Appendix B: Agency and Local Government Coordination

22/390 Corridor Study

TAC Meeting

August 2012

22/390 Corridor Study

Meeting Minutes

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: August 22, 2012

Location: Teton County Engineering

Attendees:

WYDOT:	Mark Wingate, Stephanie Harsha, Bob Hammond, Kevin Powell
FHWA:	Jeff Purdy, Randy Strang
Town of Jackson:	Tyler Sinclair, Larry Pardea,
Teton County:	Brian Schilling, Sean O'Malley, Paula Stevens
START Bus:	Michael Wackerly
Friends of Pathways:	Mike Welch
NW:	Anne Jakle
Teton Science Schools:	Elsie Thomson
Jacobs:	Chris Primus, Jim Clarke (via teleconference)

Copies: Attendees, John Eddins, File

Summary of Discussion:

1. Introductions were made.

    a. Students from the University of Wyoming were welcomed; they are on a special assignment to study the WYO-22 corridor this week.

2. Overview of Study and PEL Process

    a. Chris Primus provided an overview. This corridor study will cover WYO 22, from "Y" to Wilson; and for 390, from 22 to GTNP.

    b. Map handout provided. It was noted the western boundary is the USFS boundary, near the road closure gate.

c. Chris described the fundamentals of a PEL study

   i. It precedes a NEPA study

   ii. It's conducted in such a way to allow a subsequent NEPA study to streamline its planning process – it considers environmental, community, economic goals early in the planning process

d. This study will develop a long term vision for the corridor. The intent of the study is to identify prioritized near-term improvements that are compatible with the long-term vision(s).

e. The study is focused on the current alignment, and will not preclude potential future alternative alignments.

f. Paula Stevens noted that the County conducted a PEL study for the Tribal Trail project on a smaller scale. She noted that it was successful and that, if federal funds are identified, the County will be well positioned to proceed.

g. Sean O'Malley asked how long will study horizon year be? Typically about 20 years out.

h. Study will draw heavily on the Jackson – Teton comprehensive plan

i. The study will define the multi-modal needs of the existing highways.

j. It was confirmed that the PEL will develop a purpose and need statement

3. Chartering

   a. Cooperating Agencies

      i. Lead agencies are FHWA and WyDOT

      ii. Cooperating agencies are Town of Jackson and Teton County

   b. TAC Roles and Responsibilities

      i. TAC serves as an advisory committee. It will review technical data and provide input on process and represent interests of respective agencies.

      ii. TAC to assist in outreach efforts

      iii. How often with these PELs are these groups already pre-existing? Not often, typically they're formed at the study onset.

c. Draft Memorandum of Understanding

i. Draft MOU has been circulated and reviewed by signatories. Paula S. provided good input on MOU content.

ii. Bob H. provided a status of signatories. The onus is on WyDOT to resubmit these to the Town and County; Paula noted that turnaround should be quick once received.

iii. It will require Attorney General signature once received back from local governments; typically this takes several weeks.

4. Project Schedule

a. Chris provided a simplified schedule handout and discussed major milestones. General schedule is a one year timeframe.

b. Kevin Powell noted that it's a fairly aggressive schedule.

5. Outreach

a. General goals and outreach plan

i. Goal is to conduct an inclusive outreach program, within resources.

ii. Two public open houses

1. Discussion regarding whether open house format works for our needs. Yes, open houses were effective for comprehensive plan. They do require enough staff to lead attendees through boards.

2. Record informative video and put on loop? Project team will consider.

3. Discussion regarding location and ideas provided. WyDOT will research further and report back.

4. Noticing:

a. Stephanie Harsha recommended sending invite letters.

b. Paula Stevens can provide a property owner list and WyDOT could send invites. She will try to provide within two weeks.

c. After discussion, it was agreed the HOAs would be sent invitation letters to the open house

i. Indian Springs should receive an invite.

ii. Paula Stevens could provide a list of HOAs

d. Need to get newspaper(s) and radio positively engaged.

iii. A study website is active.

iv. Stakeholder visioning workshop

v. Agency scoping

1. Letters will be sent to state and federal resources agencies to solicit input.

vi. Project team one-on-one meetings. Team will meet with:

1. START

2. Friends of Pathways

3. Paula asked whether it was possible to set up a briefing for elected officials. Tyler Sinclair will get this item on the JIM Board October 1st meeting agenda.

6. Stakeholder Meeting and Public Open House

a. Stakeholder Identification

i. List of stakeholders – handout

ii. Input regarding attendees. Consider inviting:

1. Chamber of Commerce

2. Teton Village Business Association

3. Land Trust. (Laurie Andrews is contact).

4. Nature Conservancy

5. School District?

6. State Lands

b. Stakeholder Workshop

i. Discussion of general plan for workshop. The general goals are to receive input to create a corridor vision and draft purpose and need. Agenda consists of:

1. Welcome and statement regarding general intention of the study

2. Goal for meeting (develop draft corridor vision statement , based on comp plan; develop draft p&n statement)

3. What is a PEL

4. Summary of visions from comp plan relevant to 22/390

5. Small breakout groups: discuss what a 'complete street' means for 22/390 for each of the major corridor segments

6. Report back to large group. Summarize common themes

7. Small breakout groups: discuss corridor needs and the need to prioritize.

ii. Paula noted that similar approach was taken on comp plan workshops and general format worked well.

iii. It was suggested that we need to set boundaries and limits to ensure discussion is focused.

iv. It was suggested potentially dozens of people could attend

v. The Wilson Community Center may be too small; the science school and the Jackson Arts Center were suggested as other options for consideration

7. Purpose and Need Development

a. General discussion regarding corridor needs

i. Team plan for P&N development includes to:

1. Collect data

2. Summarize Comp Plan and other plans

3. It was recommended that the team compile a list of data that we've compiled to get TAC input on others studies and items to consider. Study team will send a list out by week's end to the TAC.

4. How much traffic modeling will be done for study? Mark indicated that the base model from 2000 will provide the forecasts, as the 2010 model is not available yet. Some scenarios could be run. It was noted that some citizens are keen on technical data.

5. Fehr & Peers did modeling work for comp plan that's available. Tyler Sinclair will provide this to WyDOT.

ii. Potential items

1. Left turns at almost all intersections

    a. Worst is Science School

    b. Skyline and Pratt Rd.

2. At Y intersection

    a. businesses with poor access;

    b. no frontage road,

    c. no center turn lane,

    d. 5 lanes taper to 2 lanes at Spring Gulch Rd.

    e. Don't do a major redesign of Y

    f. Pathways has minor plans - curb breaks at islands, etc.

    g. Free right is a problem

    h. WyDOT has no designs for the Y; this study will consider options

3. Lack of redundancy

4. Multi-modal

    a. Major need is between town ands ski village.

    b. Comp plan focuses on reducing SOV trips. Bus travel would be stuck in traffic. Study should focus on preference and separation for bus traffic from main traffic.

    c. How do roadway improvements affect LOS for transit?

    d. The Pathways bike/ped bridge across the Snake could be built as early as 2013.

5. Access control

    a. Access along 390 to businesses and residences – lots of turns leads to very low LOS

6. Wildlife crossing. Opportunity near Science school. Many conflicts are dispersed, so difficult to identify 'hot spot' crossing locations. Any fencing needs to consider scenic impacts.

7. Safety

8. Multimodal – Complete street concept. Improve service of all modes without compromising other modes

9. Roadway deficiencies

10. Peak capacity issues

11. Snake River bridge. Maintenance and inspection activities cause backups of several miles

12. It was noted that development along the corridors is largely in place. No significant areas are likely to have development activity in the long term future.

8. Other

    a. A variety of questions from the university students were answered

Action items:

- Bob will send MOUs to the County and Town for signatures
- Paula Stevens can provide a property owner list and HOA list. Will try to provide within two weeks.
- Study team will send a list of materials we are analyzing by week's end to the TAC.
- Tyler will get a briefing for elected officials on the JIM October 1st meeting agenda.
- Tyler will send the traffic analysis files from the Fehr and Peers study.

22/390 Corridor Study

WYO-22 and WYO-390
Planning and Environmental Linkage Study

Technical Advisory Committee

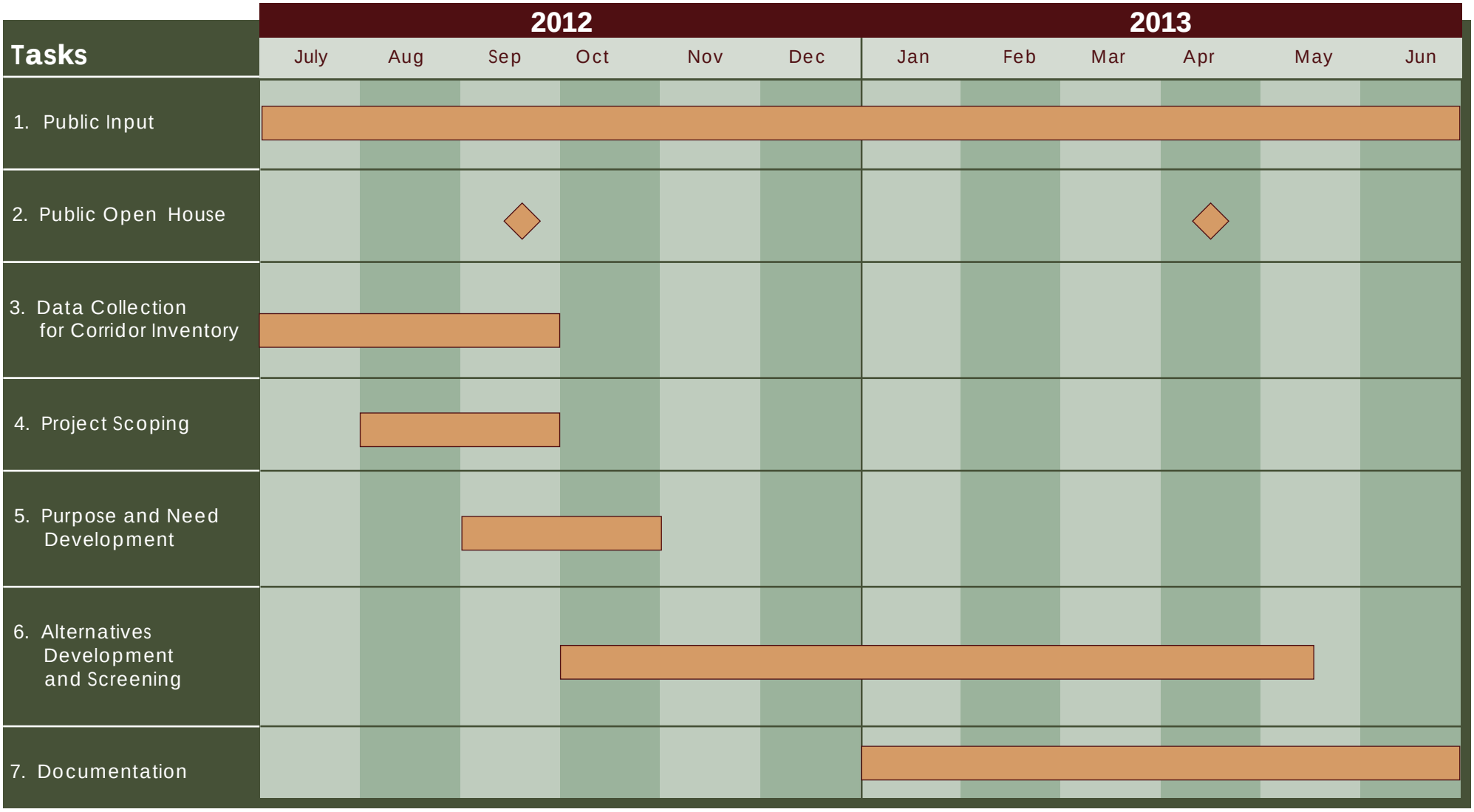
Meeting Agenda
August 22, 2012

1. Introductions
2. Overview of Study and PEL Process

3. Chartering
    a. Agency Roles
    b. TAC Roles and Responsibilities
    c. Draft Memorandum of Understanding
4. Project Schedule
5. Outreach
    a. General goals and outreach plan
6. Stakeholder Meeting and Public Open House
7. Purpose and Need Development
8. Other

22/390 Corridor Study

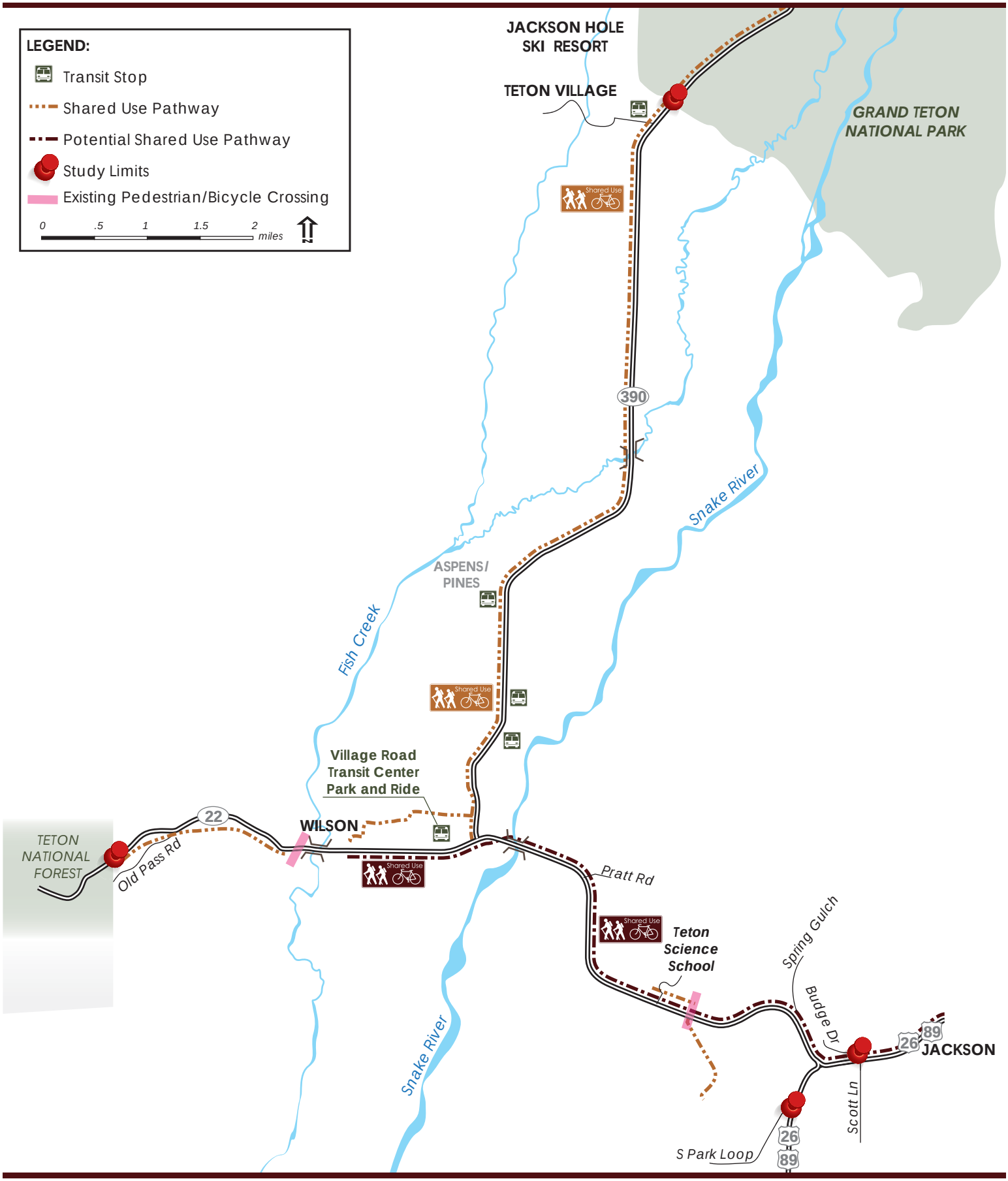
Draft Corridor Study Schedule



Rev. 08/02/12

22/390 Corridor Study

Project Location Map



22/390 Corridor Study

TAC Meeting

November 2012

22/390 Corridor Study

Meeting Minutes

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: November 16, 2012

Location: Teton County Engineering

Attendees:

WYDOT:	Bob Hammond, Kevin Powell
FHWA:	Jeff Purdy
Town of Jackson:	Tyler Sinclair, Larry Pardee,
Teton County:	Brian Schilling, Sean O'Malley, Paula Stevens, Andy Schwartz, Hank Phibbs, Alex Norton, Gordon Gray
START Bus:	Michael Wackerly
Friends of Pathways:	Mike Welch
GTNP:	Chris Finlay, Kevin Snyder
USFS:	Darren Martens
Conservation Alliance :	Melissa Wood
Wyoming Pathways:	Tim Young
Jacobs:	Chris Primus & Jim Clarke (via teleconference)

Copies: Attendees, John Eddins, File

Summary of Discussion:

1. Introductions were made.

2. Open House Summary

   Jim Clarke and Chris Primus gave a brief summary of the Open House of October 9, 2012.

3. Overview of PEL Memo

Jim Clarke and Chris Primus provided an overview of the memo that had been distributed prior to the meeting. The memo was divided into four distinct sections; Vision Statement, Purpose and Need, Goals, and Screening Criteria. They stated that all information is available on the website and all comments should be submitted by Wednesday, November 21.

There were no suggested changes to the first two sections. It was suggested to add a TDM Program and "mode share" to the Goals. Regarding the Screening Criteria, it was suggested that a "grading" matrix be included. "Target" goals should be set for facility types and will provide draft language. Also, data for capacity, redundancy, and traffic projections is needed.

It was stated this study is meant to include small projects / improvements on these two highways and is not meant to address corridor issues from a "total reconstruction" perspective. The study is scheduled to be complete by early summer.

Action items:

- Further comments should be submitted by Wednesday, November 21.

22/390 Corridor Study

MEMO

TO:	TAC members	**DATE:**	November 9, 2012
FROM:	Jacobs 22/390 PEL Study Team		
SUBJECT:	22/390 Planning and Environmental Linkages Study Update		
COPIES:	PEL Study team		

Introduction

The 22/390 Planning and Environmental Linkages Study (PEL) team will be providing a brief project update as part of the upcoming November 16, 2012 TAC meeting. This memo provides the following four elements for your review:

- Vision Statement
- Purpose and Need
- Goals
- Screening Criteria

The Study team will use these items for the next study phase—identification and evaluation of alternatives.

Please review this material prior to the meeting to ensure there is adequate time for presentation and discussion of high-level concepts and issues. Detailed comments can be submitted via email (due by November 21, 2012).

Vision Statement

The following vision statement helps guide alternative development by providing guidelines for decision making based on the desired outcome.

WYO 22 and WYO 390 travel through iconic valleys of scenic beauty, connecting the Town of Jackson, Wilson (and on to Idaho), and Teton Village (and on to Grand Teton National Park). The corridors serve both the local and regional economies, providing access for residents, recreationalists, and tourists alike. The corridors' stakeholders envision future transportation improvements which would balance economic needs with the desires of the community. This vision promotes efficient multi-modal travel and traveler/wildlife safety, while respecting the experience of viewing scenery and wildlife.

Purpose and Need

The Purpose and Need Statement demonstrates that a "need" exists and describes the problems to be addressed. It therefore will serve as the basis for the identification of reasonable alternatives.

The Purpose and Need Statement was presented during the Stakeholder Meeting and Public Open House held on October 9, 2012; it was subsequently revised to reflect comments heard during this time.

Project Purpose
The purpose of the study is to establish a long-term transportation vision along the Wyoming State Highway 22 (WYO 22) and Wyoming State Highway 390 (WYO 390) corridors between the Town of Jackson, Wilson, and Teton Village, and to identify a range of potential transportation improvements that address short and long term needs.

Project Needs
Several transportation needs have been identified in the Study Area, which are listed below.

Need #1: Mobility: The WYO 22 and WYO 390 corridors serve as vital links between the Town of Jackson and Wilson and recreational and employment centers in Teton Village and Grand Teton National Park. Congestion during peak periods in the summer and winter seasons impairs mobility and access for all users, and is projected to worsen as traffic increases. Several intersections are congested and have safety issues. Furthermore, the corridor needs to be capable of maintaining adequate mobility in times of traffic disruption.

Need #2: Bicycle & Pedestrian Connectivity: The bicycle and pedestrian facilities are discontinuous and safe crossing opportunities of the roadways are needed. The intersections of WYO 22/US 89 and WYO 22/WYO 390 do not accommodate safe pedestrian and bicycle movement.

Need #3: Transit: Buses can experience slow travel times due to congestion. The community has identified that meeting transportation and preservation goals (which sometimes conflict) will require increased use of transit. Buses need to maintain a competitive travel time with automobiles to attract riders.

Need #4: Safety and Wildlife-Vehicle Collisions: Within the Study Area, WYO 22 and WYO 390 have the poorest rating for critical crashes when compared to similar roads statewide. Furthermore, both corridors have a high number of wildlife vehicle collisions due to the presence of wildlife habitat and migration routes. Locations are needed for motorists to safely view scenery and wildlife without impeding traffic flow.

Goals

Project goals supplement the defined Purpose and Need. These goals help differentiate between the transportation improvements identified to meet the transportation needs, and therefore, help guide the alternatives development and screening process. While the needs must be addressed by the study, the goals provide a framework by which the potential improvements can exceed those requirements. The goals identified for this study are to:

- Preserve the area's natural setting and character
- Promote a travel experience that allows for travelers to appreciate the scenery and wildlife
- Meet transportation safety needs of all modes – automobile, bus, pedestrian, bicycle, and truck
- Encourage use of alternative modes
- Provide effective access for commercial and residential properties, while addressing mobility and safety needs
- Avoid and minimize environmental impacts
- Protect wildlife
- Minimize right-of-way impacts and relocation of commercial and residential properties
- Do not preclude future consideration of new road connections that would provide redundancy
- Provide system redundancy in the corridor in times of traffic disruption.
- Identify practical and financially realistic transportation improvements for future inclusion in the STIP, given funding constraints
- Develop projects that are consistent with corridor vision

Screening Criteria

The elements above, the Vision Statement, Purpose and Need, and Goals, shape the screening criteria by which potential alternatives are compared. These criteria are presented below.

Mobility

- Relative ability of the alternative to reduce peak period congestion
- Relative ability of the alternative to meet future traffic demand
- Relative ability of the alternative to provide safe, efficient and well-coordinated access
- Relative ability of the alternative to improve intersection operations
- Relative ability of the alternative to provide adequate mobility in times of traffic disruption

Bicycle and Pedestrian

- Relative ability of the alternative to improve the continuity of bicycle and pedestrian facilities
- Relative ability of the alternative to provide safe crossing opportunities

Transit

- Relative ability of the alternative provide a competitive and reliable travel time for buses
- Relative ability of the alternative to provide enhanced access to transit stops (improved non-motorized access to stops and provision of park & ride facilities)

Safety and Wildlife

- Relative ability of the alternative to improve high accident locations
- Relative ability of the alternative to reduce potential vehicle conflicts
- Relative ability of the alternative to accommodate safe travel by pedestrians and bicyclists
- Relative ability of the alternative to reduce the potential for wildlife-vehicle collisions
- Relative ability of the alternative to accommodate safe viewing of scenery and wildlife

Community, Land Use and Environment

- Relative impact of the alternative on environmental resources and the corridor's natural setting and character
- Relative ability of the alternative to allow travelers to appreciate the scenery and wildlife
- Extent that the alternative is consistent with planned land uses
- Amount of additional right-of-way required by the alternative
- Relative impact of the alternative on residential and commercial properties
- Extent that the alternative precludes future new road connections that provide redundancy
- Extent that the alternative is practical and financially realistic
- Potential for the alternative to induce the need for other transportation improvements beyond the scope of the corridor

22/390 Corridor Study

TAC Meeting

January 2013

22 390 PEL Presentation Summary

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: January 25, 2013

Location: Teleconference/WebEx

Attendees:

WYDOT:	Mark Wingate Bob Hammond, Kevin Powell, Jeff Brown, Jeff Mellor
FHWA:	Jeff Purdy, Randy Strang, Philip Pratt
Town of Jackson:	Tyler Sinclair
Teton County:	Brian Schilling, Sean O'Malley, Paula Stevens
START Bus:	Michael Wackerly
Friends of Pathways:	
NW:	
GTNP:	Chris, Greg
Jacobs:	Chris Primus, Jim Clarke, Keith Borsheim
Others:	Pete Jorgensen

Copies: Attendees, John Eddins, File

Summary of Discussion:

1. Introductions were made.

2. Overview of Study

    a. Jim Clarke provided an overview of the current status of the study and schedule.

3. Traffic Forecasts

    a. Keith described the sources and range of future traffic forecasts

b. Discussion included:

i. Growth rate assumption?

ii. Why July chosen? That is the highest traffic of the season.

iii. Concern about not overbuilding

iv. Comp plan traffic forecasts were preliminary; final traffic numbers were not modeled with final land use assumptions.

v. Chris suggested the final land use data set be compared with the prior set, to gauge the resulting traffic numbers since no modeling is available.

vi. A subcommittee should look into details. Paula will be the point of contact. Chris will call her early next week.

vii. A range of numbers should be developed; sensitivity tests could be conducted to see the impacts of the range of traffic numbers

viii. Pete Jorgensen would like to see a history of WyDOT traffic counts , 1992 to 2012

4. Range of Alternatives & Level 1 Screening

a. Achieving the transit goals of the comp plan should be reflected in the road design

b. Transit

i. Assumption is transit will be buses

ii. Note Breckenridge, Telluride, Portland have alternative cable systems in place

c. Future options

i. North crossing and rail are not included in range of alternatives

1. Should discuss in Level 1 that they are not precluded but are not in scope of this study

ii. In effect, if 4 lanes are built, this would preclude rail in the future

d. Purpose and Need should be added to the screening document

e. Add a park-n-ride at Skyline

f. Chris requested comments from the TAC by February 1

5. Next 22 390 TAC Briefing

a. March 22, 2013

Action items:

- Chris and Paula to coordinate regarding Comp plan land use data sets and traffic projections
- JE to discuss why some elements excluded from the PEL study
- JE to create an evolving document that includes the vision statement, purpose and need, screening, etc
- JE to add a park and ride at Skyline
- TAC to email comments on Level 1 screening by February 1

22/390 Corridor Study

Technical Advisory Committee
Project Briefing Agenda
January 25, 2013
8:30

1. Introductions
2. Overview of Study Schedule
3. Review of Website Material
4. Traffic Projection Review
5. List of Alternatives
6. Level 1 Screening
7. Next Steps
    a. Level 2 Screening
        i. Comparative Screening examples of alternatives
8. Other

22/390 Corridor Study

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22/390 Corridor Study

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22/390 Corridor Study

Need #2: Bicycle & Pedestrian Connectivity:

The bicycle and pedestrian facilities are discontinuous and safe crossing opportunities of the roadways are needed. The intersections of WYO 22/US 89 and WYO 22/WYO 390 and the bridge structures over the Snake River and Fish Creek, in Wilson, do not accommodate safe pedestrian and bicycle movement.

Need #3: Transit:

Buses can experience slow travel times due to congestion. The community has identified that meeting transportation and preservation goals (which sometimes conflict) will require increased use of transit. Buses need to maintain a competitive travel time with automobiles to attract riders.

Need #4: Mobility:

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DRAFT

Range of Alternatives and Design Options

This list comprises a broad range of alternatives and design options for initial consideration. These alternatives and options will be screened by segment and major intersections, listed in the table below.

Segments		
Roadway	**Mileposts**	**Description**
WYO 22	0.0 to 4.0	Between the "Y" and the junction with WYO 390
WYO 22	4.0 to 5.1	Between the WYO 390 junction and Wilson
WYO 22	5.1 to 5.6	Within Wilson
WYO 22	5.6 to 7.0	Between Wilson and the Teton National Forest boundary
WYO 390	0.0 to 3.8	Between the WYO 22 junction and Lake Creek
WYO 390	3.8 to 7.7	Between Lake Creek and Grand Teton National Park
Major Intersections		
WYO 22 and WYO 390		
WYO 22 and WYO 26/89/189/191 (Broadway)		
WYO 22 and Spring Gulch Road		

The PEL will identify a wide range of alternatives and design options. In general,

- Alternatives provide different functionality
- Design Options provide similar function with minor variations, and selection is typically based on site specific characteristics

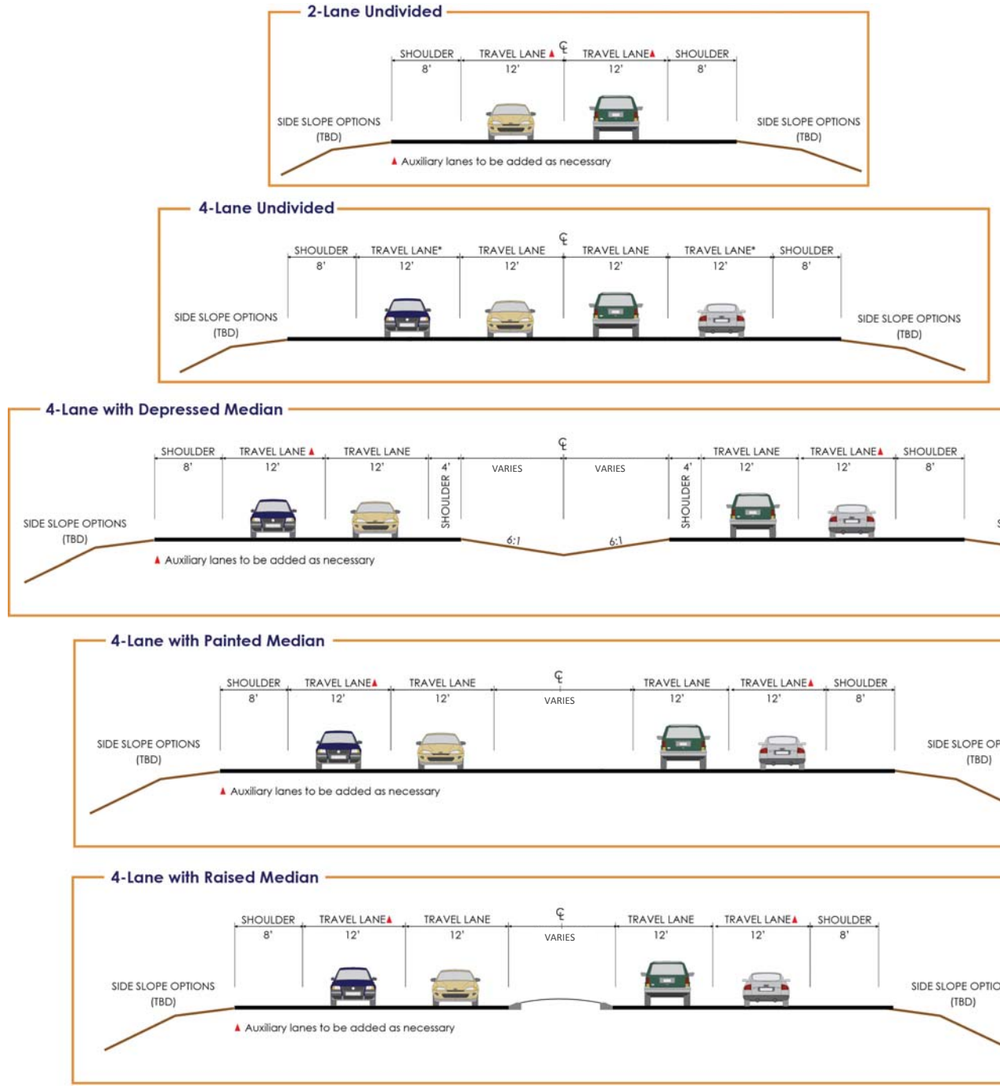
Initial screening will qualitatively evaluate alternatives for each segment. Further qualitative and limited quantitative analysis of alternatives and design options will be conducted in subsequent screening stage(s).

Through Lanes	
One	One through lane per direction can generally accommodate up to 20,000 vehicles per day
Two	Two through lanes per direction can generally accommodate up to 40,000 vehicles per day
Shoulders	
WYDOT Standard Shoulders	Improving the shoulders throughout the corridor to meet WYDOT standards
Extra-wide Shoulders	Increasing the shoulder width to provide better emergency access, and opportunities for stopping
Medians	
Painted Medians	Painted medians are paved and do not provide a physical barrier to traffic crossing the roadway; they are often used in areas with frequent access points
Raised Medians	Raised medians provide a physical barrier to traffic crossing the roadway and are often landscaped
Depressed Medians	Depressed medians are usually wider than raised or painted medians and are often landscaped
Major Intersections	
Expanded Signalized	Increase the number of lanes to provide adequate capacity

Intersection		
Roundabout		Roundabouts are appropriate for many intersections with balanced movements.
Florida-T Intersection		Use a raised median on the main street to separate a through movement from the rest of the intersection.
Reconfigured T-Intersection		Convert a heavy turn movement to the major through movement while shifting a former through movement to the minor approach.
Continuous Flow Intersection		A continuous flow intersection moves the left-turning movement upstream allowing the left turn phase at the main signal to occur concurrently with the through phase.
Grade-Separated		Several grade-separated intersection geometries are viable at these locations.
Minor Intersections		
Signal		Traffic signals are appropriate for higher volume intersections and major accesses
Roundabout		Roundabouts are appropriate for intersections where volumes are reasonably balanced on all approaches
Grade-Separation		Grade-separations are appropriate for very high volume intersections
Frontage Roads / Access Consolidation		Access consolidation can improve safety and mobility by increasing access spacing, and can provide better connectivity between adjacent land uses.
Traffic Metering		Signals can be utilized to meter traffic along a main street or highway where cross-street traffic experiences delay to turn onto or off of the main road because gaps in traffic are infrequent.
Auxiliary and Turn Lanes		Auxiliary lanes provide additional capacity at intersections.
Design Options	*Two-way left turn (TWLT) center lane*	Striped TWLT lanes serve roadways with many closely spaced accesses and slower speeds
	Left and Right Turn Lanes	Exclusive left and right turn lanes are appropriate at intersections with high turning movements
	Deceleration Lanes	Accel / Decel lanes provide separation of turning traffic from through lanes
	Acceleration Lanes	
	Limited movement intersections	3/4 turn and right-in-right-out intersections prevent certain movements at intersections to improve through traffic and address safety concerns
Wildlife		
Grade Separated Crossings		Allows for unimpeded wildlife passage over or below the roadway. Requires additional right-of-way on each side of the roadway, ideally incorporating a conservation easement to ensure continued use and function as a wildlife corridor.
Design Options	*Overpass*	Appropriate for large mammals, where topography allows.
	Underpass	Appropriate for small to medium size mammals, where topography allows.
	Culverts	Appropriate for small mammals, where topography allows.
Fencing		Typically a 2-meter fence designed to “funnel” wildlife to designated crossing structures or areas.
Signage		Increase static and VMS signage during migration periods
Pullouts		Allows motorists to remove themselves from active travel lanes and shoulders to appreciate the scenic views or wildlife. While not a direct enhancement of wildlife safety, pullouts could provide interpretive signage including safety tips for driving in areas with wildlife.
Wildlife Detection Systems		Detections systems can alert motorists when wildlife are near the roadway
Bicycle and Pedestrian		
Parallel Facilities		Provision of bicycle and pedestrian facilities adjacent and parallel to the roadway.
Design Options	*Multi-use Path*	A multi-use path provides a separate alignment for bicycles and pedestrians to share
	Sidewalk	Sidewalks are adjacent to the roadway, separated by a curb and/or landscaping
	On-street Bike Lane	On-street bike lanes are usually between 4 and 6 feet wide, adjacent to a travel lane
	Cycle Track	Cycle Tracks are usually between 4 and 6 feet wide, with a painted or curbed buffer between the bike lane and adjacent travel lane
Crossings		Provision of safe bicycle and pedestrian crossings.

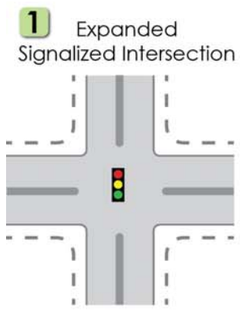
Design Options	*Underpass*	Allows for unimpeded movements beneath the roadway.
	Speed Table	Slows traffic in areas where multi-use paths are present.
	Bulb-outs	A traffic calming measure, primarily used to extend the sidewalk, reducing the crossing distance and allowing pedestrians about to cross and approaching vehicle drivers to see each other when vehicles parked in a parking lane would otherwise block visibility.
	Crosswalks	A marked or raised part of a road where pedestrians have the right of way to cross. Crosswalks may or may not be signalized.
	Hybrid Activation Signal	A high-intensity activated crosswalk, in which pedestrians activate a traffic signal allowing them to cross, but for traffic to otherwise flow unstopped.
Transit Infrastructure		
Queue Jumps		Additional travel lane on an approach to a signalized intersection, restricted to buses only. Often signal prioritization is provided at the intersection.
Dedicated Bus Lanes		Additional lane exclusively for buses – can be combined with HOV traffic or right-turns, or available to all traffic during off-peak hours.
Park and Ride		Parking lot for bus riders.
Scenic Enhancements		
Design Options	*Pullouts*	*Allows motorists to remove themselves from active travel lanes and shoulders to appreciate the scenic views or wildlife.*
	Remove Overhead Transmission Lines	*Relocation of overhead transmission lines to underground cables.*
Roadway Design		
Design Options	*Curve Flattening*	*Increasing the radius at vertical and horizontal curves can enhance automobile safety*
	Lowered Speeds	*Reducing speed to enhance safety.*
	Reduced Night-time Speeds	Posted speed limits can be lowered at dusk as a safety and wildlife-vehicle collision reduction measure
	Variable Speed Limits	Speed limits can be managed to match roadway conditions, whether that is in response to a critical incident, inclement weather, or a temporal presence of wildlife.
	Variable Message Signs	Used to alert motorists to dangerous roadway conditions, including critical incidents, inclement weather, or a temporal presence of wildlife.
	Decreased Lane Width	Decreasing lane width can be used as a traffic calming measure. Shoulder widths can be increased in concert to retain adequate width for emergency maneuvers.
	Chicanes	Chicanes are artificially introduced curves in a roadway that are used as a traffic calming measure
	Narrow Shoulders	Narrow shoulders can be used as a traffic calming measure
	Rumble Strips	A feature that alerts drivers to potential danger or roadway changes by causing a vibration and audible rumbling.

WYO 22/390 PEL
Alternative Schematics

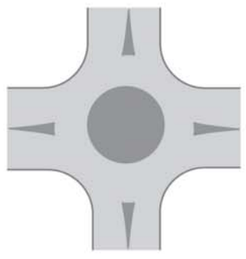


Conceptual
Schematics
Not to Scale

Intersection Schematics



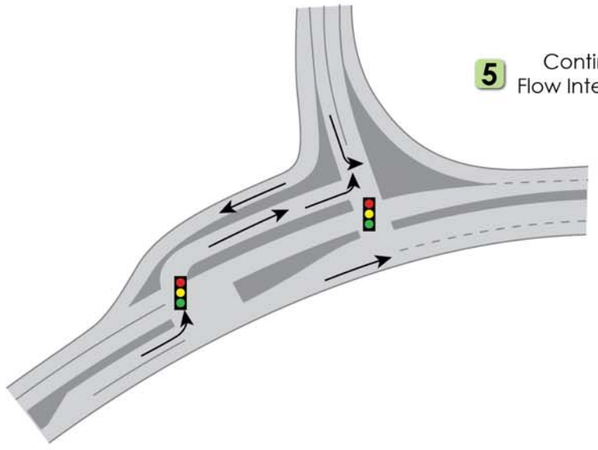
1 Expanded Signalized Intersection



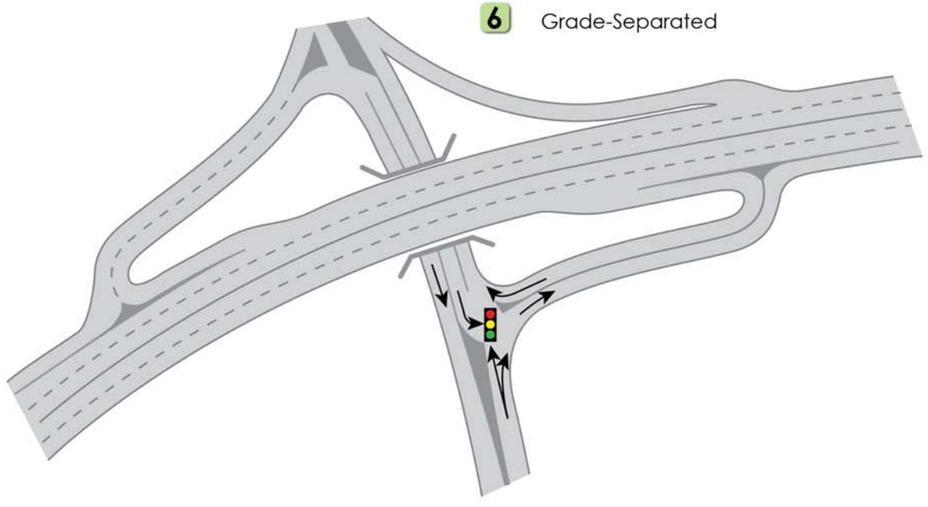
2 Roundabout

3 Florida-T Intersection

4 Reconfigured Florida-T



5 Continuous Flow Intersection



6 Grade-Separated

Vision Statement

The following vision statement helps guide alternative development by providing guidelines for decision making based on the desired outcome.

WYO 22 and WYO 390 travel through iconic valleys of scenic beauty, connecting the Town of Jackson, Wilson (and on to Idaho), and Teton Village (and on to Grand Teton National Park). The corridors serve both the local and regional economies, providing access for residents, recreationalists, and tourists alike. The corridors' stakeholders envision future transportation improvements that provide a balance of economic needs with efficient multi-modal travel, traveler/wildlife safety, and the experience of viewing scenery and wildlife.

22/390 Corridor Study

TAC Meeting

March 2013

22 390 PEL Presentation Summary

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: March 25, 2013

Location: Teleconference/WebEx

Attendees:

WYDOT:	Mark Wingate, Bob Hammond, Kevin Powell, John Eddins
FHWA:	Jeff Purdy, Randy Strang
Town of Jackson:	Jim Stafford -Town Council
Teton County:	Brian Schilling, Sean O'Malley, Paula Stevens
START Bus:	Michael Wackerly
Friends of Pathways:	
NW:	
USFS:	Darren Mathis
GTNP:	Chris F, Greg P
Jacobs:	Chris Primus, Jim Clarke, Keith Borsheim
Others:	Craig Logan, Gordon Gray, David Gustason, Gary Pollis, Ken Young, Chris Simmons,

Copies: Attendees, File

Summary of Discussion:

1. Introductions were made.

2. Chris reviewed the action items from the last TAC

    a. Chris and Paula had coordinated on the traffic forecasts; the County concurs that the WyDOT forecasts are appropriate for this study. These represent the best traffic information available at this time. Before individual projects move forward for implementation, the NEPA study will use updated traffic forecasts at that time. This language will be included in the PEL.

b. Jacobs added text regarding projects excluded from the PEL into an evolving document that contains the major elements of the study

c. Jacobs added a park and ride at Skyline

d. TAC comments on Level 1 screening received by February 1 included:

i. Add a queue jump to the intersection layouts - completed

ii. The typical cross-sections should state that the lane widths are not final, but to be determined later during evaluation of design options - agreed. A note will be added to the graphic.

3. Project Overview Document

a. Jim Clarke reviewed the combined study document.

i. Fix missing sentence end in Alternatives Considered section

ii. Add Spring Gulch Road and Tribal Trails Road to list of other potential improvements not part of this PEL

iii. Provide description of LOS for laymen

iv. Add language regarding observations of traffic trends and potential triggers for improvements

v. Add segment location to each header on traffic charts

vi. Add index graphic of segment locations on traffic charts

vii. Add 4-lane LOS C threshold for each segment on traffic charts

b. The upcoming County Integrated Transportation Plan will investigate the effect of new roads, such as the North Crossing, on traffic volumes on the 22 and 390 corridors. This study will proceed without the assumption of those new roads.

4. Number of Lanes by Segment

a. The TAC recommendations on number of lanes by segment:

i. Segment 1: 4-lanes; continuous center left turn lane may be necessary in some parts of the segment.

ii. Segment 2: 2-lanes or 4-lanes are recommended. Monitor traffic before adding lanes; a trigger could be established. Directional flow should be a consideration. Future studies should consider contra-flow or reversible lanes. Level 2B should consider roundabout and/or at-grade pedestrian crossing with refuge at the school.

iii. Segment 3: 2-lanes; center turn lanes as appropriate; alternatives need to consider charrette recommendations.

iv. Segment 4: 2-lanes; turn lanes as appropriate; consider chain pullout area between Wilson and Teton Pass closure gate.

v. Segment 5: 2-lanes or 4-lanes are recommended. Monitor traffic before adding lanes; a trigger could be established. Center left turn lane (3-lane, 5-lane) is likely required unless access management strategies are implemented. Right-in-right-out and the full range of access management strategies should be considered during Level 2B. Roundabouts should be considered in Level 2B. Driver expectation should be a criteria during Level 2B.

vi. Segment 6: 2-lanes.

5. Next 22 390 TAC Briefing

a. April 26, 2013

i. Meeting will be 2 ½ hours

ii. Priority: Major Intersections

iii. TAC to review median treatments beforehand, and email discussion/comments by April 19

Action items:

i. Add a note to the graphic: The typical cross-sections should state that the lane widths are not final, but to be determined later during evaluation of design options

ii. Traffic language will be updated: These represent the best traffic information available at this time. Before individual projects move forward for implementation, the NEPA study will use updated traffic forecasts at that time. This language will be included in the PEL

iii. Fix missing sentence end in Alternatives Considered section

iv. Add Spring Gulch Road and Tribal Trails Road to list of other potential improvements not part of this PEL

v. Add TDM statement

vi. Provide description of LOS for laymen

vii. Add language regarding observations of traffic trends

viii. Add segment location to each header on traffic charts

ix. Add index graphic of segment locations on traffic charts

x. Add 4-lane LOS C threshold for each segment on traffic charts

xi. TAC to review median treatments, and email discussion/comments by April 19

J:_Transportation\WVXX3700_WYO_22-390\meetings\TAC\March 2013\22-390 PEL_TAC summary_DRAFT_032513.doc

22/390 Corridor Study

Technical Advisory Committee
Project Briefing Agenda
March 22, 2013
8:30

1. Introductions

2. Prior Action Items

    a. Traffic Numbers
    b. Level 1 Screening Comments

3. Project Overview Document
    a. Vision, Purpose & Need, Goals, Criteria, Level 1 Screening

4. Level 2A and 2B Screening Steps

5. Level 2A Screening – Review and Discussion

6. Next Steps
    a. Level 2B Screening
    b. Next TAC meeting for Level 2B
    c. Discuss Public Meeting Date

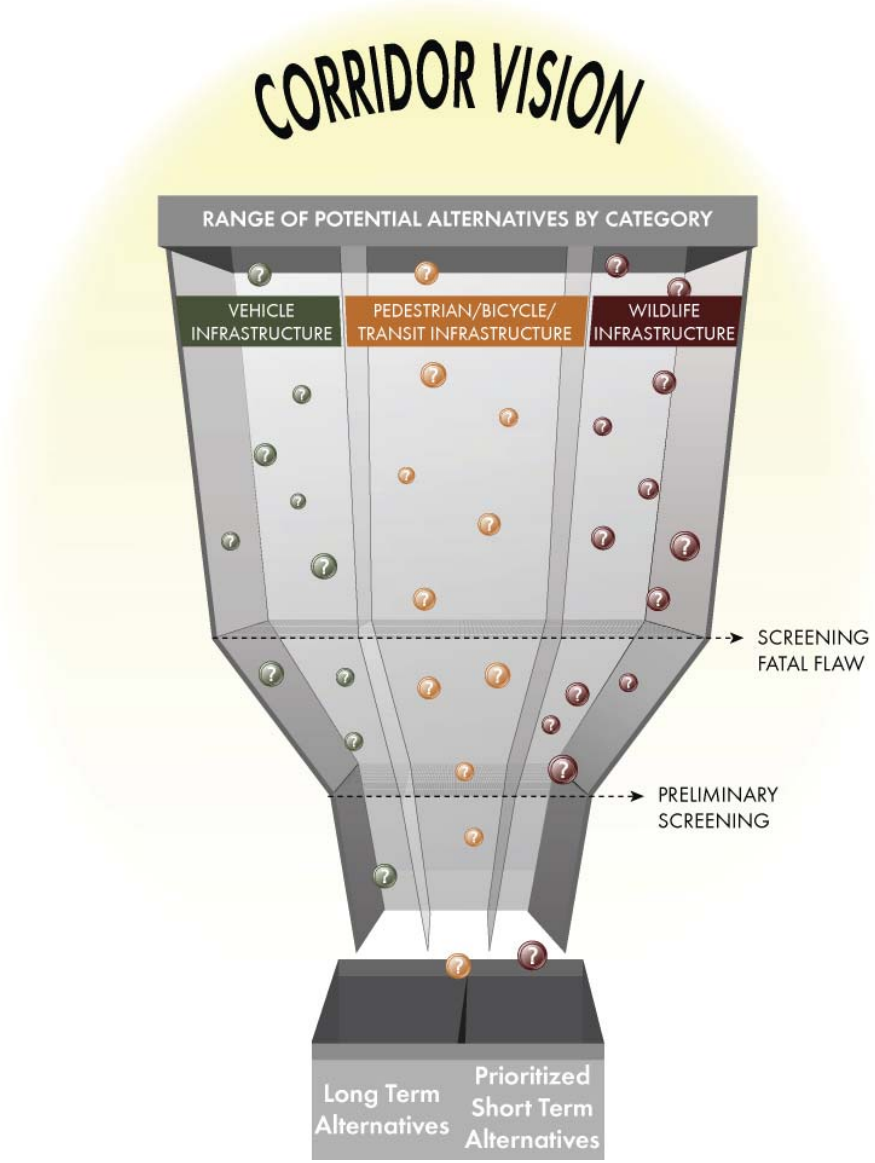
7. Other

22/390 Corridor Study

DRAFT Level 2A

Alternatives Development and Screening Recommendations

Screening Process



Vision

The following vision statement helps guide alternative development by providing guidelines for decision making based on the desired outcome.

WYO 22 and WYO 390 travel through iconic valleys of scenic beauty, connecting the Town of Jackson, Wilson (and on to Idaho), and Teton Village (and on to Grand Teton National Park). The corridors serve both the local and regional economies, providing access for residents, recreationalists, and tourists alike. The corridors' stakeholders envision future transportation improvements that provide a balance of economic needs with efficient multimodal travel, traveler/wildlife safety, and the experience of viewing scenery and wildlife.

Draft Purpose and Need

Project Purpose:

The purpose of the study is to establish a long-term transportation vision along the Wyoming State Highway 22 (WYO 22) and Wyoming State Highway 390 (WYO 390) corridors between the Town of Jackson, Wilson, and Teton Village, and to identify and prioritize potential transportation improvements that address the identified needs.

Project Needs:

Several transportation needs have been identified in the Study Area, which are listed below.

Need #1: Mobility

The WYO 22 and WYO 390 corridors serve as vital links between the Town of Jackson and Wilson and recreational and employment centers in Teton Village and Grand Teton National Park. Congestion during peak periods in the summer and winter seasons impairs mobility and access for all users, and is projected to worsen as traffic increases. Several intersections are congested and have safety issues. Several bridge structures are aging and approaching the end of their design life. Furthermore, the corridor needs to be capable of maintaining adequate mobility in times of traffic disruption.

Need #2: Bicycle & Pedestrian Connectivity

The bicycle and pedestrian facilities are discontinuous and safe crossing opportunities of the roadways are needed. The intersections of WYO 22/US 89 and WYO 22/WYO 390 and the bridge structures over the Snake River and Fish Creek, in Wilson, do not accommodate safe pedestrian and bicycle movement.

Need #3: Transit

Buses can experience slow travel times due to congestion. The community has identified that meeting transportation and preservation goals (which sometimes conflict) will require increased use of transit. Buses need to maintain a competitive travel time with automobiles to attract riders.

Need #4: Safety and Wildlife-Vehicle Collisions

Within the Study Area, WYO 22 and WYO 390 have a poor rating for critical crashes when compared to similar roads statewide. Furthermore, both corridors have a high number of wildlife vehicle collisions due to the presence of wildlife habitat and migration routes. Locations are needed for motorists to safely view scenery and wildlife without impeding traffic flow.

Project Goals

Project goals supplement the defined Purpose and Need. These goals help differentiate between the transportation improvements identified to meet the transportation needs, and therefore, help guide the alternatives development and screening process. While the needs must be addressed by the study, the goals provide a framework by which the potential improvements can exceed those requirements. The goals identified for this study are to:

- Preserve the area's natural setting and character
- Promote a travel experience that allows for travelers to appreciate the scenery and wildlife
- Meet transportation safety needs of all modes – automobile, bus, pedestrian, bicycle, and truck
- Encourage use of alternative modes
- Provide effective access for commercial and residential properties, while addressing mobility and safety needs
- Avoid and minimize environmental impacts
- Protect wildlife
- Minimize right-of-way impacts and relocation of commercial and residential properties
- Do not preclude future consideration of new road connections that would provide redundancy
- Provide system redundancy in the corridor in times of traffic disruption.
- Identify practical and financially realistic transportation improvements for future inclusion in the STIP, given funding constraints
- Develop projects that are consistent with corridor vision

Screening Criteria

The elements above, the Vision Statement, Purpose and Need, and Goals, shape the screening criteria by which potential alternatives are compared. These criteria are presented below.

Mobility

Relative ability of the alternative to:

- reduce peak period congestion
- meet future traffic demand
- provide safe, efficient and well-coordinated access
- improve intersection operations
- provide adequate mobility in times of traffic disruption

Bicycle and Pedestrian

Relative ability of the alternative to:

- improve the continuity of bicycle and pedestrian facilities
- provide safe crossing opportunities
- safely and comfortably accommodate all levels and abilities of pedestrians and cyclists
- improve non-motorized level-of-service

Transit

Relative ability of the alternative to:

- provide a competitive and reliable travel time for buses
- provide enhanced access to transit stops (improved non-motorized access to stops and provision of park & ride facilities)

Safety and Wildlife

Relative ability of the alternative to:

- improve high accident locations
- replace or rehabilitate aging infrastructure
- reduce potential vehicle conflicts
- accommodate safe travel by pedestrians and bicyclists
- reduce the potential for wildlife-vehicle collisions
- accommodate safe viewing of scenery and wildlife

Community, Land Use and Environment

- Relative impact of the alternative on environmental resources
- Relative ability of the alternative to enhance the corridor's natural setting and character
- Relative ability of the alternative to allow travelers to appreciate the scenery and wildlife
- Extent that the alternative is consistent with planned land uses
- Amount of additional right-of-way required by the alternative
- Relative impact of the alternative on residential and commercial properties
- Extent that the alternative precludes future new road connections that provide redundancy
- Extent that the alternative is practical and financially realistic
- Potential for the alternative to induce the need for other transportation improvements beyond the scope of the corridor

Development of the Range of Alternatives

The Study Team developed a broad range of alternatives to address the Purpose and Need. The alternatives developed and evaluated by the PEL reflect this specific purpose and need statement, which recognizes current transportation problems of the WYO 22 and WYO 390 roadway corridors within the study area. However, it is acknowledged potential transportation improvements exist that are beyond the purview of this PEL and could be considered by future studies to address a different set of transportation

- Off-alignment highway improvements, including a potential 'north crossing' connecting north WYO 390 with US-89 north of Jackson;
- Alternative-modes and/or future technologies outside the current highway alignment between Jackson and Teton Village

The alternatives developed and evaluated by this PEL will not preclude such future transportation possibilities.

Alternatives of the PEL can be refined by design options. In general,

- Alternatives provide different functionality
- Design Options provide similar function with minor variations, and selection is typically based on site specific characteristics

Review of Level 1 Screening

Initial Alternatives Development and Screening (Level 1)

Level 1 comparatively evaluates alternatives and screens out those elements that clearly do not compare as well as others. Level 1 screening focuses on the alternatives only, while design options will be considered during subsequent levels of screening. Comparative evaluation and screening using more detailed information will be conducted in Level 2. Level 1 uses an initial simple set of criteria to reduce the initial broad range of alternatives to a manageable number.

Level 1 Screening Criteria

The Level 1 criteria include addressing Purpose and Need elements and avoiding fatal flaws while working within the framework of the project Vision. The fatal flaw criteria are listed below:

- Irreconcilable Environmental Impacts
- Irreconcilable Community Impacts
- Inability to be implemented

The project goals and more detailed screening criteria outlined in previous sections will be utilized in subsequent levels of screening. With the best information available at this level of screening, alternatives are either eliminated from further consideration or carried forward into Level 2 screening for more detailed evaluation.

Cross-Section Alternatives

The basic elements of the roadway cross-sections are the through travel lanes, the median, and the shoulders. Along the corridor, different combinations of these elements were evaluated. The number of travel lanes along the corridor could differ by segment depending on the projected travel demand, as could the presence of a raised, depressed, or painted median. The different cross-section options and recommended screening by segment are shown in Table.

Alternatives were eliminated for the following reasons:

- Travel demand projections do not indicate a need to expand to 2 lanes per direction in Wilson or west of Wilson (segments 3 and 4).
- Medians are not appropriate on rural 2-lane highways (segment 4).
- Depressed medians would not be appropriate within Wilson, where right-of-way and community impacts would be high.

Level 1 Cross-Section Screening Recommendations

	Retained for detailed evaluation in Level 2?					
	Segment 1 WYO 22 – Jackson to WYO 390	**Segment 2** WYO 22 –WYO 390 to Wilson	**Segment 3** WYO 22 – within Wilson	**Segment 4** WYO 22 – Wilson to Teton Nat'l Forest	**Segment 5** WYO 390 – WYO 22 to Lake Creek Bridge	**Segment 6** WYO 390 –Lake Creek Bridge to GTNP
Through Lanes Per Direction						
One	Yes	Yes	Yes	Yes	Yes	Yes
Two	Yes	Yes	No	No	Yes	Yes
Shoulders						
WYDOT Standard Shoulders	Yes	Yes	Yes	Yes	Yes	Yes
Extra-wide Shoulders	Yes	Yes	Yes	Yes	Yes	Yes
Medians						
Painted Medians	Yes	Yes	Yes	No	Yes	Yes
Raised Medians	Yes	Yes	Yes	No	Yes	Yes
Depressed Medians	Yes	Yes	No	No	Yes	Yes

Initial Alternatives Development and Screening (Level 1)

Level 1 comparatively evaluates alternatives and screens out those elements that clearly do not compare as well as others. Level 1 screening focuses on the alternatives only, while design options will be considered during subsequent levels of screening. Comparative evaluation and screening using more detailed information will be conducted in Level 2. Level 1 uses an initial simple set of criteria to reduce the initial broad range of alternatives to a manageable number.

Intersection Alternatives

Several intersections need improvements. Improvements at intersections can range from grade separations to signals or roundabouts to the addition of turn lanes. Most intersections along the corridor will accommodate projected traffic conditions with minor improvements to lane geometry or traffic control. Three major intersections have been identified as locations that may require significant improvements to accommodate projected travel demand – WYO 22 & WYO 26/89/191 (Broadway), WYO 22 & WYO 390, and WYO 22 & Spring Gulch Road.

The minor intersection treatments are being screened by segment in Level 1 and the recommended screening is presented in Table.

Alternatives were eliminated for the following reasons:

- Grade-separations are not justified for minor intersections.
- Access spacing in segments 2, 3, 4, and 6 does not require consolidation or traffic metering.

At the three major intersections, projected traffic conditions may necessitate additional improvements beyond traditional signalized or roundabout traffic control. The alternatives considered for each of these intersections are presented below.

Level 1 Minor Intersection Screening Recommendations

	Retained for detailed evaluation in Level 2?					
	Segment 1 WYO 22 – Jackson to WYO 390	**Segment 2** WYO 22 –WYO 390 to Wilson	**Segment 3** WYO 22 – within Wilson	**Segment 4** WYO 22 – Wilson to Teton Nat'l Forest	**Segment 5** WYO 390 – WYO 22 to Lake Creek Bridge	**Segment 6** WYO 390 – Lake Creek Bridge to GTNP
Minor Intersections						
Signal	Yes	Yes	Yes	Yes	Yes	Yes
Roundabout	Yes	Yes	Yes	Yes	Yes	Yes
Grade-Separation	No	No	No	No	No	No
Frontage Roads / Access Consolidation	Yes	No	No	No	Yes	No
Traffic Metering	Yes	No	No	No	Yes	No
Auxiliary and Turn Lanes	Yes	Yes	Yes	Yes	Yes	Yes

Initial Alternatives Development and Screening (Level 1)

WYO 22 and US 26/89/189/191 (Broadway)

☑ **Expanded Signalized Intersection**
- Additional turn lanes and geometric improvements to meet travel demand needs

☑ **Roundabout**
- Three-lane roundabout is likely required

☑ **Florida-T Intersection**
- Would result in a reconfiguration of Buffalo Way to right-in-right-out movements only

☑ **Continuous Flow Intersection**
- A continuous flow intersection would remove left-turn movements from the main intersection, improving overall operations

☑ **Grade-Separated**
- Grade separated options will be developed in Level 2

WYO 22 and Spring Gulch Road

☑ **Expanded Signalized Intersection**
- Additional turn lanes and geometric improvements to meet travel demand needs

☑ **Roundabout**

☑ **Florida-T Intersection**
- Would improve operations by eliminating conflict between eastbound through traffic and left turning traffic from Spring Gulch

☒ **Continuous Flow Intersection**
- Would improve traffic flow by removing left turn traffic from the main intersection.
- ***Eliminate*** from consideration because traffic benefit would not outweigh the community and right-of-way impacts

☒ **Grade-Separated**
- Projected traffic volumes do not justify the expense and community impacts of a grade-separation at this location
- ***Eliminate*** from consideration because traffic benefit would not outweigh the community and right-of-way impacts

WYO 22 and WYO 390

☑ Expanded Signalized Intersection
- Additional turn lanes and geometric improvements to meet travel demand needs

☑ Roundabout

☑ Florida-T Intersection
- Would improve operations by eliminating conflict between eastbound through traffic and left turning traffic from WYO 390

☑ Reconfigured T-Intersection
- Would realign the intersection so that the through movements are between WYO 390 to the north and WYO 22 to the east.
- WYO 22 to/from the west would become the minor approach.

☑ Continuous Flow Intersection
- Would improve traffic flow by removing left turn traffic from the main intersection.

☒ Grade-Separated
- ***Eliminate*** from consideration because traffic benefit would not outweigh the environmental, community and right-of-way impacts

☑ Retain for Level 2 Screening

Each of the alternatives retained above will be developed in greater detail and comparatively evaluated during Level 2 screening.

Initial Alternatives Development and Screening (Level 1)

Wildlife-Vehicle Safety

Wildlife-vehicle conflicts are prevalent throughout much of the study area. Selection of appropriate safety enhancements is dependent upon many factors, not limited to the type of animals in the area, topography, and driver behavior. The types of improvements identified for evaluation are consistent with the report Highway Mitigation Opportunities for Wildlife in Jackson Hole, Wyoming by the Western Transportation Institute (December 2011). The recommended Level 1 screening is presented in Table.

Alternatives were eliminated for the following reasons:

- Wildlife detection systems are unproven technology.
- Segment 3 within Wilson would not be appropriate for fencing or pullouts due to community impacts.

Level 1 Minor Wildlife Screening Recommendations

	Retained for detailed evaluation in Level 2?					
	Segment 1 WYO 22 – Jackson to WYO 390	**Segment 2** WYO 22 –WYO 390 to Wilson	**Segment 3** WYO 22 – within Wilson	**Segment 4** WYO 22 – Wilson to Teton Nat'l Forest	**Segment 5** WYO 390 – WYO 22 to Lake Creek Bridge	**Segment 6** WYO 390 –Lake Creek Bridge to GTNP
Wildlife						
Grade Separated Crossings	Yes	Yes	Yes	Yes	Yes	Yes
Fencing	Yes	Yes	No	Yes	Yes	Yes
Signage	Yes	Yes	Yes	Yes	Yes	Yes
Pullouts	Yes	Yes	No	Yes	Yes	Yes
Wildlife Detection Systems	No	No	No	No	No	No

Initial Alternatives Development and Screening (Level 1)

Multimodal Components

Potential bike and pedestrian improvements include the inclusion of parallel facilities and safe crossings. Parallel facilities can include sidewalks, on-street lanes, and off-street multi-use paths and safe crossings can range from crosswalk treatments to grade-separations.

Potential transit improvements in the study area range from providing bus-only lanes or priorities to enhanced transit facilities.

The recommended Level 1 multimodal screening is presented in Table.

Alternatives were eliminated for the following reasons:

- Projected transit operations do not warrant dedicated bus facilities, with the exception of queue jump opportunities at signalized intersections.
- Transit demand is not expected to warrant additional park and rides in segments 1, 2, 4, and 6.

Design Options

In addition to and included within these major components, several design options exist to address location specific challenges or constraints. These include roadway geometric enhancements like curve flattening and traffic calming, as well as various intersection treatments. These will be presented in greater detail and comparatively evaluated during subsequent screening levels.

Level 1 Minor Multimodal Screening Recommendations

	Retained for detailed evaluation in Level 2?					
	Segment 1 WYO 22 – Jackson to WYO 390	**Segment 2** WYO 22 –WYO 390 to Wilson	**Segment 3** WYO 22 – within Wilson	**Segment 4** WYO 22 – Wilson to Teton Nat'l Forest	**Segment 5** WYO 390 – WYO 22 to Lake Creek Bridge	**Segment 6** WYO 390 –Lake Creek Bridge to GTNP
Bicycle and Pedestrian						
Parallel Facilities	Yes	Yes	Yes	Yes	Yes	Yes
Crossings	Yes	Yes	Yes	Yes	Yes	Yes
Transit Infrastructure						
Queue Jumps	Yes	Yes	No	No	Yes	Yes
Dedicated Bus Lanes	No	No	No	No	No	No
Park and Ride	Yes	No	Yes	No	Yes	No
Transit Stop Amenities	Yes	Yes	Yes	No	Yes	Yes

Level 2A Development and Screening:

This Time: Level 2A

Major Elements of Segment Cross-Sections

- How Many Lanes?
- What Median Treatment?

Next Time: Level 2B

Major Intersections

Minor Intersections and Access Control

Bicycle and Pedestrian Facilities

Wildlife Safety Facilties

How Many Lanes?

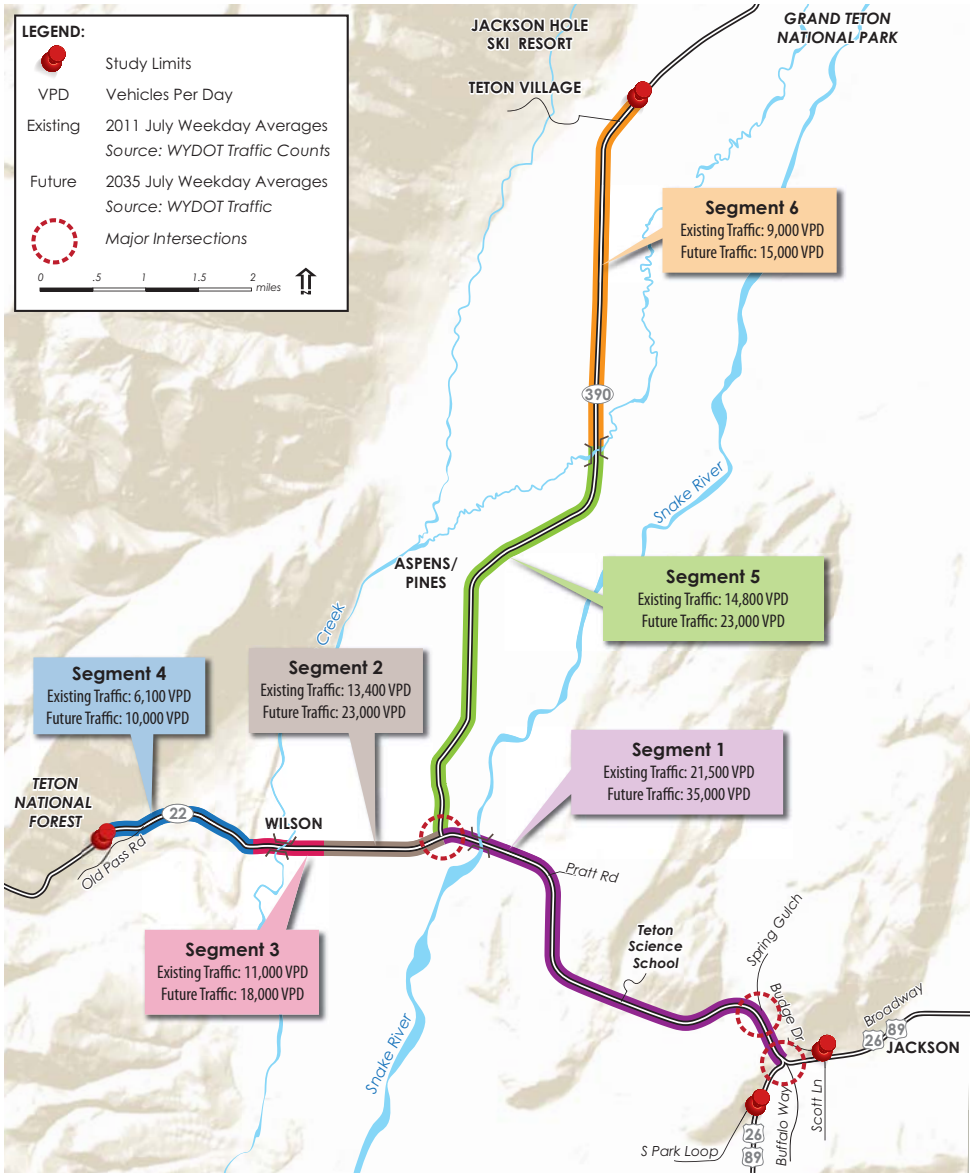
Screening Details

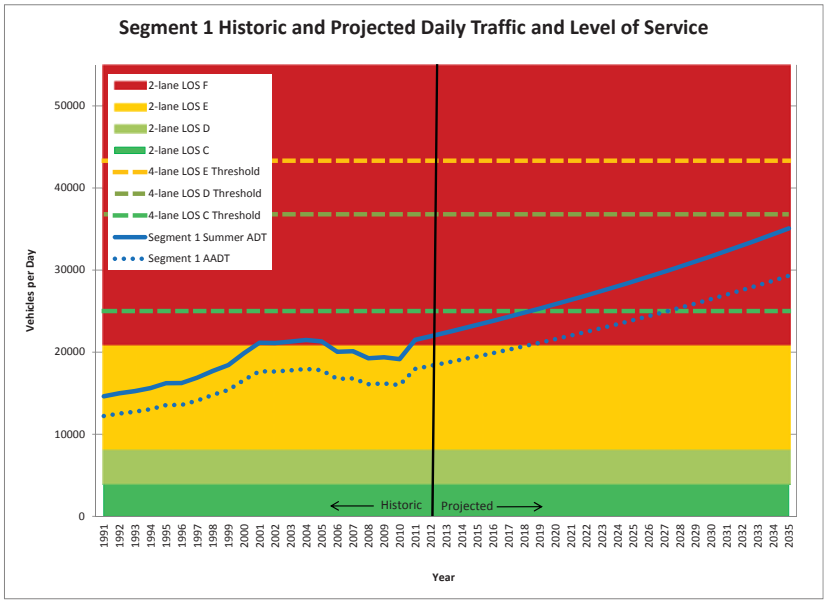
Distinguishing Criteria	2 Lanes	4 Lanes
Travel Demand	Capacity is 15,000 to 24,000 vpd*	Capacity is 35,000 to 45,000 vpd*
Resilience in times of traffic disruptions	Little additional capacity to utilize during traffic disruptions	More capacity to utilize during traffic disruptions
Bicycle and pedestrian crossing	Easier to cross due to narrower width	More difficult to cross
Wildlife safety	Easier for wildlife to cross due to narrower width Does not preclude wildlife crossing mitigation recommendations from previous studies ** Leads to traffic platoons and fewer gaps for wildlife to cross	More difficult for wildlife to cross, due to larger footprint Does not preclude wildlife crossing mitigation recommendations from previous studies** Provides more gaps for wildlife to cross
Potential to impact environmental resources	Lower, due to smaller footprint	Higher, due to larger footprint
Potential to impact setting and character	Lower, due to smaller footprint	Higher, due to larger footprint
Potential right-of-way impacts	Lower, due to smaller footprint	Higher, due to larger footprint

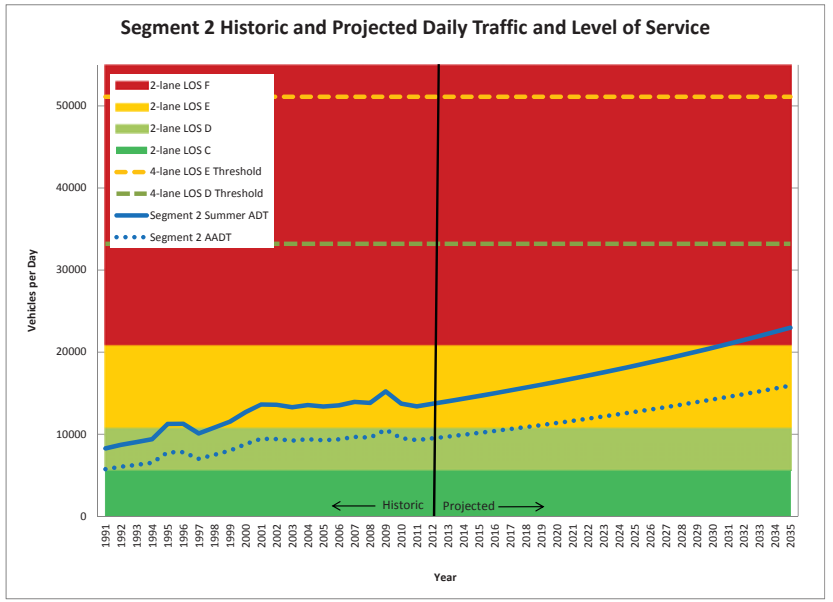
* *Roadway capacity is variable, depending on many roadway and travel demand characteristics; each segment has been analyzed individually.*

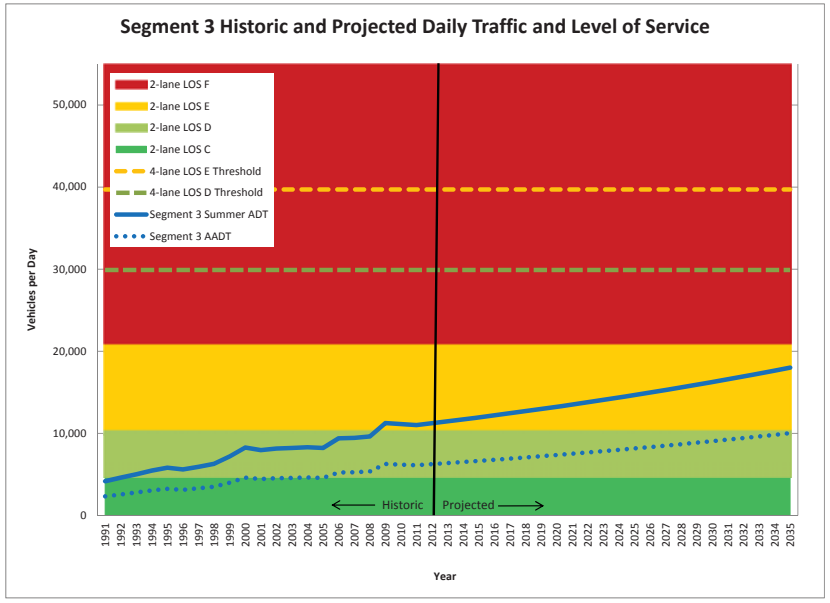
** *Highway mitigation opportunities for wildlife in Jackson Hole (WTI 2011) and Final Report Jackson Hole Roadway and Wildlife Crossing Study (Biota 2003)*

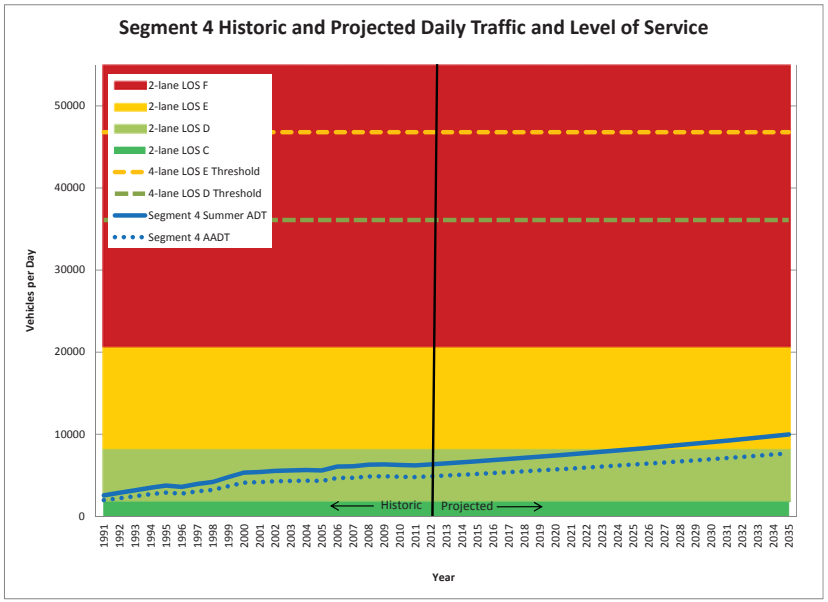
How Many Lanes?

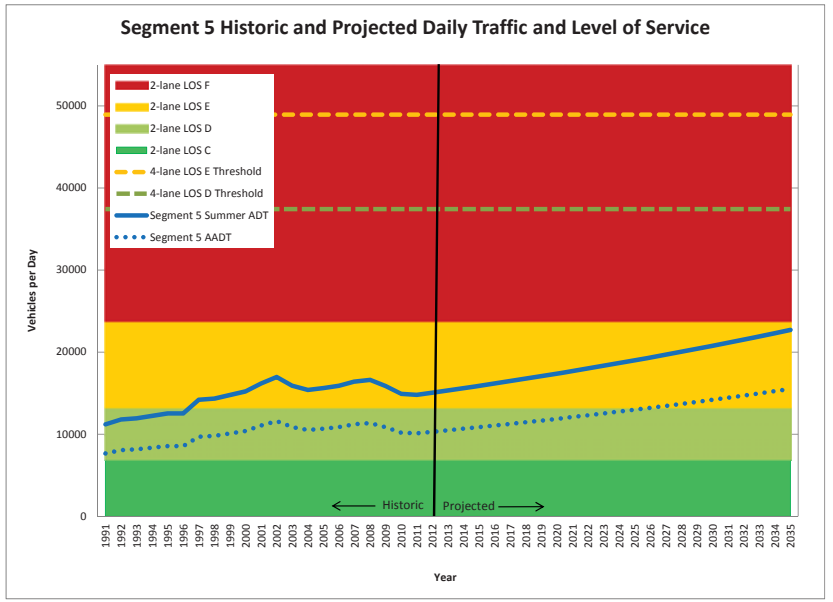


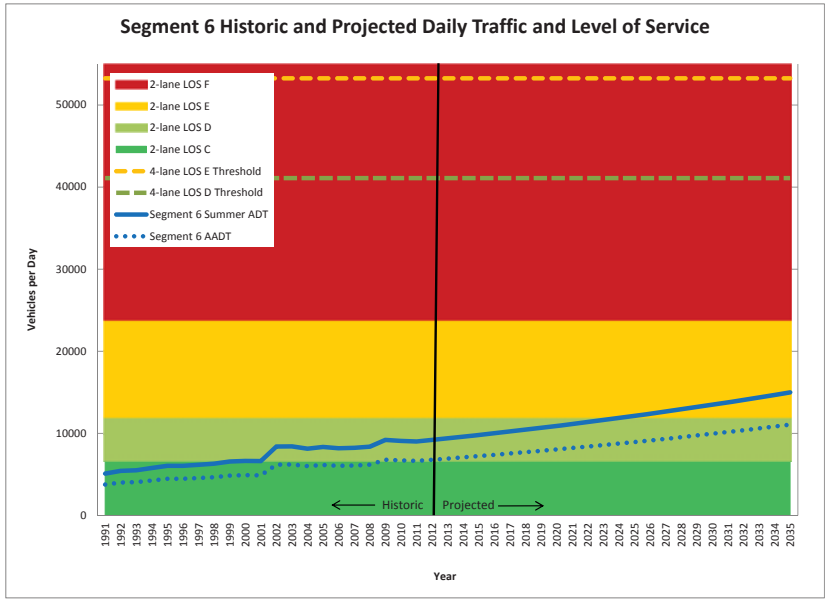

Segment 1 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
4-lane LOS C Threshold
Segment 1 Summer ADT
Segment 1 AADT
Vehicles per Day
Year
Historic
Projected


Segment 2 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
Segment 2 Summer ADT
Segment 2 AADT
Vehicles per Day
Year
Historic
Projected

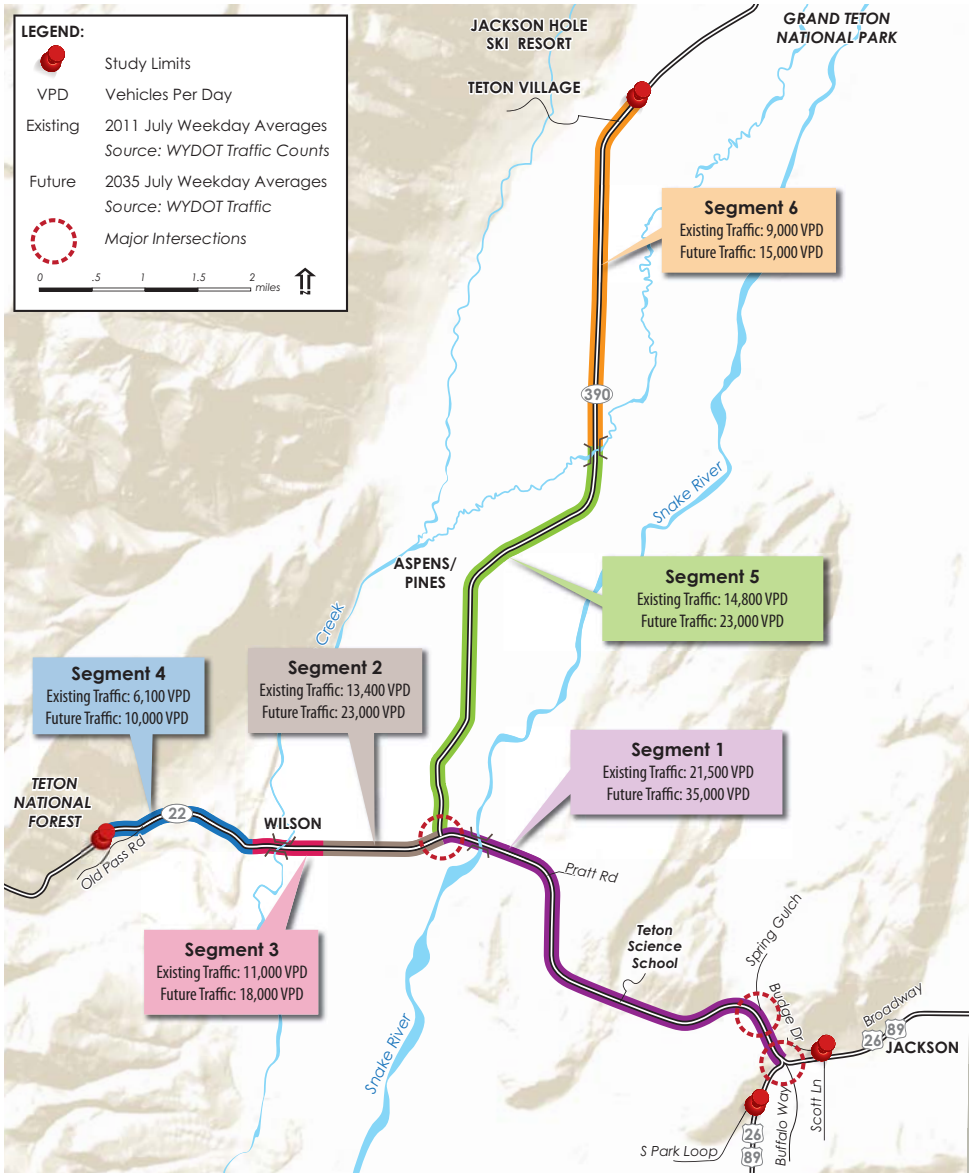

Segment 3 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
Segment 3 Summer ADT
Segment 3 AADT
Vehicles per Day
Year
Historic
Projected


Segment 4 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
Segment 4 Summer ADT
Segment 4 AADT
Vehicles per Day
Year
Historic
Projected


Segment 5 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
Segment 5 Summer ADT
Segment 5 AADT
Vehicles per Day
Year
Historic
Projected


Segment 6 Historic and Projected Daily Traffic and Level of Service
2-lane LOS F
2-lane LOS E
2-lane LOS D
2-lane LOS C
4-lane LOS E Threshold
4-lane LOS D Threshold
Segment 6 Summer ADT
Segment 6 AADT
Vehicles per Day
Year
Historic
Projected

Discussion: How Many Lanes?



Segment 1: WYO 22 – Jackson to WYO 390

Segment 2: WYO 22 –WYO 390 to Wilson

Segment 3: WYO 22 – within Wilson

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

Segment 6: WYO 390 –Lake Creek Bridge to GTNP

What Median Treatment?

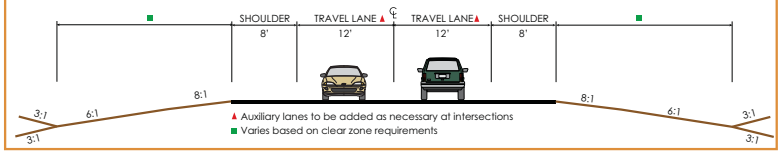
Screening Details

Distinguishing Criteria	Undivided	Painted	Raised	Depressed
Travel Demand	Lower capacity than divided	Higher capacity than undivided	Higher capacity than undivided	Higher capacity than undivided
Access	Poor ability to control access	Better than undivided but worse than raised and depressed	Good access control	Good access control
Resiliency in times of traffic disruptions	Poor ability to respond to traffic disruptions	Good ability to respond to traffic disruption	Fair ability to respond to traffic disruption	Fair ability to respond to traffic disruption
Bicycle and pedestrian crossing	Poor	Fair	Good	Good
Vehicle safety	Worst expected safety performance	Fair expected safety performance	Good expected safety performance	Good expected safety performance
Wildlife safety	Fair	Poor	Poor	Poor
	Does not preclude wildlife crossing mitigation recommendations from previous studies*			
Potential to avoid impacts to environmental resources	Good	Fair	Fair	Poor
Potential to avoid impacts to setting and character	Fair	Poor	Fair	Good
Potential to avoid right-of-way impacts	Good	Fair	Fair	Poor

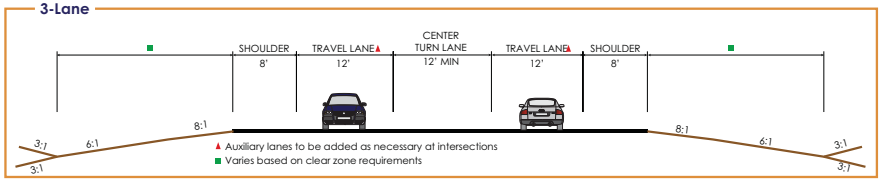
* *Highway mitigation opportunities for wildlife in Jackson Hole (WTI 2011) and Final Report Jackson Hole Roadway and Wildlife Crossing Study (Biota 2003)*

What Median Treatment?

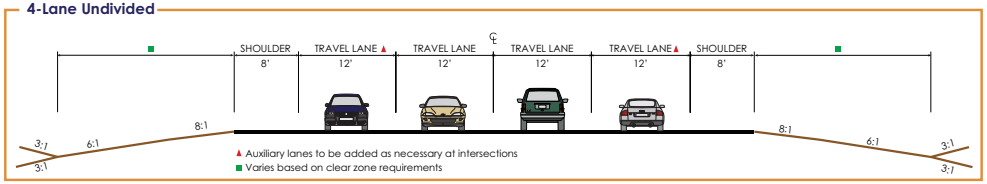
2-Lane Undivided



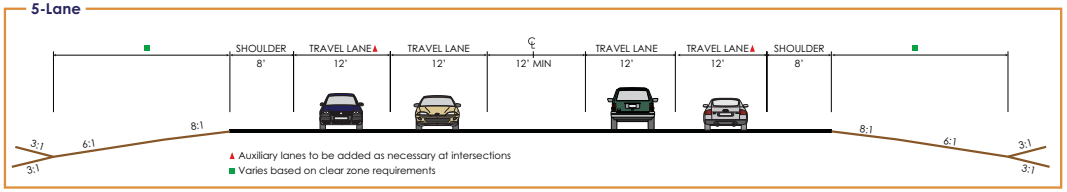
3-Lane



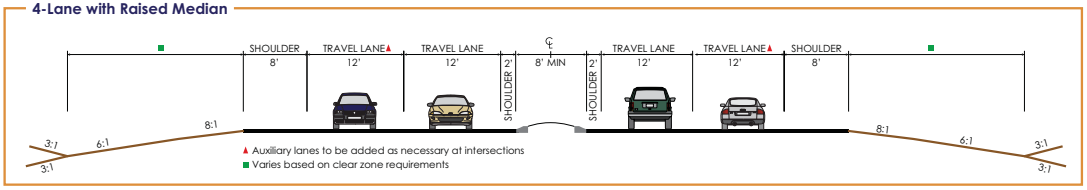
4-Lane Undivided



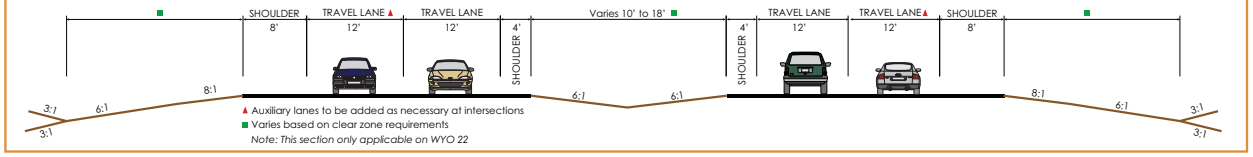
5-Lane



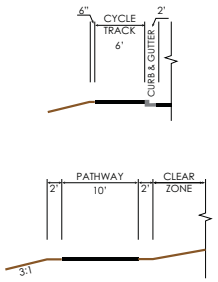
4-Lane with Raised Median



4-Lane with Depressed Median



Pathway / Bikeway Options



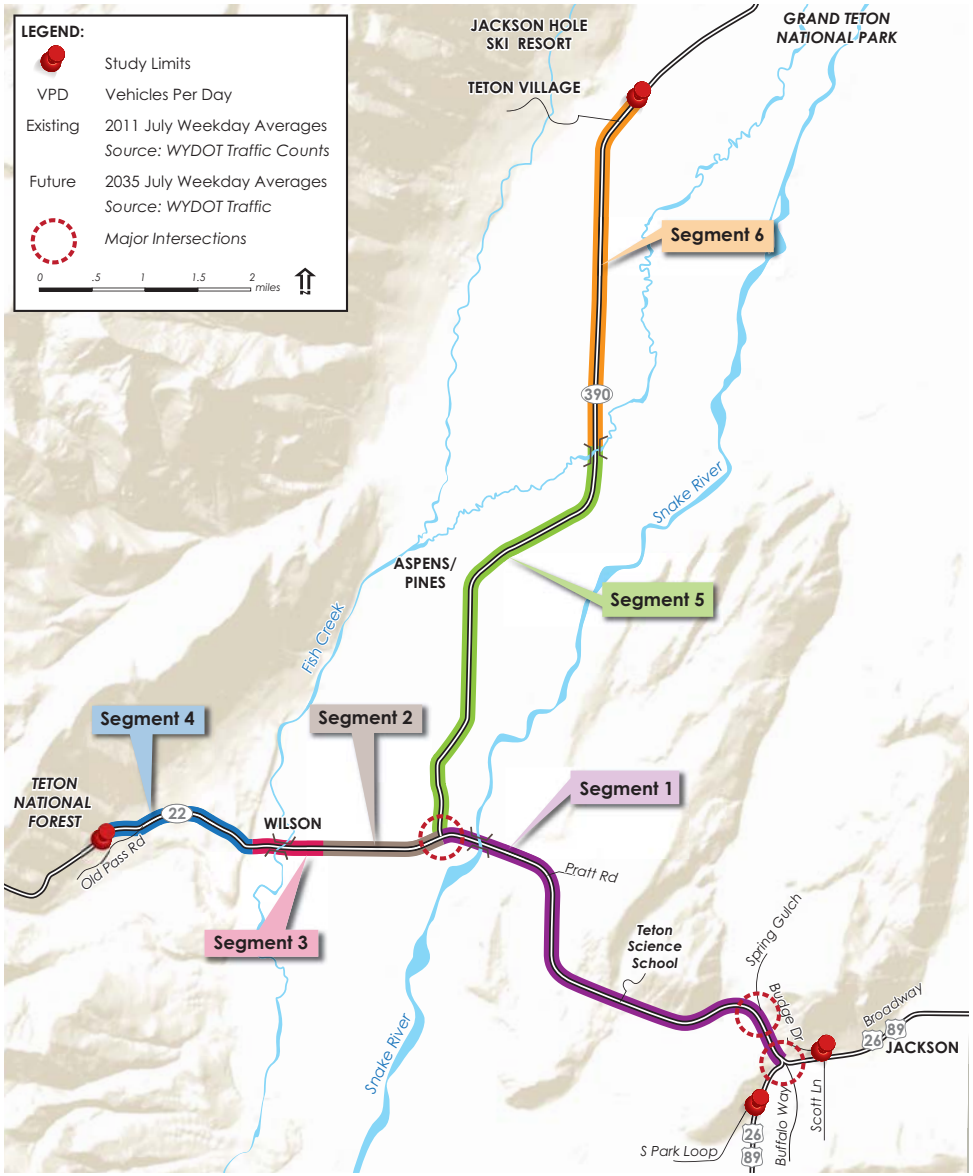
Note: Bikeway options can be applied as appropriate, either left or right of cross-sections.

Conceptual Schematics Not to Scale

What Median Treatment?

Preliminary Layout of Potential Cross-Sections

Discussion: What Median Treatment?



Segment 1: WYO 22 – Jackson to WYO 390

Segment 2: WYO 22 – WYO 390 to Wilson

Segment 3: WYO 22 – within Wilson

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

Segment 6: WYO 390 – Lake Creek Bridge to GTNP

Next Time: Level 2B

Major Intersections

- WYO 22 & Broadway (the 'Y')
- WYO 22 & Spring Gulch
- WYO 22 & WYO 390

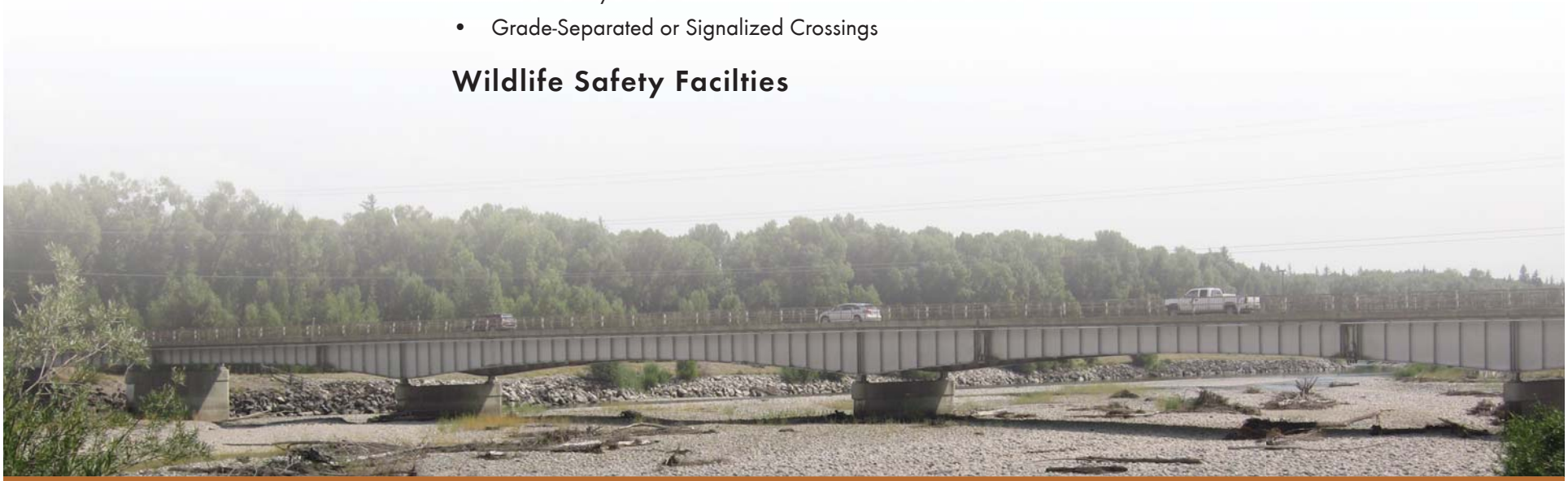
Minor Intersections and Access Control

- Signals
- Roundabouts
- Access Consolidation
- Frontage Roads
- Access Restrictions & Enhancements

Bicycle and Pedestrian Facilities

- WYO 22 Cycle Track
- Grade-Separated or Signalized Crossings

Wildlife Safety Facilties



22/390 Corridor Study

TAC Meeting

April 2013

22/390 Corridor Study

Meeting Minutes

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: April 26, 2013

Location: Teton County Engineering

Attendees:

WYDOT:	Bob Hammond, Kevin Powell, John Eddins
Town of Jackson:	Tyler Sinclair, Larry Pardee, Bob Lenz
Teton County:	Brian Schilling, Sean O'Malley, Paula Stevens, Dave Gustafson, Gordon Gray
START Bus:	Michael Wackerly
Friends of Pathways:	Mike Welch
GTNP:	Chris Finlay, Gary Pollock
USFS:	Darren Martens
Jackson Hole Airport	Craig Logan
Conservation Alliance :	Melissa Wittstruck
Wyoming Pathways:	Tim Young
Jacobs:	Chris Primus, Jim Clarke, Keith Borsheim (via teleconference)

Copies: Attendees, John Eddins, File

Summary of Discussion:

1. Introductions were made.

2. Jim reminded the group of the prior discussion concerning the number of lanes.

3. Chris briefly reviewed the major intersections types and their pros and cons.

4. Keith described the screening approach.

a. It was discussed that Tribal Trails and North Bridge should be included in the modeling as future connections; but it was stated the study is focused on the existing corridors and these new connections are not assumed for this study.

5. Wyo 22 and Wyo 390

Discussion regarding improvements at this intersection:

a. The screening should reflect the transportation goals of the recent Town and County Comprehensive Plan.

b. During subsequent studies, prior to implementation of individual projects, traffic volumes will be updated and reviewed anew.

c. Roundabouts should be rated 'medium' for pedestrians and bicyclists, as treatments could be added to facilitate safe pedestrian and bicycle movements

6. Wyo 22 and Broadway

Discussion regarding improvements at this intersection:

a. The operations at adjacent intersections need to be thoroughly analyzed.

b. Closing Buffalo Way is not practical.

c. Explore more grade-separated options.

d. Grade separated facilities for pedestrians and bicyclists is desired.

e. Need input from public before further screening.

f. The surrounding network and Broadway corridor needs a system level study, which is a broader issue beyond the PEL study

7. Wyo 22 and Spring Gulch

Discussion regarding improvements at this intersection:

a. Consider potential Spring Gulch road improvements and associated additional traffic

b. Note this signal could serve to meter traffic to "Y"

c. Roundabouts should be rated 'medium' for pedestrians and bicyclists, as treatments could be added to facilitate safe pedestrian and bicycle movements.

Action items:

- Further comments should be submitted by Wednesday, November 21.

22/390 Corridor Study

Technical Advisory Committee
Project Briefing Agenda
April 26, 2013
8:30

1. Introductions (5 min)

2. Today's PEL Agenda (5 min)

    a. Prior TAC: Level 2A (Number of lanes)
    b. Today's focus: Level 2B Major Intersections

3. Level 2B Screening – Review and Discussion

    a. Intersection Types (5 min)
    b. Screening Approach (5 min)
    c. Wy 22 & 390 (20 min)
    d. Wy 22 and Broadway (30 min)
    e. Wy 22 & Spring Gulch (10 min)

4. Level 2A Median Treatment Discussion (15 min)
    a. Segments 1,2,3,4,6
    b. Segment 5 next time

5. Next Steps (5 min)
    a. Action Items
    b. Level 2C Screening – Minor Intersections
        i. Segment 5 Focus
    c. Next TAC meeting for Level 2C
    d. Discuss Public Meeting Date

22/390 Corridor Study

DRAFT Level 2B

Alternatives Development and Screening

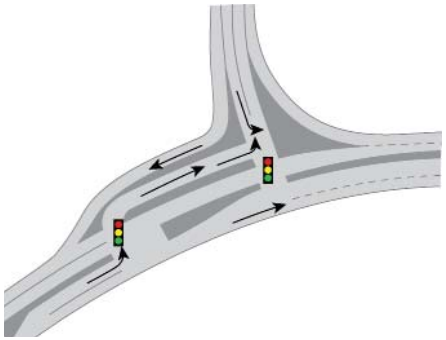
Major Intersections

Intersection Types

Expanded Signalized Intersection

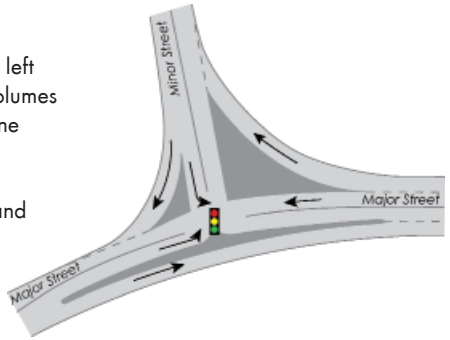
+ Allows protected pedestrian movements
+ High familiarity to motorists
+ Accommodates unbalanced approach volumes
+ Relatively small footprint
+ Lower construction cost
− Can have high amounts of stopped time and delay (congestion)
− Higher potential for severe accidents
− Multiple lanes for pedestrians to cross

Continuous Flow Intersection



+ Moves the left turn down the road eliminating left turn movements from the main intersection
+ Improved capacity
+ Reduced delay and travel time
+ Suitable for intersections with high volume left turns
+ Allows protected pedestrian movements
+ Safer for vehicular travel than signalized intersections
− Motorists must travel through multiple intersections, and may stop multiple times through the junction
− Less intuitive for motorists and pedestrians than signalized intersection, especially tourists
− Other choices more pedestrian friendly
− Larger footprint than signalized intersection

Florida-T Intersection

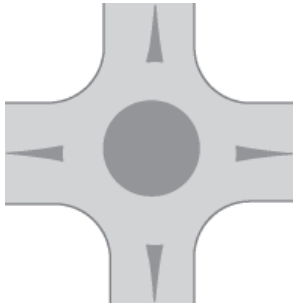


+ Suitable for a three-way intersection with moderate-to-low left turn volumes from cross street, and high arterial through volumes
+ Allows continuous green through movement in one mainline direction except for pedestrian calls
+ Allows protected pedestrian movements
+ Safer than signalized intersections, reduces angle, injury and total crashes
+ Improved capacity
+ Reduced delay and travel time
− More footprint required than signalized intersection
− Pedestrian movements need pedestrian signal

Grade-Separated Intersections

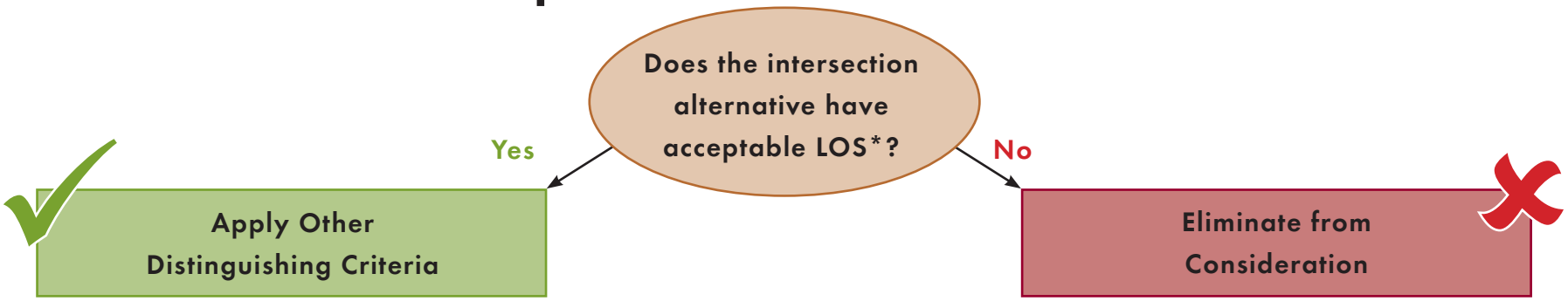
+ Suitable for high volume intersections
+ Allows traffic to move freely, with fewer interruptions
+ Less conflict between traffic movements
+ Safer relative to signalized intersections
+ Creates less delay than other intersection types
− Can represent a barrier for pedestrians
− Higher visual impacts than other intersection types
− Larger footprint than signalized intersection
− Much higher cost than other intersection types

Roundabout



+ Suitable for relatively balanced approach volumes
+ Safer for vehicular travel relative to other intersection types
+ Can result in less delay and emissions than other intersection types depending on traffic patterns
+ Can accommodate aesthetic treatments
+ Lower injury and fatality rates
− Although gaining in use, still less familiar to motorists than signalized intersection
− Larger footprint than signalized intersection
− Less suitable for high volume/multilane approaches
− Less intuitive for pedestrians/bicycle lists than other intersection types

Major Intersections Criteria

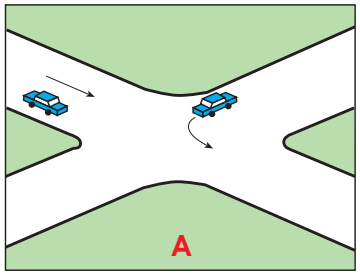
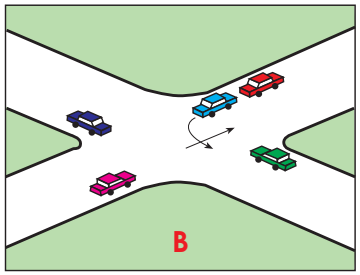
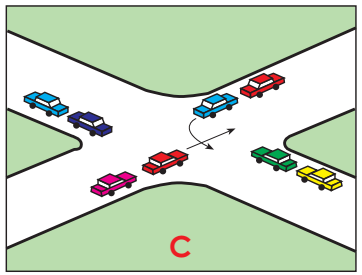


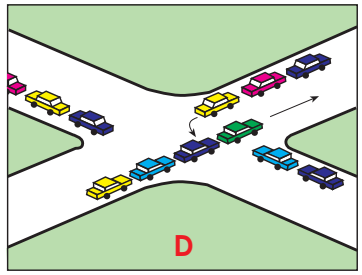
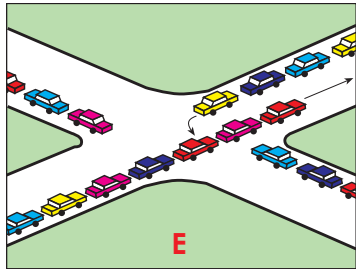
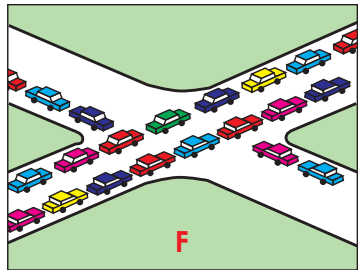
Distinguishing Criteria

- Meet future traffic demand
- Reduce peak period congestion
- Improve intersection operations
- Safely and comfortably accommodate all levels and abilities of pedestrians and cyclists
- Improve non-motorized level-of-service
- Provide a competitive and reliable travel time for buses
- Reduce potential vehicle conflicts
- Relative impact of the alternative on environmental resources
- Relative ability of the alternative to enhance the corridor's natural setting and character
- Amount of additional right-of-way required
- Relative impact of the alternative on residential and commercial properties
- Extent that the alternative is practical and financially realistic

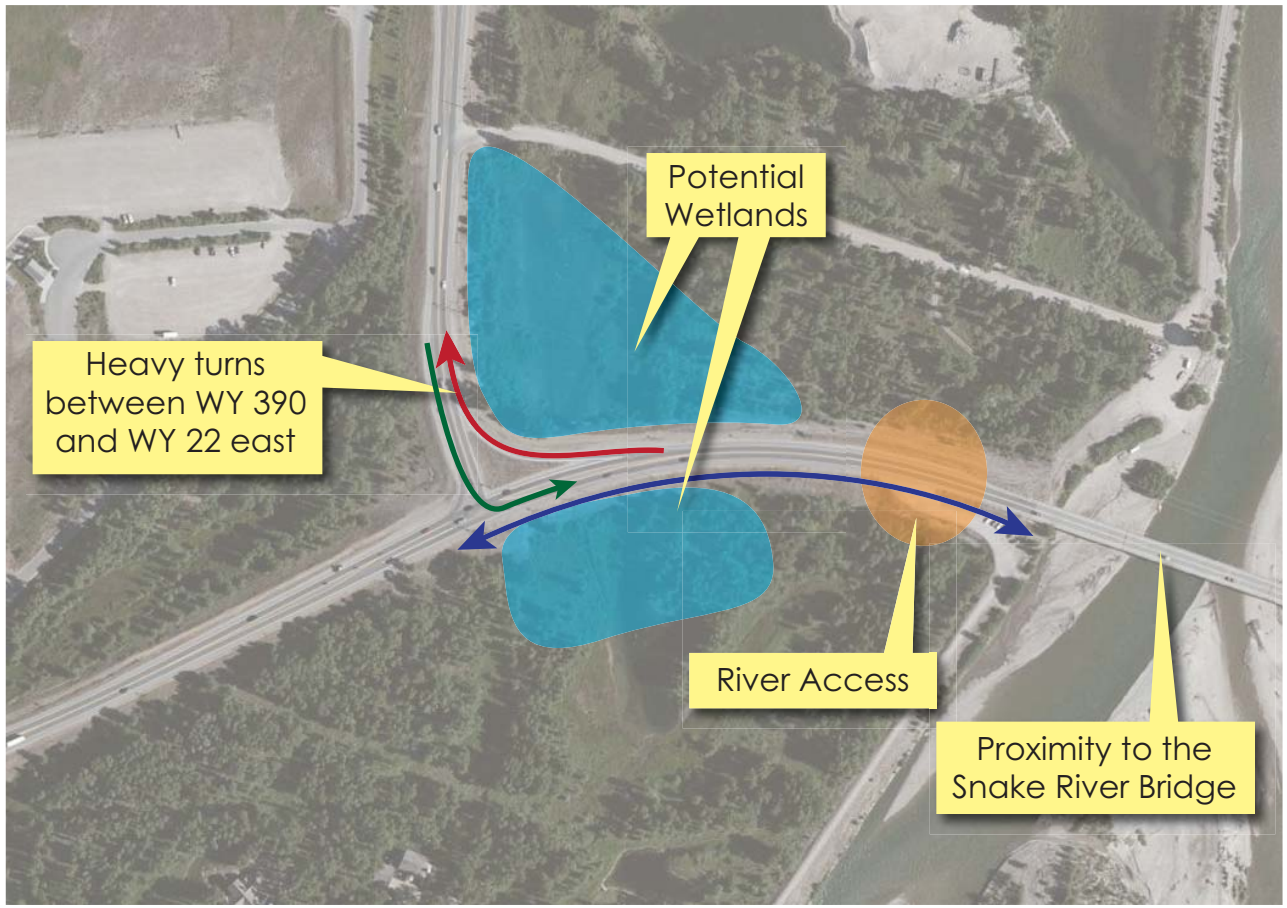
* *WyDOT's goal is an overall LOS D for urban intersections and LOS C for rural intersections for forecast year traffic conditions.*

Level of Service Definitions

LOS	Roadway Segment Operating Charachteristics	
A	No vehicle waits longer than one stop or signal indication.	
B	On a rare occasion, vehicles wait through more than one stop or signal indication.	
C	Intermittently, vehicles wait through more than one stop or signal indication, occasionally backups may develop, traffic flow still stable and acceptable.	

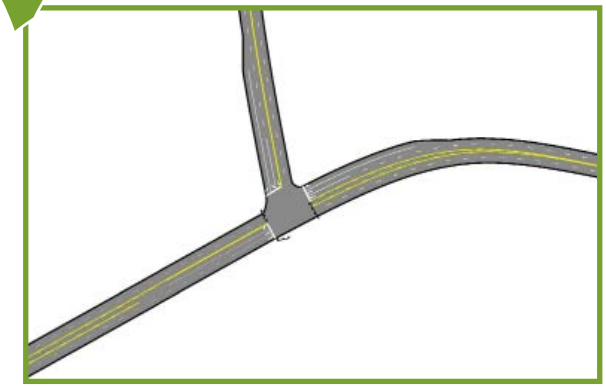
LOS	Roadway Segment Operating Charachteristics	
D	Delays at intersections may become extensive but enough cycles with lower demand occur to permit periodic clearance, preventing excessive backups.	
E	Very long queues may create lengthy delays.	
F	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a "gridlock" condition.	

Major Issues at WY 22/390

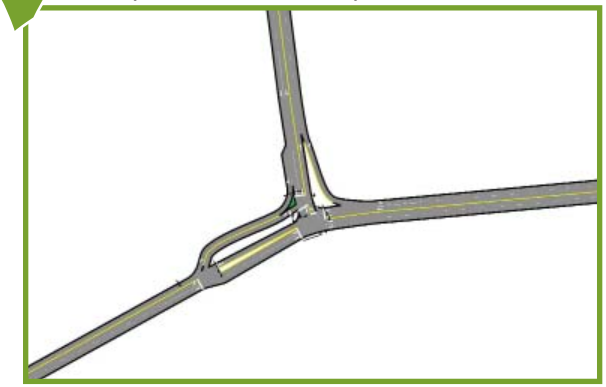


Wyoming 22 & Wyoming 390

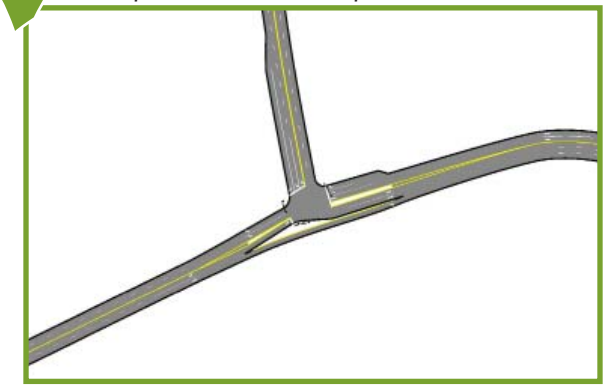
Additional Lanes
Acceptable Traffic Operations? YES



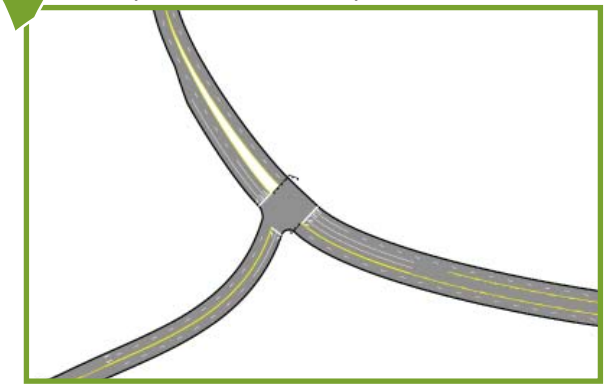
Continuous Flow Intersection
Acceptable Traffic Operations? YES



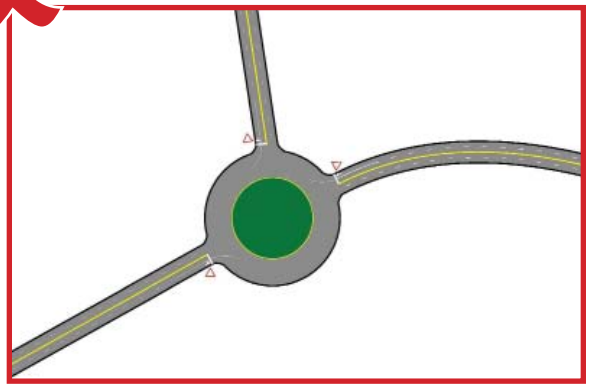
Florida-T Intersection
Acceptable Traffic Operations? YES



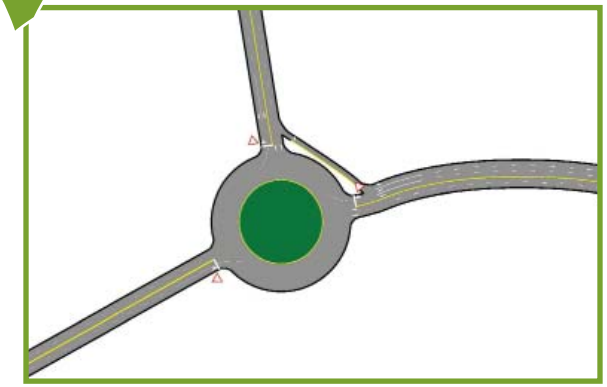
Reconfigured T-intersection
Acceptable Traffic Operations? YES



2-lane Roundabout
Acceptable Traffic Operations? NO



2-lane Roundabout with Slip Ramp
Acceptable Traffic Operations? YES



WY 22 & WY 390

	# of intersections	Level of Service	v/c Ratio	Intersection Operations	Pedestrian/ Bikes	Transit	Safety/ Vehicle Conflicts	Aesthetics	Environmental / ROW Impacts	Practical	Cost	Driver Expectations	Speed Calming	Maintenance
Additional Lanes 	1	C	0.95	●	●	●	○	◑	●	●	●	●	◑	●
	An expanded signalized intersection has a relatively smaller footprint but lower safety performance													
Continuous Flow Intersection 	3	A/B/C	0.92	●	○	●	◑	○	◑	●	◑	○	◑	◑
	The CFI provides relatively worse pedestrian & bicycle operations and worse aesthetics													
Florida-T Intersection 	1	C	0.97	●	○	●	◑	○	◑	●	◑	◑	◑	◑
	The CFI provides relatively worse pedestrian & bicycle operations and worse aesthetics													
Reconfigured T Intersection 	1	C	0.97	●	●	●	○	◑	●	●	●	●	○	◑
	The reconfigured T would result in faster speeds and lower safety performance													
2-lane Roundabout with Slip Ramp 	1	C/D		●	◑	◑	●	●	◑	●	●	◑	●	◑
	The roundabout offers relatively safer operations, better aesthetics, speed calming, but a larger footprint and providing safe pedestrian movements may require additional improvements													

Relative Comparison
● = Better ◑ = Good ○ = Worse
V/c: Volume to capacity ratio of the worst approach leg

Discussion: WY 22 & WY 390 Intersection

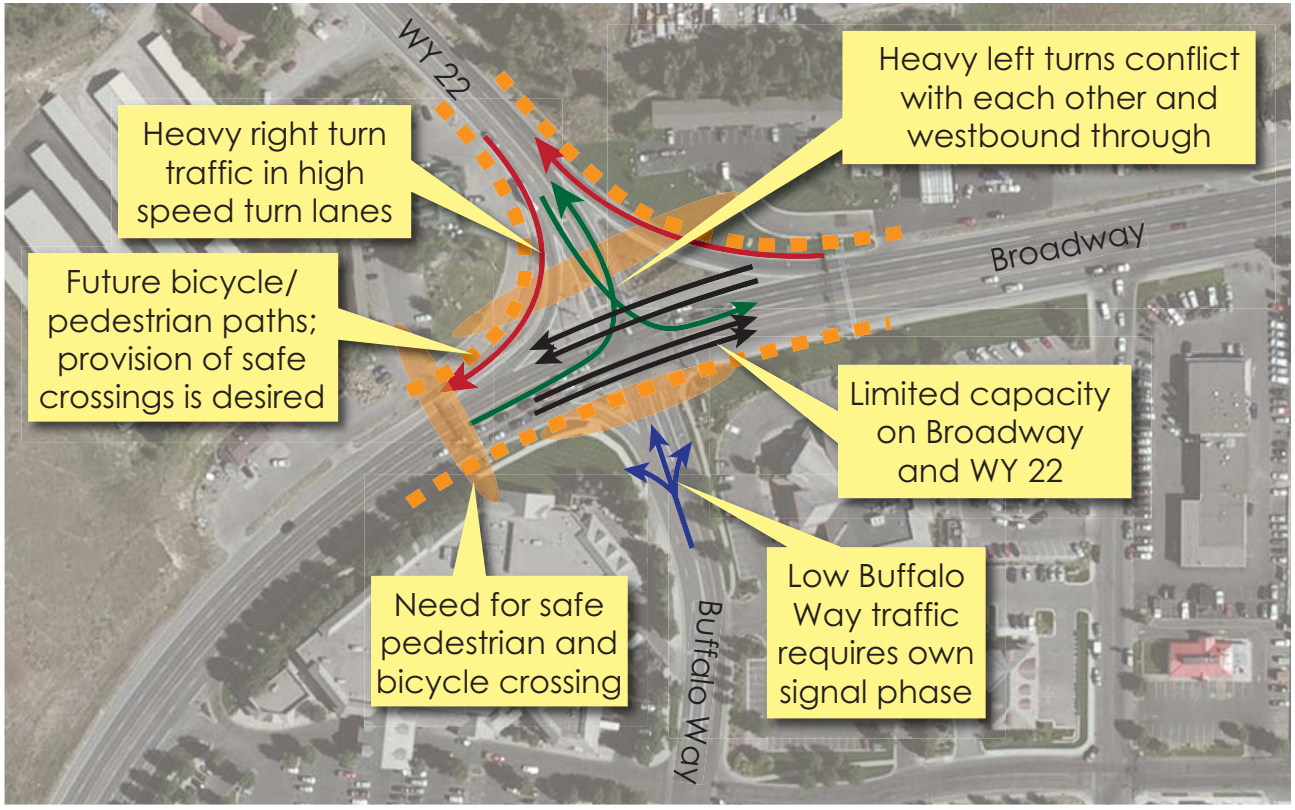
WY 22 & WY 390 Intersection

The screening should reflect the transportation goals of the recent Town and County Comprehensive Plan.

During subsequent studies, prior to implementation of individual projects, traffic volumes will be updated and reviewed anew.

Roundabouts should be rated 'medium' for pedestrians and bicyclists, as treatments could be added to facilitate safe pedestrian and bicycle movements.

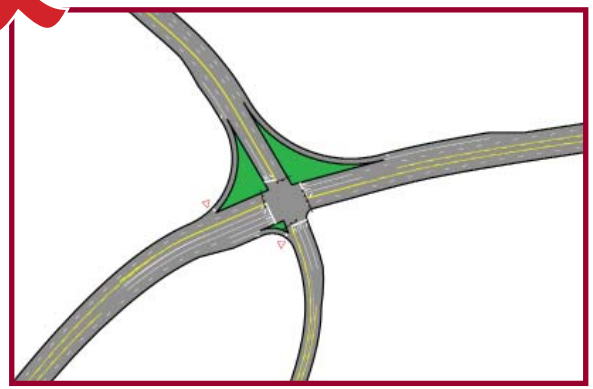
Major Issues at "Y"



The "Y" – Broadway & Wyoming 22

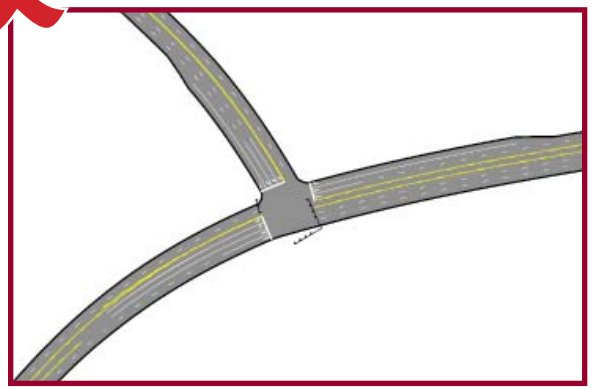
Eastbound Double Lefts

Acceptable Traffic Operations? NO



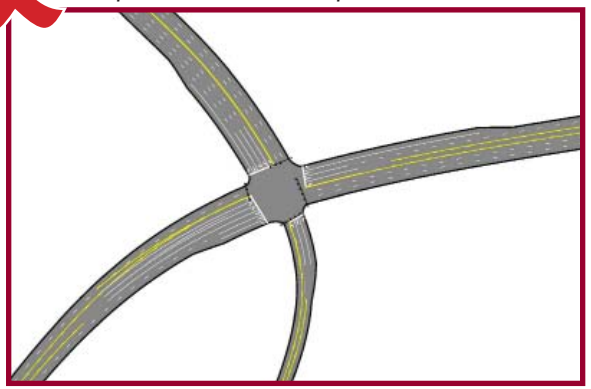
Close Buffalo Way

Acceptable Traffic Operations? NO



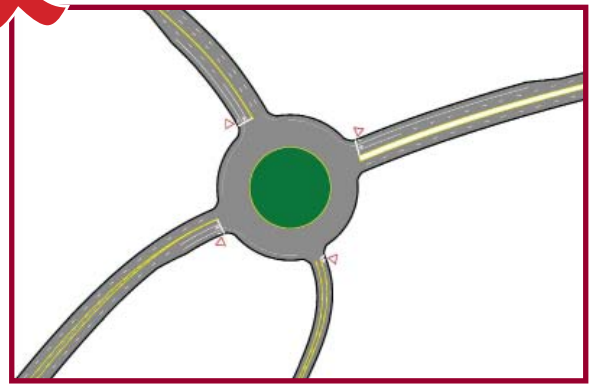
Eastbound and Southbound Triple Lefts

Acceptable Traffic Operations? NO



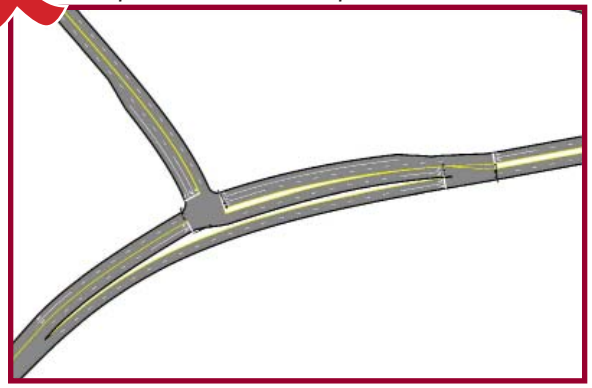
2-lane Roundabout

Acceptable Traffic Operations? NO



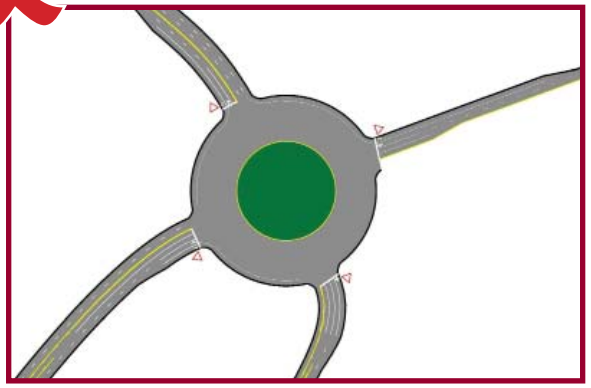
Florida-T Intersection with Signalized Merge

Acceptable Traffic Operations? NO



3-lane Roundabout

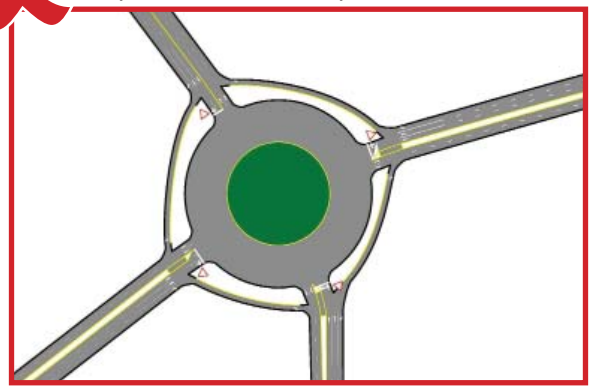
Acceptable Traffic Operations? NO



The "Y" – Broadway & Wyoming 22 (continued)

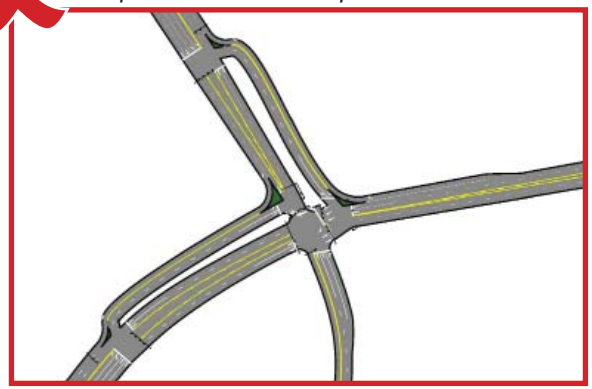
3-lane Roundabout with Slip Ramps

Acceptable Traffic Operations? NO



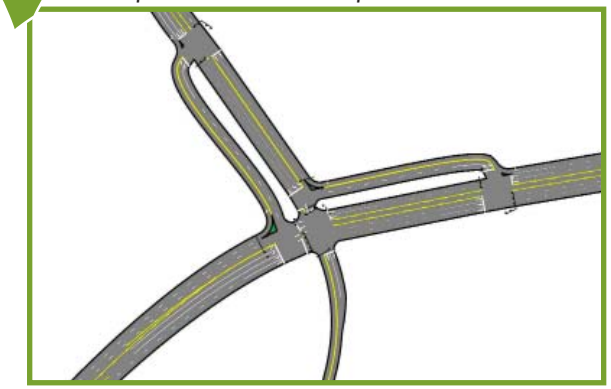
Continuous Flow Intersection

Acceptable Traffic Operations? NO



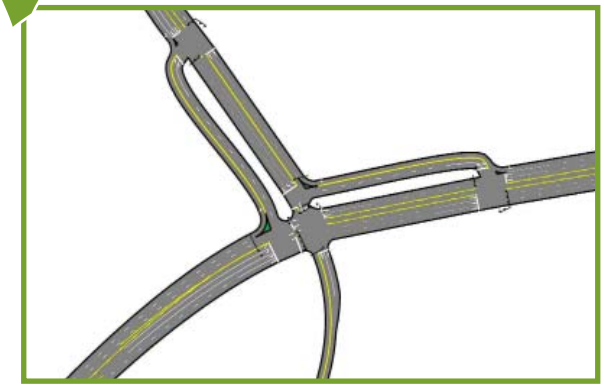
Inverted Continuous Flow Intersection

Acceptable Traffic Operations? YES



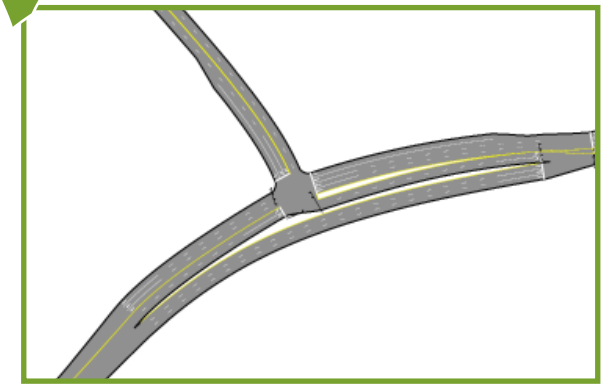
Inverted Continuous Flow Intersection with 3-lane Broadway

Acceptable Traffic Operations? YES



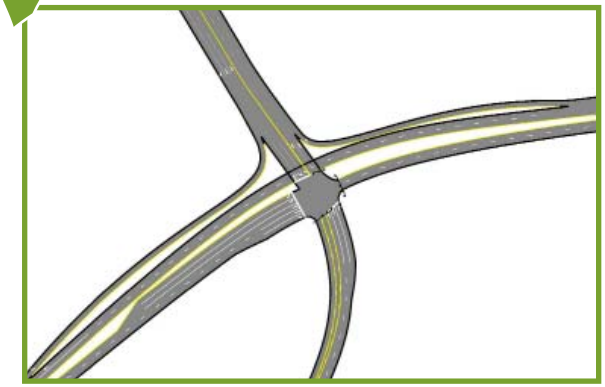
Florida-T with Signalized Merge and 3-Lane Broadway

Acceptable Traffic Operations? YES

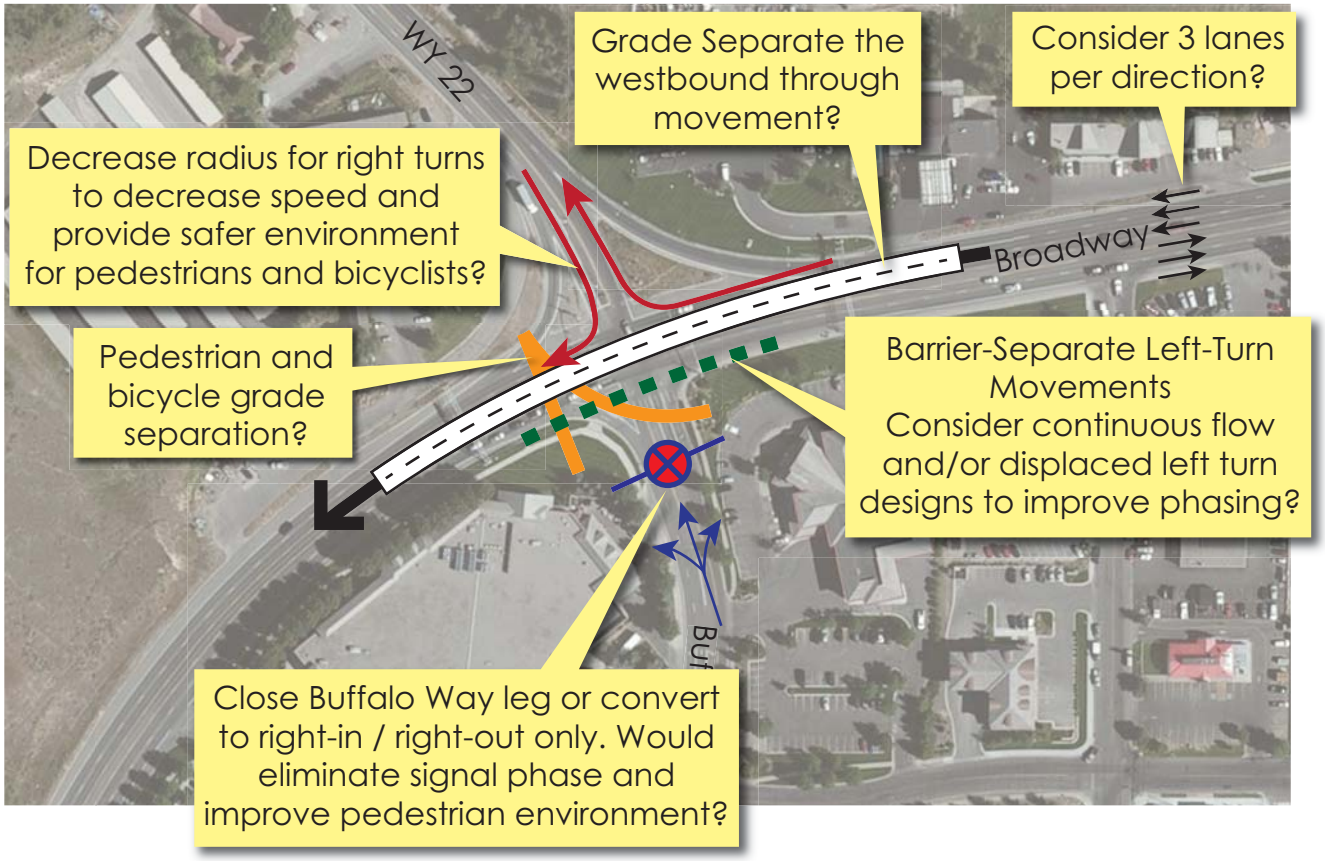


Westbound Broadway Grade Separated

Acceptable Traffic Operations? YES



Major Options for Discussion



WY 22 & Broadway

	# of intersections	Level of Service	v/c Ratio	Intersection Operations	Pedestrian/ Bikes	Transit	Safety/ Vehicle Conflicts	Aesthetics	Environmental / ROW Impacts	Practical	Cost	Driver Expectations	Speed Calming	Maintenance
Inverted Continuous Flow Intersection with 3-lane Broadway 	5	A/A/A/ A/B	0.91	●	○	●	◑	◑	○	●	◑	○	◑	◑
	Inverted CFIs provide relatively good operations, but larger footprints and are less intuitive for drivers													
Inverted Continuous Flow Intersection 	5	A/A/A/ A/C	0.98	●	◑	●	◑	●	○	●	◑	○	◑	◑
	Inverted CFIs provide relatively good operations, but larger footprints and are less intuitive for drivers													
Westbound Broadway Grade Separated 	1	D	1.03	◑	◑	◑	●	○	◑	◑	○	●	○	◑
	A westbound grade separation facilitates good and safe traffic operations, but relatively poor aesthetics, high cost and higher speeds													
Florida-T with Signalized Merge and 3-lane Broadway 	2	C	0.91	○	◑	●	●	◑	●	●	●	◑	◑	◑
	A modified Florida T would provide good operations and safety performance, but may require 3-lanes on Broadway													

Relative Comparison
● = Better ◑ = Good ○ = Worse
V/c: Volume to capacity ratio of the worst approach leg

Discussion: "Y" Intersection

"Y" Intersection

The operations at adjacent intersections need to be thoroughly analyzed.

Closing Buffalo Way is not practical.

Explore more grade-separated options.

Grade separated facilities for pedestrians and bicyclists is desired.

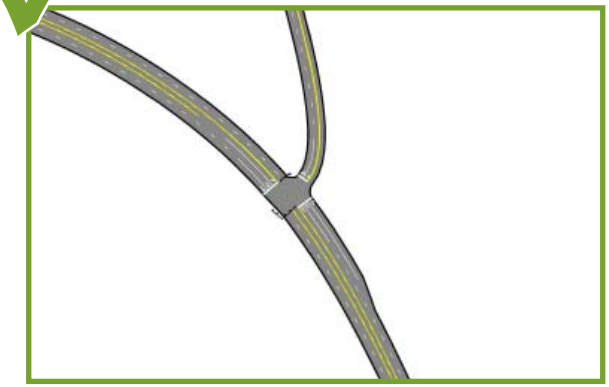
Need input from public before further screening.

The surrounding network and Broadway corridor needs a system level study, which is a broader issue beyond the PEL study.

Wyoming 22 & Spring Gulch Road

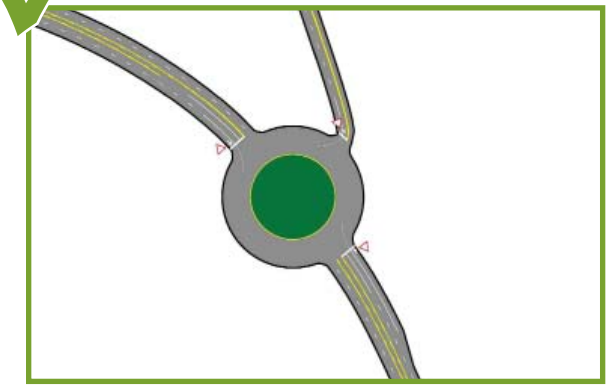
Additional Lanes

Acceptable Traffic Operations? YES



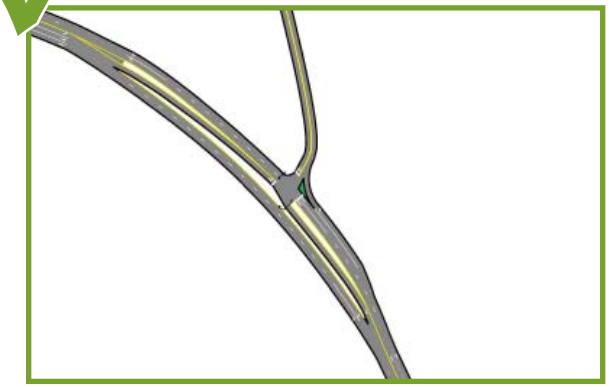
2-lane Roundabout

Acceptable Traffic Operations? YES



Florida-T Intersection

Acceptable Traffic Operations? YES



WY 22 & Spring Gulch Road

	# of intersections	Level of Service	v/c Ratio	Intersection Operations	Pedestrian/Bikes	Transit	Safety/ Vehicle Conflicts	Aesthetics	Environmental / ROW Impacts	Practical	Cost	Driver Expectations	Speed Calming	Maintenance
Additional Lanes 	1	A	0.75	●	●	●	○	◑	●	●	●	●	◑	●
	An expanded signalized intersection has a relatively smaller footprint but lower safety performance													
Florida-T Intersection 	1	B	0.87	◑	◑	●	○	●	◑	●	◑	◑	◑	◑
	The advantages of a Florida T would likely not outweigh its additional impacts													
Roundabout 	1	C/C	0.85	◑	◑	◑	●	●	◑	●	●	○	●	◑
	Roundabouts offer relatively safer operations, better aesthetics, speed calming, but a larger footprint and providing safe pedestrian movements may require additional improvements													
Roundabout with Slip Ramps 	1	C	0.85	◑	◑	◑	●	●	○	●	●	○	●	◑
	Roundabouts offer relatively safer operations, better aesthetics, speed calming, but a larger footprint and providing safe pedestrian movements may require additional improvements													

Relative Comparison
● = Better ◑ = Good ○ = Worse
$^{V}/_{C}$: Volume to capacity ratio of the worst approach leg

Discussion: Spring Gulch Intersection

Spring Gulch Intersection

Consider potential Spring Gulch road improvements and associated additional traffic

Note this signal could serve to meter traffic to "Y"

Roundabouts should be rated 'medium' for pedestrians and bicyclists, as treatments could be added to facilitate safe pedestrian and bicycle movements.

Next Time: Level 2C

Minor Intersections and Access Control

- Signals
- Roundabouts
- Access Consolidation
- Frontage Roads
- Access Restrictions & Enhancements

Bicycle and Pedestrian Facilities

- WYO 22 Cycle Track
- Grade-Separated or Signalized Crossings

Wildlife Safety Facilities

22/390 Corridor Study

TAC Meeting

May 2013

22/390 Corridor Study

22 390 PEL Presentation Summary

Project: 22-390 PEL

Purpose: Technical Advisory Committee

Date Held: May 10, 2013

Location: Teleconference/WebEx

Attendees:

WYDOT:	Jeff Brown, Bob Hammond, John Eddins
FHWA:	Jeff Purdy, Randy Strang
Town of Jackson:	Tyler Sinclair, Bob Lenz, Town Councilman
Teton County:	Brian Schilling, Sean O'Malley, Gordon Gray
START Bus:	Michael Wackerly
Friends of Pathways:	Mike Welch
NW:	
USFS:	Darin Martins
GTNP:	Chris Finlay and Gary Pollock
Jackson Hole Airport:	Craig Logan
Jacobs:	Chris Primus, Jim Clarke, Keith Borsheim, Sandy Beazley
Others:	David Gustason, Gary Pollis, Melissa Wittstruck, Pete Jorgensen Tim Young,

Copies: Attendees, File

Summary of Discussion:

1. Introductions were made.

2. Jim described the agenda for the meeting.

3. Chris reminded the group of the previous discussion of the number of lanes for each segment, and resulting recommendations. The median treatment was then discussed for each of the segments. Options are undivided, painted, raised divided, or depressed divided. The segments that are designated as two-lane are naturally undivided, as they are today. General discussion included the recognition of the importance of conducting the upcoming County Integrated Transportation Plan. The traffic LOS is an important

consideration per adopted standards; and that it was important to be realistic about needs. The group at least briefly discussed and suggested a preference for each segment:

a. Segment 1 (4-lanes): Raised or depressed preferred. Turning lanes as appropriate. A resident of Skyline suggested that a protected left is needed at the Teton Science School.

b. Segment 2 (2 or 4 lanes to be determined) Undivided if 2 lanes. Turning lanes as appropriate. Entry to Wilson is a consideration. If 4 lane, depressed median consistent with segment 1.

c. Segment 3 (2 lanes): Raised divided per the Wilson charette.

d. Segment 4 (2 lanes): Undivided.

e. Segment 5 (2 or 4 lanes to be determined): This discussion was deferred until later in the meeting, as access is an issue in this segment.

f. Segment 6 (2 lanes): Undivided.

4. Chris then described that each segment contain minor intersections. The options for the type of intersection includes stop-controlled, signalized, or roundabouts. After some discussion, traffic signals are not necessarily favored. All options should remain under consideration. Skyline, Indian Springs, Science school, access should be combined and a frontage road considered. Stop signs or roundabouts generally recommended. It was noted that lower speeds will be the outcome of signals or roundabouts. If a roundabout is the choice, implies need for roundabouts along rest of segment.

5. Access along the segments could consist of some right-in, right-out (RIRO) movements. Left and right turn lanes would be placed as appropriate, no matter the median treatment.

6. Segment 5 was discussed in detail as the amount of access along the roadway is much higher than elsewhere. Keith described frontage roads and other options to improve access control along this segment. He described the type of access control leads to median preferences and minor intersection types. The discussion included:

a. Roundabout has some advantages, including reducing speeds - wildlife may benefit. RIRO not needed all times of day, but makes system function at peak times.

b. Spacing of roundabouts needs to be analyzed; other u-turn points can be introduced.

c. No jersey barrier! But RIRO would be acceptable.

d. In general, it was suggested that a divided median with 5 or 6 roundabouts or turn locations along segment might be appropriate; roundabouts at the locations with higher side road traffic.

7. Sandy described the study activities regarding wildlife considerations. Some locations have been identified for possible crossing facilities; other treatments should also be considered as projects move forward This study would not eliminate any wildlife conflict mitigation measures for future consideration; everything remains 'on the table'.

8. Keith described the Friends of Pathways plans for bicycle improvements along the corridor. These would be accommodated by the future roadway improvement projects.

9. Based on the alternatives development and screening recommendations vetted with the TAC, the Study team will hold a public meeting open house in June.

Action items:

i. Jacobs to update the study website.

ii. Jacobs to develop the open house meeting displays and send to the TAC for review..

22/390 Corridor Study

Technical Advisory Committee
Project Briefing Agenda
May 10, 2013
8:30

1. Introductions (5 min)

2. Today's PEL Agenda (5 min)

3. Level 2 Median Treatments (20 min)
    a. Segments 1,2,3,4,6

4. Level 2 Minor Intersections (20 min)
    a. Segments 1,2,3,4,6

5. Segment 5 Median Treatments, Minor Intersections, and Access Control (25 min)

6. Wildlife Considerations (5 min)

7. Bicycle and Pedestrian (5 min)

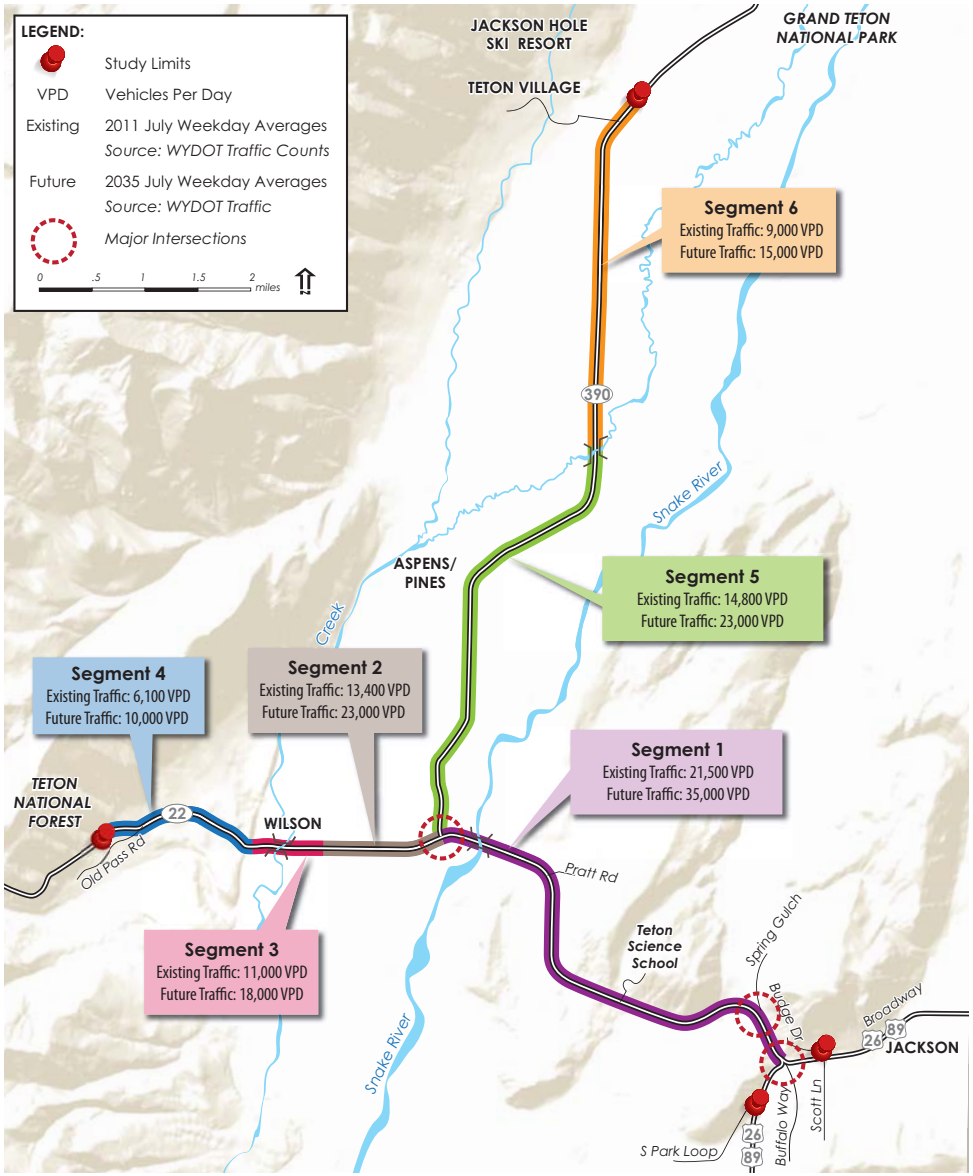
8. Next Steps (5 min)
    a. Action Items
    b. Identify Public Meeting Date

22/390 Corridor Study

DRAFT Level 2C

Alternatives Development and Screening
Median Treatments and
Minor Intersections

Review: How Many Lanes?



Segment 1: WYO 22 – Jackson to WYO 390

4-lanes are recommended. Continuous center left turn lane may be necessary in some parts of the segment.

Segment 2: WYO 22 –WYO 390 to Wilson

2-lanes or 4-lanes are recommended. Continue to monitor traffic in the years before an individual project proceeds to add lanes; a trigger could be established. Turn lanes as appropriate. .

Segment 3: WYO 22 – within Wilson

2-lanes are recommended. Center turn lanes as appropriate; cross-section will reference Wilson charrette with designs to meet WYDOT standards.

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

2-lanes are recommended. Turn lanes as appropriate; consider chain pullout area between Wilson and Teton Pass closure gate.

Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

2-lanes or 4-lanes are recommended. Continue to monitor traffic in the years before an individual project proceeds to add lanes. Access management strategies will need to be considered.

Segment 6: WYO 390 –Lake Creek Bridge to GTNP

2-lanes are recommended.

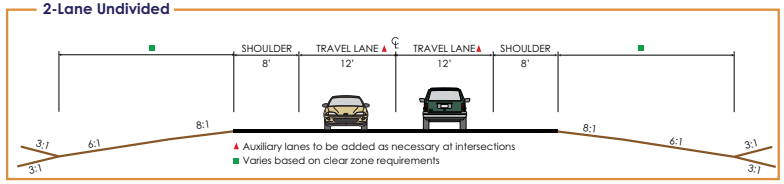
What Median Treatment?

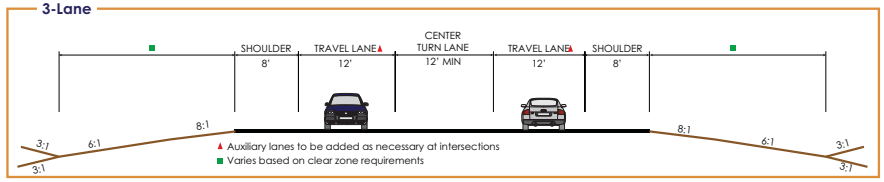
Screening Details

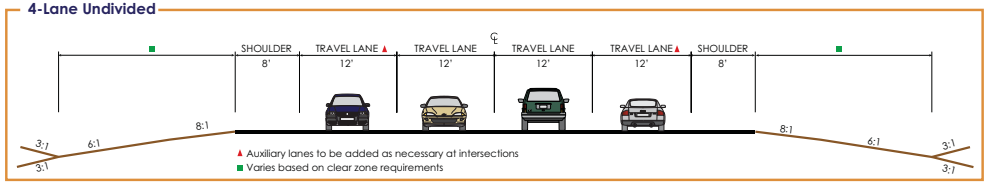
Distinguishing Criteria	Undivided	Painted	Raised	Depressed
Travel Demand	Lower capacity than divided	Higher capacity than undivided	Higher capacity than undivided	Higher capacity than undivided
Access	Poor ability to control access	Better than undivided but worse than raised and depressed	Good access control	Good access control
Resiliency in times of traffic disruptions	Poor ability to respond to traffic disruptions	Good ability to respond to traffic disruption	Fair ability to respond to traffic disruption	Fair ability to respond to traffic disruption
Bicycle and pedestrian crossing	Poor	Fair	Good	Good
Vehicle safety	Worst expected safety performance	Fair expected safety performance	Good expected safety performance	Good expected safety performance
Wildlife safety	Fair	Poor	Poor	Poor
	Does not preclude wildlife crossing mitigation recommendations from previous studies*			
Potential to avoid impacts to environmental resources	Good	Fair	Fair	Poor
Potential to avoid impacts to setting and character	Fair	Poor	Fair	Good
Potential to avoid right-of-way impacts	Good	Fair	Fair	Poor

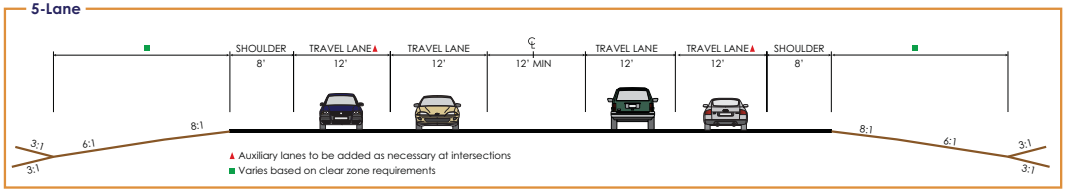
* *Highway mitigation opportunities for wildlife in Jackson Hole (WTI 2011) and Final Report Jackson Hole Roadway and Wildlife Crossing Study (Biota 2003)*

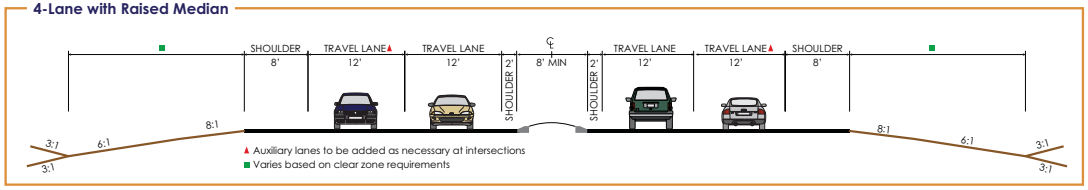
What Median Treatment?

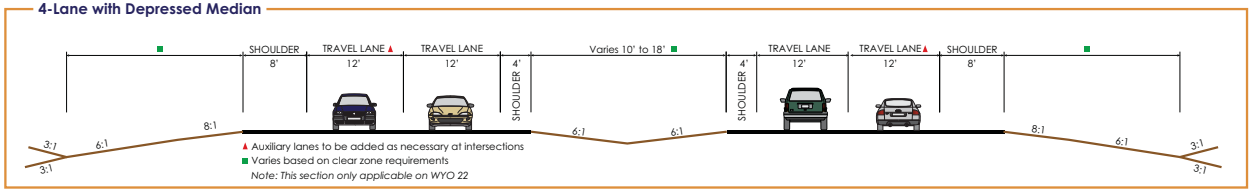


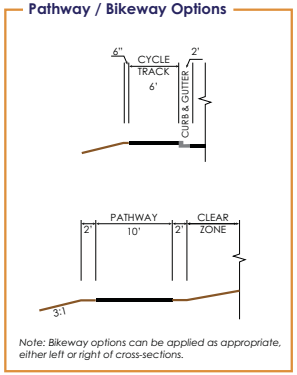








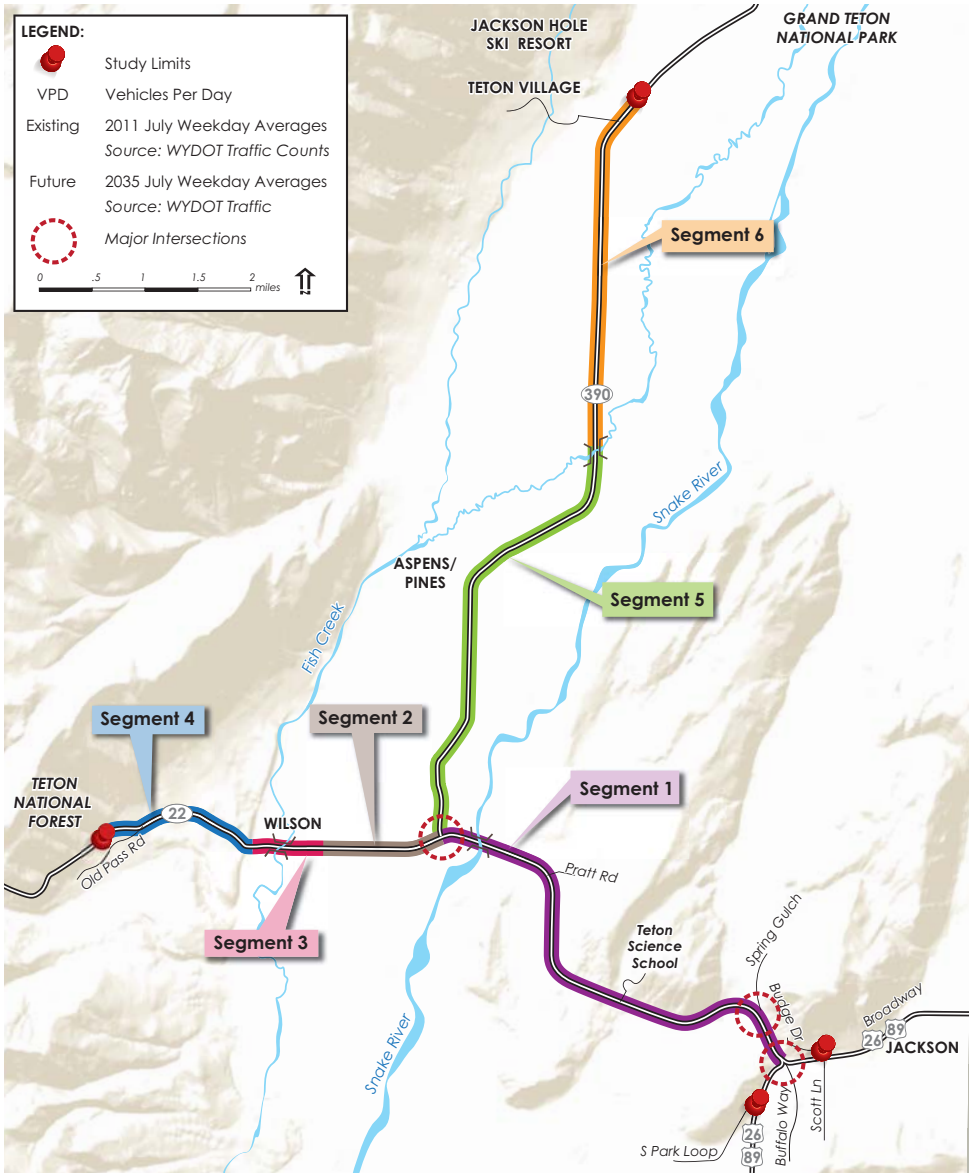




Cross-sections are not final; depicted lane widths reflect WyDOT design standards.

DRAFT
Conceptual
Schematics
Not to Scale

Discussion: What Median Treatment?



Segment 1: WYO 22 – Jackson to WYO 390

Raised or depressed median appropriate for future consideration. Turning lanes as needed.

Segment 2: WYO 22 – WYO 390 to Wilson

If 2-lane, Undivided - no median.
If 4 lane, raised or depressed median consistent with segment 1.
Turning lanes as needed.

Segment 3: WYO 22 – within Wilson

Raised divided median. (per Wilson charette). Turning lanes as needed.

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

Undivided - no median. (appropriate for 2-lane roadway). Turning lanes as needed.

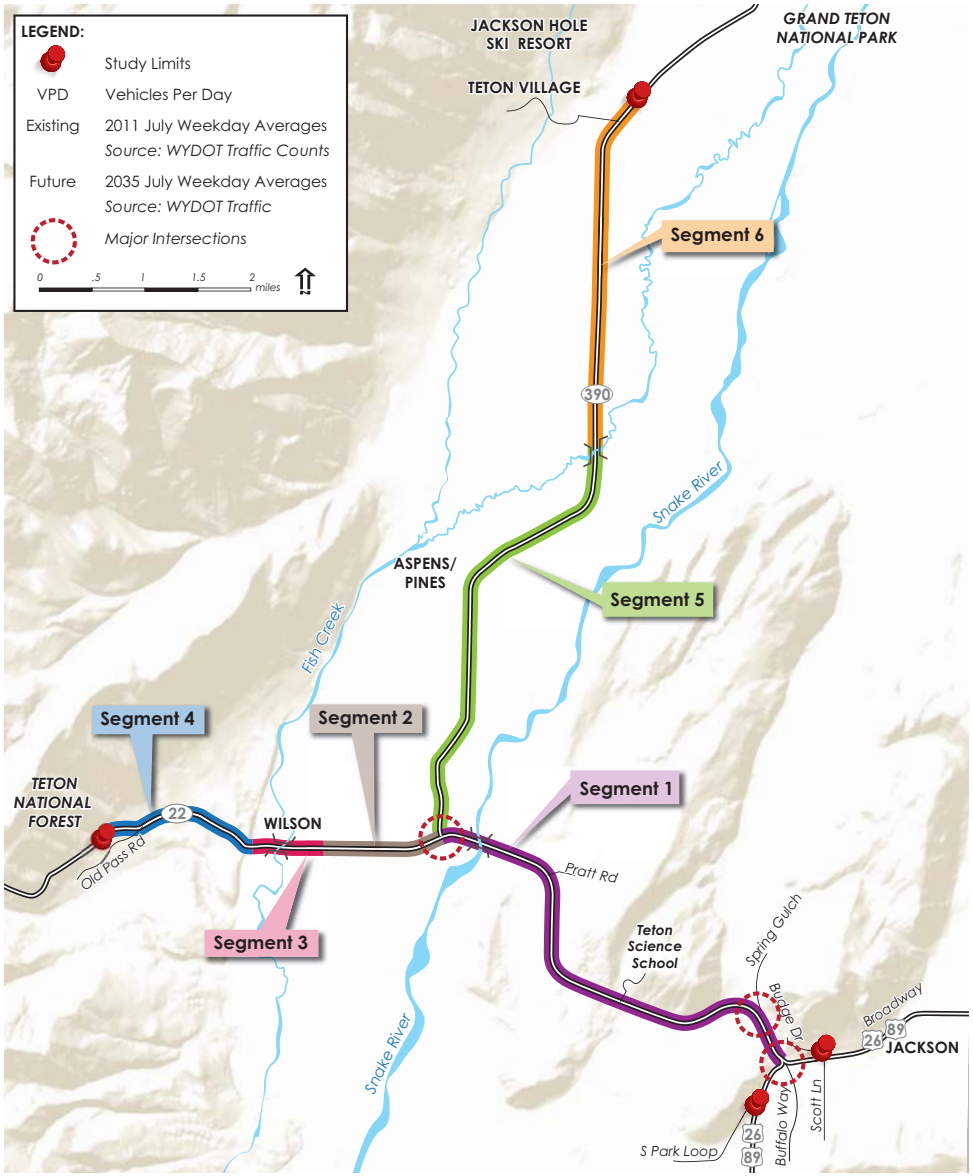
Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

Divided median types under consideration - see separate panel

Segment 6: WYO 390 – Lake Creek Bridge to GTNP

Undivided - no median. (appropriate for 2-lane roadway). Turning lanes as needed.

Minor Intersections



Segment 1: WYO 22 – Jackson to WYO 390

1. Coyote Canyon Road (Teton Science School)
2. Skyline Ranch Road
3. Pratt Road

Segment 2: WYO 22 – WYO 390 to Wilson

1. Green Lane
2. Wenzel Lane
3. H-H-R Ranch Road

Segment 3: WYO 22 – within Wilson

1. Fall Creek Road

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

1. Old Pass Road

Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

1. Nethercott Lane
2. Teton Pines Drive
3. Clubhouse Drive
4. Lake Creek Drive
5. John Dodge Road

Segment 6: WYO 390 – Lake Creek Bridge to GTNP

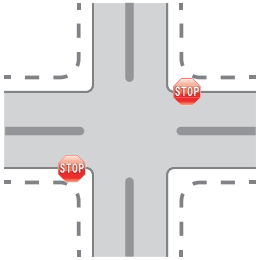
1. Teton Village Road

Minor Intersection Types

Signalized Intersection

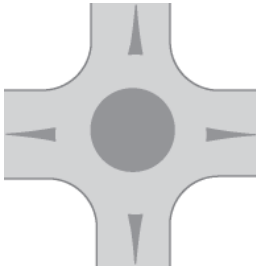
+ Allows protected pedestrian movements
+ High familiarity to motorists
+ Accommodates unbalanced approach volumes
+ Relatively small footprint
+ Lower construction cost
– Can have high amounts of stopped time and delay (congestion)
– Higher potential for severe accidents

Stop Sign Control



+ Appropriate for most low volumes intersections
+ Low cost
+ Can be combined with turn lanes on highway
– Can have high amounts of delay from minor road
– Least safe option

Roundabout



+ Suitable for relatively balanced approach volumes
+ Safer for vehicular travel relative to other intersection types
+ Can result in less delay and emissions than other intersection types depending on traffic patterns
+ Can accommodate aesthetic treatments
+ Lower injury and fatality rates
– Although gaining in use, still less familiar to motorists than signalized intersection
– Larger footprint than signalized intersection
– Less suitable for high volume/multilane approaches
– Less intuitive for pedestrians/bicycle lists than other intersection types

Discussion: Minor Intersection Types

Segments	1	2	3	4	5	6
Stop Control	✔ ☐	✔ ☐	✔ ☐	✔ ☐		✔ ☐
Traffic Signal	✔ ☐	☐ ☐	☐ ☐	☐ ☐		☐ ☐
Roundabout	✔ ☐	✔ ☐	✔ ☐	✔ ☐		✔ ☐

As future projects are developed these options will be further refined and considered for inclusion, as will any new ideas resulting from further study and public and stakeholder input.

Segment 1: WYO 22 – Jackson to WYO 390

Signalizing not necessarily favored. All options should remain under consideration. Skyline, Indian Springs, Science school, should be a combined subset - frontage road considered. Stop signs or roundabouts generally recommended.

Segment 2: WYO 22 – WYO 390 to Wilson

Segment 3: WYO 22 – within Wilson

Segment 4: WYO 22 – Wilson to Teton Nat'l Forest

Segment 5: WYO 390 – WYO 22 to Lake Creek Bridge

Defer Discussion

Segment 6: WYO 390 – Lake Creek Bridge to GTNP

Access Options

Segments 1, 2, 3, 4, 6

Access improvements for these segments would be provided by turn lanes as appropriate. Driveways and accesses are not spaced closely enough to merit frontage roads or other access consolidations.

Some driveways would not merit a break in median for a left turn lane; motorists would turn around at the next available location. These decisions would be part of subsequent studies.

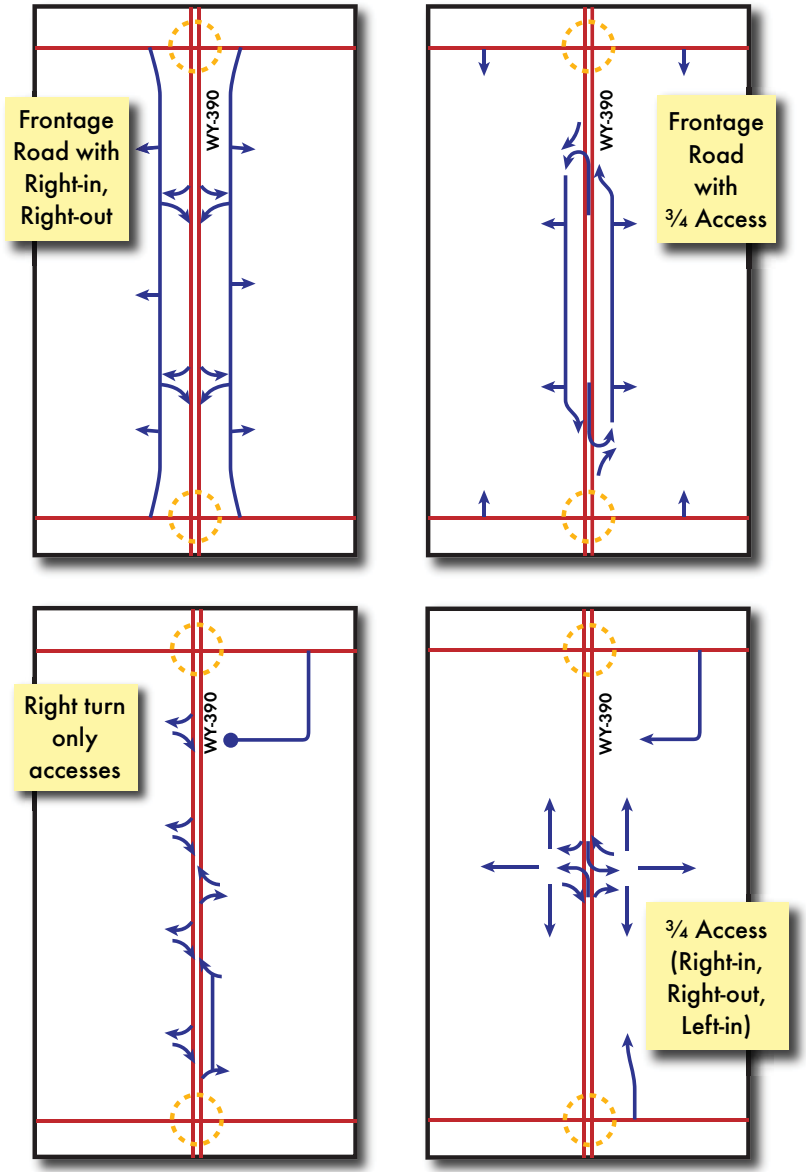
Segments	1	2	3	4	6
Frontage Roads	✗	✗	✗	✗	✗
Right-in, Right-out ¾ turns	✓	✓	✓	✗	✗
Traffic Metering	✗	✗	✗	✗	✗
Auxiliary and Turn Lanes	✓	✓	✓	✓	✓

As future projects are developed these options will be further refined and considered for inclusion, as will any new ideas resulting from further study and public and stakeholder input.

Discussion

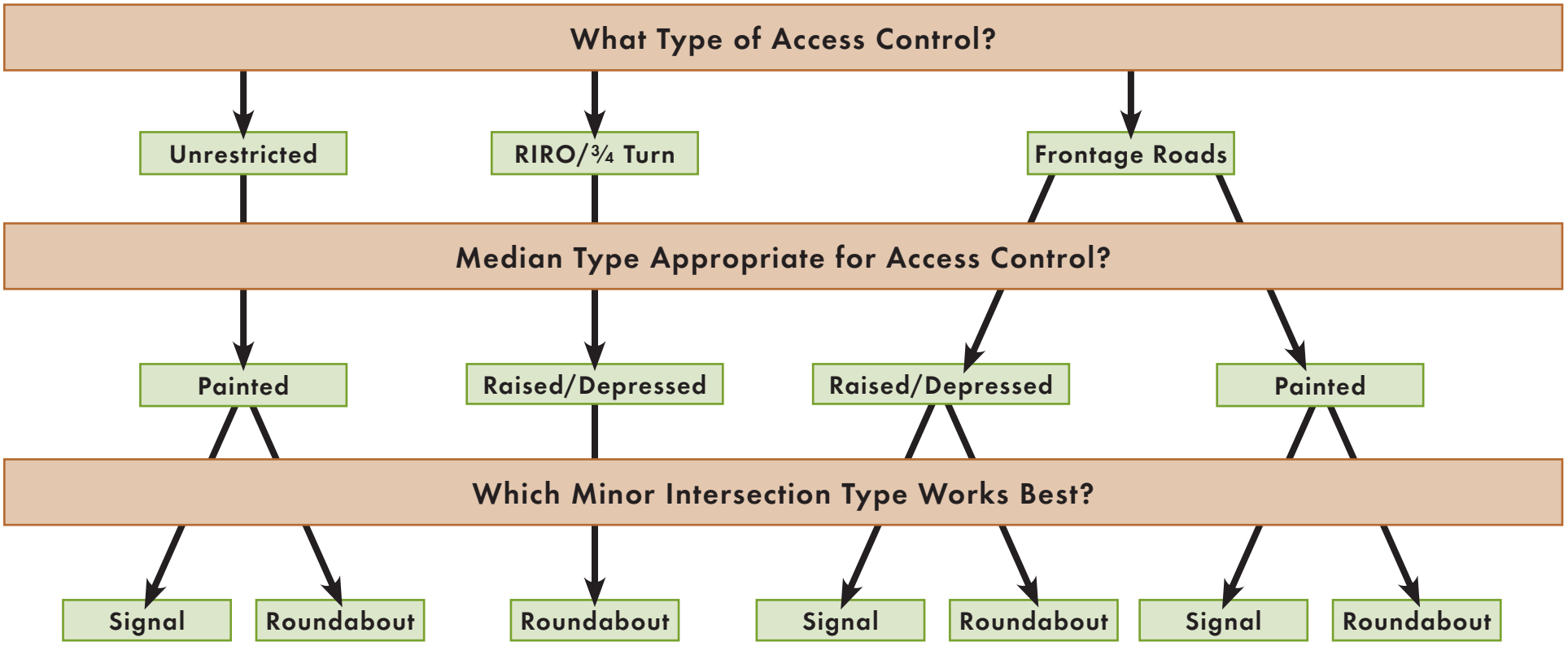
Note lower speeds will be outcome of signals or roundabouts. If roundabout is the choice, implies need for roundabouts along rest of segment.

Segment 5: Access Pros and Cons

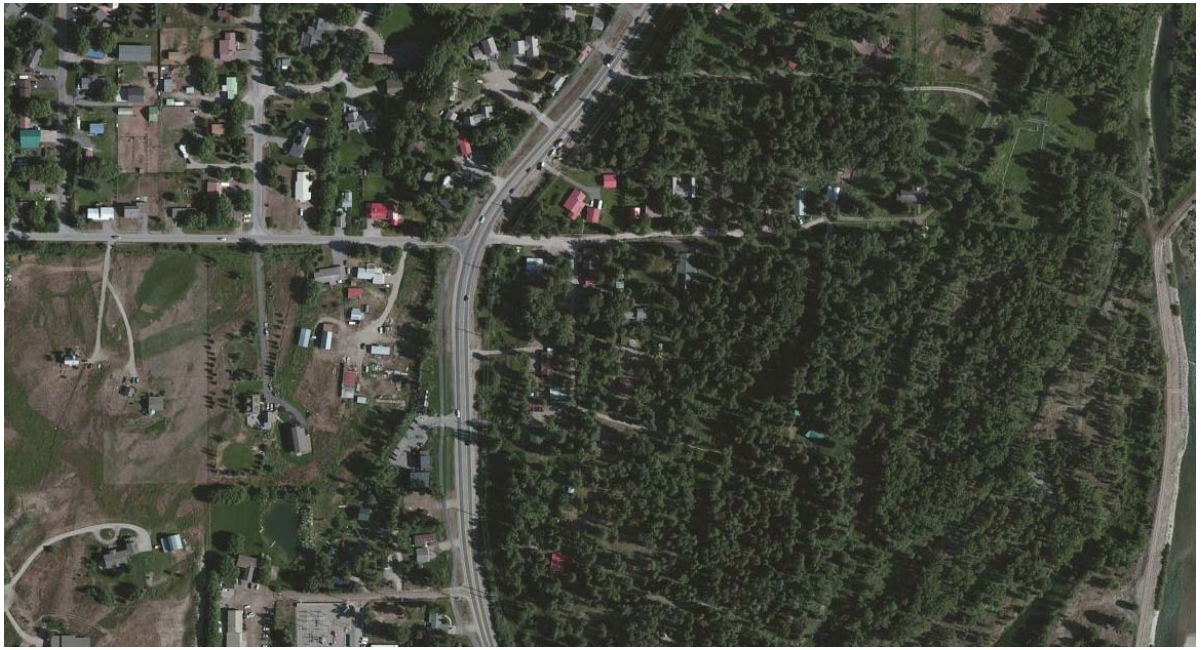


Option	Observations
Frontage Roads	+ Improved safety + Two-lane highway capacity increased + Can be combined with limited movement intersections (right-in-right-out or 3/4 access) to further improve safety and operations + Access Consolidation – ROW – Increased speeds on highway – Aesthetics – Closely spaced intersections along minor roads, can be confusing for unfamiliar motorists
Right In Right Out (RIRO) / ¾ Turn	+ Improved safety + Two-lane highway capacity increased + Can be combined with frontage roads to further improve safety and operations + ¾ turn movements provide more direct access to properties than frontage roads – Increased speeds on highway – Out-of-direction travel – Can be confusing to unfamiliar motorists – U-turns can be a safety concern
Traffic Metering	+ Improves access operations by providing gaps for traffic in and out of driveways – Increased delay for through traffic on the major route – Additional signal can be a safety concern – Additional capital and maintenance costs
Auxiliary and Turn Lanes	+ Improved safety and operations – Increased impacts and cost

Segment 5: Access / Median / Minor Intersection Decisions



Discussion: Segment 5



Segment 5

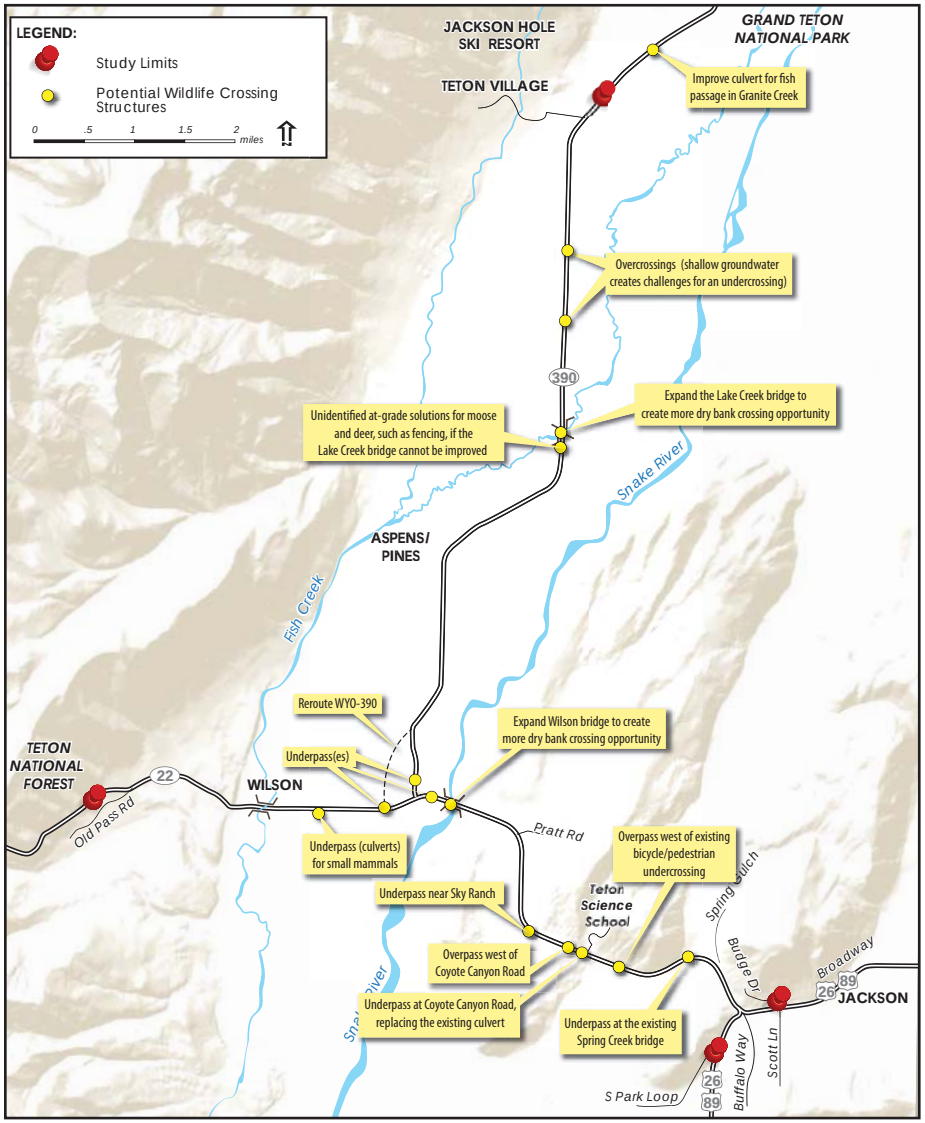
Roundabouts at minor intersection locations appropriate for future consideration.

Other u-turn points for consideration as needed.

Divided median with Right-in, Right-out accesses appropriate for future consideration.

Wildlife Considerations

Potential Wildlife Crossing Structures



PEL Activities:

- Input from general public, stakeholders, and local and state agencies
- Wildlife specific field trip with advocacy groups
- Review of existing studies

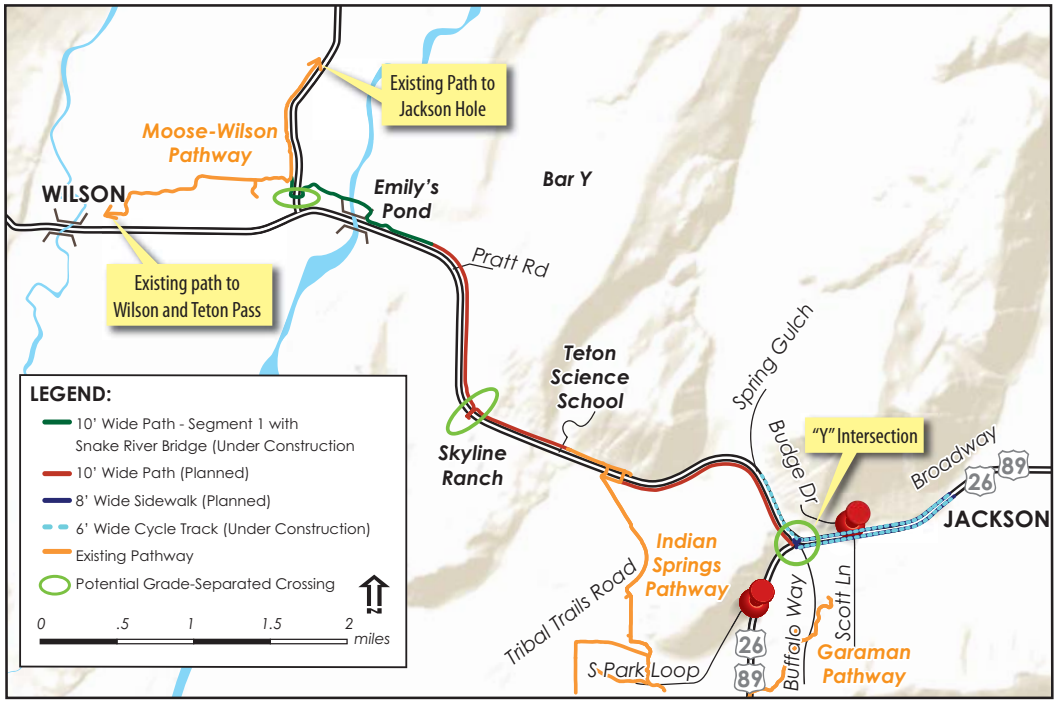
Considerations beyond crossing structures:

- Fencing
- Signage
- Rumble strips
- Seasonal speed reductions
- Automated speed detectors
- Vegetation management

As future projects are developed these options will be further refined and considered for inclusion, as will any new ideas resulting from innovations regarding reductions in wildlife and roadway conflicts.

Bicycle and Pedestrian Facilities

Existing & Planned Bicycle and Pedestrian Facilities



PEL Activities:

- Input from general public, stakeholders, and local and state agencies
- Review of existing studies and plans

Incorporate into Corridor Vision:

- Path 22 Plan
- Minimize the need to re-build existing and under-construction infrastructure
  - Jackson Hole Community Pathway System:
    - Along WY 390 (existing)
    - Along WY 22 in Wilson and west of Wilson (existing)
    - Along WY 22 between town and Spring Gulch Road (cycle track, under construction)
    - Snake River Bridge segment, including WY 390 underpass (under construction)
- Consideration to be given to grade-separated or activated signal crossings at the three major intersections in the study area

As future projects are developed these options will be further refined and considered for inclusion, as will any new ideas resulting from further study and public and stakeholder input.

Public Meeting Discussion

Date

Location

Cooperating Agency MOU

MEMORANDUM OF UNDERSTANDING

BETWEEN

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

BY AND THROUGH THE WYOMING FHWA DIVISION

AND

STATE OF WYOMING

BY AND THROUGH THE WYOMING DEPARTMENT OF TRANSPORTATION

AND

TETON COUNTY

BY AND THROUGH THE TETON COUNTY BOARD OF COUNTY COMMISSIONERS

AND

TOWN OF JACKSON

BY AND THROUGH THE TOWN COUNCIL

REGARDING

PREPARATION OF THE PLANNING & ENVIRONMENTAL LINKAGE STUDY

FOR

WYO 22 (JACKSON – WILSON) AND WYO 390 (TETON VILLAGE ROAD)

MEMORANDUM OF UNDERSTANDING
BETWEEN
Federal Highway Administration, Wyoming Division
And
Wyoming Department of Transportation
And
Teton County, Wyoming
And
Town of Jackson, Wyoming

1. Parties to and Purpose of the Agreement

This Memorandum of Understanding (MOU) is entered into by the United States Department of Transportation, Federal Highway Administration (by and through the Administrator for the Wyoming Division), the Wyoming Departments of Transportation (by and through the District Engineer for the Wyoming Highway Commission), Teton County, Wyoming (by and through the Chair for the Board of County Commissioners of Teton County) and Town of Jackson (by and through the Mayor for the Town Council). This agreement defines the roles and responsibilities of the Federal Highway Administration, Wyoming Division Office (FHWA), the Wyoming Department of Transportation (WYDOT), Teton County and the Town of Jackson for the preparation of the subject planning and environmental linkage study.

2. Background

FHWA along with WYDOT intends to produce a Planning and Environmental Linkage Study (PEL) for Wyoming State Highway 22 from the town of Jackson (milepost 0.00) to and through Wilson (milepost 7.0) and Wyoming State Highway 390 from its intersection with Highway 22 (milepost 00) to the Grand Teton National Park boundary (milepost 6.77). PEL is an approach to transportation decision making that considers environmental and community goals early in the planning process and carries these through to project development. The goal of the PEL study is to provide a corridor vision and to develop a Purpose and Need Statement along with alternative developments for solutions to the transportation issues facing these highway corridors. The PEL study will serve as the basis for environmental documents as individual projects move forward. The expenditure of Federal Highway funds is anticipated for any projects that advance forward and the appropriate level of environmental analysis and documentation will be prepared. [1] Both of these sections of highway are within Teton County, Wyoming. The eastern terminus of WYO 22 is within the Town of Jackson, Wyoming. The eastern terminus of the WYO 22 study corridor includes the intersection of WYO 22 and US 26/89/191, including the segment of US 26/89/191 from South Park Loop Road to Scott Lane.

Consistent with the National Environmental Policy Act (NEPA) of 1969, U.S.C. 4321 et. Seq., as amended, and pursuant to the Code of Federal Regulations, 40 CFR 1501.6 and 1508.5, State and local governments

[1] The environment is defined as including both natural and physical characteristics. More specifically, the environment incorporates air, water, land, ecology, sound, human, economic, and resource attributes. It is the policy of the Federal Highway Administration that alternative courses of action be evaluated and decisions be made in the best overall public interest based upon a balanced consideration of the need for safe and efficient transportation; of the social, economic, and environmental impacts of the proposed transportation improvement; and of national, State and local environmental protection goals. (23CFR § 771.105)

may participate in the development of environmental documents for projects in which or where they have jurisdiction by law or special expertise. The FHWA and WYDOT invited Teton County and the Town of Jackson to be Cooperating Agencies in the preparation of the planning and environmental linkage study for the subject corridor in letters dated July 6, 2012. Teton County and the Town of Jackson accepted the role of Cooperating Agencies by resolution at the August 6, 2012 Joint Information Meeting.

3. Terms of the MOU

This MOU shall commence upon the day and date last signed and executed by the duly authorized representative of the Parties to the MOU, and shall remain in full force and effect until terminated. This MOU may be terminated, without cause, by any Party upon thirty (30) days written notice, which shall be delivered by hand or certified mail.

4. Roles

FHWA administers Federal Highway Funding to WYDOT for the subject road sections. FHWA is the lead agency for implementing the National Environmental Policy Act for federal aid highway projects.

WYDOT is responsible for the planning, design, construction and maintenance of the subject highway sections. As applicant for federal-aid highway funds, WYDOT is responsible for the actual preparation of planning and environmental documents. Although WYDOT will consult with numerous agencies and the public, and will give additional due consideration to Cooperating Agencies, the final decisions on the state highway system remain the responsibility of WYDOT.

Teton County has the authority for regulation of land use within Teton County and the construction, operation and maintenance of the county road system, all of which affect transportation needs and demands on the subject state highway sections. FHWA and WYDOT recognize the County's responsibility to represent local interests and its knowledge of specific local concerns and issues. These concerns and issues are highlighted in the Jackson/Teton County Comprehensive Plan, and include but are not limited to long-term growth and development objectives in terms of community vision; population, economy and growth; community character; natural and scenic resources; affordable housing; commercial and resort development; community facilities; transportation; intergovernmental coordination; and agricultural resources.

The Town of Jackson has the authority for regulation of land use within the Town limits and the construction, operation and maintenance of the town road system, all of which affect transportation needs and demands on the subject state highway sections. FHWA and WYDOT recognize the Town's responsibility to represent the townspeople's interests and its knowledge of specific town concerns and issues

5. Responsibilities of Teton County, WYDOT and FHWA

Each party to this Agreement recognizes its commitment to making resources available to meet project schedules, directing those resources to the timely development of the PEL, seeking consensus throughout the project, and accepting ownership of project decisions.

Specifically, each Party will:

- Commit and fund staff time to meet schedules and complete activities identified in this Agreement.
- Commit to the early and comprehensive identification of issues.
- Share available information necessary to identify and resolve issues.
- Work with other Parties to this MOU to seek consensus on issues and decisions.
- Adopt and clearly communicate project decisions.

6. Responsibilities of FHWA/WYDOT

- Jointly identify with the Town and County the members of the Work Group.
- Provide meeting agendas, materials and data sufficiently in advance of meetings so that the Town and County have adequate time to prepare comments, questions, analysis and input.
- Consult with the Town and County prior to major milestones and seek consensus at these points.
- Invite the Town and County to participate in scoping and coordination.
- Consult with the Town and County and determine if the Town and County should perform a portion of the PEL (such as identifying existing and proposed land uses, employment, and permanent and visitor population).
- Share with the Town and County the project information necessary to implement this Memorandum as it becomes available.

7. Responsibilities of Teton County and Responsibilities of Town of Jackson

- Designate a person to serve as Cooperating Agency representative.
- Jointly identify with FHWA/WYDOT interest groups and membership of the Work Group.
- Provide meaningful and early input on issues of concern, as defined in paragraph 4 above.
- Consult with the FHWA/WYDOT prior to major milestones and seek agreement at these points.
- Assist in identifying environmental issues of concern including aspects of the human environment.
- Participate in coordination meetings, joint field reviews and public involvement activities.
- Assist in identifying issues that require further study.
- Assist in preparing, reviewing and analyzing portions of the document(s) where the local agency has identified expertise.
- Review administrative drafts of PEL documents and provide comment to WYDOT in a timely manner that reflects the views and concerns of the local agency.
- Work toward resolving issues to support scheduling and critical milestones.

The Transportation Technical Committee will function to fulfill the responsibilities of Teton County and Town of Jackson.

8. Major Milestones Where Consensus Will be Sought by the Signatories

- Public involvement plan and activities (including goals and objectives, timing, materials, format, incorporation of results and comments into subsequent documents).
- Corridor vision.
- Purpose and need statement.

- Alternatives to address transportation needs consistent with corridor vision and purpose and need statement.

9. Process for Seeking Consensus

All Parties to this MOU recognize the mutual benefits to be gained from the cooperative interagency relationship described in this Agreement. As such, all Parties shall endeavor to seek consensus throughout the development of the PEL. If desired, and agreed upon by all Parties, facilitation assistance may be sought in order to resolve disagreements that may arise. If satisfactory consensus cannot be achieved, the Parties to this MOU shall jointly document the nature of the disagreement and the outcome of the attempted resolution. This documentation shall be incorporated into the PEL.

10. Payment

During the course of the project, should it become necessary for one Party to purchase from or make payment or reimbursement to another Party to this MOU, such arrangements will be covered in a separate document.

11. Amendments

Any Party may request changes to this MOU. Any changes, modifications, revisions, or amendments to this MOU, which are mutually agreed upon by and between all Parties to this MOU, shall be incorporated by written instrument, executed and signed by all Parties to this MOU and are effective in accordance with the terms of paragraph 3 above.

12. Contacts

The principal contacts for carrying out the provisions of this MOU are:

Federal Highway Administration
Randy Strang, Environmental Program Engineer
1916 Evans Avenue
Cheyenne, Wyoming 82001-3716
307/771-2949
Randy.Strang@dot.gov

Wyoming Department of Transportation
Kevin Powell, Principal Environmental Manager
5300 Bishop Boulevard
Cheyenne, WY 82009-3340
Phone 307-777-3997
Kevin.Powell@wyo.gov

Teton County
Paula K. Stevens, Associate Director, Teton County Planning & Development
P.O. Box 1727
Jackson, Wyoming 83001-1727
307/733-3959 Ext. 420
pstevens@tetonwyo.org

Town of Jackson
Tyler Sinclair, Planning Director
P.O. Box 1687
Jackson, Wyoming 83001
307/733-0440
tsinclair@ci.jackson.wy.us

13. Signatures

In witness whereof, the Parties to this MOU through their duly authorized representatives have executed this MOU on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU as set forth herein. The effective date of this MOU is the date of the signature last affixed to this page.

Federal Highway Administration, by and through

Joe Dailey, Division Administrator — Date: 10/25/12

Wyoming Department of Transportation, by and through

John Eddins, District Engineer — Date: 10-19-12.

Teton County, by and through

Ben Ellis
Chair, Teton County Commission — Date: 9/25/12

STATE OF WYOMING COUNTY CLERK TETON COUNTY

ATTEST: Sherry L. Daigle
Teton County Clerk

Town of Jackson, by and through

Mark Barron, Mayor — Date: 10/1/12

ATTEST: THE TOWN OF JACKSON INCORPORATED 1914 TETON COUNTY, WYOMING

ATTORNEY GENERAL'S OFFICE APPROVAL AS TO FORM

Douglas Moench, Senior Assistant Attorney General — Date: 8/29/2012

Scoping Letter and the List of Recipients

Dave Freudenthal
Governor

Wyoming
Department of Transportation

"Providing a safe, high quality, and efficient transportation system"

5300 Bishop Boulevard
Cheyenne, Wyoming 82009-3340

John F. Cox
Director

September 11, 2012

<first_name> <last_name>
<company>
<address_1>
<address_2>
<city>, <state> <zip>

Re: 22/390 Planning and Environmental Linkages Study for WYO-22 and WYO-390, Agency Scoping

Dear <title> <last_name>:

The Wyoming Department of Transportation (WYDOT) with the Federal Highway Administration (FHWA), in cooperation with the Town of Jackson and Teton County, are initiating a Planning and Environmental Linkages (PEL) study for Wyoming State Highway 22 and Wyoming State Highway 390 in Teton County. The study limits extend on US 89 between Scott Lane and South Park Loop Road, WYO-22 between Jackson (near milepost 0.00) and west of Wilson (milepost 7.0), and on WYO-390 from its intersection with WYO-22 (milepost 0.00) to the Grand Teton National Park boundary (milepost 6.77). Please see the attached map.

The purpose of the PEL, which considers environmental and community goals in the planning process, is to develop a corridor vision, a Purpose and Need statement, and preliminary alternatives for solutions to the transportation challenges in this corridor. The PEL will serve as the initial basis for environmental documents as individual projects in the corridor are planned and constructed.

Further study information can be obtained at:http://www.22-390corridorstudy.com

The purpose of this letter is to provide you early notification of the proposed project. In addition, WYDOT is soliciting your input concerning this project. As such, I am writing to request a scoping letter from your agency describing any environmental resources or issues of concern in the vicinity of the project that you believe need to be addressed.

I would appreciate a written letter of response to this request by September 28, 2012, if possible. Please send the letter to the following address:

Mr. Timothy L. Stark
Wyoming Department of Transportation
5300 Bishop Boulevard
Cheyenne, Wyoming 82009-3340

Please contact me at (307) 777-4379 or timothy.stark@dot.state.wy.us with any questions or comments regarding this request.

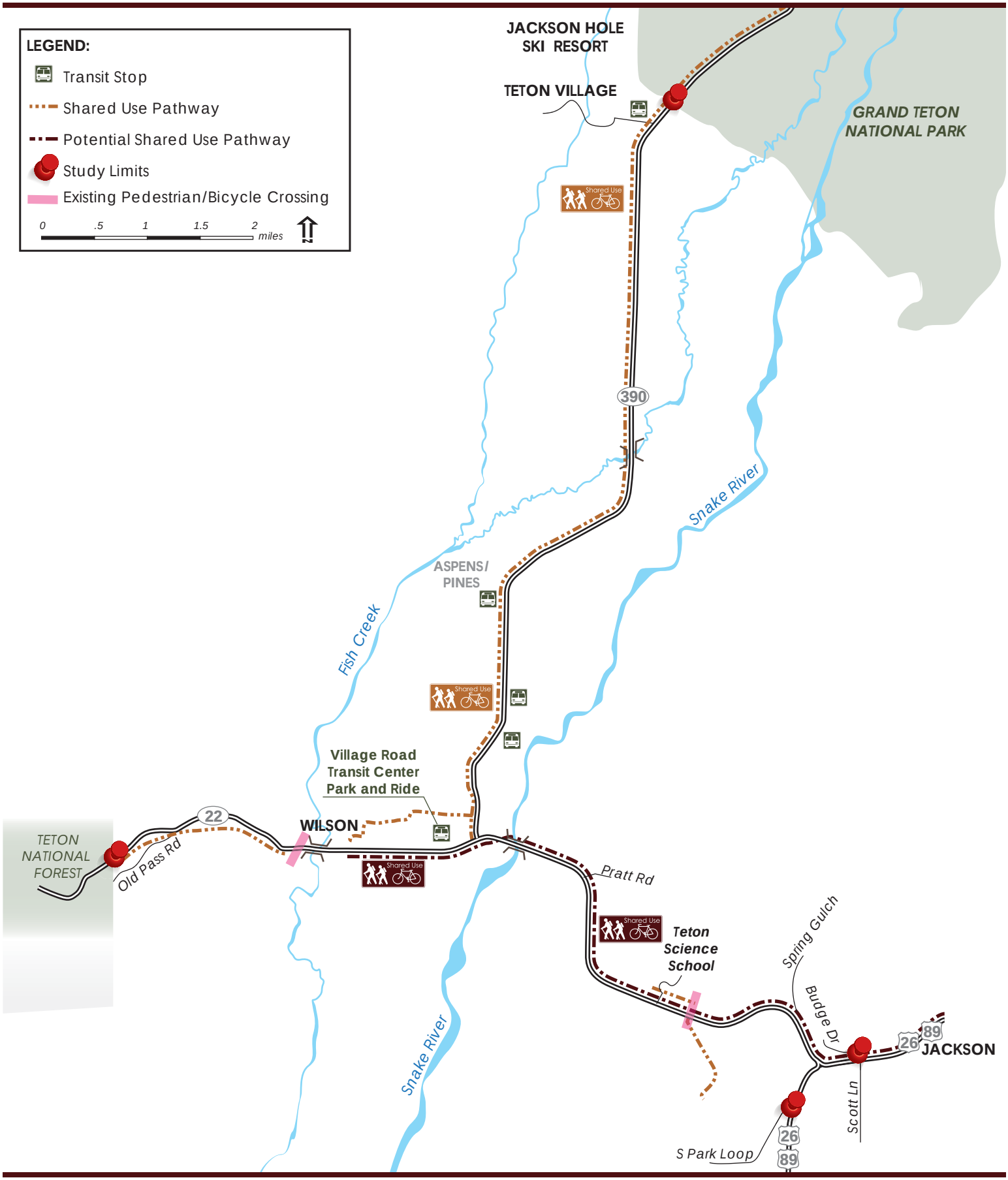
Sincerely,

Timothy L. Stark
Environmental Services Engineer

Cc: Randy Strang, FHWA
Attachments

22/390 Corridor Study

Project Location Map



Scoping Letter Distribution List

Randy Williams		Teton County Conservation District	P.O. Box 1070	Jackson, WY 83001	randy@tetonconservation.org	
Shane DeForest		BLM	P.O Box 768	Pinedale, WY 82941	sdefores@blm.gov	
Casey Sheley	State Resource Conservationist	NRCS	P.O. Box 33124	Casper, Wy 82602	casey.sheley@wy.usda.gov	
Jacque Buchanan		Bridger-Teton National Forest	PO Box 1888	Jackson, WY 83001	jabuchanan@fs.fed.us	
Darin Martens	Project Liason	Bridger-Teton National Forest	PO Box 1888	Jackson, WY 83001	darinmartens@fs.fed.us	
Dale Deiter	District Ranger	Bridger-Teton National Forest	PO Box 1689	Jackson, WY 83001	ddeiter@fs.fed.us	
Gary Pollock	Management Assistant	Grand Teton Nationl Park	PO Drawer 170	Moose, WY 83012	gary_pollock@nps.gov	
Ruth Ann Petroff		Representative	PO Box 2764	Jackson, WY 83001	rpetroff@wyoming.com	307-690-3392
Keith Gingery		Representative	1175 Brangus Drive	Jackson, WY 83001	kgingery@wyoming.com	307-734-5624
Brian T. Kelly	Field Supervisor	U.S. Fish and Wildlife Service	5353 Yellowstone Road, Ste 308	Cheyenne, WY 82009	brian_t_kelly@fws.gov	208-378-5243
Matthew Bilodeau	Program Director	U.S. Army Corps of Engineers, Omaha District	2232 Dell Range Blvd., Suite 210	Cheyenne, WY 82009	Matthew.A.Bilodeau@usace.army.mil	
Paige Wolken	Project Manager	U.S. Army Corps of Engineers	2232 Dell Range Blvd., Suite 210	Cheyenne, WY 82009	Paige Wolken@usace.army.mil	
Carol Anderson	NEPA Compliance and Review Program	U.S. Environmental Protection Agency Region 8	1595 Wynkoop St.	Denver, CO 80202	Anderson.Carol@epa.gov	303-312-6058
John Corra	Director	Wyoming Dept. of Environmental Quality	122 W. 25th Street, Herschler Bldg.	Cheyenne, WY 82002	John.Corra@wyo.gov	307-777
John Emmerich	Deputy Director	Wyoming Game and Fish Department	5400 Bishop Blvd	Cheyenne, WY 82006	john.emmerich@wyo.gov	
Gary Fralick		Wyoming Game and Fish Department	Star Valley Ranch, 167 Mahogany Drive	Thayne, WY 83127	gary.fralick@wyo.gov	
Rob Gipson	Fish Biologist	Wyoming Game and Fish Department, Jackson Regional Office	PO Box 67, 420 N. Cache	Jackson, WY 83001	rob.gipson@wyo.gov	
Mary Hopkins	State Historic Preservation Officer	Wyoming State Historic Preservation Office	2301 Central Avenue, Barret Bldg.	Cheyenne, WY 82002	mary.hopkins@wyo.gov	
Ms. Paula Stevens	Associate Planning Director	Teton County Planning	PO Box 1727	Jackson, WY 83001	pstevens@tetonwyo.org	
Russ Noel	Assistant Director	Wyoming Office of State Lands	122 W. 25th 3W	Cheyenne, WY 82002	russell.noel@wyo.gov	

22/390 Corridor Study

Agency Response Letters

Agency Scoping Matrix

Agency	Response
John F. Wagner Water Quality Division Wyoming Dept. of Environmental Quality	I reviewed this proposal and the Water Quality Division has no specific comments. As usual, there may be need for storm water runoff permit(s) and 404 permit(s) through the US Army Corps of Engineers which we would certify through our 401 process. However, I see nothing in particular with the proposal that gives WQD concern.
Carol Anderson Environmental Protection Agency	I received a call from Carol Anderson with the EPA this morning. Carol received the scoping letter that was sent out to State and Federal Agencies soliciting comments on the WYO 22 & 390 PELS. Carole indicated that EPA has no scoping comments to offer on the WYO 22 & 390 PELs. She went on to state that EPA would continue to be interested in the study and any projects that advance for NEPA evaluation, so to leave EPA on the mailing list.
Tracy Hover Bureau of Land Management	Phone conversation summary, Kevin Powell and Tracy Hover. On September 26th I spoke by phone to Tracy Hover with BLM. Tracy inquired if we were looking for any comments beyond that provided in June 2010. (Reference CE10-48, Projects 2000036 & 2001012, WY 22/390 Intersection Parcel). I explained how the WYO 22 & 390 PELS was different from the intersection parcel scoping they provided comment on in June 2010 in that the Planning and Environmental linkage study was looking at the whole corridors not just one intersection and that if they cared to make comment on the PELS their comments would be welcomed. Tracy indicated she does not believe they have any comments to bring to our attention for the PELS other then the 22/390 intersection parcel issues which we already aware of, but would provide comment if something comes to mind.
Darin Martens USFS/WYDOT Liaison	Issues of comment: 1. Moose road kill problem on Village Road (390). Not on Forest, but the biology of such is important to USFS and WYG&F. Vegetation management, fencing, wildlife crossings, speed reduction (night) are all potential solutions that we have experience with. 2. Wilson Boat ramp – commercial and private river use, and we're the management of the river downstream. 3. Traffic at 22/390 intersection which is related to ski area, Wilson ramp, and Teton Pass recreationists. There is ROW being requested from BLM, by WYDOT for intersection changes. I think a roundabout could be a potential solution. 4. Traffic speed going thru town of Wilson – local safety issue. We had a pedestrian fatality there. As a partner, some of that traffic is to our Forest. 5. Wildlife crossing by Teton Science School/Skyline Ranch. 6. Turning movement at Teton Science School – to add a center lane may help keep bicycle lanes intact and keep traffic flow moving.
Mary Gibson-Scott	See attached

Agency	Response
Grand Teton National Park	
John Emmerish, Wyoming Game and Fish	See attached
Paige Wolken, US Army Corps Of Engineers	See attached
Astrid Martinez, Natural Resources Conservation Service	See attached

United States Department of the Interior
NATIONAL PARK SERVICE

GRAND TETON NATIONAL PARK
P.O. DRAWER 170
MOOSE, WYOMING 83012

IN REPLY REFER TO:

1.A.1(GRTE)

SEP 2 8 2012

Mr. Timothy L. Stark
Wyoming Department of Transportation
5300 Bishop Boulevard
Cheyenne, Wyoming 82009-3340

Dear Mr. Stark:

Thank you for the opportunity to provide scoping comments on the upcoming Planning and Environmental Linkages (PEL) study for Wyoming State Highway 22 and Wyoming State Highway 390 in Teton County. Both of these highways are important linkages for visitors traveling to and from Grand Teton National Park, and we therefore welcome the opportunity to provide input on issues that may affect the park, as well as planning for future projects in the subject corridors.

Within the National Park System, park roads are generally not intended to provide fast and convenient transportation; rather, they are intended to serve park purposes by enhancing the quality of visitors' experience while providing for safe and efficient travel with minimal or no impacts on park resources. With that in mind, one of the most challenging issues for the park concerns the future management of the Moose – Wilson road corridor between the Granite Canyon Entrance and the park headquarters area at Moose.

The Moose – Wilson Road is a six and a half mile long segment of park road located in the southwestern area of Grand Teton National Park. It connects Wyoming Route 390 and points south of the park, such as Teton Village, with the interior of Grand Teton National Park. The road passes through some of the richest and most diverse wildlife habitat found anywhere in the park and is a cultural resource that has been determined eligible for listing on the National Register of Historic Places. The road is typically open to vehicular travel from May 1 through October 31, with occasional closures due to wildlife or maintenance activities, and provides visitors with outstanding opportunities for wildlife viewing and general enjoyment of the scenery. The narrow width, rural atmosphere, slow speeds, and closeness of the natural landscape provide a character and setting that is highly valued by park visitors. During the months when the road is closed to motor vehicles, non-motorized travel such as bicycling, hiking, and cross country skiing, provides visitors with opportunities to enjoy the area while reducing stress on wildlife.

During the peak summer months, average daily traffic is approximately 1,800 – 2,000 vehicles per day, substantially higher than the several hundred vehicles that travelled the road on a typical day in the early-mid 1990's. Slow speeds allow opportunities for visitors to enjoy the experience, but also result in some level of congestion and frustration for drivers who are simply interested in passing through. Destinations along the Moose – Wilson Road include the Granite Canyon Trailhead, the Laurance S. Rockefeller Preserve, the Death Canyon Trailhead, White Grass Ranch, and several inholdings.

Traffic volumes on the Moose – Wilson Road are approaching, or may already have reached the point, where further increases are unsustainable. The road is not engineered to withstand high volumes of traffic or greater speeds than are currently posted. Widening or other improvements to accommodate higher traffic volumes or greater speeds would diminish the very qualities and character for which it is valued, and would likely have unacceptable impacts on wildlife. In addition, the road is becoming increasingly valued by bicyclists who are now able to use it to connect the pathway systems within and outside of the park. Therefore, with projections showing that traffic volumes are expected to increase on Wyoming 390, we believe that it is prudent to explore options for the Moose – Wilson Road that will ensure that it continues to appropriately serve park purposes while accommodating a sustainable level of motor vehicle use.

The *2007 Record of Decision for the Grand Teton National Park Transportation Plan/Environmental Impact Statement* called for testing a number of different adaptive management strategies on the Moose – Wilson Road. These could include such options as making a portion of the road one-way, temporal changes in the direction of travel, limitations on through travel, or other alternatives yet to be identified. We expect that testing of these strategies will help to identify a sustainable and appropriate long-term solution that will provide visitors with a high quality park experience while protecting the corridor's resources. Therefore, we think it is important for the PEL that WYDOT recognize that the purpose of the Moose – Wilson Road within Grand Teton National Park is primarily to provide visitors with access to destinations along the road, and only secondarily, if at all, as a through transportation corridor.

We also understand that a Transportation Advisory Committee (TAC) has been or is being established to provide local agencies with opportunities to participate in the study. We would welcome the opportunity to be included as a member of the TAC. In addition, we look forward to working with WYDOT to incorporate any of its data and projections on traffic volumes into our planning efforts with respect to the Moose – Wilson Road.

Once again, thank you for the opportunity to provide scoping comments on the PEL. Should you have any questions or need additional information, please feel free to contact Management Assistant Gary Pollock at (307) 739-3428.

Sincerely,

Mary Gibson Scott
Superintendent
Grand Teton National Park and
John D. Rockefeller, Jr. Memorial Parkway

cc: John Eddins/WYDOT
Bob Hammond/WYDOT
Randy Strang/FHWA

WYOMING GAME AND FISH DEPARTMENT

5400 Bishop Blvd. Cheyenne, WY 82006

Phone: (307) 777-4600 Fax: (307) 777-4699

Web site: http://wgfd.wyo.gov

October 1, 2012

WER 13009
Wyoming Department of Transportation
Agency Scoping
22/390 Planning and Environmental Linkages Study for
WYO-22 and WYO-390
Teton County

Timothy L. Stark
Environmental Engineer
Wyoming Department of Transportation
5300 Bishop Boulevard
Cheyenne, WY 82009-3340

Dear Mr. Stark:

The staff of the Wyoming Game and Fish Department has reviewed the Agency scoping for the 22/390 Planning and Environmental Linkages Study (PEL) for WYO-22 and WYO-390, in Teton County. We offer the following comments for your consideration.

Terrestrial Considerations:

The project area includes several important wildlife habitats. Near the urban interface at East Gros Ventre Butte, mule deer often cross US Hwy 89 and WYO-22. Near the Snake River, raptors, migratory waterfowl, and moose often are observed in the highway right-of-way (ROW). Elk and Moose often cross WYO- 22 near Coyote Canyon, at the base of Teton Range west of Wilson and along WYO- 390. Due to the high volume of traffic, vehicle/wildlife collisions are common along these stretches of roadway.

Important wetlands are located adjacent to the roadway along several sections of the PEL. The PEL should identify wetlands that may be impacted by future construction activities. We also suggest conducting amphibian surveys in all affected wetlands to identify breeding sites that might be impacted.

Over the last few years, grizzly bears have been observed in the project area and should be included in the wildlife analysis section. In addition, the project area provides habitat for nongame mammals, moose, and migratory birds. The PEL should evaluate the area for Species of Greatest Conservation Need (SGCN) and their habitat listed in the Wyoming Game and Fish Department's State Wildlife Action Plan as well as threatened, endangered, proposed, or

candidate species listed under the Endangered Species Act. We recommend conducting surveys to determine whether bats listed in the State Wildlife Action Plan are present in the area and if structures scheduled to be replaced are used as roosts. If new bridges or culverts are scheduled along the project area we recommend roost sites be enhanced.

The proposed project includes moose winter range and is adjacent to mule deer winter range. We are concerned that disturbance and/or displacement of wintering wildlife may result due to the diverse habitats adjacent to project.

Fences scheduled to be replaced along the project roadways should comply with Teton County's fencing standards. At wildlife crossing areas, structures and fencing should be evaluated to facilitate wildlife movement. In addition, overhead powerlines should be designed to reduce impacts to avian wildlife.

Invasive/noxious weeds are a concern in this area and removal and/or alteration of vegetation should be limited to reduce the spread of weeds. Reclamation/re-vegetation should consist of a mixture of cool season, unpalatable grasses to avoid enticing wildlife into the ROW corridor.

Aquatic Considerations:

In addition to the environmental requirements outlined in WYDOT's March 2010 spec book, we have the following recommendations:

- Preventing the spread of aquatic invasive species (AIS) is a priority for the State of Wyoming, and in many cases, the intentional or unintentional spread of organisms from one body of water to another would be considered a violation of State statute and Wyoming Game and Fish Commission Regulations. To prevent the spread of AIS, we recommend the following:

  If equipment has been used in an area known to contain aquatic invasive species or suspected to contain aquatic invasive species, the equipment will need to be inspected by an authorized aquatic invasive species inspector certified in the state of Wyoming prior to its use in any Wyoming water. If aquatic invasive species are found, the equipment will need to be decontaminated.

  Decontamination may consist if either 1) Drain all water from equipment and compartments, Clean equipment of all mud, plants, debris, or animals, and Dry equipment for 5 days in summer (June, July & August); 18 days in Spring (March, April & May) and Fall (September, October & November); or 3 days in Winter (December, January & February) when temperatures are at or below freezing,

  Or

2) Use a high pressure (3500 psi) hot water (140°F) pressure washer to thoroughly wash equipment and flush all compartments that may hold water.

Thank you for the opportunity to comment. If you have any questions or concerns, please contact Scott Smith, Wildlife Management Coordinator, at 307-367-4353.

Sincerely,

for John Emmerich
Deputy Director

JE/mf/gb

cc: USFWS
Rob Gipson, Jackson Region
Scott Smith, Pinedale Region
Tim Fuchs, Jackson Region
Doug Brimeyer, Jackson Region

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
WYOMING REGULATORY OFFICE
2232 DELL RANGE BOULEVARD, SUITE 210
CHEYENNE WY 82009-4942

September 27, 2012

Wyoming Regulatory Office

Timothy L. Stark, P.E.
Environmental Services Engineer
Wyoming Department of Transportation
5300 Bishop Boulevard
Cheyenne, Wyoming 82009-3340

Dear Mr. Stark:

This letter is in response to a scoping request we received from your office on September 14, 2012, concerning environmental resources and issues of concern regarding 22/390 Planning and Environmental Linkages (PEL) Study for WYO-22 and WYO-390 near Jackson.

The U.S. Army Corps of Engineers (Corps) regulates the placement of dredged and fill material into wetlands and other waters of the United States as authorized by Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as streams, reservoirs, lakes and adjacent wetlands. The Corps regulations are published in the *Code of Federal Regulations* as 33 CFR Parts 320 through 332. Information on Section 404 program requirements in Wyoming can be obtained from our website http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Wyoming.aspx.

Based on the preliminary information provided and referenced, the proposed study involves a PEL Study to develop a vision for the identified transportation corridors between Jackson, Teton Village and Teton National Forest beyond Wilson. This corridor vision will help guide the identification and implementation of future improvement projects. The study will define the transportation needs of the existing highways, and develop a set of potential alternatives or solutions to address these needs.

Future development and construction within the corridors will likely impact waters of the United States, including but not limited to the Snake River, Fish Creek and adjacent wetlands. This will require a Department of the Army permit. Identification and delineation of all aquatic resources should occur as early as possible to support informed decision making. As part of the planning process, we recommend full consideration and prioritization of project alternatives that will avoid and minimize impacts to waters of the United States as required under the Clean Water Act (40 CFR Part 230.10). Advanced efforts to address and demonstrate this approach will support a Corps review process that may permit a least environmentally damaging practicable alternative which minimizes adverse impacts on the aquatic environment.

Please do not hesitate to contact us should you have additional questions regarding aquatic resources or compliance with Section 404 of the Clean Water Act (33 U.S.C. 1344). You may contact me (307-772-2300 or paige.m.wolken@usace.army.mil) concerning future project review and assistance.

Sincerely,

Paige Wolken
Program Manager
Wyoming Regulatory Office

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
100 East B Street, Room 3124
P.O. Box 33124
Casper, Wyoming 82602

September 20, 2012

Wyoming Department of Transportation
Timothy L. Stark
5300 Bishop Boulevard
Cheyenne, WY 82009-3340

Dear Mr. Stark:

The Natural Resources Conservation Service (NRCS) has reviewed the **22/390 Planning and Environmental Linkages Study for WYO-22 and WYO-390 WYDOT Project** dated September 11, 2012.

The Agriculture and Food Act of 1981, (Public Law 97-98) containing the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549, is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency.

It does not appear there will be any permanent conversion of irrigated agricultural land to non-agricultural use based on the information you provided. As such, we do not believe the work will adversely impact prime farmland.

If you have any questions, or need to discuss this comment, please contact Jenny Castagno at (307) 233-6761.

Sincerely,

ASTRID MARTINEZ
State Conservationist