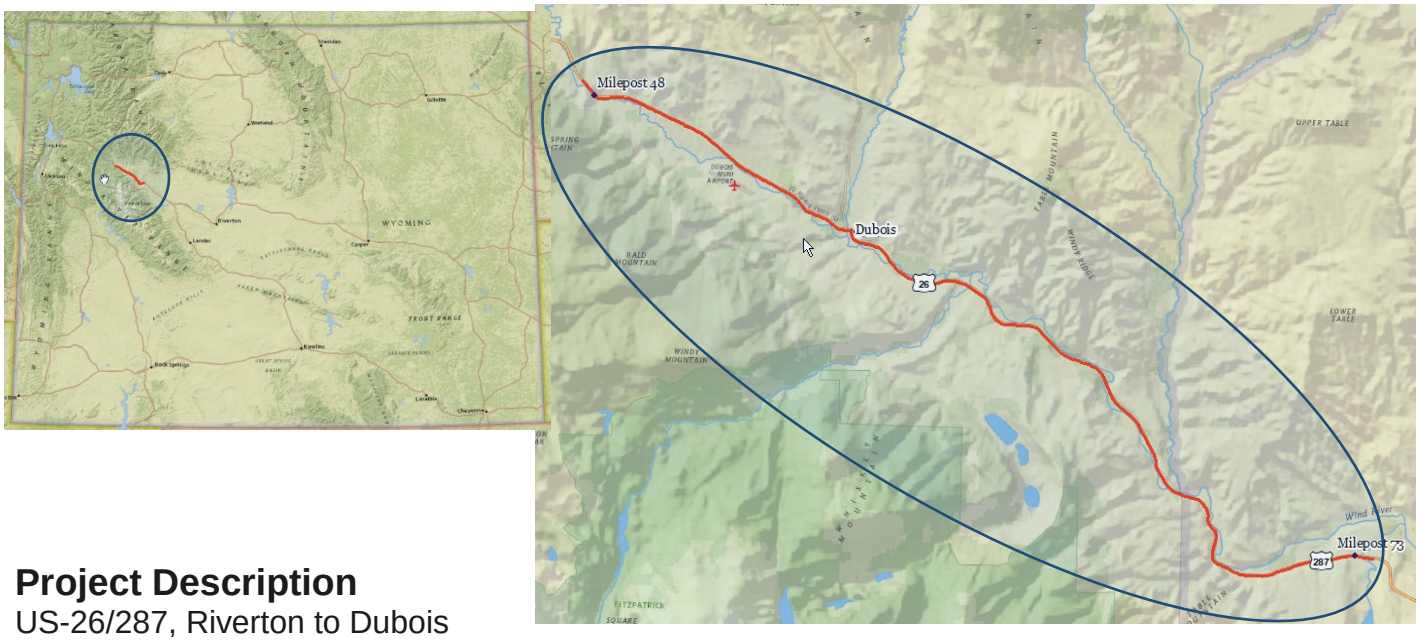
WYOMING WILDLIFE & ROADWAYS INITIATIVE
TOP 10 PROJECT BRIEFS

APPENDIX B

Wyoming Wildlife and Roadways Initiative – Project #1

Dubois Project



Project Description

US-26/287, Riverton to Dubois
Reference Marker (RM) 48 to 73
Length = 25 Miles
WWRIIT Score = 75
Crash History = 28.8 average number per year
Carcass Data = 139 average number per year

Species

Mule Deer and Bighorn Sheep

Identified Need

The Wyoming Department of Transportation's crash and wildlife vehicle collision data from 2010-2018 shows this stretch of highway consistently has a high frequency of mule deer-vehicle collisions every year. This stretch had the highest score as prioritized by the WWRIIT. Animals include migratory and residents with heavy seasonal use. Traffic volume along this stretch of highway is relatively low. Annual average daily traffic is about 1,700 vehicles, with fall and winter months averaging about 1,100 vehicles daily. While this low traffic volume should enable wildlife to cross the road more easily, the high number of collisions relative to traffic volume makes this area one of the worst in the state in terms of wildlife/vehicle collisions and risk to drivers. This project is complicated by its length and its multiple issues of animals crossing the highway.

Suggested Solution

Phase 1: Deployment of variable messaging signs to encourage motorists to slow down during peak wildlife migrations - Underway

Phase 2: Implement dual speed limits seasonally with 5 sets of dual speed limit signs and overhead messaging signs
Phase 3: Construct two (2) overpasses and eight (8) underpasses (box culverts) with high fence to funnel animals to crossing structures. Modifications to five (5) existing bridges to better allow animal passage underneath.

Preliminary Estimated Project Costs

Phase 1: Estimated cost to purchase and deployment variable messaging signs is $115,000
Phase 2: Estimated costs to implement dual speed limit and overhead signs is $750,000.
Phase 3: Construction of wildlife crossings, fence and existing structure modifications is estimated to be $20 to 25 million.
Total cost is estimated to be $21M to $26M.

Expected Benefits

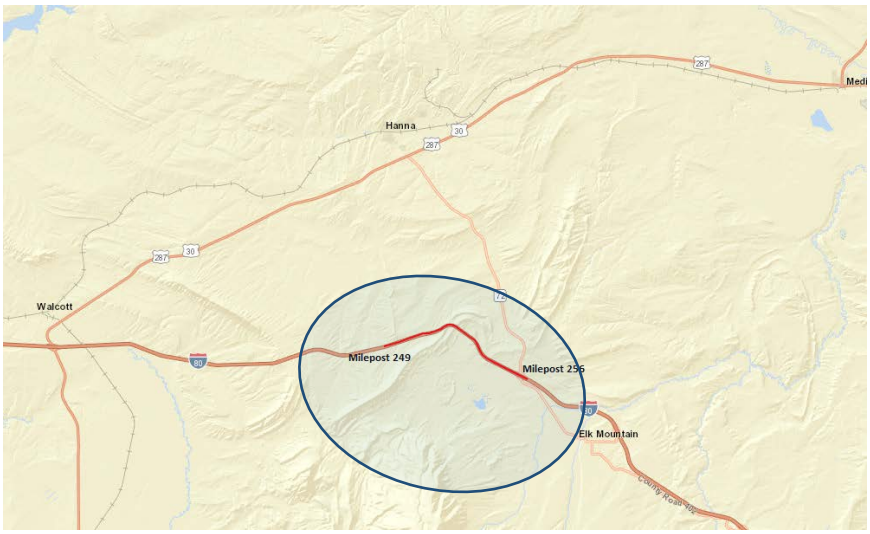
This project would make the roadway safer for both motorists and wildlife by reducing vehicle collisions with mule deer and bighorn sheep in these ecologically and economically important herds. Habitat connectivity will be enhanced which will help to conserve migrations in this area. Elk and moose movements may also be enhanced.

Project Difficulties

Right-of-Way purchase or obtaining easements would likely be required. Additional work will be needed to determine starting and stopping points for fence in Dubois. Land ownership is primarily private or Reservation. Private land issues have potential to be contentious even when not discussing wildlife crossing. There are likely visuals and depredation concerns. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #2

Halleck Ridge Project



Project Description

I-80, Laramie - Walcott Junction
Reference Marker (RM) 249-256
Length = 7 Miles
WWRIIT Score = 70
Crash History = 2 average number per year
Carcass Data = 24.8 average number per year

Species

Mule Deer and Elk

Identified Need

This area of I-80 serves as a barrier to mule deer and elk movement. The area is believed to be conducive to connecting habitats on both sides of I-80 to enable north-south movements of mule deer and elk that historically would have crossed.

Suggested Solution

This project would construct three (3) overpass structures which spans the lanes of I-80 with high fence to funnel animals to the overpass structures.

Expected Benefits

This project would reduce wildlife-vehicle collisions and reduce big game mortalities providing safer roadways for motorists and wildlife. The project would greatly enhance habitat connectivity for the affected species, potentially restoring historic movements, providing enhanced gene flow within species, and providing access to additional habitats for wildlife in this area.

Preliminary Estimated Project Costs

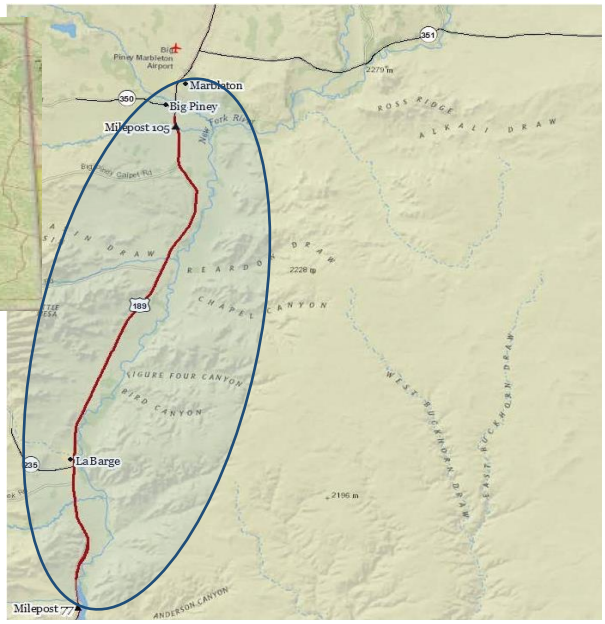
Construction of wildlife crossings and fence are estimated to be $27M.

Project Difficulties

Interstate road crossings entail considerable construction effort. Land ownership includes private and federal including two private landowners and Bureau of Land Management. The potential of adding a third lane will have a large effect on cost and constructability of structures. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPAt document.

Wyoming Wildlife and Roadways Initiative – Project #3

Dry Piney Project



Project Description

US-189, La Barge - Big Piney
Reference Marker (RM) 77 to 105
Length = 28 Miles
WWRIIT Score = 70
Crash History = 17.2 average number per year
Carcass Data = 124.4 average number per year

Species

Mule Deer, Pronghorn

Identified Need

This stretch of US-189 has one of the highest rates of mule deer vehicle collisions in Wyoming. The migrating and wintering deer impacted are part of the Wyoming Game & Fish Department's priority Wyoming Range mule deer herd. The road has existing sheep fence (woven wire) along both sides which creates a substantial movement barrier. In addition to mule deer, vehicle collisions with pronghorn and moose also occur along this stretch.

Suggested Solution

This project could be constructed in whole or in phases.
Phase 1 (RM 86.0 - 90.0): One (1) Underpass with high fencing to funnel animals to the crossing structures
Phase 2 (RM 77 – 86): 4-8 Additional underpasses with high fencing to funnel animals to the crossing structures
Phase 3 (RM 90 – 105): 4-8 Additional underpasses with high fencing to funnel animals to the crossing structures

Preliminary Estimated Project Costs

Phase 1: Construction of wildlife crossings and fence are estimated to be $2.0M to $2.5M

Phase 2: Construction of wildlife crossings and fence are estimated to be $5M to 17M
Phase 3: Construction of wildlife crossings and fence are estimated to be $5M to $17M
Total cost is estimated to be $12M to 36.5M

Expected Benefits

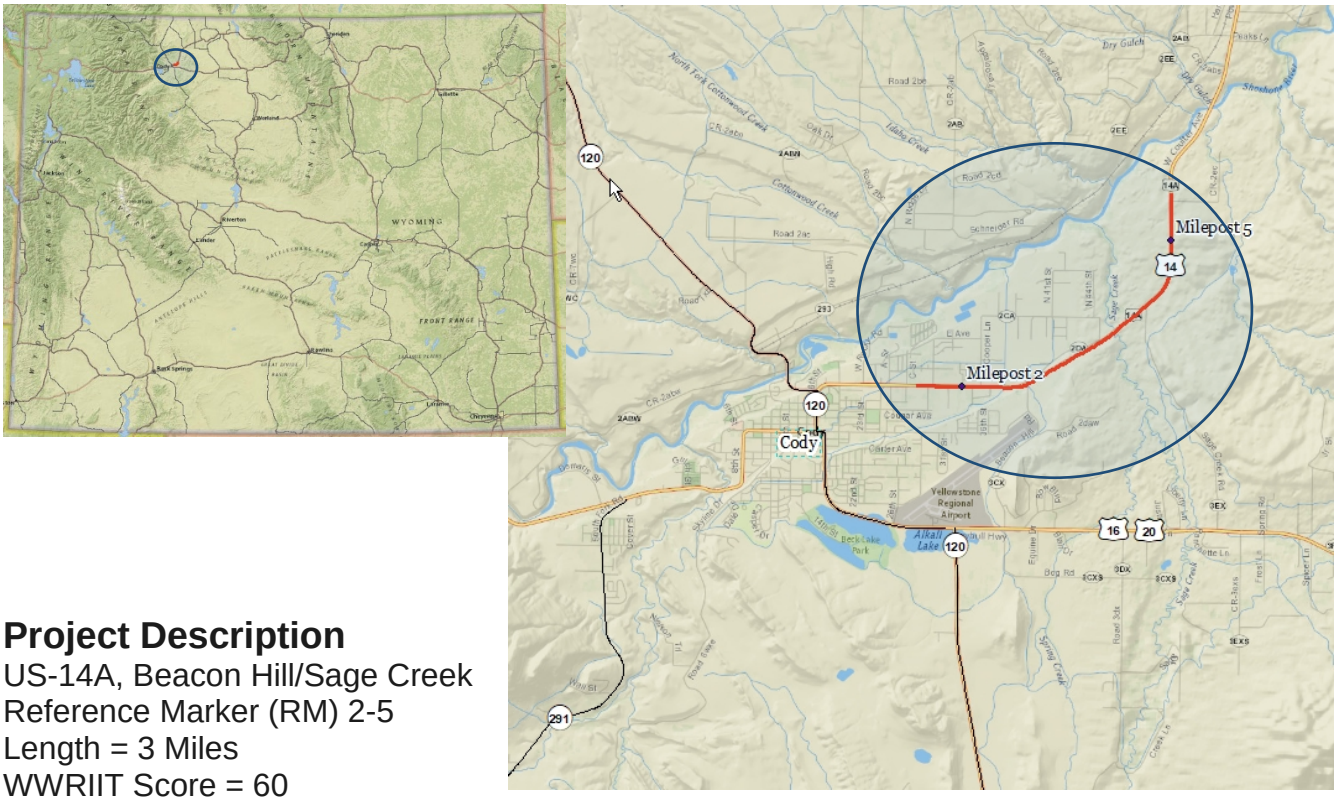
This project would reduce vehicle collisions with mule deer and decrease mortality in this ecologically and economically important herd by improving habitat connectivity, and helping to conserve migrations in this area. Pronghorn and moose movements could also be enhanced.

Project Difficulties

Additional work will be needed to determine the starting and stopping points of the fence in La Barge. There are numerous locations next to river or rock formations where passage will not work. Pronghorn may not utilize the underpasses. Land ownership is primarily BLM on west and interspersed private on east. Private owners may need to be compensated for damages due to earthwork and/or right of way acquisition. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #5

Cody Project



Project Description

US-14A, Beacon Hill/Sage Creek
Reference Marker (RM) 2-5
Length = 3 Miles
WWRIIT Score = 60
Crash History = 10 average number per year
Carcass Data = 31 average number per year

Species

Mule Deer

Identified Need

This section of US-14A serves as a partial barrier to mule deer movements. There is a riparian corridor associated with Sage Creek that serves as a natural passage for deer. Traffic volumes are high with peaks at dawn and dusk. Deer-vehicle crashes are mostly seasonal with a peak in fall during the rut.

Suggested Solution

The project would construct high barrier fence to funnel mule deer to an existing bridge over Sage Creek where they can cross safely.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities providing safer roadways for motorists and wildlife. The project would greatly enhance habitat

connectivity for the affected species by improving movements and providing for enhanced gene flow within species and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

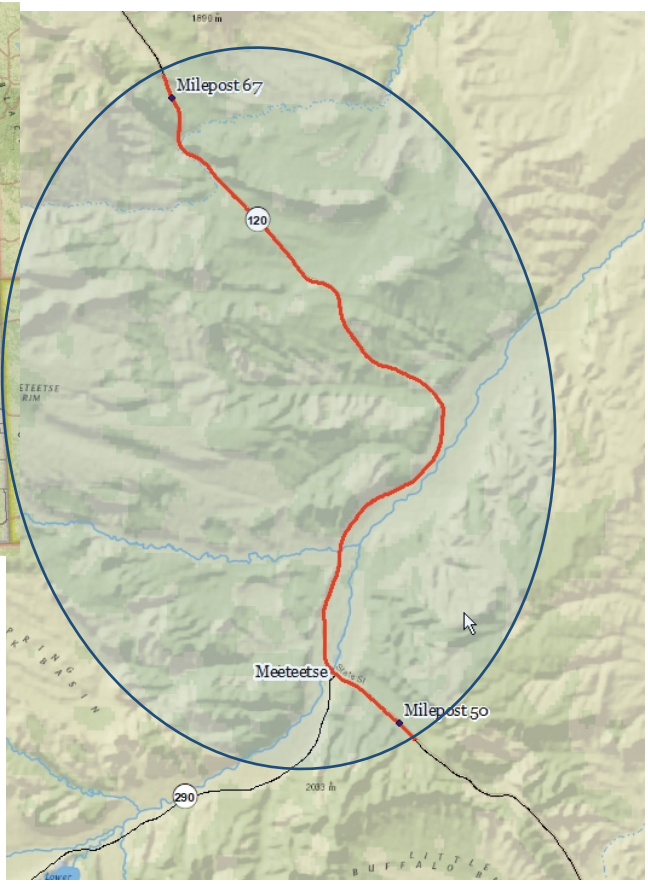
Construction of fence and associated cattle guards, etc. would cost an estimated $1M.

Project Difficulties

Additional work will be needed to determine the starting and stopping points for the new fencing. Land ownership will be a concern when discussing cattle guard vs gate. There will be long term maintenance costs. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #4

North of Meeteetse Project



Project Description

WY 120, Meeteetse - Cody
Reference Marker (RM) 50-67
Length = 17 Miles
WWRIIT Score = 65
Crash History = 18.6 average number per year
Carcass Data = 44.2 average number per year

Species

Mule Deer, Elk, Pronghorn

Identified Need

Elk, deer, and pronghorn all get hit by vehicles in this section as this area serves as a partial barrier. Elk-vehicle collisions are particularly dangerous and costly.

Potential Solution

Short-term: Install dynamic message signs to warn drivers and right-of-way fence modifications

Long-term: Install two (2) overpasses and eight (8) underpasses (box culverts or bridges) and high fencing to funnel animals toward crossing structures.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities providing safer roadways for motorists and wildlife. The project would greatly enhance habitat connectivity for the affected species, improving movements and providing enhanced gene flow within species, and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

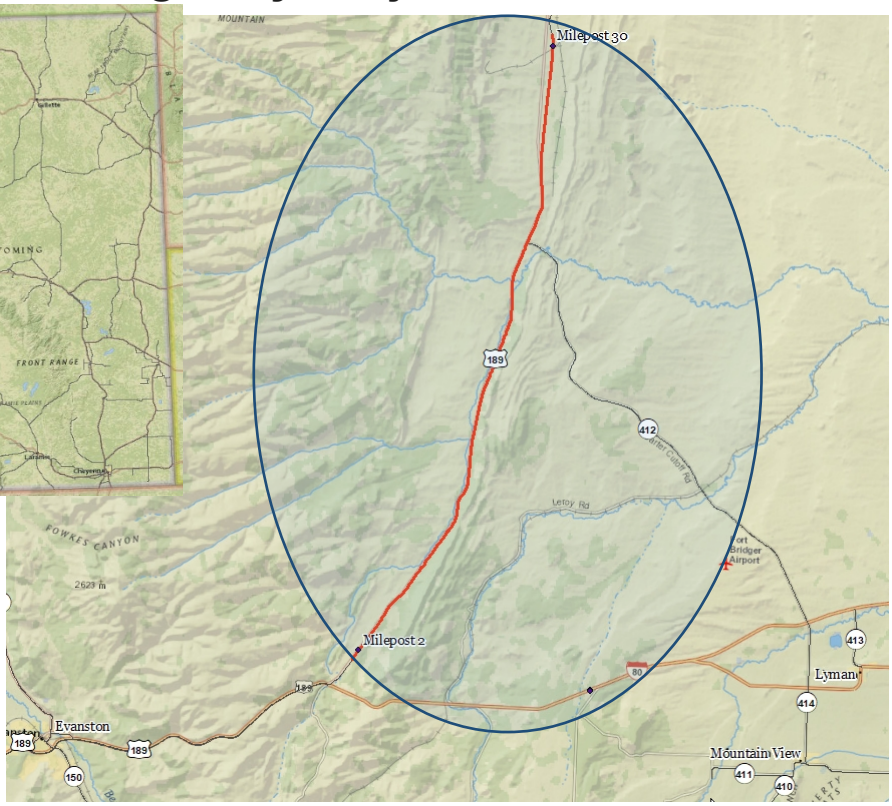
Construction of wildlife crossings and fence is estimated to be $19M to $25M.

Project Difficulties

Additional work will be needed to determine starting and stopping point of fence at Meeteetse. Reinforced concrete boxes allowed where a high percentage of deer (Meeteetse vicinity). Land ownership is primarily private until RM 58, and primarily Bureau of Land Management and interspersed private after RM 58. Land ownership includes private and federal. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #6

Kemmerer Highway Project



Project Description

US-189, I-80 - Kemmerer:
Reference Marker 2-30
Length = 28 Miles
WWRIIT Score = 55
Crash History = 15.6 average number per year
Carcass Data = 88.6 average number per year

Species

Mule Deer and Pronghorn

Identified Need

High rate of deer-vehicle collisions (average 88+ per year, but known to be under-reported) and high collision rate given low traffic volume. Impacts Wyoming Range deer, a Wyoming Game and Fish Department priority herd, that migrate long distances. Right-of-Way (ROW) fence creates a barrier for pronghorn.

Suggested Solution

The project would construct four (4) overpasses and 10 underpasses (box culverts or bridges) and high barrier fence to funnel mule deer and pronghorn to the crossing structures.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities, providing safer roadways for motorists and wildlife. The project would greatly enhance habitat

connectivity for the affected species, improving movements and providing enhanced gene flow within species, and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

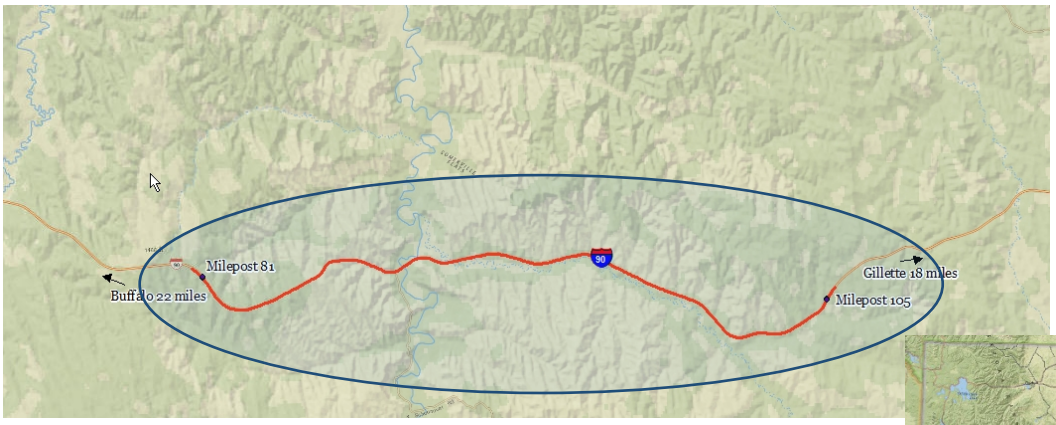
Wildlife crossings and fence construction costs are estimated at $31M to $41M.

Project Difficulties

An overpass is preferred for use by pronghorn, and overpasses have greater build costs. Land ownership is mixed (Bureau of Land Management and Union Pacific Railroad) and purchase or easement of ROW is expected. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural resources which would be incorporated into a required National Environmental Policy Act document.

Wyoming Wildlife and Roadways Initiative – Project #7

Powder River Project



Project Description

I-90, Buffalo – Gillette
Reference Marker 81-105
Length = 24 Miles
WWRIIT Score = 50
Crash History = 38.6 average number per year
Carcass Data = 62.4 average number per year

Species

Mule Deer

Identified Need

This section of I-90 experiences high numbers of wildlife-vehicle collisions primarily involving mule deer as they negotiate crossing the roadway. The area serves as year-long range for this species but they do try and move north and south as weather and range conditions change. The roadway serves as a partial barrier to these movements.

Suggested Solution

Short-term: Install high barrier fence to funnel mule deer, and some pronghorn, to existing bridge locations.
Long-term: Install 16 bridge underpasses with high fencing to funnel animals to the crossing locations.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities, providing safer roadways for motorists and wildlife. The project would enhance habitat connectivity for the affected species, improving movements and providing enhanced gene flow within species, and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

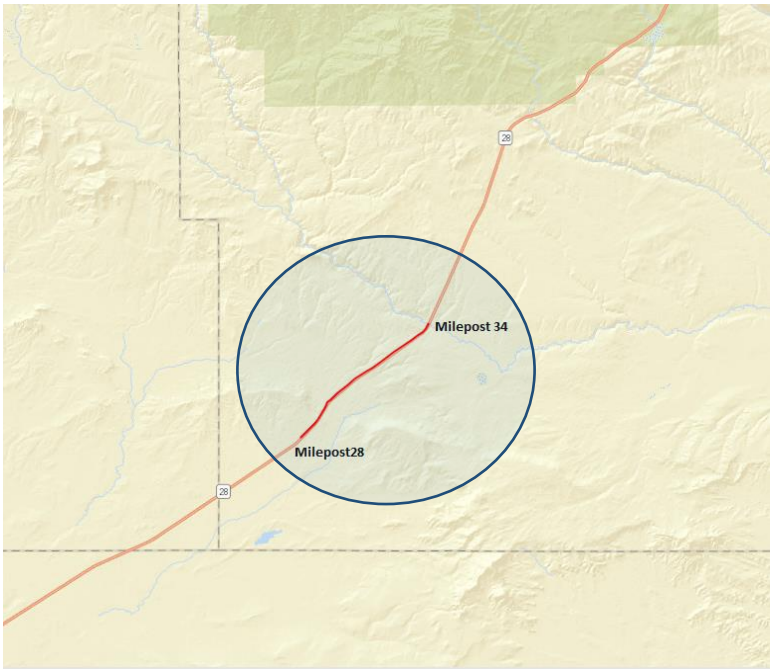
Construction of wildlife crossing and fence are estimated at $30M to 37M.

Project Difficulties

The length of the project area would require long stretches of barrier fencing to funnel animals to existing bridges suitable for enabling crossing. Land ownership mostly private with some Bureau of Land Management. Barber Creek Road interchange could be retrofitted by removing some cattle guard and building in new location. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #8

Sweetwater Project



Project Description

WY-28, Farson - Lander
Reference Marker (RM) 28-34
Length = 6 Miles
WWRIIT Score = 50
Crash History = 0.2 average number per year
Carcass Data = 1.6 average number per year

Species

Mule Deer, Pronghorn, and Moose

Identified Need

Migratory pronghorn and mule deer from the Red Desert to Hoback migration route are both impacted at this site. These are large, high-profile mule deer and pronghorn herd units that cross the highway during spring and fall migrations. Wildlife-vehicle collisions are believed to be under-reported. Current right-of-way fencing creates a significant barrier for pronghorn and moose calves. This moose herd unit is struggling and numbers are down and any highway mortality is likely additive. Moose pose an even greater risk to motorist safety.

Suggested Solution

Short-term: Modifications to right-of-way fencing, installing opposing gates to be opened during migrations, and seasonal variable message signs to alert drivers.

Long-term: Install one (1) overpass, two (2) bridges, and high fencing to funnel animals to crossing structures.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities, providing safer roadways for motorists and wildlife. The project would greatly enhance habitat connectivity for the affected species, improving movements and providing enhanced gene flow within species, and providing safer access to habitats for wildlife in this area.

Preliminary Costs

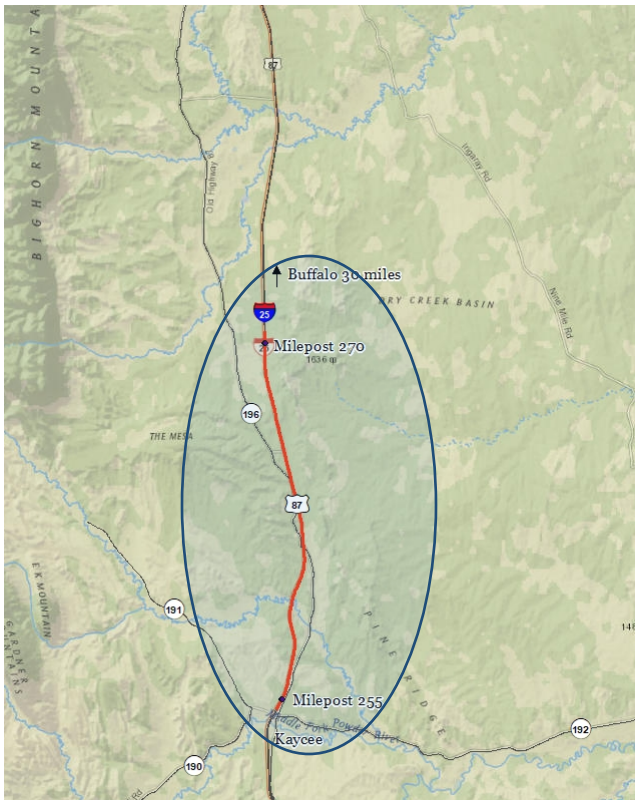
Construction of wildlife crossings and fence are estimated at $10M to $14M.

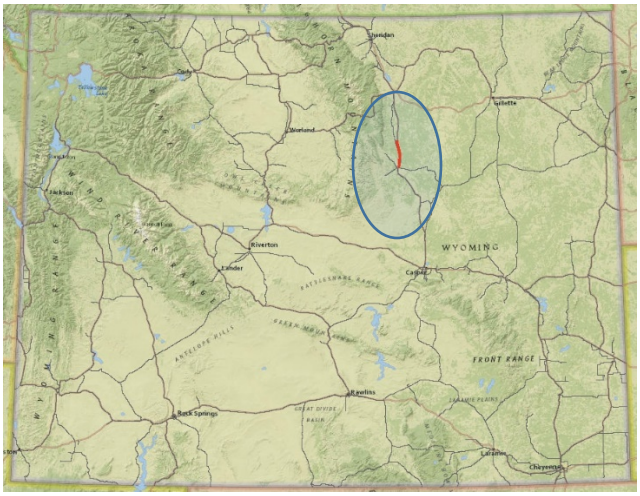
Project Difficulties

This section of highway consists mostly of adjacent Bureau of Land Management lands but there is one private landowner and a section of State land. This project may require permits and/or agreements with the private landowner and the Office of State Lands and Investments. Overpass is for pronghorn, use bridges rather than box culverts due to moose crossing along with deer. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural resources which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #9

Kaycee to Buffalo Project





Project Description

I25, Kaycee - Buffalo
Reference Marker (RM) 255-270
Length = 15 Miles
WWRIIT Score = 40
Crash History = 9 average number per year
Carcass Data = 55.2 average number per year

Species

Mule Deer

Identified Need

This section of I-25 experiences high numbers of wildlife-vehicle collisions primarily involving mule deer as they negotiate crossing the roadway.

Suggested Solution

Short-term: Provide fencing to funnel wildlife to existing bridges.
Long-term: Install 10 underpass bridges, one (1) overpass and high fencing to funnel animals to crossing locations.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities providing safer roadways for motorists and wildlife. The project would greatly enhance habitat connectivity for the affected species, improving movements providing enhanced gene flow within species, and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

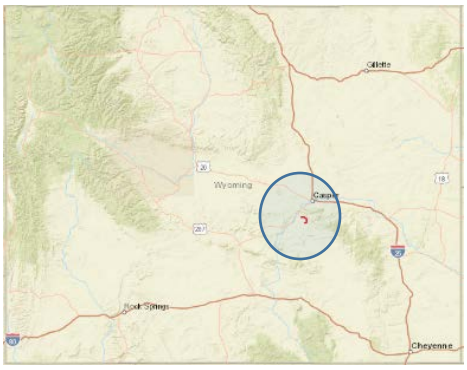
Construction of wildlife crossing and fence are estimated at $27M to 31M.

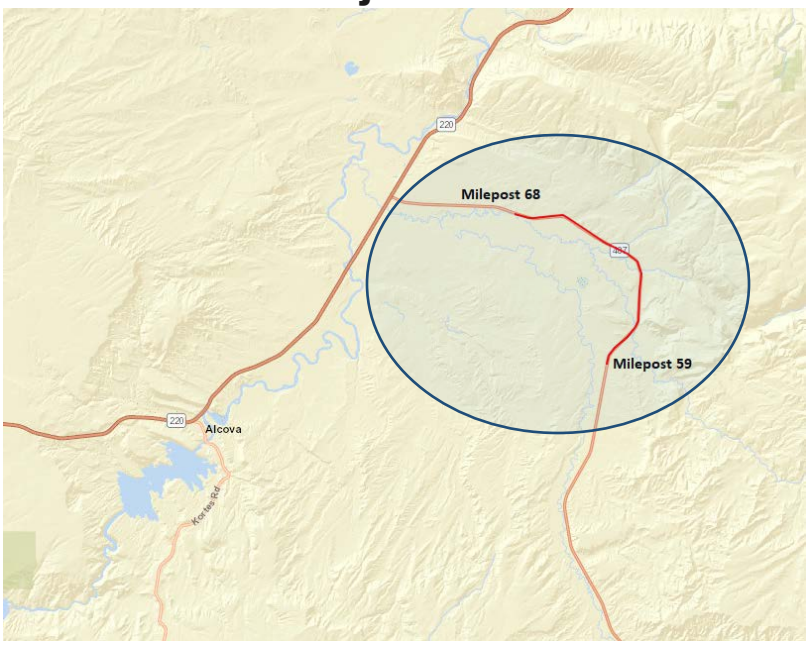
Project Difficulties

Using existing structures would be the most economical effort. Any crossing design would need fencing. Bridges are being considered rather than box culverts due the width of interstate lanes. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural which would be incorporated into a required NEPA document.

Wyoming Wildlife and Roadways Initiative – Project #10

Bates Hole Project





Project Description

WY-487, Medicine Bow - Casper
Reference Marker (RM) 59-68
Length = 9 Miles
WWRIIT Score = 25
Crash History = 2 average number per year
Carcass Data = 12.4 average number per year

Species

Mule Deer and Pronghorn

Identified Need

This section of WY-487 experiences high numbers of animal-vehicle collisions involving mule deer and pronghorn as they negotiate crossing the roadway. Given the relatively low traffic volumes, there is a high per-vehicle risk of a collision, and collisions are known to be under-reported. This stretch of highway impacts a Wyoming Game and Fish Department priority mule deer herd. The suspected issue of cause is primarily related to visibility as it is difficult for motorists to see animals in this section of roadway.

Suggested Solution

Short-term: Right-of-way (ROW) fence and vegetation modifications such as frequent mowing of the ROW or replanting the ROW to a low height grass-only composition, eliminating sagebrush and other shrubs. Another option would include placement of dynamic messaging signs to warn motorists. Reducing nighttime speed limits may also be effective at reducing collisions.

Long-term: Install one (1) overpasses and four (4) underpasses with high fencing to funnel animals to the crossing structures.

Expected Benefits

This project would reduce vehicle collisions and reduce big game mortalities providing safer roadways for motorists and wildlife. The project would greatly enhance habitat connectivity for the affected species by improving movements and providing enhanced gene flow within species and providing safer access to habitats for wildlife in this area.

Preliminary Estimated Project Costs

Construction of wildlife crossings and fence are estimated to be $14.5 to $17.5M.

Project Difficulties

Continued mowing efforts would tax available maintenance resources. Re-seeding is subject to failure and will require additional resources for weed control etc. Pronghorn passage efficacy of bridge underpasses remains a bit of an unknown. Land ownership is primarily private with some Bureau of Land Management and state. Right-of-Way purchase or obtaining easements would likely be required. Long term maintenance concerns of new fence and crossing structures. Expenditure of federal dollars will require the review of resources including wetlands, wildlife, and cultural resources which would be incorporated into a required NEPA document.