

Northern South Park Planning and Environmental Linkage Study-
Purpose and Need Statement
Working Document

July 2010

Prepared for:
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FHU reference No. 09-076-01

1.0 INTRODUCTION

This report presents the Purpose and Need of a proposed Planning and Environmental Linkage (PEL) study that will be conducted to evaluate transportation modifications in the northern South Park area of Teton County (**Figure 1**). Teton County, in cooperation with the Federal Highway Administration (FHWA) and the Wyoming Department of Transportation (WYDOT), is preparing a PEL Study in accordance with Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

In 2005, the current federal transportation authorization bill, SAFETEA-LU, was signed into law. SAFETEA-LU authorizes the federal surface transportation programs for highways, highway safety, and transit for the five-year period 2005 to 2009. SAFETEA-LU incorporates changes aimed at improving and streamlining the environmental process for transportation projects by allowing states to conduct corridor planning activities prior to the start of the National Environmental Policy Act (NEPA) process.

FHWA defines PEL as a voluntary approach to transportation decision-making that considers environmental, community, and economic goals early in the planning stage and carries them through project development, design, and construction (FHWA, 2008). This can lead to a better decision-making process that minimizes duplication of effort, promotes environmental stewardship, and reduces delays in project implementation.

NEPA establishes a mandate for federal agencies to consider the potential environmental consequences of their proposed actions, to document the analysis, and to make the information available to the public for comment prior to implementation.

A PEL is intended to provide the framework for long-term implementation of a Proposed Action as funding is available and is used as a resource for future NEPA documentation. Technical reports prepared for a PEL are intended for use in support of future NEPA documentation with minimal re-evaluation of resources and impacts.

As one of the initial steps in this planning process a Purpose and Need Statement is developed to guide the project. The Purpose and Need Statement for a project describes the problem(s) that a particular area may be experiencing and is used to develop, evaluate and compare alternatives. Once the Purpose and Need Statement has been developed with public and agency input, the County may then move forward with the PEL study, which would include alternatives evaluation.

The Town of Jackson and Teton County are jointly updating their 1994 Comprehensive Plan. This Purpose and Need Statement was developed during the plan update and will be refined, as necessary, when the final plan is approved.

1.1 *Study Location and Description*

The study location discussed in the Purpose and Need Statement is divided into two areas: study limits and focus area (**Figure 1**). Study limits were identified to provide a basis for the discussion of roadway network operations. The study limits are defined by WY 22 to the north, WY 89 to the east, South Park Loop Road to the south, and South Park Loop Road and Tribal Trail Road to the west. The following areas are within the study limits:

- Industrial/commercial development along US 89 north of the South Park Loop Road intersection
- Rafter J Ranch
- Melody Ranch
- Ranch/large lot residential properties south of High School Road
- Residential development west of US 89
- Commercial development west and east of US 89
- The intersection of WY 22 and US 89 (known as the ‘Y’)

The focus area was identified to provide a basis for discussion of the affected environment and associated consequences. The focus area is defined by WY 22 to the north, WY 89 to the east, High School Road to the South, and South Park Loop Road and Tribal Trail Road to the west.

1.2 *Existing Roadway Network*

The existing roadway network within the study limits includes:

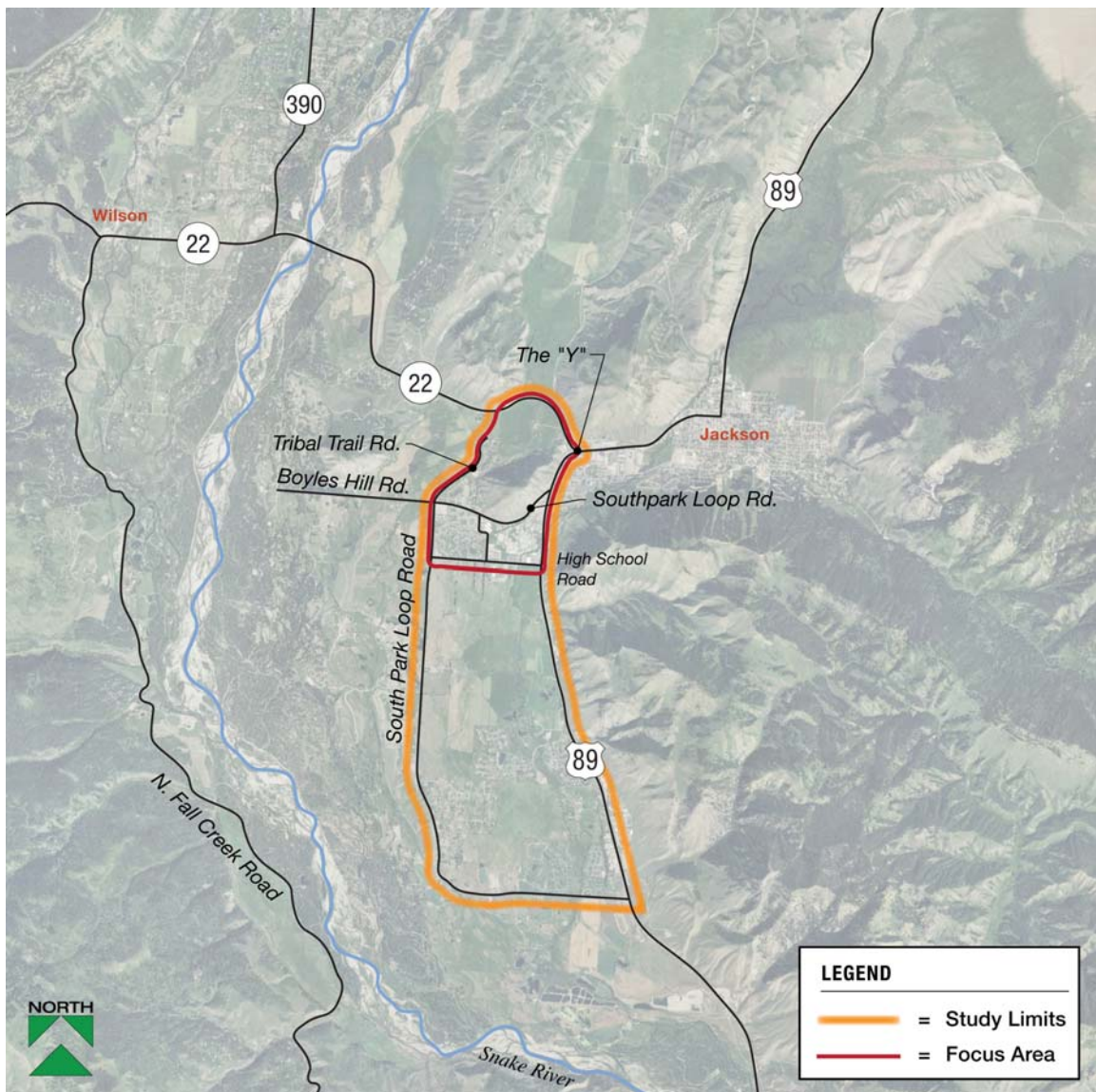
- **US Highway 89 (US 89)** – US 89 provides the connection between the Town of Jackson and Hoback Junction and other communities to the south. From the ‘Y’ through the study limits, US 89 is a four-lane roadway with a center left turn lane. The road narrows to two lanes with no left turn lane just south of the south intersection of South Park Loop Road, which is at the southern end of the study limits. WYDOT is currently conducting an Environmental Impact Statement that is considering widening options for the two lane section. The speed limit varies from 35 to 55 mph within the project study limits.
- **Wyoming Highway 22 (WY 22)** – WY 22 provides the connection between the Town of Jackson and Wilson, Teton Village and Teton Pass to the west. It is a four lane road with a speed limit that varies from 30 to 40 mph between the US 89 intersection and Spring Gulch Road, then a two lane road with a 45 mph speed limit in winter and 55 mph speed limit in summer from that point west to the western boundary of the study limits.
- **South Park Loop Road** – South Park Loop Road is an east-west collector roadway along the southern end of the study limits, which then runs north-south and forms its western boundary. The road connects to Tribal Trail Road/Boyles Hill Road, then turns east and connects back to US 89. The north US 89 intersection is signalized, but all other intersections along the road are unsignalized, including the south intersection with US 89.
- **High School Road** – High School Road is an east-west collector roadway within the northern portion of the study limits that connects South Park Loop Road to

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US 89. Jackson High School is located along the south side of the road about halfway between US 89 and South Park Loop Road; Colter Elementary School is located on the north side of the road opposite the high school. The US 89 intersection is signalized (the southern-most signal on the highway), the Middle School Road intersection has all way stop control and all other intersections have two way stop control.

- **Tribal Trail Road** – Tribal Trail Road extends north from the South Park Loop Road/Boyles Hill Road intersection adjacent to a residential neighborhood. It currently terminates at Cherokee Lane about ¼-mile south of WY 22.

Figure 1 Study Limits and Focus Area



2.0 PURPOSE AND NEED

Teton County is in the initial phases of a PEL Study for the Northern South Park area of Teton County. As one of the initial steps a Purpose and Need Statement is developed to guide the planning process. The Purpose and Need Statement describes the transportation problem(s) that a particular area may be experiencing and is used to develop, evaluate and compare alternatives. For this study, the Purpose and Need Statements are as follows:

- ▶ **Relieve existing and future traffic congestion within the study limits while maintaining community and rural character within Teton County as a whole, and the South Park area in particular, and considering the natural and scenic resource values of the community.**
- ▶ **Provide a redundant road network that enhances and improves roadway network connectivity and safety within the study limits while adhering to context sensitive roadway classification and design within the focus area.**

Further explanation and supporting data for the Purpose and Need Statement is presented below:

2.1 Relieve existing and future traffic congestion within the study limits while maintaining community and rural character within Teton County as a whole, and the South Park area in particular, and considering the natural and scenic resource values of the community

Residents of Teton County and the Town of Jackson value the natural and scenic resources of the area – abundant wildlife, rivers, lakes, and streams, densely forested hills and distant mountains – and the community’s character and livability.

The *Draft 2010 Jackson/Teton County Comprehensive Plan* (Planning Commission resolution of July 1, 2010) (Draft Comprehensive Plan) includes a plan for future mobility that meets the needs of residents and tourists within the context of community character. The Draft Comprehensive Plan establishes a traffic growth rate reduction goal from 3.5 percent annually to 2 percent for major corridors, including US 89 and WY 22. In order to accomplish this goal, the Draft Comprehensive Plan indicates that at least 10 percent of vehicle trips must be converted from motorized to either non-motorized trips (i.e. walking or bicycling), or trips via the Southern Teton Area Rapid Transit (START). Recognizing that multi-modal connectivity is a value of the community, both enhancement and maintenance of multi-modal facilities is an important consideration for any transportation system modification.

Unfortunately, even full success of a 10 percent modal shift set forth in the Draft Comprehensive Plan would not solve long-term roadway system deficiencies. 2030 traffic forecasts indicate that the ‘Y’ would still fail functionally and require intersection modifications and roadway widening.

For planning purposes, the *South Park Sub Area and High School Corridor Transportation Analysis* (2010) was completed to provide a more detailed analysis of how the ‘Y’ intersection is operating today and how it is likely to operate in the future (2030). Traffic conditions in 2030 were created and analyzed utilizing the socio-

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economic data developed for the Draft Comprehensive Plan. To obtain 2030 numbers, an average of existing and future build-outs was utilized. These numbers are consistent with the projections contained in the current 1994 Comprehensive Plan. The expected increase per year with 2030 estimates of residential units and non-residential square footage are shown in **Table 1**.

Table 1. Growth Data for Town of Jackson and Teton County¹

Type	Location	Increase Per Year	Total Growth by 2030
Residential	Town of Jackson	72 units	1,440 units
	Teton County	105 units	2,100 units
Non-residential	Town of Jackson	100,000 ² sq. ft.	2,000,000 sq. ft.
	Teton County	127,000 sq. ft.	2,540,000 sq. ft.

¹ at the time this document was completed the final Comprehensive Plan had not been approved – final numbers will be incorporated when the plan is approved.

² excluding the Four Seasons Hotel

The results of the model show that anticipated regional traffic growth is projected to increase traffic on US 89 to an excess of 50,000 vehicles per day (vpd) north of South Park Loop Road. This volume forecast for US 89 would be at or above the upper capacity threshold for a four lane arterial, which would lead to longer periods of higher congestion and suggest the need for additional travel lanes through the area. Furthermore, these traffic volumes degrade operations at the ‘Y’ to level of service (LOS) E in both the morning and afternoon by 2030. At that level of service, drivers would experience lengthy delays and long queues at the intersection, and dictates the need for additional widening at that location as well.

(The traffic engineering profession uses the term LOS with values ranging from A to F to describe the operational conditions of various types of roadways. LOS F is characterized by severe congestion and extremely poor traffic operations [vehicles will not make it through the first green light and often the second, resulting in intersection approaches that often have long queues of waiting vehicles], while LOS A describes free flow of traffic with virtually no congestion [vehicles are able to make it through on the 1st green light, often without slowing or stopping.]

Since 1999, WYDOT has recognized and studied capacity issues in the focus area. Their studies have resulted in WYDOT’s Statewide Transportation Improvement Program (STIP) including a funded NEPA study that is anticipated to begin in 2011 and will examine congestion and improvement alternatives at the ‘Y’ and on WY 22. Furthermore, when WYDOT develops any highway improvement project they are required to design the project to provide LOS C operations at the end of the 20-year design life of the project. Consequently, any alternatives at the ‘Y’ examined in the NEPA study would focus on addressing long term-traffic forecasts, not what might be needed to solve existing congestion.

Based on growth levels expected in the Town and County, and the success of integrating recommendations contained in the Draft Comprehensive Plan and *Pathways Master Plan (2007)*, the ‘Y’ and other portions of the community’s transportation network may require modifications that are substantial and may be inconsistent with community

character and natural and scenic resource values of the community. In order to pro-actively manage congestion relief at the 'Y' and along US 89 the County will work cooperatively with WYDOT, the public and federal agencies to seek long-term solutions.

2.2 *Provide a redundant road network that enhances and improves roadway network connectivity and safety within the study limits while adhering to context sensitive roadway classification and design within the focus area.*

The study limits in general, and the focus area in particular, have few, if any, roadways that provide drivers with secondary options for east-west and north-south travel. As a result, the current system channelizes all residents and area visitors to the few roads that are available, increasing congestion and detracting from the rural character of those facilities. Network redundancy would diffuse traffic volumes over several roads and permit greater context sensitivity in roadway design and in construction of complete streets that meet the needs of all users of the transportation system. There are two areas in particular on the existing road system where a redundant road network would help address some significant transportation issues: the 'Y' and High School Road.

The 'Y'. As noted in Section 2.1, absent roadway network redundancy, the 'Y' and WY 89 will require widening and modification to accommodate 2030 traffic forecasts. As documented in the High School Road Corridor Study, the 2030 forecasts are substantial and may require that WY 89 be widened to six through lanes to meet LOS standards. Such a roadway would not appear to be consistent with Theme 6 - Develop a Multi-Modal Transportation Strategy - of the Draft Comprehensive Plan, which emphasizes an interconnected, multi-modal transportation system that focuses on strategies and approaches that have a goal to avoid widening roadways.

Based on results of an origin-destination study conducted for the area in July 2009 (**Table 2**), approximately 4,400 vehicles per day (vpd) travel between South Park and the west, which represents 19 percent of the total daily traffic volume on WY 22 just west of the Snake River Bridge. Of that total, approximately 2,690 vpd (12 percent) is from the north end of South Park and 1,710 vpd (seven percent) is from southern South Park.

Table 2. Origin Destination Study Results

Between	Total Daily Volume	West-South Forecast Volume	Percent Of Total
Hwy 22 east of Hwy 390	23,100	4,400	19%
And			
North South Park Loop		1,730	8%
High School Road		960	4%
North South Park Total		2,690	12%
Big Trail Drive		410	2%
South South Park Loop Road		500	2%
Other South South Park Road and Driveways		800	3%
South South Park Total		1,710	7%
Combined South Park Total		4,400	19%

As the South Park area grows, travel demand between it and the west will grow as well. Based on modeling efforts completed as part of the High School Road Corridor Study, by 2030 travel demand between South Park and areas to the west could increase to 9,200 vpd, more than double the current demand.

The High School Road Corridor Study showed that when a redundant road network provides a second connection between South Park and WY 22 to the north, a portion of the 9,200 future roadway trips between the study limits and the west would utilize that route instead of the existing route through the ‘Y’. Shifting these trips away from the ‘Y’ reduces traffic at that location, which may substantially alter the nature of the ‘Y’ improvement needs to the point where the improved road system there could still be consistent with the Draft Comprehensive Plan’s transportation system goals.

It should be noted, however, that the High School Road Corridor Study also indicated that travelers without an origin or destination within South Park would also utilize the alternate route, causing this “regional” traffic to ‘by-pass’ or ‘cut-through’ the road system within South Park. Some South Park area roads are not well-suited to accommodating regional trips because of their design and because the adjacent land uses include residential neighborhoods and several schools. As a result, any redundant road system should include measures that would avoid shifting regional traffic to the local road system.

High School Road. Currently High School Road is the only viable east-west route between South Park Loop Road and WY 89 for many residents that live on the west side of the study limits, and as a result it carries a mix of through trips destined for the highway and local trips destined for residences, schools and commercial establishments located along that road. Of particular concern to many parents and South Park residents is that through traffic volumes on that road add vehicle exposure to school-age children walking or bicycling to schools, so measures taken to reduce that vehicle exposure would create a safer environment for them.

The High School Road Corridor Study modeled a redundant road system within the study limits with an additional east-west connection between South Park Loop Road and

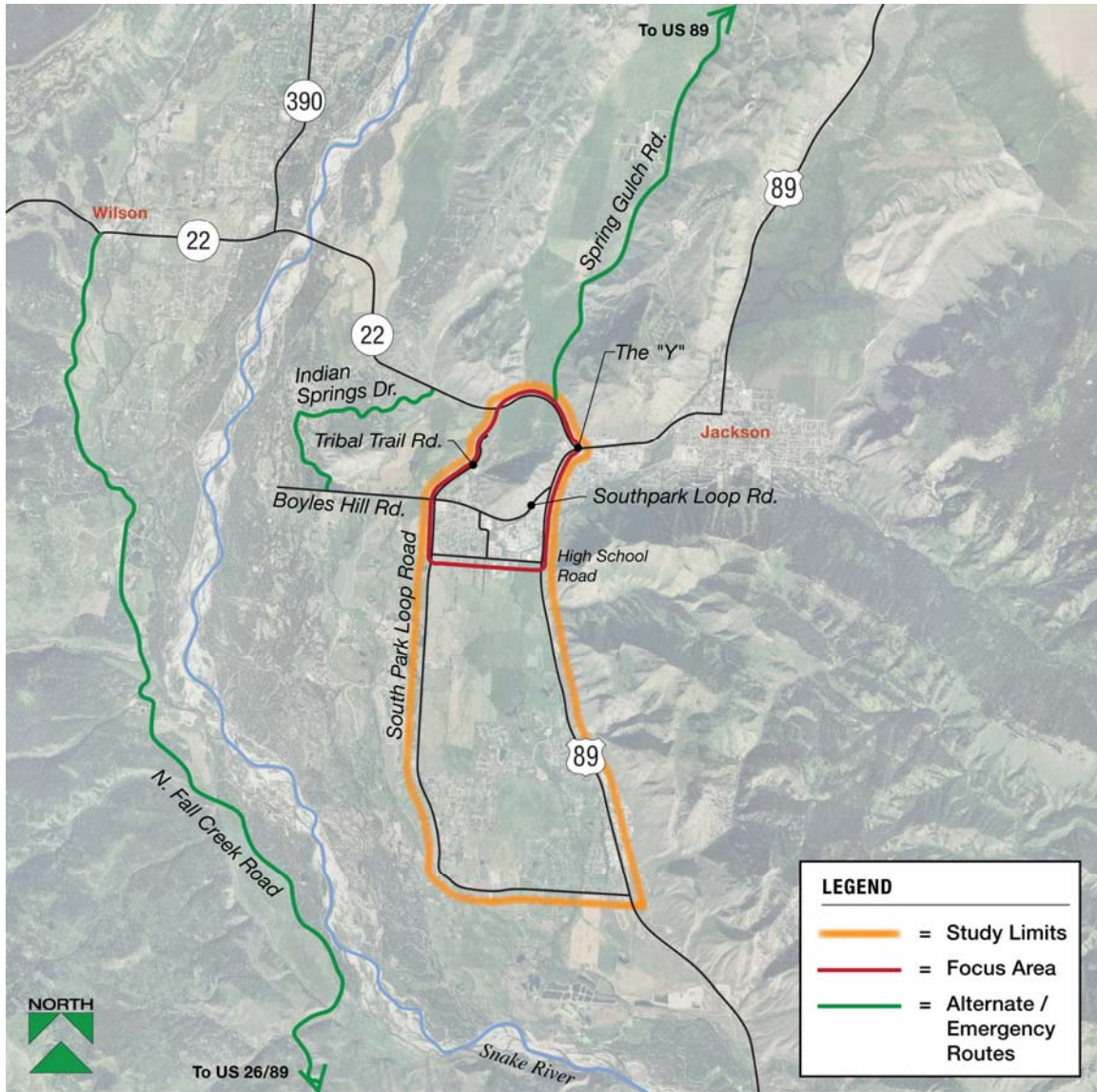
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WY 89 (south of High School Road), and indicated that when such redundancy is provided, a portion of the through traffic between South Park Loop Road and WY 89 would shift to this new road. As a result, High School Road traffic volumes decrease from 7,100 vpd today to 6,000 in 2030—even with additional development within the study limits—and accomplishes the desired reduction in vehicle exposure on that road.

Finally, a redundant road network would improve overall safety within the study limits because it can better accommodate diverted traffic in times of emergency and/or road closure, particularly at the 'Y'. Existing alternate routes to accommodate diverted traffic in times of emergency and/or road closure are limited between Jackson and the West Bank. If an emergency or road closure precluded use of the 'Y', travelers would be forced to use one of the following alternative routes (**Figure 2**), depending on the origin and destination of the trip:

- ▶ **Spring Gulch Road (CO 22-4)** has a weight restricted bridge across the Gros Ventre River, a posted speed of 30–35 mph, several sharp curves, and a gravel surface for approximately four miles of its length. Taking this route from west of the 'Y' to access areas east of the 'Y' would result in a detour of at least 15 miles. Taking this route to bypass Jackson entirely would result in a negligible difference in travel distance. This route does not address emergency access needs between areas west of the 'Y' and south Jackson, including areas within the study limits.
- ▶ **Indian Springs Drive** is a private, gated subdivision road through the Indian Springs Ranch subdivision. Taking this route from its intersection with WY 22 to areas south of the 'Y' would result in a difference in travel distance ranging from negligible to nearly double. An agreement exists for emergency service providers to have access to the private gate code; however, there is no agreement allowing private vehicles to detour via Indian Springs Drive. The route does not address access needs to/from west and east of the 'Y' or north of Jackson.
- ▶ **Fall Creek Road (CO 22-2)** is a two-lane rural road located south of Wilson. This route intersects with US 26/89 south of Hoback Junction and could, therefore, serve as a bypass for West Bank trips with origins or destinations south of Jackson. The southern 5.5 miles of the road are owned by the US Forest Service and are unpaved and not plowed, so this route would not be an option in winter. As is the case with the Indian Springs Drive route, this option does not address access needs to/from west and east of the 'Y' or north of Jackson.

Figure 2 Emergency/Alternative Routes



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Agency Involvement and Participation

The following agencies were included in the development of this Purpose and Need Statement:

- Teton County – Staff and Board of County Commissioners representative
- Southern Teton Area Rapid Transit (START)
- Federal Highways Administration (FHWA)
- Wyoming Department of Transportation (WYDOT)
- Town of Jackson – Staff and Town Council representative
- Wyoming Game and Fish
- Teton County School District
- Teton County Fire Department
- Jackson Hole Community Pathways

References

Alta Planning and Design and Jackson Hole Community Pathways, 2007. Pathways Master Plan for the Town of Jackson & Teton County, Wyoming. April, 2007.

Felsburg Holt & Ullevig, 2010. South Park Sub Area and High School Road Corridor Transportation Analysis. June, 2010.

FHWA. 2008. Planning & Environmental Linkages Implementation Resource. September. Retrieved December 2008 from <http://www.fhwa.dot.gov/hep/pel/index.htm>.

Town of Jackson and Teton County. 2010. Draft Jackson/Teton County Comprehensive Plan. July 1, 2010 Resolution.