

Draft for Discussion

August 3, 2026

Runaway Vehicles on Teton Pass (WY 22)

Framing the Problem and Defining a Universe of Options

By Jared Smith, P.E. (ret.), Wilson resident, and retired highway engineer/planner¹

A working paper for citizen advocates, elected and public officials – Prepared by Jared Smith, P.E. (ret.) who is solely responsible for content. Not produced or endorsed by WYDOT

Basis and status. This paper draws on the author’s personal experience as a 70-year user of Teton Pass, personal observations - by the author and others - past and recent discussions, documentation, contemporaneous news reporting, the Federal Highway Administration’s Teton Pass Corridor Study, and evaluated countermeasures from WYDOT, other U.S. states, Canada and Australia. (The Highway Patrol’s investigation of the July 7, 2026 crash is ongoing; nothing here pre-judges its findings). Sources are attributed at the end of this draft.

1. Purpose

This paper attempts to do three things. First, it frames the runaway-vehicle problem on WY 22 using the public record: the crash history and the enforcement and funding constraints that agency staff and elected officials have themselves described. Second, it provides an executive-level summary of candidate solutions. Third, it catalogs the full universe of options in enough depth that upcoming discussions — including the community meeting scheduled for August 3 at the Old Wilson Schoolhouse and anticipated county and legislative deliberations — can begin from a complete menu rather than a narrow one. It proposes a sequencing logic but deliberately stops short of recommending a single package: option selection belongs to the community, its elected officials and WYDOT.

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2. The Problem, Framed

2.1 July 7, 2026

Shortly before noon on Tuesday, July 7, 2026, a Kenworth dump truck hauling asphalt eastbound down Teton Pass lost braking capability near milepost 6.8, close to the WYDOT sand shed above Wilson. According to the Wyoming Highway Patrol’s preliminary summary, the truck rear-ended a motorcycle, drove a Chevrolet Silverado head-on into a Ford F-150 that overturned and struck an electronic message sign, hit a guardrail, rolled onto its side, slid across both lanes, sideswiped a Chevrolet Equinox, and struck a Subaru Outback before going airborne and coming to rest. Six vehicles were involved. Nicholas Besobrasow, 66, of Tetonia, Idaho, and David Page, 57, of Mammoth Lakes, California, were killed; four other people, including Wilson residents, were injured and transported to St. John’s Health. The pass was closed in both directions for roughly twelve hours.

2.2 A pattern, not an anomaly

The corridor record establishes that the July 7 crash and resulting fatalities was the realization of a known, recurring hazard. WYDOT’s catch-net arrestor near milepost 7 has been used eleven times since its completion in 2017 — each use, in the agency’s characterization, a potentially fatal crash avoided. The pattern predates the current system: WYDOT’s own public-meeting documentation records that the first catch net arrestor was used three times within seven months of opening, and states that with steep grades extending over 5.2 miles of WYO 22 above Wilson, a single arrestor cannot capture every vehicle that loses its brakes. In 2019, a pickup hauling logs in a gooseneck trailer went through all of the arrestor’s nets, prompting a re-engineering and a successful WYDOT live test at 58,000 pounds and 60 mph in 2021. In 2023, a runaway motorhome towing a sedan careened into Wilson nearly missing the gas station pump area and nearby people. In August 2024, an RV towing a pickup truck lost its brakes descending into Wilson — the Highway Patrol’s account describes the driver braking repeatedly behind slowing traffic until the brakes overheated and the vehicle ran away near milepost 6.5 — rolling near the site of the July 2026 crash and killing a 72-year-old passenger.

And on July 16, 2026 — *nine days after the July 7, 2026 fatal crash— yet another runaway RV towing a large trailer came down the pass out of control*, an incident captured on [video](#) by a local photographer and reported by the Jackson Hole News&Guide and Buckrail. The Highway Patrol’s own route guidance describes Teton Pass as having some of the steepest grades of any highway in the continental United States — exceeding ten percent in places, descending roughly 2,400 vertical feet — and corridor traffic has grown substantially as housing costs push much of the Jackson Hole workforce into Teton Valley, Idaho.

These individual incidents sit against a broader crash record. The FHWA Teton Pass Corridor Study (January 2024) compiled WYDOT crash data for WY 22 from milepost 4 to 17.49 over the five-year period from 2016 to 2020: 8 fatal incidents, 60 incidents involving other injury, 78 crashes related to roadway junctions, and 244 property-damage-only (PDO) events — an average of 62 crash events of all types per year. That study period closed in 2020; at least three additional fatalities have occurred on the corridor since — the death in the August 2024 runaway and the two deaths in the July 7, 2026 crash described above.

2.3 A note on the term “brake failure”

Preliminary releases describe equipment failure — brake failure — as the suspected primary cause of the July 7 crash. That term needs careful handling in policy discussion, because on a sustained steep

grade, loss of service brakes is usually a consequence rather than an independent mechanical event. Commercial driver training doctrine is uniform on the point: on a long, steep downgrade, the engine — in a low gear selected before the descent begins — is the principal means of speed control, and the service brakes are only a supplement, applied briefly and intermittently. Used continuously to hold back a heavy vehicle on a grade like Teton Pass’s, friction brakes overheat: drums expand, friction falls, and braking capability fades away at precisely the moment it is most needed. A driver who tries to downshift only after speed has built may be unable to engage any gear at all, losing engine braking as well. In other words, on a mountain descent, brakes that “fail” have very often been asked to do a job that gearing was supposed to do. The Highway Patrol’s own account of the August 2024 fatal RV crash on this pass describes the sequence exactly: the driver braked repeatedly behind slowing traffic, the brakes overheated as the vehicle neared the bottom of the grade, and it ran away. This was likely the case with [the recent runaway RV](#) and large trailer on July 16, 2026.

The policy implication is significant. Describing runaway events simply as “brake failure” invites the conclusion that they are random mechanical misfortunes answerable by inspection. Most descent brake losses are thermal fade — a predictable outcome of descending too fast or in too high a gear — and are preventable through gear selection and speed control, which is exactly what the low-gear enforcement, load-specific descent-speed advisory, and driver education options in Section 4 target. Genuine mechanical defects — brakes out of adjustment, contaminated linings, air-system faults, inoperative trailer brakes — do also occur, and the inspection and screening options target those. Whether the July 7 event was fade, defect, or both is for the Highway Patrol to determine; the option universe in this paper covers either finding.

2.4 Two distinct at-risk populations

The record shows at least two distinct at-risk driver populations, and they call for different countermeasures. The first is unfamiliar and largely non-commercial: out-of-state RV drivers, and vehicles towing trailers — the 2019, 2023 and 2024 incidents all fit this profile. These drivers are essentially invisible to the commercial-vehicle regulatory system: no CDL (commercial driver license), no electronic logging device, no dispatcher, no port-of-entry obligation, and often no awareness that Teton Pass differs from ordinary mountain driving. The second population is familiar, local commercial traffic: the July 7 truck belonged to a Victor construction firm operating in its home territory. For this population, the failure mode is not necessarily ignorance of the road but equipment condition, loading decisions and operating practices. Education and routing measures address the first population; inspection, screening, enforcement and company-level training and inspection responsibility address the second. A solution package built for only one of them will predictably continue to produce casualties from the other.

The table below shows citizen-collected traffic data for July 27, 2026 to summarize the mix of vehicle types. (This data was for daylight hours only and is used for illustrative purposes only)

Category / subcategory	Avg. count per day	Share
Total vehicles (both directions)	10,453	100%
Eastbound	5,329	51.0%
Westbound	5,124	49.0%
Vehicles towing a trailer	534	5.1%
Passenger vehicles	9,720	93.0%
Heavy commercial vehicles	596	5.7%
Dump truck	130	21.7% of heavy
Pickup, heavy (towing equipment trailer)	123	20.6% of heavy
Box truck / stepvan	120	20.1% of heavy
Utility / flatbed	115	19.3% of heavy
Tractor-trailer (single)	60	10.1% of heavy
Vocational heavy (mixer/crane/utility/refuse)	25	4.1% of heavy
Bus	13	2.2% of heavy
Tractor-dump combination	6	1.0% of heavy
Bobtail	3	0.6% of heavy
Multi-trailer	1	0.2% of heavy
RVs	128	1.2%
Camper van (Class B)	72	56.7% of RVs
Motorhome (Class A/C)	55	43.3% of RVs
Other / unclassified	9	0.1%

Table 1. Citizen-collected vehicle mix, WY 22 Teton Pass, July 27, 2026 (daylight hours only). Counts are rounded. Illustrative, not an official WYDOT traffic count.

2.5 Six structural weaknesses in the current system

Substantial measures are already in place: a 60,000-pound year-round weight limit, a seasonal trailer ban (November 15 – April 1), a 45 mph truck speed limit, weigh-in-motion detection, a brake check area, a catch-net arrestor and a gravel escape ramp. Six structural weaknesses explain why they have not closed the gap.

1. **Detection without interdiction.** The existing weigh-in-motion system records and notifies authorities when a vehicle over 60,000 pounds crosses — but nothing reliably stops that vehicle before it is committed to the grade. Senator Mike Gierau has said that staffing the weigh station around the clock is prohibitively expensive and has argued that technology should fill the role instead.
2. **Thin enforcement capacity.** Only eight of eleven Highway Patrol positions for the region that includes Teton County were filled as of July 2026, and the weigh station shed reportedly lacks the heat and restroom needed for regular staffing.
3. **No screening point on the corridor.** Wyoming operates roughly fifteen ports of entry, including one at Alpine on the Snake River Canyon alternate — but none on WY 22 - one of the most heavily traveled highway corridors in Wyoming. Screening exists on the safer route at Alpine but not on the more dangerous one, inverting the incentive.
4. **Limited escape infrastructure.** One Catch Net arrestor serves a 5.2-mile continuous steep grade and an additional gravel bed arrestor is located at MP ___. The gravel bed arrestor requires a runaway vehicle to cross the centerline into oncoming traffic – a recipe for further tragedies. A third Catch Net type arrestor at the bottom of the Pass is in the state transportation improvement program but has been pushed back at least seven years. Two siting attempts have failed: one site conflicted with a conservation easement at Trail Creek Ranch and would have required rerouting a bike path; a 2022 proposal just uphill of the Stagecoach Bar drew resident objections that traffic

queues regularly extend past the site, meaning a runaway vehicle would strike stopped cars before reaching the nets.

5. **Unactionable guidance.** “Use low gear” gives a driver no way to know which gear is low enough for their load on this grade. And drivers — including working truckers — have told reporters they had never seen a Catch Net type of arrestor and would not know what it was. A safety system its intended users do not recognize will likely not be used by visitors. A runaway truck or RV does not have time to learn about the efficacy of a catch Net arrestor with existing limited signage and lack of instruction that would be available at a port of entry.
6. **Advisory-only routing.** The Highway Patrol’s own guidance identifies Swan Valley – Alpine – Hoback Junction as the common alternate route, but that advice lives on a webpage. It appears in no consumer navigation platform and is not specifically highlighted at existing roadside decision points where an unfamiliar driver actually chooses a route. This can be better accomplished with improved variable message signs and radio advisory stations.

2.6 What is already in motion

Upcoming discussions should build on efforts already underway rather than rediscover them. Senator Gierau has begun reviving legislation he first sponsored in 2021, under which the existing in-road scale would trigger a flashing warning sign for vehicles over 60,000 pounds; a camera would photograph the plates of vehicles that continue, generating an automated citation to the owner — roughly \$500 for a first offense and \$1,000 for repeats, with a trooper check available for disputed readings. The bill died in 2021 amid surveillance objections; Sen. Gierau has said he intends to bring it back regardless of the investigation’s outcome, having asked publicly why a death should be the prerequisite for acting. The Highway Patrol itself began evaluating a “virtual port” concept for flagging overweight violators in 2019. Some county commissioners have voiced support for lower weight limits, stronger enforcement and a staffed weigh station; Commissioner Luther Propst is pursuing a heavy-vehicle ban and has argued that a credible study would strengthen the county’s position. WYDOT’s resident engineer has said publicly that he would pursue two additional arrestors if the choice were his. The Federal Highway Administration’s Teton Pass Corridor Study (2024) provides a data foundation, including 2016–2020 crash counts. And community members have organized the August 3 public meeting at the Old Wilson Schoolhouse to develop solutions.

3. Executive Summary of Solutions

No jurisdiction has solved steep-grade runaway risk with a single measure. The two most instructive precedents — South Australia’s South Eastern Freeway program, built after a coronial inquest into fatal runaway crashes in 2010 and 2014, and Colorado’s I-70 mountain corridor program — each combined automated enforcement, individualized real-time warnings, redundant escape facilities, and education aimed at the drivers actually crashing. WYDOT has put in place a similar set of improvements on US 16 near Buffalo at Deadman’s Curve and on US 14 near Greybull, detailed at the head of Section 4. The table below summarizes the universe of options developed in Section 4. Horizons are indicative: Near means roughly within a year; Mid, one to three years; Long, beyond three. Options are grouped into the three categories used in the August 3 citizen briefing: Category I, education and corridor warning systems; Category II, port-of-entry infrastructure and dedicated enforcement; Category III, vehicle restrictions and regulatory framework.

Option	What it does	Precedent	Horizon	Primary actor
CATEGORY I — EDUCATION & CORRIDOR WARNING SYSTEMS				
1. Automated overweight ticketing (revived Gierau bill)	In-road scale triggers a flashing warning; vehicles over 60,000 lb. that continue are photographed and the owner cited	South Australia camera enforcement; WHP "virtual port" concept (2019)	Near	Legislature, WYDOT, WHP
2. Load-specific descent-speed advisory	Existing weigh-in-motion and message signs display a safe descent speed for each vehicle's weight	Colorado I-70 Eisenhower system (evaluated)	Near	WYDOT
3. Free in-cab alerts	Geofenced gear-down, brake-check and arrestor alerts on truckers' ELDs, tablets and phones	Colorado "Mountain Rules" (Drivewyze / PrePass)	Near	WYDOT
4. Arrestor recognition signage	Tell drivers what the net system is, that use is free, and that no citation follows	Colorado State Patrol; South Australia practice	Near	WYDOT
5. "Hill on a Page" guide and descent video	One-page decision-point guide and video; truck and RV/trailer versions	NTARC, Mount Ousley (Australia)	Near	County, advocates, WYDOT
6. Upstream decision-point and warning signage	Divert and prepare drivers in Victor, Driggs and at Hoback Junction; pair crash imagery with actionable instructions	FHWA-documented WYDOT practice; fear-appeal research	Near	WYDOT, ITD
7. Local advisory radio station (530, 1610 or 1620 AM)	Provides more detailed information on Teton Pass safety recommendations and requirements and information on alternative routes	Used by DOTs in numerous locations	Near	WYDOT, ITD
8. Machine-readable restriction data to map platforms	Publish WY 22 limits as open data; push into HERE/TomTom, Google, Apple, and RV apps	CDOT/Esri dashboard; congressional precedent on GPS warnings	Near	WYDOT, congressional delegation
CATEGORY II — PORT OF ENTRY INFRASTRUCTURE & DEDICATED ENFORCEMENT				
9. WYO 22 port of entry at the Idaho state line	Mandatory pre-grade stop on flat ground at the state line: weight, brake and credential screening, education, diversion	Wyoming's 15-port network, incl. Alpine on the alternate route	Near (interim) / Mid (permanent)	Legislature, WHP, WYDOT
10. Infrared brake screening	Thermal cameras flag failing or inoperative brakes at a fixed check point before the full descent	Four-state evaluation	Mid	WHP, WYDOT
11. Third and Fourth arrestors	Escape-system redundancy across the 5.2-mile grade	WYDOT stated priority;	Mid–Long	WYDOT (STIP)
CATEGORY III — ROUTING, VEHICLE RESTRICTIONS & REGULATORY FRAMEWORK				
12. Lower regulated weight threshold	Extend brake-check and descent rules to pickups towing trailers, RVs and rental trucks	British Columbia (5,500 kg); Australia (4.5 t)	Near/Mid	Legislature

Option	What it does	Precedent	Horizon	Primary actor
13. Corridor-specific offence class	Escalating penalties for overweight, speed and gear violations on WY 22 specifically	South Australia s.45C (post-inquest)	Mid/Long	Legislature
14. Formal alternate-route designation	Designate Snake River Canyon as the heavy-vehicle and towing route between the valleys	WHP already advises it informally	Near	WYDOT, ITD
15. Heavy-vehicle prohibition	Ban vehicles above a defined threshold from the pass outright	Under public discussion locally	Near-Mid–Long	Legislature, WYDOT

One frequently proposed measure is deliberately absent from the table: a tunnel beneath the pass. It is addressed in Section 4.H and Appendix A. The short tunnel alignments that dominate public discussion are avalanche and winter-maintenance projects that would leave the fatal grades — including the east-side descent where the runaway record is concentrated — entirely in place, at conceptual costs of roughly \$750 million for even the shortest 1.4-mile concept and \$2.2 to \$3.8 billion for full-length bores.

4. The Universe of Options, In Depth

A Wyoming precedent: US 16 at Buffalo and US 14 near Greybull

Wyoming does not have to look out of state for a model. The descent of US 16 through Mosier Gulch into Buffalo — a steep, curving grade known locally as “Deadman’s Curve” — presents the same core problem as Teton Pass: out-of-state and less-experienced truck and RV drivers, unfamiliar with the grade, lose their brakes on the way down. WYDOT’s response there is, in effect, a working template for WYO 22, built on the same catch-net arrestor technology deployed on Teton Pass. The US 16 system near milepost 85 is one of only two in the state; it was retrofitted under a \$1.4 million contract in 2023 and stopped a runaway RV and trailer as recently as June 29, 2026, sending six occupants to the hospital, all of whom were later reported doing well. Around that arrestor, WYDOT has assembled the same layered approach this paper recommends for WY 22: a brake-check pull-off where drivers can cool their brakes before the grade begins, advance warning signs for the steep grade and sharp curves, and a dynamic message sign that warns of the grade, prompts a brake check at the next turnout, and displays whether the runaway ramp is open — the same corridor FHWA documents as a steep-grade design-exceptions case study, cited in C3 and E4 of this paper. After a series of fatal crashes on the descent, WYDOT also launched a driver-education campaign aimed explicitly at the unfamiliar, out-of-state and newer commercial drivers who account for most of the wrecks — the very population this paper identifies as the at-risk group on Teton Pass.

The Buffalo experience also carries a design lesson worth naming. One of the escape options there is an “unofficial” runaway ramp on the opposite side of the highway that WYDOT cannot legally sign as a runaway ramp, because reaching it would require crossing oncoming traffic — a direct parallel to the gravel-bed arrestor problem on WYO 22 (E2), and a reminder that an escape facility must be sited on the correct side of the roadway to be usable. The larger point for WYO 22 is that nearly every element proposed in this paper — arrestor redundancy, brake-check areas, dynamic messaging, all-vehicle warning signage, and targeted driver education — is already deployed by the same agency, on a comparable grade elsewhere in the state. The template is in-state, and the institutional knowledge to build it already exists within WYDOT.

US 14 near Greybull: a second in-state template, with measured results. The US 14 descent through Shell Canyon toward Greybull is the other Wyoming corridor where the agency has already done this work. It is a 5 to 7 percent downgrade dropping roughly 4,600 feet over 18 miles, with sharp curves — longer and shallower than Teton Pass, but posing the same problem for the same drivers. WYDOT's response there combined three of the measures this paper recommends for WY 22. First, a reduced regulatory speed: the corridor speed limit was lowered to 40 mph between roughly reference marker 70 and reference marker 80. Second, truck advisory speeds were posted, giving heavy vehicles a target descent speed rather than a generic warning — the same principle as the load-specific advisory in B1, delivered with static signs instead of weigh-in-motion. Third, and central to the driver-education argument in C1 and C5, WYDOT built an information turnout at Burgess Junction where US 14 and US 14A divide, with a mandatory stop-and-read requirement for trucks, RVs and vehicles with trailers, and a large route-map sign that lays out both descents — grade, total elevation drop, distance, curve severity, brake-cooling turnouts and runaway ramp locations — so an unfamiliar driver can choose the a more survivable route before committing to either. Those signs are reproduced later in this section.

What the crash record shows. The figure below plots reported truck crashes on US 14 between reference markers 70 and 80 by year, with the intervention dates marked: the Steamboat project (April 2015 to October 2016), the 40 mph corridor speed limit (December 2015) and the posting of truck advisory speeds. The pattern is the argument — crash counts in the years following the speed reduction and advisory-speed signing run below the pre-treatment years. The signage-and-speed package is not a substitute for physical escape infrastructure, but it is measurably better than warning signs alone, and WYDOT already owns the playbook.

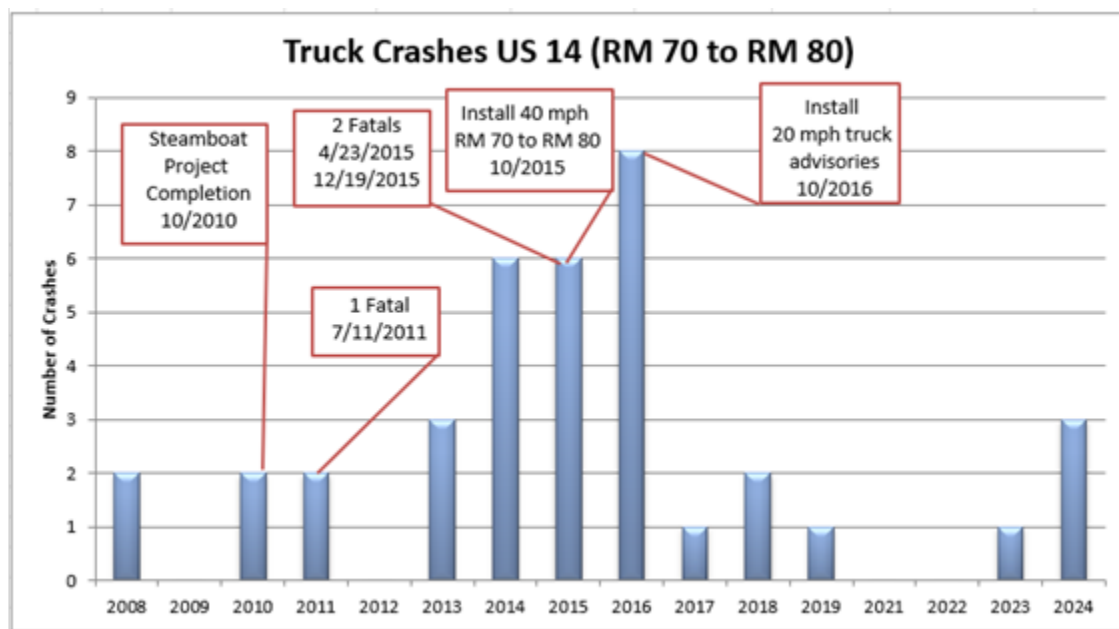


Figure 1. Reported truck crashes on US 14, reference markers 70–80, by year, with the Steamboat project, the 40 mph corridor speed limit and truck advisory speed postings marked. Source: WYDOT.

A. Enforcement and regulation

A1. Automated overweight enforcement (the Sen. Gierau legislation). This is the near-term measure with the clearest local lineage: the concept was drafted as legislation in 2021, the Highway Patrol has

been evaluating a virtual-port approach since 2019, and the sensing hardware is already in the road. It directly cures structural weakness 1 — detection without interdiction — at a fraction of the cost of round-the-clock staffing. The 2021 objection was surveillance. South Australia’s answer to the same objection is instructive: its enhanced offences apply only to heavy vehicles, and only on one prescribed stretch of road. Framing enforcement as corridor-specific and vehicle-class-specific, rather than general-purpose camera surveillance, has proven legislatively durable elsewhere.

A2. A corridor-specific offence class with escalating penalties. Attaches consequences for trucking companies at the company level rather than leaving everything on the driver.

A3. Lower the regulated weight and vehicle threshold. The 60,000-pound ceiling does nothing about a 14,000-pound pickup-and-gooseneck combination — the configuration that breached the arrestor in 2019. British Columbia requires any vehicle over 5,500 kg licensed gross weight to stop at mandatory brake checks, explicitly including a pickup towing a large trailer, regardless of brake type. Australia’s low-gear rule applies above 4.5 tons. Bringing Teton Pass descent rules down toward these thresholds is the single highest-leverage regulatory change for the non-commercial crash population.

A4. A mandatory brake check with a defined standard. Some states and provinces employ mandatory-inspection signage for grades over six percent or locations with a history of runaway incidents; Teton Pass qualifies on both. Any Teton mandate should specify the checks — brake adjustment, temperature, air pressure, trailer-brake function — and the vehicle classes covered.

A5. Heavy-vehicle prohibition. The maximal option, now in public discussion locally. It belongs in the universe with its trade-offs stated plainly: a ban would displace commerce onto the Snake River Canyon route, which is longer and has hazards of its own; it would require enforcement at both ends and a defensible weight threshold; and it would burden Idaho-side businesses. It would also, by definition, eliminate the highest-energy runaway events.

B. Real-time warning and detection

B1. A load-specific descent-speed advisory (weigh-in-motion feeding message signs). Colorado deployed this on westbound I-70 at the Eisenhower Tunnel in 1998: weigh-in-motion sensors, inductive loops and axle-configuration detection compute a safe descent speed for each individual truck and display it on a sign before a ten-mile, 5–7 percent grade. The Teton fit is unusually good: WYDOT already operates weigh-in-motion and dynamic message signs on the pass — they are simply wired for enforcement notification rather than driver feedback. Re-purposing that chain is likely the best benefit-to-cost item in this paper. The trigger threshold would need to be far lower than Colorado’s to reach Teton Pass’s vehicle population.

B2. Free in-cab alerts through existing commercial platforms. Colorado’s “Mountain Rules” campaign, with the State Patrol and the in-cab providers Drivewyze and PrePass, delivers geofenced alerts across seven mountain passes: brake-check locations, prompts to gear down with suggested maximum descent speeds, and advance notice of runaway ramps. The core mountain alert set is now free industry-wide, delivered through electronic logging devices, tablets and phones, with grade alerts firing at five percent or steeper. A two-year fleet study found 17 percent fewer over-speeding events approaching high-risk locations — even where physical signs already existed. The ask is administrative, not capital: WYDOT joins as a participating agency, as Colorado did. The limitation is coverage — this reaches ELD-equipped commercial vehicles, which usefully includes operators like the one involved on July 7, but not RVs and rentals.

B3. Infrared brake screening. Thermal cameras read wheel and brake temperature: functioning brakes show hot, inoperative ones cold. A four-state evaluation found infrared screening increased brake-related out-of-service findings by 250 percent. Two findings map directly onto Teton Pass. Georgia’s fixed-installation trial found every malfunctioning brake was on a trailer axle — tractors get serviced; trailers do not. And once it became known that screening was in use, the share of trailers with operational brakes rose: the deterrent worked even on vehicles never stopped. Constraints: the technology needs a slow-speed or stopped screening point (it failed above roughly 55 mph on mainline traffic), which pairs it naturally with options A4 and E3, and an earlier FHWA assessment flagged accuracy concerns — current-generation performance should be verified.

B4. Geofenced 511 push alerts. WYDOT already operates 511 Notify and the Wyoming 511 app. Pushing a hard alert on geofence entry at the Idaho line and at Hoback Junction costs nearly nothing. It reaches only opted-in users, who skew local — the wrong population for the education problem — but the cost is nominal.

B5. A local advisory radio station (530, 1610 or 1620 AM). A low-power Travelers’ Information Station — Highway Advisory Radio broadcast on one of the reserved AM travelers’ frequencies (530, 1610 or 1620 kHz) — would let WYDOT and the Idaho Transportation Department deliver detailed, continuously updated Teton Pass guidance that no sign panel can hold: recommended descent technique and gear selection, current vehicle and towing restrictions, seasonal trailer bans, weather and closure status, and the Snake River Canyon alternate route. Highway Advisory Radio is long-established practice at DOTs across the country for exactly this kind of location-specific safety and routing information. Its value depends on drivers knowing to tune in, so the station should be advertised on every advance variable message sign and static “tune-to” sign at the upstream decision points and approaches (see Option 6 / C5). Coordinated with ITD on the Idaho side, a single broadcast could reach traffic approaching from Idaho Falls, Sugar City, Victor/Driggs/Tetonia, Hoback Junction, Wilson and Star Valley well before the grade begins.

C. Signage and driver education

C1. High-impact warning signage Locally relatable content — this road, this vehicle type — amplifies the effect. The design rule for Teton Pass: a photograph of a wrecked truck captioned “this happened here” must be paired, on the same sign or the next one, with the action to take — gear down now, brake check ahead, arrestor at milepost 7. Threat plus instruction; never threat alone.

C2. Arrestor recognition and permission. Wyoming truckers interviewed after a 2025 arrestor save said they had never seen such a system. Three messages, posted well in advance of the arrestor, could address the recognition problem directly: what the net system is and what it looks like (a net array does not read as an escape facility the way a gravel ramp does); that using it costs the driver nothing — an assurance the Colorado State Patrol has made publicly, because hesitation driven by fear of liability is a solvable, free problem.

C3. An advance-signing audit against WYDOT’s own documented practice. FHWA’s design-exception mitigation guidance features the WYDOT US 16 (Tensleep–Buffalo) corridor as a case study: consistent advance signs for grade, curves, brake-check areas and runaway ramps; an electronic sign with radar that displays SLOW DOWN when a vehicle approaches too fast; and multiple full pull-off areas. That corridor is a seven percent grade; Teton Pass is steeper. The ask is internal consistency with the agency’s own documented best practice, not innovation.

C4. A “Hill on a Page” guide and descent video. A one-page guide marking critical decision points, the grade profile, gear guidance, and arrestor-bed locations — built explicitly so an unfamiliar driver can

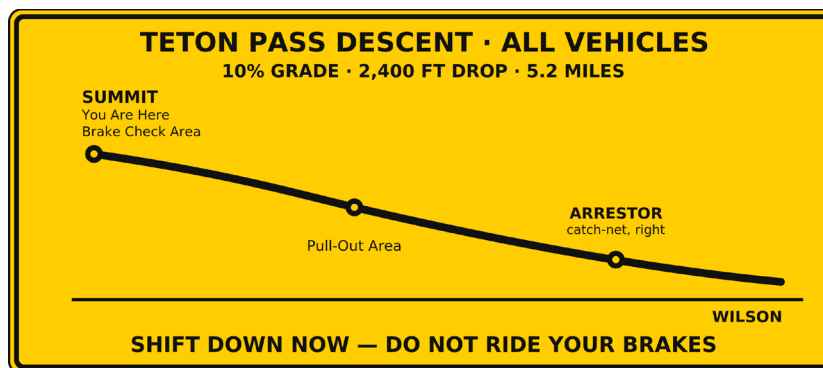
acquire a local driver's knowledge before the trip. A Teton Pass version should exist in truck and RV/trailer editions, distributed through the channels in Section F. Colorado DOT has a video series called "Mountain Rules" including this instructional [video](#) on driving on mountain passes. Australia uses specific videos for mountain passes like this [video](#).

Until a Teton Pass video exists, the best available demonstration to link in local materials is the mountain-descent [video](#) series presented in Heavy Duty Trucking's "Do Your Drivers Know How to Handle Mountain Driving" (<https://www.truckinginfo.com/blogposts/do-your-drivers-know-how-to-handle-mountain-driving>). A driving instructor descends British Columbia's Blueberry-Paulson grade — seven miles at six to eight percent — loaded first to 80,000 and then to 102,000 pounds, controlling speed with the engine brake alone and never touching the service brakes, with animations showing what happens inside an overheating brake drum. It is the clearest visual proof available that gearing, not braking, is what brings a heavy vehicle down a mountain — and a companion segment covers brake-fade mechanics for drivers who have never seen a drum fail.

C5. Upstream decision-point signage. The decision to take Snake River Canyon is made in Sugar City, Driggs, Victor, Idaho Falls, or at Hoback Junction — not at milepost 7. Static and seasonal dynamic messaging and advisory radio station messages at those points, coordinated with the Idaho Transportation Department, should present the canyon route as the default for heavy and towing traffic. Signage placement should follow the decision, not the hazard. Every advance variable message sign at these upstream decision points should additionally carry a tune-to line — for example, "TUNE TO 1610 AM · TETON PASS SAFETY INFO" — pointing drivers to the local advisory radio station (Option 7; see B5) for the fuller descent guidance, vehicle restrictions and alternate-route information that a fixed sign panel cannot convey. The following set of examples show possible concepts for consideration.

Sign A · Summit Advance Profile. *Full descent profile with a brake check area and a "You Are Here" marker, addressed to all vehicles rather than trucks only.*

TO-DO: need grades added and additional similar signs at base of Pass on each side showing lower brake check areas at weigh station and at sand storage pull out; add a similar series for westbound and eastbound traffic



Sign B • All-Vehicle Low Gear. *Plain-language low-gear instruction that names every vehicle type.*

TO-DO: place on both sides of Pass at selected locations



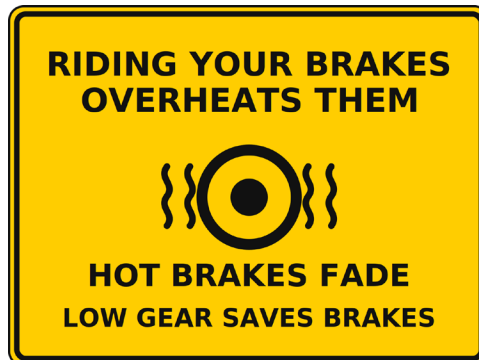
Sign C • Shift-Down Cue. *Behavioral cue: if you are gaining speed, shift to a lower gear now.*

TO-DO: place on both sides of Pass at selected locations



Sign D • Brake-Fade Explainer. *Explains the "why" most non-commercial drivers were never taught: brake fade.*

TO-DO: place on both sides of Pass at selected locations



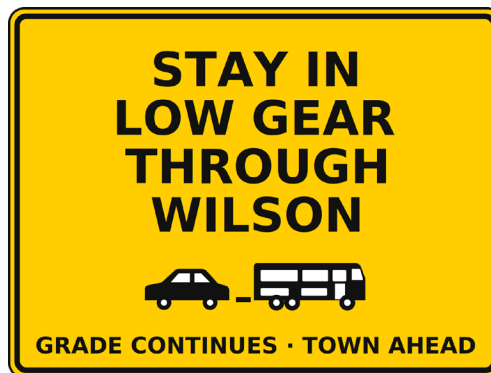
Sign E • This Means You. *"This means you," with RV-with-trailer, semi, and pickup-with-trailer icons.*

TO-DO: need better vehicle graphics — place on both sides of Pass at selected locations



Sign F • Bottom-of-Pass / Town of Wilson. *Bottom-of-pass reminder for vehicles entering the Town of Wilson.*

TO-DO: need better graphics



Sign G • Catch-Net Arrestor. *Emergency guidance directing a brakeless vehicle to the catch-net arrestor.*

TO-DO: place twice in advance of Catch Net



Note: these mockups are schematic concepts for discussion, not finished designs. Grade figures and distances shown are illustrative and would be verified against WYDOT corridor data, and the vehicle icons would be replaced with official MUTCD pictographs for any WYDOT-facing use. The intent is to show that a full family of all-vehicle messaging — summit advance profiles, low-gear and shift-down cues, a brake-fade explainer, and emergency catch-net guidance — could be developed for both directions of travel and staged from the upstream decision points down to the bottom of the pass.

Real WYDOT practice on US 14: the Burgess Junction stop-and-read turnout

The two signs below are not concepts. They are in service on US 14 in the Bighorn Mountains, where WYDOT requires trucks, RVs and vehicles with trailers to stop and read a route-map sign before choosing between the US 14 and US 14A descents. Together they are the closest working in-state precedent for the upstream decision-point signage recommended in C5 and D1, and they show that a mandatory stop aimed at non-commercial vehicles is established Wyoming practice, not a novel imposition.

Sign H • Mandatory stop-and-read (US 14, Burgess Junction). Redrawn to scale from the WYDOT original. WYDOT directs all trucks, RVs and vehicles with trailers to stop at the turnout ahead and read the route map before descending — the interim state-line brake-check stop proposed in E3 and D3 would work the same way.



Sign I • Route-choice map at the turnout (US 14 / US 14A). The sign the driver is required to read. It shows both descents with grade, total elevation drop, distance, curve severity, brake-cooling turnouts and runaway ramp locations, plus a “You Are Here” marker — US 14A at 10 percent and a 3,600-foot drop in 10 miles, US 14 through Shell to Greybull at 5 to 7 percent and a 4,600-foot drop in 18 miles. This is the model for presenting the Snake River Canyon alternate at Victor, Swan Valley and Driggs (C5, D1, D2): the choice is framed where the driver can still make it. This sign could be combined with more detailed information from a radio advisory station at each sign location



Signs H and I: US 14 / US 14A information turnout at Burgess Junction, Wyoming. Sign H redrawn from a WYDOT original; Sign I photograph courtesy RVtechmag.

D. Routing, navigation and the alternate corridor

D1. Formal designation of the Snake River Canyon alternate. The Highway Patrol's guidance already names Hoback Junction – Alpine – Swan Valley as the common alternate route. Formal designation as the heavy-vehicle and towing route would make it enforceable, signable and mappable — and the Alpine port of entry anchors it. This is inherently bi-state work with Idaho.

D2. Machine-readable restrictions pushed into navigation platforms. Consumer navigation does not carry vehicle-specific restrictions, and federal guidance acknowledges that consumer GPS generally does not warn of restricted roads. The pathway has four steps. First, WYDOT publishes WY 22's restrictions — weight limit, seasonal trailer ban, grade — as authoritative, machine-readable open data rather than a PDF; Colorado's freight office did precisely this, replacing a static map with a live GIS dashboard. Second, the feed goes to HERE and TomTom, which supply restriction data to many downstream apps. Third, the state approaches Google, Apple and Waze directly, ideally with congressional support; there is precedent — Senator Blumenthal formally demanded those platforms implement commercial-vehicle route warnings after repeated bridge strikes. Fourth, and most tractable, the RV-specific ecosystem — trip planners and RV GPS units that already carry grade warnings — is small, reachable, and aimed squarely at the at-risk population. Throughout, one caution must survive in all messaging: posted signs are law; app data is advisory.

D3. A port of entry at the Idaho/Wyoming state line. Wyoming operates roughly fifteen ports of entry, positioned overwhelmingly on the long-haul freight corridors: Interstate 80 at Cheyenne, Laramie and Evanston; Interstate 25 at Cheyenne and Casper; Interstate 90 at Gillette, Sundance and Sheridan/Dietz; plus Alpine, Kemmerer, Frannie, Lusk, Torrington and a cooperative facility at Fort Collins, Colorado. Every commercial vehicle entering the state is required to stop at one. There is no port anywhere on WY 22 — even though its lower section is, by WYDOT's own data, Wyoming's busiest two-lane highway, carrying about 18,000 vehicles per day on average and 24,000 to 27,000 in peak summer between Jackson and the Teton Village/WY 390 junction. The asymmetry is stark: several staffed ports screen corridors carrying comparable or lighter traffic, while the steepest sustained grade in the state's highway system screens no one. And the port that does exist in the region sits at Alpine — on the safer Snake River Canyon alternate — so a heavy vehicle can avoid screening entirely by choosing the more dangerous route.

The user mix on WY 22 is precisely the population a port exists to screen and inform. It includes commercial trucks operating up to — and, as the weigh-in-motion record shows, sometimes beyond — the 60,000-pound limit; long-haul truckers misrouted onto the pass by consumer navigation platforms that present it as the shortest line between the Idaho side and Jackson and that carry no vehicle-restriction data; RV drivers, very much including RVs towing cars or trailers — the configuration in the 2023 runaway that careened into Wilson; rental trucks; pickups with goosenecks and utility trailers; and drivers with no mountain experience at all. None of these users currently encounters a single mandatory stop, screening, or face-to-face contact point between the Idaho line and the bottom of the grade in Wilson.

Siting matters as much as the facility. The right location is at or near the Idaho/Wyoming state line, where the valley floor west of the climb offers adequate flat ground — capturing eastbound traffic before it commits to the ascent and, more importantly, before the descent into Wilson where the runaway record is concentrated. A facility at the summit or on the Wilson side arrives too late by definition. A state-line port creates a decision point at which weight and brakes are verified, the descent

guide is put in a driver's hands, low-gear technique is confirmed for the vehicle and load, and unsuitable vehicles are diverted to the canyon route through Victor and Swan Valley before a single foot of the steep grade. The staffing model already exists in the Highway Patrol's port officer corps; an interim variant is a seasonal or peak-period mobile post; and the facility combines naturally with the permanent brake check and infrared screening described in E3 and B3.

E. Physical facilities

E1. Third and fourth arrestors. This is already the agency's internal position, stalled for want of funding and siting. The added arrestor sits in the state transportation improvement program but has been deferred at least seven years. The siting history carries a real engineering challenge: the 2022 Wilson vicinity Catch Net proposal may be problematic given evidence that traffic queues regularly extend uphill past the site — so arrestor siting must be queue-aware, using new data regarding congestion in the corridor. Given increasing accidents and fatalities, the additional escape ramp concept along the straight section of WY 22 at the Trail Creek Ranch conservation area could be revisited and include a simpler design utilizing the more familiar gravel bed type arrestor similar to this installation on US 95 near Lewiston Idaho.



The case for redundancy is the state's own: eleven arrestor uses since 2017, each a potentially fatal crash avoided, and WYDOT's 2016 finding that one Catch Net arrestor cannot capture every errant vehicle across a 5.2-mile grade. On Colorado's I-70, the most-used escape ramp in the country sees roughly weekly summer use, and the corridor has multiple ramps; redundancy on a high-use grade is normal practice, not gold-plating. Wyoming does not have to import this logic: the state's only other catch-net arrestor, on US 16 west of Buffalo, is the direct in-state twin of the Teton Pass system (see "A Wyoming precedent: US 16 at Buffalo" at the head of this section).

E2. Escape-system design review. The 2021 Catch Net re-engineering passed a live test at 58,000 pounds and 60 mph; a periodic live-test regime would formalize that assurance. The existing gravel bed arrestor at MP __ requires a runaway vehicle to cross the centerline into oncoming uphill traffic – a deadly recipe. The same wrong-side problem is documented at Buffalo, where WYDOT cannot legally sign its US 16 escape ramp as a runaway ramp because reaching it requires crossing oncoming traffic. Construction of a simpler, more familiar style, less visually intrusive gravel bed arrestor just below the Trail Creek turnoff could be revisited as the final arrestor location given the straighter and flatter alignment and lack of congested traffic further towards Wilson.

E3. A permanent, purpose-built brake check and screening facility. The brake check currently migrates seasonally between the summit and the milepost 15.5 weigh station. A permanent facility — ideally

combined with the port function in D3 — enables face-to-face education, and a fixed, signable, mappable location. One detail from the public record illustrates how modest some missing pieces are: regular staffing of the existing weigh station shed reportedly awaits heat and a restroom. Any mandate should carry the defined inspection standard described in A4.

E4. Pull-off capacity. The FHWA-documented WYDOT case study emphasized multiple areas where a driver can get entirely off the roadway. A driver who senses soft brakes near the summit needs somewhere to stop before the point of no return; the corridor should be audited against that standard. Signage at the entrance to the existing Catch Net arrestor should prohibit parking anywhere near the entrance to maintain access for runaway vehicles.

F. Reaching the RV, rental and non-CDL population

This is where Teton Pass's runaway history is concentrated — and where the evidence base is thinnest, because almost no jurisdiction has systematically addressed it. The options below are best treated as pilots, and the absence of proven models is itself worth stating publicly.

F1. Visitor-channel distribution. Campgrounds, lodging, the Jackson Hole and Teton Valley chambers, and Grand Teton National Park entrance stations reach travelers while the route is still changeable to the Snake River Canyon.

F2. The RV navigation ecosystem. RV trip planners and RV-specific GPS units already carry grade warnings and vehicle profiles. This channel is small, commercially reachable, and precisely on target — far more tractable than the major consumer platforms.

F3. Trailer-brake awareness. Trailer brakes are both the failure locus and a responsive target. Most private towing setups have never had their trailer brakes inspected by anyone. This type of education could be included at the brake check area and handout.

G. Governance, process and funding

G1. A standing bi-state corridor safety working group. The origin traffic is substantially Idaho-side, and the July 7 operator was Idaho-based. WYDOT headquarters, WYDOT District 3, the Highway Patrol, Teton County (Wyoming), Teton County (Idaho), the Idaho Transportation Department, emergency services and community representatives all belong at one table with other agency and citizen representation. The August 3 meeting can seed it; a standing body sustains momentum after the news cycle moves on.

G2. A focused runaway-vehicle supplement to the FHWA corridor study. The 2024 corridor study provides traffic and crash foundations but was oriented toward congestion and recreation access. A targeted supplement — a complete runaway-incident inventory, queue-aware arrestor siting analysis, design work for the weigh-in-motion advisory, and screening-facility siting — converts public outrage into a fundable program. This is the credibility function Commissioner Propst has pointed to.

G3. Funding. The third arrestor is already in the state transportation improvement program; the near-term fight is re-prioritization, not authorization. Federal highway safety funding — for example, the Highway Safety Improvement Program — typically favors documented crash-record corridors, which this paper's sources amply establish; current program availability and fit should be verified with WYDOT and the FHWA Wyoming Division.

G4. Memorial framing. Senator Gierau has indicated that when he brings his bill back, he intends it to carry the name of a person lost. Handled with the families' consent, memorial framing has been part of durable safety legislation elsewhere. It is noted here because it is already part of the local conversation.

H. The tunnel question

A tunnel under Teton Pass surfaces in nearly every corridor debate — and it will surface again in the discussions this paper is meant to serve. This section summarizes the costs and challenges; Appendix A reproduces the author's full question-and-answer treatment, prepared for the Geologists of Jackson Hole and the JH News and Guide hosted forum on July 24, 2024 with WYDOT participation. (A video of this forum can be found at: <https://youtu.be/MicEpNo2NrE?si=b-PbfwO4JMYJo6tD> and the tunnel is discussed at 1:40)

The short history: four alignments sketched by the Teton County engineer were discussed at a 2012 state highway meeting, where WYDOT's district engineer observed that a single tunnel estimate equaled roughly four years of his district's entire budget; WYDOT completed a conceptual-level feasibility study in 2013; the tunnel reappeared on WYDOT's federal infrastructure wish list in 2021 as a self-described moonshot; and after the 2024 Big Fill landslide closed the pass outright, the road was rebuilt — a tunnel was not considered as the permanent fix.

Could a tunnel be built? Likely yes. Assuming sufficient funding and no major geotechnical constraints, a tunnel could be constructed with a tunnel boring machine or, depending on subsurface conditions, conventional blasting. The real questions are scale and cost. The 2013 WYDOT study examined a short concept beginning just east of the Glory Slide area and emerging on the west side near the current slide-repair area — about 1.4 miles, avoiding the major slide paths. A tunnel spanning the full existing corridor, from the sand storage area to Coal Creek, would exceed 4.2 miles; extended to also bypass the Town of Wilson, roughly 5.9 miles. At a feasibility-level assumption of \$100,000 per lineal foot, the conceptual construction costs are approximately \$750 million for the 1.4-mile short concept (7,400 lineal feet); \$2.2 billion for a Heidelberg-area-to-Coal-Creek bore (4.2 miles, 22,200 lineal feet); and \$3.8 billion for a Hardeman Ranch-to-Coal-Creek alignment (7.2 miles, 38,000 lineal feet). These are construction costs only; annual operations and maintenance would likely run in the millions of dollars, plausibly requiring tolls of at least \$60 each way. The 7.2-mile figure equals the length of the Mont Blanc Tunnel between France and Italy — which carries about 5,000 vehicles per day with enforced spacing (a fraction of Highway 22's volumes), charged a one-way toll above \$63 in 2026, and whose 1999 fire, started by a single burning truck, killed 39 people and forced a generational safety retrofit.

The delivery challenges are equally structural. Fire-life-safety systems required under NFPA 502, the road-tunnel standard, and other applicable codes would be substantial: ventilation shafts at intervals of roughly one mile — difficult to construct and maintain on this alignment because of steep terrain, high overburden and limited access roads — plus emergency egress through a twin-bore configuration with cross passages or protected escape doors spaced approximately every 600 feet, jet fans or parallel fan galleries, fire suppression, emergency vehicle access, and 24/7 monitoring and staffing. (The alpine comparisons people reach for are mostly rail tunnels, which use smaller bores and lighter fire-life-safety systems because electric trains do not carry vehicular fuel risks.) Tunnel spoils would need a disposal or reuse site that may be difficult to identify and permit. Planning, design, environmental review, permitting and construction would likely take well over ten years. And improved access between Teton Valley and Jackson Hole would create its own growth pressures and ecosystem impacts.

Finally, relevance: the short concept that dominates public discussion has been an avalanche and winter-maintenance focused project at the Glory and Twin Slide areas. That type of tunnel concept

would leave the east-side descent into Wilson — where the July 7 dump truck, the 2019 gooseneck, the 2023 motorhome, the August 2024 RV and the July 16, 2026 RV all lost control — exactly as it is. Only the full-length bores would flatten the profile, and those are the \$2.2-to-\$3.8-billion alignments with the hardest geology and the longest schedules. None of this argues a tunnel should never be studied; it argues for the right sequence. A tunnel conversation belongs in long-range corridor planning with a refreshed conceptual estimate — not in the safety program’s critical path. Every near- and mid-term option in this paper can be delivered for a small fraction of the shortest tunnel concept, decades sooner, and aimed at the crash type that is actually killing and injuring people.

5. Suggested Sequencing

Near term (0–12 months). Install temporary variable message signs and radio advisory stations at key decision points to divert vehicles to the safer Snake River Canyon route and provide upstream real time information on safe driving on Teton Pass; produce and distribute the Teton Pass “Hill on a Page” and video, including the RV edition (C4, F1, F2); construct interim port of entry facility at the State Line parking/turnaround area with mandatory brake checks for RVs, vehicles towing trailers and heavy trucks; publish WY 22 restrictions as machine-readable open data (D2, step one); audit all signing and add/modify signs through corridor (C3); enhance upstream decision-point signage with Idaho (C5); stand up 511 geofence alerts (B4); form the bi-state working group and scope the study supplement (G1, G2). Most of these require administration, not appropriation.

Mid term (1–3 years). Construct the third arrestor (E1); Pass automated overweight enforcement (A1); convert the existing weigh-in-motion and message signs into a load-specific descent advisory (B1); pilot infrared brake screening (B3); build the permanent brake check and screening facility and define its inspection standard (E3, A4); complete port-of-entry siting (D3); lower the regulated weight threshold (A3); formally designate the alternate route (D1); complete the escape-system design review (E2).

Long term (3+ years). Enact a corridor-specific offence class if mid-term measures underperform (A2), and revisit the heavy-vehicle prohibition question (A5) with the diversion and threshold analysis from the study supplement in hand — along with whatever the Highway Patrol’s July 7 findings indicate. A tunnel, if the region chooses to study one, belongs in long-range corridor planning per Section 4.H, off the safety program’s critical path.

Appendix A — Teton Pass Tunnel Concept: Questions and Answers

Adapted from the author's draft speaking points summarizing the costs and challenges of tunneling under Teton Pass, prepared for the Geologists of Jackson Hole. Lightly edited for format and consistency; all figures are conceptual and feasibility-level.

Can a tunnel replace all or part of the Teton Pass highway?

Likely, yes. Assuming sufficient funding and no major geotechnical constraints, a tunnel could potentially be constructed using newer technology such as a tunnel boring machine (TBM). Depending on subsurface conditions, conventional blasting may also be feasible.

How long would the tunnel need to be?

WYDOT completed a conceptual-level feasibility study in 2013 that considered a shorter tunnel beginning just east of the Glory Slide area and emerging on the west side near the current slide-repair area. This concept would be approximately 1.4 miles long. The alignment would avoid the major existing slide paths and would likely be less expensive than a tunnel spanning the full pass area.

A longer tunnel spanning the existing Teton Pass corridor from the sand storage area to Coal Creek would be more than 4.2 miles long. If the tunnel were extended to also bypass the Town of Wilson, it would be approximately 5.9 miles long.

For comparison, the Mont Blanc Tunnel between France and Italy is 7.2 miles long. It carries more than 5,000 vehicles per day, with traffic spacing used to reduce safety risks. In 2022, a one-way toll cost more than \$57. The 1999 Mont Blanc Tunnel fire, caused by a burning truck carrying margarine and flour, resulted in 39 fatalities and led to major safety upgrades.

What is the conceptual-level cost estimate?

The following conceptual estimates use a feasibility-level assumption of \$100,000 per lineal foot. These figures are preliminary and should be refined with a more current conceptual cost estimate.

2013 short tunnel concept: 1.4 miles / 7,400 lineal feet = approximately \$750 million

Heidelberg area to Coal Creek: 4.2 miles / 22,200 lineal feet = approximately \$2.2 billion

Hardeman Ranch area to Coal Creek: 7.2 miles / 38,000 lineal feet = approximately \$3.8 billion

These estimates must also account for significant fire-life-safety systems required by NFPA 502, the road-tunnel standard, and other applicable codes. The figures above reflect construction costs only; annual operations and maintenance costs would likely be in the millions of dollars.

What are the key considerations?

1. Fire-life-safety requirements would be substantial. Ventilation shafts may be needed at intervals of roughly one mile, which could be difficult to construct and maintain along the Teton Pass alignment because of steep terrain, high overburden, and limited access roads.
2. Emergency egress would be a major design requirement. In the event of an accident or fire, travelers must be able to reach a safe, ventilated area through airtight, fire-resistant doors. This could require a twin-bore tunnel with cross passages, or escape doors spaced approximately every 600 feet. Ventilation systems may include jet fans, parallel fan galleries, or other systems designed to bring in fresh air and exhaust polluted air; multiple shafts and emergency access points would likely be required, creating significant construction impacts where shafts penetrate the

mountainside; and fire suppression, emergency vehicle access, and 24/7 monitoring would add operational complexity and ongoing staffing needs.

3. Rail tunnels, such as many systems in the European Alps, can often use smaller tunnel diameters and require less intensive fire-life-safety infrastructure, because electric trains do not carry the same fuel-related risks as vehicular traffic.
4. Tunnel spoils, including excavated rock and soil, would require a suitable disposal or reuse location, which may be difficult to identify and permit.
5. Planning, design, environmental review, permitting, and construction would likely take well over ten years.
6. If built, the tunnel would be expensive to operate and would likely require ongoing toll revenue, potentially at levels of at least \$60 each way.
7. Improved access between Teton Valley and Jackson Hole could create significant growth pressures and ecosystem impacts.

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