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# **How Fast Is a Fast Train? Comparing Attitudes and Preferences for Improved Passenger Rail Service among Urban Areas in the South Central High-Speed Rail Corridor**

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## **ABSTRACT**

High-speed passenger rail is seen by many in the U.S. transportation policy and planning communities as an ideal solution for fast, safe, and resource-efficient mobility in high-demand intercity corridors between 100 and 500 miles in total endpoint-to-endpoint length. As the nation moves forward with a significant investment to improve its intercity passenger rail system, a number of planning and policy barriers still exist, making it difficult to fully realize the anticipated benefits of high-speed passenger rail. Using data from an Internet-based survey of residents in three communities in Central Texas—Waco, Temple, and Hillsboro—this research project examined the potential impacts of new intercity passenger rail service on small- or medium-sized communities located in the intermediate area between two larger urban areas that form the endpoints of a federally designated intercity high-speed rail corridor. Responses from more than 1,000 surveyed residents found that residents' attitudes toward new intercity passenger rail service are generally favorable and that trains could be used instead of automobiles for some intercity trips. The project's findings provide a foundation for later investment-grade ridership studies in the corridor and have potential applications in planning for intercity passenger rail and transportation policy development.



# **EXECUTIVE SUMMARY**

## **INTRODUCTION AND APPLICATIONS OF RESEARCH**

High-speed passenger rail is seen by many in the U.S. transportation policy and planning communities as an ideal solution for fast, safe, and resource-efficient mobility in high-demand intercity corridors between 100 and 500 miles in total endpoint-to-endpoint length. As the nation moves forward with a significant investment to improve its intercity passenger rail system, a number of planning and policy barriers still exist, making it difficult to fully realize the anticipated benefits of high-speed passenger rail. To expand the body of knowledge for high-speed intercity passenger rail planning in the U.S., the Southwest University Transportation Center initiated this research project to examine the potential impacts of new intercity passenger rail service on small- or medium-sized communities in the intermediate area between two larger urban areas that form the endpoints of a federally designated high-speed rail corridor. In these communities, where intercity transportation options may be more limited, the potential development of new intercity passenger rail lines represents an opportunity to realize benefits on a number of fronts. However, these opportunities may not be fully realized if the alignment of new rights-of-way or train stopping patterns focus on endpoint traffic and neglect the mobility needs of the intermediate communities. The objective of this research, therefore, was to develop a better understanding of the attitudes, perceptions, and expectations for improved passenger rail service among residents of communities that are located in the intermediate areas of an intercity corridor that has been designated for future high-speed passenger rail investment.

This research examined several topics that have potential application for transportation policy and intercity passenger rail planning practice in Texas and elsewhere in the U.S. For intercity passenger rail planning, this research indicated that new intercity rail service in intermediate communities would be welcomed among residents, who appear to recognize the benefits of traveling by rail instead of driving and also believe that rail service would have a positive overall impact on local communities. However, the reader is cautioned that while this study gathered information on citizens' opinions regarding rail travel, the data generated by this research were insufficient to serve as investment-grade ridership or revenue estimates for new intercity passenger rail routes. Such studies are currently planned and being pursued separately

by the Texas Department of Transportation via recognized consulting firms with experience and expertise in conducting investment-grade high-speed intercity passenger rail ridership studies in the U.S. and internationally. This research serves only as an indicator of the opinions of those in the small- and medium-sized cities that were surveyed.

For transportation policy development, the findings of this research provide guidance to policymakers and rail planners on the messages that could be delivered to residents of intermediate communities to gain momentum or to obtain resident buy-in on planned new passenger rail investments. For example, residents in the three study communities agreed that new rail service would benefit local businesses, attract jobs, and develop new visitor and tourism markets; such messages should be used to generate support for new rail investments. Ultimately, the detailed ridership and revenue studies, in conjunction with operational planning for overall system speed, will drive the locations where a rail corridor or specific station stop is warranted.

## **SURVEY ANALYSIS AND FINDINGS**

Three communities (all located in Texas) that offered an ideal setting for this research project were identified and selected for detailed study: Waco, Temple, and Hillsboro. These three communities are located in Central Texas in the intermediate area between Dallas/Fort Worth and Austin along the federally designated South Central High-Speed Rail Corridor (SCHSRC). An Internet-based survey questionnaire containing 19 questions was administered to residents of the three selected communities over a three-month period in 2011. Residents were recruited to participate in the survey by way of direct e-mail recruitment, newspaper advertising, and direct recruitment at activity centers in each community. In total, 1,160 survey responses were obtained from residents of the three study communities.

Analysis of the resident surveys revealed valuable information about the travel behavior and preferences of residents of the three study communities. Analysis of current intercity travel by automobile to five major urban areas in Texas indicated that residents in the three study communities made, on average, between 12 and 16 intercity automobile trips out of town to the major urban areas of Texas within the six months leading up to the survey. A majority of these out-of-town trips were taken to urban areas along the congested I-35 corridor. Therefore, while not all out-of-town automobile trips made by residents in the three study communities would be



diverted to passenger rail if service was established, it appears that there is at least some market for rail travel between the study communities and major urban areas along the SCHSRC route.

Experience with existing intercity passenger rail systems among residents of the three study communities was generally limited. Temple residents, who have the benefit of direct service via Amtrak's existing Texas Eagle route, reported more knowledge of passenger rail as an intercity option in Texas than residents of Waco and Hillsboro. Among those responding to the survey that had rail experience, the reported knowledge of and experience with high-speed intercity passenger rail services while traveling overseas in Europe or Asia was greater than reported experience with existing high-speed intercity passenger rail services in the northeastern U.S. This is an interesting finding but not surprising in that any respondent who has traveled abroad to major cities in Europe or Asia has likely traveled on one of the many high-speed intercity passenger rail lines found there, but limited availability of rail options, especially high-speed rail options, in the U.S. seemed to make its use less likely, even for those traveling in the northeastern U.S.

The evaluation of potential use of new intercity rail service among residents of the three study communities identified by this research project encompassed two distinct issues. First, there generally appeared to be agreement among residents of the three study communities that new intercity passenger rail service would generate new or more frequent intercity trips. Second, there was a stronger level of agreement among residents of the study communities that, if new intercity passenger rail service were to be established in the community, one-time or "novelty" trips to try out the rail service would be undertaken. This willingness to try out rail travel should be capitalized upon by any rail operations by providing high-quality service that would result in repeated use of the rail mode rather than a bad experience that would limit future use.

Opinions about travel by rail and the potential impacts of rail service on the community among residents of the three study communities were also revealed. Across the three study communities, residents agreed that traveling by rail would be more environmentally friendly than driving. To a lesser degree, residents agreed that rail travel would be safer, more efficient, and more enjoyable than driving. However, residents did not agree that rail travel would be more reliable than driving. Residents tended to agree that new intercity rail service would improve the competitiveness of existing businesses while also attracting new jobs, tourists, and other visitors

to the community. Conversely, there was disagreement among residents on the impacts of new service on residents' personal life, employment, or business. Discussion of these results is included in the remainder of this report.

# TABLE OF CONTENTS

	<b>Page</b>
<b>List of Figures</b> -----	<b>xii</b>
<b>List of Tables</b> -----	<b>xii</b>
<b>Disclaimer</b> -----	<b>xiii</b>
<b>Acknowledgments</b> -----	<b>xiii</b>
<b>Chapter 1: Introduction</b> -----	<b>1</b>
Research Overview -----	1
Project Tasks -----	2
Report Organization -----	3
<b>Chapter 2: Literature Review</b> -----	<b>5</b>
Intercity Passenger Rail Impacts on Intermediate Communities -----	5
High-Speed Rail Development in the U.S. -----	8
<b>Chapter 3: Study Communities</b> -----	<b>11</b>
Description of Study Communities -----	11
Intercity Passenger Rail in Study Communities -----	13
<b>Chapter 4: Data Collection</b> -----	<b>17</b>
Survey Questionnaire -----	17
Survey Administration -----	19
Preliminary Analysis -----	21
<b>Chapter 5: Data Analysis</b> -----	<b>27</b>
Current Intercity Travel Behavior -----	27
Potential Use of New Intercity Passenger Rail Service -----	34
Resident Opinions of New Intercity Passenger Rail Service -----	35
<b>Chapter 6: Conclusions</b> -----	<b>39</b>
Summary of Findings -----	39
Potential Applications -----	40
Future Research -----	41
<b>References</b> -----	<b>43</b>
<b>Appendix A: Survey Questionnaire</b> -----	<b>47</b>
<b>Appendix B: IRB Documentation</b> -----	<b>55</b>
<b>Appendix C: Survey Recruitment Materials</b> -----	<b>57</b>
<b>Appendix D: Survey Sample Weights</b> -----	<b>59</b>
<b>Appendix E: Verbatim Survey Comments</b> -----	<b>61</b>

## LIST OF FIGURES

	<b>Page</b>
Figure 2-1: Federally Designated High-Speed Rail Corridors-----	9
Figure 3-1: Location of Study Communities in Central Texas -----	12
Figure 3-2: South Central High-Speed Rail Corridor-----	14

## LIST OF TABLES

	<b>Page</b>
Table 4-1: Demographic Characteristics of Survey Respondents Sample-----	22
Table 4-2: Comparison of Survey Sample and Population: Age Group and Income -----	23
Table 4-3: Pearson’s Chi-Square Test Results for Sample Representativeness-----	24
Table 5-1: Current Intercity Automobile Travel Frequency: Waco Residents-----	28
Table 5-2: Current Intercity Automobile Travel Frequency: Temple Residents-----	29
Table 5-3: Current Intercity Automobile Travel Frequency: Hillsboro Residents -----	30
Table 5-4: Average Number of Intercity Automobile Trips by Study Community -----	31
Table 5-5: Resident Experience with Urban Rail Transportation Systems -----	32
Table 5-6: Resident Experience with Intercity Rail Transportation Systems -----	33
Table 5-7: Potential Use of Rail Services by Study Community-----	35
Table 5-8: Resident Opinions of Travel by Intercity Passenger Rail by Study Community ----	36
Table 5-9: Resident Opinions of Community Impacts of Rail Service by Study Community---	37
Table D-1: Survey Sample Weights: Waco -----	59
Table D-2: Survey Sample Weights: Temple -----	59
Table D-3: Survey Sample Weights: Hillsboro-----	59
Table E-1: Verbatim Survey Comments: Waco -----	61
Table E-2: Verbatim Survey Comments: Temple -----	68
Table E-3: Verbatim Survey Comments: Hillsboro-----	75

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## CHAPTER 1: INTRODUCTION

High-speed passenger rail is seen by many in the U.S. transportation policy and planning communities as an ideal solution for fast, safe, and resource-efficient mobility in high-demand intercity corridors between 100 and 500 miles in total endpoint-to-endpoint length (1-3). While this means of intercity travel has been implemented widely and with much success in Europe and Asia for several decades (4), development of a world-class high-speed passenger rail system in the U.S. has not been realized. In the U.S., passenger rail services in the Northeast Corridor (Washington, D.C.–New York–Boston) can reach up to 150 miles per hour in a few places along the route, but average speeds are generally much lower, resulting in an average speed of just over 80 miles per hour (5). Outside of the Northeast, although efforts have been ongoing for several decades (6,7), high-speed passenger rail development has been unsuccessful, largely due to the operation of the passenger system over infrastructure shared with the freight rail carriers. Proposals across the U.S. totaling 64 unique intercity corridors and more than 15,000 route miles have been identified as potential high-speed rail corridors, including recent major initiatives in California, Florida, the Midwest, and the Southeast (5); however, to date, no high-speed trains have been established outside the Northeast Corridor.

As the nation moves forward with a significant investment in its outdated intercity passenger rail system, a number of planning and policy barriers still exist, making it difficult to fully realize the anticipated benefits of high-speed passenger rail (1,8,9). While some progress has been made in the form of several new federal initiatives to jumpstart intercity and high-speed rail projects across the country (1), there is still much to be determined about the intercity corridors that have been targeted for high-speed rail investment. Critical questions such as who will be using the proposed services, how the services might be used, and what amenities will maximize ridership on new rail lines remain to be answered. Furthermore, questions regarding acceptable service speeds and number of stops that can be made while still meeting performance goals are primary among the issues that still must be addressed.

### RESEARCH OVERVIEW

To expand the body of knowledge for high-speed intercity passenger rail planning in the U.S., the Southwest University Transportation Center (SWUTC) initiated this research project to

examine the impacts of new intercity passenger rail service on small- or medium-sized communities in the intermediate area between two larger urban areas that form the endpoints of a major intercity corridor. In these communities, where intercity transportation options may be more limited, the potential development of new intercity passenger rail lines represents a significant opportunity to realize benefits on a number of fronts. For example, the improved intercity travel times resulting from new rail services have been shown to reduce the “functional distance” between these communities and the major endpoint cities, thus increasing their attractiveness for both residents and visitors (10-14). At the same time, these growth opportunities may not be fully realized if the alignment of new rights-of-way or train stopping patterns focus on endpoint-to-endpoint traffic and fail to address the mobility needs of the intermediate communities (15). In this classic transportation issue (balancing mobility needs with transportation system access), there is a need to identify and understand the mobility implications and opportunities that could result from the development of high-speed passenger rail service in and/or through these intermediate communities. The objective of this research, therefore, was to develop a better understanding of the attitudes, perceptions, and expectations for improved passenger rail service among residents of communities that are located in the intermediate areas of an intercity corridor that has been designated for future high-speed passenger rail investment.

## **PROJECT TASKS**

To accomplish the research objectives, seven tasks were undertaken. A brief description and summary of the project tasks are as follows:

- **Task 1—Literature Review:** The focus of the literature review included identifying existing research on the impacts of passenger rail service to communities in the intermediate areas of major intercity corridors and an overview of the current federally designated high-speed rail corridors in the U.S.
- **Task 2—Research Design:** This task included the selection of three communities in the intermediate area between major communities along the federally designated South Central High-Speed Rail Corridor (SCHSRC) for detailed study as well as the development of an approach to conducting a survey of residents of the selected communities.



- **Task 3—Design of Survey Instrument:** An Internet-based survey of residents of the selected communities was designed. Questions on the survey gathered information about current intercity travel patterns among residents as well as an assessment of the potential use and impacts of new passenger rail service in the community.
- **Task 4—Data Collection:** The Internet-based resident survey in the selected communities was implemented over a three-month period. Researchers used a variety of approaches to promote the study and to recruit residents to participate in the survey.
- **Task 5—Field Reconnaissance:** With an Internet-based survey, potential biases could exist due to differences between members of the population with readily accessible Internet services and the community as a whole. Therefore, some field reconnaissance and special outreach efforts were necessary to reach residents without ready access to the Internet survey.
- **Task 6—Data Analysis:** This task consisted of a full analysis of the resident survey data obtained from the data collection efforts in Task 4 and 5. The analysis focused on current intercity travel patterns and opinions of the use and impacts of new intercity passenger rail service among residents of the study communities.
- **Task 7—Final Report:** This task consisted of the development of this final report covering the findings and conclusions that can be drawn from the survey responses.

## **REPORT ORGANIZATION**

This report describes the study activities, findings, and recommendations. The remainder of this report is organized into five chapters, as follows. Chapter 2 reports the findings of the Task 1 literature review. The literature review includes a discussion of the impacts of passenger rail service to communities in the intermediate areas of major intercity corridors and an overview of the current federally designated high-speed rail corridors in the U.S. Chapter 3 describes the three urban areas that were selected for more detailed examination in this study. These three communities (Waco, Temple, and Hillsboro, Texas) are located in the intermediate area between Dallas/Fort Worth and Austin along the federally designated South Central High-Speed Rail Corridor. Chapter 4 provides the details of the development and implementation of an Internet-based survey questionnaire targeted to residents of the three study communities. Chapter 5

reports the detailed analysis of the survey responses, including information on current intercity travel by automobile and experience with rail travel, potential preferences regarding use of new intercity passenger rail service, and resident opinions of rail travel and the impacts of rail development on the community. The final chapter, Chapter 6, summarizes the project findings, discusses potential applications for rail planning and policy development, and provides suggestions for future research.

## **CHAPTER 2: LITERATURE REVIEW**

This chapter reports the findings of the literature review task of the study. A brief overview of intercity passenger rail service in the United States is provided for the purpose of background information. The chapter also gives additional details on state-supported intercity passenger rail corridors (the primary focus of this report), including a summary of past research studies of state-supported routes across the country. An overview of the planning environment for passenger rail along with a discussion of the methods used by planners to forecast passenger demand for new conventional and high-speed passenger rail lines is also provided. The chapter concludes with a review of relevant literature on the design of surveys for passenger rail and other transit properties, including an analysis of the design of survey instruments used in past research studies of state-supported intercity passenger rail routes.

### **INTERCITY PASSENGER RAIL IMPACTS ON INTERMEDIATE COMMUNITIES**

The need for adequate transportation facilities as a determinant of a community's overall health has long been recognized by transportation planners (16). For decades, intercity travel in the U.S. was operated as a private, for-profit enterprise with extensive federal regulations on carrier entry/exit into travel markets as well as fare levels that could be charged for particular trips. These regulations were designed such that money-making intercity routes subsidized operations on unprofitable routes, but the carriers as a whole remained profitable. This allowed for small- or medium-size communities of all types to be served by at least some form of intercity transportation besides the automobile. However, with the nationalization of the country's passenger rail service in 1970 with the creation of the National Railroad Passenger Corporation (Amtrak) and subsequent deregulation of the airline (1978) and intercity bus (1982) industries, intercity carriers were allowed to exit unprofitable markets, leaving many smaller communities without alternatives to the automobile for intercity travel (17). Since the mid-1980s, federal programs have provided funding for some new and continuing intercity services in smaller communities (17,18). Furthermore, the importance of current Amtrak intercity passenger rail service to the communities it serves cannot be understated (19).

Evidence exists in the literature that the methods used to plan for new high-speed intercity passenger rail services may have significant negative impacts on small- or medium-

sized intermediate communities. At the highest level of planning for new passenger rail infrastructure, the needs of intermediate communities may be neglected entirely. Policymakers considering alternatives for the acquisition of the necessary rights-of-way for new high-speed rail lines, for example, could opt for an alternative that results in new lines completely bypassing or passing through without stopping at intermediate communities in the name of endpoint-to-endpoint mobility. As Harrison and Gimpel (15) stated about the treatment of potential demand from intermediate communities:

The fundamental issues that determine [high-speed ground transportation, or HSGT] routes are where people are and where they want to go. These endpoints define the whole exercise of transportation planning and development.

Intermediary points of varying importance and influence will vie for alternative routes or stations, but an HSGT route cannot compromise its opportunities for commercial success by ignoring the big market magnets such as downtowns or airports which invariably tend to define its endpoints. . . .

Perhaps the most important factor [for station location and spacing] is the travel demand for endpoint markets, and traveler's willingness to compromise their travel time objectives (between the major markets) to accommodate the intermediate transportation needs of short-term travelers. (pp. 35-36)

The sentiment expressed in the comments of Harrison and Gimpel (15) reflects a post-deregulation attitude of the mandate for intercity services to generate profits (i.e., commercial success) rather than provide a social good as travel options for intermediate communities. González-Savignat (20) reflected on the potential issue of serving intermediate communities by noting that the existence of intermediate stops is a “very important and controversial planning service decision” and that “most intermediate communities demand an [high-speed train, or HST] stop” along the Madrid-Barcelona route. In this scenario, infrastructure planners are trading-off between endpoint-to-endpoint travel time, travel demand for both endpoint and intermediate cities, and the cost of right-of-way purchases for new “greenfield” corridors or instead choosing to develop HST within existing railroad corridors.

One of the byproducts of the emphasis on endpoint-to-endpoint travel as a major contributor of demand for new high-speed passenger rail services is evidenced in the growing

body of literature focused specifically on the diversion of current commercial air carrier passengers to proposed rail services (21-25). Given that the characteristics of high-speed passenger rail and short-haul air carrier service are similar in terms of both travel attributes and passenger markets served, it is not surprising that air travel commands such a large attention in the literature. Formal demand models for intercity travel developed by Bhat (26) and Hensher (27) found that endpoint-to-endpoint travel (as a dummy variable) was significant in the intercity mode choice model.

Where new high-speed intercity passenger rail lines have been routed to conveniently serve intermediate communities between major endpoint cities, a number of impacts to the intermediate communities have been identified in the literature. Most notably, the linkage of intermediate communities along a major intercity corridor via a high-speed passenger rail line transforms the corridor into an integrated functional region (13). Economically, Blum et al. (10) identifies the integration of markets for goods and services, labor, and the markets for shopping, private services, and leisure activities as short-term functional changes that can be realized. In the medium-term, the “functional distance” between intermediate and major cities decreases with the provision of high-speed rail service, resulting in the potential relocation of households and firms within the corridor (10). High-speed trains have also been demonstrated to support faster economic growth and a better transition to a knowledge-based economy (12). New rail services also raise the “image” of intermediate cities, resulting in new opportunities for tourism and convention marketing, as well as the redevelopment of city centers around rail stations (14). It has been observed from case studies in Sweden (28) and Spain (29) that the relocation of households to intermediate cities, coupled with improved travel times between these cities and major labor markets in the endpoint cities, has resulted in a large population of travelers utilizing regional high-speed lines for daily commuting purposes. These findings suggest that shifting urban dynamics is an important long-term spatial implication of high-speed intercity passenger rail for intermediate communities.

Ultimately, decisions about the routing of new high-speed rail lines through or around intermediate cities will be made by the operator of the new service, in conjunction with policy makers, transportation planners, ridership and revenue study findings, and political pressure from local stakeholders. To inform these decisions, ridership models will likely develop demand estimates for a range of scenarios that incorporate different routing and scheduling options for

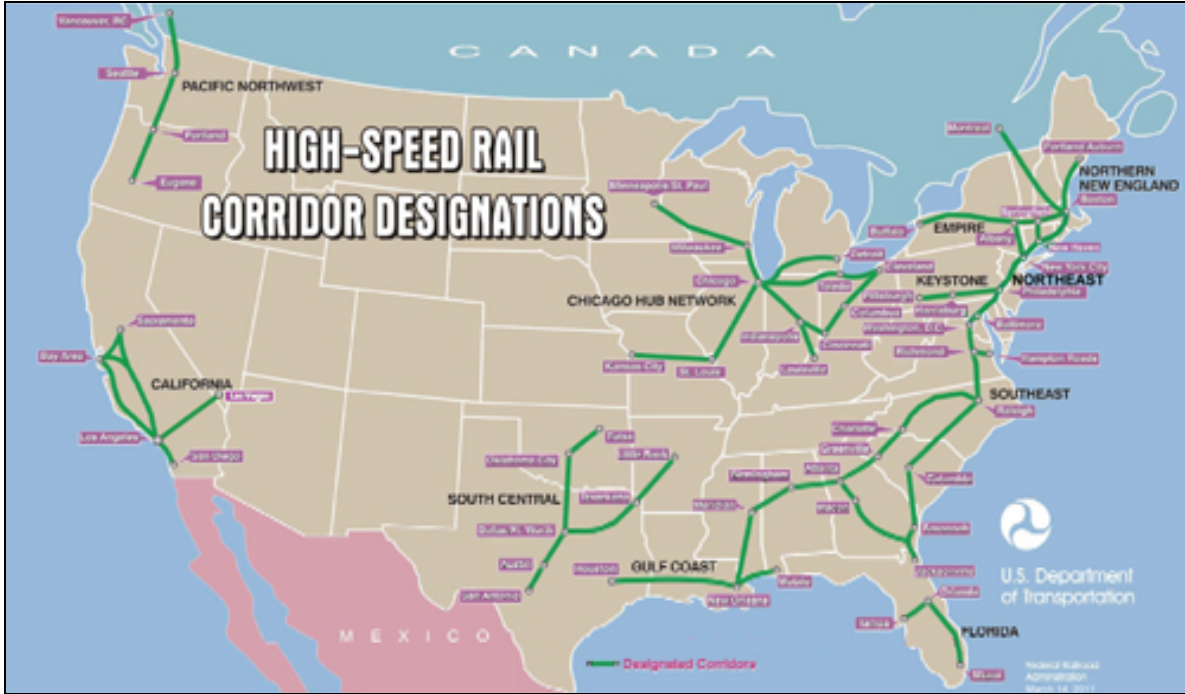
intermediate communities, including alternatives where these communities are not served at all. However, there is evidence from the literature that demand models for intermediate communities may be different in their specification or parameters than the models for endpoint-to-endpoint travel segments. For example, the work of González-Savignat (20) found that short-distance travelers from intermediate communities derived a slightly higher value of travel time than long-distance travelers covering the entire route (Madrid-Barcelona). It was reasoned that the value of travel time was higher for short-distance travelers because a fixed travel time reduction forms a larger savings in terms of the proportion of total journey travel time for shorter trips as compared to longer trips. While this is arguably limited evidence, the findings of González-Savignat (20) do suggest that ridership estimates for travel to or from intermediate cities may need to be treated separately than endpoint-to-endpoint traffic estimates.

## **HIGH-SPEED RAIL DEVELOPMENT IN THE U.S.**

Planning for high-speed intercity passenger rail in the U.S. has been ongoing in various forms since the passage of the *High Speed Ground Transportation Act* in 1965 (5). In 1991, Section 1010 of the *Intermodal Surface Transportation Efficiency Act* (ISTEA) established the federal high-speed rail corridor program (1). The original objective of the program was to provide funding for highway-rail grade crossings along major intercity corridors that are designated for passenger rail service based on present or future suitability for new service. In the 20 years since the establishment of the high-speed rail corridor designation program, 11 intercity corridors have been designated, as shown in Figure 2-1 (30).

While the original intent of the federal high-speed rail corridor program was to provide funding for grade crossing improvements in the designated corridors, recent policy initiatives have thrust the designated corridors back into the national spotlight. In April 2009, the Federal Railroad Administration (FRA) released its *Vision for High-Speed Rail in America*, which outlined the use of \$8 billion in funding from the *American Recovery and Reinvestment Act of 2009* (ARRA, which was signed into law February 2009) to stimulate job growth by investing in the nation's passenger rail infrastructure. The funding provided in ARRA was appropriated to funding programs that were established in the *Passenger Rail Investment and Improvement Act of 2008* (PRIIA), which authorized funds to be spent only in designated corridors (31). In January 2010, initial distribution of the \$8 billion of ARRA funding for intercity passenger rail

investment was announced, with 31 states receiving funds (32). As of September 2011, more than \$7.3 billion from the initial ARRA appropriation had been awarded to 90 unique intercity passenger rail infrastructure, equipment, and planning projects across the U.S. (33).



**Figure 2-1: Federally Designated High-Speed Rail Corridors (30)**



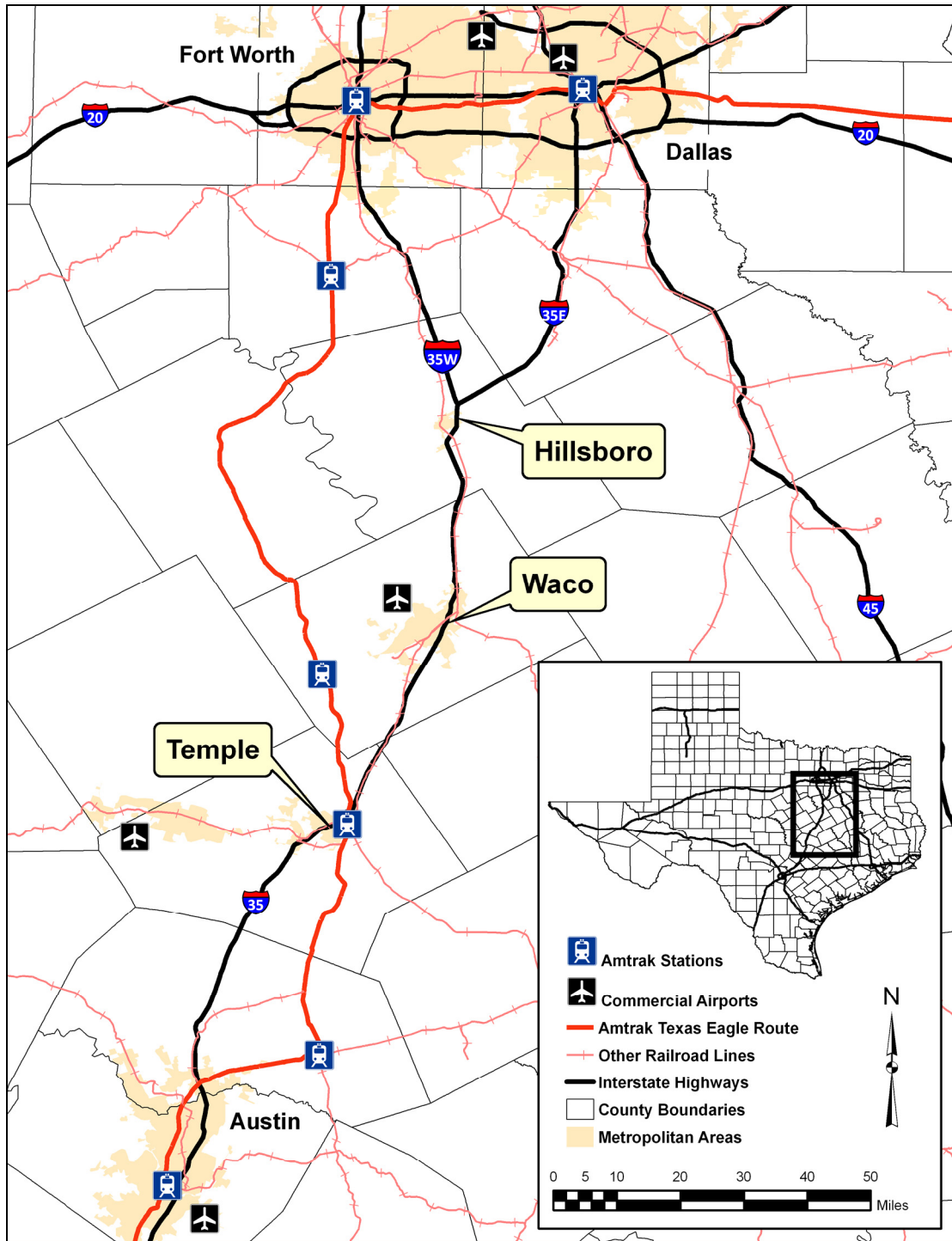


## **CHAPTER 3: STUDY COMMUNITIES**

The geographic focus of this research project was small- or medium-sized urban areas located in the intermediate region between major large urban areas of an intercity corridor that has been designated for future high-speed passenger rail service. The setting for this research project, therefore, was one or more urban areas located in such an area of the federally designated SCHSRC. Ideally, the communities would also be located on the same spoke of the corridor, reducing any variation that could be introduced as a result of having communities on different regional routes or spokes. Three communities that offered an ideal setting for this research project were identified and selected for detailed study: Waco, Temple, and Hillsboro. These three communities are located in the Central Texas region between Dallas/Fort Worth and Austin, along the southern spoke of the SCHSRC. This chapter describes the three study communities examined in this research project. A brief overview of intercity passenger rail development in the three study communities is also provided to establish the context for resident expectations and opinions of improved passenger rail service in the region.

### **DESCRIPTION OF STUDY COMMUNITIES**

Figure 3-1 shows the location of the study communities in Central Texas along I-35 between Dallas/Fort Worth and Austin. Waco is the largest city and the county seat of McLennan County. The city is home to Baylor University, a private four-year institution with an enrollment exceeding 14,000 students and more than 2,000 employees (34). As of the 2010 U.S. Census, the population of Waco was 124,805 residents (35). Temple is the largest city in Bell County and is a major regional center for the healthcare and manufacturing industries. Major employers in Temple include the Scott & White Health System (8,000 employees), Central Texas Veterans Health Care System (2,269), and McLane Distribution Company (2,255) (36). As of the 2010 U.S. Census, the population of Temple was 66,102 residents (35). Hillsboro is the largest city and the county seat of Hill County and is located just south of the point where I-35 divides into two auxiliary routes (I-35E and I-35W). As of the 2010 U.S. Census, the population of Hillsboro was 8,456 residents (35).



**Figure 3-1: Location of Study Communities in Central Texas**

The heavily traveled I-35 highway corridor passes through each of the three study communities on its path between Dallas/Fort Worth, Austin, San Antonio, and points beyond. In addition to automobile travel, intercity transportation alternatives in the study communities

currently include intercity bus, conventional Amtrak intercity passenger rail service, and regional connecting airline service. Intercity bus service by Greyhound Lines and others serves all three communities with a variety of stopping patterns along a basic route along I-35. Amtrak's *Texas Eagle* long-distance train makes daily stops in both directions in Temple, McGregor (20 miles southwest of Waco), and Cleburne (30 miles northwest of Hillsboro). Regional airline service is available in Waco (Waco Regional Airport/ACT) and Temple (via nearby Killeen-Fort Hood Regional Airport/GRK), connecting these communities to airline hubs at Dallas/Fort Worth (Dallas-Fort Worth International/DFW) and Houston (Houston George Bush Intercontinental Airport/IAH).

### **INTERCITY PASSENGER RAIL IN STUDY COMMUNITIES**

Although the region is served by the once-daily Amtrak *Texas Eagle* passenger rail route, the large population and economic significance of the subject intercity corridor within the region often called the Texas Triangle (formed by linking Dallas-Fort Worth, San Antonio, and Houston) has resulted in a number of proposed high-speed or higher-speed intercity passenger rail initiatives for the region. In 1990, the Texas Legislature established the Texas High-Speed Rail Authority (THSRA), which solicited franchise applications from two consortiums (named the Texas FasTrac and the Texas TGV) to establish high-speed passenger rail service through the region. While a franchise was awarded to the Texas TGV consortium, the project was ultimately cancelled in 1994. A more detailed account of the THSRA and its short history can be found in previous Texas Transportation Institute (TTI) reports (37). While many of the details of the failed venture are not important for the proposed research, it is worth noting that the initiative was primarily conceived to improve intercity mobility between the three corners of the Texas Triangle (Dallas/Fort Worth, San Antonio, and Houston) with the state capital of Austin. The original proposal for the Texas TGV franchise did not include any intermediate stops between the aforementioned urban areas (38). However, the other potential franchise, the Texas FasTrac, did include stops in Waco and Bryan/College Station in its proposal (39), and the successful Texas TGV franchise later included these two communities in its "Corporation Preferred" alternative (40).

After the cancellation of the Texas TGV and the abolishment of the THSRA, momentum for the creation of improved passenger rail service along the I-35 corridor continued, resulting in

the designation of the SCHSRC in 2000. The SCHSRC was designated by the United States Department of Transportation (USDOT) pursuant to Section 1103(c) of the *Transportation Equity Act for the 21<sup>st</sup> Century* (TEA-21), and directed the corridor to link Dallas/Fort Worth with Austin and San Antonio, Texas (30,41). The SCHSRC also includes spokes from Dallas/Fort Worth north to Oklahoma City and Tulsa in Oklahoma, and east to Texarkana and Little Rock, Arkansas (see Figure 3-2).



**Figure 3-2: South Central High-Speed Rail Corridor (41)**

Since 2000, more than \$2.558 million has been allocated for grade crossing improvements along the SCHSRC in three states—Arkansas, Oklahoma, and Texas (41). In spite of these investments, however, passenger rail service along the corridor has not changed substantially in the last decade. Also, the official designation of the SCHSRC does not specifically mention any intermediate communities between Dallas/Fort Worth, Austin, and San Antonio in its language, and the exact routing of new high-speed intercity passenger rail

services between these communities remains unknown, left to the direction of future environmental or ridership studies. As a result, while the statutory corridor definition does not necessarily limit the feasibility of new intercity passenger rail services being routed to conveniently serve intermediate communities, any plans to serve intermediate communities would go beyond the statutory definition for the corridor. This may be challenging, particularly if serving intermediate communities were feasible only with significantly higher investment.

Recent interest in intercity passenger rail service (1,3) and funding at the federal level has revived interest in developing new high-speed passenger rail services along the I-35 corridor. In October 2010, the Texas Department of Transportation (TxDOT) was awarded an FRA grant of \$5.6 million to develop feasibility studies, a service development plan, and environmental documentation for new rail service along the I-35 corridor from Oklahoma City to the Mexican border in Laredo (42,43). In its regular meeting on December 16, 2010, the Texas Transportation Commission (44) authorized the use of the FRA grant for those purposes. USDOT Secretary Ray LaHood formally announced the grant award on November 18, 2011 (45). An additional grant in the amount of \$15 million for preliminary engineering and environmental documentation for new core express high-speed passenger rail service between Dallas/Fort Worth and Houston has also been awarded and obligated, even though this route is not part of the SCHSRC (33).

One alternative plan that has been proposed for high-speed rail service in the Texas Triangle that includes provisions for service to intermediate communities is the Texas T-Bone plan put forth by a local government corporation called the South Central High-Speed Rail and Transportation Authority, Inc. (SCHSRTA) and a group of local government officials and affiliated city, county, educational, and private entities known as the Texas High Speed Rail and Transportation Corporation (THSRTC). The Texas T-Bone corridor would connect the major communities along I-35 with new service and connect Houston to this corridor with a link in Temple via Bryan/College Station. At the time of this report, however, the official status of the Texas T-Bone project and the plans of the SCHSRTA to implement its vision remain unknown. Future TxDOT studies may or may not support elements of this proposed configuration to connect the major urban areas of the state.



## **CHAPTER 4: DATA COLLECTION**

The main objective of this study was to better understand the opinions and attitudes toward new or improved intercity passenger rail service in communities along the federally designated South Central High-Speed Rail Corridor in Texas. As stated in the previous chapter, three communities located along this corridor between Dallas/Fort Worth and Austin—Waco, Temple, and Hillsboro—were selected for more detailed study. This chapter describes the data collection activities related to this project that took place in the three study communities. First, the design of the Internet-based survey questionnaire is discussed. Second, the details of the administration of the survey questionnaire, including strategies to recruit residents from the study communities to complete the survey, are outlined. The chapter concludes with a preliminary analysis of the survey sample and examines the representativeness of the sample relative to the overall population of the study communities.

### **SURVEY QUESTIONNAIRE**

#### **Questionnaire Design**

The purpose of the survey questionnaire used in this study was to examine the opinions and attitudes toward new or improved intercity passenger rail service among residents of the three study communities: Waco, Temple, and Hillsboro, Texas. The resident survey, titled the Central Texas Passenger Rail Survey, was conducted using a website on the Internet, as described in the next section. The first page of the survey contained a short message to the participant explaining the purpose of the survey, a notice about the rights of the research participant, and contact information for the research team. Next, the respondent provided information about his or her home community. The respondent was then asked about his or her recent intercity travel history between his or her home community and five large urban areas in Texas: Austin, Dallas, Fort Worth, Houston, and San Antonio. Respondents were asked to indicate the frequency of automobile trips to these urban areas during the last six months, separated by trips for business purposes and trips for personal or non-business purposes. Researchers included these questions to better understand the market for intercity automobile travel among residents of the study communities.

Next, the respondent was presented with a description of a proposed intercity passenger rail service in his or her community and a hypothetical scenario consisting of a personal or non-business-related trip between his or her home community and central Dallas. Given this scenario, the respondent was presented with six “stated preference” questions asking him or her to select between automobile or intercity train for this hypothetical trip. Theoretical travel costs and travel times for automobile and train trips, as well as the frequency of service for the train, were incorporated into these questions to add realism to the questions. In this application, the stated preference approach to such questions is preferred because the respondent is asked to tradeoff between the attributes of the automobile and the train, rather than being asked to choose between the automobile and the train with no tradeoffs in price or travel time.

Next, the respondent was asked about his or her experience with various rail transportation modes ranging from urban rail transit service in Texas to intercity passenger rail in the U.S. and high-speed intercity passenger rail in Europe or Asia. Respondents were asked to rate their experience with each rail mode on a four-point scale. The respondent was then asked about his or her potential use of new intercity passenger rail service in his or her community as well as his or her opinion on certain aspects of travel via intercity passenger rail relative to automobile travel. A seven-point agreement scale ranging from *strongly disagree* to *strongly agree* was utilized on these questions. The respondent was then asked his or her opinion on the potential impacts of new intercity passenger rail service in his or her home community on various aspects of the quality of life, business and employment, and tourism. This question used the same seven-point agreement scale as the prior question set. The survey concluded with a section containing questions about the respondent’s demographic characteristics and also provided a space for the respondent to provide comments about the survey or the potential for intercity passenger rail development in his or her community. A copy of the survey questionnaire can be found in Appendix A of this report.

### **Institutional Review Board Approval**

Since this research study involved interaction with human subjects, researchers were required to receive approval from the Texas A&M University Office of Research Compliance’s Institutional Review Board (IRB) before undertaking any data collection. Researchers submitted an initial application to the IRB on March 16, 2011. The IRB protocol (#2011-0194) was ruled



“exempt from IRB review” and approved on March 29, 2011. Further revisions to the survey questionnaire were necessary to reduce the number of questions and enhance the layout, readability, and overall comprehension of the survey questions. Consequently, researchers submitted an amendment to the IRB on April 19, 2011, containing a revised version of the survey questionnaire. The IRB approved the amendment request on May 3, 2011. Appendix B of this report contains documentation of IRB approval for the initial protocol and amendment.

## **SURVEY ADMINISTRATION**

The survey questionnaire was administered to a sample of residents in the three study communities via the Internet. A website domain name with a locally identifiable sub-domain (<http://www.railsurvey.org/centex>) was purchased by TTI Multimodal Programs to host the survey questionnaire. The open-source Internet survey software application LimeSurvey was installed on the domain and used to publish the survey questions onto the website (46). In total, the survey questionnaire contained 19 survey questions across 11 unique website pages. Researchers used the following four approaches to recruit residents of the study communities to complete the survey questionnaire:

- An invitation to participate in the survey was distributed across the e-mail distribution lists of organizations in the study communities.
- News articles were published in local newspapers or contained within weekly e-mail newsletters of community groups in the study communities.
- Newspaper advertisements appeared in local newspapers in the study communities.
- On-site recruitment of potential subjects was conducted at selected locations in the study communities.

Researchers contacted major employers and organizations in the three study communities to request permission to distribute an approved recruitment message across their e-mail distribution lists. The recruitment e-mail message contained a short description of the study and a link to the survey website. Recruitment e-mail messages were sent to municipal employees as well as employees of the local independent school districts in each of the three study communities. Other e-mail distribution lists that received the recruitment e-mail message included various local resident organizations and business groups. News articles promoting the study were included in the weekly e-mail newsletters published by the Waco and Temple

Chambers of Commerce, and news articles about the study appeared in the *Temple Daily Telegram* newspaper on June 9 and July 7, 2011. Print advertisements recruiting residents to participate in the study were purchased in local newspapers in each of the three communities. Recruitment advertisements were published in the *Waco Tribune* and the *Temple Daily Telegram* on July 9-11 and 13-14, 2011, and in the *Hillsboro Reporter* on July 11 and 14, 2011.

To supplement these outreach efforts, researchers traveled to each of the three study communities to directly recruit subjects to participate in the study and to provide community residents who might not have access to a computer with Internet capabilities the opportunity to participate in the study. On June 30, 2011, researchers distributed postcards containing the survey website to employees of the Outlets at Hillsboro, a major employer in Hillsboro. Additionally, a stack of postcards was left in the reception area of a local social services office and also at the Hillsboro Public Library. On August 2, 2011, researchers visited Waco and Temple to outreach to residents of those communities. Researchers provided laptop computers in a study room area at the Temple Public Library during the mid-day period and recruited library patrons to participate in the survey if they desired. That evening, researchers attended a National Night Out neighborhood event in Waco and recruited event attendees to participate in the survey via researcher laptops set up in an adjacent community center. All recruitment materials used in this study were approved by the Texas A&M University IRB and can be found in Appendix C of this report.

The Internet survey questionnaire was open and accessible to receive responses on May 4, 2011, through August 2, 2011—a total of 91 days of survey data collection. During this time period, a total of 1,270 residents of the three study communities visited the website to take the survey, from which 1,160 (91.3 percent) valid and completed surveys were obtained. Given the length and number of questions on the survey, a break-off or incompleteness rate of less than 10 percent was acceptable. Due to the recruitment methods used, an estimate of the response rate could not be estimated. Among the 1,160 completed surveys, the average completion time was 11 minutes, 52 seconds, with a median completion time of 8 minutes, 39 seconds.

To improve the overall participation in the survey, three Visa gift cards valued at \$250 each were offered to three randomly selected study participants once the survey period was complete. Upon completion of the survey questionnaire, participants were provided with a link

to a separate Internet survey for the entry into the gift card drawing. Entry into this drawing was optional, and the information collected included the respondent's name and telephone number. Collecting the information for the gift card drawing as a separate survey allowed the respondents' identities to remain separate from their responses to the survey questionnaire. A total of 1,020 participants in the study entered the drawing for the gift card. While no formal analyses were conducted on the effectiveness of the gift card drawing in recruiting residents from the three study communities to the survey questionnaire, more than 88 percent of participants that completed the survey also entered the gift card drawing. This high number suggests that the opportunity to win one of the gift cards was well received among the participants. On August 3, 2011, study researchers randomly selected three names from the list of entries into the gift card drawing and mailed the \$250 Visa gift card to each of the three selected individuals.

## **PRELIMINARY ANALYSIS**

This section provides a preliminary analysis of the data that were obtained from the Internet survey of residents of the three study communities. The distribution of the 1,160 completed surveys across the three study communities was as follows: Waco, 591 surveys (51.0 percent); Temple, 483 surveys (41.6 percent); and Hillsboro, 86 surveys (7.4 percent).

### **Sample Characteristics**

Table 4-1 reports the demographic characteristics of the survey sample for each of the three study communities. Characteristics reported in Table 4-1 include gender, age group, average number of household vehicles, average number of adults and children living in the household, highest level of education completed, and annual household income for the survey respondents. Between 60 and 66 percent of the survey respondents in each of the study cities were female. Most respondents in the sample reported an age within the two age groups between 45 and 64 years. Surprisingly, the number of vehicles owned or leased by the respondents' households was consistent across the three communities at approximately 2.25 vehicles per household. The number of adults in the respondents' households was also consistent across the three study communities at approximately two adults per household. The average number of children under age 18 in the respondents' households ranged from 0.58 per household in Waco to 0.82 per household in Hillsboro. In general, community residents in the survey sample were well

educated. A majority of respondents in Waco and Temple reported having at least a bachelor’s degree, while some college or an associate’s degree was the most frequently reported educational attainment among Hillsboro respondents. With respect to annual household income, the most frequently reported income group among respondents in all three study communities was the \$50,000 to \$74,999 group, suggesting a relative level of affluence among the sample.

**Table 4-1: Demographic Characteristics of Survey Respondents Sample**

<b>Characteristic</b>	<b>Waco</b>	<b>Temple</b>	<b>Hillsboro</b>
Gender (Percent Female)	60.4	65.8	66.3
<b>Age Group</b>			
• 18 to 24 years (%)	3.1	2.3	2.3
• 25 to 34 years (%)	16.9	14.9	16.3
• 35 to 44 years (%)	14.9	18.0	15.1
• 45 to 54 years (%)	26.6	26.8	22.1
• 55 to 64 years (%)	28.3	23.9	37.2
• 65 years and over (%)	10.2	14.1	7.0
Number of Household Vehicles (Average)	2.25	2.23	2.26
Number of Adults in Household (Average)	2.05	2.11	2.01
Number of Children in Household (Average)	0.58	0.64	0.82
<b>Highest Level of Education Completed</b>			
• Less than High School (%)	0.3	0.0	0.0
• High School Graduate or Equivalent (%)	5.8	7.95	9.3
• Some College or Associate’s Degree (%)	26.7	24.1	41.9
• Bachelor’s Degree (%)	31.9	41.4	23.3
• Graduate or Professional Degree (%)	35.3	26.6	25.6
<b>Annual Household Income</b>			
• Less than \$25,000 (%)	7.1	7.6	8.5
• \$25,000-\$49,999 (%)	23.0	22.1	24.4
• \$50,000-\$74,999 (%)	28.3	25.8	24.4
• \$75,000-\$99,999 (%)	15.8	17.5	18.3
• \$100,000-\$149,999 (%)	16.6	16.2	14.6
• \$150,000-\$199,999 (%)	5.7	6.3	7.3
• \$200,000 or More (%)	3.5	4.5	2.4
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>			

### **Internet Survey Bias**

The use of the Internet for surveys, including transportation surveys, has rapidly expanded in recent decades. Specific features of surveys conducted using the Internet, such as

automated data entry, streamlining of skip patterns or randomization, low costs compared to other options, and the ability to include imagery or animation to aid respondents, have made the Internet an attractive option for survey data collection (47-49). However, in spite of these benefits, there are serious concerns about the representativeness of Internet-based surveys. In general, there is a difference between the characteristics of the population as a whole and the characteristics of the segment of the population that has the ability to conveniently access a computer connected to the Internet. For example, the Pew Research Center (50) reported that there are serious differences in the level of Internet use among different age groups, races, income levels, and community types. Consequently, data from an Internet-based survey should be carefully examined in terms of these variables to ensure that the sample is representative of the population and to weight the sample data as appropriate. Table 4-2 provides a comparison of the distribution of age group and annual household income between the survey sample and the total population for the three study communities.

**Table 4-2: Comparison of Survey Sample and Population: Age Group and Income**

Characteristic	Waco		Temple		Hillsboro	
	Survey	Population	Survey	Population	Survey	Population
<b>Age Group</b>						
• Median (Years)	50.7	38.4	50.5	45.8	52.4	43.8
• 18 to 24 years (%)	3.1	26.3	2.3	12.5	2.3	17.6
• 25 to 34 years (%)	16.9	18.9	14.9	20.2	16.3	18.2
• 35 to 44 years (%)	14.9	13.8	18.0	15.9	15.1	16.1
• 45 to 54 years (%)	26.6	14.4	26.8	17.9	22.1	14.4
• 55 to 64 years (%)	28.3	11.6	23.9	14.7	37.2	12.7
• 65 years and over (%)	10.2	15.0	14.1	18.8	7.0	21.1
<b>Annual Household Income</b>						
• Median (\$1,000s)	67.6	34.2	69.7	47.4	N/A	N/A
• Less than \$25,000 (%)	7.1	39.9	7.6	28.7	N/A	N/A
• \$25,000-\$49,999 (%)	23.0	27.4	22.1	23.8	N/A	N/A
• \$50,000-\$74,999 (%)	28.3	15.4	25.8	17.9	N/A	N/A
• \$75,000-\$99,999 (%)	15.8	7.8	17.5	11.5	N/A	N/A
• \$100,000-\$149,999 (%)	16.6	6.5	16.2	11.5	N/A	N/A
• \$150,000-\$199,999 (%)	5.7	1.3	6.3	4.0	N/A	N/A
• \$200,000 or More (%)	3.5	1.6	4.5	2.6	N/A	N/A
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>						
<i>Age Group, 2010 U.S. Census (35); Household Income: 2009 American Community Survey (51)</i>						

Community-level data for age group were obtained from the 2010 U.S. Census (35), while income data were obtained from the 2009 American Community Survey (51). No community-level income information was available for Hillsboro. Also given in Table 4-2 is the median age and income for each community. Comparison between the survey sample and the population-level data for the three study communities confirms that the characteristics of the survey sample were different than the population as a whole for the three communities. Residents in the sample had a higher median age than the community as a whole. This was an interesting outcome, as Internet access is typically greater among younger populations. The Pearson’s chi-squared test for independence between the sample distribution and the population distribution for the six age groups was rejected for all three communities with a probability less than 0.001, confirming that the distributions were unequal. The median household income among the survey sample was higher than the median annual household income for the population as a whole. This was not surprising, as community residents with access to a computer with the Internet are likely to be more affluent than the population as a whole. The Pearson’s chi-squared test for independence between the sample distribution and the population distribution for seven income groups was rejected for the two communities where population-level income data were available, again with a probability of less than 0.001 in each case. Table 4-3 shows the specific Pearson’s chi-squared test statistic values for each of the five sample-population comparisons considered.

**Table 4-3: Pearson’s Chi-Square Test Results for Sample Representativeness**

Variable	Waco	Temple	Hillsboro
Age Group ( <i>df</i> =5)	$\chi^2=336.0$	$\chi^2=102.5$	$\chi^2=63.9$
Annual Household Income ( <i>df</i> =6)	$\chi^2=446.0$	$\chi^2=124.6$	N/A
<i>Note: <math>\chi^2_{0.05,5}=11.1, \chi^2_{0.05,6}=12.6, all comparisons rejected at p&lt;0.001.</math></i>			

Collectively, the results of the Pearson’s chi-squared tests comparing the sample and population distributions of age group and household income indicate that the sample group was significantly different than the population as a whole with respect to these two variables, which are key indicators of Internet accessibility among community residents. As such, researchers concluded that it would be necessary to weight the sample data on these two variables for any conclusions about the population of the study communities to be valid and representative of the community’s population as a whole. Using the population-level distributions of age group and

annual household income, researchers used a raking algorithm (52) to develop community-specific sample weights for responses in each age group and household income pair contained in the sample. The raking algorithm computed sample weights for responses from Waco and Temple with precision to the third (0.001) decimal place. Since no annual household income data were available for Hillsboro, responses from that community were weighted only by age group. Sample weights computed for the three communities are shown in Tables D-1 through D-3 in Appendix D of this report.





## **CHAPTER 5: DATA ANALYSIS**

This chapter reports the key findings of the analysis of data obtained from the Internet survey of residents of Waco, Temple, and Hillsboro, Texas, and their attitudes and opinions toward intercity passenger rail. This analysis is divided into three sections. First, the current intercity automobile and rail travel patterns of residents of the three communities are examined. Next, potential use of new intercity passenger rail service by community residents and how such service might change the intercity travel behavior of community residents are reported. Finally, residents' viewpoints on the potential advantages of travel via intercity passenger rail and the impacts of new rail development on community life are analyzed. As noted in the previous chapter, researchers determined that the survey sample was not representative of the population as a whole for the three communities and, consequently, sample weights were computed (using the sample weights reported in Appendix D). All of the analyses and findings reported in this chapter were obtained using the survey data with the sample weights applied and should be considered representative of the three study communities as a whole, at least with respect to the variables considered in the weighting process.

### **CURRENT INTERCITY TRAVEL BEHAVIOR**

#### **Current Intercity Travel Patterns**

The survey examined two aspects of current travel behavior and experience among the residents of the three study communities. Respondents were asked to report their frequency of automobile travel to each of the five major urban areas in eastern Texas (Austin, Dallas, Fort Worth, Houston, and San Antonio) within the last six months, separately for business and non-business or personal reasons. Intercity travel frequency on other modes, such as existing Amtrak intercity passenger rail service, commercial air carrier, or intercity bus, was not included on the survey, as information or data on the demand for travel on these modes can often be obtained from the individual carrier. Intercity automobile travel data, on the other hand, cannot be ascertained in this manner, and permanent vehicle counting stations located along major highways do not provide sufficient detail for useful planning applications. Furthermore, typical urban or regional travel demand models do not include a substantial amount of intercity travel. Respondents indicated their frequency in four categories: None, 1-4 Trips, 5-9 Trips, and 10 or

More Trips. From an initial review of the data, researchers found that many respondents only provided responses for the relevant urban area-trip purpose pairs, leaving the other pairs without a response. To increase the meaningful sample provided, researchers assumed that if the respondent provided at least one valid response (that is, at least one urban area-trip purpose pair had a response), the respondent had not made any additional trips to the listed urban areas and had simply failed to indicate “None” as a response. Researchers filled in these non-responses with a response of “None” to provide a more accurate picture of current intercity automobile travel by residents of the three communities.

Table 5-1 shows the frequency of intercity automobile travel to five major urban areas in Texas during the last six months prior to the survey by trip purpose for Waco residents.

**Table 5-1: Current Intercity Automobile Travel Frequency: Waco Residents (Percent)**

Urban Area	Frequency	Business	Personal
Austin	None	70.4	25.5
	1-4 Trips	26.0	61.5
	5-9 Trips	2.3	7.7
	10 or More Trips	1.3	5.3
Dallas	None	68.6	25.6
	1-4 Trips	24.9	59.9
	5-9 Trips	5.0	9.9
	10 or More Trips	1.5	4.7
Fort Worth	None	84.2	53.4
	1-4 Trips	14.0	42.0
	5-9 Trips	1.1	3.0
	10 or More Trips	0.6	1.6
Houston	None	88.8	62.7
	1-4 Trips	9.9	30.2
	5-9 Trips	1.2	3.2
	10 or More Trips	0.1	3.9
San Antonio	None	89.7	66.0
	1-4 Trips	10.0	32.5
	5-9 Trips	0.2	1.1
	10 or More Trips	0.2	0.3
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>			

The majority of Waco residents surveyed made no intercity automobile trips for business purposes during the last six months. For those who made intercity business trips, trips to Austin or Dallas were the most frequent, with approximately 30 percent of residents reporting at least one such trip in the last six months, while business trips to Houston or San Antonio were

reported to be very infrequent. In terms of personal intercity automobile travel, a majority of Waco residents indicated that they had made at least one personal trip to Austin, Dallas, and Fort Worth during the last six months, while approximately 35 percent had made at least one such trip to Houston or San Antonio. More than 5 percent of Waco residents indicated making 10 or more personal trips to Austin, suggesting a high degree of interaction between these two communities.

Table 5-2 shows the frequency of intercity automobile travel to five major urban areas in Texas during the last six months prior to the survey by trip purpose for Temple residents.

**Table 5-2: Current Intercity Automobile Travel Frequency: Temple Residents (Percent)**

Urban Area	Frequency	Business	Personal
Austin	None	62.7	16.1
	1-4 Trips	27.2	49.3
	5-9 Trips	4.1	19.8
	10 or More Trips	6.0	14.8
Dallas	None	82.4	48.9
	1-4 Trips	15.5	45.1
	5-9 Trips	1.4	4.9
	10 or More Trips	0.8	1.1
Fort Worth	None	87.5	61.6
	1-4 Trips	11.7	35.6
	5-9 Trips	0.6	2.4
	10 or More Trips	0.2	0.4
Houston	None	87.8	63.9
	1-4 Trips	11.1	30.5
	5-9 Trips	0.9	3.2
	10 or More Trips	0.1	2.4
San Antonio	None	86.1	62.6
	1-4 Trips	13.2	33.0
	5-9 Trips	0.7	3.5
	10 or More Trips	0.0	0.9

*Source: 2011 Central Texas Passenger Rail Survey, TTI*

More than 40 percent half of Temple residents reported making at least one business trip to Austin during the last six months, with 6 percent making 10 or more such trips. This strong interaction is not surprising given that Temple is closest to Austin among the three study communities. Business trips to other locations were relatively infrequent among Temple residents. At least 30 percent of Temple residents reported making between one and four personal trips to each of the five urban areas in the last six months, with Austin and Dallas both

reported as popular destinations for such trips. As with Waco, a high degree of interaction was detected between Temple and Austin, with one in seven Temple residents indicating 10 or more personal trips to Austin in the last six months.

Table 5-3 shows the frequency of intercity automobile travel to five major urban areas in Texas during the last six months prior to the survey by trip purpose for Hillsboro residents.

**Table 5-3: Current Intercity Automobile Travel Frequency: Hillsboro Residents (Percent)**

<b>Urban Area</b>	<b>Frequency</b>	<b>Business</b>	<b>Personal</b>
Austin	None	71.0	46.2
	1-4 Trips	24.7	49.7
	5-9 Trips	4.3	3.4
	10 or More Trips	0.0	0.8
Dallas	None	62.8	20.44
	1-4 Trips	27.9	50.7
	5-9 Trips	4.1	17.3
	10 or More Trips	5.3	11.6
Fort Worth	None	72.4	14.3
	1-4 Trips	21.6	36.6
	5-9 Trips	3.2	25.1
	10 or More Trips	2.9	24.0
Houston	None	81.7	59.6
	1-4 Trips	14.8	30.6
	5-9 Trips	3.5	4.7
	10 or More Trips	0.0	5.2
San Antonio	None	95.7	74.4
	1-4 Trips	4.3	23.5
	5-9 Trips	0.0	0.8
	10 or More Trips	0.0	1.3

*Source: 2011 Central Texas Passenger Rail Survey, TTI*

Business travel between Hillsboro and both Dallas and Fort Worth was high among Hillsboro residents, with a substantial proportion of residents indicating frequent trips between these city pairs. Given that Hillsboro is the closest of the three study communities to the Dallas/Fort Worth urban areas, these findings are likely indicative of some level of daily commuting activity among Hillsboro residents. Examination of personal travel among Hillsboro residents revealed that such trips were more frequent than business trips. More than half of Hillsboro residents reported at least one trip to Austin, Dallas, and Fort Worth, while 25 percent of Hillsboro residents surveyed made at least one trip to Houston and San Antonio in the last six months.

Table 5-4 shows the average number of intercity automobile trips in the previous six months by destination and trip purpose for residents in each of the three study communities. Researchers converted the responses (given in ranges of trip frequency) to a continuous variable by assigning a mid-point value to each frequency range. In turn, this allowed researchers to estimate the averages reported in Table 5-4. Researchers estimated total intercity automobile travel for all areas and purposes by adding together the responses for the five urban areas.

**Table 5-4: Average Number of Intercity Automobile Trips by Study Community**

<b>Urban Area</b>	<b>Purpose</b>	<b>Waco Residents</b>	<b>Temple Residents</b>	<b>Hillsboro Residents</b>
Austin	Business	0.94	<i>1.57</i>	0.92
	Personal	<i>2.61</i>	<i>4.10</i>	<i>1.56</i>
Dallas	Business	1.12	<i>0.56</i>	1.51
	Personal	<i>2.66</i>	<i>1.58</i>	<i>3.64</i>
Fort Worth	Business	0.49	0.35	<i>1.05</i>
	Personal	<i>1.42</i>	<i>1.10</i>	<i>5.07</i>
Houston	Business	0.34	0.35	0.62
	Personal	1.37	1.22	1.61
San Antonio	Business	0.28	<i>0.38</i>	<i>0.11</i>
	Personal	0.92	<i>1.16</i>	<i>0.77</i>
All Areas	Business	3.18	3.21	4.20
	Personal	8.98	9.16	<i>12.65</i>
	Both Purposes	12.15	12.37	<i>16.85</i>
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>				
<i>Averages reported in italics were significant for ANOVA tests at <math>\alpha=0.05</math>.</i>				

Analysis of variance (ANOVA) tests provided for a statistical comparison between the different communities and the intercity travel behavior of their residents responding to the survey. For personal trips between the three study communities and Austin, Dallas, and Fort Worth, there appeared to be a linear-type relationship between the frequency of automobile travel and the distance from the study community to the target urban area. Among Waco residents responding to the survey, Austin and Dallas were frequent destinations, particularly for personal trips (approximately 2.6 such trips in the previous six months). Temple residents in the sample made significantly more trips to Austin (average of 4.10 trips in the last six months), while Hillsboro residents responding to the survey reported significantly greater travel to both Dallas and Fort Worth (average of 3.64 and 5.07, respectively). These results were not surprising, given that Temple was the southernmost study community (closest to Austin), while

Hillsboro was the northernmost (closest to Dallas/Fort Worth). Responding Temple residents also reported making significantly more trips to San Antonio during the last six months, on average, compared with the other two communities. Out-of-town business trips in an automobile during the last six months, across the three study communities, were more infrequent than personal trips. Residents of Waco and Temple, on average, reported making approximately three intercity business trips to the five urban areas during the last six months. For Waco residents, the most frequent business trip destination was Dallas (1.12 trips), while Austin was popular among Temple residents (1.57 trips). Most out-of-town business travel among Hillsboro residents was to Dallas, with an average of approximately 1.5 auto trips between the two communities in the previous six months.

### Experience with Rail Transportation Systems

Respondents were also asked to report their experience with various forms of rail transportation systems using a four-point scale. Table 5-5 reports the percentage of residents from each of the three study communities with each level of experience with the two types of urban rail transportation systems located in Texas—light rail and commuter rail. While the focus of this report was on intercity rail systems, researchers felt it was relevant to ask about urban rail systems to gain a full understanding of experience with rail travel among residents.

**Table 5-5: Resident Experience with Urban Rail Transportation Systems (Percent)**

Rail System	Experience	Waco Residents	Temple Residents	Hillsboro Residents
Light Rail (Dallas DART, Houston Metro)	Never Heard of It	18.0	17.5	2.5
	Heard of It but No Experience	44.6	54.3	62.1
	Some Experience	31.3	27.3	33.7
	Extensive Experience	6.2	1.0	1.7
Commuter Rail (Trinity Railway Express, Capital Metro)	Never Heard of It	34.7	30.7	22.5
	Heard of It but No Experience	47.8	51.0	60.3
	Some Experience	15.7	17.3	17.2
	Extensive Experience	1.9	1.0	0.0
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>				

At the time of this project, two light rail systems existed in Texas: the Dallas Area Rapid Transit (DART) light rail system and the Houston Metro light rail line. A strong majority of residents across each of the three study communities had at least heard of these light rail systems, and a substantial number (between 25 and 35 percent) reported “some experience” with these

systems. Two commuter rail transportation systems existed in Texas at the time of the survey: the Dallas/Fort Worth-area Trinity Railway Express and the Austin-area Capital MetroRail service. While a majority of residents in the three study communities had at least heard of these commuter rail systems, the proportion of residents reporting some experience with these systems was markedly lower than with the light rail systems, likely due to their limited service corridors. Conversely, a substantial proportion of residents in the three study communities had never even heard of these two commuter rail systems. A very small percentage of residents in the three study communities reported “Extensive Experience” with either light or commuter rail in Texas.

Table 5-6 shows the levels of experience with intercity rail transportation systems among residents of the three study communities. Rail systems included intercity rail service in Texas and outside Texas, high-speed rail in the Northeast U.S., and high-speed rail in Europe or Asia.

**Table 5-6: Resident Experience with Intercity Rail Transportation Systems (Percent)**

<b>Rail System</b>	<b>Experience</b>	<b>Waco Residents</b>	<b>Temple Residents</b>	<b>Hillsboro Residents</b>
Intercity Passenger Rail Service in Texas	Never Heard of It	17.1	15.8	9.8
	Heard of It but No Experience	58.7	42.5	78.4
	Some Experience	21.3	32.0	10.0
	Extensive Experience	2.9	9.7	1.7
Other Intercity Passenger Rail Service Outside Texas	Never Heard of It	16.7	20.9	38.3
	Heard of It but No Experience	44.6	41.5	43.2
	Some Experience	32.5	28.6	16.4
	Extensive Experience	6.3	9.1	2.0
High-Speed Intercity Passenger Rail Service in the Northeast U.S.	Never Heard of It	20.1	24.8	41.4
	Heard of It but No Experience	55.6	53.2	51.3
	Some Experience	22.8	17.0	5.6
	Extensive Experience	1.5	5.0	1.6
High-Speed Intercity Passenger Rail Service in Europe or Asia	Never Heard of It	14.1	19.8	37.3
	Heard of It but No Experience	57.8	57.9	45.5
	Some Experience	15.9	15.8	13.5
	Extensive Experience	12.2	6.4	3.6

*Source: 2011 Central Texas Passenger Rail Survey, TTI*

At the time of the survey, three Amtrak-operated intercity passenger rail lines existed in Texas: the *Texas Eagle*, the *Heartland Flyer*, and the *Sunset Limited*. As previously discussed, the *Texas Eagle* route serves Temple directly and has stops nearby the other two study

communities. With the *Texas Eagle* having a stop in Temple, it is not surprising that experience with Texas intercity rail systems was higher among Temple residents. A relatively small percentage (between 10 and 17 percent) of residents across the three study communities had never heard of such services. It is encouraging, therefore, that a majority of residents had at least heard of the intercity passenger rail services available in Texas, even if they had not experienced traveling on such services. For intercity passenger rail transportation services outside of Texas, overall resident experience using these services appeared to decline with the relative size of the three study communities. The proportion of residents indicating “Some Experience” or “Extensive Experience” with conventional intercity rail systems outside of Texas, as well as high-speed rail systems in the U.S. and abroad, was approximately equal among Waco and Temple residents and lower among Hillsboro residents. In Waco and Hillsboro, residents reported more experience with conventional intercity rail services outside of Texas than rail services within Texas. Furthermore, residents of the three study communities reported more experience with high-speed passenger rail systems in Europe or Asia than existing systems in the Northeast U.S.

#### **POTENTIAL USE OF NEW INTERCITY PASSENGER RAIL SERVICE**

Residents of the three study communities were asked to rate their potential use of proposed new intercity passenger rail services. Three statements relating to potential usage were provided on the survey, and the respondent was asked to rate his or her level of agreement with the statement using a seven-point agreement scale ranging from *strongly disagree* (1) to *strongly agree* (7). Table 5-7 shows the average scores for each of the three statements for each of the three study communities. The first statement of potential use referred to the possibility of traveling out of town more often if rail services were available. Waco residents rated this item significantly higher than Temple or Hillsboro residents, with Waco residents rating this item with an average score of 5.43/7, while the score among Temple and Hillsboro residents was about 4.90/7. The second statement of potential use attempted to measure the possibility of “novelty trips” via intercity rail travel, or trips made for the sole purpose of experiencing rail travel. Resident scores for this statement were higher than the first statement across the three study communities. Waco residents rated this item highest among the three communities (6.02/7), with the other two communities scoring around 5.7/7.



**Table 5-7: Potential Use of Rail Services by Study Community**

Potential Use of Rail Service	Waco Residents	Temple Residents	Hillsboro Residents
I would travel out of town more often if I could use passenger rail for some trips.	<i>5.43</i>	4.89	4.90
If new intercity passenger rail service was established in my community, I would ride it once or twice just to see what it is like.	<i>6.02</i>	<i>5.62</i>	<i>5.73</i>
New intercity passenger rail service in my community would not affect how I travel for trips out of town.	<i>3.30</i>	<i>3.60</i>	<i>3.85</i>
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>			
<i>Responses ranged from strongly disagree (1) to strongly agree (7).</i>			
<i>Averages reported in italics were significant for ANOVA tests at <math>\alpha=0.05</math>.</i>			

The final statement of potential use referred to the possibility of new intercity passenger rail service *not* influencing how residents travel out of town. Across the three study communities, average scores on this statement were between *somewhat disagree* (3) and *neither agree or disagree* (4). This finding indicates that residents of the three study communities were uncertain about the effects that intercity passenger rail service would have on their intercity travel but believed some changes in out-of-town travel patterns might occur.

## **RESIDENT OPINIONS OF NEW INTERCITY PASSENGER RAIL SERVICE**

Residents were also asked to indicate their level of agreement with a set of five statements on their perception of intercity travel by passenger rail rather than automobile. The same seven-point agreement scale used with the potential usage statements was also used with the opinion statements. Table 5-8 shows the average scores for each of the five rail travel opinion statements for each of the three study communities. Across the five statements listed in Table 5-8, Waco residents reported the highest level of agreement among the three study communities. Residents of all three communities appeared to agree with the position that rail travel would be safer, more efficient, and more enjoyable than driving but did not seem to agree with the issue of reliability. Across the three communities, the “More reliable than driving” item scored the lowest of the five items, with all three communities’ average scores on this item below 5.00/7. Average ratings on the “More environmentally friendly than driving” item were the highest of all five items considered, indicating that residents of the three study communities

recognized the environmental advantages of rail travel over automobile travel for trips out of town.

**Table 5-8: Resident Opinions of Travel by Intercity Passenger Rail by Study Community**

<b>Travel on intercity passenger rail would be...</b>	<b>Waco Residents</b>	<b>Temple Residents</b>	<b>Hillsboro Residents</b>
Safer than driving	<i>5.74</i>	<i>5.40</i>	5.47
More efficient than driving	<i>5.59</i>	<i>5.18</i>	5.38
More enjoyable than driving	<i>5.43</i>	5.23	4.89
More reliable than driving	<i>4.95</i>	<i>4.61</i>	4.84
More environmentally friendly than driving	6.09	<i>5.58</i>	5.92
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>			
<i>Responses ranged from strongly disagree (1) to strongly agree (7).</i>			
<i>Averages reported in italics were significant for ANOVA tests at <math>\alpha=0.05</math>.</i>			

Residents were also asked to indicate their level of agreement on a series of six statements relating to their perception of the impacts that new intercity passenger rail service might have on various aspects of life in their community. Using the same seven-point agreement scale as previously discussed, items considered in this question reflected new intercity passenger rail services' impacts on the quality of business and personal life in each of the three study communities. All six statements used in this question were positive, that is, agreement with the statements indicated an agreement on the part of the respondent that new intercity passenger rail service would positively impact his or her community. Understanding how community residents view the potential impacts of rail service is important for obtaining public support for new infrastructure investments. Table 5-9 shows the average scores for each of the six community impact statements for each of the three study communities.

In terms of the impacts of new intercity passenger rail service on local businesses, residents in the three study communities generally agreed that new passenger rail services would have a positive impact on local commerce. Residents in all three communities agreed on the role of new rail service in attracting new businesses and jobs to the communities, while residents in Waco and Hillsboro believed new rail services could make existing businesses more competitive. Temple residents, on the other hand, rated this item significantly lower (5.01/7) than the other two communities, suggesting they may have some reservations about the impacts of new rail service on local businesses. Conversely, Temple residents may have rated this item lower

because intercity passenger rail service currently exists in the community and is already integrated with the business environment—thus, new impacts would be minimal. Waco residents rated the “Attract out-of-town visitors and tourists to my community” item with an average score of 5.75/7, indicating that Waco residents viewed the possibility of new rail service as a way to attract visitors and tourists to Waco. This item was rated with a high average score by Hillsboro residents as well (5.44/7).

**Table 5-9: Resident Opinions of Community Impacts of Rail Service by Study Community**

<b>New intercity passenger rail service would...</b>	<b>Waco Residents</b>	<b>Temple Residents</b>	<b>Hillsboro Residents</b>
Attract new businesses and jobs to my community	5.43	5.29	5.29
Allow local businesses to be more competitive	5.42	5.01	5.32
Attract out-of-town visitors and tourists to my community	5.75	5.17	5.44
Improve the quality of life in my community	5.29	5.06	5.20
Impact my personal life in a positive manner	5.25	4.85	4.76
Impact my business or employment in a positive manner	5.02	4.53	5.00
<i>Source: 2011 Central Texas Passenger Rail Survey, TTI</i>			
<i>Responses ranged from strongly disagree (1) to strongly agree (7).</i>			
<i>Averages reported in italics were significant for ANOVA tests at <math>\alpha=0.05</math>.</i>			

Residents in the study communities also agreed that new rail services would improve their communities’ quality of life. Waco residents rated the item “Impact my personal life in a positive manner” significantly higher than the other two communities (5.25/7). Residents of Temple (4.85/7) and Hillsboro (4.76/7) did not tend to agree that their personal lives would be impacted in a positive manner by new intercity passenger rail service in their community. Finally, residents in the three study communities did not believe that new intercity passenger rail service would impact their business or employment in a positive manner, providing low average scores for that item. This was particularly true for Temple residents, who rated this item significantly lower (4.53/7) than residents of the other two communities.



## CHAPTER 6: CONCLUSIONS

This research focused on the travel behavior and attitudes of residents in small- and medium-sized communities located in the intermediate region between major urban areas of an intercity corridor that has been designated for new passenger rail investment. This chapter summarizes the key findings from the Central Texas Passenger Rail Survey, an Internet-based survey of residents in Waco, Temple, and Hillsboro, Texas, conducted in this project. Selected findings from the analysis are summarized, and a synthesis of the analysis results is given in this chapter. Potential applications of the research findings are also discussed. The chapter concludes by identifying research that could be undertaken in the future to further this work.

### SUMMARY OF FINDINGS

The Central Texas Passenger Rail Survey was deployed to residents of Waco, Temple, and Hillsboro over a three-month period, resulting in 1,160 completed survey responses. Analysis of the resident survey revealed a wealth of information about the travel behavior and preferences of residents of the three study communities. Analysis of current intercity travel by automobile to five major urban areas in Texas indicated that residents in the three study communities made, on average, between 12 and 16 automobile trips out of town within the six months leading up to the survey. A majority of these out-of-town trips were taken to urban areas along the congested I-35 corridor. Therefore, while not all out-of-town automobile trips made by residents in the three study communities would be diverted to intercity passenger rail if new service were established, it appears that there is at least some market for travel between the three study communities and major urban areas along the SCHSRC route.

Experience with existing intercity rail systems among residents of the three study communities was generally limited. Temple residents, who have the benefit of direct service via Amtrak's *Texas Eagle* route, reported more experience with existing intercity rail routes in Texas than residents of Waco and Hillsboro. Reported experience with high-speed intercity passenger rail services in Europe or Asia was greater than reported experience with existing high-speed intercity passenger rail services in the northeastern U.S. This is an interesting finding but not surprising in that any respondent who has traveled abroad to major cities in Europe or Asia has likely traveled on one of the many high-speed intercity passenger rail lines found there, but

limited availability of rail options, especially high-speed rail options, in the U.S. seemed to make its use less likely, even for those traveling in the northeastern U.S.

The evaluation of potential use of new intercity rail service among residents of the three study communities identified by this research project encompassed two distinct issues. First, there generally appeared to be agreement among residents of the three study communities that new intercity passenger rail service would generate new or more frequent intercity trips. Second, there was a stronger level of agreement among residents of the three study communities that, if new intercity passenger rail service were established in the community, one-time or novelty trips to try out the rail service would be undertaken. This willingness to try out rail travel would need to be capitalized upon by any rail operations by providing high-quality service that would result in repeated use of the rail mode rather than a bad experience that would limit its future use. Ridership for new intercity rail services in these intermediate communities might be affected by both, each contributing to both short-term and long-term ridership potential for new rail systems.

Finally, opinions about travel by rail and the potential impacts of rail service on the community among residents of the three study communities were also revealed. Across the three study communities, residents agreed that traveling by rail would be more environmentally friendly than driving. To a lesser degree, residents agreed that rail travel would be safer, more efficient, and more enjoyable than driving. However, residents did not agree that rail travel would be more reliable than driving. Residents tended to agree that new intercity rail service would improve the competitiveness of existing businesses while also attracting new jobs, tourists, and other visitors to the community. Conversely, there was disagreement among residents on the impacts of new service on residents' personal life, employment, or business.

## **POTENTIAL APPLICATIONS**

This research examined several topics that have potential application for transportation policy and intercity passenger rail planning practice in Texas and elsewhere in the U.S. The Internet-based survey used in this research appeared to provide some measure of the volume of intercity automobile travel in the study communities as reported by the survey participants. Specific origin and destination data for automobile travel are difficult to obtain, and while no validation procedures were implemented, this survey provides a starting point to attempt to estimate intercity automobile demand for a variety of applications in other communities.

For intercity passenger rail planning, this research indicated that new intercity rail service in intermediate communities would be welcomed among residents, who appear to recognize the benefits of traveling by rail instead of driving and also believe that rail service would have a positive overall impact on local communities. However, the reader is cautioned that no valid data were generated in this research to support ridership or revenue estimates for new intercity passenger rail routes. Such studies are currently planned and being pursued separately by TxDOT via recognized consulting firms with experience and expertise in conducting high-speed intercity passenger rail ridership studies in the U.S. and internationally.

For policy development, the findings of this research provide some guidance to policymakers and rail planners on the messages that could be delivered to residents of intermediate communities to gain momentum and obtain resident buy-in on planned new passenger rail investments. For example, residents in the three study communities agreed that new rail service would benefit local businesses, attract jobs, and develop new visitor and tourism markets; such messages should be used to promote new rail investments. Ultimately, the detailed ridership and revenue studies, in conjunction with operational planning for overall system speed, will drive the locations where a rail corridor or station stop is warranted.

## **FUTURE RESEARCH**

The findings of this research project raise several interesting questions and topics for future research. As with most survey-based research, future efforts should seek to refine and improve the survey questionnaire and implementation used in this study. New or revised questions could be identified for future use or to better understand the behavior of community residents, with particular application to estimating intercity automobile travel from a resident survey. Also, the use of the Internet for general community or transportation planning surveys would benefit from improved sampling and recruitment strategies that encompass wider segments of the population. Specific enhancements could also be realized if an Internet-based survey instrument could be developed that provided suitable data for ridership and revenue estimates for new rail lines. Finally, to complement enhancements to the survey questions, new data from other intermediate communities along the SCHSRC or other federally designated high-speed rail corridors would enhance the collective understanding of the impacts of new intercity passenger rail investment on small- and medium-sized intermediate communities.





## REFERENCES

1. U.S. Department of Transportation, Federal Railroad Administration, April 2009. *Vision for High-Speed Rail in America: High-Speed Rail Strategic Plan*, FRA, Washington, D.C.
2. Passenger Rail Working Group, 2007. *Vision for the Future: U.S. Intercity Passenger Rail Network through 2050*. Prepared for the National Surface Transportation Policy and Revenue Study Commission. URL: <http://www.dot.wisconsin.gov/projects/state/docs/prwg-report.pdf>. Accessed 25 November 2010.
3. Peterman, D.R., Frittelli, J., Mallett, W.J., 2009. High-Speed Rail (HSR) in the United States. Congressional Research Service Report R40973. URL: <http://www.fas.org/sgp/crs/misc/R40973.pdf>. Accessed 15 December 2010.
4. Campos, J., de Rus, G., 2009. Some Stylized Facts about High-Speed Rail: A Review of HSR Experiences around the World. *Transport Policy* 16, 19-28.
5. Schwieterman, J.P., and J. Sheidt, 2007. "Survey of Current High-Speed Rail Planning Efforts in the United States." *Transportation Research Record* 1995, pp. 27-34.
6. Federal Railroad Administration, 1997. *High-Speed Ground Transportation for America*. U.S. Department of Transportation. URL: <http://www.fra.dot.gov/rpd/passenger/515.shtml>. Accessed 8 October 2008.
7. Fisher, P., Nice, D.C., 2007. State Programs to Support Passenger Rail Service. In: Plant, J., Johnston, V.R., Ciocirlan, C. (Eds.), *Handbook of Transport Policy and Administration*, CRC Press, Boca Raton, Florida.
8. Miller, E.J, 2004. The Trouble with Intercity Travel Demand Models. *Transportation Research Record* 1895, 94-101.
9. Sperry, B.R., Morgan, C.A., 2010. *Measuring the Benefits of Intercity Passenger Rail: A Case Study of the Heartland Flyer Corridor*. Southwest University Transportation Center, Texas Transportation Institute, College Station, Texas.
10. Blum, U., Haynes, K.E., Karlsson, C., 1997. Introduction to the Special Issue: The Regional and Urban Effects of High-Speed Trains. *Annals of Regional Science* 31, 1-20.
11. Bonnafous, A., 1987. The Regional Impact of the TGV. *Transportation* 14 (2), 127-137.
12. Chen, C., Hall, P., 2011. The Impacts of High-Speed Trains on British Economic Geography: A Study of the UK's InterCity 125/225 and Its Effects. *Journal of Transport Geography* 19, 689-704.
13. Givoni, M., 2006. Development and Impact of the Modern High-Speed Train: A Review. *Transport Reviews* 26 (5), 593-611.
14. Ureña, J.M., Menerault, P., Garmendia, M., 2009. The High-Speed Rail Challenge for Big Intermediate Cities: A National, Regional, and Local Perspective. *Cities* 26, 266-279.
15. Harrison, J.A., Gimpel, W., 1998. Corridor and Land-Use Planning Considerations. In: Lynch, T. (Ed.), *High-Speed Rail in the U.S.: Super Trains for the New Millennium*, Overseas Publishers Association, Amsterdam.
16. Clark, C., 1958. Transport-Maker and Breaker of Cities. *Town Planning Review* 28(4), 237-250.

17. Dempsey, P., 1987. The Dark Side of Deregulation: Its Impact on Small Communities. *Administrative Law Review* 39, 445-465.
18. KFH Group, 2002. Effective Approaches to Meeting Rural Intercity Bus Transportation Needs. Report 79, Transit Cooperative Research Program, Transportation Research Board, National Research Council, Washington, D.C.
19. Brown, D., 2001. When Rural Communities Lose Passenger Rail Service. *Rural Development Perspectives* 12 (2), 13-18.
20. González-Savignat, M., 2004. Will the High-Speed Train Compete against the Private Vehicle? *Transport Reviews* 24 (3), 293-316.
21. Buckeye, K.R., 1992. Implications of High-Speed Rail on Air Traffic. *Transportation Research Record* 1341, 19-27.
22. Capon, P., Longo, G., Santorini, F., 2003. Rail vs. Air Transport for Medium Range Trips. *Proceedings of ICTS 2003*, Nova Gorica, Slovenia.
23. González-Savignat, M., 2004. Competition in Air Transport: The Case of the High Speed Train. *Journal of Transport Economics and Policy*, 38 (1), 77-108.
24. Román, C., Espino, R., Martin, J.C., 2007. Competition of High-Speed Train with Air Transport: The Case of Madrid-Barcelona. *Journal of Air Transport Management* 13, 277-284.
25. Román, C., Espino, R., Martin, J.C., 2010. Analyzing Competition between the High Speed Train and Alternative Modes: The Case of the Madrid-Zaragoza-Barcelona Corridor. *Journal of Choice Modelling* 3 (1), 84-108.
26. Bhat, C.R., 1995. A Heteroscedastic Extreme Value Model of Intercity Travel Mode Choice. *Transportation Research Part B* 29 (6), 471-483.
27. Hensher, D.A., 1997. A Practical Approach to Identifying the Market Potential for High-Speed Rail: A Case Study in the Sydney-Canberra Corridor. *Transportation Research Part A* 31 (6), 431-446.
28. Fröidh, O., 2005. Market Effects of Regional High-Speed Trains on the Svealand Line. *Journal of Transport Geography* 13, 352-361.
29. Rivas, A., Fröidh, O., 2009. New Mobility Patterns as a Result of the High-Speed Rail Service in Mid-Sized Towns. *Proceedings of the City Futures 2009 Conference*, Madrid.
30. Federal Railroad Administration, 2011. Chronology of High-Speed Rail Corridors. U.S. Department of Transportation. URL: <http://www.fra.dot.gov/rpd/passenger/618.shtml>. Accessed 5 September 2011.
31. *Passenger Rail Investment and Improvement Act of 2008*. Public Law No. 110-432 (Division B-Amtrak), 122 STAT. 4907, October 2008.
32. U.S. Department of Transportation, Office of Public Affairs. "President Obama, Vice President Biden to Announce \$8 Billion for High-Speed Rail Projects across the Country." News Release No. DOT 18-10, Washington, D.C., January 28, 2010.
33. Federal Railroad Administration, 2011. HSIPR Project Funding. U.S. Department of Transportation. URL: <http://www.fra.dot.gov/rpd/hsipr/ProjectFunding.aspx>. Accessed 5 September 2011.
34. Greater Waco Chamber, 2008. Greater Waco Economic Development Report. URL: <http://www.wacochamber.com/EDimages2/EDFacts.pdf>. Accessed 3 November 2010.

35. U.S. Census Bureau, 2010. 2010 U.S. Census: Profile of General Population and Housing Characteristics: 2010. American FactFinder. Accessed 17 July 2011.
36. Temple Economic Development Corporation, 2010. Temple Community Profile 2010-2011. URL: <http://www.choosetemple.com/images/files/pdfs/TEDConeclick.pdf>. Accessed 29 October 2010.
37. Roco, C.E., Olson, L.E., 2004. Policy and Financial Analysis of High-Speed Rail Ventures in the State of Texas. Southwest University Transportation Center, Texas Transportation Institute, College Station, Texas.
38. Texas TGV Corporation, 1991. Franchise Application to Construct, Operate, Maintain, and Finance a High-Speed Rail Facility. Submitted to the Texas High-Speed Rail Authority.
39. Texas FasTrac Corporation, 1991. Franchise Application to Finance, Construct, Operate, and Maintain a High-Speed Rail Facility in the State of Texas. Submitted to the Texas High-Speed Rail Authority.
40. Charles River Associates, 1993. Independent Ridership and Passenger Revenue Projections for the Texas TGV Corporation High Speed Rail System in Texas.
41. Federal Railroad Administration, 2009. South Central High Speed Rail Corridor. U.S. Department of Transportation. URL: <http://www.fra.dot.gov/us/content/647>. Accessed 2 December 2009.
42. Federal Railroad Administration, 2010. U.S. Transportation Secretary Ray LaHood Announces \$2.4 Billion for High Speed Rail Projects. Press Release DOT 192-10, 28 October 2010. URL: <http://www.fra.dot.gov/Pages/press-releases/227.shtml>. Accessed 4 November 2010.
43. Wear, B., 2010. Texas Awarded High-Speed Rail Grant: \$5.6 Million Will Be Used to Study Route from Oklahoma to Rio Grande. Austin American-Statesman, 27 October 2010. URL: <http://www.statesman.com/news/local/texas-awarded-high-speed-rail-grant-1001595.html>. Accessed 28 October 2010.
44. Texas Transportation Commission, 2010. Minute Order #112513, December 16, 2010. URL: [http://www.txdot.gov/about\\_us/commission/2010\\_meetings/documents/minute\\_orders/dec16/4a.pdf](http://www.txdot.gov/about_us/commission/2010_meetings/documents/minute_orders/dec16/4a.pdf). Accessed 9 January 2011.
45. Federal Railroad Administration, 2011. News Digest. Press Release DOT 151-11, 18 November 2011. URL: [http://www.fra.dot.gov/roa/press\\_releases/fp\\_DOT%20151-11.shtml](http://www.fra.dot.gov/roa/press_releases/fp_DOT%20151-11.shtml). Accessed 18 November 2011.
46. LimeSurvey. URL: <http://www.limesurvey.org>
47. Alsnih, R., 2006. Characteristics of Web Based Surveys and Applications in Travel Research. In: Stopher, P., Stecher, C. (Eds.), *Travel Survey Methods: Quality and Future Directions*, Elsevier, Oxford, UK.
48. Dillman, D.A., 2007. *Mail and Internet Surveys: The Tailored Design Method*. John Wiley and Sons, Hoboken, New Jersey.
49. Couper, M., 2008. *Designing Effective Web Surveys*. Cambridge Press, New York.
50. Pew Research Center, 2010. Pew Research Center Internet & American Life Project: Who's Online. URL: <http://www.pewinternet.org/Static-Pages/Trend-Data/Whos-Online.aspx>. Accessed 14 December 2010.

51. U.S. Census Bureau, 2009. 2009 American Community Survey, Table B19001: Household Income in the Past 12 Months. American FactFinder. Accessed 15 February 2011.
52. Lohr, S., 2010. Sampling: Design and Analysis, 2<sup>nd</sup> Edition. Brooks/Cole, Boston.

## APPENDIX A: SURVEY QUESTIONNAIRE

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### Welcome Screen

---

Welcome to the Central Texas Passenger Rail Survey. This survey is part of a Texas Transportation Institute research study to better understand how the residents of Central Texas travel between cities.

While you are under no obligation to answer the questions on this survey, your participation is appreciated, as your answers will be used to assist transportation planners to meet the mobility needs of Central Texans. Your answers on the survey will be confidential and not used in any way to identify you. Please use the buttons at the bottom of each page to navigate the survey.

**Three randomly-selected survey participants will receive a \$250 Visa gift card.** To be eligible for the prize, the survey must be completed and contact information entered in the last question. Your contact information will be stored separately and cannot be linked to your responses to these questions. If you have any questions regarding this survey, please contact me at (979) 458-1683 or c-morgan@ttimail.tamu.edu.

This survey should take no more than 20 minutes to complete. Thank you for your participation.

Sincerely,

Curtis Morgan, Principal Investigator  
Passenger Rail Research Program  
Texas Transportation Institute

*This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, [Click Here](#) for more information or you may contact these offices at (979) 458-4067 or irb@tamu.edu.*

**Please click the “Next” button below to start the survey.**

---

### Where do you live?

---

If you do not live in one of these communities, please select the community that is closest to where you live.

*Choose one of the following answers.*

- Waco
- Temple
- Hillsboro

---

### City-To-City Travel in Last Six Months

---

We would like to learn more about how often you drive or ride in a personal vehicle (car, truck, van, motorcycle, etc.) from <home community > to some of the larger cities in Texas. Thinking about your travel in the last six months, approximately how many vehicle trips have you taken to each of these cities?

Please consider only trips made in a personal vehicle, and do not include any trips you made that might have passed through one of these cities to get to another destination. Please indicate the approximate number of trips to each city by trip purpose (business or personal).

	Business	Personal (Non-Business)
Austin	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips
Dallas	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips
Fort Worth	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips
Houston	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips
San Antonio	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips	<input type="radio"/> None <input type="radio"/> 1-4 Trips <input type="radio"/> 5-9 Trips <input type="radio"/> 10 or More Trips

*When thinking about the purpose of your trip, please consider the following definitions:*

- Business: Any trips related to your employment or business activities such as meetings, sales, conferences, or to purchase supplies or equipment for your business.
- Personal (Non-Business): Any trips for personal reasons, such as visiting family or friends, shopping, medical appointments, travel for educational purposes, etc.

*Note: Options provided in each cell above in the form of a drop-down box.*

---

### Travel Choices Introduction

---

A new passenger rail system is being planned for Texas. The system would connect <home community> to cities along the Interstate 35 corridor including Austin, Dallas, and San Antonio.

Stations in those cities would be in or near the downtown areas of those cities, and would be connected to major businesses and tourist attractions via local transportation options or within walking distance.

Passenger trains would consist of the following amenities:

- Modern and spacious passenger coach cars, containing two wide, comfortable, reclining seats on each side of a center aisle, as shown below
- Electronic outlets at each seat for laptop computers or other devices
- Free high-speed wireless internet access

Passengers would be free to move around the train at all times while traveling. Each train car would include restrooms, and each train would have a café car with food and drinks available for purchase.

Please click the “Next” button to answer questions regarding train travel.

### **Travel Choices 1**

Imagine that you are planning a day trip from <home community> to downtown Dallas for non-business or work-related purposes, such as for shopping or to visit a museum. To travel to downtown Dallas for this trip, imagine that you have two options:

- drive yourself in your personal vehicle
- ride in a passenger train similar to the one described on the previous page

*While this situation is purely hypothetical, we ask that you consider the questions as if you were actually faced with this situation, these travel choices, and your own personal constraints that you face in real life when you provide your response.*

The one-way travel time and travel cost (train ticket or gas for your vehicle) for each of the two travel options is given below. For the passenger train option, the number of hours between each train connecting <home community> and Dallas is also given.

For the situation given here, which option would you choose for your trip from <home community> to downtown Dallas?

	<b>Personal Vehicle</b>	<b>Passenger Train</b>
Travel Time	80 Minutes	70 Minutes
Travel Cost (Gas or Ticket Price)	\$15	\$31
Frequency of Service	Anytime	There is a train every 2 Hours
<b>My Choice</b>	<input type="radio"/>	<input type="radio"/>

For the situation given here, which option would you choose for your trip from <home community> to downtown Dallas? *Please note the values have changed from the previous question.*

	<b>Personal Vehicle</b>	<b>Passenger Train</b>
Travel Time	59 Minutes	33 Minutes
Travel Cost (Gas or Ticket Price)	\$11	\$18
Frequency of Service	Anytime	There is a train every 7 Hours
<b>My Choice</b>	○	○

### **Travel Choices 2**

For these questions, please continue to consider the hypothetical scenario presented on the previous page, which involves you making a personal trip from <home community> to downtown Dallas by either personal vehicle or passenger train.

*Contains similar structure and choices as “Travel Choices 1” except there is a different set of travel times, travel costs, and rail service headway/frequency for each travel choice.*

### **Travel Choices 3**

*Contains similar wording, structure, and choices as “Travel Choices 2” except there is a different set of travel times, travel costs, and rail service headway/frequency for each travel choice.*

### **Experience with Rail Travel**

**Please indicate your level of familiarity or experience with the following types of rail travel.**

*Note: Responses for each item given on a four-point scale as follows: Extensive Experience, Some Experience, Heard of it But No Experience, Never Heard of It.*

- Light Rail Service (Dallas DART, Houston Metro)
- Commuter Rail Service (Trinity Railway Express, Capital Metro)
- Intercity Passenger Rail Service within Texas (Amtrak Texas Eagle, Heartland Flyer, Sunset Limited)
- Other Intercity Passenger Rail Service Outside of Texas
- High-Speed Intercity Passenger Rail in the Northeast United States
- High-Speed Intercity Passenger Rail in Europe or Asia



---

## Your Opinions 1

---

**Please indicate your level of agreement with the following statements related to your use of possible new intercity passenger rail service for traveling out of town.**

*Note: Responses for each item given on a seven-point scale as follows: Strongly Disagree, Disagree, Somewhat Disagree, Neither Disagree or Agree, Somewhat Agree, Agree, Strongly Agree.*

- I would travel out of town more often if I could use passenger rail for some trips.
- If new intercity passenger rail service was established in my community, I would ride it once or twice just to see what it is like.
- New intercity passenger rail service in my community would not affect how I travel for trips out of town.
- Travel on intercity passenger rail would be safer than driving.
- Travel on intercity passenger rail would be more efficient than driving.
- Travel on intercity passenger rail would be more enjoyable than driving.
- Travel on intercity passenger rail would be more reliable than driving.
- Travel on intercity passenger rail would be more environmentally-friendly than driving.

---

## Your Opinions 2

---

**Please indicate your level of agreement with the following statements regarding the impacts of possible new intercity passenger rail service on your community.**

*Note: Responses for each item given on a seven-point scale as follows: Strongly Disagree, Disagree, Somewhat Disagree, Neither Disagree or Agree, Somewhat Agree, Agree, Strongly Agree.*

- New intercity passenger rail service would attract new businesses and jobs to my community.
- New intercity passenger rail service would allow local businesses to be more competitive.
- New intercity passenger rail service would attract out of town visitors and tourists to my community.
- New intercity passenger rail service would improve the quality of life in my community.
- New intercity passenger rail service would impact my personal life in a positive manner.
- New intercity passenger rail service would impact my business or employment in a positive manner.

---

## Demographics

---

Finally, we would like to know a little about yourself and your household. Your responses to the questions in this section will be used to ensure that the findings of this survey are representative of the residents of Central Texas. Your responses will remain confidential.

**What is your home ZIP code?** [Text Box]

**What is your age?**

*Choose one of the following answers.*

- 18 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 to 74 years
- 75 years and over

**What is your gender?**

*Choose one of the following answers.*

- Female
- Male

**How many personal vehicles (car, truck, van, motorcycle, etc.) does your household own, lease, or otherwise have available for use?**

*Choose one of the following answers.*

- None
- One
- Two
- Three
- Four or More

**Including yourself, how many adults (age 18 and over) live in your household?**

*Choose one of the following answers.*

- One
- Two
- Three
- Four
- Five or More

**How many children (under age 18) live in your household?**

*Choose one of the following answers.*

- None
- One
- Two
- Three
- Four or More

**What is the highest level of education you have completed?**

*Choose one of the following answers.*

- Less than high school
- High school graduate or equivalent
- Some college or Associate's degree
- Bachelor's degree
- Graduate or professional degree

**What is your annual household income?**

*Choose one of the following answers.*

- Less than \$10,000
- \$10,000 to \$14,999
- \$15,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 to \$199,999
- \$200,000 or More

**Please enter any additional comments you might have about new intercity passenger rail service in your community or this study in the box below. [Text Box]**

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**Exit Screen**

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Thank you for taking time to complete this survey. **If you wish to participate in the random drawing, please click on the button below to register.** The information you provide for the drawing will not be linked to your personal information provided in this survey in any way.



## APPENDIX B: IRB DOCUMENTATION

TEXAS A&M UNIVERSITY DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE	
1186 TAMU, General Services Complex College Station, TX 77843-1186 750 Agronomy Road, #3500	979.458.1467 FAX 979.862.3176 <a href="http://researchcompliance.tamu.edu">http://researchcompliance.tamu.edu</a>
Human Subjects Protection Program	Institutional Review Board
<b>DATE:</b>	29-Mar-2011
<b>MEMORANDUM</b>	
<b>TO:</b>	MORGAN, CURTIS A
<b>FROM:</b>	Office of Research Compliance Institutional Review Board
<b>SUBJECT:</b>	Initial Review
<b>Protocol Number:</b>	2011-0194
<b>Title:</b>	TTI Project 161003: How Fast is a Fast Train? Comparing Attitudes and Preferences for Improved Passenger Rail Service among Urban Areas in the South Central High-Speed Rail Corridor
<b>Review Category:</b>	Exempt from IRB Review
<p>It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.</p>	
<p><b>This determination was based on the following Code of Federal Regulations:</b> (<a href="http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm">http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm</a>)</p> <p>45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.</p>	
<p><b>Provisions:</b></p> <p>This electronic document provides notification of the review results by the Institutional Review Board.</p>	

**TEXAS A&M UNIVERSITY**  
**DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE**

1186 TAMU, General Services Complex  
College Station, TX 77843-1186  
750 Agronomy Road, #3500

979.458.1467  
FAX 979.862.3176  
<http://researchcompliance.tamu.edu>

Human Subjects Protection Program

Institutional Review Board

---

**DATE:** 03-May-2011

**MEMORANDUM**

**TO:** MORGAN, CURTIS A

**FROM:** Office of Research Compliance  
Institutional Review Board

**SUBJECT:** Amendment

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**Protocol Number:** 2011-0194

**Title:** TTI Project 161003: How Fast is a Fast Train? Comparing Attitudes and Preferences for Improved Passenger Rail Service among Urban Areas in the South Central High-Speed Rail Corridor

**Review Category:** Exempt from IRB Review

---

It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

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**This determination was based on the following Code of Federal Regulations:**  
(<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm>)

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

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**Provisions:** The survey instrument from the initial protocol has been modified to reduce the number of questions and enhance the layout, readability, and overall comprehension of the questions.

This electronic document provides notification of the review results by the Institutional Review Board.

## APPENDIX C: SURVEY RECRUITMENT MATERIALS

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### Central Texas Passenger Rail Survey: Recruitment E-Mail Message

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Dear Central Texas Resident:

The Texas Transportation Institute is conducting a research study to better understand how the residents of Central Texas travel between cities.

Your participation in this research study is voluntary, and your responses will remain confidential. Please click the link below to access the survey:

<http://www.railsurvey.org/centex>

Three randomly-selected survey participants will receive a \$250 Visa gift card. Your contact information will be stored separately from your survey responses and cannot be linked to your responses to these questions.

Thank you for your participation. If you have any questions regarding this survey, please contact me at (979) 458-1683 or [c-morgan@ttimail.tamu.edu](mailto:c-morgan@ttimail.tamu.edu).

Sincerely,

Curtis Morgan, Principal Investigator  
Passenger Rail Research Program  
Texas Transportation Institute

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### Central Texas Passenger Rail Survey: Recruitment Newspaper Advertisement

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Attention Central Texas Residents!



The Texas Transportation Institute is conducting a passenger rail research study in your community.

Please visit the following website to take our survey:

**<http://www.railsurvey.org/centex>**

Three Randomly-Selected Respondents will Receive a  
**\$250 Visa Gift Card**

Your Participation by July 31, 2011 is Appreciated.

## **Central Texas Passenger Rail Survey**



The Texas Transportation Institute invites you to participate in a research study to better understand how the residents of Central Texas travel between cities. Your participation in this research study is voluntary, and your responses are confidential.

Please visit the following website to take our survey:

***<http://www.railsurvey.org/centex>***

Three Randomly-Selected Respondents will Receive a  
**\$250 Visa Gift Card**

Your Participation by July 31, 2011 is Appreciated.



## APPENDIX D: SURVEY SAMPLE WEIGHTS

**Table D-1: Survey Sample Weights: Waco**

Age Group/ Household Income	Less than \$25,000	\$25,000-\$49,999	\$50,000-\$74,999	\$75,000-\$99,999	\$100,000-\$149,999	\$150,000-\$199,999	\$200,000 or More
18 to 24 years	15.459	4.511	2.517	0.000	1.954	0.000	0.000
25 to 34 years	4.093	1.194	0.666	0.634	0.517	0.326	0.600
35 to 44 years	4.667	1.362	0.760	0.723	0.590	0.372	0.684
45 to 54 years	2.571	0.750	0.419	0.398	0.325	0.205	0.377
55 to 64 years	2.016	0.588	0.328	0.312	0.255	0.161	0.295
65 years and over	4.550	1.328	0.741	0.705	0.575	0.363	0.667

**Table D-2: Survey Sample Weights: Temple**

Age Group/ Household Income	Less than \$25,000	\$25,000-\$49,999	\$50,000-\$74,999	\$75,000-\$99,999	\$100,000-\$149,999	\$150,000-\$199,999	\$200,000 or More
18 to 24 years	13.459	3.770	0.000	2.584	3.165	2.521	0.000
25 to 34 years	4.589	1.285	0.994	0.881	1.079	0.859	0.000
35 to 44 years	3.158	0.885	0.684	0.606	0.743	0.591	0.683
45 to 54 years	2.387	0.669	0.517	0.458	0.561	0.447	0.516
55 to 64 years	2.169	0.608	0.470	0.416	0.510	0.406	0.469
65 years and over	4.658	1.305	1.009	0.894	1.095	0.872	1.008

**Table D-3: Survey Sample Weights: Hillsboro**

Age Group	Sample Weights
18 to 24 years	7.561
25 to 34 years	1.118
35 to 44 years	1.064
45 to 54 years	0.650
55 to 64 years	0.342
65 years and over	3.017



## APPENDIX E: VERBATIM SURVEY COMMENTS

**Table E-1: Verbatim Survey Comments: Waco**

<p>A passenger train running the I-35 corridor makes so much sense, on so many levels. Especially 1) global warming 2) cost of maintaining highways 3) time wasted driving the corridor 4) risks of driving with too much traffic, too many trucks and horrible traffic in Austin during rush hour and Friday evenings. My driving trips to Austin are always constrained by having to arrive or depart before/after local rush hour. SUGGESTIONS: Please consider adding a BAGGAGE CAR (perhaps with lockers?) where people could store things they have purchased in another city. Refrigerated option would be wonderful, as well. EXTRA FEE, of course! The other component that I believe would be necessary to make this work is to have HOURLY RENTAL CARS available at each train station. That could be RESERVED. Otherwise, I would only use the train for 1) sightseeing or entertainment excursions or 2) to visit friends or relatives. But would not be able to do my shopping in suburban retail locations.</p>
<p>Adversely affect small towns/cities; loss of business for fuel, food, and stretch breaks *improve access to medical specialists, especially for those with limited transportation options *potentially improve cultural experiences for all, but ticket costs would have to be inexpensive &amp; frequency of departures would have to be every couple hours *would help environment with reduced fuel consumption and improved air quality *would reduce commuter traffic clogging I-35 *would necessitate the need for improved public transportation in destination cities.</p>
<p>Also need good transport in the local areas that are destinations of this new system. Once you get to DFW or SAT, you need to get around easily.</p>
<p>Alternatives to I-35 are a welcome improvement to the community and will improve mobility in a growing area. As a younger person, planning now is important in light of how inaction could compound congestion to crisis levels in the coming decades. Texas should be a national leader on transportation.</p>
<p>Any alternative way of transportation would be great for Waco.</p>
<p>As a teacher, I would use this service to travel to other colleges/universities and to museums and art galleries, for example. My travel is usually between Waco and the DFW area and to Austin, but I would visit San Antonio more often with a rail system. All of these drives seem very long to me when I'm the driver (smile).</p>
<p>As the roads are falling apart from neglect and poor repair, a rail service would be great for all.</p>
<p>Being able to go on any day at any time would make me more willing to travel by rail. A train once or twice a day will not work.</p>
<p>Biggest problem: How do I get around at the destination. Also, I haven't heard of a public rail system being successful in the US, i.e. the system in and around Wash DC. They have to be subsidized by tax money constantly.</p>
<p>Branch off in Waco and go through College Station to Houston—do like the Swiss with a 10 minute overlap in Waco and I think you could get even more support. I want rail!</p>
<p>Bring it to Waco!</p>
<p>Bring it!!</p>
<p>Build it, make it affordable, and we will ride it. Amtrak is WAY too expensive! So, affordability is important.</p>
<p>Bullet train, please.</p>
<p>Can't wait.</p>
<p>Do it!</p>
<p>Don't make me pay for something for someone else to use.</p>
<p>Don't think there is adequate public transportation to get around Dallas / Houston / Austin once you get there by rail, so would need cost efficient ZIP Cars or something similar for rental</p>
<p>Don't want it here.</p>
<p>Doubt it will happen in my lifetime, but wish it would. One of the great things about Waco is our proximity to DFW and Austin, and high speed train would make those cities even more accessible.</p>
<p>Ease of transportation in the destination cities will determine if I use it. Once I get to Austin, Dallas, etc...do they have easy mass transit from the train station to my final destination (businesses, shopping, tourist sites, etc.)?</p>
<p>Even if I do not use it on a daily basis, I think it would improve the safety of drivers on the road by allowing more people to use other means of transportation.</p>
<p>Exciting possibility.</p>
<p>Extensive experience with Metro in Washington DC area. Critical is ability to make a round trip during one day and have time to attend a meeting, go shopping, or visit during that day.</p>
<p>Frequency of service would be the most important thing for me.</p>
<p>Getting to and from the cities is great—the challenges will be transportation to destinations away from the stations once there.</p>
<p>Good Luck. Wishing you much success in approving this project.</p>
<p>Great idea that I am fully supportive of, but you have to have the resources to keep it clean and safe! Without these two key items, this can become more of a haven for criminal activity than positive change.</p>
<p>Great idea, get it done.</p>

Having travel choices is always good.
Highly Supportive
How would you get to where you are going from the station?
HURRY UP AND BUILD IT SO I CAN USE THE SYSTEM!!!!!!!
I am completely supportive of the high speed rail!
I am not looking forward to needing to change to rail service for travel. Waiting for the train to depart, leaving car in parking lot (expense not included with ticket?), taxi or inconveniencing friend at destination, transfer of all baggage repeatedly—I would very much miss using a personal vehicle.
I am strongly in favor of an intercity rail service. My only hesitations involve the quality of travel once I am WITHIN the destination city. However, I know many urban and suburban mass transit systems are improving. Waco would need to take big steps to make this work here, however.
I am very excited about the possibility and look forward to hearing about it!
I believe more people might travel out of town hopefully for business, because we want to keep tax dollars in our city. (That's if people are traveling to shop in other cities).
I believe that high-speed intercity rail service will become increasingly important as the population and automobile/truck traffic of Texas continue to grow.
I believe this is a good idea that is forward-thinking and more environmentally conscious.
I commute daily from north Waco to DT Temple...would take public transportation if available. Work for Extraco and would commute between Waco, Temple, Georgetown, Killeen, and Bryan if available.
I could see our school district utilizing it for business travel if it is cheaper than personal vehicle use, timely(scheduled trips are available), faster and safe.
I currently commute via Amtrak between Waco and Austin twice a week. This would be extremely welcomed.
I definitely think Texas needs passenger rail! Our state is too big for us to not have rail.
I did not know of these "plans." If real, please make them public. The lack of rail transportation is one of the major limiting factors to growth and quality of life in the US. Do it now.
I do not believe a intercity passenger rail service could be self sustaining. Europe and Asia are not self supporting, and I do not think the government or some foreign country should be running this system on the people's money.
I feel that the frequency of the trains would impact my decision more than the cost of the ticket as long as the ticket is not extremely more that driving.
I filled out my survey on the assumption that the ticket price is "each", in other words, that's what I would pay if I was traveling alone. My answers would not have changed if my spouse was traveling with me (2 tickets), but my answers would have changed if I there were 3 people in my traveling party. I would have liked for this to have been considered in this survey.
I have been interested in the development of intercity rail for some time. I frequently drive and will avoid the I-35 corridor if at all possible. The congestion of Semi-trucks have affected passenger travel greatly. I am in total agreement that the intercity rail service would drastically relieve the now congested I-35 and reduce the highway fatalities. The environment would greatly improve not to say the rail would bring jobs to Texans & improve our economy plus our quality of life. I feel if this plan is implemented it would generate travel in a more positive manner for Texans. Thank you.
I have traveled in other country, and it's hard to believe they are so much more advanced in rail travel.
I hope intercity rail becomes a reality!
I hope survey results are published.
I hope we get this service in Waco. I love to travel and would definitely go to San Antonio more frequently if we have passenger rail service available!
I like the idea of the train but you are limited to downtown. However, if the train was to run to the airports of Austin, Dallas, and other larger cities, I would ride the train to those destinations instead of driving my vehicle.
I love this idea...I used to commute to Hillsboro but stopped. I might still work there if I had this available to me.
I love to travel to Austin, San Antonio & Port Aransas but travel on I35 has gotten to be very dangerous. Also the price of gas and the mileage you put on your car can really add up when traveling. I'm all for a passenger rail service in Waco. My family has 6 generations working for the now UPRR which has come a long way. Bring on the passenger rail service.
I love trains :)
I love traveling by rail and really hope that option will soon become available to people in and around my community.
I LOVED high-speed rail service in Europe but also had smaller cities that were connected and better bus service within the city.
I personally think that high-speed rail service would be a good thing if it is affordable for the rider. However, with the economic downturn for our country, I think we should put off the expense until we can bring down our national debt and economy improves.
I rather have a fast rail system that take to far away cities, specially from here to the Great McAllen Area.
I rode BART in CA all the time and had a monthly bus pass while in Germany and loved it.
I strongly support intercity rail in Texas. This would be a great move for us.
I think a high speed rail service would be great according to where the train stations are located. We use rails when we go to the State Fair at fair park (park and ride) and for different events. But—to go just to the west end and be dumped off without a car to go anywhere else, I don't know about that.

I think high speed rail is extremely important and something that would help the development of central Texas.
I think intercity passenger rail service is a very intelligent solution to overcrowded highways & freeways in the city itself. I don't understand why countries like England, France, Belgium, The Netherlands, Germany, Japan and others have this type of service and the US lags far behind in this technology, making us much more dependent on fossils fuels and foreign oil.
I think it is a great idea and wish it was available now. I35 has become a parking lot!!!
I think it would be a GREAT addition and option as a mode of transportation! I would 100% try it out and am hopeful this occurs! I have family and friends in Austin and Dallas and am always traveling to both. As a former downtown Dallas resident I am familiar and an advocate for rail transportation! DO IT!!!
I think it would be a great asset to our community and I would certainly use it.
I think it would be fantastic to have passenger rail access to the major Texas metros (Dallas, Austin, San Antonio, Houston) so long as time and cost savings are realized after considering the time spent loading/unloading and lines (if any). Gas to and from Dallas is much more expensive than that cited in the scenarios (average cost for me is \$60-\$70 round trip).
I think it would be good for our city.
I think it would be great a new intercity passenger rail. I have been using Amtrak more and telling everyone I know whether at work or family about using the train. I am surprised how many people had not even heard of that as an option. The main problem right now with the train is the ONCE A DAY choice. In talking to people about the train the important thing seems to be availability of the train. They would not mind working with the time if it came around more often. Maybe catch the early train to be at a work related travel, but if the train only leaves at 3pm everyday you kill a whole day just to be at a function in the a.m. at the city you have business at. I think people would not mind so much paying a little more not to hassle the drive if the frequency of the transportation were there.
I think it would be great to have a rail service available for Central TX.
I think it would be great to have train service between these cities.
I think it would be helpful for those having to travel for doctors appointments who don't have reliable transportation.
I think it would make a positive impact.
I think its a good idea so thats get started.
I think its a good idea, esp. if connects to DFW Airport, lot easier then driving up there to catch a flight or paying to fly from Waco to Dallas just to change planes.
I think this would be a positive addition to the community and the state.
I think this would be great. I would definitely ride it.
I think we should do it and get cars off the highways.
I travel to DFW and Austin mostly for air travel purposes. If there were a free or cheap shuttle service to the airports from the train station, I would heavily consider using the rail system.
I used to ride the electric rail-leg system Denison to San Antonio several years back.
I would be excited to have an intercity passenger rail service in my community. I would definitely travel more.
I would be interested in travel to Ft. Worth and Austin—not Dallas.
I would consider it a lot more if there was a family plan or a way to rent a car once you got to the city for more specific place (ex: relatives house).
I would like to know how late the trains would be traveling. I travel out of town for events in the evening and return late, and it would be nice to not have to drive back at midnight or later.
I would like to see it happen.
I would like to see the rail service come to the area. My wife and I would travel more with our little one if we could both tend to him.
I would love it if an rail system was available in Waco and surrounding cities.
I would love it!!
I would love regular train service that would take me particularly to Austin with a split somewhere to go to Houston. I like the thought of not having to deal with the traffic on Interstate 35 and being able to read a book rather than worry about the other cars. The use of mass transit instead of individuals in cars interests me greatly.
I would love the opportunity to take a train daily to Temple & Waco. There would need to be bus service available at the stations to continue to my final destination. I have commuted for over 20 years and have always wanted an alternative way to commute. I would even support communal buses to stop in the smaller towns on IH-35, then continue on to Waco, Temple, Belton & Killeen.
I would love to have intercity rail available in this area—I would certainly travel to the metroplex and Austin more often if it were available.
I would love to have rail service to the major Texas cities from Waco. I would ride it instead of driving.
I would love to ride a train to work and back....my time riding could be spent doing other things making it quite time effective! Hope this comes true!
I would love to see an intercity rail service implemented. I drive IH 35 twice a day every day (Bruceville to Waco) and its only getting worse. I think an intercity rail service would be a huge relief on IH 35 traffic.
I would love to see high speed rail connect D/FW to Waco, Temple/Killeen, Austin, and San Antonio.
I would love to see train service that connected Waco to DFW Airport!

I would prefer to use my own car so that I would not have to rent a car or take a taxi upon arriving at my destination.
I would really like to see central Texas get the new rail system!
I-35 is a bottleneck and accidents waiting to happen with all the semi-trucks! If I could take a train to work everyday in Temple, I would be thrilled!
If available intercity passenger rail service would be preferable to driving. I grew up in Boston MA. Rail service beats driving any day.
If I could be sure of transportation around Dallas, Austin, San Antonio or Houston after I got there, I would be a lot more interested. America is not great on any form of mass transit, but I loved my experiences in Japan and China on their trains, taxis, and buses.
If round-trip prices were reasonable and train times were more frequent like every two hours, I would definitely use a rail system in my area for travel.
If the price is right and the schedule is reliable, I would consider the train for every trip.
If the service were available from Waco to Hillsboro (where I work) and stopped in Hillsboro close to 0730 and 1730 AND there was a reasonable cost, maybe monthly, I would be very likely to use it. Even better, if it went through/near Fort Hood (walking distance) I would also use it for that travel.
If the train would make rounds every couple of hours instead of 5 to 10 hours apart, and the cost was cheaper or at least equal to the prices of gas I think I would definitely ride it.
If you provide clean safe AFFORDABLE transport from station to final destination in city it should be great hit.
I'm in favor of intercity rail, but it all comes down to price and availability. A train every 10 hours or even every 4 hours does me no good.
In my opinion, the large number of active senior citizens living in this area would surely take advantage of the safety & dependability of the rail service to this area.
Intercity high speed rail will work only if intra city transportation will be available. (commuter rental cars, buses, metro-rail etc.)
Intercity passenger rail in Waco would be fantastic, needs to run into and out of downtown Waco.
Intercity passenger rail services would give me very welcome opportunities to travel outside of this community which I do not have now. Driving long distances is not practical or cost-effective. Passenger bus services offer few advantages over automobile, except that someone else is doing the driving.
Intercity rail service gives people a choice and enables non-drivers to travel more freely. It also frees many of the burden of ever more costly auto ownership. To make rail effective, all the cities connected must improve pedestrian safety—slow auto traffic and build sidewalks.
Intercity rail travel has been way to long in coming to this area. I would love to see and use it in my lifetime. My husband and myself have talked of retiring somewhere with better transportation options.
Intercity rail would allow me to work in the Dallas-Ft. Worth Metroplex without giving up the rural environment that I enjoy in China Springs/Waco. Also, it would significantly help me husband, who commutes 2-3 times a week to Farmers Branch, with scheduling for work, church, and other activities. This would tremendously help with our gas bill and wear and tear on our vehicles.
Inter-city rail would be more desirable if adequate intra-city public transportation were available.
Interested—an important feature rests on how easy it would be to get to where I'm going at and back to station at the destination end. I've paid to ride the Eagle van transport to DFW—but that's essentially door to door. I've ridden the Metro in DC from the airport to hotel and to tourist sites—but when I think of the sprawl that is the DFW area, I wonder how practical it would be. It would have been nice to take a train to Dallas for the NCAA region women's basketball—we drove—if the hours of operation worked with that. But if you have to take a taxi any distance, that adds a lot to the cost. And of course, a connection to airports would be useful.
It would be a great bonus to the area, but needs to go both ways, to Austin and to Dallas. Ambivalence occurs when thinking about options at the destination . . . if there are rental cars (Zip cars?) available at the train station, and especially if the train will take you close to entertainment venues (major concerts, sports, etc). Security is a major issue also . . . inside the trains and also the rails themselves. Thanks for putting this survey out.
It would be a perfect opportunity to our city.
It would be great!
It would be wonderful to have more intercity passenger trains.
It would benefit all of Waco and surrounding areas.
It would have to somehow tie into additional transportation at the destination stations that is easy to use if it is going to be of any use.
It would make the company I work for even easier to get to for our prospects and telecommuters. Also, it will relieve the drive to pick up my college student from Austin as well as others who attend college in the Dallas Metroplex.
It would make Waco a viable modern southern city, vs. a relic of the past and a joke.
It's about time. I have spent many weeks in the San Francisco Bay area and love the BART, and I ride DART every time I can in Dallas.
It's good to see you thinking outside of the box (or maybe inside a really old box) and possibly providing an alternative method for people to reach major cities from Waco without chewing through gas, tires and other automotive expenses.
I've been hoping & praying for this over 30 years—since moving from urban area where rail was a natural form of daily life.

Driving is fun when you want to vacation, but on trains you can read, relax, there's a restroom, and no worry of accidents (especially on I-35).
I've been hoping for passenger rail service for years!!!
Let's do it!
Let's get it going. I wish for rail service every time I remember the stories of the old "Interurban" told by my Dad, and get caught in traffic at the Hillsboro split.
Living in Waco, I have had to drive out west to McGregor many times to put my youngest daughter on the train to Ft. Worth to help her sister (my oldest daughter). Wouldn't it make a lot more sense to put her on a train from Waco? I lived in a suburb of Boston MA for years (1968-1980) and commuted by rail to the inner city to Univ. of Mass. and also for other purposes. Although I was born in Dallas TX, I never appreciated Rail Service until moving to the Boston area—it was terrific! I loved it—could go from my home in Winchester to Boston to Cambridge, and even the Cape or the North Shore. It was absolutely LIBERATING!!! I loved it! I wish that Texas (even with its expansive wide open spaces) could establish more intercity passenger rail service) so that its citizens could appreciate the value of communicating, learning from, transacting and dealing with their fellowman on a truly personal and legitimate human basis.
Make this happen. It needs to be fast, or its a waste of time to do it.
Many factors not included. E.g. energy efficiency from trains powered by nonhydrocarbon generated electricity (wind, nuclear, solar). Competitive with intercity air travel. Ability to move large numbers of people quickly in an emergency.
Many of the questions are difficult to answer, because there is no mention of tax cost to build or maintain the rail system. The fare is shown, but no other in direct costs are shared.
Many of us are very skeptical as to whether this would be an efficient use of taxpayer funds. The per-mile construction costs are extremely high. Amtrak is the only instance of a similar system thus far, and it is far from a shining example of economic success. Until I am persuaded it is a good idea, I will oppose this project.
May be hardship for those whose land would be taken.
More trains running ON TIME rather than High speed trains. Thank You .
Much more likely to use for business trips because it can work while traveling, likely at a lower or some cost to the business and at increased productivity.
Must do whatever is cheapest. Waco schoolteacher's don't make much money and don't have much time to travel.
My concern is when I arrive at other city's I would have to take a taxi or rent a car to my final destination unless it drops me off curbside to wear I want to go, it can be inconvenient. I drive a Prius so gas prices does not change my travel. The other thing to consider for me is the traffic going to and from some big cities.
My experience with the rail service in Houston was that it was convenient if you were going to the specific places the train went to, such as the medical center, but was not helpful once you got there if you needed to go elsewhere (the suburbs, or the grocery store, for example.) Sometimes it is just easier to have your car with you. If I needed to get to another city for a ball game or something right there in town, I would consider it. However, as a small woman, I prefer the safety and privacy of my own vehicle when traveling alone. There was a lot of "riff-raff" on the Houston rail system and I would be uncomfortable riding at night.
My family has extensive rail travel experience in Europe, and we lament that there is absolutely no rail service in Waco. We would definitely use rail service for trips to Houston not only to get to the airport but my sister lives there, or south to Austin or San Antonio or Corpus Christi for vacations, or Dallas to connect to the airport or go shopping or visit the fine attractions.
My first preference is my personal vehicle since I'll have it to drive once I reach my destination; otherwise, I'll have to rent a vehicle or find public transportation.
My husband drives us to the big cities. I won't drive in Dallas or Austin, so this would allow me to go see friends without having to drive in the DFW traffic. Also, I know several people who need to get to the more specialized hospitals in the DFW area. Having a train system would really help out that group and ease their suffering of an illness by not having to deal with driving in DFW. I really look forward to the possibilities. I just hope that it is affordable. Also, my husband drives 2 nights a week to attend night school in Dallas driving in from Waco, so a train that ran along the school schedule would be nice too. I teach at a college, so a train that runs from the Temple/Killeen area to Waco would really help out my students have a higher attendance rate as well. Many of my students miss class due to a broken down vehicle.
My trips to the cities listed are almost never for downtown but to visit family in the suburbs (Flower Mound, McKinney, Cy Fair, etc.) or for a rare MD visit. As much as I would like to support public transportation I don't see how I could do it for the kind of trips I make.
No mass transit or public transportation is self supporting. NOT ONE! We are 14.3 trillion in debt and this will put us even further in debt. Texans will NOT get out of their cars to ride a train. Won't happen. Plus TXDOT lost a billion in a budget which they cannot find. And we are suppose to trust these folks? This is a pipe dream that needs to be that a dream. We are broke as a country !
Once every 10 hours seems too long to wait—I would drive before I was trapped somewhere for 10 hours.
One big thing I did notice in your survey is nothing is really addressed on the impact of the natural wildlife habitat that would be greatly disturbed. It's not just us on this planet and everyone has a responsibility to see that it is lived on wisely.
Our nation has a 14.3 billion dollar debt. There are no rail systems that are completely self sufficient. We do not need to add to our state or national debt.
Passenger rail service would improve traffic problems on interstate highways such as accidents, traffic congestion, etc.

<p>Passenger Rail to DFW Airport would be used by Waco citizens and greatly benefit the economy. Flights to and from Waco/DFW are unreliable. Out of town family that visit us often find the flight to and from Waco to be inconvenient vs. flying to and from DFW. We then have to make arrangements to pick them up and deliver them back to DFW. Light rail would be more reliable, convenient, and less costly. Bad weather problems would go away with DFW light rail. The only possible problem would be the accommodations needed for passengers' luggage.</p>
<p>PLEASE, PLEASE bring our community into the 21st century and build passenger trains!</p>
<p>Pray that if we get one that it stays clean and safe.</p>
<p>Rail service to other I35 cities would need to be frequent, high speed, and most important—affordable. It is difficult to overcome the convenience of car travel and having your own car for transportation within the destination city.</p>
<p>Rail will be wonderful for visiting exhibits in larger cities and/or for people to come to see our city.</p>
<p>Rail would be a great benefit for me personally and professionally and for the City of Waco.</p>
<p>Railroad crossings would have to be clearly marked.</p>
<p>Seems reasonable for 1 person but once you have more than one person in a car the train gets expensive.</p>
<p>Service to airports such as DFW and Houston Intercontinental would be more useful. Frequency of trains would be a major problem for business and/or leisure travel. European trains are frequent.</p>
<p>Sounds exciting—if the hours and costs were favorable, I would ride frequently.</p>
<p>Sounds like a great idea. We “seniors” do not like to drive into the larger cities, but might go there if we didn't have to drive.</p>
<p>Sounds neat.</p>
<p>Texas desperately needs multi-daily passenger rail service between DFW-Waco-Temple-Roundrock-Austin-San Marcos-San Antonio and between DFW-Waco-College Station-Cypress-Houston-Galveston.</p>
<p>TEXAS HAS BEEN TALKING ABOUT THIS RAIL SERVICE FOR 20 YEARS NOW. I AM SO ANGRY NOTHING HAS BEEN DONE! I LIVED IN EUROPE FOR 8 YEARS AND CONSTANTLY USED THE TRAINS TO GO EVERYWHERE. GIVE US THE RAIL SERVICE WE SO DEARLY NEED.</p>
<p>Thanks.</p>
<p>Thanks for survey.</p>
<p>The biggest problem that I foresee with intercity rail is that once you get from Point A to Point B, your travel options are then limited, unless the destination city has an effective public transportation system involving buses and light rail. Car rental places would have to be located within walking distance of a train station, or within transfers from high speed rail to light rail or buses. Having a car in your destination city offers you more flexibility for sightseeing, shopping, and business. To be effective, high speed rail must have other forms of transportation readily available to the traveler. It also needs to be cost competitive to compete against the short-haul airline flights. I live in Waco. If we had high-speed rail to DFW that could also connect to Love Field, I would take it every time I wanted to fly out of the Metroplex. It avoids the DFW traffic and is much less stressful to the traveler.</p>
<p>The future is coming FAST!</p>
<p>The idea of having an intercity passenger rail service in my community would be a great idea because I would not have to worry about driving on I-35 which has becoming so congested and would use up so much time due to road construction. It would be nice to keep in mind of the special population using the rail service is to have the captions inside the train, so the deaf and hard of hearing would look up and know that their destination is getting closer or if important news bulletins need to be announced.</p>
<p>The inter city rail might be great, but ability to get from one place to another once you get to the destination city would be challenging. Destination would seldom just be downtown, unless going on business.</p>
<p>The intercity rail would be a great addition to the City of Waco. It would be a great learning opportunity for children as well.</p>
<p>The key to intercity rail travel success will be the quality, cost and convenience of ground services once you reach the destination city. If I have to pay \$40 for cab ride from the station to reach shopping, museums, etc., then the ease and efficiency is lost. That said, I am very much in favor of this idea if the details can be worked out because driving in Dallas, Austin, SA has become very crowded and unpleasant. Thank you!</p>
<p>The main drawback to rail travel is that I still need a vehicle when I reach my destination and usually several of us travel together so the gas divided by number of individuals in the group comes out less expensive than for each of us to purchase tickets for the trip.</p>
<p>The number of stations and the convenient usage of public transportation around the destination cities will impact whether or not I take a train. If it is very costly or there is not easy access to my final destination then I will drive and not take the train. I have used trains frequently in California and find it efficient and convenient but their transportation systems are much better than what Texas offers. So if you plan a train then plan for getting passengers all around the city too.</p>
<p>The problem is once you get to the city, it might be difficult to get to your destination unless someone came to get you. For example, how would you get the arboretum in Dallas once you got to downtown? Definitely, train service to the airports I would take. Or a train ferry where I could drive my car on and then have it at my destination if the price was not too high.</p>
<p>The problem with rail is that once you get to your city destination, and if the end-point is not within a few blocks of your personal destination, you either have to rent a vehicle or have friends/relatives pick you up to travel the remainder of the way.</p>
<p>The problem with rail travel is that while it may be cheaper for the initial ticket, once you arrive at your destination, you still have to pay for bus, taxi, etc. to get around the large city you just arrived in. Especially if you are visiting for pleasure and intend to visit several attractions.</p>
<p>The problem with the rail service is the frequency of the departures. Another issue is transportation once you get to Dallas.</p>



The sooner, the better.
The study was easy to fill out and the questions easy to understand. My preference is 3 hours less time to wait if I miss one returning home.
The survey would have made more connection with me if you had used Austin as the city on your survey.
There was not mention about security systems with regards to the rail system. I think that would be a huge concern for people using the rail system.
Think it would be a great idea.
Think it's about time we caught up with Europe in this area. My husband & I love traveling by rail & do so every opportunity we have.
This is essential, given the congestion on major Texas highways.
This is way past due—let's get this done!
This may be an excellent method of travel, once we become acclimated to its convenience.
This this is long overdue. Alternatives to single occupant vehicle travel MUST become an alternative.
This was something that I never new about and I think that it was very important to me too. But I am happy to learn about it and everything too.
This would be a great idea to have here in Waco.
This would make my travel to the DFW and Austin airports much easier!
Though one would suspect that rail might be safer, I think it would likely be unsafe while waiting in the station. One also might think it is a faster way to travel, but when you account for time spent waiting for the train, and time spent (and \$\$ spent) getting from the station to the destination after arrival, the time spent would be approximately the same. I have also heard that the process of building the trains and tracks causes more environmental damage than cars, so trains are not necessarily more environmentally friendly. And...we are in a recession. Who is going to pay for this? Not the State of Texas or any government entity, I hope.
To ensure a successful system, the high speed stops should connect strong urban cores with transit and dense residential and employment centers.
Trains are wonderful if personal transportation awaits at your destination. We are too sprawled out to ever make that efficient. If a train connection such as that described here was put in place for the airports, I would certainly use that.
Travel by POV allows stops at any point along the way. You are free to take different routes. At your destination you can travel when/where you want without knowing local transportation schedules.
Travel with family is cheaper by vehicle. Solo travel would lean more toward train.
Waco could definitely use intercity passenger rail. I would travel to see family in San Antonio and Houston much more frequently.
We enjoy riding Amtrak to Ft Worth and San Antonio now.
We have neither the population density nor the high fuel prices necessary to create enough demand similar to a European model. If Amtrak can't make it in the NE with much higher population densities and heavy government subsidies, how can this work?
We have students at UT in Austin and also have a second home in Lakeway. Also we like to travel to San Antonio and Dallas. We would love to have the light rail option.
We have students that live in Dallas area traveling to Waco for college, would help on expense on gas, and safety measures.
We need reliable train service.
We need this I hate I35 please make it happen.
WE REALLY NEED RAIL SERVICE IN WACO. THANKS.
We should have high speed rail between cities as well as a rail system within the larger cities. WE are way behind the rest of the world in this.
We simply cannot afford this project at this time. Money should be spent on schools.
We travel to Dallas mainly for soccer tournaments and the only reason I would not use the rail is because of transportation I would need in the city. Otherwise I think it is a great idea and for concerts I would love to use the train!!!!
Where would train stations be located? Would there be more than one location?
While the travel time would be reduced, the time spent and additional expense on the other end waiting for buses, DART, etc would offset any savings. The other problem is the survey assumes a single person traveling when we usually travel as a couple and the PER PERSON cost then shifts back in favor of the auto. For business travelers going between Dallas-Houston, Dallas-SA, etc the rail might make a compelling choice. For those of us who travel for pleasure and want a maximum of flexibility, forget rail.
Why no question about the impact of the rail system on our taxes?
With the intercity rail there will need to be comprehensive intracity transportation plan to move passengers to and from the intercity station to convenient locations throughout Waco.
With the present administration, we (taxpayers) cannot afford this luxury. It would be a great idea if it didn't inconvenience land owners (which it will).
With traffic increasing on Interstate and other highways, intercity travel will be safer, more efficient to seniors like me.
Would also use high speed rail to connect to Ft. Worth to ride Amtrak to OKC to visit mother.
Would be beneficial, helpful for everyone. Should have been done years ago.

Would be great if also can get you to airports in the bigger cities.
Would cut down on highway construction costs (and maintenance costs) if intercity rail travel caught on and was used extensively.
Would help Waco businesses in Dallas, Houston etc only if those cities have frequent and extensive public transportation.
Would like to be notified if there is a public meeting. We really need this!
Would love to have high speed rail connecting to Dallas, Houston, and Austin light rail service.
Would love to see it happen. I think it would transform our state.
Would tickets for children cost less than an adult ticket? Would there be a discount given for purchasing a day-ticket or an annual pass?
Yay trains!
Yea! I hope this comes soon! I have considered the possibility of commuting to Dallas for work, but could never do so w/out high speed rail. I would have many more opportunities for promotion if I could work in Dallas—with the added bonus of not having to live there.
YES, efficient, safe, reliable TX intercity rail service is overdue! TX is the size of many countries and all this driving has negatives for the environment. We are behind on this issue. Every city should consider rail from the city center to its airport. Waco has a small airport so rail service connecting to DFW would be a huge help for many local residents. I actually have to drive to DRW later today.
You're about 20 years too late.

**Table E-2: Verbatim Survey Comments: Temple**

1) It will never pay back. 2) The destination stations won't easily get me to my final destinations. 3) Please do not consider taking virgin right of way for this project.
Are they safe??? Will it attract more crimes?? How will security be monitored?? It's all about safety!! I rather pay more gas and drive myself around then be a target of a crime in an intercity passenger rail.
As long as the price doesn't get too high, people (including me) will ride it.
Austin and San Antonio data should be developed and provided in the Survey or can be selected early in a tree rather than only trips to Dallas.
Based on my experience visiting New York City, I feel that a public transit system would be extremely beneficial to this area. The idea of "hopping" a train to Dallas for a day and coming back, without the worry of traffic, automobile issues, or fatigue sounds very interesting.
Being a retired teacher it would be the very exciting for our students. I know some of our students have not been out of Temple. The community would be happy.
Bring it on!
Bring it on. I don't care if I never drive I 35 again in three lifetimes!
Conventional rail times are adequate as long as the trains run frequently and on time. High speed rail is a low priority to me. Use of existing rights of way is the only way that people of Texas will agree to do this. City center to city center is a must. Stay away from bus terminals and airports as these venues drive away rail passengers.
Create low cost opportunities to experience rail at all levels (Free vacations etc.) and people would learn to love and use it as they do in Europe. Like Eurorail passes for all of Europe, you could have an Amerirail pass for national and intercity rail that is government funded. Unless the Republicans kill it of course.
Depending up on who you are targeting—recreation or business commuters—you need to make the time between trains shorter. I travel in Europe extensively and it is nice to be able to catch a train at least once an hour. Also you might want to consider giving group discounts because if it cost me only 20 dollars for gas for 4 people in the car vs 160 (40x4) I would pick the car.
Do it!
Do it!!
Do not cut down trees or make people leave their homes or lose their businesses!
Do not use passenger rail service on freight rails.
Drive I-35 and go 58 MPH every mile of the way behind a wall of 18-wheelers? Or drive downtown and ride a train in comfort for about the same cost? This is a NO-BRAINER. BUILD THE RAILS!!
Even though I may not live to see light rail service, I firmly believe it would be an asset to everyone working/living in the Dallas to Houston area.
First I have heard of the planning.
First of all I have to drive at least 30 miles to terminal and second Austin has tried and it's not working. I have a son who would use it for pleasure but the schedules are not set up for this type of travel. The impact for the rural land owners needs to be considered along the migratory flight patterns for ducks geese etc. and the natural habitat for local wild game. Thank You.
For a city the size of Temple, I think monies would be more wisely spent on our current infrastructure (highways).
For a family of 5, individual costs of train travel and possible lodging due to timing of train arrival and departure may be added expenses that push families to use their personal vehicles. Cost effectiveness would be a major consideration.

Frequency of trains would need to be such that you wouldn't have to wait a long time for return travel. If you have a two hour meeting in Dallas I personally wouldn't want to wait another 4 to 5 hours for the train back to Temple.
Frequency will drive demand more than low prices. Don't hesitate to charge a little more if the service frequency is competitive to automobile travel. I believe that a passenger line from Dallas to Houston is a great idea but the route should follow the most densely populated path through the state. I have many other comments I could make but one thing stands out above the rest. The passenger trains in Texas MUST be marketed to the Generation Y and beyond. If these trains do not have WiFi/3G/4G they will not succeed as well in attracting riders. Children today are more concerned with their technology and how to remain on it throughout the day than on owning a car. Allow them to play on their iPads/iphones/laptops uninterrupted and they will ride the train all day. Work with technology companies that are heavily invested in these devices to devise funding strategies in PPP's.
From a senior, it will be much more convenient to see my children in other places. Also, my grandchildren can visit alone by using the train and did once already!!
Gas costs reflected in your early questions are grossly outdated. One of my main reasons for traveling by train rather than auto is savings in gas costs.
Good idea.
GREAT IDEA!
Great idea, finally a way for less fortunate people to travel long distances w/o needing a vehicle.
Having reasonably priced local transportation available when I reach Dallas is the key to making it work for me. Thanks.
High speed rail could eliminate much of the danger and confusion of driving on the 35 Interstate, especially in light of the fact that recent changes of allowing Mexican trucks more access will increase the congestion.
High speed rail is more desirable than auto travel. If inner city rail was developed, it would enhance intercity rail tremendously.
HIGHWAY I-35 NOW HAS MANY MORE VEHICLES TRAVELING IT, THAN IT WAS DESIGNED FOR. MANY OF THE HOTELS IN DALLAS AND HOUSTON CHARGE UP TO \$40 PER DAY PARKING RATES. THE TRAIN TRAVEL WOULD BE MUCH SAFER.
How would it effect the land? For example would people or businesses have to move off their land in order to have this railway? Would the pricing be affordable for low socio-economic families who cannot afford a vehicle?
Hypothetically, if I were to ride a train to down town Dallas, I would then need to rent a car to get to my destination which would increase my travel cost. I would not use a train to go shopping because of the hassle of lugging the items I purchase on the train with me for the trip back to Temple.
I am not aware of any Temple company that uses rail. All shipping is done by truck. On the Second Front Page 2-4B article "Temple survey takes aim at trains" the article says that Temple is sustained by rail commerce. That is a comment only a complete moron would make!!!
I am not familiar with the train rail service other than knowing a few people who take the train to other states for vacation.
I answered the hypothetical questions as if they were one-way prices, not round-trip. I wasn't really sure if that was the intention of the scenario, though. Also, I have no real experience of rail travel, but have this impression that it might be "dirty" like a Greyhound, or the Houston Metro public bus system. If that were the case I would be unlikely to use it.
I answered these questions on the basis that only I was traveling. If I was traveling with my family, with all the options posted in this survey, I would drive rather than take the train because it would be cheaper to drive as I would not have to buy tickets for every passenger.
I believe a passenger rail service in Temple would be wonderful!
I believe it would be an exciting experience for me my family and community. Able to travel more places in Texas.
I commute from Temple to Killeen for work, are there plans to link Killeen to the system? If so I would use it daily.
I could travel to the destination cities. Now, with exception of Austin I do not feel comfortable driving in the other cities.
I currently live in Round Rock and work in Temple. Train ticket cost would be a big consideration for me.
I do a lot of traveling to foreign countries through DFW airport. It would be nice to take a train to DFW from Temple instead of flying. Make sure that the trains are very accessible to the major airports. Having the high speed rail terminate in a new terminal at DFW would be great. I would also use it to Houston Intercontinental. I would also use it to go to Astros and Cowboys games.
I don't much about it.
I don't see any reason to make a railway system if it's not cost effective. Texas is an energy state and should be leading the country in travel. I would like to see a more faster, innovative way to travel, like other countries that use high-speed rail. Although it is safer, but saving 30 minutes to 1 hour doesn't seem very efficient at long distances. Austin Capitol Metro ridership is under constant scrutiny and riders have lots of valid complaints about the seemingly failed railway system that began with massive budget shortfalls, delays and community complaints. Will the TSA at any point be appointed to security for rails? This organization is a direct violation of Americans 4th Amendment rights, and would only create government jobs which is counter-productive to a limited government and to travel freely within states. I currently do not purchase airfare because of the TSA's illegal practices and proactively encourage others do the same.
I don't think it would work very well in Texas. I personally don't like to ride on trains.
I doubt I would use it because once I get there, I need to get around to the outlying areas like Addison from Dallas and Round Rock Outlets in Austin or San Marcos. The cities are so spread out and the availability and familiarity with their bus travel

would prevent me from using it. Also, I can't carry that much stuff with me on a shopping trip whereas if I have my car with me, I can lock my stuff in the truck and continue shopping. So, it is not efficient for shopping at all.
I enjoy taking trains—the key is what kind of transportation you have wherever you have to connect, such as bus or vans, light rail or other choices. Cabs are kind of expensive and not as dependable in some locations.
I feel that a good passenger rail system is essential for the future of Texas. Just drive IH35 this weekend and see what I mean.
I feel that will be beneficial as times are changing.
I have lived in the Netherlands for the past 4 years and I cannot say enough about the positive impact of a rail service. Its convenient, safe, and much better way for commuting to and from work. It just needs to be affordable.
I have traveled in Europe and think that a high-speed rail should definitely work in Texas. Actually we should be ahead of the Europeans in the sense of rail lines for the amount of territory and distance we must cover to travel within our state. Temple would be a great stop, it has always hosted trains anyway! Thanks.
I have used it in Europe and Japan and I think the sooner we have it here the better our future will be and the cities that have it will grow faster. The highways are overcrowded now.
I hope to see high speed rail service such as the T-Bone that has been proposed for Texas approved and started within my lifetime.
I hope to see it soon!
I like the idea of it, but I'm very attached to driving and being able to use my car once I reach my destination city.
I live in Bryan, work in Waco, and pray daily for rail service up the Brazos Valley!
I lived in Europe for 2 years and took trains and metro's every day. I think it is wonderful and cannot WAIT for Texas to put in high-speed passenger rails!! I would use them daily!
I love riding the train, I remember when my children were in school we would ride to McGregor TX a lot I think it would be great for senior citizen to just ride it for enjoyment the last time I rode a grandparent rode to Ft Worth just to give the grand kids the experience of riding a train.
I retired from the Santa Fe/BNSF railroad. For 33 years, I watched near empty Amtrak passenger cars go by. I watched; almost daily, Amtrak delays by trains, track gangs, other railroad delays like on the UP. This cannot be stopped. It just happens. Our government has been funding millions of dollars into Amtrak with no profits to be seen. Amtrak is a dead horse. Put the money into education or something useful!!
I think would be great to have a new way of transportation, besides the regular Amtrak.
I think high-speed rail will alleviate congestion on the interstate, reduce wrecks and save lives.
I think if you are considering this service, the trains would need to run more frequently than every two hours. Also with terrorists ambushing the trains, it is scary to want to put myself in a position of traveling with a lot of people creating a target for such threats.
I think it will be a great for the community and for the people of Texas.
<b>I THINK IT WOULD BE A GREAT ASSET TO THIS COMMUNITY. GOOD LUCK!!!</b>
I think it would be a great thing to have here, for work trips and shopping or just going out for a night and back the next day.
I think it would be beneficial for all...but only time will tell...though a question for thought—will this raise our taxes?
I think it would be WONDERFUL to have a passenger rail service in Temple!
I think rail service would be great since we have such a crowded interstate to go north or south. Much more comfortable on a train than fighting the traffic on the interstate. You are much more relaxed when you get to your destination.
I think that in theory, this is a good idea; however, I am not sure how many people are actually interested in traveling by train anymore. People want the status that comes with owning their own cars and being able to afford to travel using those cars; they don't want to share the traveling experience with 200 others every day for a work commute.
I think the intercity passenger train service is the perfect way to fund jobs and job training and it is also the perfect way to bring tourist and new farm produce to Temple.
I think this is needed.
I think this would be a boon to a greener time to reduce pollution and reduce accidents by personal vehicles. This would help senior citizens by providing an outlet to bigger cities shopping centers and possible trips to visit relatives and friends. Also the business community would benefit as well.
I think you need to look at the HOP and Amtrak and use that as a determinant before spending tax money for a rail line that will drain funds. Amtrak has been subsidized by the tax payers for years. They cannot even support themselves.
I traveled extensively by rail as a child and miss being able to do so as an adult due to the lack of routes and services.
I truly hope this comes to be. I know I personally would use it at least 2 times a week round trip or more. A system like this would truly be a great asset to my family and friends I know. As is I ride the Texas Eagle like 8 to 10 times a year. I would most certainly use this system more often with the time it would save me and also with it costing as much or less than a tank of gas. I love rail travel as it takes the hassle and stress off of traveling. I also see how this could have a huge impact on the environment cutting the carbon footprint of automobile emotions.
I was happy with my experience with train travel as presently available. I recommended it for family from Nebraska who flew into D/FW, visited family there. They used the train to come to Temple and enjoyed the trip. My son was also pleased about not having to drive I-35 down and back to Dallas in one day.
I was in Waco the other day with the traffic highway congestion and saw the high speed rail billboard and I told myself, "it's time!" Mainly for safety!

I wondered if there would be any station stops on the way to large cities.
I would be open minded about this new rail service. I haven't heard that much about it.
I would certainly try this experience and probably use it if my first experience was a positive one.
I would have to consider transportation when I arrive in a larger city. That would be the only dilemma in using railways.
I would hope that there would be Police or security guards available on the trains.
I would just want to know more.
I would like to see Houston included in these destinations.
I would like to see something like this work in the states. Overseas its the only way to get around and it works great.
I would like to travel to Dallas to take my granddaughter to museums and the zoo, but I would be afraid of how to get from the train station to places I want to go.
I would love an intercity passenger rail service! Please please make it happen. While it's always nice to have a car available to go where you want when you want, an intercity rail service would be amazing to commute to work everyday, and get to Austin, Dallas, San Antonio more often. We would use it to go eat dinner somewhere and then come right back!
I would love to go from Temple to a spot on the Texas coast on a train.
I would LOVE to go places by train. It is safe and very relaxing.
I would love to have this service in my community. I would travel much more.
I would love to hear more about this project. I think the intercity passenger rail service offers our area with new and exciting possibilities. I look forward to learning more about it.
I would love to see this service available in the Temple area. Our family travels Amtrak to travel to Oklahoma several times a year. We recently took Amtrak to Ft. Worth for the day.
I would not use the train because once I get to the larger city I would need my own vehicle to get to my desired locations.
I would not want it if it were going to pass through a farmers land.
I35 is a nightmare to navigate. I would definitely use a rail system between Temple and major cities. It seems like the least expensive and most effective way to travel to those cities.
If a trip is for shopping, a car is convenient for carrying purchases. It is also convenient with regards to flexibility.
If costs could be controlled rail service might be a success, I doubt there would be much effort to controlled cost; only until approval was received. Cost would quickly increase.
If I knew the intercity passenger rail service would be handicapped accessible, I think I would be more interested in riding it. I have a son that is handicapped and uses a wheelchair.
If there is a possibility of creating an intercity passenger rail service, it is highly important to remember the cleanness of the train... I wouldn't take that train if this becomes an unpleasant place to ride in... With this say, the company should have a system which would allow to have employees cleaning and checking the bathrooms very often throughout the day.
If trains were run at least every 2-5 hours and if the rail service were convenient to major shopping/eating areas in Austin such as the Arboretum area and The Domain, and/or if it were convenient to the Museum district in Fort Worth, I would probably ride the train at least once a month or more.
I love the idea.
Intercity passenger rail service is fine with me as long as no one's property, (farm or home) is taken to build the rail line. If the rail service will run on existing rails that have been adapted to high-speed rail service, I am for intercity passenger rail service. I do not want to have my home or property taken from me for this project.
Intercity passenger rail service would open up opportunities in many ways. Traffic on I-35 is horrendous and a deterrent to the idea of taking more family/educational day trips to SA, Dallas etc.
Intercity rail probably wouldn't help me going to Austin, because I need a car once I get there. Based on my use of Amtrak in other areas, I suspect the major potential market for rail is college students traveling to/from campus. They travel a lot, but don't need cars at their destination. Rail advocates in Texas should stop looking at N.E. corridor or overseas. The closest models are Michigan, Illinois, Wisconsin. They're much more like Texas.
Intercity rail would not be convenient for most people. Traveling by rail to the downtown of a city would mean being be stranded without a car, so then having to deal with buses or cabs. It can be time consuming and bothersome, especially when carrying bags. Intercity rail would be an expensive project, which few people would utilize.
It doesn't have to be "hi speed" rail, it can be any speed rail as long as it is reliable and on time.
It will never work efficiently in TX or the US because the rails are owned by the commercial industry and they are Kings. The best way economically and ecologically is to build new above ground rails that are high enough not interfere with traffic or the biosphere only coming down to earth as they reach the city station. By owning their own rails dedicated to people moving there is no traffic allowing the trains to go as fast as they want. Imagine an elevated rail train 100 feet in the air, with minimal footprint, going 280 mph non-stop from New York to Miami or from Houston to Chicago. But the railroad barons have the power and will never let that happen.
It would decrease the number of mile I put on my personal vehicle. I like the idea being able to read and relax during the trip to Dallas. I drive to Dallas to see my Father who is in the hospital and it would be nice to not be tired from the drive when I go to see him or be tired on my drive home from caring for him.
It would help to have the service. Some of my answers take into account that I would need transportation once I reached my destination—thereby increasing the cost.
Items that are important to me...travel time between cities, time between trains and reliable and affordable transportation from

train station to desirable areas for shopping, restaurants, etc.
It's a great idea!!!
It's a nice idea, but too expensive. And, so far as I can tell, there's been little concern about running it through the blackland prairie, one of the earth's richest farm soils.
It's just a money absorbing train that our community doesn't need. Tighten the budget, we individual families have had to. This would only benefit the business traveler.
I've always liked traveling by trains.
Just hurry up and get it done.
Larger cities would benefit from travel into them but Waco and Temple would lose shopping income as people travel to larger areas.
Leave the farm land alone if development occurs—use that crazy highway to build it: then all others will travel via frontage roads like in the olden days.
Let's get going!!!
Love to travel on Amtrak. Smooth ride, fairly timely, no fighting traffic.
My daughter's family lives in Denton ... I would love an alternative to I-35 to go visit her. Rail service from Fort Worth or Dallas (not sure which) to Denton has just begun. Would make driving to Austin or San Antonio much easier as well.
My family drives to Manor and Grand Prairie to visit family often—rail service to downtown Austin or Dallas would not benefit me.
My family would love it we have family in Austin, Dallas, and even further away and we would use it everytime we wanted to visit!!
My husband & I like to ride trains & do so when we travel—i.e. Alaska, Missouri, Colorado, etc.
My husband and I would be thrilled to get passenger rail service available to us in the Temple area! We have often talked about how it would simplify our travel to visit family, and how nice it would be to have a comfortable alternative to driving ourselves.
Need hi-speed rail now.
Not all downtowns are created equal. I'd hate for the train stations to become scary like downtown bus stations.
Not clear how small children and infants would be securely strapped into the rail seats. Would not carry child safety seats with me on the train and around town due to weight/bulkiness, especially with 2 young children.
Oh go ahead and create a new taxing entity. Just do it! You know you want to.
ONCE YOU GET TO YOUR STOP WHAT WOULD BE THE MODE OF TRANSPORTATION TO THE LOCATION YOU ARE GOING TO IF THE STOP IS NOT AT LOCATION YOU ARRIVED AT?
Once you arrived in a metro city, you would then have to take a taxi or some other form of transportation to get to your destination. The cost would be additional. Not sure how safe the public travel systems are in large cities.
Our town is too small to need a rail service. The only people riding it would be the homeless who currently ride our bus system and "live" at the library. It would be a waste of money to put such a system in Temple. A rail system going to other towns would be wonderful!
Passenger rail service sounds superficially like a good idea but I am unclear how practical it would be in a large state such as Texas. Our state is very spread out. Rail could get us from city to city, but would require development of comprehensive transportation services in each city to get passengers to their ultimate destinations. Not everyone wants to go to the same destination. Also, frequency of trains would need to be high to allow convenience of use. Waiting 4-6 hours for the next train might get old soon. I live in Temple but need to often work in Waco. My work day varies from needing to start at and sometimes before 7 AM and sometimes finishing at 4 PM but often much later such as 7-9 PM. Often side trips need to be made to meet other obligations. Could a rail system be flexible enough to meet such needs which might be common for many other Texans? It would be unwise to obligate Texas to spend billions on this system without clearly understanding the logistics of making this a viable system of transportation.
Please bring intercity passenger rail service to Temple!
Rail service is great. Most people don't know a thing about trains. They can save fuel and can take up less land to carry the same amount of people. Over head trains even take less farm land.
Rail service will only work if unsavory characters using public transportation were supervised well. Also, as long as ticket prices remain fairly high, families will find it much less expensive to travel by car.
Rail service would just be another pit into which money would poured. Not price competitive now or ever. The folks who are proponents of this have rocks where their brains ought to be.
Shoppers could potentially leave Temple merchants to shop elsewhere causing the local economy to suffer. The hypothetical ticket prices for the intercity rail service are unrealistically low and will cause your collected data to be inaccurate. Please be more realistic in your ticket cost data provided to survey takers. This project will be a burden on taxpayers because it cannot sustain itself financially. The northeast rail corridor is only just marginally financially sustainable rail service b/c of the high volume of travelers. Texans like having the independence and freedom of being able to travel in their own automobiles. The volume of riders will not equal the number needed to financial sustain this project. I have ridden extensively on the TGV in France. The price tag was expensive, i.e., equal to \$79 for a one-way ticket for a trip not too different in distance from the one described in your survey. Please be more realistic in your ticket cost data provided to survey takers. The environmental impact of this project would be significant because it uses a virgin route and cross valuable farm land. The type of technology,

<p>metal wheels on metal rails, would result in a very rough ride in the black land prairie that the rail would cross because of the high shrink/swell of the base soil. Travel speeds will probably not be as high as imagined thus travel time will be longer than calculated. Magnetic elevation rails would be smoother but the technology is more expensive and less commercially available. I see this project as one big burden to our economy in the long run because it will have to be supported with tax payer dollars. The novelty will wear off and the interest will subside. People will return to their autos.</p>
<p>Sounds great!!</p>
<p>Sounds interesting.</p>
<p>Sounds wonderfully efficient.</p>
<p>Texas cities are big and spread out. Taxi cost from station to place of business costs much more than train ticket. Add time and cost of taxi or rental car or friends/associates to pick up/drop off and there is no way train travel would be my choice in Texas. Family members have used Amtrak from Temple to FT Worth several times—price is great, but the hassle and inconvenience make it an awful choice.</p>
<p>Thanks for exploring this possibility! I've commuted 4 days/week to Austin in the past (for 3 years). Looked into Amtrak but the schedule worked (somewhat) in the opposite manner from what I needed. Temple needs to take actions to draw more young professionals to our community. This is one positive step in that direction.</p>
<p>The novelty would be one thing. Over the course of time, the people riding the train, are not the people you want to be riding anywhere with. It will become like AMTRAK. Lousy service, illegals with sleeping bags, and risky. As soon as the shine wears off, people will jump back in their cars. This is not a European culture where countries are clustered together. Europe, over the past 300 years, has rarely had a good idea.</p>
<p>The “high speed rail” is just another vain attempt at getting the trans Texas corridor accepted one small piece at a time. Texans LIKE their independence and Mass Transit like this is limiting and other costs are veiled to make it look more appealing. I will never vote in favor of “High Speed Rail”.</p>
<p>The cost for rail transportation used in this survey is extremely costly compared with the cost of rail transportation in the East.</p>
<p>The expense for local travel once you arrive at a destination must be added to the cost of using a train. More flexibility locally if you drive a car.</p>
<p>The experience I had with high-speed rail service in Germany was great! And if it were available here, I would travel to Austin much more.</p>
<p>The frequency of rail transportation to destinations I need is an important factor. Having to wait 6 hours for transport to Dallas or anywhere else is a major deterrent to using rail transportation. Convenience of time is important when planning appointments. Moreover reliable, inexpensive intracity transportation about these metropolitan areas is equally important and impacting upon my decision whether to travel by rail or personal vehicle.</p>
<p>The location and route of the rails would be a prime consideration as to it being agreeable. With todays equipment noise wouldn't be a problem. Transportation from station to destination would effect desirability.</p>
<p>The main concern I have is the lack or inefficiencies of existing mass transit systems in the large cities in Texas. I have been to San Francisco and Washington DC which have very efficient transportation around the town. So great, I get to Dallas quickly but then I am stuck paying for a taxi to get to Arlington or one of the suburbs. The cost of a ticket on the light rail is going to have to be considerable less than gas and wear and tear on my personal car to allow for taxi cost. Also when I go by private car, it is usually more than just me in the car so it makes it more economical to drive. I like the idea of the light rail (I think a monorail system would be better) but there are still a lot of concerns.</p>
<p>The major reason I would not use the rail system would be the amount of time between trips I would like to see a route say every two hours even if it cost more.</p>
<p>The only country in the world that has very little train service seems the airlines have a good lobby group and what do we have a bunch of bad airlines with bad service.</p>
<p>The only problem with the train is when you get to your destination you have to find a way to get where you are going which is more money.</p>
<p>The questions did not address how I would be able to get around in my destination city. If I have to rent a car when I get there, I have not saved anything.</p>
<p>The rail service sounds interesting, but if only stops in one downtown location in each city, it becomes less efficient if I have multiple stops to make around the destination city, making personal auto necessary.</p>
<p>The state is having a money crisis. This is not the time to be doing intercity passenger rail.</p>
<p>The United States is decades behind in Passenger train development. Texas has always favored building more highways. Texas's Republican government would not surprise me if it sent any High Speed Rail stimulus money back to the feds like Florida did. I think it is high time Texans demanded more trains, especially HSR! I hope I live long enough to see it happen.</p>
<p>There needs to be GREAT consideration about travel AFTER one gets to destination. Cost incurred for taxi/bus services, ability to get to where you need to go after the train ride. Also, need to consider land owner requests for access to their properties as THEY see the need for access sites, not someone that does NOT work on that persons land. AND when this action does take place, not to take advantage of the land owners to get the land.</p>
<p>This could provide an opportunity for me to seek other professional jobs within Dallas or Austin. This would be great for my daughter because she is a competitive cheer leader and her cheer organization travels to Dallas in the fall/spring anywhere from 4 to 5 times.</p>
<p>This idea sounds very exciting to me. I would definitely use it!</p>

This is one of the most important issues that would spur economic development and increase the quality of life for the residents of Temple, TX.
This kind of travel is impractical in Texas. Most people who travel are not going just to the metro centers. Once you get to town, you still need to be able to get around. Rail service is totally impractical. We do not have infrastructure within our cities like Boston and New York and D.C. for getting around. People will not use this kind of transportation. Perhaps some business people will, but it is doubtful it will be popular for non-business purposes. Even for business, if someone has to wait several hours to catch a train, they are going to drive instead.
This needs to be a priority along with a highway for NAFTA—18 Wheelers alone.
This would be a very exciting and beneficial addition.
This would totally change commuting patterns and position our area for positive growth and lessen the congestion I-35. In my opinion it is a better use of transportation funding than building more roads.
Time of travel is not necessarily a factor for me. The cost sounds very good, but there would need to be frequent trains. Also, the interior picture looks crowded. The seating and aisle way doesn't look very accommodating for a large size person.
True High Speed Rail, 200+ MPH and greater frequency will have a positive influence on ridership. Of course, reliability and affordability are important as well.
Try travelling to Phoenix Arizona. The trains go sort of near there except on Sundays. We need a European type rail system badly. I never owned a car when I lived in England or in France or Germany. Trains to London ran every 2.5 hours and took an hour for the 75 miles. Friends lived in Dover and worked in London. And England doesn't have high speed on the Southern Rail lines.
Two factors would encourage my use of trains: cost, frequency and length of travel. At a minimum there should be departure every 4 to 6 hours. The travel time needs to be similar to a car. I looked into traveling from Temple to Kansas by train. It took 7 hours to drive to Wichita by car but I could have ridden in a train for 41 hours. There was no choice! When they were old enough I used to send my sons by train from Fort Worth to Houston and Austin to visit relatives. The fare was \$25 and they could play their Game Boys on the trip as they would have in the car.
Unionizing the rail service would standardize maintenance and operations rail service.
We need it!
We took Amtrak to Dallas once and it was enjoyable. My kids have medical appts. in Ft. Worth and I would use for this, Medicaid might be able to use for their transportation services also. I have family in Dallas and they would use to visit Temple also.
We would absolutely use this between Temple and Austin and between Temple and Waco. Think it is a great idea.
We would love to be able to go to Fort Worth, Dallas, Austin or San Antonio by train. I even take the train to visit my daughter and her family in Longview even though it takes longer to take the train. I enjoy not having to worry about traffic on I35. We would do more of these trips to the cities I mentioned if we did not have to drive I35.
What would we do when we got into Dallas to visit family. Then they would have to come in their vehicle to pick us up, and we would not be able to travel to other places as we desired.
While I have never taken advantage of this type of transportation, I can see where it is probably necessary for the future. The cost of gas and long term effects of car emissions will require some sort of change for transportation in this country.
WHOO!
With a family—it is more economical to drive. I drive to the Dallas area—not to downtown. Would there be stops along the way?
Would be delighted to have this rail service and would use it often! Travel on I35 will become more congested and dangerous.
Would be nice to have family prices too. And not just for two adults and two children. But two adults and four children. I know that special prices for families would make it easier for a family to use the railway system. But if the prices were per person then it would still be more economical for my family to drive up in my suburban than to ride the rail. Paying \$50.00 to get my family to Dallas and around and back home would be more economical than paying \$41.00 per person which would be \$246.00 for my family to ride. Not smart for me!!!
Would like for the train to stop in Waco, TX.
Would like to see it happen, but think it will be greatly resisted by many i.e. I have to use my car!
Would like to see this happen.
Would love it!!
Would love it.
Would love to be able to travel from Georgetown (where I live) to Temple (where I work) as a daily commute.
Would love to see this happen.
Would probably be interested in day trips to Houston/Dallas/Fort Worth areas because I don't go as much because I don't like driving there.
You try to make it sound so feasible, BUT you're only trying to sell your rail system. There will still be additional expenses in getting to and from the station to your destination, not to mention the time delay. NOT A GOOD IDEA!
You've missed one important aspect—we are Texans and our independence is important to us. A slight savings of time and money for using rail will not be enough incentive for us. We like the ability to go where we want, when we want, at our destination city. Also, your survey only gave scenarios for Dallas which is difficult to navigate without a car. If I had been asked those same questions about Austin and San Antonio I might have chosen the rail option for those cities.



**Table E-3: Verbatim Survey Comments: Hillsboro**

Bring it on. I think it would be a positive thing for our community.
Good idea.
Hurry up and get moving.
I drive my personal vehicle two days a week from Dallas to Waco for work and the only real problem I find is there are way too many large trucks on IH35. Many of the truck drivers do not consider smaller vehicles on the roadway. Rather than build a rail service, I would rather see a separate roadway for 18 wheelers or some means of keeping them out of the left lane of traffic. I have observed a number of bad accidents due to the inside lane of traffic being stopped or slowed to 15 to 20 mph because an 18 wheeler abruptly changed lanes of traffic causing a number of cars to plow into each other.
I have always loved trains use to travel frequently between Chicago and Corinth Ms.
I have recently took my first long distant train trip and really enjoyed it the staff and attendants were very professional and helpfully overall a very enjoyable experience.
I think it would overall be a positive think for Hillsboro.
I think system would be great for people who are without transportation, who are needing to commute from city to city.
I think that the intercity passenger will be great for family traveling and not having to drive. My husband does all of the driving and this will be GREAT for him. So then he may sit and sleep will we travel to Austin, Dallas, Houston etc... Maybe we will do more traveling then. And not be so tired. I have always wanted to travel by train, this will be a good thing. PLS
In the examples given, the trains did not run often enough to be of any benefit to people in outlying communities who work in the cities. I live 20 miles outside of Hillsboro outside of a small rural community and work in Waco; even two hours from one train to the next is too much.
It would be interesting to be able to see if it would have an impact on the community and businesses.
Let's do it! Don't forget Hillsboro.
My husband and I would like to travel by rail, but we have to drive an hour to get to a station and then arrange for our car to be safe while traveling. The schedule is not good either. To go to Arkansas to visit family, we would have to meet the train in another city at times such as 3 am. It isn't practical for us, but we are very interested.
My spouse works in Carrollton, Farmers Branch area and drives 150 miles daily. This rail system would be a blessing to us especially him. We have been thinking of selling our place to move closer to his job because of the travel time, car, gas , etc. We love living here in a peace and quiet area but it's just too much on our cars. Thank you!
Really hope it happens.
Visit Chicago or NY and see how to do it.
We are finally learning from the economy values our parents and grandparents lived in.
Would be interesting to try once, but with a family of five, it would have to be very price competitive for us to use. Having to buy five tickets, versus filling up a tank of gas would be our consideration.