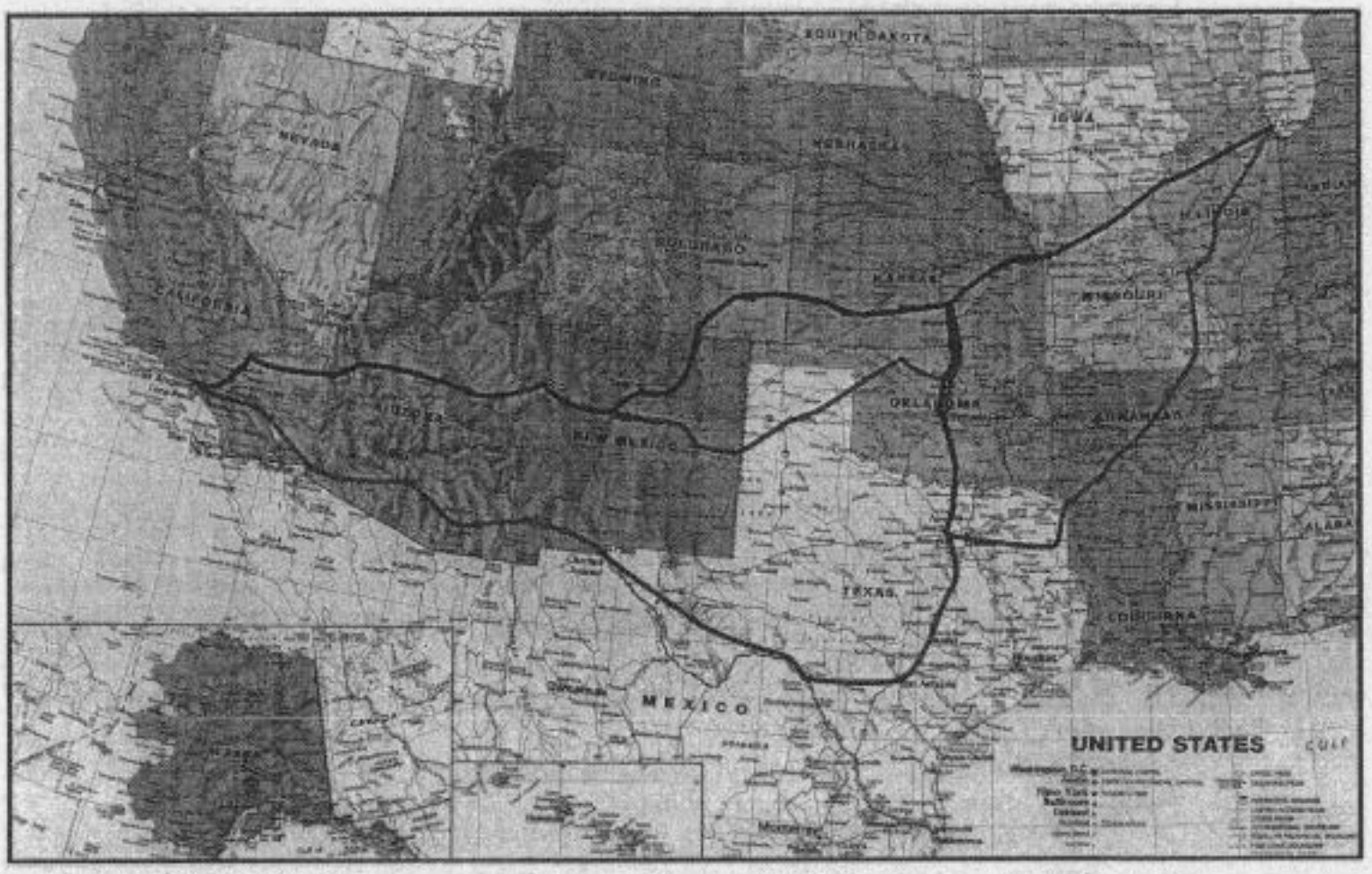

Figure 20: Proposed and Existing Southwestern Amtrak Routes

CHAPTER 5 - FINDINGS

For the past five years the Oklahoma Department of Transportation has partnered with Amtrak to operate a daily passenger service from Oklahoma City to Fort Worth, Texas with intermediate station stops in Norman, Purcell, Pauls Valley, Ardmore, and Gainesville, Texas. Over this initial 5-year period ridership has far exceeded original expectations. The Heartland Flyer is the mode of choice for those with mobility limitations. Up to 10% of the riders fall into this category.

The $11,445,607 in direct spending within the state of Oklahoma attributed to operation of the Heartland Flyer since June 1999, which includes $5,286,328 to the five Oklahoma communities served by the Heartland Flyer for depot renovation, yielded $23,142,364 in economic activity for the state. This breaks down into $6,922,601 in earnings to Oklahoma residents, the generation (either directly or indirectly) of 349 full-time jobs for Oklahoma residents, and approximately $775,825 in state and local taxes.

The Heartland Flyer dominates all forms of travel between downtown Oklahoma City and downtown Ft. Worth. No other means of travel comes close to the Heartland Flyer in cost and only driving is faster. Travel time on the Heartland Flyer between downtown Oklahoma City and the Dallas-Ft. Worth Airport is equivalent to travel time by air when parking and security delays are considered. The market for travel between Oklahoma City and the Dallas-Ft. Worth metroplex via the Heartland Flyer will grow in importance as congestion increases at Will Rogers and Dallas-Ft. Worth airports.

The ongoing successful operation of the Heartland Flyer helped legitimize the concept of expanding Oklahoma passenger rail service in the future, allowing the corridors between Ft. Worth, Oklahoma City, and Tulsa to be designated as High-Speed Rail Corridors. Similar to Europe, High-Speed rail operations are expected to become increasingly popular in the United States as highway and air traffic congestion increase. Consequently, the most promising High-Speed routes tend to be associated with existing passenger rail routes where alternative modes capable of competing with air travel are deemed feasible.

The Heartland Flyer provides a critical element in the transportation system linking Oklahoma with the Dallas-Ft. Worth region and other destinations in the national Amtrak system.

Importantly, the Heartland Flyer can operate when other modes are unavailable due to weather or security conditions. When the Will Rogers Airport and the Red River Bridge were closed during the winter 2002 ice storm, the Heartland Flyer continued to operate providing standing room only service during the crisis. Similarly, the Heartland Flyer continued to provide daily service during the period when the commercial air system was grounded following September 11, 2001.

In the year 2004, benefits to users of the Heartland Flyer amounted to $1.548 million and have been growing in conjunction with ridership. Calendar year 2005 is on track to match or surpass the peak ridership rates experienced prior to September 11, 2001.

The Heartland Flyer delivers important economic benefits to residents of the communities it serves. These include older adults no longer comfortable with driving long distances; young children of divorced parents living at different locations along the route; people traveling for specialized medical services; and Job Corp participants being transported from Texas to training facilities in Guthrie. In particular, elimination of the Heartland Flyer would leave Purcell without any public transportation service.

Future rail development in the State of Oklahoma relies heavily on the continuous operation of the Heartland Flyer Service. Potential route extensions include linkages to both Tulsa and northward to Newton, Kansas, to connect to the Chicago-Los Angeles line. A realignment of the Chicago-Los Angeles route is under consideration. This realignment would involve rerouting the Southwest Chief through Perry, Oklahoma, where the Southwest Chief could connect with a northward extension of the Heartland Flyer. The rerouting and the northward extension of the Heartland Flyer would provide rail service to Newkirk, Ponca City, Perry, Guthrie, Edmond, Enid and Woodward.

APPENDIX

APPENDIX A – Results of Community Leadership Surveys

In order to determine the Heartland Flyer's overall impact on the cities with stations along the route, a list of five questions was developed and presented to the mayor of each respective city. Those participating in the poll included Mayor Sheryl Ellis from Ardmore, Mayor. Richard Kennedy from Paul Valley, Mayor. Ron Fishburn from Purcell, Mayor Harold Haroldson from Norman, and Mayor Nick Cornet from Oklahoma City. The five questions that were used to collect the Mayors' thoughts and opinions of the Heartland Flyer's impact to their city were as follows:

1. **Is there any alternative public transportation available to take the place of the Heartland Flyer?**
2. **Has anyone relied on the Heartland Flyer for Medical treatment transportation anytime during the last 5 ½ years of operation?**
3. **Does your community rely on the Heartland Flyer for tourism?**
4. **Has your community experienced any economic growth that can be attributed to the Heartland Flyer service in the past 5 ½ years?**
5. **If the Heartland Flyer was to cease operations, what do you anticipate the impact on your community both economically and in the quality of life would be?**

The following are the responses from Mayor Sheryl Ellis of Ardmore.

1. Any other public transportation to be considered would be: Taxi Cab: This would be cost prohibitive, not to mention the cab company might decline to take out of town fares. Privately owned airplanes: This is again cost prohibitive. The bus would be the most likely alternative choice of transportation. However, the bus caters to a different market, has many stops along its route, and has offered a less than appealing bus station in our city for several past years, at least until 2005. For these reasons if I consider traveling by bus as alternative public transportation, I would certainly point out that although it is an alternative, the experience of travel on the Heartland Flyer is far superior.
2. I have been made aware of several people who have taken advantage of the Heartland Flyer to deliver them to Norman, Oklahoma City, or Fort Worth for medical attention.
3. Yes we do. The opportunity to host tourists, including those traveling by train but staying in Ardmore for the major part of the day or several days has prompted the restoration of the depot, has encouraged unique shops in the downtown area, and is another reason to encourage arts and beautiful parks around town. Ardmore works to bring youth sporting events to town as well as working cooperatively with Lake Murray State Park and other surrounding areas all in the name of growing a regional tourism industry. We rely on every avenue available to bring growth to our area's tourism business.
4. Yes. The Santa Fe Depot was restored during that time. The restoration involved local architects, building material suppliers and local citizens who earn their living working in the construction trade. Once the depot was complete, it became a building to rent for receptions, showers and various celebrations, which create business for caterers, bands, flower shops etc.
5. The impact on both would not be devastating, but would definitely be a negative impact on Ardmore and its citizens. The Heartland Flyer brings life daily to the depot which is

posed to bring together the east and west sides of Ardmore. The Heartland Flyer brings public transportation to many who choose transportation by train for whatever reasons. The Heartland Flyer is a means to travel for medical care in case one shouldn't or can't drive. For divorced parents, it is a safe means to send older children between homes. With the cost of new automobiles and gasoline, many families own a car to drive around town, but traveling out of town is best done by another means. For various groups to be able to park their cars and board the train right here in Ardmore certainly simplifies group traveling. And last but not least, since 911, this is just a means of real travel. Boarding the Heartland Flyer in Ardmore could be the first leg of a long train trip to either the east or west coast. Or for Ardmore citizens, they can experience the fun and romance of riding the train simply for fun and entertainment with friends and family, which enhances the quality of life to be offered in Ardmore, Oklahoma. Losing the availability to offer all of this in our community would lessen our quality of life as well as ending all local economic benefits associated with the Heartland Flyer.

The following are the responses from Mayor Richard Kennedy of Paul Valley.

1. No
2. No
3. Yes, most definitely. It serves large groups of people that visit the area like schools and Church groups.
4. Yes, a lot of money has gone into renovating buildings around the station, which has brought in new businesses, as a result of the Heartland Flyer. The Heartland Flyer has helped anchored the east end of Main Street. There are thoughts of future expansion including bringing in an old Church and renovating it for weddings.
5. There would be considerably lower exposure to Paul Valley and the people from various areas from around Oklahoma would not come in to visit Paul Valley. This would result in a decrease in tourism dollars spent in Paul Valley.

The following are the responses from Mayor Ron Fishburn of Purcell.

1. No. There is a bus service, but it is erratic and is to far away.
2. Yes. Knew a lady that took it down to the DFW area in order to visit physician specialists.
3. Yes. Groups come in for historic visits and to go antique shopping.
4. Yes. Antique stores have seen a boost from the Heartland Flyer. There is an investigation into converting the brick building by the station into a depot that would contain restaurants and coffee shops. There are currently no vacant buildings on Main Street
5. It would be a large disappointment. Commuter rail travel back and from Oklahoma City to Fort Worth would not be possible, which would hurt economically. The Heartland Flyer is a valued asset to Purcell and helps make Purcell the city that it is.

The following are the responses from Mayor Harold Haroldson of Norman.

1. No. The bus system does not fill the same needs that the Heartland Flyer does. Would like to see the Heartland Flyer extend its service up to Kansas.
2. No
3. Yes.
4. Yes. Has led to the renovation of the Santa Fe Depot and has helped establish new businesses like restaurants, cafes, movie theatres, and art galleries. There is even a Heartland Flyer Group Association.
5. It would have a substantially negative impact on the community both economically and in the quality of life.

The following are the responses from Mayor Nick Cornet of Oklahoma City.

1. No. Believes the Greyhound bus service runs through Oklahoma City, but does not provide the same type of service.
2. No.
3. Yes.
4. Yes. The economic growth can be attributed from tourism. The increase in tourism dollars has benefited Oklahoma City by having a larger tax base.
5. It would have a big impact and would be a significant setback. There would be a psychological impact by having had the Heartland Flyer for a period of time and then to have it taken away. It would be great for Oklahoma City to no longer be the terminal end by extending the Heartland Flyer farther north.

APPENDIX B – Results of Operator Surveys

HEARTLAND FLYER BENEFITS STUDY
Summary of operator survey
24 February 2005

by
Richard Marshment
27 February 2005

Table of contents:

Survey was conducted by Jack Webb and Richard Marshment on the southbound train, and by Richard Marshment alone on the northbound train.

1. Crew members interviewed and their characteristics

Robert Villareal, Conductor, Southbound (morning) train
Lila Cooper, Lead service attendant (snack bar operator)
Michael Doty, Conductor, Northbound (evening) train
George Hammond, Assistant Conductor, Northbound (evening) train

- All crew members are residents of Texas.
- Crew all drive to work, park in downtown Ft. Worth in free, Amtrak provided parking
- Conductors work one way each day for six days. They leave Ft. Worth in the evening working the northbound train and spend the night in OKC at the La Quinta Inn. They work the morning train back to Ft. Worth the next day.
- Snack bar operator works three days straight on both the northbound and southbound trains. She spends the night at the La Quinta Inn.
- None of the crew does anything while laying over in OKC except go to their hotel and sleep. The hotel has a breakfast bar. The train arrives in OKC at 10:00 pm normally so by the time the crew gets to their hotel it is 11:00 pm at the earliest. The train departs the next morning at 8:30 am.
- Conductors have enough seniority they could "bump" other conductors from the Ft. Worth to Marshall run on the Texas Eagle if the Texas Eagle suspended service.
- Snack car operator would have to find work outside the Amtrak system or move to another Amtrak hub, e.g. Chicago.
- The snack car operator and the conductor on the evening train have both worked on the Heartland Flyer since service began in 1999j
- Crew of Heartland Flyer has more seniority than any other train operating out of Ft. Worth. Crew stated they chose to work the Heartland Flyer.
- To a person, the crew were competent, happy, and proud of their train and the service they provide

2. Regular riders

- The morning snack car operator said about 50% of riders were "regulars."
- A professor who teaches at Univ. of N. Texas in Denton twice a week. She travels by Heartland Flyer to Gainesville where she leaves a car. She drives to Denton, teaches her class, and then returns to OKC where she maintains her home.
- A computer technician from Ft. Worth who travels to OKC twice per month for work
- 20 to 30 children of divorced parents travel back and forth each month between parents.
- An OU professor maintains a home in Pennsylvania. He takes the train back to Pennsylvania twice a year
- A federal judge whose home is in OKC but whose bench is in Ft. Worth
- Job corps students travel from Texas to a training center in Guthrie.
- An American Airlines flight attendant based at DFW travels to see her husband who works at Devon Energy in OKC.
- The morning conductor confirmed the 50% are regular riders estimate
- The evening crew estimated the number of "regular" riders at between 10% and 20%
- Weekday ridership is lighter than weekend ridership but there are more regular riders on weekdays

3. Purposes of trips on Heartland Flyer

- Older couples, parents and grandparents, travel often on the train. They travel to visit family. There are 20 to 30 every month.
- A few passengers travel for work. See examples under "regular riders."
- Medical related travel is common. There were at least two passengers on the evening train I rode (out of 30 passengers total) who were traveling for medical reasons.
  - An American Airlines flight attendant based at DFW was traveling to OKC for elective surgery. Her husband works for Devon Energy in downtown OKC and they have a home in Texas and a condo on NW OKC. I asked her why she was traveling by train when she could fly for free. She said train travel is nicer than 1st class on an airplane. She also said she could not fly for free while she was on medical leave. She has traveled by train to OKC five times in the past six months.
  - A female "top" sergeant in the Army who had developed cancer as a result of exposure to toxic ordnance. She lives in Ardmore and travels to the VA hospital for surgery and follow-up chemotherapy. She didn't know how she would make the twice monthly trip from Ardmore if the HF were cancelled.
- The crew confirmed that medical related travel was common. Cited several examples including travel to both the Dallas and OKC veterans hospitals by veterans, cancer patients traveling for chemotherapy, and family members traveling to visit hospitalized or sick relatives
- Student holiday and weekend travel is common.
- Train is popular with bicyclists on weekends who ride by train with their bikes to Pauls Valley (occasionally Ardmore) and ride their bikes back
- Although majority of weekend travel is from OKC to Ft. Worth, there are 50 – 60 riders who travel from Ft. Worth to OKC for the weekend
- Gainesville has diminished in importance w/ closure of several stores in its discount mall. No shuttle van met the train in either direction.
- I observed a family from Pauls Valley who had traveled to Ft. Worth for the day
- I observed an older couple who was scoping out the HF for a church group of 30.
- I observed two students on the return trip one of whom was working on a laptop

4. Proportion of riders who transfer to/from Texas Eagle in Ft. Worth

- 30% is a pretty good annual estimate. Number probably varies by season
- Three different sources (Bill Pollard, U. of Ark.), most recent email from Amtrak (from Jack Webb), and morning conductor, all confirm the 30% estimate

5. Proportion of riders who travel round trip

- Majority of riders are "day riders" meaning the travel from OKC to Ft. Worth and back on same day
- On the day I traveled, I observed two groups of round trip travelers

6. Proportion of riders with mobility impairments sufficient to keep them from driving

- Crew estimates between 2% and 10% of riders have some sort of mobility impediment which compels them to ask for seating on the lower level. The train is very handicapped accessible. Motorized scooters and wheelchairs are common.
- 20 to 40 riders per month with a mobility limitation
- On the return trip, there were two people seated in the lower level out of 30 passengers total.
- The crew recounts the story of a blind man who travels often enough to be able to find his way from his seat on the lower level to the snack car and back

7. Proportion of riders traveling as families

- See section on trip purposes
- Substantial majority of passengers are families both young and small (75%)
- On weekends, families are about 60% of riders
- Family travel is heaviest on weekends and in the summer
- Special trains themed for families, e.g. Santa Clause train, Easter Bunny train, and Halloween train, regularly sell out

8. Which day(s) of week experience the heaviest ridership

- Fridays are busiest weekday
- Weekends are busier than weekdays

9. Which season of the year (Fall, Winter, etc.) experiences the heaviest ridership

- Summer is heaviest season
- Holiday travel is always heavy

10. Which special events are most popular with riders

- OU/Texas
- Santa Clause train
- All of them are popular and most sell out
- Amtrak adds extra cars for special event trains

11. Why Heartland Flyer is essential service

- HF continued to operate throughout the grounding of airlines during 9/11. They allowed standees during that period.
- HF continued to operate during the ice storm of winter, 2002, when Will Rogers Airport was closed and the Red River Bridge into Texas was closed
- HF provides important redundancy in the OKC – DFW corridor
- The only events which delay or stop the HF are floods (washout of tracks) and conflicts w/ freight traffic
- Many riders are older who can no longer drive. The evening train I was on was delayed due to track work.
- Elderly couple traveling for their 60th wedding anniversary with their children and grandchildren
- Lady with terminal cancer whose five daughters bought her a ticket because it was her wish to ride a train for the last time
- Opinion of snack car operator: most HF passengers would not make trip if HF were cancelled
- Regular rider on evening train told me she chose the train over the other modes available to her, i.e. car, bus, and airplane, because it is faster, cheaper, and cleaner.

Appendix C: Heartland Flyer Operator Survey

Survey Population

The survey population comprises that portion of the crew of the Heartland Flyer which interacts directly with passengers. This population includes conductors, baggage handlers, and club car staff. The total number of potential interviewees should be no more than five to ten persons. Should include both weekday and weekend crews.

Instructions

Questions should be asked directly of the operator by either Jack Webb (JW), Mary Court (MC), or Richard Marshment (RM). Ideally two of the researchers will be present during the interview. Responses should be tape recorded. Surveyor(s) should take detailed notes on the responses. Operators may be interviewed as a group. Each surveyed crew member should have a separate survey form.

The survey should not take more than one hour if all operators participate as a group. Responses should be summarized in writing and will become an appendix to the final report. The interview(s) could be conducted in Ft. Worth while the train is in station waiting for the return trip to Oklahoma City. JW will be responsible for obtaining permission from Amtrak to conduct the survey and arranging the participation of the crew.

NOTE: "Don't know" is an acceptable response to questions and should be recorded as "Don't know"

Survey Questions

Part A: Personal information on survey participants

A.1 Name of participant
A.2 Permanent residence (city and state)
A.3 Duties performed on Heartland Flyer, e.g. collect tickets, operate snack bar, check baggage
A.4 How long employed on Heartland Flyer
A.5 What is your work schedule
A.6 What would you do if the Heartland Flyer were discontinued

Part B: Participant observations of Heartland Flyer riders

B.1 Proportion of riders who travel regularly on the Heartland Flyer
- B.1.a 1 – 2 times monthly
- B.1.b 1 – 2 times weekly
- B.1.c more than twice weekly

B.2 Proportion of riders by trip purpose
- B.2.a work related
- B.2.b school related including traveling home for vacations
- B.2.c medical
- B.2.d shopping
- B.2.e personal business, e.g. visit family/friends, vacation

B.3 Proportion of riders who transfer to/from other trains in Ft. Worth

B.4 Proportion of riders who travel round trip

B.5 Proportion of riders with mobility impairments sufficient to keep them from driving
- B.5.a sight/vision
- B.5.b wheelchair or walker
- B.5.c feebleness
- B.5.d physical deformity
- B.5.e other

B.6 Proportion of riders traveling as families
- B.6.a with children below driving age

B.7 Which day(s) of week experience the heaviest ridership

B.8 Which season of the year (Fall, Winter, etc.) experiences the heaviest ridership

B.9 Which special events are more popular with riders

Part C: Expenditure patterns of non-Oklahoma resident Heartland Flyer crew

C.1 Where do you stay when laying over in Oklahoma

C.2 How much is your per diem

C.3 Where do you eat while in OKC

C.4 Do you ever visit Bricktown or other entertainment venues in OKC while laying over
- C.4.a How often
- C.4.b Approximately how much do you spend on each outing
- C.4.c How do you travel to the venue(s)

C.5 Do you ever shop in OKC while laying over
- C.5.a How often
- C.5.b What kinds of items do you buy
- C.5.c Approximately how much do you spend on each shopping trip
- C.5.d How do you travel

C.6 Other than shopping or entertainment, how do you spend you time while laying over in OKC

Part D: Characteristics of Oklahoma resident Heartland Flyer crew (if any)

D.1 How do you travel to work

D.2 Do you even layover in Ft. Worth
- D.2.a how often

Part E: Personal experiences/stories about riders

E.1 Ask crew to recount any stories they know about individual riders, such as
- E.1.a traveling for medical treatment
- E.1.b would not make trip were Heartland Flyer service unavailable
- E.1.c travelers choosing to use the Heartland Flyer who use to travel by another mode
  - E.1.c.i auto
  - E.1.c.ii bus

E.1.c.iii airplane

E.2 Record any other anecdotal stories the crew shares about individual riders not listed in E.1