

AGENDA ITEM SUMMARY

WORK SESSION DATE: March 16, 2010

AGENDA ITEM TITLE: Smith Hill Way, McLain Flats Road, and Upper River Road Intersection Design Update

STAFF RESPONSIBLE: G.R. Fielding, County Engineer
Catherine Berg, Planning Engineer

ISSUE STATEMENT: In 2009 the Board of County Commissioners directed Staff to undergo a design process for the intersection at Smith Hill Way, McLain Flats Road, and Upper River Road. Staff and consultants have developed a preferred alternative which has not been well received by the Woody Creek Caucus.

BACKGROUND: In 2007 Pitkin County identified 14 projects to be completed as Capital Improvements to the roadway system. These projects were identified by both Staff and the Public as areas that were in need of improvements. With the weakening of the economy, the capital replacement and capital reserve funds for roadways was cut from approximately \$1.9 million per year to \$400,000 per year. With this change Pitkin County moved from a “save and pave” methodology for capital projects to a “patch and plan” methodology.

The intersection at Smith Hill Way, Upper River Road, and McLain Flats Road was identified as a higher priority capital improvement project because of the high volume of traffic, high volume of truck traffic, drainage problems, and alignment issues which compound the fact that it is not a typical intersection. It is common to see confused drivers at this intersection as they try to navigate through to the Woody Creek Tavern, towards Aspen, or trying to find State Highway 82.

In 2009 the intersection design process began with field surveys and collection of data. Preliminary ideas were brought to the Woody Creek Caucus in October, to a public open house in December, and finally a preferred alternative was presented to the Woody Creek Caucus this past January. This preferred alternative was not well received by the Caucus. Relevant Caucus minutes are attached.

Staff and consultants have developed three alternative intersection designs

- Roundabout
- Modified “T” intersection
- Keep current configuration

And three bridge design options

- New bridge
- Rehabilitation of Existing Bridge
- No new work on bridge

All of the above will be presented in a power point presentation (attached).

Staff and consultants received a multitude of comments during these three meetings. The following are the public's reactions and comments based on the displays regarding the different design ideas and conversations with the engineers:

- Traffic calming is a must, no matter the solution
- Varied responses as to how safe the intersection is now
- Some thought the intersection as a whole does not need modification
- The idea of a roundabout gained significant interest because of its traffic calming affects on the vehicles (specifically trucks) coming down McLain Flats
- Roundabout has an urban feel that is not in the character of adjacent County Roads
- If any of the "T" intersection designs were adopted, Upper River Road should be given right turn bypass lanes off of McLain Flats and onto Smith Hill
- Several liked the idea of a new bridge with a longer more sustainable life span
- Roundabout may be a good compromise, makes each approach slow down
- At peak times cars platoon, causing larger queues, potentially making it difficult for traffic movements to occur from Smith Hill to Upper River or from Upper River either direction ("T" intersection options)
- Very mixed opinions about living through a bridge rehabilitation project
 - Traffic would need to be diverted
 - Part of life
 - Absolutely not an option
- Several liked the economic middle ground of rehabilitation of the existing bridge
- Overall the public did not express concern over replacing existing bridge despite its unique character
- Concern that the project should take recreational users into account during both choosing a design and construction
- Some did not like the Modified "T" intersection because it was rewarding the SH 82 bypass commuters
- Some did not like the new bridge option because it creates too much of a "straight shot" for the people commuting and trucks
- The Modified "T" intersection reverts the intersection to what was there prior to the addition of a stop sign
- Large rock fall attenuators will be too obtrusive, wire mesh will be fine
- Wire mesh is ugly and something else should be considered
- General consensus is to complete rock fall mitigation (see attached minutes)
- Site distances need to be addressed, particularly between Smith Hill Way and Upper River Road

Although the comments are varied, Staff believes that the momentum is towards an intersection which encompasses traffic calming, ease of use, drainage improvements, and safe sight lines. This can all be accomplished with the preferred alternative of a roundabout and new bridge. Rock fall mitigation was universally seen as a necessary element, however, with varied opinions on how to minimize visual impacts.

Future steps will be determined by which options are selected. A location and extents review will be scheduled with the Planning and Zoning Board once a final alternative can be identified. Finally the design will then be presented to the BOCC for approval.

As an additional note, staff will work with some ideas from the public and caucus meetings to improve the intersection in the interim.

LINK TO STRATEGIC PLAN: Regional Transportation - Provide funding necessary to sustain safe, efficient, and high quality County Roads.

KEY DISCUSSION ITEMS:

1. Review and discuss alternative designs
 - a. Develop a preferred alternative for staff to pursue
 - i. Type of intersection
 - ii. Bridge reconstruction/rehabilitation
 - iii. Extent of rock fall mitigation
2. What future outreach would the BOCC prefer Staff to complete?

BUDGETARY IMPACT:

Changing the scope of the project may increase or decrease the design budget. The planned public process has been completed; any further will increase the cost of design. Additionally, the BOCC's direction will determine the scope of any future construction.

RECOMMENDED BOCC ACTION:

Direct Staff to pursue more detailed design of the BOCC's preferred alternative

ATTACHMENTS:

Woody Creek Caucus relevant minutes
Power Point Presentation

Gerald Fielding

From: W-C Caucus [caucus81656@gmail.com]

Sent: Friday, March 05, 2010 5:45 PM

To: Gerald Fielding

Subject: Caucus minutes

Thanks, G.R., I'll pass it on. Following are the pertinent minutes from October and January.

Ann

WOODY CREEK CAUCUS MINUTES OCTOBER 2009

ENGINEERS' REVIEW OF JAFFEE PARK TRAFFIC TRIANGLE: Nick Senn of SGM Engineers, and GR Fielding presented several options the County is considering to change the triangle. There is no funding available for this project, due to non-passage of tax increase for road improvements. This area was chosen by Public Works as one to design that would be "shovel-ready" when funding is available. Senn pointed out that the intersection is higher than the bridge and causes water and ice to flow down onto it. Also problematic is the cost to maintain and clear roads from the significant rock fall in the area. 1. The simplest and least expensive is a Modified "T" which brings Jaffee Park in line with upper River Road. 2. A roundabout-gives no priority to any traffic – don't currently have volume of traffic that would require a roundabout, although it's more flexible for future increase in traffic. 3. Build new bridge, which would be longer than existing bridge, and would require extended re-routing of traffic off Smith Hill during construction. 4. Address drainage: raise bridge by 4 ft to avoid pooling.

Stop sign: Linda pointed out that the stop sign at the base of McLain Flats hill is effective in making trucks slow down. It was suggested that we really need the rock fall mitigation, but not necessarily a better road situation, which might have the result of encouraging even more traffic diverting along McLain Flats. The County will consider the input it received from the Caucus and return after further consideration and design.

WOODY CREEK CAUCUS MINUTES JANUARY 2010**PRESENTATION BY PITKIN COUNTY ROAD AND BRIDGE.**

The Caucus was disappointed that this appeared to be the same presentation given by the engineers and Pitkin County at the October 29, 2009 Caucus meeting.

Caucus Discussion: We asked why the caucus comments at the October meeting, which were opposed to any proposed changes at the roundabout, had been ignored by the county. We were told that the engineers still think the roundabout is the best solution, in their opinion. The County's Engineers to come back with ideas for rockfall safety, stop sign placement, and water drainage ideas. We asked for sight line ideas for Smith Way and asked them not to come back with the same roundabout pitch again.

Smith Way / McLain Flats / Upper River Road Intersection Improvements

Project Objective

To provide a safe, convenient, maintainable intersection for local residents and Pitkin County Road users. Due to potential safety hazards, high volume of Aspen commuter traffic, heavy truck traffic, drainage problems, rockfall hazards and winter maintenance issues Pitkin County has identified this intersection for improvements.

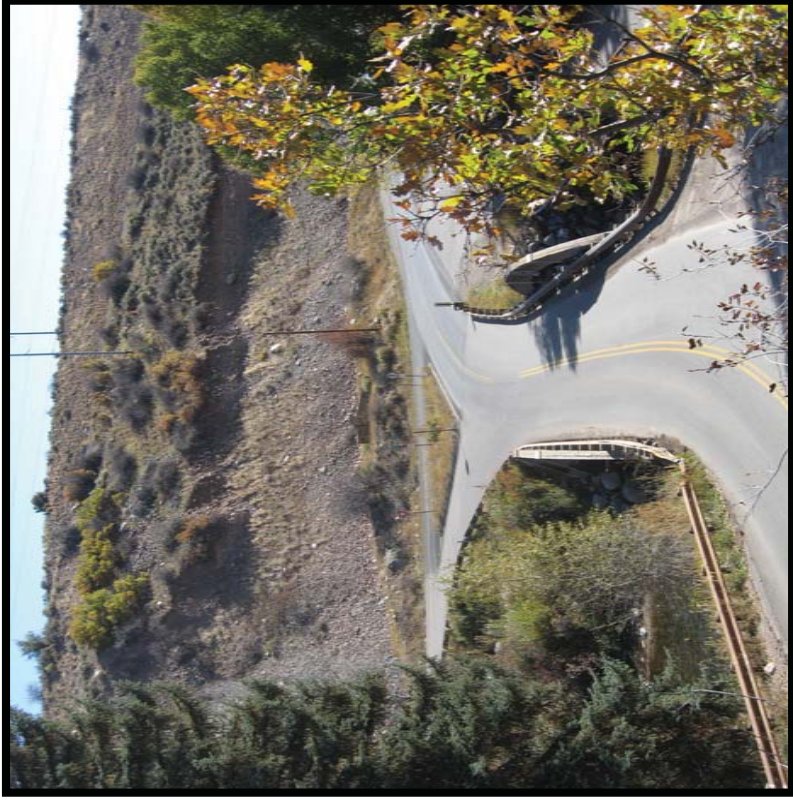
Project History

At the Caucus meeting in October, Open House in December, we presented four Preliminary Design Concepts.

Preliminary Design Concepts

- #1 Modified "T" Intersection
- #2 Roundabout
- #3 Bridge Replacement
- #4 Raise Existing Bridge

From the input gathered, the County decided to pursue a combination of options #2 and #3. We are presenting this Preferred Alternative concept to the Woody Creek Caucus, Planning Commission, and the Board of County Commissioners.



Option #1 Modified “T” Intersection

Description of Design Objectives:

- Aligns Upper River and Jaffee Park entrance
- Smith Hill Way and McLain Flats Road aligned
- Similar to pre stop sign configuration



Simulation of Modified “T” Intersection,
looking west



Aerial View of Modified “T” Intersection

Advantages

- Lowest construction cost option
- Can maintain access during construction
- Reduces amount of pavement at intersection and allows for landscaping design
- Minimizes rockfall mitigation

Disadvantages

- Insufficient taper length to comply with road standards (Pitkin Co, CDOT, AASHTO)
- Maximum turn pocket length of 50’
- Steep grades across intersection without lowering gas line

Option #2 Roundabout

Description of Design Objectives:

- Accommodates highest capacity of vehicles
 - Current volumes do not require as much control as a roundabout provides
- Addresses safety concerns (slows traffic)
- Can address drainage issues



Simulation of Roundabout Intersection,
looking east



Aerial View of Roundabout Intersection

Advantages

- All legs given equal priority
- Can maintain public access during construction
- Would provide better traffic flow and operate with a higher level of service than a “T” intersection
- Roundabouts are often the safest form of intersection control

Disadvantages

- Higher cost than the other options
- Will not meet cross grade requirements without lowering existing high pressure gas line or raising bridge
- More control than typically required for these type of low-volume roads

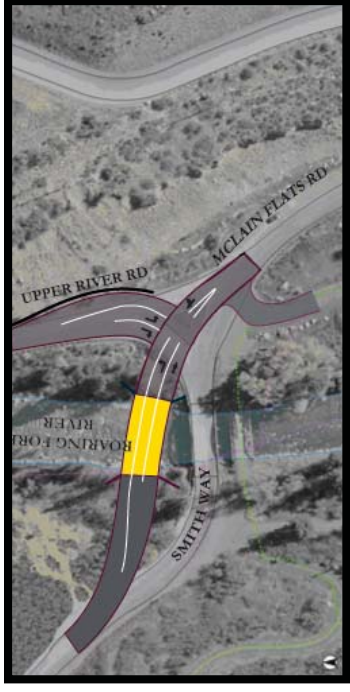
Bridge Option “A”

Description of Design Objectives:

- Allows for greatest flexibility in the intersection design
- Correct drainage
- Allow for better sight distance



Simulation of Bridge Replacement Option,
looking west



Aerial View of Bridge Replacement Option

Advantages

- Intersection can be designed to comply with all applicable standards
- Can maintain access throughout construction
- New bridge with 75 year lifespan
- Avoids utility impacts

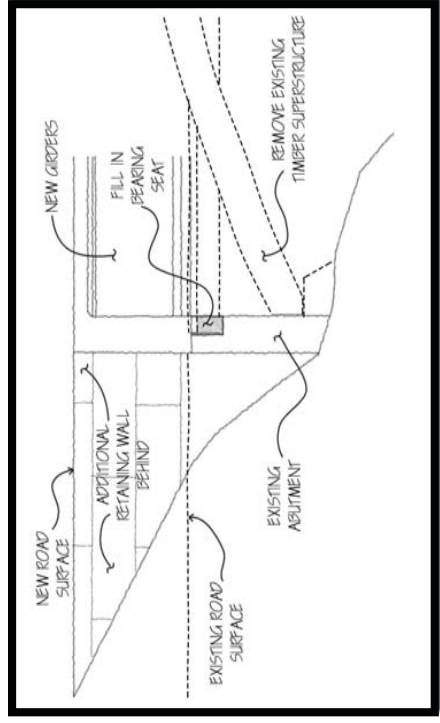
Disadvantages

- Highest cost and time frame through construction
- Will most likely require ROW acquisition
- Eliminates the existing unique wood arch bridge

Bridge Option ‘B’

Description of Design Objectives:

- Raising bridge can be combined with either intersection option
- Would raise bridge 3-4’ and would allow for a full rehabilitation



Section view of bridge raising schematic

Advantages

- Connect to either modified “T” or roundabout intersection
- The ability for significant drainage/ stormwater corrections
- Rehabilitated Wood bridge that could extend its lifespan
- Avoids costly utility impacts

Disadvantages

- Highest impact to traveling public because of bridge removal
- Initiates permitting process with US Corps of Engineers
- Greater potential for construction unknowns during rehabilitations

Rockfall Mitigation



Existing Conditions



Rockfall Attenuators



Rockfall Mesh on a Slope



Slope Stabilization
(Boulder Netting)

Design Goals:

- Intersection design could require varying mitigation solutions
- Eliminates Safety concern
- To minimize the costs in maintenance the County spends every spring (and significant rainfall)

Potential Treatment Options:

- Retaining walls
- Site grading
- Rockfall retention systems

Smith Hill Preferred Alternative Roundabout and Bridge Replacement

The two overwhelming comments heard during the first two outreach meetings

- Safety
- Construction impacts

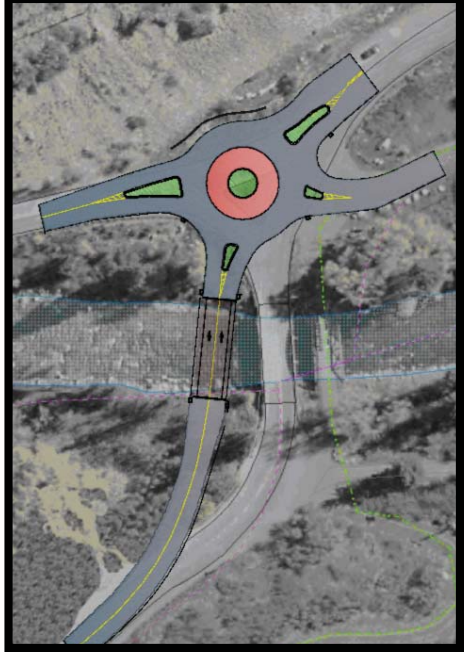
This design encompasses those two things because it meets these design goals....

Design Goals

- Intersection Safety
- Drainage Corrections
- Improved Sight Distances
- Obsolete Bridge Replaced
- Traffic Calming Measure
- Structure Designed to Accommodate Truck ESAL Loadings
- Avoids Major Utility Impacts
- Rockfall Mitigation
- Minimized Traffic Impacts to Public
- Ability to Meet County and State Road Design Standards



Simulation of Bridge Replacement Option with Roundabout, Looking West



Aerial View of Bridge Replacement with Roundabout Option

Key Discussion Items

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