



Board of County Commissioners - Staff Report

Meeting Date:

Presenter: Heather Overholser

Submitting Dept:

Subject: Tribal Trail Connector Workshop

Statement / Purpose: Informational session on the Tribal Trail Connector study

Background / Description (Pros & Cons): Tribal Trail Road, a County Road, is a long-planned, unfinished connection between South Park Loop and WY-22. In March 2018, the Board of County Commissioners (BCC) voted to approve a Cooperative Agreement with Wyoming Department of Transportation (WYDOT). Under the agreement, WYDOT was contracted to manage the design, approval and construction process for the Tribal Trail project. In July 2018, the BCC voted to adopt a charter process for the study. WYDOT then contracted engineering firm Morrison-Maierle and their subconsultant Jacobs Engineering to manage the design, NEPA, stakeholder, and public processes. In January 2020, Teton County hired Flitner Strategies to facilitate the final design alternative evaluation with the public, stakeholders, and project team.

In late summer 2018, the BCC appointed a community stakeholder committee and staff was tasked with engaging the group in the stakeholder process. The stakeholder group consists of representatives from residential areas and entities that would be directly impacted by the completion of the connector road: Indian Trails; Indian Springs Ranch; Dairy Ranches subdivision; South Park Loop residents; Teton Science Schools; Teton County School District; non-motorized; transit; public art; local business; tourism; wildlife; environmental; and, emergency services. Along with the consultants, the project team includes county public works staff, the START director, and WYDOT staff. Five stakeholder meetings were held from May 2019 through February 2020 with the ten stakeholders, although one stakeholder stepped down in December 2019 due to other obligations. As assigned, staff worked with the stakeholders and project team to develop multiple design alternatives and present a recommendation that meets the Project Charter Purpose and Need and has been shown to best address the project objectives. In total, 33 design alternatives were studied and vetted by the stakeholders and the project team. At the May 4, 2020 BCC workshop, staff will present the two final design alternative recommendations and provide information on the overall process to allow the BCC to make an informed decision and provide direction to staff on the project.

Tribal Trail Connector was first identified in the 1982 Rural and Urban Design Assistance Team (R/UDAT) study. In 1991 it was included in the Teton County Transportation Plan and was platted in 1992 as part of the development of the Indian Trails and Indian Springs subdivisions. Decisions were made at that time to postpone the connector portion of the road until later. Throughout the last several decades and in all comprehensive planning and transportation documents, the road has been identified as a priority for completion.

From 1992 to 2018, the populations of the Town of Jackson and Teton County nearly doubled (TOJ from 5,438 to 10,532, and TC from 12,198 to 23,464). In the same period, visitation levels roughly doubled, and WY-22 annual average daily trips increased by 77% (10,450 to 18,500). These changes in the valley's population have increased demands on its infrastructure. Local officials identified concerns about the lack of current roadway network infrastructure in the 2015 Teton County/Town of Jackson Integrated Transportation Plan, in which it identified as a priority project, as well as in the BCC-approved Charter Agreement for the TTC study as the project's Purpose and Need criteria.

Project Purpose and Need

The study criteria were developed using the Project Charter and adopted by the stakeholders and project team as the project Purpose and Need Statements:

Redundancy: A transportation system's ability to provide more than one independent way in or out of an area. Allows the transportation system to accommodate variable and unexpected travel conditions (e.g. emergencies) without failure.



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Reduce Vehicle Miles of Travel (VMT): Per the ITP, since year 2000, most County traffic growth is made up of local traffic associated with short trips. To manage traffic growth and reduce VMT, the ITP calls for “more productive use of road and street capacity.” Reducing VMT in a community decreases petroleum use, reduces emissions, and saves driver time.

Improve traffic congestion at the Y-intersection: Although the WYDOT reconstruction of the Y-intersection has resulted in improved operations, the Y-intersection still experiences congestion and back-ups based on average year-round traffic volumes, and congestion worsens in summer and winter. Mobility through the Y-intersection is also impaired during times of traffic disruptions (i.e. accidents, etc.). There is a community desire and financial incentive to delay the time at which the Y will require additional improvements.

Improve Emergency Response Time: Route redundancy would improve emergency evacuation and emergency service access and response time.

Multi-Modal Connections: Provide Alternate bus route for START, school buses, and van pools to improve travel efficiency. Better and more safely accommodate cyclists and pedestrians by creating additional pathway connections throughout the project area, including at all intersections.

Project Objectives

To further adhere to BCC direction, objectives were developed by the project team and stakeholders to supplement the Purpose and Need criteria in order to help differentiate between design alternatives and to help identify which alternative best meets the community needs. Project Objectives criteria evaluated an alternative’s relative ability to:

- **Minimize impacts to natural resources (e.g., wildlife, wetlands, scenic resources, water quality):** The alternative’s potential effects to wildlife connectivity, wetlands, and scenic resources. Scoring is based on the level of environmental impacts. Alternatives that resulted in limited adverse environmental effects or would have beneficial environmental effects were rated good; effects that could be substantial or require extensive mitigation were rated poor.
- **Minimize impacts to the human environment (e.g., relocations, traffic noise, recreation, historic, air quality):** Identification of the alternative’s potential effects to neighborhoods, residents, and the travelling public due to relocations, traffic noise increases, and/or effects on recreational, historic, visual, and air quality resources. Alternatives that resulted in limited adverse environmental effects or would have beneficial environmental effects were rated good; effects that could be substantial or require extensive mitigation were rated poor.
- **Minimize safety concerns:** The alternative’s potential effects to improve driver safety and minimize adverse safety impacts to neighborhood residents and wildlife. Scoring was based on a qualitative assessment informed by traffic analysis for driver safety. The alternative’s ability to include design elements that would minimize vehicle conflicts with pedestrians, cyclists, and wildlife were considered good.
- **Minimize private property impacts:** The alternative’s potential ability to avoid or minimize private property acquisition, including conservation easements. Alternatives that resulted in no or very limited parcel or conservation easements acquisitions were rated good while alternatives that require acquisition from more parcels were rated poor.
- **Provide more direct, safe, aesthetically pleasing, and efficient multi-modal routing (for START and school buses/vans, cyclists, and pedestrians) between South Park and the West:** Scoring based on qualitative assessment.
- **Be cost effective, based on reduced travel costs for the community and ability to fit within overall project funding constraints:** Scoring based on order of magnitude alternative costs.



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- **Be constructed, based on constructability issues and constraints:** Ability of an alternative to be constructed using traditional and accepted construction practices, availability of materials, in compliance with applicable design standards and legal requirements. This considers potential issues with right-of-way acquisition as well as temporary construction effects to the travelling public.
- **Be maintained, particularly for snow removal and storage.**

As part of the analysis of project Purpose, Need and Objectives, Jim Charlier, as Transportation Planning Consultant and author of the ITP, provided input on the neighborhood connector road. His memo, attached to this report, summarizes his conclusions about this connector as it pertains to BCC and community goals.

Following is an excerpt from his memo:

“The connector road would shorten average trip lengths and reduce daily miles of travel associated with circuitous trips. This will support other community objectives, including reducing carbon emissions. It is possible the Tribal Trail connector would induce some new driving that would otherwise be discouraged by poor connectivity. However, because the traffic capacity of the connector – if properly designed – would be low, the competition between existing vehicle trips and induced vehicle trips would quickly reach equilibrium and would not be enough to cancel out the VMT benefits.”

Review Process

The review process for each alternative utilized two levels of screening. Level 1 screening process assessed whether each alternative met Purpose and Need criteria and whether it had any fatal flaws. The assessment determined whether a design alternative had irresolvable (or “fatal”) flaws, such as environmental impacts that could not be mitigated and/or was not constructible. Of the 26 northern intersection designs (WY-22), 16 were eliminated at the Level 1 screening, due to not meeting Purpose and Need criteria and/or one of these fatal flaws.

As an example, a “Stakeholder Alternative” was presented, taken through Level 1 screening and eliminated. This specific alternative included several aesthetic improvements to the existing road without a connection to WY-22, but did not meet any of the Purpose and Need conditions. The same evaluation was utilized with every proposed design alternative in order to maintain adherence to the defined screening methodology.

Level 2 screening evaluated the alternatives that were carried forward from Level 1 against the Project Objectives criteria. Of the designs that remained after Level 1 screening, four of them were eliminated at Level 2 screening, with six alternatives carried forward and presented at the public meeting in February 2020. Stakeholders met in March 2020 and, based on public input, their own input, and the traffic modeling, were able to narrow down the list to two alternatives, plus the “no build” option, which will be included in BCC deliberations.

Other Design Elements

In addition to the 26 design alternatives for the north intersection with WY-22, all other design alternative elements were taken through Level 1 and Level 2 screening, including the south intersection with Boyles Hill Road and South Park Loop.

Pathways - The project team asked the Pathway Taskforce for its input on the preferred location of a new pathway along the existing Tribal Trail Road. The Taskforce did not have a strong opinion but concluded that the pathway should be built on the west side of Tribal Trail Road with a pedestrian crossing at Seneca Lane. A new portion of pathway will be needed on the east side of Tribal Trail to connect Seneca Lane and the existing pathway at the church on Lakota Lane.

Speed Calming - Consistently, stakeholders and the public asked for slower speed limits and construction that considers neighborhood character. In response, the project team is recommending a narrow cross section with speed calming measures to ensure slow speed travel. Originally, the project team was considering a design speed of 35mph, but, in response to community feedback, is proposing to plan for a 25mph residential street.



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This also means that improvements on the existing section of Tribal Trail Road would be necessary to provide the neighborhood feel and travel speed that sought for the entirety of Tribal Trail Road. This road was originally built by the developer to accommodate higher speeds and is signed at 35mph. If the budget allows, improvements to the existing segment would be ideal. Some other physical elements of speed calming are also proposed, including neighborhood traffic circles at Seneca, Lakota and Cherokee, and some limited use of median islands. Public comment reflects a range of opinions for these specific project elements worthy of further exploration should the BCC choose to proceed. See attached - Public Comment Summary February 2020.

Southern Intersection - The intersection at Boyles Hill Road and South Park Loop is the southern terminus of this project and is currently a two-way stop for northbound and southbound traffic. After much consideration, research and review of public and stakeholder input, the project team is recommending a roundabout for this southern intersection. It will keep traffic moving, as well as reduce noise impact for close neighbors who report that they currently can hear the traffic braking. Keeping traffic moving in this scenario reduces emissions, important for environmental impact priorities. This option does, however, come at increased cost.

Traffic Model

A traffic study was conducted for Teton County by Cambridge Systematics (CS). CS evaluated Teton County's existing traffic and then projected 2030 and 2045 peak time scenarios. CS collected field data in July 2019 and February 2020. For the traffic simulation, they projected jobs and housing growth in the community and assumed a two-lane WY-22 in 2030, and a 4-lane WY-22 for 2045. The model also assumed the intersection at WY-22 and WY-390 will be upgraded to the Florida T design in 2023/2024.

CS's simulation evaluated three different types of intersections at WY-22 and Tribal Trail: a round-about; an interchange; and, a signalized at-grade intersection. CS also looked at the "no build" alternative for 2030 and 2045. The simulations show that most of today's traffic using Tribal Trail Road start and/or end their trips within the study area (the greater South Park Loop neighborhoods). The simulations demonstrate low likelihood that the road will be used as a shortcut, as it shows longer travel times to cut through Tribal Trail Road vs. going through the Y-intersection. This scenario was analyzed several different ways to confirm the result as the project team received comments that showed skepticism of this result. Additional route choice analyses and iterations using different speeds all showed similar results. This is important when considering that navigation tools typically recommend the quickest route.

Traffic model results show that Tribal Trail would:

- **Have an estimated volume of 3,000 vehicles per day (in 2030) 4,400 vehicles per day (in 2045)**
 - Similar volumes to west leg of High School Road
- **Mostly be used for local trips**
 - 90+% of trips have origins or destinations in the South Park neighborhoods/schools
 - Not cut-thru traffic with low speed design that increases travel time
- **Reduce traffic at the Y-intersection**
 - Reduce right turn traffic from WY-22 to Broadway by 10-12% in the future AM and PM peak hours
 - Reduce left turn traffic from Broadway to WY-22 by 15-20% in the future AM and PM peak hours
 - Overall reduction of traffic through the intersection by approximately 7% with the TTC built
 - With these reduced volumes at the 'Y', peak hour conditions at the signal improve slightly (however still congested in future year conditions)
- **Reduce school area traffic**
 - See chart below for changes to surrounding road network



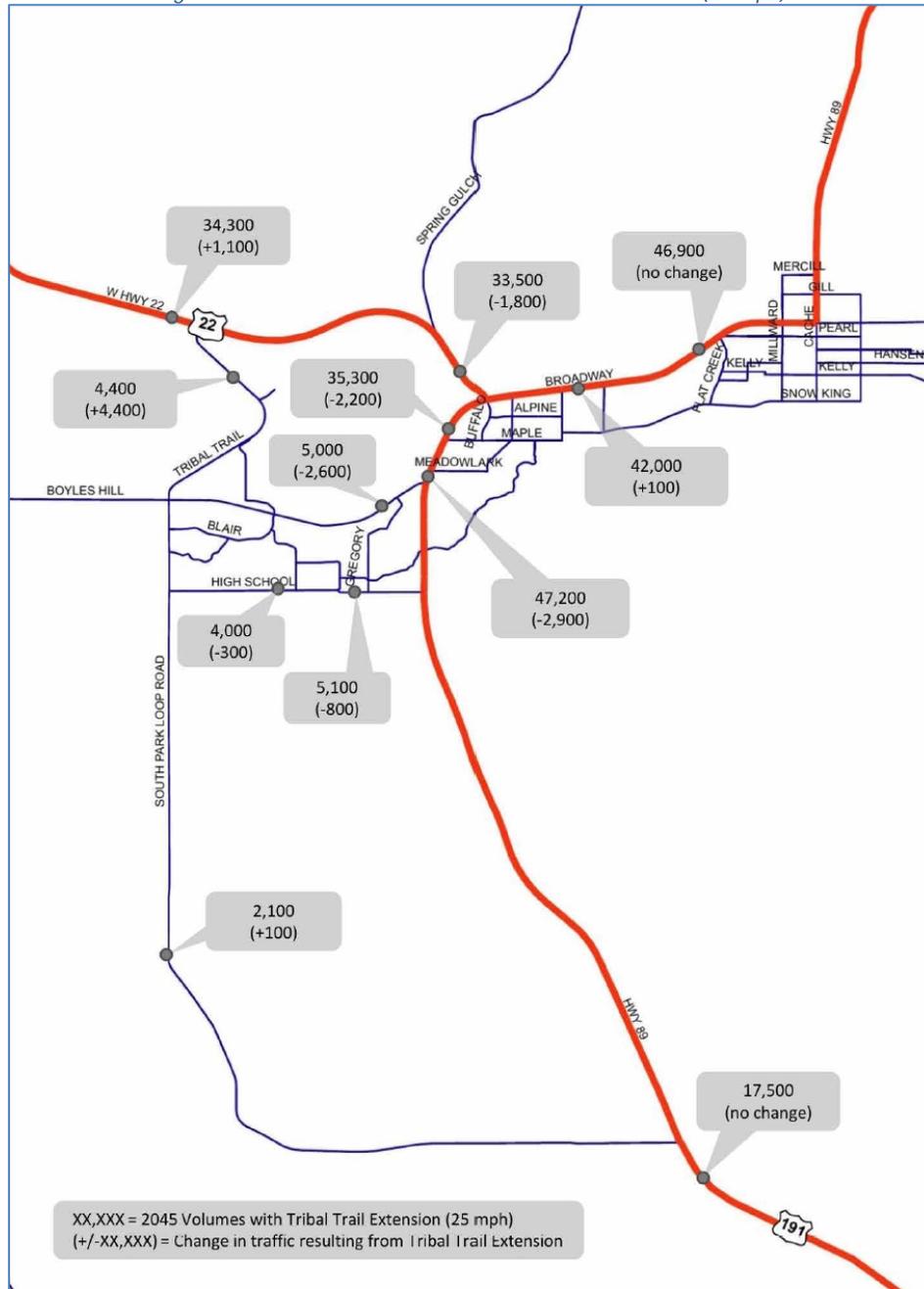
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Table 1: Changes to surrounding road network if TTC is built

Road	Average Weekday Trips		
	Change	New Total	% Change
West end of HS Road	-300	4000	-7%
East end HS Road	-800	5100	-14%
SPLR @ Blair Rd. near Middle School	-2600	5000	-34%
S Broadway	-2900	47200	-6%
Broadway at South side of Y-intersection	-2200	35300	-6%
WY-22 west of Y	-1800	33500	-5%
WY-22 west of TTC	1100	34300	3%
SPLR south of 3 Creek	100	2100	5%

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Figure 1: 2045 Traffic Volumes with Tribal Trail Extension (25 mph)



Public Outreach and Stakeholder Involvement

This study, including the accompanying public process, is the most extensive the County has ever conducted for a single road project. It continues to be a priority for staff to provide an inclusive and transparent process. Staff conducted individual, group and public meetings, as well as hosted informational neighborhood meetings within the study area. Staff answered questions, accepted many personal meeting requests, listened to concerns and ideas and took them into consideration when determining the best possible design alternatives. From July 2018 to present, County staff has held multiple meetings per week on this study with constituents and project team experts for an estimate of approximately 500 meeting hours. Public and stakeholder input and BCC direction have been crucial, along with technical expertise and input from the project team. The table below, in brief, shows concerns that were heard and how they were addressed.



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Table 2: Concerns & Actions

Concern	Actions
Fast cut-through road	Narrow design with traffic calming measures, 25 mph
Wetland Impact	Indian Springs connector road eliminated to preserve wetlands
Wildlife	25 mph (vs. higher speed) reduces wildlife-vehicle collisions Wildlife crossing on WY-22 near the project location is being planned
Why is an EIS not being conducted?	An EA is being conducted now. In accordance with NEPA, an EA will tell us if an EIS is subsequently required.
Would add more traffic to High School Rd & South Park Loop	Due to slower design speed, traffic model shows a DECREASE on High School Road and northern South Park Loop Road near the Middle School and a small percentage (5%) increase on the southern leg of South Park Loop Road.
Safety for the children	Vehicle speeds will be decreased on existing Tribal Trail Road, a new a separated pathway improves bike/ped connectivity, resulting decrease in traffic on High School Road and South Park Loop Road near schools.
This is already a done deal	Thousands of hours have been spent to ensure a very thorough process to make a data driven decision on what is best for the community.

Since May 2019, data show a shift in public opinion. As public meeting attendance grew by almost 40%, project favorability increased as noted in the table below. While attendance grew, the number of written comments remained nearly the same. It is important to note that the total number of comments and public attendance at the meetings represent only a fraction of the overall community.

Table 3: Responses from the public

May 2019			February 2020		
80 public meeting attendees			110 public meeting attendees		
Written comments			Written comments		
Supports Project	11	17%	Supports Project	36	57%
Does Not Support Project	25	39%	Does Not Support Project	25	40%
Unclear	28	44%	Unclear	2	3%
Total Unique Responses	64		Total Unique Responses	63	

Preferred Alternatives

The recommended two northern intersection design alternatives have been vetted with the stakeholders and public input has been received. Alternative IN2A, is an interchange at the intersection of Tribal Trail Road and WY-22. Alternative IN2B is an at-grade signalized intersection.



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Table 4: Pros & Cons

	PROS	CONS
Interchange with Underpass (IN2A)	<ul style="list-style-type: none"> • Lower impact to WY-22 capacity • Better operational functionality WY-22 • Limited delay at intersection 	<ul style="list-style-type: none"> • Higher cost • Retaining wall/visual impact • WYDOT funding uncertain for work within ROW • More land disturbance
At-Grade Signalized Intersection (IN2B)	<ul style="list-style-type: none"> • Lower cost • Easier to accommodate wildlife fencing • Improve traffic safety and operations • Fewer visual impacts • Less land disturbance 	<ul style="list-style-type: none"> • More impact on WY-22 operational functionality • More delay at intersection • Increased risk of rear-end collision

When the interchange and at-grade intersection alternatives were presented at the public meeting, public preference was evenly split between the two alternatives. Although some of the stakeholders preferred the “no build” option, there was general consensus among the group that, if the project is approved to move forward by the BCC, these two alternatives are the preferred and staff should continue their evaluation to determine which will best meet the project goals and objectives. Refer to attachments for design figures.

WYDOT Review

When the Tribal Trail connector was originally platted, it included the requirement for the Indian Springs access to WY-22 be abandoned. To accommodate this, the plat included an easement for Indian Springs to connect to Tribal Trail Road. The reasoning behind this was to consolidate the access points onto WY-22. The Coyote Canyon access point does not have this stipulation attached to it. The project team conducted a wetland delineation and ultimately determined that the Indian Springs connector road should not be built at the proposed easement location shown on the plat due to its close proximity to a fen (a marshy flooded area of land) that cannot be mitigated. Because the Indian Springs access point cannot be moved as initially anticipated and in compliance with WYDOTs requirements, the recommended alternatives must be reviewed and approved by the WYDOT access committee. If this project is approved to move forward by the BCC, staff anticipates this could happen in June 2020. In the interim, the project team requested WYDOT to conduct a preliminary review of all the design alternatives that showed access spacing that does not meet WYDOT regulations. WYDOT regulations state that all highway accesses must be no less than 2,640 feet apart for this type of roadway. Although not yet fully vetted and approved by WYDOT, some WYDOT staff has reviewed and been involved in the design process for the preferred alternatives.

Coyote Canyon/Indian Springs intersection

In order to improve safety, preliminary design work was completed to determine the best way to consolidate the Coyote Canyon and Tribal Trail intersections. A frontage road on the north and south side of WY-22 was analyzed. All the frontage road alternatives were ultimately eliminated from consideration due to the fen wetland on the south side and the need for severe hillside cuts and large retaining walls on the north side. The preferred alternatives include an underpass at Coyote Canyon and Indian Springs to allow for right on/right off access only to improve safety at this intersection. The underpass allows traffic on Coyote Canyon and Indian Springs to gain left turn access. As these are private roads, an agreement on project funding must be agreed upon between Indian Springs and Teton Science Schools, and, if desired, the county.

Fiscal Impact: To date, \$183,000 has been expended by Teton County to conduct the study; however, this does not include work completed from January 2020 to date and the County is awaiting invoices from WYDOT. Because the consultant team is contracted through WYDOT, all billing goes through WYDOT and the County is then invoiced.



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Below is the preliminary cost estimate for the project based on conceptual designs. If the project is approved to move forward, further design and environmental work need to be completed to refine and gain more confidence the numbers. One thing is certain at this point and that is that the estimate will change due to being in the early stage of this process. The figures below include a 25% contingency. It is uncertain how much of the construction cost within the ROW, specifically with the interchange alternative, WYDOT would be agreeable to funding. Also, as the intersection reconstruction at Coyote Canyon and Indian Springs would involve private roads, concurrence with the design and a funding plan with those entities will need to be established.

Table 5: Preliminary Cost Estimate - Tribal Trail Connector Conceptual Design (4/20/2020)

POSSIBLE FUNDING SOURCE	PROJECT SEGMENT	WY-22 ALTERNATIVES	
		INTERCHANGE W/UNDERPASS	AT-GRADE SIGNALIZED
WYDOT	INSIDE WY-22 ROW	\$ 11,332,980.00	\$ 1,704,780.00
PRIVATE	INDIAN SPRINGS/COYOTE CANYON	\$ 3,655,800.00	\$ 3,570,750.00
COUNTY	NEW SEGMENT TRIBAL TRAIL	\$ 1,133,325.00	\$ 1,924,155.00
COUNTY	EXISTING TRIBAL TRAIL IMPROV.	\$ 1,289,045.00	\$ 1,289,045.00
	TOTALS	\$ 17,411,150.00	\$ 8,488,730.00
	COUNTY ROAD PORTION	\$ 2,422,370.00	\$ 3,213,200.00

NOTE: 25% contingency included
 WYDOT has not approved or committed to this funding within the ROW
 These estimates are based upon conceptual design and will change as the design is further refined

Legal Review: Gingery

Staff Input / Recommendation: Staff plans to seek direction from the BCC on whether or not to continue with this study at the May 19 or June 2 BCC meeting. If approved, staff recommends further design work and the completion of NEPA, as well as working with WYDOT on their access review committee process and traffic studies. Additionally, further work and coordination will be necessary with the Jackson Hole Land Trust, Teton Science Schools and Indian Springs for work on the adjacent lands with a conservation easement, as well as the intersection reconstruction at Coyote Canyon and Indian Spring Road.

Please see attached Study Decision Process flowchart, which shows an outline of the project process and schedule. In further vetting the two design alternatives for the north intersection with WY-22, as well as doing more detailed design work on all other aspects of the project, staff will be able to provide further information and a final design recommendation to the BCC based on which alternative would best balance costs, benefits and impacts.

Attachments:

- [Design Alternatives IN2A & IN2B](#)
- [Other Design Elements](#)
- [Jim Charlier's memo dated November 14, 2019](#)
- [Level 1](#) and [Level 2](#) Evaluation Matrices for North Intersection
- [Study Decision Process Flowchart](#)
- [Public Comment Summary February 2020](#)

Suggested Motion: No motion required at workshop meeting.