Teton Passgoers Need Answers

Last week an “act of god” saved lives on Teton Pass when a mudslide at the base closed the highway just before a landslide occurred a few miles up the road, likely due to the failure of man to act. However, another lifesaving mudslide is unlikely to happen again should the new Highway 22 bypass open and catastrophically fail, again. Hopefully it does not happen while folks are up there working on the rushed repair.

We need answers and a slower and stabler Highway 22 repair before someone dies or a reasonably swift and safe repair is actually no longer possible. In the meantime, local leaders need to act fast to ensure safe and stable passage and implement stopgap measures for community support.

As an interstate connector between Idaho and Wyoming, Teton Pass’s closure has created extreme hardships for workers, businesses and others throughout the region. The event has received national attention, concerningly resulting in a misconception that “Jackson Hole is closed '' to tourism. This inaccurate perception could wreak havoc on Jackson’s tourism economy. It already is wreaking havoc on our Idaho bedroom communities and their tourism economy.

However, if this situation is mishandled, as it appears to be, the long term damage to workers and tourism will be far worse. Until the public has verified answers to questions regarding the “catastrophic failure” of the “Big Fill” horseshoe bend at milepost 12.8 and guarantees that its aggressively fast fix will hold weight, my family will not be driving over Teton Pass.

Sadly, the financial strains of the workers who need to shorten their commutes due to the crushing costs of gas and additional hours away from their families every day will most likely have to brave it.

According to numerous geotechnical engineers, the Wyoming Department of Transportation’s stated goal of reopening Teton Pass within two weeks is dangerously fast, although now WYDOT appears to be saying it’s going to be “a few weeks”. Before WYDOT repairs and reopens Highway 22, they must address key technical and management questions.

Some of those same geotechnical engineers have told me flat out that the lay person *can* see the issues with the slide and repair. It is that simple. Sadly, many lay persons have told me, “it’s concerning but I’m no expert”.

If there had been proper assessments, evaluations, and analyses leading up to the landslide at milepost 12.8, how could WYDOT engineers have missed such glaring indicators that the roadway was about to epically fail?

Based upon statements that WYDOT has made, following a motorcycle crash at mile post 12.8 on Highway 22, they determined that new cracks had formed in the roadway with several inches of offset and depression on the outside section of the roadway. It was this significant movement in the road that contributed to this crash.

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Geologists and engineers were on site Thursday, June 7, 2024 to evaluate the roadway cracks at milepost 12.8. At that point WYDOT determined that a surface patch of the pavement at this bend would make the roadway safe for travel. Given the embarkment's total failure within the next 24 hours, how could these professionals have been so mistaken?

Following their repair and the reopening of the pass, WYDOT instructed drivers to proceed cautiously over this section. Shortly thereafter mudslides flowing over the roadway just a few miles down the highway at milepost 15 closed the highway again.

Movement of the embankment fill slope up at mile post 12.8 accelerated through Friday June 8th resulting in a complete failure of the embankment. The 8 inch drop in the road surface that occurred prior to complete failure was a clear sign that failure might be imminent. The complete failure of the embankment was later ascribed by WYDOT to a movement of the foundation soils underlying the embankment fill.

This sequence of events suggests that WYDOT did not understand the extent of slope movements and the potential catastrophic failure of the roadway. At that point, WYDOT District Engineer Bob Hammond indicated that he and other engineers designed a temporary by-pass on Sunday June 8th, only one day after the massive slide. Their measure to reopen the highway quickly will involve grading and fill placement on the inside curve at milepost 12.8, immediately adjacent to the area that failed.

Engineer and landslide expert George Machan, who specializes in slope failures, was involved with assessing the 2014 East Gros Ventre Butte failure, aka the "Budge Slide". In a Wyoming Tribune Eagle article Machan expressed serious concerns about how WYDOT is proceeding to reopen the highway. Machan stated that filling the interior curve with too much fill "might be pushing it" and went on to say that "it has to be engineered right".

Professional Engineer and Geologist Casey Jones performs foundation testing for bridge, transmission lines, and other infrastructure. Jones warns that properly engineering a safe reroute requires a geotechnical investigation that includes drilling, soil sampling and laboratory testing of the samples to understand the strength and compressibility characteristics of the embankment material and underlying foundation materials.

A thorough geotechnical investigation takes several weeks, with more time needed for analysis and design. (I verified Jones's assessment with other geotechnical engineers.) WYDOT has been performing borings at the site since the failure, but WYDOT has proceeded with a repair plan before completing this geotechnical investigation.

Hammond stated that milepost 12.8 fell off the mountain due to movement of the foundation soils underlying the embankment fill and that the area has been a known problem for decades. "We're not going to be at risk of that same material, and hopefully in the next couple of months that subgrade will stabilize even further," Hammond said. "The temporary road is off on a very

stable piece of ground." Currently, WYDOT has not stated to what extent the soil is unstable and what can or will be done to stabilize it.

Why is WYDOT proceeding with the placement of additional fill immediately adjacent to the overly steep slope created by its recent failure? Why are they not doing a thorough geotechnical investigation to address the underlying soil's instability issues first? WYDOT has said water drainage in deep layers of the fill caused the slide, so why are they not actively addressing this issue before placing heavy traffic on the new section just next to the slide?

Machan stated that to best rebuild the foundation they have to think about how to make that embankment stable. Yet WYDOT is contemplating a "stabilization effort" when it appears to be absolutely necessary for the safe construction of a reroute just next to the "Big Fill" fail site.

Most importantly, how did WYDOT geologists and engineers overlook such a glaring indication that that hillside was about to rip away? And how can we trust the same engineers and geologists that missed the obvious signs to move forward at such a clip to repair the route? At minimum, WYDOT must answer these questions to assure the public that they understand the cause and extent of the problems. So far, WYDOT is proceeding as if all of the geotechnical design concerns have been addressed when in fact they have not.

The federal Department of Transportation has very clearly proven they are well qualified to assess and rebuild interim solutions, as evidenced by the amazing and rapid job they did in reopening the Baltimore port. Perhaps for all of our go-it-alone western ethic, we need to invite the DOT to evaluate and oversee both the short-term and long-term reconstruction of Highway 22 through Teton pass before someone gets hurt or reroutes are no longer possible. Afterall, Teton Pass is also a gateway to our nation's Grand Teton and Yellowstone National Parks.

Jessica Sell Chambers is a Jackson Town Councilwoman who lives on the east side of Teton Pass in Jackson.