

Oklahoma Portion of the South Central HSR Corridor

Service Development Plan (SDP)

Purpose and Need

Previous studies completed by the State of Oklahoma resulted in the development of the currently proposed service development plan. Numerous possibilities for a northern connection that would facilitate sustainable rail service for the State of Oklahoma were investigated in great detail including the evaluation of connection options beyond State boundaries. The results of those studies indicate that a rail connection between Oklahoma's two largest economic centers will absolutely be required to establish a sustainable service producing the public benefit necessary to justify expanded rail service in the State of Oklahoma. Another obvious result is the need for the implementation of service between Oklahoma City and Tulsa competitive with current automobile travel time via the Turner Turnpike. These findings prompted the development of the Oklahoma High-Speed Rail Initiative, the primary objective of which is to establish true high-speed service between Oklahoma City and Tulsa. Further findings indicate that any connection of the South Central High Speed corridor to the remainder of the national rail network resulting in competitive travel time will require the development of true high-speed service on at least some portion of the corridor. The optimum location for the development of High-Speed service in Oklahoma is undoubtedly the segment between OKC and Tulsa with the potential for daily use by the estimated 6000 intercity daily commutes between those metropolitan areas providing the ridership necessary to support high-speed service. High-speed service has been identified as ultimately necessary to facilitate the sustainable development of a connection between the South Central HSR Corridor and the Chicago Hub Network. The feasibility of this connection only warrants further consideration if something other than incremental development on existing rail routes can be identified to induce travel time reductions necessary to offset the inherent travel time challenges for the remaining components of a national network connection in the Midwest. The findings indicate that the acquisition of right-of-way will be the critical challenge associated with High-Speed rail development as it has been in other parts of the world. The Oklahoma High-Speed Initiative has a unique opportunity to develop High Speed operations on a disturbed transportation corridor adjacent to an Interstate route on which access and development along the route has been restricted well beyond that of a any controlled access facility in the nation because it has been a toll facility since the completion of its construction.

The anticipated ease of acquiring the right-of-way and the pro-infrastructure history of transportation projects in the State of Oklahoma, position the Oklahoma High-Speed Rail Initiative to be a corridor that can produce High-Speed Express service within a six year period. The proposed service connects existing conventional rail service between Oklahoma City and Fort Worth that has the potential to be competitive with automobile travel times within the next three years and a proposed northern connection to Kansas City capable of competitive travel times via the incremental development of service on existing rail corridors the majority of which have low or moderate levels of rail congestion. The connection of service between Texas and the remainder of the national network to the north has historically been plagued with undesirable connections that can be relieved with the development of the proposed service associated with the Oklahoma Rail Initiative. The string diagrams developed for the proposed service development plan indicate that an additional frequency of the Heartland Flyer Service proposed and investigated by ODOT and the BNSF could be supported by the implementation of High-

Speed service between Oklahoma City and Tulsa resulting in a long term effort that would result in desirable connection and travel times for service to Kansas City. A departure from Kansas City at noon would facilitate a connection to a second frequency of the Heartland Flyer that would allow travel during reasonable hours of the day between Kansas City and Fort Worth. The proposed operations would provide service to population centers in eastern Kansas, southwest Missouri, northeastern Oklahoma, and Tulsa as well as provide expanded service to the stations along the current Heartland Flyer route. Both the Tulsa long range plan and the Oklahoma City metropolitan fixed guide way study include provisions for connectivity to the proposed intercity high-speed as well as transit development plans that would not only support the high-speed service but also benefit from associated infrastructure improvements.

The proposed service was identified through the completion of two reports conducted by the State of Oklahoma and supported by findings in studies completed by Amtrak and the State of Kansas. The findings of the initial ODOT Passenger Rail Feasibility Report indicated that expanded passenger rail services would benefit both residents of Oklahoma and passengers traveling on the national passenger rail system. Short-term initiation of passenger rail service and longer-term service expansion and rail capital investments in the State of Oklahoma would be necessary to connect the State passenger rail system with the national passenger rail network with a sustainable system providing additional mobility, potential for economic growth, and long-term air quality benefits to the citizens of Oklahoma.

A significant accomplishment of the original Passenger Rail Feasibility Study was the completion of a successful application for designation by the Federal Railroad Administration (FRA) and the Department of Transportation (DOT) as a High Speed Rail Corridor from Ft. Worth to Tulsa. This designation increased the potential for the availability of Federal funding to further develop and enhance rail service to Oklahoma City and Tulsa. Establishing and developing rail service between Tulsa and Oklahoma City would foster the development of an additional connection to the national passenger rail system east of Oklahoma. Kansas City, Missouri appears to be the most feasible connection to Tulsa and could potentially be implemented on existing railroad routes with only standard improvements for conventional service that could ultimately become competitive with automobile travel times. The success of any eastern connection by rail from Tulsa was determined to be highly dependent on the development of an acceptable travel time and connection between Oklahoma City and Tulsa.

The Oklahoma City to Tulsa segment has been identified as an extremely important component of sustainable High-Speed passenger rail service for the South Central High Speed Rail Corridor because of the potential for through service to Kansas City or St. Louis. A connection to either of those destinations would facilitate a link between the South Central High-Speed corridors and the Chicago Hub Network (formerly referred to as the Midwest Regional Rail System). The establishment of competitive rail service between Oklahoma City and Tulsa has been determined to be critical for the development of High Speed Passenger and Passenger Rail service in the State of Oklahoma as well as the surrounding region. One significant challenge for the development of the Oklahoma City to Tulsa corridor is to develop a service that would be competitive with existing automobile travel times on the Turner Turnpike.

Operations that compete with existing travel time via automobile on the segment between Oklahoma City and Tulsa will require speeds in excess of 90 MPH.

ODOT FINANCIAL PLAN NARRATIVE

An annual Financial Plan Update, detailing project estimates for design, right-of-way, utilities, construction, operation and maintenance for the HSIPRP will be developed. Included in this plan will be cash flow analyses indicating the sources of required funding and timing for receipt of funds. A cost and revenue history as well as trend projections will be included. A cash flow diagram, reflecting previous and anticipated expenditures will be a key component of the financial plan. Measures for minimizing cost escalations through cost containment strategies, provisions for value engineering opportunities and auditing expenditures of funds will also be vital parts of the plan. A mitigation plan for revenue shortfall will be developed in order to ensure the viability of the HSIPRP should revenue projections not meet expectations or should probable cost projections be exceeded. The plan will be updated annually based on the federal fiscal year.

Projects of this magnitude always involve funding risks. These funding risks evolve from the lack of priority that is given to the project by stakeholders and project sponsors. As Project Sponsor for the High Speed Rail initiative, The State of Oklahoma has demonstrated the priority it places on providing quality passenger rail service through its commitment to AMTRAK's Heartland Flyer that operates between Oklahoma City and Ft. Worth. This commitment is in the form operational and financial support through the Department of Transportation.

The Governor and the State Legislature created appropriate legislation to provide annual funding for the State's commitment to passenger rail service. This financial commitment provides the necessary dedicated revenue to support the operation and maintenance cost (O & M) for the Heartland Flyer. The annual O & M cost for the Heartland Flyer is completely subsidized with state funds at approximately \$2.3 million annually. With that continued level of commitment, it is the intension of the State to provide full funding for the O & M cost of the Oklahoma City to Tulsa High Speed Rail corridor.

State of Oklahoma	Existing	Committed	State revenues	\$2.3m	100%
State of Texas	Existing	Committed	State revenues	\$2.3m	100%
State of Oklahoma	New	Planned	State revenues		
City of Oklahoma City	New	Planned	City revenues		
City of Tulsa	New	Planned	City revenues		

The State of Oklahoma is financially committed to delivering this project with the assistance of no less than two significant partners and stakeholders. The City of Oklahoma City and the City of Tulsa have agreed in principle to financially participate in the project. The State of Oklahoma is willing and able to commit the necessary funding to complete the capital project and provide any necessary match to funding provided by the federal government. Financial contributions by the other stakeholders will provide relief to the State but it will not diminish the State's financial commitment.

The specific source of the funding to satisfy the necessary financial support is unknown at this time, it is the commitment of the State of Oklahoma along with the City of Oklahoma City and the City of Tulsa to provide priority funding for the operation and maintenance of the rail line.

In 2005 the Governor and the State Legislature elevated the priority of transportation in the State Oklahoma. By doing so the Department of Transportation (ODOT) began receiving annually increasing amounts of money for various modes of transportation including passenger rail service. Each year ODOT received \$17.5 million plus the amount received the previous year. The money is provided to ODOT as a dedicated portion of Income Tax revenue provided for transportation before any other allocations are made to other components of state government. Legislation in 2007 and 2008 provided for an increase in the amount of annual change that is provided for transportation. With these pieces of legislation, the annual increase added to the previous year allocation grew to \$30 million from \$17.5 million. Also, the level of funding allocated from Income Tax revenues will cause the state funds for transportation to more than double from \$200 million to \$570 million annually. These legislative efforts indicate the commitment the State of Oklahoma made to create a preeminent state wide transportation system which includes high speed rail as a major component.

The following statutory reference provides the legal authority for the State of Oklahoma to build and oversee a rail capital investment, specifically passenger rail infrastructure: §66-321 the "Oklahoma Tourism and Passenger Rail Act". The provisions of this act are utilized to manage and oversee the operations and funding of the current Heartland Flyer train that operates between Oklahoma City and Ft. Worth, Texas.

The Department of Transportation has a history of acquiring, and significant experience managing, railroad infrastructure. In the early 1980s, the Department of Transportation began acquiring abandoned rail lines under the statutory authority provided by the "Railroad Revitalization Act" contained in state statute §66-302.1. During that period of time the legislature appropriated \$40.9 million for the acquisition and preservation of rail lines in Oklahoma. In 2009 dollars that amount equates to \$97 million. Today the state of Oklahoma owns 953 miles of railroad that are leased to short line railroads.

The Department of Transportation (ODOT) has a history of receiving unqualified opinions on annual audits conducted by the State Auditor and Inspector (SA&I). Copies of these audits are available from the SA&I or ODOT. Additionally, ODOT is periodically reviewed or audited by the USDOT Office of Inspector General and the Federal Transit Administration. The Federal Highway Administration conducts both financial and operation reviews related to ODOT's highway program.

The Department of Transportation has significant experience funding and financing all aspects of major transportation infrastructure projects. ODOT provides essential funding for cost overruns and that amount is accounted for as a part of the project estimate and budget. Consequently, when overruns occur the necessary financing has been provided

and does not impede progress toward completion of the project. The average cost of overruns on the construction program administered by ODOT is less than 1% annually.

**Oklahoma Department of Transportation
Comptroller Division
Unaudited Balance Sheet
June 30, 2009**

Assets	Cash	\$ 236,851,886
	Lease Receivables	20,120,951
	Federal Highway Admin. Project Agreements	1,364,325,410
	Total Assets	<u>\$ 1,621,298,246</u>
 Liabilities and Fund Balances		
	<u>Liabilities</u>	
	Accounts Payable	\$ 2,252,428
	Deferred Revenue	35,777,165
	Total Liabilities	<u>\$ 38,029,592</u>
	 <u>Fund Balances</u>	
	Reserve for Encumbrances	\$ 1,400,627,709
	Undesignated	182,640,945
	Total Fund Balances	<u>\$ 1,583,268,654</u>
	 Total Liabilities and Fund Balances	 <u>\$ 1,621,298,246</u>

Capital Prioritization Plan

While the corridor application has been developed as a single program where maximum public benefit is not reached without full program implementation, for purposes of both project management and capital prioritization, the entire corridor is broken into twelve project segments to allow for more manageable project oversight. These segments comprise the corridor from the Texas/Oklahoma border to downtown Tulsa.

The segments below correspond to project spreadsheets submitted with the full application, and they are only meant as brief overviews of each segment. They are not meant to be exhaustive lists. For full details of each segment, please see the project spreadsheets.

Segment 1:

This Segment will improve the Centralized Traffic Control (CTC) signaling system in conjunction with the switch replacement project in Ardmore, OK. This signaling improvement will promote increase trains speed in, to and through Ardmore, OK on both Main 1 and Main 2. The scope of work includes installation of new signaling equipment at the Main 1 to Main 2 Connection including new signal componentry, signals and communications equipment.

Current speed restricted on Main 2 to 25 MPH and this project would raise the speed to 60mph. Additionally, this project will support 45 mph southbound moves on Main 1. This project will enhance community quality of life by increasing train velocity through area and decreasing crossing wait times. This project increases the reliability and consistency of freight service and decreases maintenance cost.

Segment 2:

Red Rock Subdivision maintenance to include rail relay, tie replacement and undercutting/surfacing to promote slow order reduction, decreasing passenger train delay and increasing on-time performance.

BNSF's current level of maintenance supports a targeted level of service for both freight and passenger operations. That targeted level includes an expected amount of track that has had a slow order placed on it. Slow order locations identify track that is in need of some maintenance and limits train speed over that track until the work occurs and the speed increased. As slow orders increase, train speeds decrease which means a train's ability to make its schedule decreases as well. Conversely, reducing the number of slow orders will increase a train's ability to arrive on-time.

Segment 3:

Builds a second mainline railroad track along the Red Rock Subdivision between Oklahoma City, Oklahoma and Norman, Oklahoma and covers all track, elevated structures, crossing upgrades, and communications upgrades.

The addition of a second mainline will greatly enhance both freight and passenger operations by allowing for faster travel times, better on-time performance, and allowing for expected increases in both freight and passenger rail volumes without creating further slow orders or delays.

Segment 4:

Re-establish south connection at the Amtrak Depot in Oklahoma City, OK by installing a new main line switch and constructing 400' of new track.

Currently the only track access is from the north and requires a back-up move to arrive or depart a train at Oklahoma City. The limited access also means the train occupies Main 1 for passenger loading and unloading which means no freight trains can utilize that track. Also, the switch providing access to the main is protected by an electric lock. Operation of the electric lock includes a waiting period during which track protection is validated before the switch can be

manually thrown. This project will enhance community quality of life by further separating freight and passenger operations. This project increases the reliability and consistency of freight service by establishing a dedicated track for passenger operations and allowing freight traffic to utilize Main 1 without restriction.

Segment 5:

This project would upgrade the existing Santa Fe Station to allow for expanded operations needed to handle additional passenger railroad service between Oklahoma City, Oklahoma and Tulsa, Oklahoma. It would cover all architectural work and adding a new platform, elevators and walkways, and covering any accessibility issues related to ADA compliance.

This segment will allow the existing Heartland Flyer and the new passenger rail line between OKC and Tulsa could operate simultaneously without causing delays or back-ups.

This segment includes one (1) new push-pull diesel Talgo XXI trainset composed of dual locomotives and four (4) passenger cars. Trainsets included to coincide with completion date for relevant track infrastructure improvements upon which train(s) will operate.

Segment 6:

This project would cover the final engineering and installations needed to take trains from the Santa Fe Station down to grade, and then past the UPRR Harter Yard. This project would include a piers structure of approximately 600 feet in length that would bridge the gap between the elevated platforms at Santa Fe Station down to street-level, all final engineering, right-of-way acquisition, track, signals and communications installations.

Segment 7:

This segment would cover facilities development related to the new passenger rail service between Oklahoma City, Oklahoma and Tulsa, Oklahoma. It would include refueling and layover facilities located near the Santa Fe Station in downtown Oklahoma City as well as the upgrade and expansion of a park and ride facility near Edmond, Oklahoma at the intersection of I-35 and I-44.

Segment 8:

This segment covers final engineering, right-of-way acquisition, rail, signal, and engineered structures upgrades as well as new rail installations from just north of UPRR Harter Yard in Oklahoma City north to the Edmond Park and Ride Facility.

This segment includes three (3) new push-pull diesel Talgo XXI trainsets composed of dual locomotives and four (4) passenger cars each. Trainsets included to coincide with completion date for relevant track infrastructure improvements upon which train(s) will operate.

Segment 9:

This segment covers all aspects of the new rail line adjacent to the Turner Turnpike along the I-44 corridor as well as the rail needed at the maintenance and operations center in Stroud, Oklahoma— final engineering, right-of-way acquisition, rail, engineered structures, signals and crossing installations. This segment will likely be constructed in three distinct contracts, with the center contract consisting of the double track section for passing tracks as well as maintenance tracks near Stroud, Oklahoma.

Segment 10:

This segment covers facilities development related to the new passenger rail service between Oklahoma City and Tulsa, Oklahoma. It includes the maintenance and dispatch centers located

in Stroud, Oklahoma as well as a park and ride facility in Sapulpa, Oklahoma at the intersection of I-44 and the Creek Turnpike.

Segment 11:

This segment covers the installation of a new alignment on the BNSF Railway Company's Sooner and Madill Subdivisions to provide connection from the Turner Turnpike leg of the new OKC-Tulsa passenger rail service to downtown Tulsa. This includes engineering services, track, signals, engineered structures, and any necessary crossing upgrades.

Segment 12:

This segment consists of the installation of facility improvements to a multi-use transit hub in downtown Tulsa on the BNSF Railway Company's rail corridor to allow for development of the new OKC-Tulsa passenger rail line. This includes architectural and engineering services, elevators, platforms, and all ADA compliance items.

The prioritization is developed for maximum public benefit by working to complete the Heartland Flyer upgrades (segments 1-5) reasonably early in the program along with the engineering design and right of way acquisition for the OKC to Tulsa segments (segments 6-12). This would give a window of operations in which a new generation of equipment can be put through its paces at lower average initial speeds on our expanded Heartland Flyer service runs. This will guarantee the highest levels of safety and operational efficiency prior to operation of the same equipment at their full speed capabilities on the OKC to Tulsa line.

Revenue and Ridership Projections

The focus of this portion of the document is to provide a description of approach taken by the Oklahoma Department of Transportation in producing the ridership and revenue projections for the High Speed Intercity Passenger Rail service development plan. Fare box recovery is considered a critical component of the operating budget and is anticipated to be an above average contributor for the proposed service.

The ODOT view of the role of fare pricing is to establish a fare structure that balances the rider's need and desire for the service with consideration for perceived cost of personal vehicle travel; coupled with the need to recoup a percentage of the operating and maintenance costs. This conservative approach provides for a fare box recovery rate based upon perceived economic benefit to the user, but does not take into account the social benefits of the reduction of traffic on the roadways, reduced fuel consumption, reduced accident costs and various other measures of sustainability. As this is a new transportation alternative between Oklahoma City and Tulsa, there is an assumption that this is a price elastic marketplace in which ridership will be sensitive to fare structure.

While ODOT recognizes that the Internal Revenue Service provides a widely known and accepted estimated mileage cost for operation of an automobile that covers the fixed costs (including depreciation (or lease payments), insurance, registration and license fees, and personal property taxes), coupled with the variable costs (including gasoline and all taxes thereon, oil, tires, and routine maintenance and repairs), Many individuals feel this cost is inflated and do not consider it to be accurate. The primary decision making process involved in the selection of mode alternatives will be focused on out of pocket expense for users unfamiliar with the type of service being provided. While long term exposure will most likely significantly lessen the elasticity of the price structure for the service, ODOT has chosen to more conservatively calculate the fares based upon costs felt more directly by the driver. The items for considered while establishing a desired fare box recovery rate include:

- Average vehicle gas mileage

- Travel Distance

- Current toll charges on the adjacent Turnpike route

- The value of the individual traveler's time and alternative uses

- Interconnection and development of supporting transit facilities

The range of originally proposed ticket prices varies based on the average vehicle mileage assumptions and the projected cost per gallon of gasoline. The benchmark recovery rate was assumed initially to be the rate at which the Heartland Flyer presently returns operating expenses from fares, recently calculated to be 26.84% over the previous 5 year period. Given the potential increases in ridership anticipated to result on the South Central High-Speed Rail Corridor in Oklahoma associated with through passenger rail service, and ultimately connected to the national network to the north, this assumption is conservative. Modeling the ridership for

the service between Tulsa and Oklahoma City has varied, thus requiring a hybrid ridership modeling analysis.

The baseline ridership model for the service has been developed using a combination of industry standard diversion modeling and additional zone of influence impacts more commonly utilized for transit modeling. The decision to treat the modeling effort as a “hybrid” was based on overall observations of travelers likely to be attracted to reduced travel time and the increased dependence on public transportation alternatives. The inclusion of two Park-N-Ride facilities, one located at the Tulsa suburb of Sapulpa near the Creek and Turner Turnpike Interchange, and the other in the Oklahoma City suburb of Edmond near the I-35 and Turner Turnpike (I-44) interchange, will facilitate the further expansion of the zone of influence of the service. The average annual daily traffic on the adjacent turnpike is over 23,000 with approximately 30% of those trips estimated to be work related commuter trips occurring two or more times per week. Consequently, one of the primary market segments will be intercity commuters willing to relinquish the convenience of their personal automobile for an additional two hours of free time. This is similar to many of rail systems in the eastern United States including Amtrak’s current Acela Service.

While the sustained utilization of the connecting service will benefit from potential intercity commuters it will also provide the much needed opportunity for a long distance intercity passenger rail connection linking the South Central High-Speed Rail Corridor System ultimately with the Chicago Hub Network. The implementation of the OKC to Tulsa connection will serve as an extension of the existing Heartland Flyer service between Oklahoma City and Fort Worth. The proposed bicycle, pedestrian and transit concepts offered through Tulsa’s Long Range Plan and the Fixed Guideway Study recently completed by the Central Oklahoma Transportation and Parking Authority specifically focus on residential and commercial development around rail service. These concepts have been discussed and planned for nearly a decade. Consequently, the development of sustainable High-Speed Service in the State of Oklahoma has been anticipated and is well situated for successful implementation.

The ridership and revenue projections for a connection to the Chicago Hub Network via Kansas City have been included for implementation in year 10 of this service development plan. This is done to illustrate the potential this corridor has to provide a connection to the national rail network through Tulsa. The similarities of the existing Heartland Flyer route, in both travel time and length, to the Tulsa to Kansas City route, provided the opportunity to determine potential ridership and projected operating costs based on actual existing service. This was verified by a separate feasibility study completed in 2000 by the State of Kansas. Time line diagrams developed to verify the validity of this service development plan indicate that the service could be provided using a single crew between Fort Worth and Kansas City.

Service Operating Plan

The South Central High Speed Rail Corridor extends from San Antonio, Texas to Tulsa, Oklahoma. The route selected for further development in Oklahoma is the northern portion of this corridor. It consists of additional improvements on the existing Heartland Flyer route from the Red River to Oklahoma City, as well as development of service on new alignment from Oklahoma City to Tulsa.

Ongoing efforts are being conducted with the BNSF to enhance operations on the Heartland Flyer route. These include capacity and operational improvements, which are anticipated to reduce the total travel time to less than four hours, and provide additional capacity to facilitate up to four round trips daily between Oklahoma City and Fort Worth. Additional rail improvements being considered in the State of Texas are anticipated to further reduce the total travel time allowing the rail service to become highly competitive with automobile travel under favorable conditions.

The improvements included in this application include improvements in Ardmore and Oklahoma City to enhance operations involving the double main track infrastructure that currently exists in each location. Additional improvements for this route include overall maintenance of track and subgrade for various locations along the Oklahoma segment of the corridor to reduce the potential for the imposition of slow orders restricting both passenger and freight operations. The Oklahoma City urban area is scheduled for the extension of the double main track from the Flynn Yard south to Norman in an effort to reduce present congestion issues on Interstate 35. This will also provide infrastructure to support future commuter rail proposed as outlined in the Fixed Guideway Study recently completed by the Central Oklahoma Transportation and Parking Authority (COTPA), the entity responsible for the future development of parking and transit issues in the City of Oklahoma City.

Additional improvement concepts were developed as part of the original Oklahoma High-Speed Passenger Rail Study and the Oklahoma High-Speed Rail Initiative Reports. These reports resulted in a methodical evaluation of specific components of the rail system in the South Central region with the intention of establishing a connection to the national passenger rail network. The original Passenger Rail Study concluded that a connection between Oklahoma's two largest economic centers would be necessary to facilitate sustainable passenger service that would link with a northern through service connection to other major Midwestern metropolitan areas

The results of those rail study efforts led to the development of the Oklahoma High-Speed Rail Service Development Plan, the first component of which will be the addition of a second frequency to the existing Heartland Flyer service, which is currently under discussion with the BNSF. The additional frequency is scheduled to complete the first full year of service on 2013. Concurrent with the improvements proposed for the existing service in southern Oklahoma, will be the completion of the final design and NEPA requirements for the Oklahoma City to Tulsa alignment.

The entire corridor from Texas to Tulsa, Oklahoma will be developed as a whole to ensure sustainable service, an action determined to be necessary in previous rail studies conducted for the region and important in meeting primary objectives identified in the HSIPR solicitation and denoted as a primary theme for HSIPR funding requirements and deemed necessary on all of the previous rail studies conducted for the region. The NEPA process is underway for the entire Oklahoma City to Tulsa corridor. Upon completion of that process, final design and the right-of-way acquisition will begin. The OKC to Tulsa segment has been identified as critical to the development of the overall service plan, and is determined to be a top priority.

The acquisition of right-of-way in Oklahoma has proven to be less time consuming than in the remainder of the nation. The preliminary engineering, completed in 2000 under previous State and FRA efforts, positions the State of Oklahoma to be confident that true high-speed operation can be implemented by the end of 2016. This will include route testing and certification of safety systems for the express High-Speed portion of the route.

The implementation of service will require the maintenance facility and operations personnel to be working in Oklahoma no later than the fourth quarter of 2015. String Diagrams were utilized to develop train schedules that will minimize the number of crews necessary. Three additional crews, with two being stationed in Tulsa and one in Oklahoma City, are anticipated to be necessary to facilitate the implementation of 6 round trips between Oklahoma City and Tulsa. The need for what might be considered a high number of round trips has been based on ridership projections developed from employment information and the high frequency of intercity trips known to occur between Oklahoma's two largest economic centers.

The Talgo XXI is presently being proposed for the expansion of Oklahoma's service based on the assumption that they can provide units capable of 150 mph operations utilizing fossil fuel. The acquisition of equipment will include a competitive bidding process for any manufacturer capable of meeting the desired service specifications. The electrification of the route, while not included for implementation immediately, will be included as a future option. The primary reason for not currently including it as a start-up option is the need to maintain equipment consistency with the Fort Worth to Oklahoma City operation. If dual powered equipment develops in a time frame compatible to this service development plan, and meets requirements, provisions have been included for electrification. The full implementation of this service development plan will require one additional train set in 2012 to facilitate the additional frequency for the Heartland Flyer Service and three additional sets in 2016 coinciding with the implementation of service on the OKC to Tulsa route.

Time line diagrams for the entire corridor included in the support material for this plan indicate that one of the Heartland Flyer frequencies can be provided using newly acquired equipment for expanded service, allowing the current Bombardier equipment to continue the daily intercity commute between Oklahoma City and Fort Worth.

The primary maintenance facility for both equipment and maintenance of way will be located near Stroud, an economically depressed area at the midpoint of the corridor. The Cities of Tulsa and Oklahoma City have both committed to long term development in their respective community, revolving around High-Speed Intercity Passenger Rail development. With over a

decade of effort focused on planning for High-Speed rail service, both communities are positioned for expanded transportation infrastructure development including provisions for freight and commuter rail services. The synergistic effect of transportation improvements in these two metropolitan areas and the development of the Oklahoma High Speed rail corridor will provide significant advantages for the state and the south central region. The refueling center in Oklahoma City will include the dispatching facility for ODOT owned rail infrastructure and will be capable of facilitating necessary dispatch activities for commuter rail in the OKC area.

Park-N-Ride facilities have been strategically located near the ends of the Turner Turnpike in Edmond, a northern suburb of Oklahoma City, and Sapulpa, a southern suburb of Tulsa. These facilities could provide the initial stops for service between Oklahoma City and Tulsa in the event that the downtown station upgrades are not complete when the line is ready for service. They will continue to be stops for the final service in order to expand the zone of influence for the service. The impact of the proposed Park-N-Ride facilities on the schedule is anticipated to be negligible given the fact that they will be located in the urban sections of the alignment with 79 mph or potentially 90 mph top operating speeds.

Connections to Will Rogers and Tulsa International Airports are anticipated to develop as future components of local commuter rail development.. Park-N-Ride facilities serving Northeastern Oklahoma, Southwestern Missouri, Northwestern Arkansas and all of Eastern Kansas and Western Missouri appear to be a very promising method for providing mode transfer onto the HSR Intercity Network.

The State of Oklahoma has modeled its service plan based on the likelihood that Class One corridors within the region will produce sustainable passenger service, between the designated South Central High-Speed Rail corridors and the Chicago Hub Network thus linking Oklahoma to the national passenger rail network. The model utilized is the same as that used by the BNSF for several years to establish route travel speeds on corridors with provisions for mixed freight and passenger service. This model has been used to evaluate various possible combinations of connections between Tulsa and Oklahoma City, as well as connections from Oklahoma City to both Kansas City and Denver, and from Tulsa to St. Louis or Kansas City. Three combinations of routes were modeled for connectivity between Tulsa and Kansas City, which is the route that shows the highest potential for a connection to the Chicago Hub Network.

String Diagram analyses have been completed to include provisions for service expansion from Tulsa to Kansas City in 2023. These diagrams illustrate the development of infrastructure that will provide a shorter travel time than the original Santa Fe Southwest Chief service between Kansas City and Fort Worth.

Operations and Maintenance

The operations and maintenance figures included within the application materials have been thoroughly analyzed to the level of detail possible at this stage of the program. ODOT has all of the financial statements pertaining to our AMTRAK service operation (Heartland Flyer) and would be happy to share these upon request. As many aspects related to Talgo equipment are by custom order, and additional speed certifications and funding commitments are pending before commitment to finite parameters, the equipment estimate is as close as it can be previous to contract negotiations with Talgo. Provisions have been made for rail-specific job creation, and these numbers are depicted in both the application materials as well as the documents below.

Operating and Maintenance Information (Standard O&M Cost Categories for Reference)						
Category/Subcategory	Definition	Unit of Service (Annual)	Unit Cost (2010 dollars)	Line Item Cost	Category Total	Unit Cost Source
100 Maintenance of Way (MoW)					\$21,028,597	
101 MoW Track	Maintenance work on track assets along the right-of-way, including the roadbed, rails, cross-ties, ballast, and grade crossings.	136 Track Miles	\$63,127 /Track Mile	\$8,313,221		\$44,870 maintainer labor, \$4,379 supervisor labor, \$6,266 materials (2008)
102 MoW Communications & Signal	Maintenance work on Communications & Signal assets, including telegraph, telephone, radio systems; train signal and interlocking systems; and buildings, right-of-way, or other facilities supporting and housing these assets and systems.	136 Track Miles	\$46,671 /Track Mile	\$6,347,261		\$31,708 signal maintainer labor, \$1,565 supervisor labor, \$2,568 signal materials, \$6,459 comm maintainer labor, \$851 comm materials (2008)
103 MoW Electric Traction	Operation of electric propulsion systems and maintenance work on electric transmission assets, including catenary and support apparatuses; transmission systems; power substations; and building and structures housing these systems.	0 Catenary Miles	/Catenary Mile	\$0		
104 MoW Bridges & Buildings	Maintenance work on physical assets, including tunnels, bridges, culverts, overhead highway bridges, signs, and ancillary buildings.	92 Bridge/tunnel	\$29,246 /Bridge/tunnel	\$2,690,675		
105 MoW Support	General support for front-line MoW activities (Track, Communications & Signal, Electric Traction and Buildings & Bridges), including management and supervision; training; material control and procurement; support for capital projects; and other general su	136 Track Miles	\$27,040 /Track Mile	\$3,677,440		
200 Maintenance of Equipment (MoE)					\$11,345,740	
201 MoE Turnaround	Cleaning, inspection, and minor repairs of rolling stock both prior to departure and en-route.	6 Train Set	\$95,515 /Train Set	\$533,092		\$46,944 labor, \$4383 materials
202 Loco Maintenance	Maintenance of train locomotives, including both preventive/scheduled maintenance and as-needed maintenance due to locomotive failures, bad orders, freeze damage, wrecks, and so on. Does not include major repairs and overhauls or other capital work.	11 Diesel Locomotives	\$356,604 / Diesel Locomotive	\$3,922,639		
203 Car Maintenance	Maintenance of train cars, including passenger coaches, dining cars, sleeping cars, and baggage cars. Includes both preventive/scheduled maintenance and as-needed maintenance due to car failures, bad orders, freeze damage, wrecks, and so on. Does not in	6 Train Sets	\$1,000,000 /Train Set	\$6,000,000		
204 Major Repairs - Expensed	Repairs to rolling stock, components or equipments performed in major overhaul facilities or backshops that are not capitalizable.	0 Vehicles	\$8,057 /Vehicle	\$0		\$2,834/Vehicle Wheel & Ate Shop Labor and \$4,615 Materials
205 MoE Support	General support for front-line MoE activities, including managerial, administrative, material control, and other activities in support of turnaround servicing, rolling stock maintenance and repair, and component work.		\$1,300,000 /Lump Sum	\$1,300,000		
300 Transportation					\$13,668,874	
301 Onboard Services (OBS)	Services provided to customers onboard trains, including food and beverage, entertainment, sleeping car services, and so on. Included are direct and indirect labor charges of OBS employees providing services onboard trains; commissary management and sup	4,380 Annual Train Trips	\$500 /Train Trip	\$2,190,000		
302 Trainmen & Enginemen (T&E)	Direct labor and indirect labor-related costs of enginemen (train engineers who operate locomotives) and trainmen conductors in overall control of trains) as well as general support for and management of T&E employees and crew bases.	7 Crews	\$909,582 /Crew	\$6,367,076		\$96 per crew member hour, 3 members per crew 4 crews 8 hours shifts 365 days per year
303 Yard	Activities required to support the movement of train equipment in preparation for revenue service, including moving trains between the yard and station, train makeup and breakup, moving equipment to and from mechanical facilities and managerial costs rel	2 Yard Crews	\$421,143 / Yard Crew	\$842,286		
304 Fuel	Diesel fuel costs for trains used in passenger service. Includes fuel costs only.	595,680 Annual Train Mile	\$6 / Car Mile	\$3,574,080		2 gallons per train mile \$3.00 per gallon (US Energy Information Administration, Gulf Coast Area Quote, 9/21/09)
305 Power - Electric Traction	Electric power costs for trains used in passenger service. Includes power costs only.			\$0		
306 Train Movement	Activities associated with moving passengers from endpoint to endpoint, including train dispatching, signal or interlocking operations, and the operations of any control or operations centers).	2 Dispatchers	\$97,716 /Dispatcher	\$195,432		
307 Train Movement-Railroad Services	Costs for services provided by other railroads, including infrastructure access, leasing of equipment/purchased fuel, equipment maintenance or repairs, dispatching and signal services, and station costs.		N/A /Lump Sum	N/A		
308 Transportation Support	Support and management of front-line train operations activities, including the costs of general and assistant superintendents, railroad foremen and assistant foremen, and other transportation operations-related activities.		\$500,000 /Lump Sum	\$500,000		
400 Sales and Marketing					\$1,281,596	
401 Sales	Field sales and sales administration, travel agent services, and commercial account services, including expenditures for travel agency commissions, credit card commissions, and airline system access fees.		1% Subtotal 1-3	\$460,532		
402 Information & Reservations	Reservation services to both the general public and other distribution channels, such as travel agencies, including the costs of call centers and information systems required to support reservation services.		1% Subtotal 1-3	\$460,532		
403 Marketing	Marketing and sales support activities, including market research, customer relations, advertising, production of timetables, and sales promotions.		1% Subtotal 1-3	\$460,532		
500 Stations					\$1,497,472	
501 Stations	Station service activities, including ticketing, cleaning and maintenance, lounge operation, red cap and porter services, baggage services, stationmaster and usher activities, snow and ice removal, and training and supervision of staff.	4 Stations	\$374,368 /Station	\$1,497,472		
600 Police, Security & Environmental Safety					\$1,460,532	
601 Police and Security	Traditional police patrolling activities and surveillance, intelligence, and counterterrorism efforts in support of train service, facilities, and right-of-way.	1 System Wide	\$ 1,000,000.00 /System Wide	\$1,000,000		
602 Environmental & Safety	Activities to ensure and oversee environmental, health, and safety of employees and customers, including environmental and safety compliance.		1% Subtotal 1-3	\$460,532		
700 General and Administrative					\$12,558,200	
701 Corporate Administration	Managerial and administrative activities that are enterprise-wide in scope and support all operations of the project enterprise.		15% Subtotal 1-6	\$7,558,920		
702 Centralized Services	Services that are enterprise-wide in scope, including IT, payroll operations, human resources, accounting, procurement, and so on.		10% Subtotal 1-6	\$5,039,280		
Total Operating and Maintenance Costs - For Purposes of HSIPR Program Application					\$62,991,002	