



PARADISE VALLEY

Corridor Planning Study

Informational Meeting No. 1

Gardiner

Wednesday, July 24th, 2013
Gardiner Community Center
6:00 p.m. – 8:00 p.m.

Livingston

Thursday, July 25th, 2013
Community Room
6:00 p.m. – 8:00 p.m.



Welcome and Introductions

- Introduction of local officials
- Partners
 - MDT
 - FHWA
 - Park County
- Consultant team



Outline of this Evening's Meeting

- Title VI considerations
- What is a corridor planning study?
- Study area boundary
- Study schedule
- Identified stakeholder groups
- Existing conditions in the corridor
- Next steps & conclusion

Title VI Considerations

This meeting is held pursuant to Title VI of the 1964 Civil Rights Act which ensures that no person shall, as provided by Federal and State Civil Rights law, be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination on the basis of a protected status during any MDT project.

Further information is available in Title VI pamphlets available at the sign-in table.

What is a Corridor Planning Study?

- Corridor planning studies:
 - Are a “high level scan”
 - Define transportation issues/areas of concern
 - Consider social, economic and environmental effects at an early stage
 - Identify and prioritize cost-effective and feasible strategies
 - Provide a level of analysis that can support informed and sustainable decisions
 - Provide opportunities for early and continuous involvement

What a Corridor Planning Study is Not

- Corridor planning studies are **not**:
 - Environmental compliance document
 - Preliminary or final design project
 - Construction or maintenance project
 - Right-of-way acquisition project

Goals and Purpose of Study

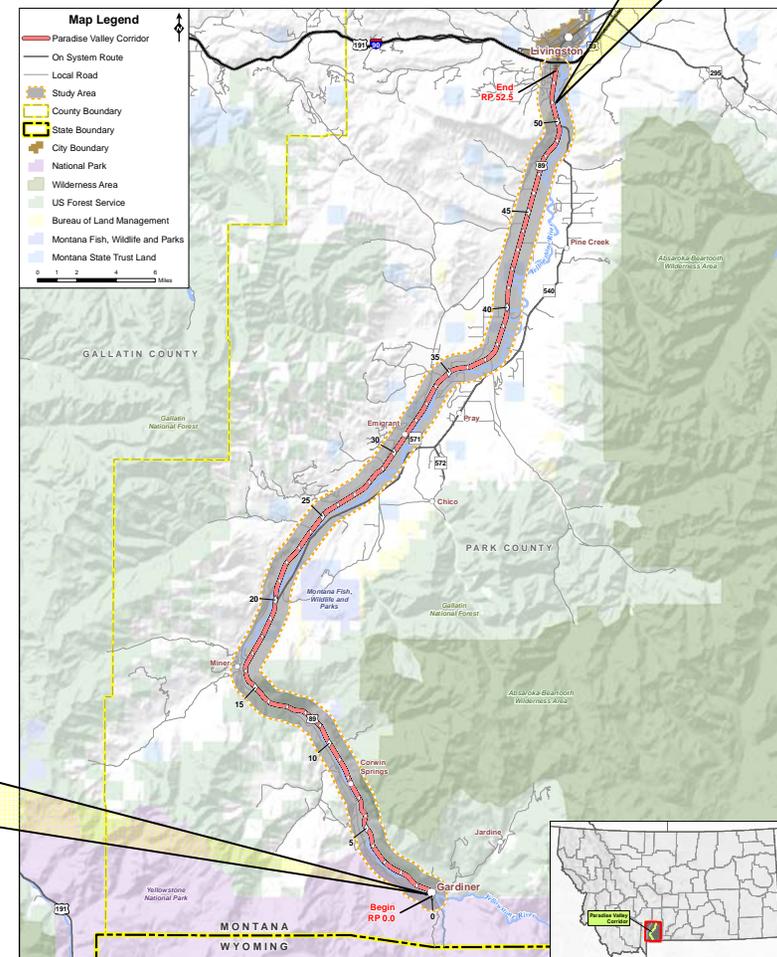
- Engage constituents early!
- Identify potential impacts and constraints
- Identify needs and objectives
- Identify short-range and long-range improvements
- Develop planning level cost estimates
- Develop information and data to be forwarded into the environmental process if a project moves forward from the study (dependent on available funds)

Study Area Boundary

- US Highway 89 (US 89)
- Between Gardiner and Livingston
- 52.5 miles in length

**BEGIN
US 89 @ YNP
Boundary in
Gardiner
(RP 0.0)**

**END
US 89 south
of Livingston
(RP 52.5)**



Study Schedule

Paradise Valley Corridor Planning Study

STUDY SCHEDULE

MAJOR WORK TASK DESCRIPTIONS	MAY-13	JUN-13	JUL-13	AUG-13	SEPT-13	OCT-13	NOV-13	DEC-13	JAN-14	FEB-14	MAR-14	APR-14
Project Management	[Orange bar]											
Public and Agency Involvement Plan	[Orange bar]											
Existing and Projected Conditions Report	[Orange bar]											
Needs, Issues, Goals, and Screening Criteria	[Orange bar]											
Improvement Options Analysis	[Orange bar]											
Corridor Study Report	[Orange bar]											
MEETINGS	[Blue bar]											
Public Meetings	[Yellow bar with icons]											
Resource Agency Meeting	[Red star]											
Planning Team Meetings (16 Total)	[Orange bar with diamonds]											
MISCELLANEOUS DELIVERABLES	[Blue bar]											
Corridor Study Website	[Orange bar]											
Public and Agency Involvement Plan (PAIP)	[Red bar]											
Study Newsletters / Flyers	[Red bar]											
Press Releases/Advertisements	[Green circle]											
Environmental Scan (by MDT)	[Green circle]											
Existing and Projected Conditions Report	[Red bar]											
List/Description of Corridor Transportation Deficiencies	[Red bar]											
List of Initial Avoidance Areas, Potential Mitigation Needs & Opportunities	[Red bar]											
Summary of Comments/Concerns by Resource Agencies	[Red bar]											
List and Description of Corridor Needs, Issues and Goals	[Red bar]											
List of Screening Criteria	[Red bar]											
List and Description of the Range of Improvement Options	[Red bar]											
Documentation of Analysis (Methods and Findings) of Improvements Options	[Red bar]											
Documentation of Improvement Options Advanced & Not Advanced	[Red bar]											
Package of Improvement Options and/or Options for Improving the Corridor	[Red bar]											
List and Description of Potential Impacts and Mitigation Opportunities	[Red bar]											
Statement of Purpose and Need	[Red bar]											
Corridor Study Report	[Yellow bar with stars]											
Evaluation of Corridor Planning Process	[Green circle]											
Public Involvement Activities	[Purple bar]											

Two Public Meetings

Corridor Study Report by End of March

Public Comment Period

Public Involvement Activities

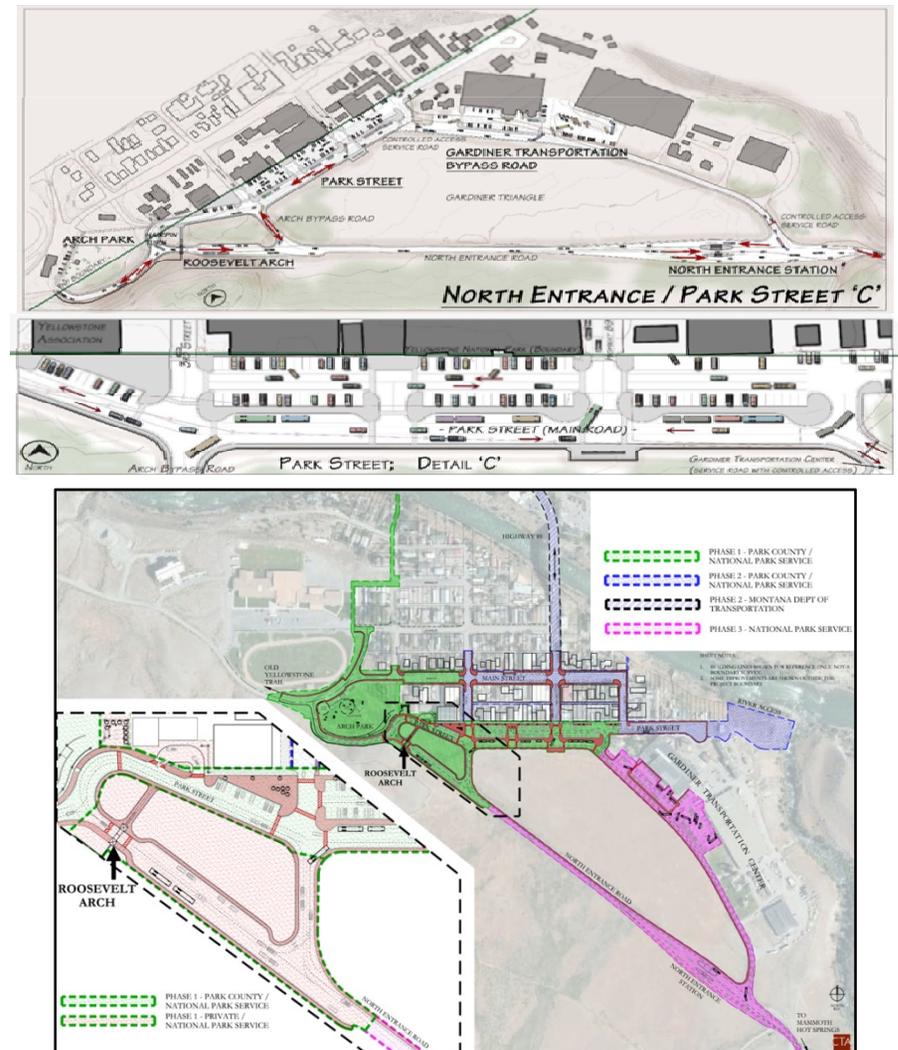
- Two sets of informational meetings
- Presentations and outreach to interested parties, stakeholders, resource agencies and land owners as warranted
- Study newsletters
- Website
- Informal meetings

Identified Stakeholder Groups

- City of Livingston
- Gardiner Chamber of Commerce
- Greater Gardiner Community Council
- Northern Rocky Mountain Economic Development District
- MSU Extension
- Yellowstone River Task Force
- Montana State Highway Patrol
- Gallatin Valley Land Trust
- Montana Land Reliance
- Rocky Mountain Elk Foundation
- The Nature Conservancy
- Montana Wild Sheep Foundation
- Montanan's for Safe Wildlife Passage
- Northern Plains Resource Council
- Trout Unlimited – Joe Brooks Chapter
- Landowners in the Corridor

US 89 Corridor - Local Planning

- Review past, current and future planning documents
 - Park County Growth Policy
 - Gallatin National Forest Plan
 - North Entrance & Park Street Improvement Plan/EA
 - Gardiner Gateway Project



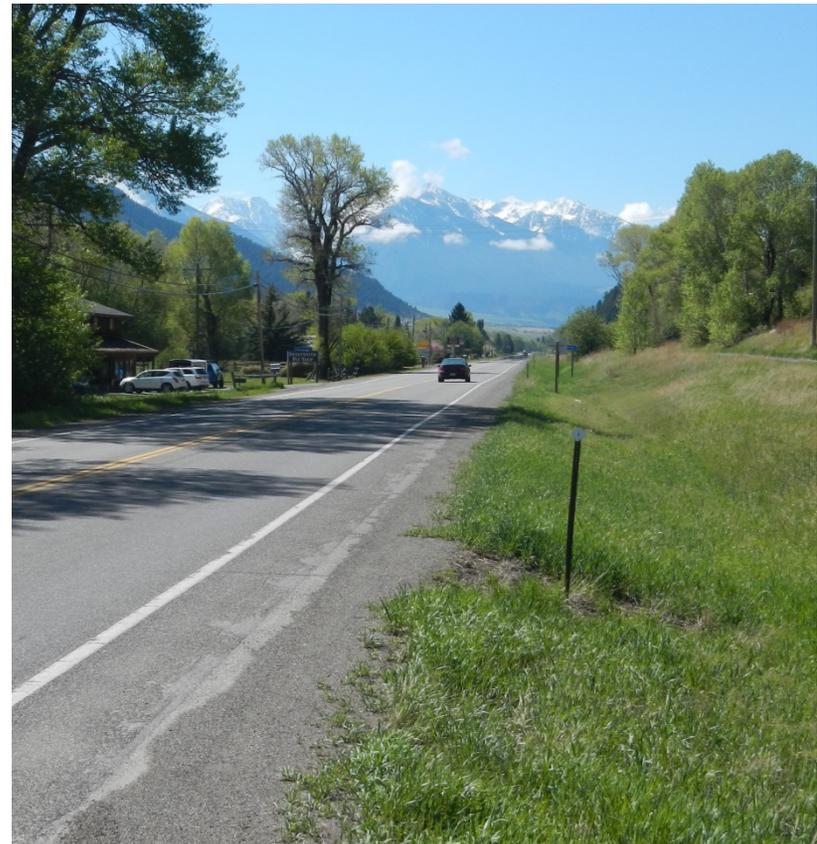
US 89 Corridor - Context

- Functionally classified as a Rural Principal Arterial (Non-Interstate, National Highway System)
- Posted speeds vary between 25 mph and 70 mph
- Serves multiple uses
 - Local traffic
 - Recreational traffic
 - Tourism traffic
 - Commuter traffic
 - Farm-to-market agricultural traffic



US 89 Corridor - Physical Characteristics

- Two-lane roadway
- Asphalt surfacing entire length
- 341 access points
- Constructed or improved at various times (as early as 1924 and as recently as 2012)



US 89 Corridor - Planned Projects

- **SF 110-Rumble Strips N-11**
 - Shoulder rumble strips (RP 1.2 to RP 49.5)
- **Gardiner - North**
 - Mill and fill, ADA upgrades at intersections, bridge deck repair, and full width seal and cover treatment (RP 0.0 to RP 1.0)
- **North of Gardiner**
 - Mill and fill and full width seal and cover treatment (RP 1.1 to RP 13.1)
- **Yankee Jim Canyon - North**
 - Mill and fill and full width seal and cover treatment (RP 13.1 to RP 24)
- **Cedar Cr – 16 km N of Gardiner**
 - Cedar Creek culvert to be replaced (RP 10.02)
- **SF 129 – Left Turn Ln Emigrant RA**
 - Southbound left-turn lane at the Emigrant Rest Area (RP 23.5)

US 89 Corridor – Historic AADT

- Ranges from 4,640 vehicles per day (vpd) near Gardiner to 4,700 vpd near Livingston (2011 counts)

Location	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
RP 0.12	4,350	4,470	4,680	3,600	3,910	4,840	4,550	3,600	3,270	3,630
RP 0.64	3,380	3,640	2,990	2,680	2,900	4,060	3,660	2,900	2,790	2,980
RP 4.0	1,450	2,000	2,030	1,300	1,550	2,310	2,110	1,660	1,560	1,690
RP 16.8	1,590	1,640	1,780	1,750	1,640	1,630	1,650	1,810	1,580	1,610
RP 32.0	2,120	2,080	1,960	1,840	1,870	2,570	2,290	2,040	1,780	2,040
RP 49.6	2,600	2,530	3,120	2,770	2,360	3,500	3,280	2,920	2,470	2,870
RP 52.0	3,940	3,820	5,200	4,670	5,000	6,400	5,950	6,570	6,570	4,490

Location	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
RP 0.12	4,280	4,140	4,020	4,020	4,150	4,080	4,490	4,710	4,640	-
RP 0.64	3,320	3,540	3,410	3,410	3,520	3,440	3,740	3,920	3,870	-
RP 4.0	1,830	2,080	2,040	2,040	2,100	2,030	2,120	2,220	2,190	-
RP 16.8	1,590	1,600	1,550	1,540	1,630	1,550	1,680	1,740	1,670	-
RP 32.0	2,460	2,370	2,300	2,300	2,370	2,190	2,140	2,250	2,220	-
RP 49.6	3,850	3,420	3,290	3,290	3,390	3,320	3,350	3,510	3,460	-
RP 52.0	6,720	4,980	4,700	4,700	4,850	5,020	5,150	4,770	4,700	-

Year 2011
Volumes
Highest Near
Livingston

US 89 Corridor - Projected AADT

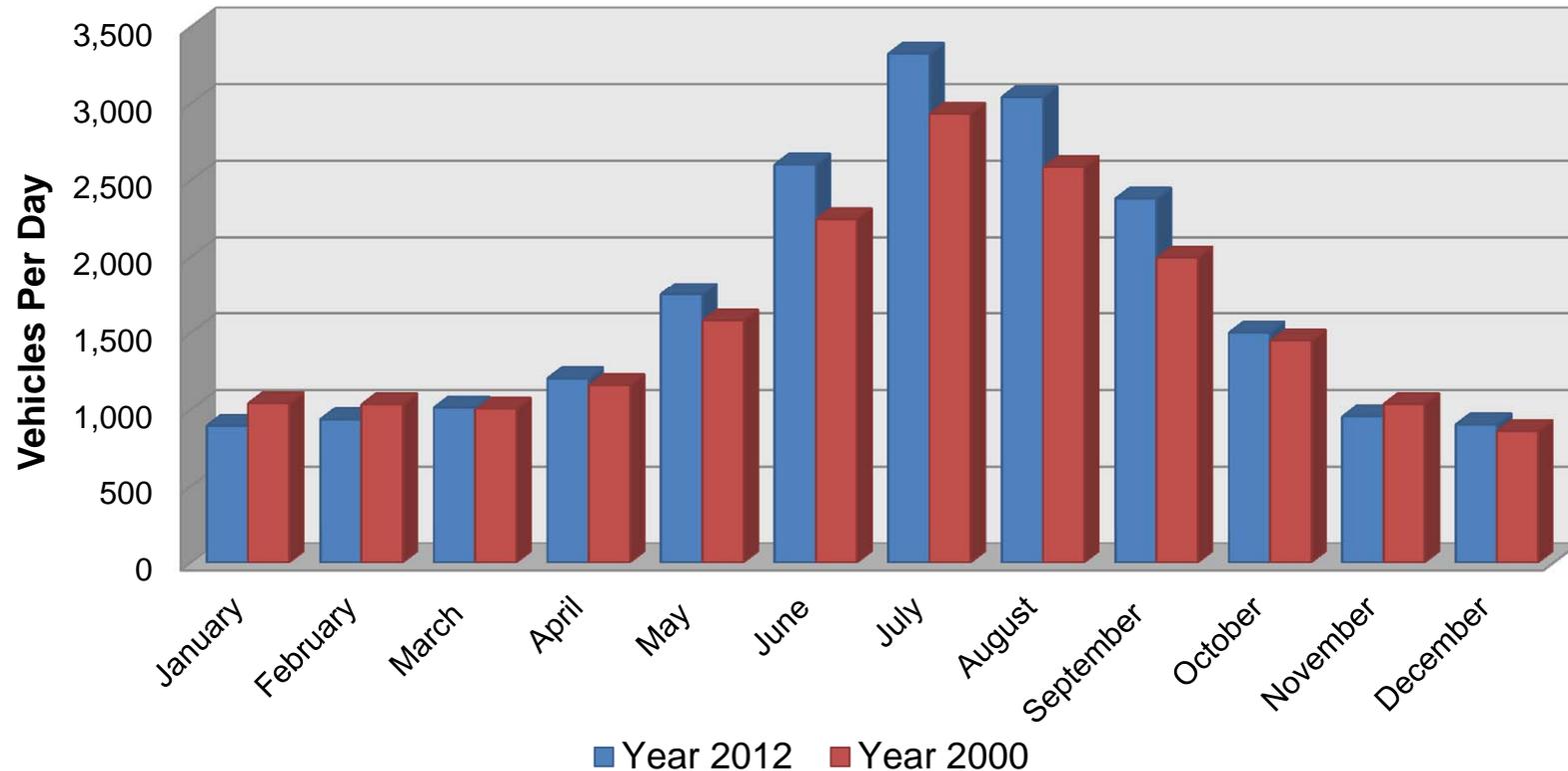
- Year 2035 projected volumes range from 5,486 – 10,114 vpd (near Gardiner) to 5,557 – 10,245 vpd (near Livingston)

Site	Location	2011 Existing AADT	Projected AADT (2035)		
			Low (0.7%)	Medium (1.3%)	High (3.3%)
34-3-10	RP 0.12	4,640	5,486	6,326	10,114
34-3-9	RP 0.64	3,870	4,575	5,276	8,436
34-3-1	RP 4.0	2,190	2,589	2,986	4,774
34-3-2 (i)	RP 16.8	1,670	1,974	2,277	3,640
34-3-3	RP 32.0	2,220	2,625	3,027	4,839
34-2-2	RP 49.6	3,460	4,091	4,717	7,542
34-2A-5	RP 52.0	4,700	5,557	6,408	10,245
Average		3,256	3,849	4,439	7,097

(i) US 89 at ATR Station A-020

US 89 Corridor - Seasonal Historic

- Seasonal variation noted May thru October



US 89 at ATR Station A-020 by month for the years 2012 and 2000

US 89 Corridor - Seasonal Projected

- Seasonal variation will elevate the AADT traffic volumes

Month	Existing AADT	Projected ADT (2035)		
		Low Growth	Medium Growth	High Growth
June	2,599	2,816	3,267	4,905
July	3,321	3,599	4,175	6,268
August	3,040	3,294	3,822	5,737
Peak Average	2,987	3,237	3,755	5,637
AADT Average	1,710	2,008	2,302	3,608
Difference (%)	+1,277 (+74.7%)	+1,229 (+61.2%)	+1,453 (+61.2%)	+2,329 (+56.2%)

US 89 at ATR Station A-020

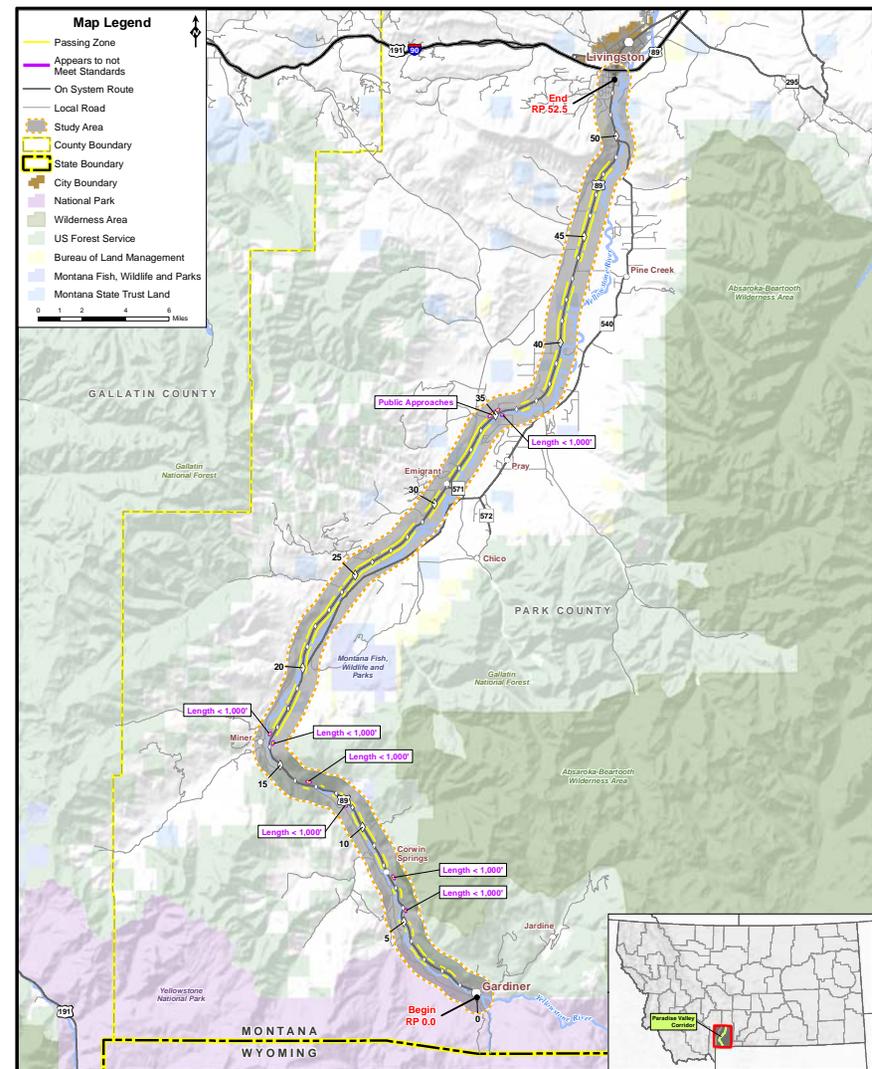
US 89 Corridor - Roadway Geometrics

- Eight horizontal curves do not appear to meet current standards
 - Radius
- Six vertical curves do not appear to meet current standards
 - Curvature
 - Grade
 - Stopping Sight Distance

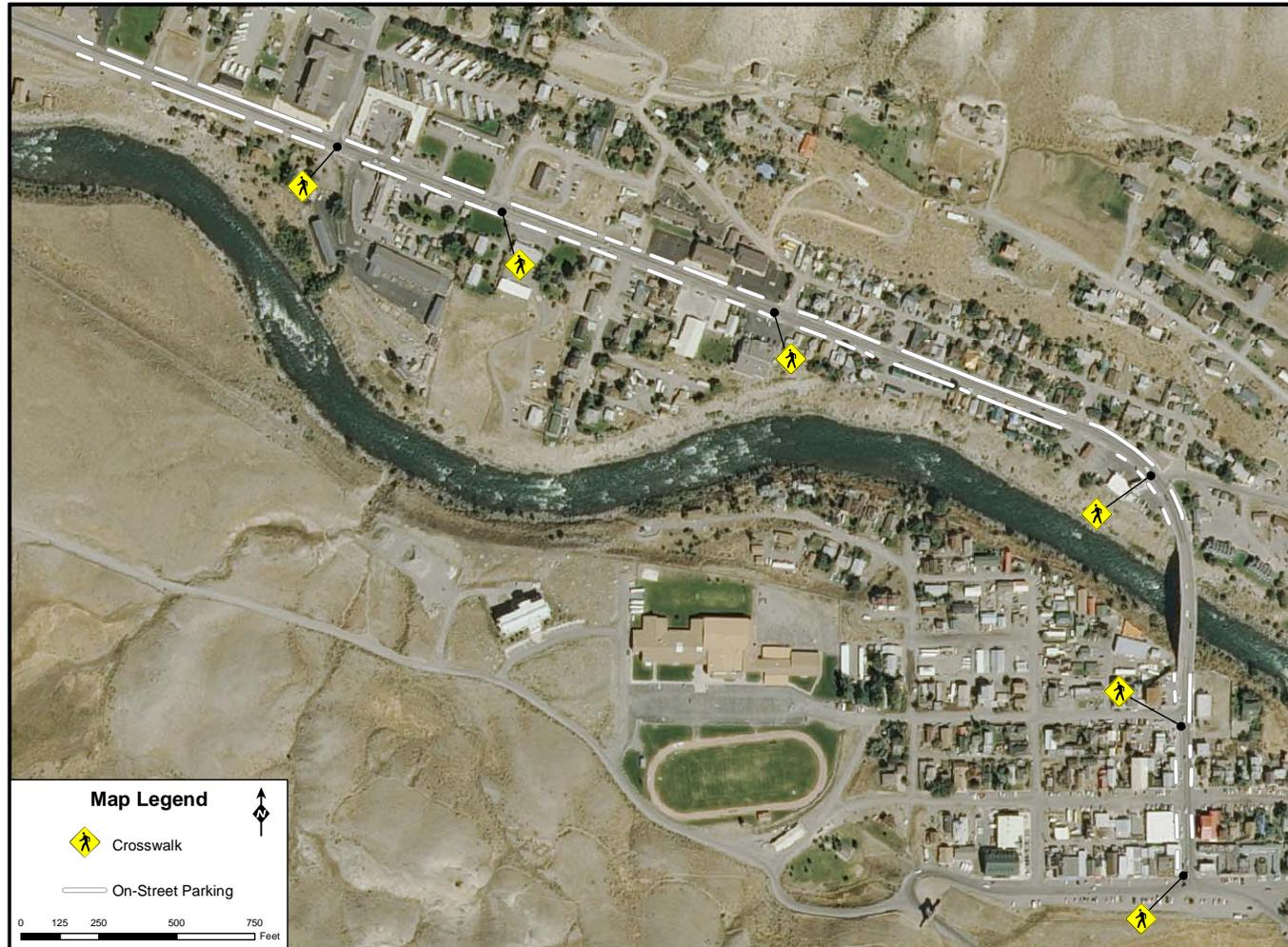


US 89 Corridor - Passing Areas

- Seven locations where passing zones are less than 1,000 feet in length
- One location where passing is allowed in front of a public approach

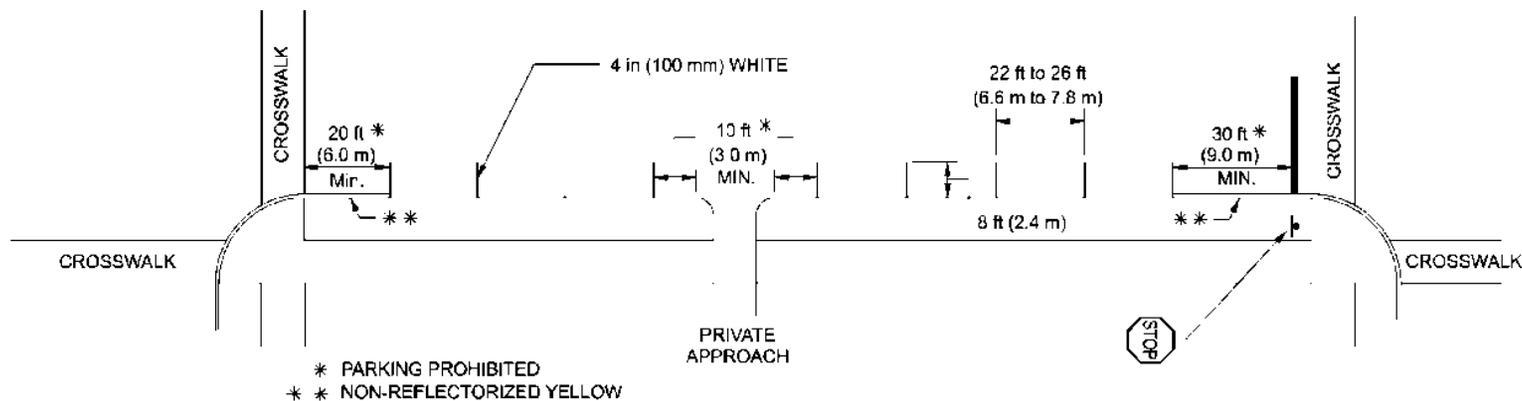


US 89 Corridor – Gardiner On-Street Parking



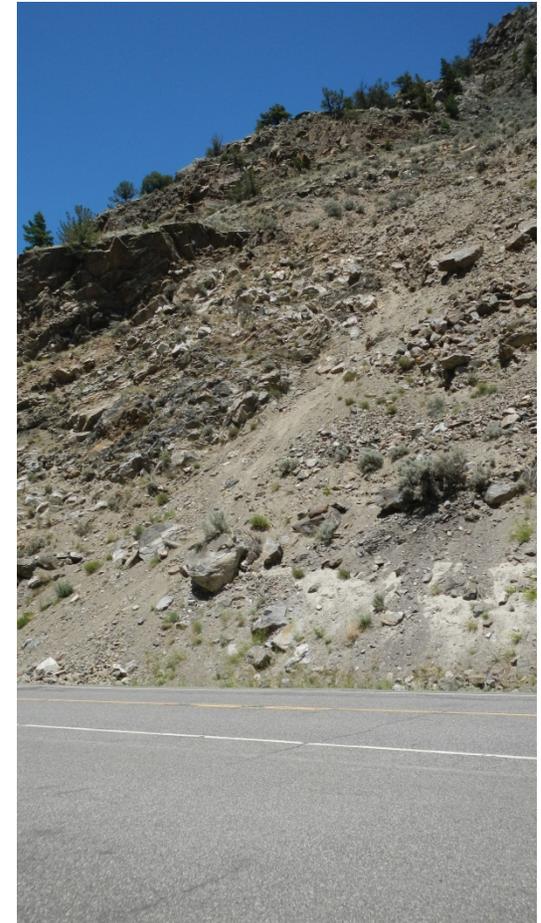
US 89 Corridor – MDT No Parking Standards

- 20 feet of crosswalk
- 10 feet from mid-block approach
- Areas designated by local regulations
- 30 feet from intersection with a flashing beacon, stop sign or traffic signal
- Across from a T-intersection



US 89 Corridor - Landslide Areas

- **Gardiner-Area 7**
 - RP 0 to RP 5
 - Numerous faults that contribute to landslides
 - Debris slide located immediately east of US 89
- **Gardiner-Area 1**
 - RP 10 to RP 24
 - Parallels the Yellowstone River Valley
 - New or renewed movement could affect US 89
- **Livingston-Area 12**
 - RP 47 to RP 51
 - Majority located west of the highway



US 89 Corridor - Rockfall Hazard

RP Start	RP End	Side of Road
6.01	6.06	Right
6.57	6.96	Right
12.2	12.46	Right
13.22	13.32	Right
13.32	13.66	Right
13.66	13.84	Right
13.84	13.96	Right
13.96	14.61	Right
15.03	15.71	Right
15.71	15.84	Right
48.99	49.17	Left
49.32	49.38	Left



US 89 Corridor – Road Width

- Determined from MDT's 2011 Montana Road Log
 - Surface width, lane width, shoulder width, surfacing thickness, and base thickness
- RP 0.0 to RP 1.1 – 44' Width
 - 12' Lanes, 8' Shoulders
- RP 1.1 to RP 52.5 – 32' Width
 - 32' Surface – 12' Lanes, 4' Shoulders

US 89 Corridor - Access Points

- 341 Access Points
- 6.5 access/mile
 - 16.8 access/mile near Gardiner (RP 0.0 to RP 4.0)
 - 19.7 access/mile near Livingston (RP 49.0 to RP 52.5)
- 11 skewed
 - Greater than 30° from perpendicular



US 89 Corridor - Bridge Crossings

- Three bridges and one large culvert
 - RP 0.16 (Yellowstone River)
 - RP 20.41 (Yellowstone River)
 - RP 24.07 (Big Creek)
 - RP 47.85 (Farm Access)



**None of the bridges
are structurally
deficient or
functionally obsolete**

US 89 Corridor - Safety

- For period between July 1, 2007 through June 30, 2012
- RP 0.0 to RP 52.5
- 286 total reported crashes
 - One fatality
 - 19 crashes produced incapacitating injuries
 - 82% single vehicle crashes
 - 8% involved drugs and/or alcohol
 - Almost 50% animal/vehicle

US 89 Corridor - Crash Rates and Severity

- Crash rates are defined as the number of crashes per million vehicle miles of travel
- Compared to average rates for similar roadways....
 - **Crash rate** ↑
 - **Severity index** ↓
 - **Crash severity rate** ↑

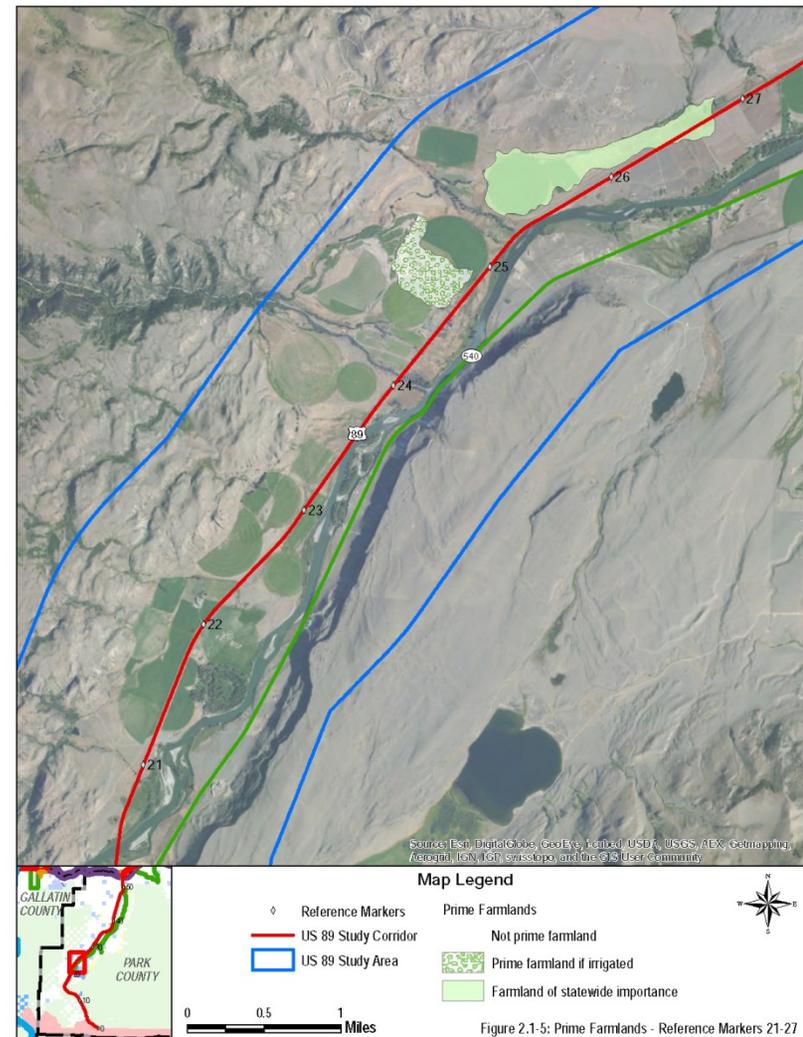
Crash Data Location	Crash Rate	Crash Severity Index	Crash Severity Rate
US 89 (RP 0.0 to 52.5)	1.27	1.84	2.34
Statewide Average for Non-Interstate NHS Routes	1.01	2.05	2.07

Environmental Resources

- Land Ownership
- **Soil Resources and Prime Farmland**
- Geologic Resources
- **Water Resources**
- Wetlands
- **Floodplains and Floodways**
- Hazardous Substances
- Air Quality
- Noise
- **Visual Resources**
- **Biological Resources**
- Vegetation
- **Cultural and Archaeological Resources**
- Social

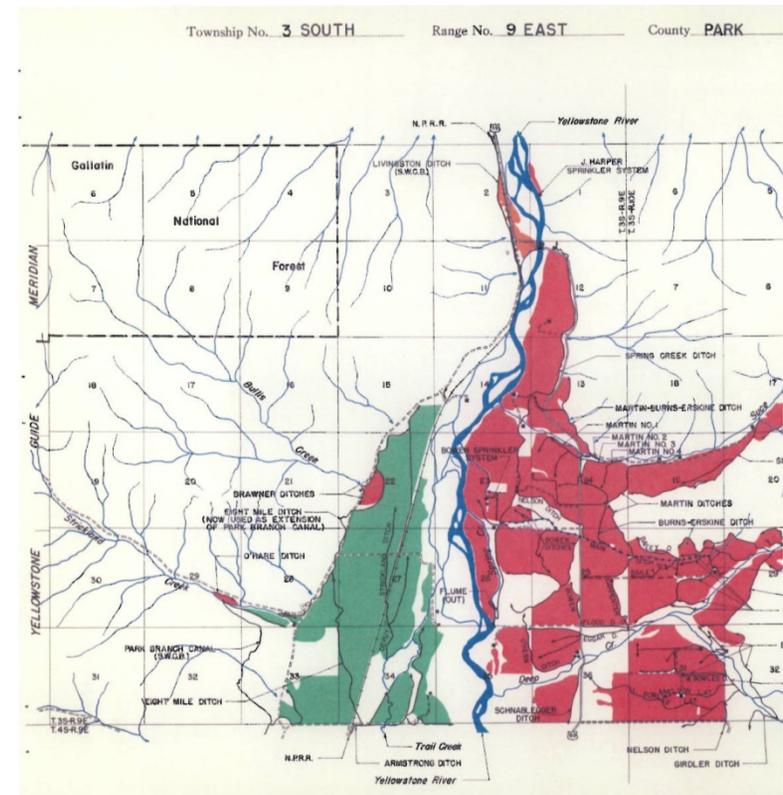
Soil Resources and Prime Farmland

- Based on Natural Resource Conservation Service (NRCS) soil survey
 - Prime if irrigated farmlands are found between RP 24 – 25 and 41 – 46
 - Farmlands of statewide importance are found between RP 25 – 27, 30 – 31, 34 – 37



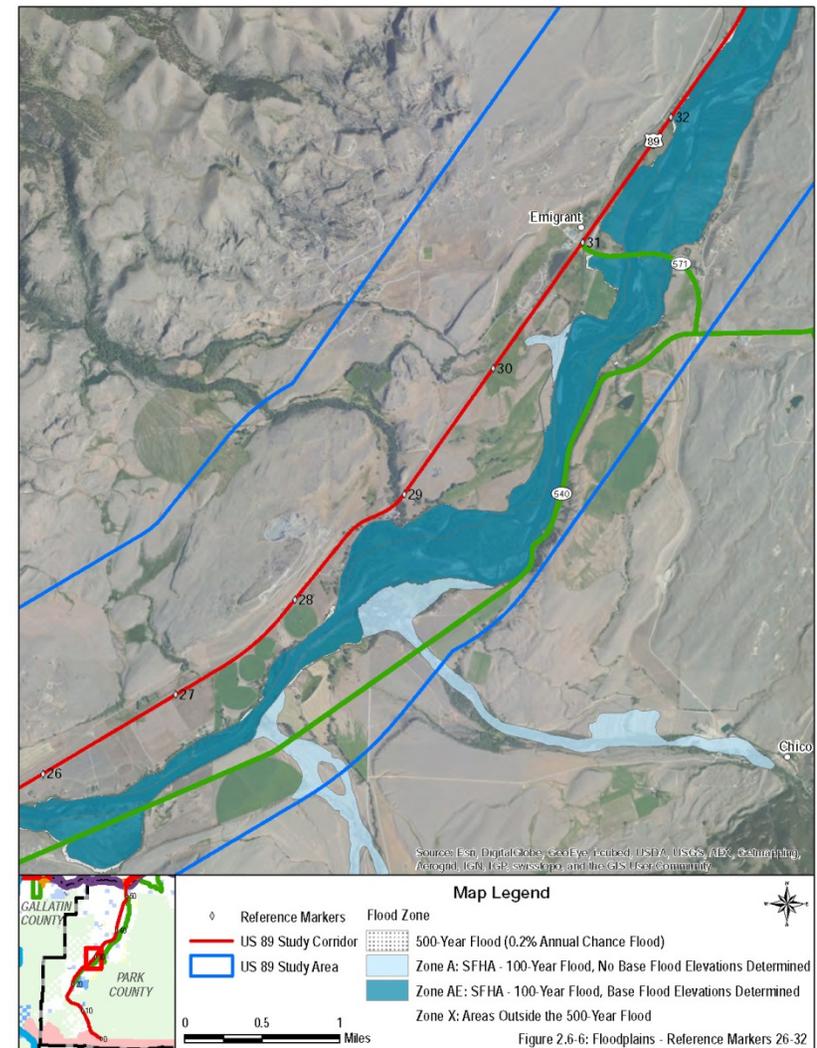
Water Resources

- Numerous drainage & irrigation crossings
- Three bridges / one large culvert
- Wetlands – delineated if and when a project is identified and advances



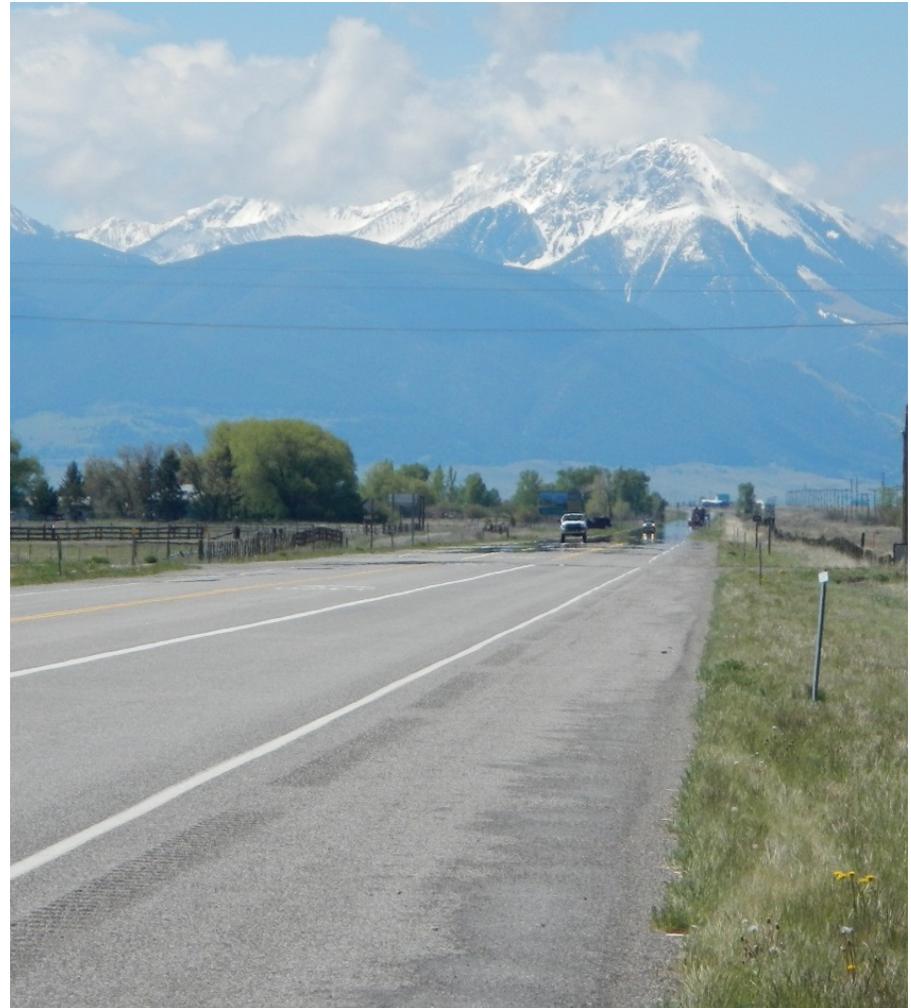
Floodplains and Floodways

- Avoid to the extent possible adverse impacts to floodplains



Visual Resources

- Landscape character
- Visual integrity
- Scenic integrity
- Landscape visibility



Biological Resources

- Fish and Wildlife



- Vegetation



Fish and Wildlife - T & E Species

Park County

- Canada Lynx
 - Listed Threatened, Critical Habitat
- Grizzly Bear
 - Listed Threatened
- Greater Sage-Grouse
 - Candidate
- Sprague's Pipit
 - Candidate
- Wolverine
 - Proposed
- Whitebark Pine
 - Candidate

Study Area

- Canada Lynx
 - Listed Threatened, Critical Habitat
- Grizzly Bear
 - Listed Threatened
- Wolverine
 - Proposed

Fish and Wildlife - Species of Concern

Animal SubGroup	Common Name	Short Habitat Description
Mammals	Bison	Grasslands
	Hoary Bat	Riparian and forest
Birds	Great Blue Heron	Riparian forest
	Trumpeter Swan	Lakes, ponds, reservoirs
	Peregrine Falcon	Cliffs / canyons
	Pinyon Jay	Open conifer forest
	Cassin's Finch	Drier conifer forest
	Harlequin Duck	Mountain streams
	Clark's Nutcracker	Conifer forest
	Brewer's Sparrow	Sagebrush
Reptiles	Common Sagebrush Lizard	Rock outcrops
Fish	Yellowstone Cutthroat Trout	Mountain streams, rivers, lakes
Plants	Spiny Hopsage	Shrublands (Dry)
	Spiny Skeleton Weed	Lower Elev. Grasslands
	Wedge-leaf Saltbush	Wetland/Riparian

Fish and Wildlife - Wildlife Carcass

- MDT Maintenance Animal Incident Database
- January 2002 and December 2012
- 1,659 animal carcasses collected in the ten-year period
 - >93% Deer

Animal	# of Carcasses Collected
Antelope	1
Bighorn Sheep	6
Bison	2
Black Bear	1
Elk	94
Moose	1
Deer (unknown species)	21
Mule Deer	1116
White-tailed Deer	417
TOTAL	1659

Cultural and Archaeological Resources

- Possible 4(f) Campgrounds and Picnic Areas
 - Yankee Jim Picnic Area
 - La Duke Picnic Area
 - Cinnabar Picnic Area
 - Sphinx Creek Picnic Area
 - Canyon Campground
 - Gardiner Community Park

Cultural and Archaeological Resources

- Historic Sites

Site	Site No.	NRHP Eligibility	RP±
Roosevelt Arch	24PA0765	Listed	N/A
Yellowstone R. Bridge at Gardiner	24PA0790	Yes	0.1
Electric Mines/Electric HD	24PA0483	Yes	7±
OTO Homestead and Dude Ranch	24PA1227	Listed	15±
Carbella Bridge	24PA1237	Listed	15±
Emigrant Crossroad Arch.	24PA0969	Yes	
Park Branch Canal	24PA1114	Yes	40±
Carter Bridge	24PA0817	Listed	S-540

Next Steps

- Continue study coordination and outreach
- Finalize environmental scan
- Finalize existing and projected conditions report
- Continue analysis of transportation needs
- Identify potential improvement options (if any)
- Draft corridor study report

Conclusion

- Questions, answers and/or comments?

- Study website:

<http://www.mdt.mt.gov/pubinvolve/paradisevalley/>

- Study newsletters:

- Study contact:

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