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3 Northern South Park Planning and Environmental Linkage Study-
4 Purpose and Need Statement
5 DRAFT Public Review
6

7 June 2010
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1 **1.0 INTRODUCTION**

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

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

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

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

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

27
28 As one of the initial steps in this planning process a Purpose and Need statement is
29 developed to guide the project. The Purpose and Need Statement for a project describes
30 the problem(s) that a particular area may be experiencing and is used to develop,
31 evaluate and compare alternatives. Once the Purpose and Need statement has been
32 developed with public and agency input, the County may then move forward with the
33 PEL study, which would include alternatives evaluation.

1

2 **1.1 Study Location and Description**

3 Currently the location of the area discussed in the Purpose and Need can be distinctly
4 divided into two areas: study limits and focus area (**Figure 1**). Study limits were
5 identified to provide a basis for the discussion of roadway network operations. The study
6 limits encompass the following areas:

7

- 8 • Industrial/commercial development along US 89 north of the South Park Loop
9 Road intersection
- 10 • Rafter J Ranch
- 11 • Melody Ranch
- 12 • Ranch/large lot residential properties south of High School Road
- 13 • Residential development west of US 89
- 14 • Commercial development east of US 89
- 15 • The intersection of WY 22 and US 89 (known as the 'Y')

16

17 The focus area was identified to provide a basis for discussion of the affected
18 environment and associated consequences. The identification of this focus area allows
19 specific attention on the areas most likely to be affected by the project which is located
20 north of High School Road.

21

22 **1.2 Existing Roadway Network**

23 The existing roadway network within the focus area includes:

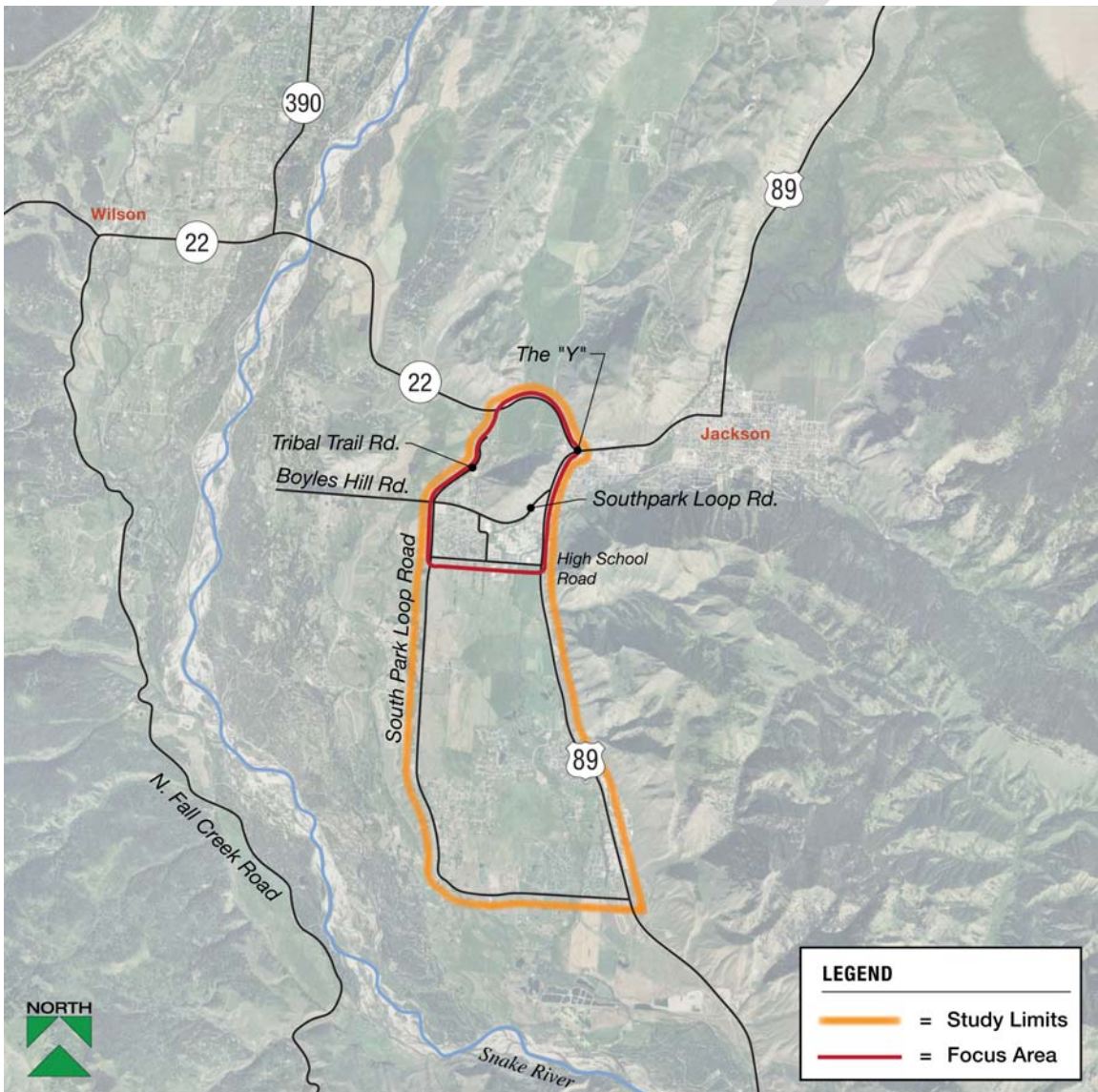
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- 25 • **US Highway 89 (US 89)** – US 89 provides the connection between the Town of
26 Jackson and Hoback Junction and other communities to the south. From Town
27 through the focus area US 89 is a four-lane roadway with a center left turn lane,
28 but narrows to two lanes with no left turn lane just south of the south intersection
29 of South Park Loop Road. WYDOT is currently conducting an Environmental
30 Impact Statement that is considering widening options for the two lane section.
31 From town to High School Road the posted speed limit is 35 mph, which then
32 increases to 55 mph from that point south.
- 33 • **Wyoming Highway 22 (WY 22)** – WY 22 provides the connection between the
34 Town of Jackson and Wilson, Teton Village and Teton Pass to the west. It is a
35 four lane road with a 35 mph speed limit from the US 89 intersection to Spring
36 Gulch Road, then a two lane road with a 45 mph speed limit in winter and 55
37 mph speed limit in summer from that point west.
- 38 • **South Park Loop Road** – South Park Loop Road is an east-west collector
39 roadway that runs along the south end of the focus area, turns north and
40 continues up to Tribal Trails Road/Boyles Hill Road, then turns east and connects
41 back to US 89. The north US 89 intersection is signalized, but all other
42 intersections along the road are unsignalized, including the south intersection
43 with US 89.
- 44 • **High School Road** – High School Road is an east-west collector roadway in the
45 northern portion of the focus area that connects South Park Loop Road to US 89.
46 As its name suggests, Jackson High School is located along the south side of the
47 road about halfway between US 89 and South Park Loop Road, with Colter
48 Elementary School located on the north side of the road opposite the high

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- 1 school. As such, High School Road experiences significant activity, both vehicle
2 and pedestrian, at the beginning and end of the school day. The US 89
3 intersection is signalized (the southern-most signal on the highway), the Middle
4 School Road intersection has all way stop control and all other intersections have
5 two way stop control.
- 6 • **Tribal Trail Road** – Tribal Trail Road extends north from the South Park Loop
7 Road/Boyles Hill Road intersection adjacent to a residential neighborhood. It
8 currently terminates at Cherokee Lane about ¼ mile south of WY 22.
9

10 **Figure 1 Study and Focus Area**



11

1

2 2.0 PURPOSE AND NEED

3 Teton County is in the initial phases of a Planning and Environmental Linkage Study for
4 the Northern South Park area of Teton County. As one of the initial steps in this type of
5 planning process a Purpose and Need statement is developed to guide the process. The
6 Purpose and Need Statement describes the transportation problem(s) that a particular
7 area may be experiencing and is used to develop, evaluate and compare alternatives.

8 The purpose of developing this Purpose and Need statement is three-fold:

- 9 ▶ **Relieve existing and future traffic congestion at the ‘Y’ intersection of**
10 **Wyoming 22 and US Highway 89 while maintaining the sense of community**
11 **and rural character of Teton County as a whole, and the South Park area in**
12 **particular, and considering the natural and scenic resource values of the**
13 **community.**
- 14 ▶ **Provide a more direct route for trips to/from west of the ‘Y’ and the South Park**
15 **area.**
- 16 ▶ **Develop a road system that provides an alternate route that can accommodate**
17 **diverted traffic in times of emergency and/or road closure.**

18

19 Further explanation and supporting data for the Purpose and Need statements is
20 presented below:

21 *2.1 Relieve existing and future traffic congestion at the ‘Y’ intersection of* 22 *Wyoming 22 and US Highway 89 while maintaining the sense of* 23 *community and rural character of Teton County as a whole, and the* 24 *South Park area in particular, and considering the natural and scenic* 25 *resource values of the community*

26 The *Pathways Master Plan* (2007) indicates that the growth of the Teton County road
27 network has not kept pace with development or visitor pressures, and the result has
28 been increased traffic congestion and air pollution. This statement is supported by the
29 recent South Park Sub Area and High School Road Corridor Transportation Analysis
30 that indicates that in a current day scenario, the ‘Y’ intersection performs at a LOS D in
31 the afternoon and is expected to degrade to LOS E by 2030. Because this intersection is
32 on a state highway, WYDOT requires operations to be LOS C or better. Therefore, under
33 the current day scenario, the intersection is not meeting the WYDOT standard.

34 The traffic engineering profession uses the term level of service (LOS) with values
35 ranging from A to F to describe the operational conditions of various types of roadways.
36 LOS F is characterized by severe congestion and extremely poor traffic operations
37 (vehicles will not make it through the first green light, or sometimes the second), while
38 LOS A describes free flow of traffic with virtually no congestion (vehicles are able to
39 make it through on the 1st green light).

40 The *Draft 2010 Jackson/Teton County Comprehensive Plan* (Comprehensive Plan)
41 includes a plan for future mobility that meets the needs of residents and tourists within
42 the context of the community character. The Comprehensive Plan establishes a traffic
43 growth rate reduction goal from 3.5 percent annually to 2 percent for major corridors,

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1 including US 89 and WY 22. In order to accomplish this goal, The Comprehensive Plan
2 indicates that at least 10 percent of the vehicle trips must be converted from motorized
3 to either non-motorized (i.e. walking or bicycling), or trips via the Southern Teton Area
4 Rapid Transit (START).

5 The goals outlined in the Pathways Master Plan and the Comprehensive Plan rely on a
6 fairly aggressive public shift away from personal vehicles and toward alternative modes
7 of travel. Historically, these shifts have been difficult to achieve in areas with harsh
8 winter weather, areas that are largely rural in character, and in areas where a significant
9 portion of the population is affluent, so Teton County is likely to face significant
10 challenges in meeting these goals.

11
12 Unfortunately, even full success of a 10 percent modal shift set forth in the
13 Comprehensive Plan would not solve the long-term roadway system needs. The 2030
14 traffic forecasts indicate that the 'Y' would still fail functionally and require intersection
15 modifications and highway widening. The 2030 baseline traffic forecasts on US 89 are
16 expected to exceed 50,000 vehicles per day (vpd) north of South Park Loop Road, while
17 traffic forecasts on WY 22 north of the 'Y' would exceed 40,000 vpd. This volume
18 forecast for US 89 would be at or above the upper capacity threshold for a four lane
19 arterial, which would lead to longer periods of higher congestion and further suggest the
20 need for additional travel lanes through the area.

21
22 For planning purposes, the *South Park Sub Area and High School Road Corridor*
23 *Transportation Analysis* was recently completed to determine how the existing 'Y'
24 interchange is operating both today and in the future (2030) (FHU, 2010). To measure
25 future congestion at the 'Y', traffic conditions in 2030 were created and analyzed utilizing
26 the socio-economic data developed for both the Town and the Teton County from the
27 Teton County Comprehensive Plan Update (April, 2010). Expected increase per year
28 with 2030 estimations of residential units and non-residential square footage are shown
29 in **Table 1**.

30 **Table 1. Growth Data for Town of Jackson and Teton County**

		Increase per year	Build-out 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* sq. ft.	2,000,000 sq. ft.
	Teton County	127,000 sq. ft.	2,540,000 sq. ft.

31 *excluding the Four Seasons Hotel

32 The results of the model show that the anticipated regional growth is projected to
33 degrade operations at the 'Y' to LOS E in both the morning and afternoon by 2030. At
34 that level of service drivers would experience lengthy delays and long queues at the
35 intersection, which indicates that the intersection would be beyond the capacity of the
36 current configuration and would need significant modifications to meet WYDOT's level of
37 service standard. Specifically, dual left turn lanes would be needed on the north, east

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1 and west legs of the intersection, and a third travel lane would be need in each direction
2 of US 89 through the intersection.

3 Based on the growth levels expected in the Town and County, and the success of
4 integrating recommendations contained in the Comprehensive Plan and Pathways
5 Master Plan, the WY 22/ US 89 intersection, and other transportation network areas,
6 may require modifications that are substantial and may be inconsistent with community
7 character and natural and scenic resource values of the community. Without any
8 modifications to the existing facilities, traffic forecasts indicate that in 2030, the 'Y' may
9 require substantial widening and modification to accommodate 50,000 vpd. In addition to
10 modifications at the 'Y', modifications could also be required along US 89. In order to
11 pro-actively manage congestion relief at the 'Y' the county must work cooperatively with
12 WYDOT, the public, and other federal agencies.

13

14 **2.2 Provide a more direct route for trips to/from west of the 'Y' and the**
15 **South Park area.**

16 The South Park area currently generates a significant amount of traffic that travels to the
17 west. Based on results of an origin-destination study conducted for the area in July 2009
18 (**Table 2**), approximately 4,400 vehicles per day (vpd) travel between South Park and
19 the west, which represents 19 percent of the total daily traffic volume on WY 22 just west
20 of the Snake River Bridge. Of that total, approximately 2,690 vpd (12 percent) is from the
21 north end of South Park and 1,710 vpd (seven percent) is from southern South Park.
22 Without the Tribal Trail Connector all these vehicles must travel through the 'Y' to
23 complete their journey.

24

25 **Table 2. Origin Destination Study Results**

26

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%

27

28 As the South Park area grows, the travel demand between it and the west will grow as
29 well. Based on the modeling efforts completed as part of the High School Road Corridor
30 Study, by 2030 the travel demand between South Park and areas to the west could
31 increase to 9,200 vpd, more than double the current demand. This represents a
32 significant amount of traffic that would benefit from a shorter route.

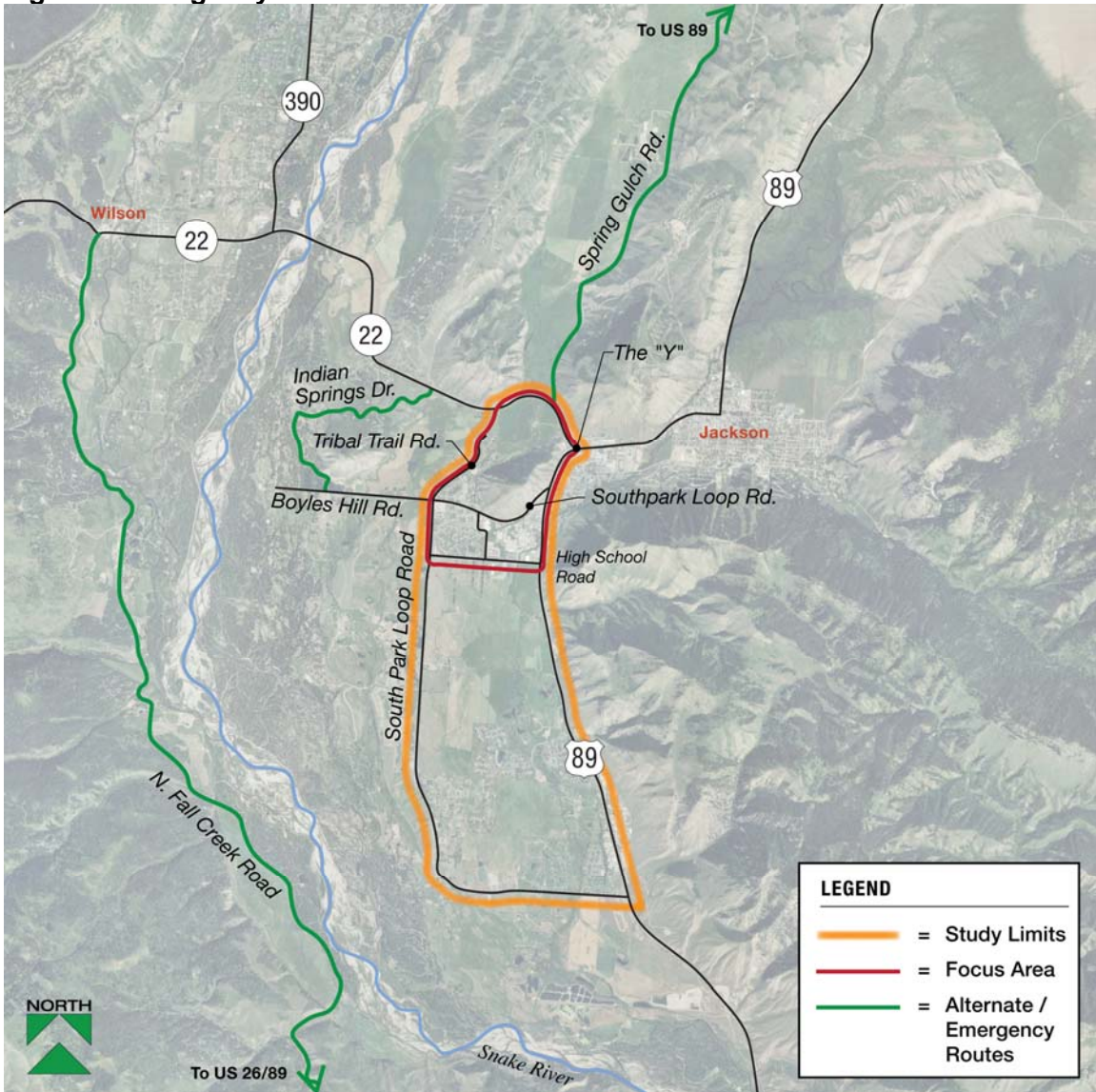
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1 **2.3 *Develop a safe road system that provides an alternate route that can***
2 ***accommodate diverted traffic in times of emergency and/or road***
3 ***closure.***

4 A wreck or closure at the 'Y' could impair traffic movements in times of emergency
5 and/or road closure. Accident data collected from the Wyoming Department of
6 Transportation indicate that between 2005 and present there have been 67 accidents at,
7 or within the vicinity of, the WY 22/US 89 intersection. Of those accidents, there were 15
8 associated injuries. Existing alternate routes to accommodate diverted traffic in times of
9 emergency and/or road closure is extremely limited between Jackson and the west. If an
10 emergency or road closure precluded use of the 'Y', travelers would be forced to use
11 one of the following alternative routes (**Figure 2**), depending on the origin and
12 destination of the trip:

- 13 ▶ **Spring Gulch Road (CO 22-4)** has a weight restricted bridge across the Gros
14 Ventre River, a posted speed of 30 – 35 mph, several sharp curves, and a gravel
15 surface for approximately four miles of its length. Taking this route from west of the
16 'Y' to access areas east of the 'Y' would result in a detour of at least 15 miles. Taking
17 this route to simply travel north, thereby avoiding Jackson entirely would result in a
18 negligible difference in travel distance. Both scenarios would cause trips to divert
19 through the Jackson Hole Golf and Tennis Club resort, a primarily residential
20 development along the northerly portion of Spring Gulch Road. This route does not
21 address access needs between areas west of the 'Y' and south Jackson.
- 22 ▶ **Indian Springs Drive** is a private, gated subdivision road through the Indian Springs
23 Ranch subdivision. Taking this route from its intersection with WY 22 to areas south
24 of the 'Y' would result in a difference in travel distance ranging from negligible to
25 nearly double. The impact on the subdivision and Indian Springs Drive could be
26 substantial and detrimental, depending on the duration of the detour, time of year,
27 and mix of vehicles. The route does not address access needs to/from west and east
28 of the 'Y' or north of Jackson. An agreement has been established for emergency
29 service providers to have access to the private gate code; however, there is no
30 agreement allowing private vehicles to detour through Indian Springs Drive.
- 31 ▶ **Fall Creek Road (CO 22-2)** is a two-lane rural road located south of Wilson. This
32 route intersects with US 26/89 south of Hoback Junction and could, therefore, serve
33 as a bypass for West Bank trips with origins or destinations south of Jackson. The
34 southern 5.5 miles of the road are owned by the US Forest Service and are unpaved,
35 making this a less than ideal route during winter driving conditions. As is the case
36 with the Indian Springs Drive route, this option does not address access needs
37 to/from west and east of the 'Y' or north of Jackson.

1 **Figure 2 Emergency/Alternative Routes**



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2 **References**

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