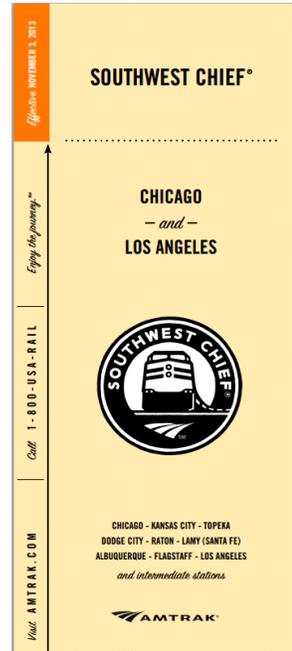


US Department of Transportation's
 National Infrastructure Investments Program
 Fiscal Year 2014 "TIGER" Discretionary Grants

Project Narrative

THE SOUTHWEST CHIEF ROUTE IMPROVEMENT PROJECT

Lead Applicant and Point of Contact:	Mr. Matt Allen, City Manager 301 N. 8th St. Garden City, KS Telephone: (620)276-1160 Email: matt.allen@gardencityks.us	
		
Type of Project:	Intercity Passenger Rail	
Federal Funds Requested:	\$14,969,963	

Critical Confidential Business Information has been removed from this Document

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Referenced documents

Amtrak. (2013). *AMTRAK SETS RIDERSHIP RECORD AND MOVES THE NATION'S ECONOMY FORWARD*. Retrieved April 21, 2014, from www.amtrak.com:
<http://www.amtrak.com/ccurl/730/658/FY13-Record-Ridership-ATK-13-122.pdf>

Amtrak. (2012). *PRIIA Section 210 FY12 Amtrak Performance Improvement Plan*.

Executive Summary

The City of Garden City, Kansas requests \$14,969,963 in TIGER funds for the **Southwest Chief Route Improvement Project**. These funds will be applied to the La Junta Subdivision of the Kansas Division of the BNSF Railway. They will restore 54.9 miles of the 158 miles of bolted rail sections between Hutchinson, KS and Las Animas, CO to FRA Class IV condition with continuous welded relay rail, new turnouts, and panelized grade crossings. This grant will be combined with \$9,300,000 of state, local, and private funds for a total 38.3% match. The rehabilitation effort will preserve the passenger service of Amtrak's Southwest Chief long-distance train through central Kansas and southeastern Colorado. The grant is 100% rural; the restored track falls outside urban zones. The project should meet the requirements of a NEPA categorical exclusion and can be fully completed before the end of 2015.

If awarded, the TIGER grant will make a substantial difference to the quality of rail passenger service in Kansas and south eastern Colorado, arresting the decline in the route since the magic and romance of the famous Santa Fe Railway's Super Chief. Speeds have dropped from 90 MPH in 2002 to 60 MPH today and are in imminent danger of dropping again to 30 MPH...slower than a farm tractor. If this decline is not reversed, the train will be terminated or rerouted. The general public is becoming increasingly aware of this situation; politicians and the media are building public sentiment for a call to action. The TIGER grant provides the final piece of a program to reverse the trend, triggering matching contributions from Amtrak, the Kansas Department of Transportation, and the BNSF Railway. The pooled resources of these entities, along with matches from local communities, represent a competent team to take on this challenge.

Although making a significant improvement, the TIGER investment does not address the full rehabilitative needs of the route. It does address the most-urgent needs of the route allowing only minimal assumptions to be made on the additional restoration to assess the standalone benefits of the grant. Portions of the route still fall to 30 MPH in the 20-year benefit analysis; however, they are delayed by ten years. Despite this extremely conservative assumption, the investment still has a positive benefit/cost ratio of 1.55 at the 7% rate and 2.43 at the 3% rate. The TIGER investment saves each Amtrak Southwest Chief train a peak 2.4 hours of transit time in the final six years of the analysis. This results in benefits associated with economic competitiveness, quality of life, and safety. The improved right-of-way and the subsequent BNSF maintenance commitment to Class IV standards resulting from the TIGER grant greatly increase the state of good repair. More importantly, the award of the grant demonstrates the public and private commitment to begin the restoration of this important intercity transportation link and treasured component of American history.

I. Project Description

The purpose of this grant application is to secure a portion of the funding for the Southwest Chief Route Improvement project. The Southwest Chief is a popular Amtrak long-distance passenger service operating daily between Chicago and Los Angeles. A segment of the route through Kansas and eastern Colorado is on a BNSF Railway subdivision where freight traffic levels no longer justify the investment required to support passenger train speeds. The condition of the route has been deteriorating and will erode to the point where operation of the train on the route is not feasible. The Southwest Chief provides a critical passenger transportation need for rural communities in Kansas and Colorado. There is broad local, regional and national support for this train. The stakeholders in its continued operation, including Kansas, Colorado, the local communities, Amtrak, and the BNSF Railway have developed a plan for addressing the infrastructure needs of the route and have committed funds to its rehabilitation. The TIGER funds represent a key component of the funding program and, if awarded, will preserve passenger service along this route.



History of the Train

The route of the Southwest Chief was first surveyed by the Atchison, Topeka and Santa Fe Railway in the 1870's becoming part of a transcontinental link to Los Angeles in the 1880's. The route took it through the Raton Pass in northern New Mexico and sparked the first of two "Colorado Railroad Wars" with the Denver & Rio Grande Western Railroad for control of the pass in 1878. Many legal maneuvers, political posturing, and even hired gunslingers resulted in the Santa Fe controlling the pass. (The second war over the Royal Gorge route was much more dramatic with actual gun battles occurring between the two railroads.) Despite the competition for the Raton Pass, it ultimately became a bottleneck for the growing traffic over the route. In 1908, the Santa Fe completed the Belen cut-off which provided an alternative transcontinental route further south which bypassed the steep grades of the Raton route. While the Santa Fe continued the passenger service on the original route, much of the freight moved to the southern

route. The southern route has acquired the label “the Southern Transcon” and has become one of the most heavily-traveled freight routes in the world with a peak of one-hundred trains per day.

The Santa Fe supported the passenger route with many premier trains operating between Chicago and Los Angeles. The flagship train was the Super Chief; carrying with it a degree of mystique transporting Hollywood celebrities, serving gourmet meals, and providing superb passenger service. The train’s timetable supported a 60 MPH average and reached 100 MPH in places. High-speed passenger service was important to the Santa Fe. While other railroads just lowered passenger speeds, the Santa Fe maintained the inductive Automatic Train Stop system to support high-speed service following the federal mandate requiring such technologies. The installation of continuous welded rail on the route in the late 1950’s was one of the earliest applications of the technique. The Santa Fe operated the Super Chief with its high level of passenger service until the formation of Amtrak in 1971. Amtrak continued to operate the train under the Super Chief name for another three years when the Santa Fe rescinded the right to use the name due to declining quality of passenger service. Amtrak was allowed to use the name Southwest Chief in 1984 after the delivery of the new Superliner equipment and an improvement in service. The Southwest Chief is a popular long distance train for Amtrak; fiscal year 2013 ridership was 355,815 and ticket revenue was \$45,129,813.¹ The Santa Fe Railway merged with the Burlington Northern Railroad in late 1996. In 2005, the company changed its name to the BNSF Railway.

a. Transportation Challenges and the No-Build Scenario

The section of the Southwest Chief’s route regarding this grant application is on the La Junta Subdivision of the Kansas Division of the BNSF Railway through Kansas and Colorado. The train enters the eastern end of the subdivision just east of Strong City, KS at MP 124.7 and stays on the subdivision through its entire length to Las Animas Junction, CO at MP 533.6 for a distance of 409 miles. Starting at Hutchinson, KS there is a gentle, continuous, and almost constant upgrade heading west with an elevation change of 2,400 feet between Hutchinson and Las Animas.

The legacy of the Santa Fe’s commitment to passenger service is evident when one examines the right-of-way of the La Junta Subdivision. East of Hutchinson, KS the track is a combination of continuous welded rail (155 miles) and bolted rail (158 miles). Much of the continuous welded rail (CWR) was installed from 1956 – 1960. The bolted rail was installed between 1940 and

¹ (Amtrak, 2013)



Figure 1 - Right of way near Garden City, KS

1955 and was very well maintained such that much of the rail is 30% past its normal useful life but still in generally in good condition for salvage. The excellent condition to which it was maintained during the Santa Fe years, the light freight traffic on the line, and the generally straight track west of Hutchinson has allowed the line to maintain Class IV (80 MPH passenger) status over the years despite limited investment in it.

Unfortunately, no right-of-way can be sustained without significant investment and that holds true for the La Junta Subdivision. In 2002, 113 miles of the route west of Hutchinson, KS was Class V (90 MPH passenger) and approximately 200 miles were Class IV. The deterioration of the route is evident in the current 79 MPH passenger

speed limit. Only 125 miles are at 79 MPH (most of which is the former 90 MPH track).

BNSF currently publishes 183.8 miles of permanent speed restrictions in the 2011 Employee Timetable. The vast majority of these are continuous sections of Class III track at 60 MPH and most occur between Hutchinson and Las Animas (MP 218 to MP 533). There are also a few speed restrictions for grade crossings and other conditions typically in towns and villages. BNSF reports these speed restrictions result in 19 minutes of delay to the Southwest Chief over those in place when the current operating agreement was signed with Amtrak in 1996. Figure 2 illustrates the current speed restrictions with the Class IV track in green and the Class III track in red.

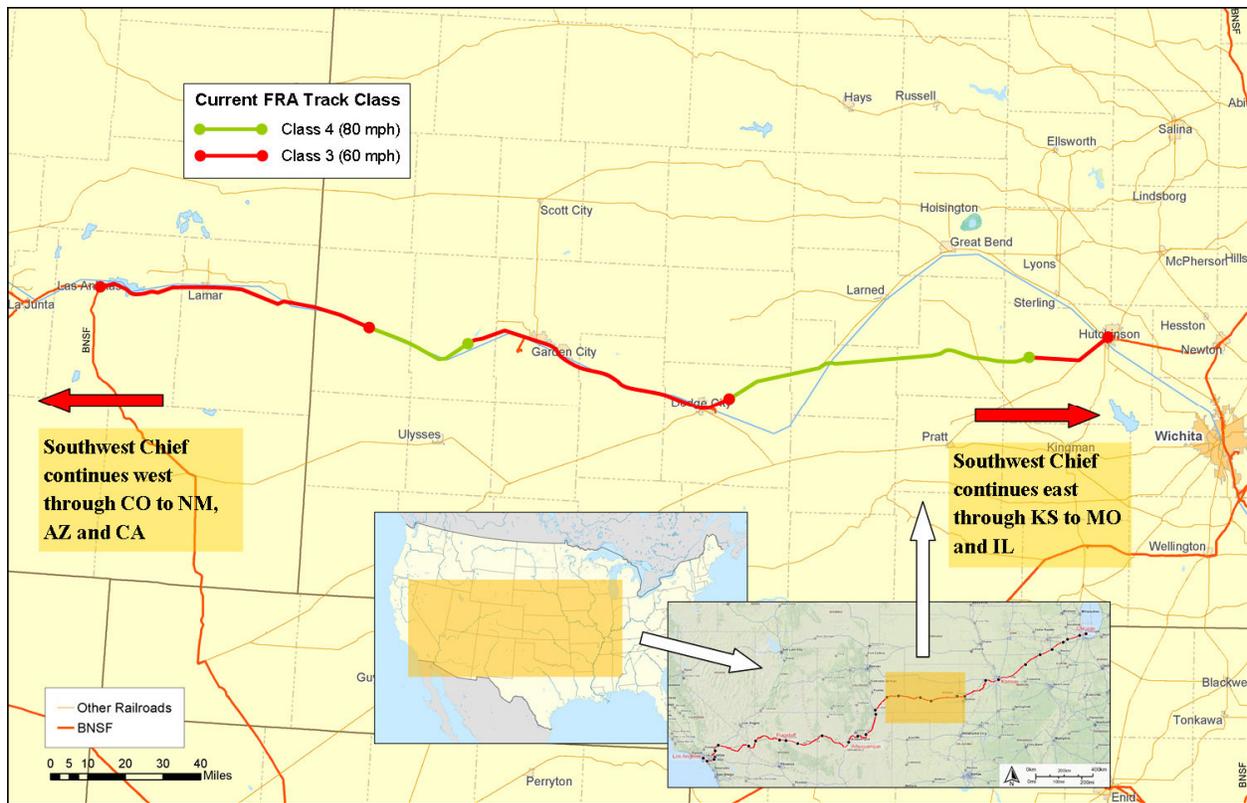


Figure 2 – Map of La Junta Subdivision and speed restrictions west of Hutchinson, KS

The issue at hand is that much of the rail needs to be replaced or much of the track will drop from Class IV to Class III and the current Class III segments will drop to Class II (30 MPH passenger) operation in the foreseeable future. BNSF has not ignored the line or deferred maintenance. It has spot-replaced approximately 23 miles of CWR in the bolted-rail sections and has converted many bolted-rail curves to CWR. Despite this ongoing maintenance, a capital program is needed to keep the line at a Class III and IV status required for an economically feasible passenger operation. The line does not have the freight traffic for BNSF to justify that sort of investment. Average tonnage over the sections west of Hutchinson, KS is between five to seven trains per day. BNSF has stated they can accept an all-Class II status for their limited freight operation. If the investment were to occur, it would need to be primarily funded by Amtrak and public funds.

The 2013 Southwest Chief's timetable between Hutchinson, KS and Lamar, CO covers the 270 miles in 279 minutes for an average 59 MPH speed. The eastbound trip is the same at 279 minutes. There are two intermediate stops at Dodge City, KS and Garden City, KS. A computer model of this run over the route from just west of Hutchinson to Las Animas Junction, CO using the typical Southwest Chief consist of two GE P42 locomotives and nine coaches was run to

establish the impact of the deterioration of the line on schedule times. The simulation includes five minute station times at Dodge City, Garden City, and Lamar to align with Amtrak's 2013 published timetable. Figure 3 shows the output of this simulation under the current conditions of the Amtrak timetable. The speed restrictions from the BNSF employee timetable are illustrated in the diagram.

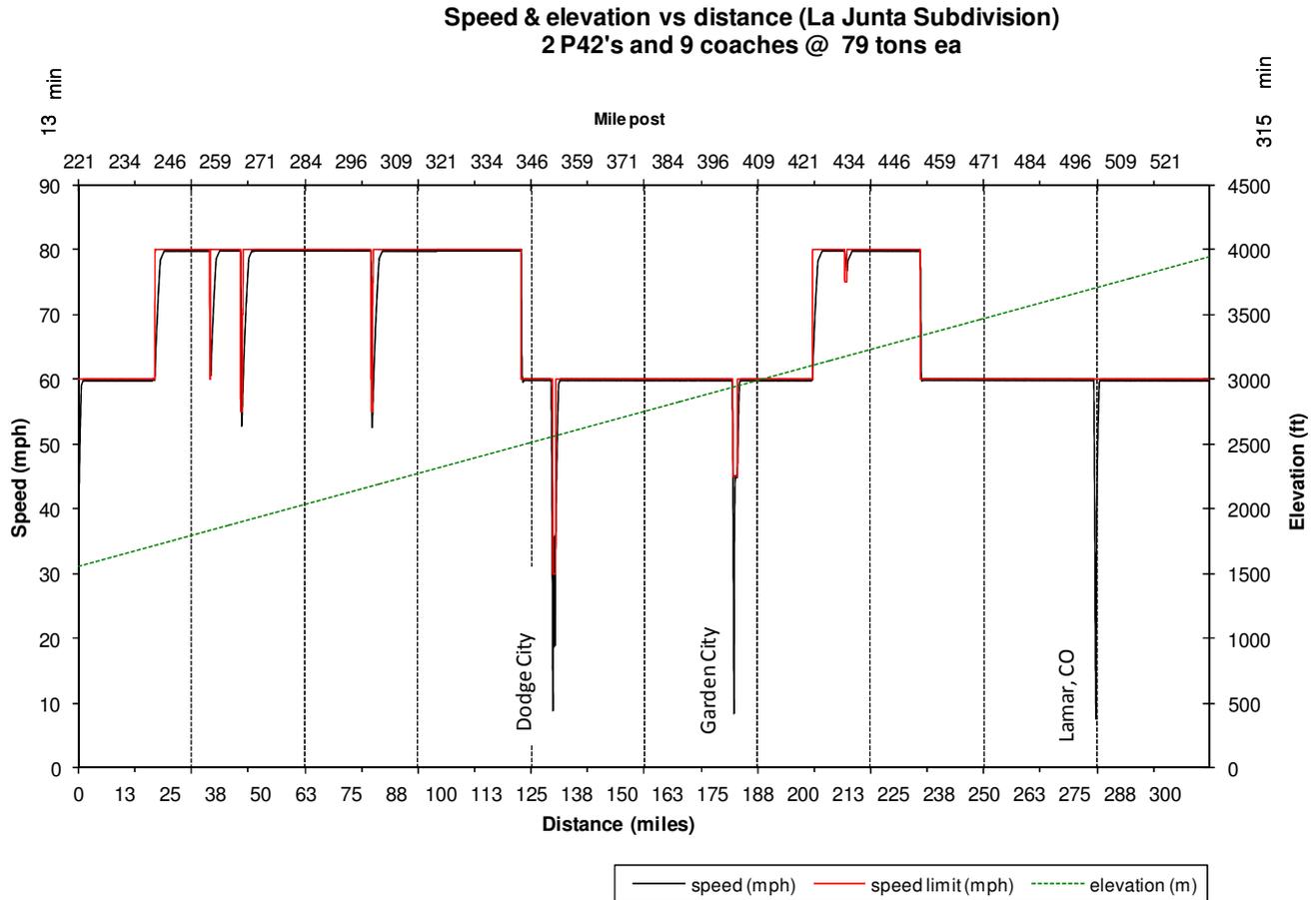


Figure 3 – Southwest Chief speed versus distance (2013 timetable schedule)

The Class IV track will drop to Class III before the end of 2015. Most of the class IV is the old CWR installed in the 1950's. Inspection reports from BNSF indicate this change in classification is imminent. The change from Class III to Class II will primarily occur in the bolted rail sections of the line. (Some of the CWR is spot-replaced in the bolted sections; it will follow the drop in speed with the rest of the section.) When the change occurs is a function of accumulated tonnage over the rail, speeds, curves, and other factors. Typically, rail life on curves is less than that of tangent track. Many of the curves in the bolted rail sections have been

replaced with CWR. The expected life of rail on highly maintained, tangent track with no grade is 400 – 600 million gross tons (MGT). The remaining bolted rail installed by the Santa Fe rail in the La Junta subdivision is listed by year in Table 1.

Table 1 – La Junta Subdivision bolted rail by year installed

Year	1940	1949	1950	1951	1955
Miles of rail installed	18.8	55.5	20.6	43.9	21.6
Estimated MGT	925	812	800	787	737

The projected deterioration of the bolted rail sections of the route is based on the year installed and the estimated accumulated MGT on the rail. It assumes the 1940 rail will drop to Class II by 2016, the 1949 rail will drop to Class II nine years later, and so on for the others. Using this assumption and the drop of Class IV to Class III by 2015, the following timeline is assumed for the no-build scenario:

Table 2 – Track classifications - projected no-build scenario

Year	Total IV	Total III	Total II	Year	Total IV	Total III	Total II
2014	129.6	182.6	0.8	2025	-	214.4	98.6
2015	-	299.2	13.8	2026	-	173.1	139.9
2016	-	290.2	22.8	2027	-	151.2	161.8
2017	-	290.2	22.8	2028	-	151.2	161.8
2018	-	290.2	22.8	2029	-	151.2	161.8
2019	-	290.2	22.8	2030	-	141.2	171.8
2020	-	290.2	22.8	2031	-	129.6	183.4
2021	-	290.2	22.8	2032	-	129.6	183.4
2022	-	290.2	22.8	2033	-	129.6	183.4
2023	-	290.2	22.8	2034	-	129.6	183.4
2024	-	260.2	52.8	2035	-	129.6	183.4

The simulation was run using these assumptions regarding the deterioration of the track. Table 3 shows the results of these calculations. Each of the rows in the table represents a threshold when all of a track class transitions from one class to the lower class.

Table 3 – Southwest Chief schedule times based on track condition (no-build scenario)

Scenario	Time to Dodge City (min)	Time to Garden City (min)	Time to Lamar (min)	Time to Las Animas Jct. (min)
Current condition (2013 Amtrak timetable)	121	178	278	315
Class IV track to Class III (79 MPH to 60 MPH)	145	202	309	347
Existing Class III to Class II (60 MPH to 30 MPH)	178	284	464	533

The projected deterioration of the line adds approximately 3.6 hours to the schedule. The Southwest Chief arrives in Los Angeles at 8:15 AM, although hour-early arrivals are occasionally reported.¹ The Amtrak mechanical crews have ten hours to service the train for the 6:15 PM return trip. Although 3.6 hours significantly erodes the turn-around time and any contingency for late inbound arrivals, some mitigation can be made to accommodate this. However, the



**John Deere 6630 tractor (top speed = 31 MPH)
Amtrak Southwest Chief (timetable speed = 30 MPH)**

track deterioration and the 3.6 hours delay greatly impacts the passenger experience and makes the passenger operation not feasible. A bumpy, rocking, nine-hour, 30 MPH ride across Kansas and eastern Colorado is not an attractive option to consider. Ridership would decline and Amtrak employee efficiency would suffer.

Amtrak’s options are to terminate the train or reroute it if this scenario occurs. Termination of the route is politically difficult for Amtrak. The train provides one of the few public transportation options for much of central Kansas and eastern Colorado. There has been much press coverage regarding the potential loss of the train with many news clips, editorials, and articles lamenting its demise and calling for action. Colorado has recently passed legislation establishing a commission to analyze how to preserve the service. Many communities and facilities along the line look to the train as a means to boost tourism and bring recreational

¹ (Amtrak, 2012)

dollars to their localities. The Philmont Boy Scout ranch in Raton, NM counts on the train to transport thousands of Boy Scouts in the summer.

Rerouting of the train is also highly problematic. In addition to the political impact of central Kansas, eastern Colorado, and northern New Mexico losing service, Amtrak will have to assess the lesser of two evils between moving the train to the BNSF Southern Transcon route or the parallel Union Pacific route through Kansas, Oklahoma, Texas, and New Mexico. Both of these alternate routes are heavily used freight lines that are near capacity. Neither of these is an attractive option for Amtrak and to shift the Chief's route would involve tremendous costs in negotiations, access fees, disruption to freight traffic, train delays, etc. Communities that have invested in station facilities along the current alignment would see those special purpose assets go to waste. A benefit cost analysis regarding these options would certainly result in significant no-build costs and would highly favor the build scenario. Such scenarios require sensitive negotiations at the senior executive level and substantial social, economic, and strategic analyses. As a result, the no-build scenario chosen for the benefit cost analysis in this grant application is the most conservative, and assumes that the train continues on the present route and absorbs the costs arising from the associated delays.

b. Proposed Project Engineering Description

The project proposed for this grant application replaces approximately forty-five miles of the bolted rail with new 136 or 141 pound relay rail on the La Junta subdivision between MP 220 and MP 533. The majority of the new rail would be installed in Kansas although some of the 1940 rail east of Las Animas is a candidate for replacement¹. Roughly 20 turnouts would be replaced, 1,050 tons of ballast applied, and 19 at-grade crossings repaired and restored. The rehabilitation work would be performed by the BNSF Engineering Department. The outcome of the project would be approximately fifty miles of rail maintained at Class IV standards. Given the present quality of new rail and the traffic conditions on the line, the life expectancy of the rail is beyond seventy-five years. BNSF also agrees to maintain all track restored under this project to Class IV standards.

At this stage of the project planning, the specific locations for the new rail have not been identified. BNSF has assessed the entire section between Hutchinson and Las Animas resulting in a total 149 miles of bolted rail (excluding the spot-replaced CWR) to be renewed and has

¹ Rehabilitating this section makes use of the four miles of CWR already installed and removes some of the oldest rail on the route.

provided a preliminary budget in terms of cost of rail, turnouts, ballast, and grade crossing panels. The final determination of the work sites will depend on various factors which will be addressed in the event the project moves ahead. The goal of the project is to maximize the gain from the forty-five miles of new rail, making improvements to the route such that it can sustain passenger operations for a number of years. Efforts will be made to incorporate sections of spot-replaced CWR, rehabilitate sections adjacent to the original CWR, and to eliminate the worst segments of the bolted rail.

c. Build Scenario Transportation Impacts

To understand the impact of the forty-five miles of restored track and how it can keep the route sustainable, a number of assumptions regarding where it would be installed were made. These may or may not be the actual location as the engineering work involves many variables driving the locations selected for repairs. However, regardless of the location, the net effect on the schedule is similar enough such that a reasonable estimate of the cost of the work and the benefits from the project can be made. Cost estimates presented in this application use per unit costs provided in the BNSF budget. Unit quantities are determined from the BNSF La Junta Subdivision track diagrams.

Another simulation was run with the new track installed. Assumptions are the existing short distance speed restrictions are civil-based and not eliminated and that the rehabilitation is in continuous sections on restored track. The restored areas are:

- A 23.3 mile segment between MP 354.7 and 378 between Dodge City and Garden City. This section includes 21.2 miles of new rail and incorporates 2.1 miles of existing CWR installed as spot repairs. This section replaces 2.8 miles of 1940 rail and 18.4 miles of 1949 rail. This section begins just outside the Dodge City limits and passes through the villages of Cimarron, KS (population <2,000) and Ingalls, KS (population 306).
- A 20.7 mile segment between MP 403.0 and MP 423.7 just west of Garden City. This section includes 16.9 miles of new rail and incorporates 3.8 miles of existing CWR installed as spot repairs. This section replaces 8.3 miles of 1949 rail and 8.6 miles of 1950 rail. This section is also adjacent to the original CWR starting at MP 423.7 and running to MP 453 for a continuous fifty miles of CWR track. This section begins just outside of Garden City limits and passes through the villages of Holcomb, KS (population 2094) and Deerfield, KS (population 700).

- A 10.9 mile segment between MP 520.1 and MP 531.0 just east of Las Animas, CO. This section includes 7 miles of new rail and incorporates 3.9 miles of existing CWR installed as spot repairs. This section replaces 6.0 miles of 1940 rail and 1.0 mile of 1949 rail. This section begins south of the John Martin reservoir in Bent County, CO and does not travel through any villages or towns.

Totals include 45.1 miles of restored track and incorporate 9.8 miles of existing CWR bringing it back to Class IV status for a total of 54.9 miles.

Since the project addresses fifty miles of the worst sections of the line and does not address the remaining one hundred miles, the build scenario needs to evaluate the impact of the continued deterioration of the line on the sustainability of the train.

The TIGER project focuses on the bolted rail sections and not on the existing Class IV CWR track. As described in the no-build scenario, the Class IV is expect to fall to Class III by the end of 2015, about the time the TIGER work would be complete. The TIGER work also eliminates 8.8 miles of the 1940 rail (mixed with 4 miles of spot-CWR) which is expected to fall to Class II by 2016. Projections for the build scenario assume:

- With the TIGER funding and BNSF/Amtrak commitment to the route, funds are raised from sources to address the final 10 miles of 1940 rail remaining such that the particular segment remains at Class III
- With the TIGER funding and BNSF/Amtrak commitment to the route, funds are raised from sources to keep 53.3 miles of bolted rail to Class III through 2035
- 52 miles of the bolted rail drops to Class II following the same timing as projected for the no-build scenario

The assumption that funds will be found to address the 1940 rail and the Class III status of the remaining bolted rail is a reasonable assumption. It is based on the historical funding tendencies Kansas and Colorado have demonstrated for rail transportation funding, Amtrak’s support of the train, BNSF’s ongoing maintenance of the line, and the political pressure growing in Colorado to preserve the route of the train. Kansas DOT has averaged \$5M annually for loans and grants related to rail projects. Colorado created a Division of Rail and Transit in 2009 which receives approximately \$15M annually from various state-assessed fees to provide a relatively steady-state funding stream. Much of the funding goes to transit but it has been used for joint Amtrak projects, particularly in stations. With Amtrak’s \$4M match in this TIGER program, Amtrak is demonstrating a commitment to the train and its current route for the foreseeable future. Amtrak will support the efforts of the states and communities along the route to secure the funds to complete either the additional repairs assumed in this application or the installation of new rail

started with this TIGER program. BNSF has been making continuous repairs to the line as evident in the spot-repairs of CWR. The growing media presence, Colorado’s legislation to create the Southwest Chief commission, and the participation of the communities in this grant indicate this funding will likely be secured.

Figure 4 is a chart illustrating the impact of the TIGER grant on the average speed and time across the route. As can be seen, with the TIGER grant travel time between Hutchinson and Las Animas improves by 145 minutes over the no-build scenario at year 2035. Average speed increases to 50 MPH from 36 MPH. Note that the average speed drops in 2015 in either scenario, reflecting the transition to Class III from Class IV of the original 129.6 miles of CWR.

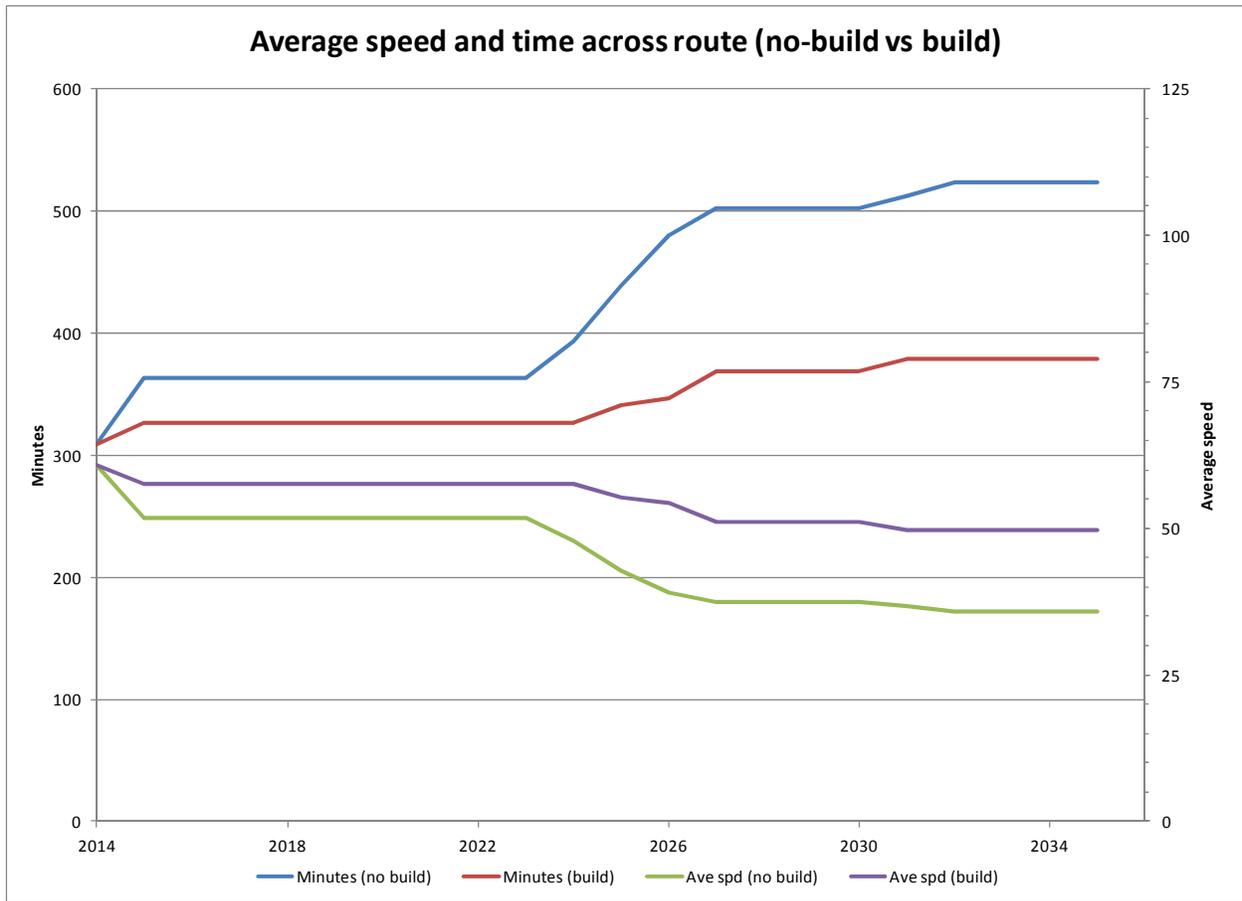


Figure 4 – comparison of speed and time over route in no-build and build scenarios

If the TIGER grant is awarded and once the administrative functions are finalized, the rehabilitation work could be completed by the end of 2015. Figure 5 is a timeline showing the build and no-build scenarios with the major events listed.

The Amtrak Southwest Chief Route Improvement Project
 Engineering and Performance Assumptions for Project Build/No-Build Scenarios
 Subdivision: BNSF Railway La Junta
 Segment: MP 221 to 533

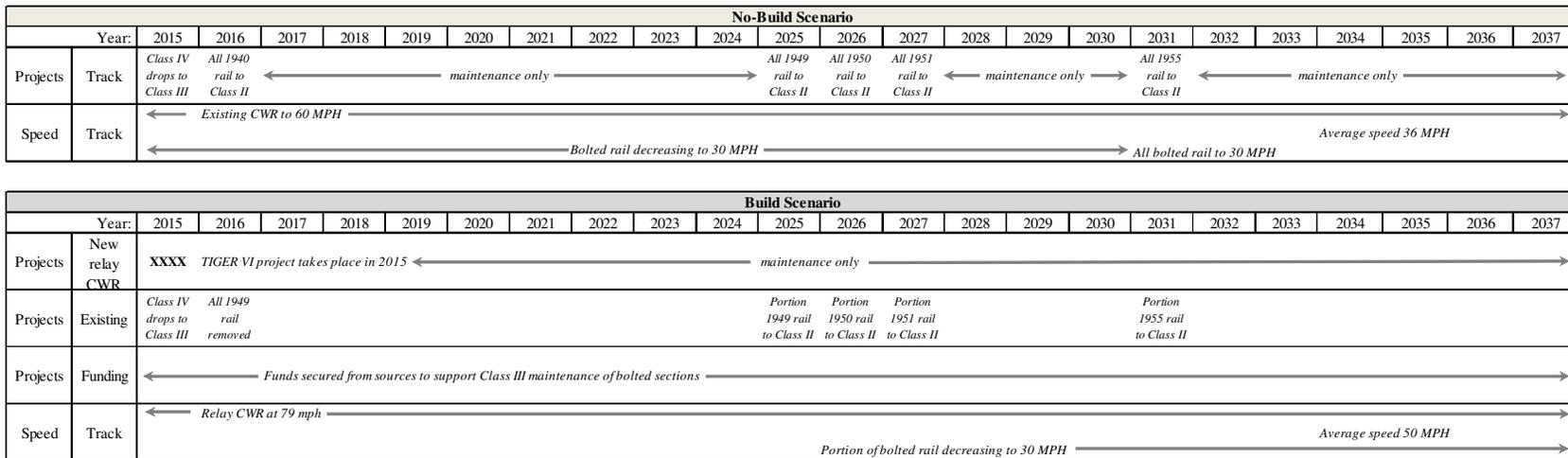


Figure 5 – Build and no-build timeline

II. Project Parties

Garden City, Kansas (Applicant)

The City of Garden City is the applicant for this TIGER grant. Garden City has been the leader in obtaining support for this effort, initiated the TIGER grant application process, and has managed its development. Garden City has been active in transportation investments. Through partnerships with the state of Kansas, Amtrak, and federal programs, Garden City has invested approximately \$1.3 million in the Amtrak depot, as an example of past support.

Amtrak

Amtrak is the stakeholder offering the largest non-federal contribution of \$4M. Amtrak's executive management has expressed strong support of the continuation of the train and Amtrak's operations team has been active in the development of this grant application.

Kansas Department of Transportation

The Kansas Department of Transportation (KDOT) is the state agency responsible for development and maintenance of public state transportation assets. KDOT has implemented a state rail transportation plan and historically funds rail related projects. KDOT has committed \$3M in non-federal matching funds to this project. If awarded, KDOT will handle administration of this grant. KDOT has experience with other TIGER programs in the past and can apply the necessary resources to make manage the grant successfully.

BNSF Railway

BNSF Railway has demonstrated a strong commitment to the current route of the Southwest Chief and applied considerable resources to the development of this application. BNSF made two business car inspection trips over the line from Hutchinson to Las Animas junction to carefully evaluate the condition of the right-of-way and develop a project scope for the rehabilitation of the route. BNSF has committed \$2M in non-federal matching funds to this project and commits to maintain the restored segment to a Class IV condition outside of their contractual obligations with Amtrak.

Local communities

Localities and organizations in both Kansas and southeastern Colorado are providing matching funds to the TIGER program. Together, these entities have combined to pledge \$300,000 to this project.

The communities are listed below:

Garden City, KS	(\$12,500)	Dodge City, KS	(\$12,500)
Hutchinson, KS	(\$12,500)	Newton, KS	(\$12,500)
Bent County, CO	(\$14,000)	Las Animas County, CO	(\$10,000)
Otero County, CO	(\$10,000)	Prowers County, CO	(\$10,000)
Pueblo County, CO	(\$100,000)	City of Lamar, CO	(\$10,000)
City of La Junta, CO	(\$10,000)	City of Trinidad, CO	(\$10,000)
I-25 Coalition, CO	(\$75,000)	Colorado Rail Passenger Association	(\$1000)

IV. Selection Criteria

A comprehensive benefit-cost analysis (BCA) has been produced that covers a forecast period extending 20-years beyond the project completion through to calendar year 2035. The basis for the benefit-cost analysis was a comparison of "build" vs. "no-build" scenarios for the project. In the BCA, operational, commercial as well as social impacts were examined in detail in order to identify the internal and external benefits that are expected to result from the project. The stream of project benefits expected in each future year were then monetized and discounted to present-day valuations using rates of 3% and 7% as specified in the NOFA documents. The analysis supporting the benefits calculation has been summarized in this application. Detailed documents showing study methodology have been provided in the accompanying appendices. In addition to the quantifiable benefits, the project is expected to provide social benefits that were not monetized for the purpose of this application. The primary social benefit in this area is the expected gain in overall economic activity that would be experienced locally as well as throughout the region.

a. Primary Selection Criteria

The Amtrak Southwest Chief Route Improvement Project can be fully completed before the end of 2015. The project is forecast to create significant and immediate economic benefits throughout the region starting in 2015. Long term sustained benefits will be generated directly as a result of operational efficiencies made possible by the rail upgrade, but also indirectly through the economic impacts that reliable passenger rail service sustains along the Southwest Chief's route through Kansas, Colorado and northeast New Mexico.

Long – Term Outcomes

Our analysis indicates that the project will provide significant long-term benefits to the region and the nation as described in detail below. The benefits analysis covers the time period from the present through 2035, twenty years following the planned completion of the project in 2015. The direct beneficial impacts of the project were quantified only through the year 2035, however, it is expected that benefits will continue to accrue well beyond that time as the useful life of properly maintained railroad capital investments such as rail can exceed well beyond twenty years.

i. State of Good Repair

The state of good repair of existing transportation facilities will be enhanced by this project in that it will greatly reduce the need for track maintenance spending in the future.

Savings on Track Maintenance

By directly improving the condition of the BNSF infrastructure used by Amtrak’s Southwest Chief, there will be significantly less need for expensive track maintenance going forward. By changing out ties and rail, adding ballast and surfacing, it will be possible to operate at track speeds that are significantly higher than would otherwise be possible. Without the TIGER VI project, passenger speeds on the segment will deteriorate from the present mix of 60 and 80 MPH down to mostly 30 MPH by the end of the second decade of the forecast. Freight train speeds will be similarly impacted, dropping from 40-60 MPH down to mostly 25 MPH in that same timeframe. These conditions will negatively impact operating costs, as explained in the sections below. In terms of track maintenance cost, a newly rehabilitated track structure will have significantly lower maintenance needs for many years than would an un-rehabilitated, deteriorating track structure. This difference in spending need over time will be significant, and it has been quantified for purposes of the BCA.

ii. Economic Competitiveness

Reduced Operating Costs – Amtrak Southwest Chief

In addition to the benefits accruing to passengers, the infrastructure improvements that the TIGER VI project will produce will also provide significant long term benefits to the operators that make use of the LaJunta Subdivision. Both operators – Amtrak and BNSF – will be able to take advantage of the improved operating efficiencies that will be possible with the faster running times across Kansas and eastern Colorado. The efficiency gains will come in three principal areas – through improved locomotive utilization, improved car velocity and enhanced labor efficiency. In the case of Amtrak, faster running times over upgraded project trackage will save between 1 ½ and 2 ½ hours of running time vs. the No-Build scenario (depending upon

forecast year). The earlier arrivals made possible by the TIGER project will allow Amtrak time to properly clean, inspect, repair and re-stock the equipment at each end of the run so it will be ready for their next trip. If sufficient time is not allowed for servicing – which may be the case if La Junta Subdivision trackage is allowed to deteriorate – costs can increase significantly for Amtrak.

A cost that is borne directly by Amtrak as a result of slower operation is the cost of labor for its on-board employees. On the Southwest Chief, the trains’ “service crews” are comprised of a number of different job classifications, such as car attendants, waiters, dining car stewards and cook/kitchen staff. The total number of employees in the service crew varies depending upon the season, from a low of seven to a high of 10. Also on-board the Amtrak trains are employees working as the “operating crew”, typically two engineers and two conductors. The hourly cost of these service and operating employees was included as a cost variable in the BCA, using average figures for the number of employees as well as their rates of pay. The increased running times expected under the no-build scenario would result in additional labor cost for Amtrak, as the monthly hours worked by their employees would rise substantially with the less-efficient operation.

Reduced Operating Costs – BNSF Freight Operations

The other project beneficiary in this category will be the owner of the La Junta Subdivision, BNSF. Improved running times made possible by the TIGER grant will allow BNSF’s freight trains to travel the line in less time, improving labor efficiency and also the velocity of equipment on the trains. This reduction in run-time will provide BNSF with substantial operational savings in both equipment (locomotive and car) cost and labor cost.

In the case of locomotives, the faster running speeds will mean that BNSF will have these expensive assets back at their home terminals sooner, allowing them to be serviced and utilized for other tasks earlier than would otherwise be possible. This improvement in velocity and resulting reduction in turn-times will reduce the railway’s overall need for locomotives, possibly allowing reductions in fleet size vs. the no-build scenario.

For the rail cars moving on BNSF’s trains, improved car velocity with the TIGER project can translate into a reduction in car expense for the railroad and its shippers (in the case of shipper-owned cars). Owners of the cars used to transport products on the line would enjoy faster cycle times which would reduce their need for equipment. By improving velocity, owners of these expensive locomotive and railcar assets will realize significant benefits over time, improving the cost-effectiveness of rail transportation in the region.

In the category of labor efficiency, the faster running speeds that would result from the TIGER project would reduce the running times over the La Junta Subdivision for BNSF’s freight trains.

The amount that BNSF would save as a result of the improved mileage per freight train-hour would depend upon the specific labor agreements in place on that subdivision.

Job Creation and Near - Term Economic Activity

In the near term the rehabilitation effort will create high-quality, skilled railroad jobs involved in the installation of the relay CWR, turnouts, and grade crossings. These jobs will be supported by the general overhead functions of the BNSF Railway. In addition, local community support of the track gangs will drive an economic impact on these communities, although only for the period the track gang is in the vicinity. Using the CEA job creation factor referenced in the NOFA as applied to capital projects, the \$24.3M invested in this project creates 312 direct, indirect, and induced job-years throughout the general economy and specifically in the rail construction and supply industry. These include manufacture and transportation of the steel, recycling of the scrap rail, manufacturing and maintenance of the track machines, manufacture of ties, plates, the production of ballast, etc.

Long Term Employment

The long term employment opportunities realized by the preservation of the route are primarily in sustaining the jobs associated with the direct operation and support of the train (Amtrak had 11 employees in Kansas in 2013) or those opportunities associated with tourist destinations served by the train. Towns and communities along the route see the train service as a way to promote tourism in their locality. Recently it was announced that the historic La Castaneda resort in Las Vegas, NM was sold and is to be substantially restored as a tourist destination. Las Vegas, NM is served by the Southwest Chief.

iii. Quality of Life

The Amtrak Southwest Chief Route Improvement Project is expected to generate the greatest monetary benefit within the Quality of Life category, with that valuation being a direct result of



Figure 6 - Station stop at Garden City

the faster running times that the project will permit. As mentioned, the difference between the Build and No-Build Scenario running times for Amtrak's trains across the La Junta Subdivision will be significant – between 1½ and 2 ½ hours per train depending upon forecast year. For the passengers aboard those trains, the additional travel time that would result in the no-build scenario would translate into a later arrival at their destinations, effectively keeping them from participating instead in other activities. The “opportunity cost” of the additional time spent on the train has been monetized using

values provided by USDOT for the purpose of the BCA.

Benefits in this category have been quantified and a summary of annual impacts of on-board passenger delay has been presented in Appendix 4c.

Socioeconomic Impacts of the Project

The project improvements will occur across ten counties in Kansas and Colorado with a total population of 173,931 persons as of 2013 according to U.S. Census Bureau figures. These rural counties have several demographic characteristics relevant to the achievement of TIGER program socioeconomic objectives.

- Bent County, Colorado, as of February 2014, had an unemployment rate of 7.2% which is higher than the national average of 6.9%.
- The region has a much higher Hispanic/Latino population as a percentage than the nation as a whole. In aggregate the percentage of the combined county area population in this ethnic category is 29.6% as compared to a national Hispanic/Latino population of 16.9%. Finney and Ford County in Kansas have notably higher Hispanic/Latino populations of 47.7% and 52.1%, respectively.

- Six of the ten counties have populations over 65 years of age that are larger as a percent of population than the national rate of 13.7%. Stafford and Edward County in Kansas have substantially higher elderly population percentages of 20.7% and 19.4%, respectively.
- While the counties in aggregate have populations below the poverty line a few fractions of a percent beneath the national average, four of the counties have larger than average populations in poverty. The percentage of the populations of Bent and Prowers Counties in Colorado living beneath the poverty line are 21% and 22% respectively.
- All the counties have a per capita money income that is below the national average, substantially so in several cases. Four counties have per capita income that is less than 80% of the national average: Finney and Ford County, Kansas (78% and 73% respectively) and Bent and Prowers Counties, Colorado (54% and 65% respectively). ***This qualifies these counties as Economically Distressed Areas under the criteria established by the Public Works and Economic Development Act of 1965.***

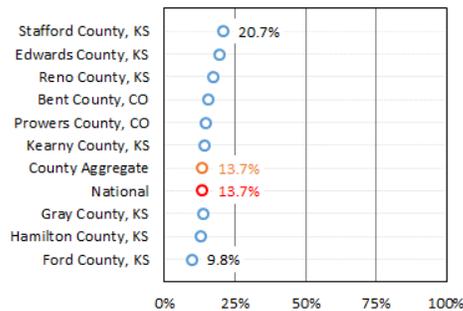


Figure 7 - Percent of Project Area Population 65 Years and Older

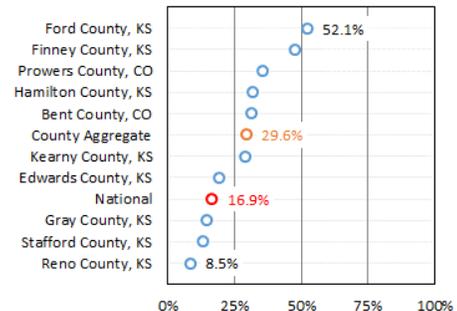


Figure 8 - Percent of Project Area Population that is Hispanic/Latino

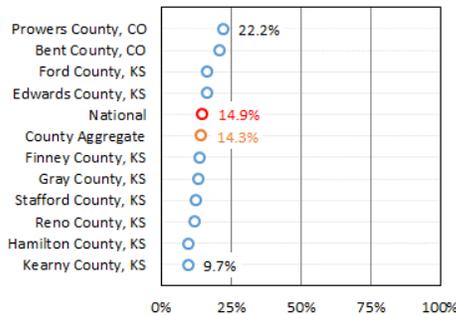


Figure 9 - Percent of Project Area Population Living Beneath the Poverty Line

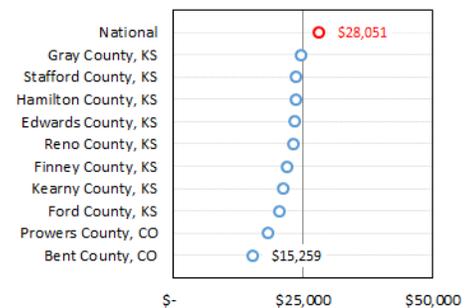


Figure 10 - Per Capita Money Income by County in the Project Area

The preservation of Southwest Chief service and the regional economic activity created by the project construction will provide short and long term benefits to these disadvantaged populations and the Economically Distressed Areas along the project alignment.

iv. Environmental Sustainability

This section quantifies and monetizes the amount of CO₂ gas as well as pollutants VOC (volatile organic compounds), NO_x (nitrogen oxide), PM (particulate matter) and SO_x (sulfur dioxide) that is emitted by engines powering vehicles of each transportation mode. The results of the environmental sustainability analysis indicate that there are slight additional costs over the 20 year forecast period associated with passengers using Amtrak's Southwest Chief rather than traveling by other modes. The majority of the cost variance can be traced to fundamental differences between the engine types used to propel vehicles of each mode – locomotive, bus, automobile and aircraft. In this case, the quantities of nitrogen oxides (NO_x) and particulate matter (PM) emitted by diesel locomotives – when examined on a per-passenger-mile basis – are higher than what is emitted by engines powering vehicles of competing modes.

v. Safety

The proposed project made possible by TIGER VI Grant funds would generate significant safety benefits by encouraging the traveling public to utilize rail service in preference to less safe modes of transport. The faster running speeds that the project would allow would encourage a greater share of travelers to utilize rail service, rather than divert to travel by personal vehicle on highways. Highway travel is the least-safe mode of travel available over longer distances, so minimizing the number of journeys via that mode improves public safety. The travel diversion model provided in the application appendices shows the results that the project would have upon passenger diversion from Amtrak trains to personal vehicles, bus and air travel. For personal vehicles alone, the net increase in highway mileage without the TIGER VI project would be roughly ½ million VMT (vehicle miles traveled) in the early years of the forecast, growing to over five million VMT by the end of the forecast period when track conditions will be at their worst. Along with that increase in vehicle-miles would come a proportional increase in the number of accidents, injuries and fatalities on highways across the region. That modal diversion can be minimized by upgrading the La Junta Subdivision trackage with the TIGER VI Grant funds.

Residual Value of Assets

In order to properly account for the value of assets that have useful lives beyond the 20-year project analysis period, a calculation of asset value remaining at the end of the period has been included in the Benefit-Cost Analysis. Appendix 4i shows calculations that determine value remaining in each of the principal asset categories at the end of the 20-year analysis period. Depreciation rates were based upon expected useful lives for each asset class based upon experience on rail lines with similar characteristics across the country. The value of assets calculated for the 20th year was then discounted to determine a net present value for the base year of the project.

b. Secondary Selection Criteria

i. Innovation

Other than any new track maintenance machines or procedures the BNSF may employ to perform this project, it does not incorporate recent innovations. BNSF stays abreast of the latest trends in railway right-of-way maintenance and incorporates them once proven as reliable and efficient. Examples of these are the panelized grade crossings and/or turnouts. The revolutionary innovation regarding this TIGER project occurred sixty years ago when the Santa Fe embraced CWR technology. Some of the rail installed as part of this project will be laid down adjacent to some of the first CWR in the country.

ii. Partnership

The development of this grant application involved the coordinated action of the key stakeholders, the local communities in Kansas and Colorado, BNSF, and Amtrak. All of these entities shared the common goal of preserving the route and making the continued operation of the train feasible. This sense of partnership will continue if the grant is awarded and will expand to incorporate KDOT as the role of project administrator.

Listed below are the public and private stakeholders partnering in this application. They are many and range from members of Congress to Executives to County Commissioners, Mayors and others. Copies of letters of support from these individuals are in the Appendices.

1. United States Senator Jerry Moran (Kansas)
2. Senator Pat Roberts (Kansas)
3. United States Senator Mark Udall (Colorado)
4. Senator Tom Udall (New Mexico)
5. Senator Martin Heinrich (New Mexico)
6. Representative Lynn Jenkins (2nd district, Kansas)

- | | |
|---|--|
| 7. Amtrak President Joe Boardman | 8. Kansas Department of Transportation |
| 9. BNSF Railway Company Chief Executive Officer Carl R. Ice | 10. Members of the Colorado General Assembly |
| 11. Colorado Rail Passenger Association | 12. I-25 Eco Development Committee |
| 13. Garden City, Kansas | 14. Dodge City, Kansas |
| 15. Hutchinson, Kansas | 16. Newton, Kansas |
| 17. Bent County, Colorado | 18. La Junta, Colorado |
| 19. Lamar, Colorado | 20. Las Animas County, Colorado |
| 21. Otero County, Colorado | 22. Prowers County, Colorado |
| 23. Trinidad, Colorado | 24. City of La Junta, Colorado (Resolution) |
| 25. Pueblo County, Colorado (Resolution) | |

Jurisdictional and Stakeholder Collaboration

This grant application involved the collaboration of:

- fourteen communities, counties, and public advocacy organizations
- one state department of transportation
- two railroads

These entities have pledged funds towards the project in a collaborative manner to increase the competitiveness of the application. This collaboration will continue as these stakeholders are committed to the success of the project and the restoration of the Southwest Chief route.

Disciplinary Integration

The disciplines required to:

- Operate a successful freight railroad and provide a safe infrastructure for rail transportation
- Operate a long-distance passenger train
- Manage the transportation assets of a state
- Provide the executive leadership at the municipal level
- Generate the public support and resolutions required to provide commitment of public dollars

are all present in this application. Each stakeholder contributed in accordance with their disciplinary field of expertise. Neither the project concept nor the grant application would be possible without this cross-disciplinary integration. The integration will be crucial to the project’s success if the grant is awarded.

V. Project Readiness and NEPA

a. Technical Feasibility

The technical feasibility of this project is such that minimal technical risks are taken during its execution. The project involves standard and routine installation of continuous welded rail, a common practice in the rail industry since the mid – 1950’s (and pioneered on this route). Refurbishment of turnouts and grade crossing makes use of industry-standard panels. Mechanized track gangs and modern roadway maintenance equipment are typical means BNSF uses for work of this nature.

b. Financial Feasibility

Kansas Department of Transportation (KDOT) will administer the grant if it is awarded to Garden City for this project. KDOT has demonstrated proficiency in administering grants such as this and has performed this role in other TIGER grants. BNSF has the financial wherewithal to support the work and has the cash resources to successfully execute the project.

c. Project Schedule

The project schedule anticipates the work to be performed during the construction season of 2015, providing for full expenditure of the TIGER funds by the end of 2015. This satisfies the TIGER requirement of having all funds obligated by June 2016. The estimated duration for the construction is over a six-month period, factoring into account contingencies in the schedule. Durations typical for grant negotiations, administration, engineering planning, and procurement are also considered in the schedule. A detailed project budget is in the appendices.

Appendix: Project Schedule

The Amtrak Southwest Chief Route Improvement Project
 FY 2014 National Infrastructure Investments Program (TIGER VI)

#	Component	2014												2015												
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
	TIGER Application Submittal				•																					
	TIGER Judging and Awards																									
	Grant Agreement Development																									
1	At-Grade Crossings Rehabilitation	Procurement/Mob.																								
		Design/Engineering																								
		Permitting	<i>not applicable</i>																							
		Land Acquisition	<i>not applicable</i>																							
		Construction																								
2	Turnout Replacement	Procurement/Mob.																								
		Design/Engineering																								
		Permitting	<i>not applicable</i>																							
		Land Acquisition	<i>not applicable</i>																							
		Construction																								
3	Rail Replacement	Procurement/Mob.																								
		Design/Engineering																								
		Permitting	<i>not applicable</i>																							
		Land Acquisition	<i>not applicable</i>																							
		Construction																								

Project Major Phases	Activity																							
	2014												2015											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1: Planning, Procurement and Staging																								
2: Crossings and Turnouts																								
3: Rail Replacement																								

Legend		
	Design/Engineering	
	Permitting	
	Procurement/Mobilization	
		
		Construction Season
		Construction
		Miscellaneous

Figure 11 - TIGER Project Schedule

d. Assessment of Project Risks and Mitigation Strategies

Minor schedule risks for the project involve the usual issues of negotiations of the grant agreement, research for any permitting issues, and the usual issues associated with a public project such as this. Most of the construction risks are mitigated by the railway operating experience and economic weight of the BNSF Railway. BNSF track gangs install hundreds of miles of relay rail per year; the BNSF Engineering Department is fully abreast of rules and regulations associated with this work. BNSF has advised they see no issues preventing this work to begin and has sufficient quantities of rail on-hand to begin at any time. Perhaps the biggest schedule risk is reserving the BNSF Engineering Department resources early enough to incorporate the project into their CWR programs.

Permitting, Environmental and NEPA Requirements

No apparent obstacles exist concerning permitting, environmental, and NEPA requirements. A pro-forma FRA Categorical Exclusion (CATEX) worksheet has been completed by the project to examine if any unforeseen environmental issues may arise which could lead to delays in obtaining the categorical exclusion. Since this project occurs on an existing railroad right-of-way, many of the environmental concerns regarding new construction have been eliminated. Completing the draft CATEX did not reveal any issues.

Legislative Approvals

No legislative approvals are required for the project to be completed as described in the event the TIGER funds are awarded.

State and Local Planning

This project preserves the investments made by the State of Kansas and local communities in the stations serving the Southwest Chief. Chapter 10 in the 2011 Kansas Statewide Rail Plan describes in detail passenger rail in Kansas, specifically the Southwest Chief. The majority of the state and local planning involves the funding for restoration and/or construction of the stations. These stations not only serve as depots for their respective communities, they frequently preserve the historical facets of the municipalities or become meeting points or focal points for community activity. Excluding the \$11 million repurposing of the Dodge City station for a theatre and other functions, total improvements to the stations in Kansas impacted by this project (Hutchinson, Dodge City, and Garden City) are approximately \$1.5M. Colorado recently created legislation establishing a commission to study preservation of the Southwest Chief route through the southeastern portion of the state, a goal of this TIGER project.