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APPENDIX A
Construction Best Management Practices

Best Management Practices (BMPs) would be implemented (as appropriate) before, during, and/or after construction of proposed improvements to provide long-term protection of park resources. BMPs specific to the design cannot be proposed until the full design is complete and specifics of the proposed construction are known. Specific practices would include, but are not limited to, the following:

- Comply with National Environmental Policy Act, National Historic Preservation Act, Endangered Species Act, Clean Air Act, and Clean Water Act Section 404 permitting requirements and other applicable laws, regulations, and policies. The compliance-monitoring program at the Park will oversee these mitigation measures and include reporting protocols.
- Implement standard measures, such as construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. The compliance-monitoring program would include specific construction monitoring by resource specialists, as well as treatment and reporting procedures.
- Implement standard measures, such as consideration of adaptive reuse, relocation, and salvage of historic building materials; archeological monitoring during ground disturbing activities; use of fencing or other means to protect sensitive resources adjacent to construction; and preparation of a discovery plan to handle unanticipated exposure of buried human remains. The compliance-monitoring program would include specific construction monitoring by resource specialists and culturally associated Native American people, as well as treatment and reporting procedures.
- Implement a traffic control plan, as warranted. Standard measures would include strategies to maintain safe and efficient traffic flow during and after the construction period.
- Implement a dust abatement program. Standard dust abatement measures would include the following elements, as appropriate:
  - Water or otherwise stabilize soils.
  - Cover haul trucks.
  - Employ speed limits on unpaved roads.
  - Minimize vegetation clearing.
  - Revegetate post construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures would include the following elements, as appropriate:
  - A schedule that minimizes impacts to adjacent noise sensitive uses.
  - Use of the best available noise control techniques (wherever feasible).
  - Use of hydraulically or electrically powered impact tools (when feasible).
  - Location of stationary noise sources as far from sensitive uses as possible.
- Implement a noxious weed abatement program. Standard measures would include the following elements, as appropriate:
  - Ensure construction-related equipment arrives on site free of mud or seed-bearing material.
  - Certify all seeds and straw material as weed free.
  - Identify areas of noxious weeds preconstruction.
  - Treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, or herbicide treatment).
  - Revegetate with appropriate native species. Noxious weed abatement would continue as an ongoing activity following construction.
- Implement a Spill Prevention and Pollution Control and Countermeasures program for hazardous materials. Standard measures would include, as appropriate:
  - Hazardous materials storage and handling procedures.
  - Spill containment, cleanup, and reporting procedures.

APPENDIX B
Habitat Loss by Alternative

Table B-1 provides estimates of direct loss (in acres) by alternative and road segment.

TABLE B-1
ESTIMATES OF DIRECT HABITAT LOSS (ACRES) FROM ROAD AND PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		Road Feature					Separated Pathways				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
Jackson to Antelope Flats	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.49	0.49
	Coniferous Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cottonwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.33
	Meadow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.23	1.23
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.06
	Sagebrush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.70	15.70	15.70
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**17.81**	**17.81**	**17.81**
Moose to Signal Mountain	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05
	Barren	0.00	12.29	7.20	3.51	0.00	0.00	0.00	1.02	1.40	1.56
	Coniferous Forest	0.00	0.31	0.31	0.30	0.00	0.00	0.00	0.73	1.20	6.14
	Cottonwood	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.44	0.44	0.44
	Meadow	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.56	0.68	0.68
	Riparian	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.22
	Sagebrush	0.00	0.58	0.18	0.04	0.00	0.00	0.00	17.79	24.04	25.37
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.09
TOTAL		**0.00**	**13.27**	**7.68**	**3.84**	**0.00**	**0.00**	**0.00**	**20.91**	**28.12**	**34.55**

TABLE B-1
ESTIMATES OF DIRECT HABITAT LOSS (ACRES) FROM ROAD AND PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		Road Feature					Separated Pathways				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
Granite Canyon Entrance Station to Moose	Aspen	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.41	0.26	1.98
	Barren	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.13	3.64	0.28
	Coniferous Forest	0.00	0.00	0.33	0.33	0.33	0.00	0.00	2.28	1.10	3.56
	Cottonwood	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.07	0.10	0.07
	Meadow	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.29	0.90	0.64
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.02	0.07
	Sagebrush	0.00	0.00	3.49	3.49	3.49	0.00	0.00	2.89	2.10	7.26
	Willow	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.06
TOTAL		**0.00**	**0.00**	**3.96**	**3.96**	**3.96**	**0.00**	**0.00**	**6.14**	**8.12**	**13.92**
Jackson Lake Junction to Colter Bay	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21
	Barren	0.00	0.00	3.42	3.78	0.00	0.00	0.00	0.00	0.36	0.46
	Coniferous Forest	0.00	0.00	0.34	1.18	0.00	0.00	0.00	0.00	2.06	5.31
	Cottonwood	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.19
	Meadow	0.00	0.00	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00
	Riparian	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.02	0.20
	Sagebrush	0.00	0.00	0.17	0.10	0.00	0.00	0.00	0.00	3.67	3.73
	Willow	0.00	0.00	0.02	0.10	0.00	0.00	0.00	0.00	0.27	0.50
TOTAL		**0.00**	**0.00**	**3.99**	**5.37**	**0.00**	**0.00**	**0.00**	**0.00**	**6.59**	**10.61**

TABLE B-1 ESTIMATES OF DIRECT HABITAT LOSS (ACRES) FROM ROAD AND PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION											
		Alternatives									
		Road Feature					Separated Pathways				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
Signal Mountain to Jackson Lake Junction	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	3.03	1.96	1.87	0.00	0.00	0.00	0.23	0.23
	Coniferous Forest	0.00	0.00	0.11	0.12	0.11	0.00	0.00	0.00	0.00	0.00
	Cottonwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Meadow	0.00	0.00	0.10	0.07	0.07	0.00	0.00	0.00	0.01	0.01
	Riparian	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	1.04	1.04
	Sagebrush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Willow	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.92	0.92
TOTAL		**0.00**	**0.00**	**3.31**	**2.18**	**2.07**	**0.00**	**0.00**	**0.00**	**2.21**	**2.21**
Gros Ventre Junction to West Boundary	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
	Coniferous Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cottonwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
	Meadow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sagebrush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69	0.00
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.85**	**0.00**

TABLE B-1
ESTIMATES OF DIRECT HABITAT LOSS (ACRES) FROM ROAD AND PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		Road Feature					Separated Pathways				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
North Jenny Lake Junction to String Lake	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00
	Coniferous Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00
	Cottonwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Meadow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sagebrush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.87**	**0.00**
TOTAL FOR ALL ROAD SEGMENTS*		**0.00**	**13.27**	**18.94**	**15.35**	**6.03**	**0.00**	**0.00**	**44.86**	**67.57**	**79.10**

**Total for acres lost for* *Alternative 1 0.00* *Alternative 2 13.27* *Alternative 3 63.80* *Alternative 3a 82.92* *Alternative 4 85.13*

Table B-2 provides the net change in the 75-meter and 400-meter zone of influence by alternative and road segment

TABLE B-2
NET CHANGE IN 75-METER AND 400-METER ZONE OF INFLUENCE (ACRES) FROM ROAD FEATURES AND SEPARATED PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		75-m ZOI					400-m ZOI				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
Jackson to Antelope Flats	Aspen	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.41	0.41	0.41
	Barren	0.00	0.00	0.66	0.66	0.66	0.00	0.00	0.84	0.84	0.84
	Coniferous Forest	0.00	0.00	0.32	0.32	0.32	0.00	0.00	0.85	0.85	0.85
	Cottonwood	0.00	0.00	1.39	1.39	1.39	0.00	0.00	2.05	2.05	2.05
	Meadow	0.00	0.00	3.05	3.05	3.05	0.00	0.00	5.48	5.48	5.48
	Riparian	0.00	0.00	0.12	0.12	0.12	0.00	0.00	1.72	1.72	1.72
	Sagebrush	0.00	0.00	41.17	41.17	41.17	0.00	0.00	37.21	37.21	37.21
	Willow	0.00	0.00	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**47.11**	**47.11**	**47.11**	**0.00**	**0.00**	**48.56**	**48.56**	**48.56**
Moose to Signal Mountain	Aspen	0.00	0.03	0.48	0.48	0.48	0.00	0.13	0.00	0.00	0.00
	Barren	0.00	0.28	0.73	0.99	1.80	0.00	3.40	3.83	4.07	4.80
	Coniferous Forest	0.00	3.91	11.48	14.63	25.54	0.00	29.55	28.73	40.32	55.15
	Cottonwood	0.00	0.16	2.19	2.19	2.19	0.00	3.00	6.13	6.13	6.13
	Meadow	0.00	0.10	1.27	1.37	1.56	0.00	1.34	1.92	2.02	2.09
	Riparian	0.00	0.08	0.77	0.77	0.77	0.00	1.37	2.88	3.03	3.00
	Sagebrush	0.00	8.76	47.49	60.91	63.88	0.00	33.48	19.44	20.55	23.03
	Willow	0.00	0.06	0.46	0.46	0.46	0.00	0.25	0.51	0.51	0.51
TOTAL		**0.00**	**13.39**	**64.87**	**81.81**	**96.68**	**0.00**	**72.51**	**63.43**	**76.64**	**94.71**

TABLE B-2
NET CHANGE IN 75-METER AND 400-METER ZONE OF INFLUENCE (ACRES) FROM ROAD FEATURES AND SEPARATED PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		75-m ZOI					400-m ZOI				
Road Segment	Habitat Type	1	2	3	3a	4	1	2	3	3a	4
Granite Canyon Entrance Station to Moose	Aspen	0.00	0.00	1.69	0.55	1.59	0.00	0.00	2.47	0.54	1.36
	Barren	0.00	0.00	0.46	0.19	1.75	0.00	0.00	0.19	0.07	0.29
	Coniferous Forest	0.00	0.00	8.94	2.24	14.86	0.00	0.00	10.64	2.88	18.40
	Cottonwood	0.00	0.00	0.33	0.23	0.33	0.00	0.00	0.05	0.85	0.59
	Meadow	0.00	0.00	0.44	0.21	1.02	0.00	0.00	1.29	0.62	1.72
	Riparian	0.00	0.00	0.95	0.19	0.95	0.00	0.00	0.27	0.21	0.11
	Sagebrush	0.00	0.00	6.87	2.63	21.40	0.00	0.00	5.15	1.16	9.55
	Willow	0.00	0.00	0.02	0.64	2.34	0.00	0.00	0.27	0.05	2.22
TOTAL		**0.00**	**0.00**	**19.76**	**6.24**	**44.31**	**0.00**	**0.00**	**23.38**	**7.15**	**37.31**
Jackson Lake Junction to Colter Bay	Aspen	0.00	0.00	0.07	0.34	0.34	0.00	0.00	0.03	0.14	0.03
	Barren	0.00	0.00	0.15	1.38	1.60	0.00	0.00	0.39	2.21	3.05
	Coniferous Forest	0.00	0.00	1.94	10.04	14.30	0.00	0.00	2.09	11.99	15.14
	Cottonwood	0.00	0.00	0.06	0.21	0.37	0.00	0.00	0.15	1.38	2.01
	Meadow	0.00	0.00	0.06	0.54	0.49	0.00	0.00	0.21	0.55	0.70
	Riparian	0.00	0.00	0.16	0.65	1.09	0.00	0.00	0.19	0.71	0.97
	Sagebrush	0.00	0.00	1.37	8.78	9.32	0.00	0.00	0.61	3.51	3.39
	Willow	0.00	0.00	0.25	2.47	2.41	0.00	0.00	0.69	4.81	4.85
TOTAL		**0.00**	**0.00**	**4.06**	**24.41**	**29.92**	**0.00**	**0.00**	**4.38**	**25.28**	**30.14**

TABLE B-2
NET CHANGE IN 75-METER AND 400-METER ZONE OF INFLUENCE (ACRES) FROM ROAD FEATURES AND SEPARATED PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		75-m ZOI					400-m ZOI				
Road Segment	Habitat Type	1	2	3	3a	4	1	2	3	3a	4
Jackson Lake Junction	Aspen	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.05	0.00	0.00
	Barren	0.00	0.00	0.64	0.77	0.83	0.00	0.00	1.18	2.58	2.65
	Coniferous Forest	0.00	0.00	1.09	1.12	1.06	0.00	0.00	0.93	0.83	0.78
	Cottonwood	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00
	Meadow	0.00	0.00	0.28	0.30	0.29	0.00	0.00	0.04	0.04	0.04
	Riparian	0.00	0.00	0.50	3.26	3.26	0.00	0.00	0.39	1.33	1.33
	Sagebrush	0.00	0.00	0.14	0.11	0.11	0.00	0.00	0.30	0.15	0.14
	Willow	0.00	0.00	0.60	2.92	2.92	0.00	0.00	0.39	3.33	3.33
TOTAL		**0.00**	**0.00**	**3.32**	**8.55**	**8.53**	**0.00**	**0.00**	**3.28**	**8.26**	**8.27**
Gros Ventre Junction to West Boundary	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00
	Coniferous Forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cottonwood	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	1.47	0.00
	Meadow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00
	Sagebrush	0.00	0.00	0.00	4.02	0.00	0.00	0.00	0.00	0.63	0.00
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**0.00**	**4.65**	**0.00**	**0.00**	**0.00**	**0.00**	**2.66**	**0.00**

TABLE B-2
NET CHANGE IN 75-METER AND 400-METER ZONE OF INFLUENCE (ACRES) FROM ROAD FEATURES AND SEPARATED PATHWAY FEATURES BY ALTERNATIVE AND ROAD SECTION

		Alternatives									
		75-m ZOI					400-m ZOI				
Road Segment	**Habitat Type**	**1**	**2**	**3**	**3a**	**4**	**1**	**2**	**3**	**3a**	**4**
North Jenny Lake Junction to String Lake	Aspen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Barren	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.62	0.00
	Coniferous Forest	0.00	0.00	0.00	2.52	0.00	0.00	0.00	0.00	1.08	0.00
	Cottonwood	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Meadow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Riparian	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	Sagebrush	0.00	0.00	0.00	4.92	0.00	0.00	0.00	0.00	1.98	0.00
	Willow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		**0.00**	**0.00**	**0.00**	**7.47**	**0.00**	**0.00**	**0.00**	**0.00**	**3.68**	**0.00**
TOTAL FOR ALL ROAD SEGMENTS		**0.00**	**13.39**	**139.12**	**180.24**	**226.55**	**0.00**	**72.51**	**143.03**	**172.23**	**218.99**

TABLE B-3 AREAS WITHIN 75-METER AND 400-METER ZONE OF INFLUENCE (ACRES) FROM EXISTING ROAD FEATURES BY ROAD SECTION		
Road Segment	**75-m ZOI**	**400-m ZOI**
South Boundary to Antelope Flats	588.7	3,086.0
Moose to North Jenny Lake	675.7	3,380.5
North Jenny Lake to Signal Mountain	439.8	2,257.9
Granite Canyon Entrance Station to Moose	501.0	2,362.6
Jackson Lake Junction to Colter Bay	346.1	1,819.2
Signal Mountain to Jackson Lake Junction	189.3	968.6
Gros Ventre Junction to West Boundary	56.8	284.6
North Jenny Lake Junction to String Lake	88.8	417.8
Colter Bay to Yellowstone National Park	1,082.2	5,606.9
Other Primary Roads	1,487.2	7,642.9
TOTAL	**5,455.6**	**27,827.0**

- Limitation of refueling and other hazardous activities to upland/nonsensitive sites.

- Use barriers, seasonal closures, and other measures to limit visitor access to areas under construction, minimizing safety impacts to visitors.
- Use silt fences, sedimentation basins, and other techniques to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Use salvaged vegetation to the extent possible.
- Delineate wetlands and avoid wetlands wherever possible. Apply protection measures during construction in areas where wetlands cannot be avoided. Wetlands would be delineated by qualified National Park Service (NPS) staff or certified wetland specialists and clearly marked prior to construction work. Construction activities should be performed in a cautious manner to prevent damage caused by equipment, erosion, and siltation.
- Develop architectural character guidelines for new construction near historic districts. All new development would be designed to be compatible with historic resources in terms of scale, massing, materials, architectural elements, and orientation with designated historic sites, structures, or districts.

Resource-Specific Measures

Air Quality

The NPS would seek to perpetuate the best possible air quality by aggressively promoting and pursuing measures to preserve, protect, and enhance air resources. Moreover, actions are subject to the provisions of the Clean Air Act. Dust control measures would be implemented to help reduce surface and air movement of dust from disturbed soil surfaces. During construction, dust can be carried off-site, thereby increasing soil loss from the construction area. Land disturbance from clearing and excavation generates a large amount of soil disturbance and open space for wind to pick up dust particles. Mitigation measures would include the following, as appropriate:

- In the future, any transit within the Park (if determined to be feasible by the Transit Business Plan [TBP]) would apply best available clean fuel technology to minimize air quality emissions, considering the need for reliable, cost-effective transit service with adequate vehicle capacity.
- Dispose of refuse at least weekly. Prohibit burning of refuse inside the Park.
- Employ dust abatement measures (i.e., watering, dust palliative application, etc.) to address environmental impacts from the presence of tractors, trailers, and other equipment involved in ground disturbance.

Soundscapes

The TBP will provide recommendations related to transit in the Park. If a pilot transit program were tested in the Park in the future based on the findings of the TBP, mitigation measures would include the following, as appropriate:

- Ensure that transit vehicles are equipped with best available technology for sound dampening muffler and exhaust systems.
- Design all transit waiting areas to minimize deflection of bus and passenger noise back to visitor waiting areas.

Visual and Scenic Resources

Mitigation measures would be designed to minimize visual intrusions. Many of the mitigation measures identified in the "Vegetation" section in this appendix would assist in mitigating potential scenic impacts. These measures would include the following, as appropriate:

- Minimize development footprints.
- Site facilities in locations outside primary or high value view corridors.
- Choose building materials that are visually compatible or do not compete with the landscape.
- Provide native vegetative screening where applicable.

Soils

Soil erosion and contamination result in impacts to air and water quality, as well as to habitats for plant and wildlife species. The Grand Teton National Park developed a protocol for topsoil management and revegetation; implementation of proposed actions would follow this protocol. Mitigation efforts would focus on minimizing or eliminating these impacts and would include a combination of the following, as appropriate:

- Remove and return topsoil to the same area once construction activities are complete. Live vegetation

less than 3 ft in height and limbs less than 2 inches in diameter may be incorporated as topsoil in the stockpiles. Care will be taken to assure that topsoil and fill material are not mixed and are stockpiled in separate areas (i.e., topsoil to the right of the trench and fill to the left).

- Stockpile topsoil materials (in an area determined by the landscape architect) away from excavations and future work without intermixing with subsoils. Then grade and shape stockpiles to allow unimpeded drainage of surface water. Stockpiles would be temporarily seeded and periodically treated to prevent wind from blowing topsoil and to prevent the introduction of exotics.
- Erect and maintain a temporary fence around the drip line of individual trees or around the perimeter drip line of groups of trees to remain within the construction limits. Do not store construction materials, debris, or excavated material within the drip line of remaining trees. Do not operate or park vehicles and construction equipment or allow foot traffic within the drip line of existing or planted trees. Do not excavate within the drip line of trees, unless otherwise indicated.
- To minimize the amount of ground disturbance, staging and stockpiling areas would be located in previously disturbed sites, away from visitor use areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction.
- Use silt fences in construction areas to reduce erosion and surface scouring.
- Use sedimentation basins and silt fences in grading areas to capture soil erosion before discharge to rivers and other water channels.
- Use semi-permeable materials on temporary access routes to allow for water infiltration through the soil column and aeration of any compacted soils at the completion of construction.
- Use dust abatement measures to reduce airborne soil erosion (including setting speed limits for construction vehicles in unpaved areas) and cover dirt and debris to be hauled away in trucks.
- Employ dust abatement measures (i.e., watering, dust palliative application, etc.) to address environmental impacts from the presence of tractors, trailers, and other equipment involved in ground disturbance.
- In appropriate locations, employ storm-drain inlet protection measures to help prevent soil and debris (from site erosion) from entering storm-drain drop inlets. Fabric barriers, straw bales, sandbags, block and gravel protection, etc. can be employed to create barriers. These should be used in combination with other measures, such as impoundments or sediment traps.
- Potentially use elevated boardwalk pathways or other feasible mitigation measures on pilings over wetland sections in the Cryaquolis-Cryofibristis Soils Complex.

Vegetation

Mitigation actions would occur prior to, during, and/or after construction to minimize immediate and long-term impacts to vegetation. These actions would vary by specific project, depending upon the extent of construction and the types of species and habitat affected. A rare plant species survey would be conducted within the project area covered by the selected alternative. Mitigation would include the following, as appropriate:

- Develop revegetation plans for the disturbed area, requiring the use of native species preferably from the same gene pool. Specify soil preparation, native seed/plant mixes, and mulching for all areas disturbed by construction activities.
- Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plant materials.
- Salvage and preserve vegetation to the extent possible for use in revegetating disturbed areas.
- Enforce construction specifications regarding soil salvage and reuse, trenching, plant protection, and finish grading.
- Site pathways to minimize impacts to vegetation, avoiding large trees where possible.
- Select base course and fill materials for compatibility with native soils to minimize risk of introducing nonnative plant seeds. Monitor areas where fill is imported from outside the Park and eradicate nonnative plants. Apply standard techniques to prevent nonnative plant encroachment.

- Develop monitoring and mitigation plans for managing nonnative plants within and immediately surrounding construction and developed areas. Implementation of the noxious weed abatement program would continue as an ongoing activity after construction is complete.
- Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (i.e., trees, plants, and root zones) from damage. Repair or replace damaged trees and plants and avoid fastening ropes, cables, or fences to trees.
- Use native or seed-free mulch to minimize surface erosion and introduction of nonnative plants.
- Define pathways and boundaries of development to reduce radiating impacts.
- Protect meadows and other sensitive resource areas by defining parking areas.

Hydrology and Water Quality

Mitigation measures would be applied to protect water resources (see "Soils" section within this appendix). These measures would include the following, as appropriate:

- Take measures to control erosion, sedimentation, and compaction, thereby reducing water pollution.
- Immediately remove hazardous waste materials from project sites.
- Place construction debris in refuse containers at least daily.
- Dispose of refuse at least weekly. No burning or burying of refuse is allowed inside the Park.
- To the extent possible, schedule construction activities during periods of low precipitation and low surface water levels to reduce the risk of accidental hydrocarbon leaks or spills reaching surface and/or groundwater, and to reduce the potential for soil contamination and compaction.
- Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, drainages, and watercourses.
- Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water.
- Keep absorbent pads, booms, and other materials on site during projects that utilize heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous material spills.
- Integrate storm water pollution controls into design, construction, and operation of new facilities, parking areas, and other paved surfaces that concentrate runoff.
- Employ dust abatement measures (i.e., watering, dust palliative application, etc.) to address environmental impacts from the presence of tractors, trailers, and other equipment involved in ground disturbance.
- In appropriate locations, employ storm-drain inlet protection measures to help prevent soil and debris (from site erosion) from entering storm-drain drop inlets. Fabric barriers, straw bales, sandbags, block and gravel protection, etc. can be employed to create barriers. These should be used in combination with other measures, such as impoundments or sediment traps.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Executive Order (EO) 11990, Protection of Wetlands requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, Section 404 of the Clean Water Act authorizes the Army Corps of Engineers (ACOE) to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. The NPS policies for wetlands as stated in 2001 Management Policies and Director's Order #77-1, Wetlands Protection, strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Once an alternative has been selected, a survey would be performed to certify wetlands within the project area and to identify locations of wetlands and open water habitat more accurately. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and marked before any construction starts. All pathway construction facilities would be sited to avoid wetlands, or if that were not feasible, to otherwise comply with EO 11990, the Clean Water Act, and Director's Order #77-1. In accordance with

Director's Order #77-1, proposed actions that have the potential to adversely impact wetlands must be addressed in a Statement of Findings for wetlands.

Mitigation measures would be applied to protect wetland resources. These measures would include the following, as appropriate:

- Employ standard avoidance, minimization, and mitigation strategies.
- Avoid wetlands during construction, using bridge crossings or retaining walls wherever possible. Increased caution would be exercised to protect these resources from damage caused by construction equipment, erosion, siltation, and other activities with the potential to affect wetlands. Measures would be taken to keep construction materials from escaping work areas, especially near streams or natural drainages.
- Use elevated pathways over wetland sections where it is not feasible to avoid the wetland or apply feasible mitigation measures (e.g., along portions of the Willow Flats area). This is of particular importance in the Cryaquolis-Cryofibristis Soils Complex (ACOE, Public Notice 3-18-2002, Regional Condition 6.F.); construction of a separated pathway on pilings would protect these unique wetland types.

Wildlife (including Threatened and Endangered and Special Status Species)

Mitigation actions would occur prior to, during, and after construction to minimize immediate and long-term impacts to wildlife. These actions would vary by specific project, depending on the extent of construction, its location, and the types of species and habitat affected. Many of the measures listed above (see "Vegetation" section) would also benefit wildlife by helping to preserve habitat. The NPS is already taking some actions to reduce wildlife-visitor conflicts within the Park. The Park has recently installed signs alerting motorists to migrating wildlife in important crossing areas and plans to install additional digital speed signs. The following actions have occurred within the last year and like actions will continue to be pursued in order to minimize impacts to wildlife:

- Notices appeared in the local weekly paper for 4 weeks, and regularly in the daily paper during the fall migration, alerting the public to drive safely due to the high incident of wildlife mortality (the actual number of fatalities was listed).
- Posters placed in the Moose Visitor Center alerted the public to drive safely due to the high incident of wildlife mortality. Actual numbers of each species wounded or killed per year were listed and updated as needed.
- Flyers were distributed to every vehicle passing through park entrance stations alerting visitors to drive safely due to the high incidence of wildlife mortality.
- New road signs were posted on the three access roads of the Park depicting a fatally wounded animal and serious vehicle damage.
- The Park is working closely with the Jackson Hole Wildlife Foundation to create radio spots and other public service announcements regarding driving more safely due to the wildlife on the roadway.
- The Grand Teton Lodge Company has created bumper stickers for all park vehicles, and possibly to sell to park visitors, encouraging safer driving due to the presence of wildlife.

Additional mitigation actions specific to wildlife would include the following, as appropriate:

- Prior to construction, evaluate habitat for species likely to occur and take steps to minimize impact on those species determined to be especially vulnerable.
- Minimize distance between existing road corridor(s) and any newly constructed pathways to reduce overall wildlife displacement.
- In site design, define pathways and boundaries of developed areas to confine human use and limit radiating impacts.
- During road shoulder and pathways design, several physical design features (e.g., retaining walls and guardrails) may be needed to construct pathways or widen road shoulders in certain topographically-challenging areas. These features would be designed in a manner that would not present a continuous barrier that would affect wildlife movement and migration. Long and continuous barriers to movement would pose unacceptable impacts to wildlife.
- Limit the effects of light and noise on adjacent habitat through control of sources during construction, and through site design of facilities, to limit long-term effects of resulting development.

- If a pilot transit program were tested in the Park in the future (based on the findings of the TBP), application of best available, low noise technologies and use of operating strategies would limit noise from transit vehicles.
- Install additional signs warning motorists and pathway users of the dangers of collisions with animals.
- Provide adequate education and enforcement to limit visitor activities that are destructive to wildlife and habitats.
- When possible, schedule disruptive construction activities to occur when effects on wildlife are less (e.g., after nesting season of birds and when mammals are neither hibernating nor have young).
- Where possible, preserve natural features with obvious high value to wildlife (e.g., tree snags).
- Maintain routes of escape from excavated pits and trenches for animals that might fall in. Cover post holes and other narrow pits with boards. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them.
- To minimize the potential for "taking" a nest or egg of a migratory bird species, either (1) any activity that would destroy a nest or egg would occur after July 15 (a timeframe outside of the primary nesting season), or (2) a survey for any nests in the project area would be conducted prior to these activities.
- Take measures to reduce the potential for human-bear conflicts. Educate visitors on appropriate behavior when recreating in bear habitat. Provide bear-proof garbage containers in all developed areas. Require construction personnel to adhere to park regulations concerning food storage and refuse management.
    - "Bearwise" education would be conducted with all personnel involved in road and pathway construction and maintenance projects.
    - All food and other attractants would be properly stored at all times, and all food materials, garbage, and other attractants would be packed out on a daily basis if they cannot be stored in bear-resistant containers.
    - All road-killed wildlife carcasses found less than 100 yards from the roadside would be removed within 24 hours to a location away from roads and human activities.
    - Project crews (other than law enforcement personnel) would not carry firearms.
    - Project crews would carry bear pepper spray when conducting project activities and would be trained in bear safety.
    - All project crews working in grizzly bear habitat would meet standards for sanitation, attractant storage, and access.
    - All grizzly bear/human confrontations would be reported to Science and Resource Management personnel.
    - Provide adequate cleaning of construction-related areas and garbage pick-up to limit wildlife access to human food.
    - Enforce regulations that prohibit feeding of wildlife and that require proper food storage.

Cultural Resources

The NPS would preserve and protect, to the greatest extent possible, resources that reflect human occupation of the Grand Teton National Park. Specific mitigation measures would include the following, as appropriate:

- Conduct additional background research, resource inventory, and National Register evaluation where information about the location and significance of cultural resources is lacking. Incorporate the results of these efforts into site-specific planning and compliance documents.
- Incorporate mitigation measures into site-specific planning and design, including protecting archeological resources from disturbance, designing new construction in historic settings using compatible architectural style, and screening modern facilities from historic districts and ethnographic use areas.
- Develop specific design guidelines for all areas.
- Protect known human burials from disturbance and prepare emergency discovery plans to deal with any unanticipated discoveries.
- Mitigate unavoidable impacts to archeological resources through data recovery excavations and construction monitoring.
- Consult with tribes throughout site-specific design planning and project implementation to avoid or mitigate damage to ethnographic resources.

- Mitigate impacts to ethnographic resources through actions developed in consultation with culturally associated American Indian tribes. Mitigation measures could include designating alternative gathering areas, continuing to provide access to traditional and spiritual locations, and screening new development from traditional use areas.
- Design all new construction within historic districts, or adjacent to historic structures or sites, to be compatible in terms of architectural elements, scale, massing, materials, and orientation.
- Undertake all treatments to historic structures and cultural landscapes in keeping with the Secretary of Interior's standards.

Transportation System and Traffic

The TBP will provide recommendations related to transit in the Park. If a pilot transit program were tested in the Park in the future based on the findings of the TBP, mitigation measures would be similar to, but not limited to, those listed below. Any future decision on transit would incorporate these elements.

- Limit noise from transit vehicles through application of best available, low noise technologies and use of operating strategies.
- Apply best available clean fuel technology to minimize air quality emissions.
- Consider the need for reliable, cost-effective transit service with adequate vehicle capacity.

Social and Economic Environments

During future planning and implementation, the NPS would work with local communities and county governments to identify further potential impacts and mitigation measures that would best serve the interests and concerns of both the NPS and the local communities, which may include the following:

- Pursue partnerships to improve the quality and diversity of community amenities and services.
- Coordinate with Teton County and the Town of Jackson such that pathway construction along U.S. Highway 26/89/191 within the Park from the south entrance to Moose Junction occurs at the same time a pathway from the town to the Park's south boundary is being constructed.
- Coordinate with Southern Teton Area Rapid Transit and other transit-related organizations to understand demand, cost, and feasibility of connecting existing transit services to potential areas within the Park.

APPENDIX C
Projects Examined for Cumulative Impacts

The following projects were considered in assessing cumulative impacts of the alternatives on the resources and values of the Park, as discussed in Chapter 4 of this document. These projects are those that would affect resources in the area of analysis (Grand Teton frontcountry), that would also be affected by the proposed plan, or that could cause changes to transportation patterns or needs in the area.

Grand Teton National Park

Moose Entrance Station

This project will relocate the existing entrance station within 1/8-mile of its existing location and add one entrance lane at the new location.

Moose Discovery Visitor Center and Area Plan

A new visitor center, approximately 22,000-ft^2 (2,044-m^2) in size, will be constructed southeast of the old Moose Post Office within the sagebrush meadow on the edge of the mixed hardwood and spruce/fir forest. A value analysis has been completed for the existing administrative building and visitor center. The preferred option has not been selected. One option includes finishing the second floor of the current maintenance building to serve as the administrative office and removing the current administrative building. Another option includes finishing the second floor, keeping the current administrative office to use for storage, and removing a series of warehouses at the side of the maintenance yard. Other options combine similar work in different arrangements. Approximately 4.0 acres (1.6 ha) of parking will be provided. The existing store being used by the contractors during the construction work will be removed. In addition, the existing boat launch and boater parking areas will be reconfigured to provide for better circulation, visitor safety, parking efficiency, and expanded launching capability and boat parking.

Jenny Lake Lodge Upgrading Visitor Accommodation and Employee Housing Facilities

This project includes several elements, including: (1) relocating three existing guest cabins to the employee housing area to provide improved housing for managerial employees; (2) converting one existing employee cabin to an employee lounge, replacing a temporary employee lounge in the housekeeping facility, and constructing five new guest cabins to improve the overall quality of guest accommodations while maintaining the maximum guest capacity of 114 people; (3) constructing a 2,000-ft^2 (186-m^2) guest lounge to accommodate indoor programs and other special events and activities for guests; and (4) installing an additional 2,000-gal (7,570-L) tank for the septic system. Project construction will occur in five phases (three spring and two fall construction seasons).

North Park Road Projects

From 2006 to 2009, the following projects are scheduled on the North Park Road:

- Approximately 10.0 miles (16.1 km) of the North Park Road, from the Lizard Creek Campground north through the John D. Rockefeller, Jr. Memorial Parkway to the southern boundary of Yellowstone National Park, will be reconstructed following the standard roadway cross-section (two 11-ft paved travel lanes and two 5-ft paved shoulders).
- The Snake River Bridge near Flagg Ranch will be replaced.
- The road from Moran to the Jackson Lake Lodge will be chip sealed in 2007 (pending funding). In addition to the projects that are currently scheduled, a 5-ft widened shoulder may be considered for future roadwork between Colter Bay and Lizard Creek, but this action would require additional compliance.

Spread Creek

The National Park Service (NPS), in cooperation with the Federal Highway Administration and the U.S. Forest Service, prepared an environmental assessment evaluating the proposed rehabilitation of U.S. Highway 26/89/191/287 and the development of the Spread Creek material source and staging area. The Finding of No Significant Impact was signed in April 1997. Development of the Spread Creek material source and staging area provides sand, rock, and gravel for repairing and maintaining park and forest roads and facilities.

Laurance S. Rockefeller (LSR) Preserve

On May 26, 2001, Laurance S. Rockefeller announced his intent to donate 1,106 acres (448 ha) to the NPS. This parcel was the remaining privately held portion of the JY Ranch that the Rockefeller family had owned since the 1930s. The property surrounds the southern half of Phelps

Lake and offers some of the most spectacular mountain scenery in the Park. The transfer of ownership from the Rockefeller family to the Grand Teton National Park is scheduled to occur in 2007; after which, the JY Ranch will become a significant and nationally recognized park attraction known as the Laurance S. Rockefeller (LSR) Preserve. A system of trails and a visitor contact station are currently under development.

Western Center for Historic Preservation at White Grass Ranch

In 2003, the Department of the Interior and the National Trust for Historic Preservation formed a partnership creating the Western Center for Historic Preservation. Its primary purpose is to preserve rustic architecture through work on deferred maintenance projects in the Grand Teton National Park and the Intermountain Region. The secondary purpose will be to support cultural resource research projects dealing with historic structures, history, and cultural landscapes in the Park and the Greater Yellowstone Area. The first phase will involve rehabilitation of the White Grass Ranch, which will take approximately 5 years. Once rehabilitated, White Grass Ranch's primary function will be to provide seasonal housing and work space for NPS historic preservation crews and volunteers who will work with the center to decrease the historic structure maintenance backlog in the Park. White Grass Ranch will operate seasonally from late April to September. Use of the ranch will be limited to 30 people during the day and 15 people overnight. There will be parking for six vehicles at the ranch; car or van pools to the ranch would be required. A volunteer site manager will coordinate activities of overnight guests staying at the ranch.

Bison/Elk Management

The U.S. Fish and Wildlife Service and the NPS collaborated on an Environmental Impact Statement (EIS) that considers various management issues, including:

- Bison and elk ecology.
- Loss and degradation of elk winter range.
- Number of elk and bison inhabiting the refuge and park.
- Population control measures.
- Forage management.
- Winter feeding.
- Disease management.
- Restoration of habitats damaged by elk and bison.
- Restoration of previously agricultural lands to provide habitat.

A Record of Decision is expected in late 2006 or early 2007.

United States Department of Agriculture – Bridger Teton National Forest

Jackson Hole Mountain Resort Improvements

This project completes a number of improvements, including upgrading the hiking/biking trail network and providing approximately 23 miles (37 km) of additional trails. Trails must be sited and designed so as to avoid encroachment into the Grand Teton National Park.

Teton County/Town of Jackson

Teton Village Expansion

Snake River Associates (SRA) has recently had a development of approximately 200 acres (81 ha) of ranch land approved to be rezoned for resort development as a part of a Teton Village expansion. The SRA proposal includes construction of homes, a golf course, commercial space, skier parking, parks, paths, and other facilities.

Teton County/Town of Jackson Regional Transportation Plan

The Jackson Regional Transportation Plan was adopted by Teton County and the Town of Jackson in January 2000 and updated in December 2003. This comprehensive, regional, multi-modal plan is officially a part (Chapter 8) of the joint County/Town Regional Comprehensive Plan. Technical work and public process on the Transportation Plan began in 1996 and continued through to adoption. The Wyoming Department of Transportation (WYDOT) was actively involved in plan development.

A principal focus of the Plan is to reduce and manage the impacts of traffic growth occurring in the valley as a result of population growth and commercial development. Area residents have been concerned about the loss of rural character associated with traffic congestion and highway expansion in Jackson. The Plan sets policies and programs designed to intervene in traffic growth through a combination of mode shift and land use strategies.

Specifically, the Plan sets a goal of reducing single occupant vehicle travel to 42 percent of daily person trips, down from 55 percent in 1996. By 2020, "alternative

modes" (i.e., walking, bicycling, and transit) would account for 28 percent of daily person trips, up from 15 percent in 1996. The Plan also sets policies to focus future development in the existing town as part of a "town as heart" initiative. Other land use policies included in the Plan are the continued use of conservation easements to avoid traffic growth in certain corridors and the steering of development into "mixed use villages" suitable for development of improved transit service and pathway networks.

The Transportation Plan calls for a "systematic expansion of the public transit system in Teton County." Both public and private transit providers are to play a role in this expansion. Transit services to be considered as part of this expansion include (among others):

- Transit service to popular Grand Teton National Park sites and provisions for integrating with future Grand Teton National Park transit systems.
- A regional transit center that includes additional parking opportunities in the Town of Jackson (Regional Transportation Plan, p. 8-30).

The regional Pathways Program (see below), providing routes for walking and bicycling, is another major emphasis of the Plan. The Plan states that:

- The town, county, and WYDOT street and roadway systems will be designed to safely accommodate and encourage pedestrian and bicycle use as important modes of travel. A system of separated pathways connecting major origins and destinations in Teton County will be incorporated into the transportation system.
- The town, county, and WYDOT will coordinate with public land management agencies to connect the pathway system and on-street pedestrian/bicycle facilities with pathway and trail systems on federal lands, including the Grand Teton National Park, the National Elk Refuge, and the Bridger-Teton and Targhee National Forests (Regional Transportation Plan, p. 8-33).

Finally, the Plan sets average daily traffic (summer) and level of service goals for regional arterial roadways, including roadways that provide access to the Grand Teton National Park.

Transit Development Plan — Southern Teton Area Rapid Transit (START)

The "Jackson/Teton County Transit Development Plan (TDP): 2000-2005 and Long Range" was adopted by Teton County and the Town of Jackson in June 2000 and updated in November 2003. The TDP was based on an evaluation of current operations of the START public bus system, including relationships between the START cost structure, routes, service levels, fleet requirements, and other factors.

Based on extensive public involvement and on policies articulated in the Jackson Regional Transportation Plan, the TDP provided service recommendations based on realization of the 2020 Transportation Plan goals (including a 2020 goal of 5 percent of daily person trips on transit) and also defined a phased implementation program with a detailed operations plan for the first 5 years (2000 to 2005). START is in support of providing public transit between Jackson and the Grand Teton National Park, assuming the Park will pay the capital and operating cost of this service.

Jackson Hole Community Pathways Program

The Jackson Hole Community Pathways Program is a jointly funded independent department of the Town of Jackson under the direction of the Town Administrator. The Program has the following goals:

- *Improve Facilities* – Systematically complete the Pathways Improvement Program list of on-road and off-road improvements for bicycling, walking, horseback riding, and Nordic skiing.
- *Increase Use* – Double the percentage of transportation trips made by bicycling, walking, and other non-motorized modes by 2015.
- *Enhance Safety* – Decrease the number of bicycle and pedestrian accidents and multi-user trail conflicts by 10 percent.

The Pathways Program, through its task force, has adopted the following objectives:

- *Meet Needs of All Levels of Bicyclists* – Create a comprehensive network of on-road and off-road facilities that are integrated with the roadway and transit systems.

- *Meet Needs of Pedestrians, Including Persons with Disabilities* – Make all streets and intersections "pedestrian-friendly" and accessible.
- *Encourage and Promote Bicycling and Walking* – Shift 10 percent of transportation trips to bicycle and walking modes by 2015; conduct a promotion campaign for bicycling and walking transportation trips.

The Pathways Program has built a network of off-road multi-use "pathways" radiating out from the Town of Jackson and has worked with other agencies to build additional pathways. Past and future planned projects include:

- *Moose-Wilson Trail* – This project completes a trail of approximately 7 miles, from Wyoming Highway 22 to the south park boundary along Wyoming Highway 390.
- *Jackson-Moose Scenic Pathway* – This project completes a trail of approximately 3.5 miles, from the Multi-agency campus in Jackson to the Park boundary. Construction was scheduled to occur in 2004.
- *Regional Trails* – The following pathways are also scheduled for future construction: Teton Pass Millennium Trail; Hoback Junction Pathway, Hoback Junction Pathway to Wyoming Centennial Scenic Byway, Wyoming Highway 22 Pathway, and Snake River Bridge.

WYDOT Transportation Improvement Program

The WYDOT will undertake a number of highway projects in and around Teton County. Projects initiated in 2002 include the previously described Pathways Program projects that will directly connect Teton Village and the Granite Entrance Station of the Grand Teton National Park with the village of Wilson, and the extensive Teton County pathways network, including sections running west and south out of Jackson.

Two other projects, currently in the planning and design stages with WYDOT, will be of direct relevance to the Grand Teton National Park. These include:

- *Reconstruction of Wyoming Highway 22 and Wyoming Highway 390* – These projects will bring major changes to Wyoming Highway 22 from Jackson west over Teton Pass to the Idaho state line, and to Wyoming Highway 390 from Wyoming Highway 22 north to Teton Village. The Regional Transportation Plan calls for Wyoming Highway 22 from Jackson to the Snake River to be widened to four lanes with an additional bridge over the river. Wyoming Highway 22 through Wilson would remain at two through-lanes. The Plan calls for delaying the widening of Wyoming Highway 390 beyond three lanes for as long as possible. Due to uncertainties in the planning process, WYDOT has not assigned these projects to specific program years.
- *Reconstruction of U.S. Highway 287 over Togwotee Pass* – This series of projects began in early 2006. Work will include bridge replacement projects as well as roadway reconstruction and widening. The preferred alternative calls for a 12-ft travel lane, 6-ft shoulders, and a 10-ft clear zone.

Finally, WYDOT has an ongoing statewide Intelligent Transportation Systems (ITS) program. The interstate highway system will be the location of the first specific improvements, including installation of dynamic message signs, radio stations, and other improvements along the western half of I-80. Ultimately, WYDOT will establish a statewide network of real time traffic data gathering, weather monitoring, and information dissemination on the state highway system, including variable message signs, information radio systems, dial-in services, and Internet web sites. An improved ITS on Wyoming Highway 22 over Teton Pass has already been funded.

APPENDIX D
Responses to Comments on the Draft Plan/EIS

This appendix summarizes all substantive comments received on the Draft Plan/EIS and provides responses to comments, as required by Council on Environmental Quality regulations. The appendix includes the following elements:

- Overview of the process for commenting on the Draft Plan/EIS.
- Analysis of comment types, numbers, and content, with summaries of substantive comments.
- Comment text from agency letters.
- Responses to substantive comments.

In accordance with 40 Code of Federal Regulations (CFR) 1503.4[5][b], summaries of all substantive comments received on the Draft Plan/EIS appear in this appendix. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive. A substantive comment is one that does one or more of the following:

- Questions, with reasonable basis, the accuracy of information in the EIS.
- Questions, with reasonable basis, the adequacy of the environmental analysis.
- Presents reasonable alternatives other than those presented in the EIS.
- Causes changes or revisions in the proposal.

In preparing a Final EIS, an agency is required to assess and consider comments both individually and collectively. The agency is required to respond by one or more of the following means, while stating its response in the final statement (40 CFR 1503.4):

- Modify alternatives.
- Develop and evaluate alternatives not given serious consideration.
- Supplement, improve, or modify analyses.
- Make factual corrections.
- Explain why comments do not warrant further agency response.

Overview of the Public Comment Process

In April 2000, the National Park Service (NPS) undertook a transportation study to provide basic information regarding transportation issues in Grand Teton National Park. The study served as a foundation for the next step in the process, which was the development of a Transportation Plan, initiated in September 2001.

The Park conducted a series of public scoping meetings and workshops in Jackson, Wyoming, during late 2001 and early 2002, and work continued on the Plan during 2002 and 2003. In 2004, the NPS decided to scale back the Plan to focus on actions that could be achieved within a 5- to 10-year period.

The NPS developed the range of reasonable alternatives, involving a variety of strategies to address transportation within the Park. On May 27, 2005, the Draft Plan/EIS was released for public review and comment. The NPS subsequently extended the comment period, which ended on August 25, 2005, providing a 90-day comment period. A total of 2,638 documents were received through the NPS Planning, Environment, and Public Comment website, fax, and direct mail.

Some, but not all, commentors expressed a preference for or opposed one or more of the alternatives presented in the Draft Plan/EIS. Of those expressing an opinion, the most common was support for Alternative 4. Many of the comments received were form letters of various types.

Correspondence from Agencies and/or Tribes

Letter 130491—Teton County Board of Commissioners

Correspondence Text

The Teton County Board of County Commissioners commends the Park for undertaking the difficult but critical effort to re-envision the transportation system that serves Grand Teton National Park. We view this Plan as the first step toward creating a well-coordinated transportation system that meets the needs of Park visitors and employees and that protects the incalculable natural resources entrusted to the Park's care. We also view this Plan as a short-term planning document that will be further developed and refined in conjunction with the update of the General Management Plan. In that context, we offer the following comments on the Draft EIS:

Pathways Element
The Board supports the Park's efforts to implement a comprehensive system of separated pathways, extending from the Park's boundary north of Jackson to Colter Bay. The Board's preference would be for a pathway system most closely aligned with the system represented in Alternative 4. With regard to the design of the pathway system, the Board trusts that the Park will choose alignments that are safe and of minimal impact to natural resources and wildlife.

Transit Element
The Board recommends that the Park recast the EIS so that greater balance between the pathways and transit elements is achieved. The pilot transit system proposed in both Alternatives 3 and 4 lacks the same commitment to implementation and financial support proposed for the pathways element of the Plan. The success of the Plan will be measured not by the miles of pathway constructed, but by the degree to which the range of travel choices and needs are met, and the extent to which a seamless, environmentally sensitive transportation system is created. In order to achieve such a system, the EIS must include a transit element supported by realistic funding and a clear commitment to implementation on more than a start-up basis.

The County and Town of Jackson envision an opportunity to form a partnership with the Park to provide transit service to/from Jackson. Ideally the communities' local transit provider, START, would concentrate on a link between Jackson and the new visitor center in the Park, which would be coupled with Park-sponsored strategies for internal transit service. Again, the Plan does not include sufficient detail to anticipate the respective roles and responsibilities of START, the Park, or private concessionaires in this regard. Further detail can be found in the START comment memo, dated August 15, 2005.

Moose-Wilson Road
Members of the Board feel strongly that the Moose-Wilson Road and surrounding environment should not be allowed to suffer the ill effects of ever increasing travel and use. In that regard the Board opposes any change to the physical character of the road, as well as any proposal that would allow winter use of the road.

The Board does support the proposed pathway from Granite Canyon to the new JY Ranch Visitor Center, so long as it can be achieved with minimal environmental impacts. The Board also supports the proposed realignment of portions of the road, as detailed in the EIS, but only if the physical character of the realigned sections is consistent with the existing, adjacent roadway sections.

Planning for Developed Areas
The Draft EIS includes little detail with regard to proposed modifications in the Developed Areas of the Park. Successful integration of anticipated transit, pedestrian, cycling and vehicle modes will necessitate well-considered internal/external circulation routes, transit stops, adequate parking, wayfinding, services for the disabled, emergency access, and delivery and service needs. The current Plan provides little support for this critical component of the overall transportation system, either in terms of detail or commitment to funding.

In closing, the Board of County Commissioners supports the Park's efforts to create a safe, efficient, environmentally respectful, multi-modal transportation system for Grand Teton National Park. We look forward to partnering with you in support of our mutual goals and are confident that we can work together to achieve these goals.

Respectfully, Larry Jorgenson, Chairman

Response

See Response to Comments, numbers 13 and 16.

Letter 129654—USDA Forest Service, Bridger Teton National Forest

Correspondence Text

Thank you for the opportunity to comment on the GTNP Transportation Plan Environmental Impact Statement. We believe the Preferred Alternative presents a great improvement over the existing condition while allowing a moderate level of investment and impact to the environment. Implementation of this alternative will also help reduce environmental impacts to the adjacent National Forest system lands.
We have the following specific comments on the EIS:

1) We are concerned about the impact of the project on habitat and wildlife species including moose, elk, pronghorn antelope, and bears. For this reason, we support that pathways should be located adjacent to existing roads where possible. We further suggest that the project be phased in over time so that the impacts of the pathways on wildlife can be monitored and adjustments made, if needed.

2) The EIS states that transit service would begin from the MAC site. We suggest the wording be amended to include "or an alternative site within the Town of Jackson."

3) Adding some information on a proposed implementation schedule would be a good addition to the document. Does this project need to compete with other park maintenance needs for funding? How would implementation of this project be affected by other GTNP priorities?

Thank you again for the opportunity to comment. We look forward to the implementation of the Preferred Alternative and an improved transportation system in Grand Teton National Park. If we can be of any assistance in the implementation process, please do not hesitate to call.

Carole "Kniffy" Hamilton, Forest Supervisor

Response

See Response to Comments, numbers 17, 18, and 61.

Letter 129648—U.S. Fish and Wildlife Service

Correspondence Text

Thank you for the opportunity to comment on the Grand Teton National Park Transportation Plan/Draft EIS. These comments are based on my concern that the creation of bike paths away from existing highways in GTNP, particularly when these are in areas of visual cover in wildlife habitat, have the potential to increase bear-human surprise encounters and may also result in habitat loss or avoidance of such bike path areas by bears and other wildlife species.

The key issue is the creation of bike paths separated from the existing highways through habitat that has high potential to have grizzly and other wildlife presence. Such non-motorized pathways will be conflict generating developments as they will bring quiet fast moving people on bikes into close proximity with wildlife with little or no warning to the animals. Such bike paths also have high potential for dramatically increasing human use of wildlife habitat, especially in early morning and evening and even at night, times when wildlife are most active.

These pathways will increase the probability of bear-human encounters along with moose-human encounters and will effectively widen the human disturbance zone of the highway corridor into adjacent currently undisturbed habitats. The preferred alternative describes 23 miles of such pathways between 50 and 150 feet from the existing roadbed. I see major impacts related to:

- *Increased surprise encounters with bears and other potentially aggressive wildlife and quiet, fast moving humans on bikes or running resulting in increased potential for injury and possibly death for both humans and bears.*
- *Increased use of the presently undisturbed habitats where these pathways will be built. This use will occur during all times of the day and will be particularly detrimental during the hours of early morning and evening and even during darkness when wildlife is most likely to be present. This increased human use will displace wildlife and increase conflict encounter frequencies.*
- *Increased habitat displacement in these areas by essentially widening the highway corridor and human presence zone from the existing highway to 50-150 feet of additional displacement distance. This will widen the roadway use zone and depart from the 1998 baseline in the Conservation Strategy. If such bike pathways are within 15-20 feet of the existing roadway, there will be little measurable impact.*

I am also very concerned about the impacts of alternative 4, since it proposes separated pathways all the way to Colter Bay, and traverses habitat with high grizzly bear density from North Jenny Lake Junction to Colter Bay. I am also particularly concerned about the Moose-Wilson road corridor, in the SW corner of the park, where excellent bear habitat exists, black bears occur at high density, but at this time grizzly bears are mostly absent or at low density. A separated pathway there will have impacts on black bears, moose, and other wildlife, and will eventually involve grizzly impacts in the near future as bears continue to colonize areas in the south end of the park.

My suggestion is that such pathways, if they are to be built, be immediately adjacent to (within 15-20 feet) of the existing highways. This is most important in areas where there is visual cover that can hide animals and people from each other along bike pathways. The adjacent distance is of less importance in open meadow or low sagebrush habitats where animals and people can see each other at some distance. Such adjacent pathway placement will minimize wildlife displacement and reduce the probability of surprise encounters as wildlife are less likely to be surprised along existing roads than along paved pathways in areas of high visual cover.

Thank you for this opportunity to comment. I appreciate the effort you are making to get people out of their cars on bike trails in the beauty of GTNP. However, I believe that such actions need to be done with careful consideration of the unintentional impacts of the placement of such bike trials on resident wildlife.

Christopher Servheen, Grizzly Bear Recovery Coordinator

Response

See Response to Comments, numbers 23, 30, 31, and 36.

Letter 129651—U.S. Fish and Wildlife Service-Ecological Service

Correspondence Text

*Thank you for your letter requesting comments on the Draft Environmental Impact Statement (DEIS) for Grand Teton National Park Transportation Plan (plan or Project), dated May 27, 2005 and received in our Cheyenne Fish and Wildlife Service (Service) Office on May 31. This letter addresses Alternative 3, the Preferred Alternative, and in particular the potential Project effects on the threatened grizzly bear (*Ursus arctos horribilis*) and gray wolf (*Canis lupus*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (50 CFR §402). In addition, the Service agrees with the Park's assessment that the Project will likely have negligible impacts to the threatened bald eagle (*Haliaeetus leucocephalus*) and Canada lynx (*Lynx canadensis*) and candidate yellow-billed cuckoo (*Coccyzus americanus*). In response to your request to review the proposed action, we are providing you with comments specific to threatened, endangered and candidate species. The Service provides recommendations for*

protective measures for threatened and endangered species in accordance with the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Grand Teton National Park (GTNP or Park) is proposing to implement a new transportation plan that will include roadway shoulder improvements, separated multi-use pathways, traveler information systems, and a limited pilot transit program. In particular, pathway development and roadway shoulder improvements target cyclist and pedestrian use. Social trails in high-use developed areas will be improved and a pilot program for transit service from Jackson to Colter Bay and along the Moose-Wilson Road will also be evaluated. Approximately 20 miles of separated pathways will be provided between the south park boundary and Antelope Flats Road and from Moose Junction to North Jenny Lake Junction. An additional 13 miles of separated multi-use pathways will be provided along the Moose-Wilson Road between the Granite Canyon Entrance and the future location of the JY Visitor Center. Approximately 16 miles of improved roadway shoulders will be provided on Teton Park Road and North Park Road from North Jenny Lake to Colter Bay. The Moose-Wilson Road will be realigned in two areas.

Grizzly Bear.
Under the Preferred Alternative, the DEIS indicates that adverse impacts to listed wildlife species would be negligible to minor, although vehicle/wildlife collisions "may potentially result in adverse impacts to individual grizzly bears or gray wolves." Although no grizzly bears have been hit and/or killed by vehicles in the Park, 2 grizzly bears and 8 black bears were road-killed in Yellowstone National Park from 1989 through 1998. The increasing Greater Yellowstone Area grizzly bear population has resulted in bears being relatively common throughout most of the Park. Therefore, as the DEIS indicates, it is reasonable to assume that it's only a matter of time before a grizzly bear is hit and killed by a vehicle.

Two of the Park's management objectives for grizzly bears include "(R)estore and maintain the natural integrity, distribution, and behavior of grizzly bears" and "(P)rovide for visitor safety by minimizing bear/human conflicts, by reducing. ..food sources. ..and by regulating visitor distribution (DEIS page 77)." To minimize Project impacts to grizzlies, the DEIS (page 38) includes mitigation actions that include "define pathways. ..of developed areas to confine human use and limit radiating impacts" and "..reduce the potential for human-bear conflicts…" The Park's analysis in the "Methods and Assumptions" section (DEIS pages 135-137) indicates the "...predictability [of activities and associated impacts to wildlife] along a linear corridor declines as human activities change…to people approaching wildlife from random points along a corridor."

If Alternative 3 is selected, the Park is essentially providing a mechanism for improved and increased human access in the Park, in particular separated pathways for cyclists and pedestrians. Project actions will encourage unpredictable encounters and increase the likelihood for grizzly/human conflicts rather than minimize them. In some instances, human habituation and food conditioning may also result. These potential impacts are not only negative to grizzlies and human health and safety but run counter to the Park's stated management objectives. Direct and indirect effects, such as ongoing road maintenance, permanent habitat loss within the zone of influence, and reduced habitat effectiveness (DEIS page 163, 166) further illustrate this point.

Gray Wolf.
The rationale for the "adverse affect" determination to gray wolf is similar to grizzlies by anticipating reduced habitat security and increased likelihood of a wolf being hit and killed by a vehicle. The DEIS (page 178) indicates that the Teton pack regularly crosses the road between U.S. 89/191 and between Moran and the Park's east boundary. The pack's alpha male was hit and killed by a vehicle on U.S. 287 in 1999. Other wolves with unknown pack affiliations have also been frequently observed crossing roads and one wolf was killed near Moran Junction in 2005. The potential impacts from this Project deviate from the Park's management objectives and would likely lead to "Incidental Take" for both gray wolf and grizzly bear and therefore, formal consultation with the Service would be required.

Other comments.
The DEIS states that "(S)urveys would be done prior to construction to ensure that no listed species … would be adversely affected" [at the population level] (Summary of Impacts, page vii). While the Service commends the Park on implementing surveys, this Project extends beyond the construction period and therefore, survey, by themselves do not address project impacts they merely inform the analysis of what species may be affected during the short term construction periods. Your complete analysis should address long-term Project impacts to wildlife in addition to the pre-construction period. The Service would also appreciate additional analysis and cumulative effects discussion on the potential expansion of Teton Village as it relates to future road use, especially given that grizzly bears have been reported in that area.

The Service appreciates the opportunity to comment on the Transportation Plan/Draft EIS. If you have any questions or comments regarding this letter or your responsibilities under the Endangered Species Act of 1973, as amended, 16 U .S.C. 1531 et seq., please contact Ann Belleman of our Cody office at (307) 578-5942.

Brian T. Kelly, Field Supervisor, USFWS

Response

See Response to Comments, numbers 23, 30, 31, 36, 39, and 44.

Letter 129652—U.S. EPA Region 8

Correspondence Text

The Environmental Protection Agency (EPA), Region 8, has reviewed the Draft Environmental Impact Statement {DEIS) for the Grand Teton National Park Transportation Plan. Our comments are provided in accordance with our authorities pursuant to the National Environmental Policy Act, 42 U.S.C. 4231; Section 309 of the Clean Air Act; and Section 404 of the Clean Water Act.

This DEIS analyzes three alternatives for transportation in the Park, and a no action alternative. The preferred alterative, alternative 3, proposes a system of multi-use pathways and shoulder improvements to provide safer experiences for bicyclists and pedestrians. It also initiates a pilot transit program, and enhances the visitor information system. The other two build alternatives are variations of this alternative, one providing much less construction, and one providing extended pathways.

Comments on the Draft EIS
Wetland Impacts: The impairment classification process used in the DEIS (explained on pages 106-107) results in the conclusion that the wetland impacts of all the alternatives are considered minor, and therefore do not need mitigation. The Clean Water Act Regulations (40 CFR 230.1(d)) indicate that "From a national perspective, the degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by these Guidelines. The guiding principle should be that degradation or destruction of special sites may represent an irreversible loss of valuable aquatic resources." No net loss of wetlands is the nation's wetland policy, and should be followed by the National Park Service. This policy should result in wetland mitigation for all unavoidable wetland impacts, whether deemed a minor or major impact.

The DEIS points out the sensitive wildlife and scenic values of the park in the purpose and need statement. These values include the park' s wetlands resources since they provide essential habitat for many of the park's wildlife species. The DEIS also documents some of the cumulative wetland losses, which we presume are unmitigated, which occurred prior to preparation of the document. The DEIS then concludes that additional unmitigated losses are minor adverse impacts. We do not believe this conclusion is supportable. In addition, the DEIS does not document what the indirect impacts to wetlands from this project might be.

We also believe that the National Park Service should take this opportunity to create mitigation areas for past wetland impacts from highway projects in the park. This transportation plan could also be used to adopt a mitigation banking approach and provide additional restoration today to offset impacts that have yet to occur.

Water Quality Impacts: The preferred alternative results in 49 additional acres of impervious surface, resulting in long-term impacts from increased run-off to nearby surface drainage and groundwater. Again, the document classifies the impacts from the additional run-off as indirect, minor, and adverse (see page 128) or minor, long-term, adverse impacts on water quality (See page 51). Although the conclusion is that this does not result in impairment to the park's water resources, we still believe that best management practices (BMPs) are necessary to ensure that waters close to the trails and additional paving are not degraded. The BMPs described on page 37 are for the construction period. The storm water BMPs, which would provide the long-term protection of waters, are not described in any detail. Please provide more detail in the final EIS on what those BMPs will be where there are water resource close to the road.

Rating
Based on EPA's procedures for evaluating potential environmental impacts of proposed actions and the adequacy of information presented, EPA is rating the preferred alternative EC-2. The "EC" (environmental concerns) portion of the rating means that EPA's review has identified environmental impacts that should be avoided in order to fully protect the environment. In this case, wetlands and water quality impacts are of concern. The "2" portion of this rating means that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. In this case, it is not clear to us whether long-term water quality will be impacted by this project. A summary of our rating definitions is enclosed.

We appreciate the opportunity to review this well-done Draft EIS. If you have any questions about our comments, please contact me at 303 312-6004 or Deborah Lebow of my staff at 303 312-6223.

Larry Svoboda, Director, NEPA program

Response

See Response to Comments, numbers 49, 50, 51, and 52.

Letter 129646—U.S Fish and Wildlife Service

Correspondence Text

The staff of the National Elk Refuge has reviewed the draft transportation plan/EIS and has the following comments.

While we generally support the concept of using alternative methods of transportation for a variety of reasons, we have several concerns about the preferred alternative as it relates to the proposed pathway system in Grand Teton National Park.

We are opposed to the development of any separated pathways in the park. We recommend that all pathway development be connected to existing roadways. We feel that transportation corridors should be kept as narrow as possible to facilitate the movement of wildlife including large ungulates and carnivores. The separation of a pathway in our view will simply enlarge overall transportation corridors making it more difficult for animals to cross. Given the fact most visitors see the park from vehicles of some sort, we feel greatly enlarging transportation corridors would deter from the visitor experience to need to look through another transportation corridor to view the park's vistas.

We are opposed to the development of any pathway along the Moose-Wilson Road. Because of its layout, traveling this road is currently an interesting and unique experience. We doubt any development could be accomplished without significant, visible impacts to the site immediately adjacent to the roadway that would deter from the current experience. We feel given the low speed limit already posted, the existing roadway should continue to be used for multi-type vehicle travel.

Given the increasing use of the northern end of the park by grizzly bears, we are also very concerned about the development of a pathway north of the Jenny Lake area. Given the nearly contiguous forest cover in this part of the park, we feel the development of a pathway, even one attached to the existing roadway, would be an invitation to increased conflict with bears. This has been demonstrated in other North American national parks where bicycle use has been allowed in grizzly country.

Even though Grand Teton National Park is considered by many to be one of the "big parks," it is really not a very large natural area by North American standards. The natural values of the park have already been significantly compromised by the construction of the Jackson Lake Dam and the Jackson Hole Airport. We feel extreme caution needs to be exercised with a project that would further diminish any of the remaining existing natural values of this outstanding area. We believe future generations will judge us more favorably by our restraint in developing natural areas than by allowing a creeping development that slowly erodes the values the park was established for.

Barry Reiswig, Refuge Manager

Response

See Response to Comments, numbers 23, 30, 31, 36, 39, and 44.

Letter 129472—Wyoming House of Representatives

Correspondence Text

I appreciate the opportunity to respond to this Draft EIS. I consider Grand Teton National Park, and the values it is charged with preserving, to be the basis for the healthy, sustainable economy not only in the legislative district I represent but also throughout the Greater Yellowstone Ecosystem. I fully appreciate the challenge presented to you, and to the National Park Service, of dealing with, tolerating, or minimizing the impacts on GTNP resulting from ever increasing developments outside of the park.

An additional motivation to comment comes from my experiences in GTNP and Teton County with transportation issues since 1954. I was first exposed as an engineering technician and later as project engineer with the Bureau of Public Roads (predecessor of the Federal Highway Administration) from 1954 to 1965 in Grand Teton and Yellowstone National Parks. Later I was a private engineering consultant in Teton County, including serving as Teton County Engineer on a consulting basis for transportation studies. For a period of several years I served as the National Parks and Conservation Association "park watcher" for Grand Teton National Park.

GENERAL COMMENTS
The greatest deficiency in the document is the lack of a demonstrated need for any of the proposed improvements other than additional parking space. I realize that there has been a lot of suggestion for a more multi-modal transportation system in GTNP, but see no statistics or surveys to indicate the magnitude of that need.

The only relevant information I have come across is in a recent Bison-Elk study within table 3 11 on page 171. That table, presenting the results of a Loomis and Caughlin study in 2004 indicates that the relative importance of 16 various recreational activities to non local visitors coming to Jackson Hole varied dramatically from viewing wildlife and scenery (highest ranking) to biking/mountain biking (lowest ranking). This data suggests that further exploration should be done in a statistically based sampling of the need for both bicycle facilities and transit. It is obviously important in such surveys to segregate groups sampled by criteria such as Nonlocal Visitors & Local Visitors, further categorized as Road Bikers or Recreational Bikers.

This type of analysis I would expect to be completed prior to committing to any obligation of significant funding for such facilities. The analysis should also consider what other GTNP funding needs will be displaced or further deferred by such dedicated facilities funding.

TRANSIT SYSTEM
The initial step in consideration of a transit linkage should be a run from Jackson to Moose with a stop in both

directions at the Jackson Hole Airport. There is already significant traffic and service on the route from Teton Village to and from Jackson. With the possible exception of routes to Teton Valley and Star Valley, the airport run is probably the next logical route to serve. This service, combined with a significant overnight parking charge (like $20 per night) at the airport, has the potential to obviate the need for a parking structure at the airport and the implications that would follow from that decision. If airport users did not find the transit service sufficient they could either arrange to be dropped off and picked up or use one of the many cabs currently available.

Any additional transit service within Grand Teton National Park may well be served by park concessionaires if a need is identified.

MOOSE-TETON VILLAGE ROAD
I would propose that you consider as your first strategy on the Moose-Teton Village Road a plan which contains the following elements:

1 *From the south (Teton Village) make the existing road dead-end at the Granite Canyon trailhead. A larger parking area would be desirable for those desiring to hike, bike, or ride horseback beyond that point. For the purposes of this strategy, do not utilize the new entrance station to collect fees, but only to provide information and collect user data.*

2. *From the north (Moose Village) make the existing road dead-end at the new Laurence Rockefeller Visitor Center in the area of the JY Ranch. Again a parking area should accommodate those desiring to hike, bike, or ride horseback beyond that point.*

3. *The sector of the existing road between Granite Canyon and the new Laurence Rockefeller Visitor Center would be dedicated to non-motorized transportation. No additional work on the entire road would have to be committed to or performed except for paving a 10 or 12 foot wide strip where the current road is unpaved (approximately 1.4 miles) to accommodate the non-mountain bikes.*

4. *This strategy would provide immediate multi-modal access to both Granite Canyon and the new Laurence Rockefeller Visitor Center. Further this strategy provides the only opportunity to truly limit the impacts of dramatically increased motorized vehicle usage in this sensitive area of the park and the subsequent significant upgrading necessary that would then be necessary on that entire road linkage from Teton Village to Moose Village. Even operations at the Jackson Hole Airport are subject to much more restrictive noise limits on lands west of the Snake River than lands east of the Snake River. In recognition and appreciation of the generosity of the Rockefeller family in gifting property for Grand Teton National Park, the focal point of the new Laurence Rockefeller Visitor Center, this strategy is the most appropriate, appreciative, and respectful treatment for that sector of Grand Teton National Park.*

PATHWAYS
The pathway proposals, even in Alternative 3, seem excessive without some indication of the needs. I recognize the safety concerns of bicyclists on traveled ways but this seems like an over-reaction. I would suggest an initial phase to contain the following elements:

1. *A needs study as alluded to in my General Comments would be the first item. Classification of users as suggested would be important and a statistical sampling method should be utilized in carrying out the study.*

2. *Depending upon the outcome of the needs study, a separate recreational pathway may be warranted from the Jenny Lake Parking Area up and along the main highway to the N. Jenny Lake Road which accesses String Lake, Jenny Lake Lodge and the one-way road/bike path along the lake back to the Jenny Lake Parking Area. This would only require a new separate pathway to connect with the one-way road/bike path section to provide a reasonable recreational user loop facility.*

3. *On road projects as designed for future re-construction the inclusion of wider shoulders to serve as Class I pathways should be considered.*

4. *With the continuous pathway provided by the Wilson-Teton Village pathway in combination with the easily provided Teton Village to Moose pathway, as described under the Moose-Teton Village Road suggestion, you have a completed pathway from Wilson to Moose. When Wyoming Highway 22 is reconstructed the linkage from the Stilson Parking lot will be tied in with the Town of Jackson pathway system. In view of this it is difficult to rationalize construction of a separate pathway from Jackson to Moose along US Highway 26.*

I very much appreciate the opportunity to review the draft EIS and thank you and your staff for the effort which has gone into its preparation. I would like to be kept informed of your future efforts on this subject.

Peter M. Jorgensen, Wyoming House of Representatives

Response

See Response to Comments, numbers 9, 13, 19, 20, 41 and 42.

Letter 129638—Wyoming Department of Transportation

Correspondence Text

The Wyoming Department of Transportation (WYDOT) appreciates the opportunity to participate in and comment on the Grand Teton National Park, Draft Transportation Plan/EIS.

Highways US 26/89/191 and US 287 are on the National Highway System and are part of the TransAmerican bicycle route. WYDOT would encourage GTNP to consider improvements to US 26/89/191 from the South park boundary to Moran Junction and US 287 from Moran Junction to the east part boundary as part of the park's planning process. Recommended improvements include wider shoulders for emergency parking and bicycle accommodation and turn lanes at major intersections.
Included in WYDOT's State Transportation Improvement Program are construction projects on US 287 from Moran Junction to Dubois and US 26/89/191 from the north city limits of Jackson to the south park boundary. The section of US 287 from the East park boundary through Buffalo Valley is scheduled for reconstruction the summer of 2006. The section of US 26/89/191 from the north city limits of Jackson to the south park boundary is scheduled for widening and construction of a separated multi-use pathway within the next 7 years which is a good fit with the multi-use pathway as set forth in alternatives 3 and 4. The intent for both of the above noted sections is to include 8 foot shoulders as both a safety feature and bicycle accommodation.

We do have some concerns with respect to the strategies for handling motorized traffic on the Moose-Wilson road and what effects making the road one way will have on the peak summer traffic volumes on the state transportation system.

In summary, alternative number 3 provides a good balance between improvements to roadways, parking, transit services and facilities, and multi-use pathways.

WYDOT would like to continue to work with GTNP to provide an efficient, safe transportation system into and through the park. If WYDOT can provide information such as traffic volume information or future road improvement plans that would benefit GTNP in their planning process, please do not hesitate to contact John Eddins, District Engineer, Rock Springs at 307-352-3000.

John F. Cox, WYDOT Director

Response

See Response to Comments, numbers 1 and 41.

Letter 129635—Wyoming Department of Transportation

Correspondence Text

The Wyoming Department of Transportation (WYDOT) is keenly interested in the safety of the traveling public. Safely accommodating bicyclists and pedestrians within the Wyoming transportation system is part of our responsibility. WYDOT sees the need for a combination of pathways and roadway shoulders to safely accommodate bicyclists through Grand Teton Nation Park. A high priority for WYDOT is wider shoulders on US 26/89/191 and US 287. In order to improve operational safety WYDOT would like the Park to evaluate the need for additional turn lanes at key intersections on these highways.

The section of US 26/89/191 from Jackson to Moran Junction and the section of US 287 from Moran Junction to Lander are part of the popular TransAmerica bicycle route. This route is used by hundreds of bicyclists each year to ride across America. These highways have also been included by Congress on the National Highway System and have been functionally classified as principal arterials. According to WYDOT's Operating Policy 2-3 on bicycle accommodation, the shoulder width on these routes should be eight-feet or greater to adequately accommodate bicyclists. We believe this improvement should be included in whichever alternative is selected to provide for non-motorized transportation. Our concerns for adequate shoulders on these highways are magnified by the fact that 2 fatal crashes have occurred on these highways since 1999 involving bicyclists. Installation of intermittent rumble strips should be considered as a safety enhancement on these highways through the Park. However, installation of rumble strips on shoulders less than six-feet in width would render the shoulders unusable for bicyclists.

The construction of additional pathways in the park will provide a safe place for families and less experienced cyclists to enjoy the scenery and the outdoors. Construction of pathways and improved highway shoulders should be accomplished with a system concept in mind. WYDOT would like two-way motor vehicle traffic to be maintained on the Moose-Wilson Road. The pathways proposed in Alternative 4 would eventually provide an attractive loop from Jackson, to Wilson, Teton Village and Moose. Also, the pathway proposed from Moose to Signal Mountain and Jackson Lake Lodge proposed in Alternative 4 would provide a beneficial alternative to the high summer traffic volumes on US 26/89/191.

In conclusion, WYDOT supports shoulder widening on US 26/89/191 from the South Park Entrance to the North Park Entrance and on US 287 from Moran Junction east to the Park boundary. These routes are used by hundreds of experienced bicyclists every year. We also support the pathways included in Alternative 4 to provide safe facilities for less experienced cyclists and families with children.

Thank you for the opportunity to comment on the Draft Transportation Plan/EIS. Additional comments from WYDOT covering other issues and concerns may be forthcoming.

Robert Milburn, P.E., State Planning Engineer

Response

See Response to Comments, numbers 1 and 41.

Letter 129615—Wyoming Game and Fish Department

Correspondence Text

The staff of the Wyoming Game and Fish Department has reviewed the draft Environmental Impact Statement for Grand Teton National Park's Transportation Plan. We offer the following comments.
Terrestrial Considerations:

The draft document describes how a substantial portion of the Jackson elk herd migrates through Grand Teton National Park (GTNP), but fails to disclose how the various alternatives may influence elk migrations and management. Managing elk that originate in GTNP, or migrate through, is extremely important to our Department. During the expansion of GTNP in 1950, compromise provisions were included in the enabling legislation to address

concerns regarding the management of the Jackson Elk Herd. Section 6 (a) of Public Law 81-787 outlines these provisions. Regulated hunting occurs on lands east of the Snake River and in the northern portions of GTNP. Outside of the open hunting areas restrictions have been put in place, which close the remaining parklands to hunting. If pathways result in additional restrictions on hunting, the ability to adequately manage elk in GTNP will be impacted.

We recommend that the final draft include an evaluation of elk movements based on the radio collared elk data and track count data collected in this area so that pathway placement can avoid elk management issues. We also recommend that trails be located close to existing roads in sensitive wildlife areas where human disturbances are already occurring.

Aquatic Considerations:
We have no aquatic concerns pertaining to this transportation plan.

Bill Wichers, Deputy Director

Response

See Response to Comments, number 37.

Letter 129616—Wyoming Game and Fish Department

Correspondence Text

We previously provided comments on the Transportation Plan in a letter dated July 26, 2005. Please include also the following comments concerning grizzly bears.

We encourage agencies to attempt to concentrate travel corridors, in order to minimize negative impacts to wildlife. Expansion of the Park pathways will achieve the opposite effect and could reduce the amount of suitable habitat that is available to wildlife. Of particular concern is the potential to increase human/grizzly bear interactions.

Grizzly bear distribution has been expanding in the last ten years. Although grizzly bears are known to occupy primarily the northern half of GTNP, any travel system should assume grizzlies will be present now and in the near future. GTNP, the Bridger Teton National Forest, and the Shoshone National Forest have experienced several human injuries due to random encounters of people on foot and on bicycles with grizzly bears.

Moving the pathways away from the high use area next to the road system could increase the potential for these negative encounters. This is especially true in those areas of GTNP where the pathways will traverse forested habitats. Most of the human/bear encounters that result in human injuries take place in forested or shrub habitats where people have a higher probability of getting to close to grizzly bears before the bear knows people are present.

Alternative 2 would produce fewer negative impacts to wildlife and would help control the potential for human injuries due to conflicts with grizzly bears.

Bill Wichers, Deputy Director

Response

See Response to Comments, numbers 23, 30, and 31.

Letter 129614—Wyoming Game and Fish Department

Correspondence Text

We previously provided comments on the Transportation Plan in letters dated July 26 and August 1, 2005, regarding elk and grizzly bears, respectively. The extension of the comment period has allowed a more extensive review regarding nongame wildlife concerns, as follows.

The DEIS identifies impacts to wildlife and wildlife habitat resulting from construction or expansion of linear roadways and trails (e.g., habitat loss, habitat fragmentation, displacement of wildlife species, interference with life-history functions, spread of exotic plants, and increased mortality). A key mitigation measure to avoid disturbance effects of the corridor is "to minimize the number of corridors that are constructed." The necessity of each and every disturbance corridor in a planned development should be reviewed as to its purpose, necessity, and redundancy (Jalkotzy et al. 1997). We encourage GTNP to develop a more thorough analysis of purpose and need for specific pathway segments, and develop additional mitigation measures for the benefit of wildlife species as part of this transportation planning effort.

Disturbance along linear trail corridors is directly related to number of users and temporal use patterns (daily and seasonally). It would be helpful if the DEIS specifically identified the different types and needs of trail users (i.e., family cyclists who drive into the park for short rides versus touring/commercial groups/long distance recreation riders/hikers) and included estimates of number of users for different proposed trail segments. The needs of advanced cyclists such as cross-country, long distance touring groups, and racing cyclists are very different than family groups/day visitors. How many cyclists will continue to use roadways even if pathways are built along certain segments, multiplying effects on wildlife?

A mitigation measure in the DEIS calls for minimizing the distance between existing road corridors and any newly constructed pathways to reduce overall wildlife displacement (page 38). Keeping pathways close to roadways decreases potential encounters with wildlife (page 141) and the Zone of Influence (ZOI; page 137). Based on the analysis given, we encourage pathways to be kept within 50 feet or closer to existing roads.

The DEIS identifies where proposed pathways would cross collision "hotspots" (page 85) or occur within 7.7 km buffers around known sage grouse leks (page182). In areas identified as "sensitive" for wildlife habitat, specific mitigation measures should be developed, such as keeping pathways close to roadways, closing pathways during non-daylight hours, and/or restricting movements off pathways by users.
Road density calculations (page 135) in GTNP should be calculated on the area of the Park where road construction is possible and not on total Park acres, which includes steep alpine terrain. The density of roads in low gradient, sagebrush habitat where large numbers of wildlife occur is much greater than indicated.

The DEIS clearly identifies the value of the Moose-Wilson corridor for a high diversity of wildlife species, including those federally listed. Building three miles of pathway separated from the roadway before testing strategies for managing traffic over the next few years in this area of the Park (page 15) should be reconsidered. We encourage GTNP to delay pathway construction in the Moose-Wilson corridor until testing is completed and also coordinate pathway planning with the ongoing plan for development of the JY Ranch area.

The DEIS should explain in more detail what criteria were used to develop the 74 m and 400 m ZOI buffers to estimate ecological impacts to species; it appears to be a valuable approach, but may underestimate effects on large carnivores and other species most sensitive to human disturbance.

The plan should incorporate a monitoring plan (and identify how this effort will be funded) that can measure the long-term effects of new pathway construction on wildlife movement, habitat use, and mortality within the park.

Literature Cited
Jalkotzy, M. G., P. I. Ross, E. M. D. Nasserden. 1997. The effects of linear developments on wildlife: a review of selected scientific literature. Canadian Association of Petroleum Producers. Calgary, Alberta, Canada: 119 pp.

Thank you for the opportunity to comment.

Sincerely, Bill Wichers, Deputy Director

Response

See Response to Comments, numbers 19, 30, 31, 32, 33, 38, and 40.

Letter 129280—Jackson Hole Chamber of Commerce

Correspondence Text

Thank you for this opportunity to comment on the referenced DEIS. I write on behalf of the Board of Directors of the Jackson Hole Chamber of Commerce representing over 800 businesses in the Jackson Hole region. We have long appreciated our partnership with Grand Teton National Park, in particular the terrific representation on our board and other community service by Joan Anzelmo.

Our Board of Directors considered the DEIS at our regularly scheduled meeting on August 24, 2005. We write to inform you that we support improvements to Alternatives #3 and #4.

We do not believe that Preferred Alternative #3 goes far enough to implement concepts we have previously discussed with you – concepts that are in the mutual long-term interests of Grand Teton, local government, region businesses and the public. The concepts we favor are as follows:

1. *Public/Private Partnerships: We strongly support a strategic transportation plan arrived at through consistent collaboration among the elected officials and staff of Teton County, the Town of Jackson, Teton Village, START, the Chamber of Commerce, significant resorts and business leaders adjacent to or operating within GTNP, and the Clean Cities Initiative Group, that appropriately shares transportation equipment and related maintenance facilities and that jointly plans to utilize transit centers in Town, the Village or Grand Teton. Consistent with a letter many of these organizations signed jointly and provided to you more than a year ago, we strongly encourage you to reach out and help build strong public/private partnerships to meet transportation challenges.*
2. *Expanded and Frequent Transit System: The collaborative strategic plan we promote above would help accomplish "clean energy" transit service between Jackson, Moose, Jenny Lake, Signal Mountain, Jackson Lake Lodge, Colter Bay and Teton Village, cooperatively utilizing equipment and maintenance facilities year round and cooperatively planning and funding visitor transit centers. Also, we urge cooperative planning to provide appropriate public transit on the Moose-Wilson road.*
3. *Complete and Safe Pathways: We support a continuous pathway system of approximately 50 miles, with safety and public access a priority including use by the disabled, families and elderly. This pathway system should have "appropriate" separation from roads and wildlife areas based on "best practices" to protect people, wildlife and wildlife habitat. These pathways should connect Jackson and Teton Village with the main park activity centers mentioned above.*
4. *Better Pedestrian Activity Area Enhancements: We support improvements to pedestrian walkways and visitor information in GTNP to improve the ability for short trips to be made by walking, and to better integrate campgrounds and lodging with the transit and pathway system.*

In sum, we support improvements on the concepts discussed in Alternatives #3 and #4. We look forward to ongoing cooperating planning meetings with you and your staff.

Sean Love, President, Jackson Hole Chamber of Commerce

Response

See Response to Comments, numbers 9 and 13.

Letter 130457—Pathways and Trails Coordinator

Correspondence Text

This is a letter of comment for the Grand Teton National Park Transportation Plan Draft EIS. Note that substantive comments regarding transportation elements relating to the various alternatives have been submitted by the Teton County Board of Commissioners, and the Town of Jackson – Town Council. This letter is only to correct an inaccuracy in how the Jackson Hole Community Pathways Division is referred to within the document.

In several places within the document, specifically on page 102, the document incorrectly states that the Jackson Hole Community Pathways Program is a division within the Teton County Park & Recreation Department. The Jackson Hole Community Pathways Program is actually a jointly-funded independent Department of the Town of Jackson, under the direction of the Town Administrator. The only formal affiliation with the Teton County Park & Recreation Department is agreement where certain staff perform maintenance functions for the Pathways Program. Please make this correction in all places where this error occurs.

Thanks for the opportunity to comment, and as previously stated, the Pathways Program staff are ready and willing to assist in design, alignment, and construction specifications for any pathways ultimately included in future transportation improvements within Grand Teton National Park.

Jim Chandler, Pathways & Trails Coordinator

Response

Noted and corrected.

Letter 129246—Jackson Hole Airport Board

Correspondence Text

The Jackson Hole Airport Board appreciates the opportunity to review and provide comments on the Grand Teton Park Draft Transportation Plan / Environmental Impact Statement. As a tenant of the Park, being the only commercial airport operating in a National Park, we fully appreciate the goals of enhancing visitor experience and protecting the Park's resources. Realizing, as a Joint Powers Board appointed by the Town and County, that you have received comments on the full plan from both groups, we will confine our comments to the public transit needs.

We believe that an effective public transit system, running on a regular schedule, from the Town of Jackson to the Moose Visitor Center, on to Jenny Lake and to Coulter Bay is of extreme importance. The Airport would be a logical stop on this route. However, to be effective, the frequency should be at least hourly, and preferably every half hour. The pilot project described in Alternative 3 and 4 will not provide any adequate test of the viability of a transit system. In fact, if this approach is used, it might only prove that public transit will not work.

In conclusion, we feel that public transit can create a better experience for all visitors to the Park, and the Jackson Hole Airport Board will cooperate in any way possible to make transit a viable option to the public.

George Erb, President, Jackson Hole Airport Board

Response

See Response to Comments, numbers 9 and 13.

Letter 129497—Town of Jackson

Correspondence Text

The Town of Jackson appreciates the opportunity to review and provide comments on the Grand Teton National Park Draft Transportation Plan/EIS. As a gateway community to one of the jewels of this nation's national park system, we take our partnership with the National Park Service seriously. We also appreciate the dual goals of enhancing visitor experience and protecting the Park's resources and hope our comments can help create a long-term sustainable future. As Mayor and Town Council, our letter provides the combined official comments of the Town of Jackson.

As you know, the Town of Jackson is the only incorporated municipality in Teton County. Ours is a community with a deep commitment to the environment. Our residents also believe that public access to the natural resources afforded by the surrounding federal lands is important for locals and visitors. For these reasons how we plan for the future and our interrelationship with Grand Teton National Park is particularly important. Successful planning

means that we anticipate the movement of people and direct their behavior in environmentally progressive ways. We need a comprehensive, valley wide multi-modal transportation plan.

Our principal request is that you revise your DEIS to commit to such a well-planned and coordinated multi-modal and intermodal transportation vision. We strongly believe that the transit component of every alternative in the DEIS falls short of successful planning. The Town of Jackson supports Alternative 4 with comprehensive revisions to the transit component so that it is designed fully and with vision to succeed both in the short and long terms. The details of how to do that follow below.

Enhanced Partnership Opportunities with the Town of Jackson and Grand Teton National Park
As the Mayor and Town Council of Jackson, we believe there is great potential for mutually beneficial partnerships between Grand Teton National Park, the National Park Service, the State of Wyoming, Teton County; and the Town of Jackson. Specifically addressing future transit services, we recommend the transportation relationship between Grand Teton National Park and the Town be more explicitly developed in the final EIS, and the potential for collaboration on transportation projects be better developed.

The discussion of transportation partnerships is limiting in the DEIS. For instance, WYDOT is not identified in the document as a partner. We believe working closely with WYDOT is imperative from funding to planning to implementation. Another missing element is the consideration of incorporating park concessionaires Grand Teton Lodge Company and Signal Mountain Lodge into future transit partnerships. Finally, collaboration with the Greater Yellowstone-Teton Clean Cities Coalition should also be further developed in the DEIS. The Coalition is already working on regional transit connectivity. Additionally, they could be helpful in supporting future funding needs for transit systems.

The topic of transportation partnerships is mentioned in the purpose (page 2), but the DEIS provides limited analysis of how the park will collaborate specifically in what ways, on what projects, and to what mutual benefit.

START is mentioned as a key option to provide Transit in the park, and the Town and START are briefly mentioned, (DEIS Alt. 3 page 26, Alt. 4 page 31, and Appendix C). But a transit partnership is not adequately developed to address the Town's concerns and needs.

The Town of Jackson wishes to express its willingness to be an active partner in helping provide operations and management services for Park transit vehicles and systems. Investments that might be shared include a convenient park and ride space, bus maintenance and fueling facilities, and the fleet vehicles. The dual use of facilities by both systems saves Grand Teton from using NPS land for the industrial facilities needed for fueling and maintenance.

In summary, the final National Park Service EIS decision needs to better outline a long-term transportation partnership strategy between the Town of Jackson, Teton County, the State of Wyoming/WYDOT, Teton Village entities, Park concessions, GYT Clean Cities, and Grand Teton National Park/National Park Service. Such collaboration will be the most cost effective, and can provide the highest level of service for the community and visitors.

Purpose and Need for Plan, Plan Scope
The Purpose and Need section does not adequately describe the increasing pressure on the existing transportation system in the park and region. Population in this region is increasing and pressure on transportation systems has also increased dramatically. This increase in population, traffic, and visitation is likely to affect Grand Teton, and should be considered in the final EIS. The Transportation Plan Scope of 5-10 years should be extended longer to perhaps 20 years. Systems such as transit and pathways take years to plan, fund, and implement, and the final EIS should frame a larger and longer vision for transportation solutions. The resulting Plan can and should be flexible to future conditions, and easily modified by a future Grand Teton General Management Plan as needed.

Impact Topics Dismissed from Further Analysis
The Town believes protecting clean air is an important issue, and is surprised air quality was dismissed and not analyzed in the DEIS. The beneficial impacts of clean fuel transit and pathways would help protect the Class I Air

shed of the national park, which Grand Teton is required to protect. Air quality is mentioned briefly in Mitigation Measures, and the DEIS briefly states that clean fuel vehicles would be used. The Town recommends that air quality be discussed in the final EIS.

Alternatives and the Park Preferred Alternative 3.
The DEIS alternatives do not go far enough identifying the-opportunities that exist for a regional transit system and intermodal enhancements from which we believe Grand Teton could benefit. The Town recommends a significantly enhanced and expanded transit system from what is currently presented. Both Alternative 3 and Alternative 4 contain the same limited Transit Service and Facilities program, which states, "START, the Lodge Company, or other private Concessionaire would provide transit service on routes between Jackson, Moose, Jenny Lake, Colter Bay and along Moose-Wilson Road. The transit service would originate at the Jackson Visitors Center on the MAC, where a 300 space park & ride would be located."

The Town concurs the route from Jackson to Colter and Teton Village to Moose is the correct basic starting route for a transit system in Grand Teton National Park; however the DEIS alternatives have only one run in the morning and .one in the evening, "…pilot transit system to determine…potential to expand to Jackson Lake Lodge or Colter Bay." This implies a significantly limited system for Alternatives 3 and 4 Transit, as shown in the Estimated Costs of only $70,000 in total capital costs. A viable transit system cannot be implemented for that level of investment.

A transit system must be frequent, accessible, and provide convenient access from visitor and employee origins and destinations. This will require transit stops in all park-developed areas, and at appropriate trailheads and points of interest. Interconnections with the proposed pathways are also very important.
The Town supports the use of clean fuels (page 26). However, the final EIS should do more than "encourage" use; clean fuels should be required to the greatest degree practical.

Recommendations for a Grand Teton Transit System
The Town recommends Grand Teton National Park approve, design and implement a new transit system designed to provide a high quality service to meet the travel needs of a significant portion of park visitors and employees. A 5-10% transit mode share is recommended as a desirable 10 to 20 year goal. Park Transit should become a viable alternative to private vehicles over time. Transit should provide access to the primary destinations in the park, and interconnect with the local START system and other transit providers. Frequent service, with a goal in the range of half hour to hour headways on the main route should be considered. The decision in the EIS should allow the park to implement a more complete system as funding and facilities can be secured.

Often overlooked, a transit system can also provide high quality visitor education and interpretation. Buses can be equipped with interactive technology, an educational experience not available in private vehicles, hence enhancing transits' viability. Bus drivers can provide interpretive information and answer questions for visitors improving the quality of the visitor experience.

Grand Teton should be a leader in the development of transit to coordinate the park's needs and support research and implementation of a new fleet of clean-fuel vehicles designed to be comfortable and inviting, with bus size and service frequency levels geared to meet visitor needs. The Final Plan/EIS must also include a realistic program addressing service and maintenance of the fleet.

Summary of Recommendations for Grand Teton Transit Service
The Town supports creating a frequent and viable Transit System connecting the Town with key Park destinations in Moose, Jenny Lake, Signal Mountain Lodge, Jackson Lake Lodge, and Colter Bay, with stops at major trailheads, in doing so providing a viable transportation alternative for both visitors, residents, and employees.

Grand Teton should partner with the Town, County and Stare in mutually beneficial relationships for planning, implementing, and funding a new park transit system. Transit serving the Park would operate in concert with existing START public transit services in Jackson Hole.

Use clean fuels and best available technology for vehicles to ensure air quality of the park.

Additional key Town of Jackson Recommendations:

1. *A contractual relationship with the NPS must be negotiated that is acceptable to the Town of Jackson, Teton County, and START. While the Town is not in a position to subsidize the cost of service to Grand Teton National Park, we are open to a mutually beneficial arrangement that creates new Park Transit Service.*
2. *The Town supports providing the Park transit maintenance services at an in town location. This would reduce impacts to the park, and overall maintenance costs for both entitles. Contractual agreements amenable to both parties would be forthcoming. The Plan should contain discussion on the need for future federal cost-share expenditures for the combined maintenance and operations facility.*
3. *The Jackson Visitor Center (MAC), now in the final planning stage, should be designated as the key inter-modal hub serving Grand Teton National Park.*
4. *The Moose Visitor Center should be identified as an important transit center. Provisions should be made to accommodate a minimum of three public buses and provide convenient access to the Visitor Center.*
5. *Earlier Park draft plans requested the Jackson Visitors Center provide 80 park & ride spaces to serve the Park. The Draft EIS calls for just 65. The Draft EIS goes on to estimate park & ride spaces at $3,300 per space, total estimate in the DEIS is only $214,500. According to the Town's existing regulations, the facility would be grossly underfunded, as we currently collect $17,000 per parking space in our fee-in-lieu program. The Town recommends the Grand Teton National Park's park & ride spaces at the Jackson Visitors Center be revised upward to 100. We feel this is more accurate reflection of the future demand.*
6. *The Jackson to Grand Teton transit service will need improved frequency to be successful. Pilot runs in morning and evening, as is proposed in the Draft EIS, will not be successful. Headways of between 30 and 60 minutes is necessary in order to encourage transit use.*
7. *The Plan Decision should leave the option open to provide a higher speed fixed route from Jackson to primary north park destinations, Jackson Lake Lodge and Colter Bay, should demand in the future warrant.*
8. *A transit-marketing plan should be identified as a goal in the final EIS decision.*
9. *Grand Teton National Park will remain a partner with the Town of Jackson and Teton County in the transit hub at the Jackson Visitors Center.*

Pathways System:
The Town supports a comprehensive pathway system from Jackson to Colter Bay. We recognize and appreciate the system should be constructed in a phased manner.

Pathways should be designed to accommodate and encourage park visits by bicycling and walking, and must interconnect with the proposed transit system in all key locations. A pathway system and transit system, combined with developed area enhancements, will work together synergistically and encourage greater use of alternative transportation. Long term, the benefits of this coordinated effort are profound.

Recommended Pathway System:
1. *The Town supports an Improved Alternative 4 Park Pathway System to fully interconnect the Town/County Pathway System with the key front-country destinations in the park. This will enhance use, and over the long-term best help reduce congestion and traffic impacts. A fully connected system has greatest value to community, the park, and visitors.*
2. *The Town supports continuous Pathways from Town to Moose, Jenny Lake, Signal Mountain, Jackson Lake Lodge, and to Colter Bay, including the Signal to Jackson Lake Dam section. Spur pathways should also be included from Gros Ventre Junction to the Jackson Hole Golf and Tennis Resort, and from North Jenny Junction to the String Lake intersection.*

The paved pathways should be designed to quality standards, separated an appropriate distance from the roadways when feasible, provide visitors with interpretive information along the way, and made more functional with frequent intermodal connections. The pathway network should be designed to provide a quality alternative to private motor vehicle use as trail segments are implemented over time, encouraging increased use of these non-polluting quiet modes of park access. The health benefits of selecting human-powered transportation modes to visit and enjoy the national park are significant and should be better recognized in the benefits analysis of the EIS, and promoted in the future by Grand Teton and the National Park Service. The Park pathway system should also provide cross-country skiing, snowshoe and walking opportunities in appropriate segments during winter.

Activity Centers:
The park has limited information on what the Alternatives would provide in the Developed Areas. Funding levels in the Estimate Costs in Alternative 3 and 4 are $224,000 – a level that implies limited improvements can be expected, and does not appear to include funding for transit stops. It is critical that transit stops are developed as an integral component. Major developed areas at Moose, Jenny, Signal, Jackson Lake Lodge, and Colter Bay will require additional care and quality in the transit stops if the system is to serve volumes of visitors. The need to improve Developed Areas is important to support the success of Transit and Pathways. The walkway networks in all the primary park activity areas should be evaluated and improved to provide enhanced internal walking access and new intermodal connections between park lodging, commercial and campground destinations and the transit and pathway systems.

Moose-Wilson Road:
Concerning the Moose-Wilson Road, the Town Council and I feel it is important that the roadway stay in tact into the future, at least to the extent that it is today. We believe the connection to Moose, and it's myriad of visitor services, as well as access to the southern park entrance is vital. Additionally we know closing that stretch would be closing a critical piece in a redundant-roadway system for our valley, and we feel strongly this is not a feasible option. We do not object to the relocations proposed to remove the road from sensitive environmental areas.

Alternative 4 shows a separated pathway extending from Teton Village to Moose. While we support pathways and use of walking, bicycling and cross-country skiing in this area, as well as improved safety, we trust your planning efforts to decide on the details of that pathway.

Summary:
Grand Teton National Park has-the opportunity to create a new standard for quality visitor access to the park that is light on the land. Great opportunities to partner also exist. The Town of Jackson encourages Grand Teton National Park and the National Park Service to approve a visionary plan that will address transportation needs well into the future.

Thank you for the opportunity to comment. If you have questions on these recommendations please contact Town Administrator Bob McLaurin at 307-733-3932.

Mark Barron, Mayor

Response

See Response to Comments, numbers 9, 10, 13, 18, 41, 58.

Responses to Substantive Comments

Roadways and Parking

1. **Comment:** The NPS should make a variety of improvements and changes in the design of park roads, including U.S. Highway 26/89/191 between the south park boundary and Moran Junction and U.S. Highway 287 between Moran Junction and the east park boundary. Suggested improvements include widened shoulders, turn lanes, roundabouts, etc.

   Response: This Final Plan/EIS is intended to address a 5-10 year period during which certain projects can be accomplished and for which funding may reasonably be anticipated to be available. The Final Plan/EIS is not intended to comprehensively address all aspects of the Park's road system and transportation infrastructure, such as road design, maintenance and construction that is not likely to occur within 5-10 years. During planning for future projects, the NPS will consider what improvements may be necessary and appropriate and provide opportunities for public involvement through the National Environmental Policy Act (NEPA) processes associated with those projects.

2. **Comment:** The NPS should close the Teton Park Road between Moose and Signal Mountain.

   Response: This alternative was considered but dismissed from further consideration, as described in Chapter 2.

3. **Comment:** The road between Colter Bay and the South Entrance of Yellowstone should be reconstructed with 11-ft travel lanes and 5-ft shoulders.

   Response: The NPS completed an Environmental Assessment and Finding of No Significant Impact in 2002 for reconstruction of the North Park Road between Lizard Creek Campground and the South Entrance of Yellowstone, specifying 11-ft travel lanes and 5-ft shoulders. Phase 1 of the project, between Snake River Pit and the South Entrance has already been completed; Phase 2, between Lizard Creek and the Snake River Pit is scheduled for 2008. The section of road between Colter Bay and Lizard Creek has not yet been scheduled or funded for rehabilitation or reconstruction, and only routine maintenance is anticipated within the next 5-10 years. The design of the road prism will be considered in future planning for that segment.

4. **Comment:** A north crossing of the Snake River should be constructed between Wyoming Highway 390 and U.S. Highway 26/89/191 to provide a more direct route between Teton Village and Jackson.

   Response: Construction of such a road is not within the jurisdiction of the NPS and is beyond the scope of this plan.

5. **Comment:** The NPS should keep the size of parking lots small in order to limit the number of visitors to areas facing increased use.

   Response: The NPS recognizes that the capacity of parking lots tends to regulate the amount of visitor use in certain areas of the Park, although carrying capacities have not been established nor have parking lots been specifically designed for that purpose. The NPS also recognizes that some parking lots may receive increased use from visitors that use them as a starting or ending point for a trip on the new pathways. None of the alternatives in the Final Plan/EIS provide for the expansion of parking lots, although modifications may be made to some parking lots to better utilize the area within existing footprints.

6. **Comment:** Bicycle lanes, marked with striping and a painted bike symbol could be used instead of widened shoulders.

   Response: According to standards of the American Association of State Highway and Transportation Officials (AASHTO), designated bicycle lanes are established in corridors where there is significant demand for bicycle use, and once established, such lanes are dedicated to bicycle use and may not be used for parking, stopping, or standing except for emergencies. The demand for bicycle use is not sufficient and is unlikely to become sufficient to warrant the establishment of dedicated bicycle lanes, especially since doing so would render the shoulder unusable for other purposes or require the construction of new shoulders, creating additional pavement and disturbance.

7. **Comment:** The preferred alternative fails to meet the Purpose and Need for the Plan because it would not substantially reduce road and parking congestion.

   Response: As generally described in Chapter 1 of the Final Plan/EIS, traffic and parking congestion are not widespread but rather limited to a few key areas and at peak times. The parking lot at South Jenny Lake

generally fills to capacity by late morning during the peak of the summer, and the Moose-Wilson Road is sometimes congested, often as a result of visitors that have stopped in the roadway to observe wildlife. On most park roads, traffic flows at or above the speed limit, and in fact excessive speeds are believed to contribute to the number of wildlife-vehicle collisions. The NPS preferred alternative provides for the introduction of a transit system following the development of a Transit Business Plan (TBP) to identify routes, frequency of service, types of equipment, etc. It is expected that such a system will be attractive to a variety of users, particularly those that have only one or two destinations within the Park, such as visitors accessing a trailhead. A transit system is expected to reduce the demand for parking at South Jenny Lake and other key areas by providing a good alternative for visitors that do not need the flexibility of their own vehicle during most of the day. In addition, the NPS will test several management strategies on the Moose-Wilson Road that are intended to alleviate congestion by limiting or reducing the amount of traffic, while ensuring that the character of the road is maintained and that a high quality visitor experience is provided.

8. **Comment:** The Final Plan/EIS should more clearly describe the roadway system and anticipated improvements, along with the impacts associated with these improvements.

   Response: The Final Plan/EIS includes a description of known or reasonably anticipated projects along with their associated cumulative impacts.

Transportation Systems and Traffic

9. **Comment:** Additional analysis should be provided regarding the integration of transit, pedestrian, bicycle, and vehicle modes of transportation.

   Response: Prior to implementation of a transit system, the NPS will prepare a TBP that will address the potential "market" for transit service and identify strategies for integrating various modes of travel. The TBP will identify specific routes, frequency of service, types of equipment, anticipated levels of ridership, capital and operating costs, fare structures, potential partnership opportunities, and other information that is essential to implementation.

10. **Comment:** Commentors provided a variety of suggestions for specific transit routes, frequency of service, location of transit stops, types of equipment, and other specific elements of transit infrastructure and operations.

    Response: In the Draft Plan/EIS, the NPS proposed a pilot transit system in several of the alternatives. After further consideration, in the Final Plan/EIS, the NPS has determined that prior to implementing a transit system, a TBP will be prepared to determine the feasibility of implementing a system. Therefore, specific decisions regarding the transit system have been deferred to the TBP. The TBP will identify specific routes, frequency of service, types of equipment, anticipated levels of ridership, capital and operating costs, fare structures, potential partnership opportunities, and other information that is essential to implementation.

11. **Comment:** Periods of time should be scheduled when various park roads are open only to non-motorized use.

    Response: The Park includes many roads that have low traffic volumes and for which there is no demonstrated need to schedule periods for non-motorized use only. For roads with higher traffic volumes, periods restricted to non-motorized use would be operationally impractical and unwarranted based on demand.

12. **Comment:** The cost estimates in Alternatives 3 and 4 of the Draft Plan/EIS are not sufficient to permit implementation of a viable transit system.

    Response: Prior to implementation of a transit system, the NPS will prepare a TBP that will address the potential "market" for transit service and identify strategies for integrating various modes of travel. The TBP will identify specific routes, frequency of service, types of equipment, anticipated levels of ridership, capital and operating costs, fare structures, and other information that is essential to implementation.

13. **Comment:** The NPS should develop partnerships with state and local governments, including Southern Teton Area Rapid Transit (START), concessioners, and other entities in order to develop collaborative strategies for meeting transportation needs and transit services.

    Response: Prior to implementation of a transit system, the NPS will prepare a TBP that will address the potential "market" for transit service and identify strategies for integrating various modes of travel. The

TBP will identify specific routes, frequency of service, types of equipment, anticipated levels of ridership, capital and operating costs, fare structures, potential partnership opportunities, and other information that is essential to implementation.

14. **Comment:** The Draft Plan/EIS incorrectly states that Teton County/START has not contemplated transit service between Teton Village and Moose.

    Response: The statement has been corrected in the Final Plan/EIS.

15. **Comment:** The NPS should consider developing definable, measurable goals for mode-share outcomes to decrease single occupancy vehicle trips.

    Response: The NPS recognizes that many communities have developed such goals as part of efforts to decrease congestion, pollution, and other transportation-related impacts, and to encourage the use of mass transit, carpools, bicycles, etc. Since a large percentage of vehicle use in some communities consists of utilitarian trips made by one person (i.e. commuting to work, school, shopping, etc.), a decrease in the number of such trips may help to reduce the level of transportation-related impacts within those communities. On the other hand, the vast majority of automobile use in Grand Teton National Park is recreational in nature, rather than utilitarian. Auto touring and sightseeing are among the most popular activities for park visitors. Given the differences between the primarily utilitarian type of transportation that is characteristic of communities and the recreational nature of touring the Park for enjoyment, methods such as focusing on single occupancy trips may not produce comparable results. Nevertheless, park employees and some visitors may have an interest in using transit or other methods for certain trips in the Park. The TBP will assist the NPS in determining the market for alternative means of transportation and provide opportunities for decreasing the number of trips.

16. **Comment:** The Draft Plan/EIS does not provide sufficient detail regarding improvements within developed areas to support the successful integration of transit, pedestrian, bicycling, and motor vehicle modes of travel. More detail should be provided for circulation routes, transit stops, parking, wayfinding, services for the disabled, and delivery and service needs.

    Response: The NPS recognizes that many of the developed areas within the Park could be improved as suggested by the commentor. While the actions considered in this Final Plan/EIS include only a limited range of improvements within developed areas, the NPS may consider undertaking additional site-specific development plans to address individual areas. The TBP will help the NPS to identify specific improvements that may be appropriate within developed areas to support transit and the integration of various modes of travel.

17. **Comment:** The Final Plan/EIS should indicate that transit service would begin at the multi-agency campus site or an alternative location within the Town of Jackson.

    Response: The NPS intends to prepare a TBP to determine the feasibility of implementing a transit system in the Park. The NPS will coordinate with the Town of Jackson and other entities to determine the best location in town for a transit hub.

Multi-Use Pathways

18. **Comment:** The NPS should construct pathways on several segments not included in the draft preferred alternative, including spurs to Jackson Hole Golf and Tennis, String Lake, and between North Jenny Lake Junction and Colter Bay.

    Response: In the Final Plan/EIS, the NPS has included a new alternative, Alternative 3a, and selected it as the preferred alternative. This change from the Draft Plan/EIS, in which Alternative 3 was identified as the preferred alternative, provides the NPS with the flexibility to construct a more extensive system of pathways than would Alternative 3, but at the same time ensures that no unacceptable impacts will be allowed to occur. An adaptive management approach will be used to ensure that data and analysis associated with the early phases of pathway development and use are utilized in the design and implementation of later phases.

19. **Comment:** The NPS has not provided sufficient information on the demand or expected amount of pathway usage to determine whether the costs and environmental impacts are warranted. The NPS should provide specific estimates of the types and numbers of pathway users expected to use different segments of the pathway system.

Response: The NPS does not have specific, detailed estimates of the types and numbers of pathway users expected to use the pathways. Chapter 3 provides information on visitor activities within the Park, including data regarding bicycling. Interest in commercially provided bicycling tours appears to be increasing based on the number of tour companies that have contacted the Park in recent years. The NPS intends to use a phased approach and adaptive management strategy for the construction and operation of pathways. Following the construction of an initial phase, the NPS will monitor the amount of use and the environmental impacts of pathway use, particularly regarding effects on wildlife.

20. **Comment:** The NPS has not demonstrated in the analysis that there is a significant safety issue that warrants the construction of pathways nor that pathways are necessarily safer for bicyclists and other users.

    Response: Since 1999, there have been two fatal accidents in Grand Teton National Park involving bicycles and motor vehicles. While these two incidents alone do not constitute a statistically meaningful analysis of accident trends or the safety of bicycling, the NPS believes that separated pathways may reduce the potential for conflicts between motor vehicles and bicyclists. Pathways, however, will not entirely eliminate the inherent risks associated with bicycling, and may increase the potential for surprise encounters with wildlife or have the potential for conflicts between different types of pathway users.

21. **Comment:** Development of a pathway system will create additional demand for parking at key locations and increase the average length of stay in parking lots at the Moose Visitor Center, Taggart Lake Trailhead Parking, South Jenny Lake, and other areas, thereby increasing parking congestion.

    Response: The NPS recognizes that the capacity of parking lots tends to regulate the amount of visitor use in certain areas of the Park, although carrying capacities have not been established nor have parking lots been specifically designed for that purpose. The NPS also recognizes that some parking lots may receive increased use from visitors that use them as a starting or ending point for a trip on the new pathways. None of the alternatives in the Final Plan/EIS provide for the expansion of parking lots. The NPS preferred alternative provides for the introduction of a transit system following the development of a TBP to identify routes, frequency of service, types of equipment, etc. It is expected that such a system will be attractive to a variety of users, particularly those that have only one or two destinations within the Park, such as visitors accessing a trailhead. A transit system is expected to reduce the demand for parking at South Jenny Lake and other key areas by providing a good alternative for visitors that do not need the flexibility of their own vehicle during most of the day. The NPS intends that any transit system would be "bike-friendly" in that the vehicles would accommodate the transport of bicycles. In addition, the NPS will test several management strategies on the Moose-Wilson Road that are intended to alleviate congestion by limiting or reducing the amount of traffic, while ensuring that the character of the road is maintained and that a high quality visitor experience is provided.

22. **Comment:** The NPS should limit the hours of operation and/or establish seasonal periods when the pathways are unavailable for public use in order to minimize impacts on wildlife and potential conflicts between visitors and wildlife. In addition, the NPS should consider visual screening, wildlife crossing structures, secure cover arrangements, and other design features intended to minimize impacts on wildlife.

    Response: The NPS implements public closures or restrictions on visitor use to protect wildlife and/or enhance human safety when considered necessary by the superintendent. Examples of such closures include wintering wildlife areas, high bear use areas, bald eagle nesting sites, etc. The design and alignment of pathways will be accomplished in such a way as to minimize impacts on wildlife; however, use restrictions or closures could be implemented (if needed) to protect wildlife or reduce the potential for conflicts between humans and wildlife. Pathways will be placed within or as near road corridors as practicable and natural vegetation and terrain will be used to provide screening when possible. In some areas, however, it will be important to maintain adequate sight distances to minimize the probability of undesirably close or surprise encounters with wildlife. Pathways will be closed from dusk to dawn for public safety and protection of park resources. Wildlife crossing structures would likely be ineffective since wildlife crossings are not concentrated in certain areas, but are generally dispersed.

23. **Comment:** The development and use of pathways in areas frequented by grizzlies and other wildlife will result in an increased risk of surprise encounters between bears and pathway users, with the potential for serious injury or loss of life.

    Response: The NPS acknowledges this concern. There is an inherent risk of surprise encounters between humans and wildlife associated with many outdoor activities in which park visitors participate. The use of pathways may increase the potential for surprise encounters due to the relatively high speeds of bicycles as compared to pedestrians and the limited sight lines that will exist in some areas. Restricting the use of pathways between dusk and dawn may somewhat mitigate the increased risk of surprise encounters; however, as with many other activities, the potential for serious injury or loss of life will exist. Public education, signing, and placing pathways in areas that maximize visibility (such as in existing road corridors) may help to mitigate, but not eliminate the inherent risks.

24. **Comment:** Pets should be prohibited from pathways in order to avoid impacts and/or conflicts with wildlife.

    Response: NPS regulations currently require dogs, cats, and other pets to be leashed, crated, or otherwise under physical restraint. In Grand Teton National Park, pets are allowed only on maintained roads or parking areas, and within established campgrounds and picnic areas. Pets are prohibited in the backcountry and on trails. Park regulations will be revised through a revision to the superintendent's compendium to clarify that pets are not allowed on pathways. Guide dogs, however, used for the sole purpose of aiding persons with disabilities will be allowed.

25. **Comment:** Pathways should be open only to bicyclists in order to avoid conflicts between bicyclists and pedestrians.

    Response: Multi-use pathways are by their nature open to a variety of uses and restricting their use to bicycles only would be inconsistent with the purpose and need for the Final Plan/EIS. It is anticipated that the pathways will be open to pedestrians, bicyclists, and persons using in-line skates, although such rules and regulations as may be necessary to minimize conflicts between users may be implemented, including restrictions on some uses.

26. **Comment:** Bicyclists should be required to use pathways where they are provided in lieu of riding on park roads.

    Response: NPS regulations permit the use of bicycles on park roads that are open to motor vehicle use, as well as on other routes designated for bicycle use. NPS regulations provide superintendents with the authority to close roads or other designated routes to bicycle use, if necessary, and the NPS may consider whether any such restrictions are necessary once pathways have been constructed and are available for public use.

27. **Comment:** The RKO Road (also known as the River Road) should be converted into a pathway for walkers, joggers, skaters, and fat-tire bicyclists.

    Response: The RKO Road is located in potential wilderness and is a nonconforming use that currently accommodates a low volume of motor vehicle use, as well as use by pedestrians and bicyclists. As potential wilderness, the area could be recommended for wilderness designation if the nonconforming use was eliminated. Improving the RKO Road would be inconsistent with NPS Management Policies regarding wilderness, and is therefore not being considered.

28. **Comment:** Pathways should be groomed for cross-country skiing in the winter.

    Response: Management of winter recreational use is beyond the scope of this Final Plan/EIS.

29. **Comment:** Pathways constructed by the NPS should be integrated with the Jackson Hole Community Pathways system.

    Response: Pathways linking to points outside of the Park would be constructed in coordination with local and/or state governments.

Impacts to Wildlife

30. **Comment:** The development of a pathway system may increase the potential for conflicts between visitors and wildlife, and therefore the NPS should seek other solutions, such as expanded shoulders in lieu of pathways, as well as lower speed limits on park roads.

    Response: The NPS acknowledges in the analysis that the potential for surprise wildlife encounters would be lower if expanded road shoulders were constructed in lieu of separated pathways. At the same time, the NPS believes that the use of pathways may also reduce the potential for conflicts between motor vehicles and

bicyclists. Lower speed limits on park roads, or at least on certain segments, may be a useful tool in reducing the number of wildlife-vehicle collisions, and the NPS will continue to seek ways to reduce such conflicts by a variety of methods, including the consideration of reduced speed limits in certain areas, as well as improved signage and education.

31. **Comment:** The development of separate pathways between North Jenny Lake Junction and Colter Bay and along the Moose-Wilson Road would traverse important habitat occupied by grizzly and black bears, as well as moose and other wildlife. The development and use of these pathways will have deleterious effects on black bears and moose and could result in increased habituation to human foods and conflicts between grizzly bears and humans, and increased levels of bear mortality.

    Response: The NPS acknowledges these concerns. In the preferred alternative, pathway segments between North Jenny Lake Junction and Colter Bay and along the Moose-Wilson Road would be constructed primarily within the road corridor, meaning the engineered corridor in which the roadway exists. It includes the paved road surface, shoulders, cut and fill areas, and clear zones. Placement of the pathways in close proximity to the road will minimize impacts on vegetation and wildlife habitat and reduce the chances of surprise encounters with wildlife. Other mitigation measures (as described in the Final Plan/EIS), such as restrictions on use between dusk and dawn, public education, and signing, will also be used to reduce adverse effects on wildlife. The NPS will ensure that no unacceptable impacts are allowed to occur. There is, however, an inherent risk of surprise encounters between humans and wildlife associated with many outdoor activities in which park visitors participate. The use of pathways may increase the potential for surprise encounters due to the relatively high speeds of bicycles, as compared to pedestrians, and the limited sight lines that will exist in some areas.

.32. **Comment:** The Plan has not adequately addressed the visitor safety and resource protection issues associated with wildlife-vehicle collisions.

    Response: Wildlife-vehicle collisions were extensively discussed in Chapters 3 and 4 of the Draft Plan/EIS. These discussions are also included in the Final Plan/EIS. The Jackson Hole Roadway and Wildlife Crossing Study (Biota 2003) and park roadkill data were consulted during preparation of the Draft Plan/EIS. The Park has recently installed signs alerting motorists to migrating wildlife in important crossing areas and plans to install additional variable message and digital speed signs. Other mitigation recommendations were either deemed inappropriate in a national park or unlikely to be effective because wildlife cross park roads across broad areas. The NPS will continue to seek methods to reduce the number of wildlife-vehicle collisions.

33. **Comment:** Road density calculations in the EIS should be recalculated based on the Park area where road construction is possible rather than on total park acreage, which includes steep alpine terrain. The density of roads in low gradient, sagebrush habitat where large numbers of wildlife occur is much greater than indicated.

    Response: The number of miles of roads in the Park and the parkwide road density estimate were provided to establish a broad context for linear transportation features in the Park rather than to describe site-specific road densities or highlight developed/undeveloped areas of the Park. All action alternatives would result in an increase in the width of linear corridors, as opposed to increasing their density. Consequently, the effects analysis focused on direct and indirect habitat impacts resulting from this increased width.

34. **Comment:** Available science contradicts the information provided in the Draft Plan/EIS that bicycle use on trails or pathways increases the likelihood of encounters between wildlife and humans.

    Response: Responses of wildlife to disturbance are variable and related to a number of factors (i.e., disturbance type, intensity and duration, terrain, disturbance history, group size, age/sex, reproductive status, win direction, loudness, distance between animals and disturbance, distance to secure cover, relative elevation, season, etc.). A recent study by Wisdom, et al. (2004) found that elk exposed to four off-road activities had higher movement rates and probabilities of flight compared to periods where no human activity occurred. Of the four activities evaluated, ATV and mountain bike riding resulted in more pronounced elk reactions than horseback riding and hiking. Because many cyclists travel quickly and quietly, they may have a greater potential for surprise encounters with wildlife, especially in habitats with high cover or nearby terrain features that reduce visibility.

35. **Comment:** The Draft Plan/EIS overstates the risk that use of the pathways by cyclists and pedestrians will increase the availability of human foods to which bears may become conditioned.

    Response: Wherever bears and humans share the landscape, the possibility of bears becoming habituated to humans and conditioned to seeking their foods exists. This is particularly true where easy access puts large numbers of people who are naive about the effects of human foods on bears into high quality, occupied bear habitat. Despite NPS efforts to educate visitors about proper behavior in bear country, some visitors do not take the basic precautions and some are known to intentionally provide food to bears when they are encountered.

36. **Comment:** The development of pathways represents a widening of the roadway use zone and departs from the 1998 baseline that the NPS agreed to in the Conservation Strategy for Grizzly Bears in the Yellowstone Ecosystem.

    Response: The primary conservation area (PCA) borders the east side of U.S. Highway 191/89/287 from Jackson Lake Junction to Colter Bay, where pathways have been proposed. Separated pathways constructed in this area would be located within the road corridor on the west side of the road, thus not affecting the 1998 baseline agreed to by the NPS in the Conservation Strategy. However, recognizing that a pathway placed as such may reduce habitat effectiveness for grizzly bears in this area outside of the PCA, the Park will evaluate potential measures nearby to mitigate this impact.

37. **Comment:** Commentor (Wyoming Game and Fish Department) expressed concern that the development of pathways could result in additional restrictions on elk hunting and could impact the ability to adequately manage elk in the Park. Suggested that additional information be provided on elk movements (based on radio collar data) so that pathway placement can avoid elk management issues.

    Response: Between the south park boundary and Moose, patBetween the south park boundary and Moose, pathways will generally be located within 50 ft of the roadway, and not more than 150 ft from the road, and therefore are not expected to result in the need for any additional restrictions on hunting between Gros Ventre Junction and Moose, since hunting is not allowed within a quarter mile of the road. The Final Plan/EIS discloses that the addition of the separated pathway to the road corridor is likely to increase the zone of influence (ZOI) of the corridor. For elk, this would result in reduced habitat effectiveness near the path/roadway corridor. The extent to which this will affect habitat connectivity and the ability to use traditional migration routes is uncertain, but is expected to be minor because the proposal does not involve improvements that would increase motor vehicle speeds or traffic volumes, both of which are factors that can reduce habitat connectivity. The NPS does not intend to plow the pathways or groom them for skiing. Therefore, it is expected that pathway use will diminish or disappear by the time peak elk migration occurs. Track count data were used to define the broad area in which elk migrate and travel throughout the project area. In contrast, the existing radio-collar data is not fine enough in scale to delineate specific travel routes.

38. **Comment:** The NPS should provide more detailed information on the criteria that were used to develop the 74-meter and 400-meter ZOI buffers to estimate ecological impacts to species. Commentor (Wyoming Game and Fish Department) is concerned that the method may underestimate the effects on large carnivores and other species sensitive to human disturbance.

    Response: The NPS agrees that the ZOI buffers may underestimate impacts for certain species, including some large carnivores and those most sensitive to human disturbance. The size of a linear features ZOI depends on a number of factors, such as topography, vegetation and the individual species sensitivity. Thus an absolute figure, even for individual species, is difficult to derive. The range of distances where wildlife appears to show an avoidance response was highlighted in the Methods and Assumptions section of Chapter 4. The 75-meter and 400-meter buffers were selected to represent the range in ZOIs for various species and to generalize the scope of impacts at two levels: one that addressed the likely impacts for smaller species like birds and the other that addressed larger mammals. For some species (i.e., grizzly bears), the 400-meter buffer may represent a minimum ZOI.

39. **Comment:** The potential impacts from this project deviate from the Park's management objectives and

would likely lead to an "Incidental Take" for both gray wolf and grizzly bear, and therefore require formal consultation with the U.S. Fish and Wildlife Service (USFWS).

Response: The NPS will engage in formal consultation with the USFWS upon release of the Final Plan/EIS.

40. **Comment:** The Plan/EIS should incorporate a monitoring plan (and identify how this effort will be funded) that can measure the long-term effects of new pathway construction on wildlife movement, habitat use, and mortality within the Park.

    Response: The NPS is developing a wildlife research and monitoring program to address the impacts of pathways and pathway use on wildlife. The program is discussed in detail in Chapter 2.

Moose-Wilson Road

41. **Comment:** Commentors suggested a variety of strategies for addressing management of the Moose Wilson Road, including the establishment of a cap on the number of vehicles.

    Response: The NPS believes that traffic volumes on the Moose-Wilson Road are approaching a level beyond which further growth is unsustainable without unacceptably degrading the condition of the road or the quality of the visitor experience. While a cap could be one way of limiting the number of vehicles on the road, from an operational perspective it would be undesirable and difficult to implement. The NPS intends to implement an adaptive management plan (AMP) for the Moose-Wilson Road with the goal of obtaining information on the best strategy for managing traffic volumes along the road that are sustainable and which provide a safe, high-quality visitor experience for motorists, bicyclists, and pedestrians. Under the AMP, the NPS would test strategies such as direction of traffic flow and other techniques to manage vehicle use of the road.

42. **Comment:** The Moose-Wilson Road should be closed to motor vehicles between the Granite Canyon Trailhead and the Laurance S. Rockefeller Preserve, with the closed segment being open only to non-motorized uses such as pedestrians, bicyclists, and horseback riders. Such a strategy would limit traffic growth on the Moose-Wilson Road and improve opportunities for non-motorized users.

    Response: As noted above, the NPS intends to implement an AMP to address traffic volumes on the Moose-Wilson Road.

43. **Comment:** Wildlife viewing areas should be provided along the Moose-Wilson Road in order to provide safe viewing opportunities and reduce wildlife disturbance.

    Response: Wildlife viewing areas may be considered in conjunction with realignment of the two segments of road.

44. **Comment:** The NPS should provide additional analysis and discussion of cumulative impacts on the expansion of Teton Village as it relates to future use of the Moose-Wilson Road, especially since grizzly bears have been reported in that area.

    Response: Additional analysis and discussion of the cumulative impacts on the Moose-Wilson Road corridor and nearby areas associated with development outside the Park, including any impacts on grizzly bears, has been included in the Final Plan/EIS.

45. **Comment:** The analysis in the Draft Plan/EIS did not adequately address the impacts on visual quality of relocating two segments of the Moose-Wilson Road.

    Response: The analysis in the Final Plan/EIS has been revised to address the concern.

46. **Comment:** The analysis in the Draft Plan/EIS did not adequately describe the restoration actions for the segments of Moose-Wilson Road that would be removed.

    Response: The analysis in the Final Plan/EIS has been revised to address the concern.

47. **Comment:** The Transportation Draft Plan/EIS fails to consider theThe Draft Plan/EIS fails to consider the economic impacts of relocating portions of the Moose-Wilson Road on persons owning land within the vicinity of the proposed relocations.

    Response: Grand Teton National Park includes numerous inholdings – privately owned lands that pre-date the Park's establishment. Two of these inholdings are located in proximity to portions of the Moose-Wilson Road that are proposed to be relocated in several of the alternatives. In determining the final alignment of the Moose-Wilson Road, the NPS will consider the location of any nearby inholdings.

48. **Comment:** The information provided in the Draft Plan/EIS did not adequately explain the rationale for the proposal to relocate two sections of the Moose-Wilson Road nor did the analysis adequately address the environmental impacts of such an action.

    Response: The Final Plan/EIS has been revised to better address the issues raised in this comment. In general, the purpose of relocating sections of the Moose-Wilson Road would be to restore the value of wildlife habitat that is currently impacted by the presence of roadway. In addition, moving the junction of the Moose-Wilson Road with the Teton Park Road to a point past the Moose Entrance Station will eliminate the need for northbound Moose-Wilson traffic to pass through a second entrance station, thus reducing the queue at Moose.

Wetlands

49. **Comment:** The Draft Plan/EIS analysis underestimates the amount of wetland impacts because it does not take into account habitat degradation and loss of effectiveness due to disturbance. The Draft Plan/EIS does not document what the indirect impacts to wetlands from this project might be.

    Response: Indirect impacts to wetlands are related to habitat loss and are discussed in Chapter 4 under the heading "Threatened and Endangered Species, Species of Special Concern, and General Wildlife." The more sensitive wetland dependent species (i.e., sandhill crane) may experience indirect impacts within the 400-meter buffer, while the less sensitive wetland dependent species may be affected within the 75-meter buffer. Estimated acreages are presented in Appendix B.

50. **Comment:** The NPS should ensure that all unavoidable wetland losses are mitigated regardless of whether they are deemed minor or major impacts (Environmental Protection Agency [EPA] comment).

    Response: The NPS intends to provide mitigation for all unavoidable wetland losses resulting from this project.

51. **Comment:** The NPS should take this opportunity to create mitigation areas for past wetland impacts from highway projects in the Park (EPA comments).

    Response: The Draft Plan/EIS listed historical wetland impacts in order to show cumulative impacts over time; however, not all of these impacts and losses were unmitigated. It is the Park's intent to manage for no net loss of wetlands whenever possible; therefore, any unavoidable wetland impacts will result in wetland mitigation, whether they are deemed minor or otherwise.

    The Park is also currently planning several projects that may create mitigation areas. Several locations, such as the Snake River Pit, Lower Flagg Ranch development area, and along the Moose-Wilson Road, will likely have the potential to restore more than 10 acres combined. The Moose-Wilson Road realignment, which is part of the Final Plan/EIS, is anticipated to restore approximately 2 acres of wetlands.

52. **Comment:** The NPS should provide detailed information on storm water best management practices (BMPs) that will be used for the long-term protection of waters close to the pathways and additional paving.

    Response: The NPS will address storm water management as part of the planning and design for each phase of construction.

Other

53. **Comment:** An entrance lane should be provided specifically for visitors holding annual or other passes and technology improvements should be used to reduce waiting time at the entrance station.

    Response: The NPS intends to provide an additional entrance lane specifically for employees and other administrative traffic that will reduce the length of the queue for park visitors. The NPS will consider whether it is operationally feasible to use the same lane for visitors with annual or other passes.

54. **Comment:** The NPS should change the entrance fee structure for the Park.

    Response: Changes to the fee structure are beyond the scope of this planning effort.

55. **Comment:**The NPS did not adequately describe the impacts of relocating portions of the Moose-Wilson Road in Alternatives 3 and 4, and therefore cannot state that Alternative 3 is the environmentally preferred alternative. In addition, commentors assert that Alternative 3 does not provide the level of environmental protection required by the National Environmental Policy Act (NEPA).

    Response: The analysis in the Final Plan/EIS has been revised to describe the impacts of relocating

segments of the Moose-Wilson Road. The NPS continues to believe that Alternative 3 best meets the six criteria identified in NEPA and is, therefore, the environmentally preferred alternative. NEPA is a procedural law and does not prescribe a particular level of environmental protection; protection of park resources is governed by the NPS Organic Act, as well as other laws, policies, and regulations described in Chapter 1 of the Final Plan/EIS.

56. **Comment:** The NPS should open certain dirt roads and trails to mountain bikes.

    Response: The Park includes approximately 70 miles of unpaved roads, most of which are open to both motor vehicles and bicycles. Opening of new areas outside of existing road corridors is beyond the scope of this plan.

57. **Comment:** The NPS should implement a reservation system to control the number of visitors during peak periods.

    Response: There is no demonstrated need for such a requirement.

58. **Comment:** The NPS should analyze and consider the impacts to air quality.

    Response: Air quality was considered but dismissed from further analysis because all potential impacts would be minor, as described in Chapter 2 of the Final Plan/EIS.

59. **Comment:** In Chapter 2, under "Alternatives Eliminated from Analysis," a correction should be made to indicate that the old road between South Jenny Lake and the River/RKO Road is not within the potential wilderness shown in the August 1972 Wilderness Recommendation.

    Response: The abandoned two-track road is located just south of the potential wilderness. It is, however, in a backcountry area, closed to all public and administrative vehicle use, and in an area that may be suitable for wilderness.

60. **Comment:** Park facilities, including those developed in connection with the Transportation Plan, should comply with the American with Disabilities Act (ADA).

    Response: The NPS will continue to make all reasonable efforts to, ensure that facilities, programs, and services are accessible and usable by all persons, including those with disabilities.

61. **Comment:** The Final Plan/EIS should include information on an implementation schedule.

    Response: The Final Plan/EIS includes this information in Chapter 2; however, the specific years in which phases will be implemented depend on the availability of funds as well as other factors.

Glossary of Terms

3R: Road work in this category includes resurfacing, restoration, and rehabilitation. Funds in this category may only be used for work undertaken to extend the service life of an existing road and enhance safety. Work includes the placement of additional surface materials and/or other actions necessary to return an existing roadway, including shoulders, the roadside, and appurtenances, to a condition of structural adequacy. Most 3R work occurs on the existing road bench and generally cannot involve widening beyond the existing road bench or require the construction of new retaining walls, or cuts and fills.

4R: Road work in this category includes road reconstruction or realignment, which consists of altering the geometry of the roadway through widening or modifying the current horizontal and/or vertical alignment. These types of projects are typically much more complex and costly than 3R projects and result in more impacts to resources along the road. The numbers of roads selected for 4R types of work is limited to only the most critical, high priority segments. Work that will not qualify as 3R work includes paving previously unpaved roads or parking areas, constructing new parking areas or pullouts, widening off the present road bench, realigning and relocating roads (vertical or horizontal realignments), and constructing new bicycle paths.

Action alternative: An alternative that proposes a change to existing conditions or current management direction. The environmental consequences of an action alternative are analyzed in relation to the No Action Alternative. Also see No Action Alternative.

Activity area: Developed area or trailhead in the park.

Affected environment: The existing biological, physical, cultural, social, and economic conditions that are subject to both direct and indirect changes as a result of actions described within alternatives under consideration.

Alluvial: Pertaining to sediment deposited by flowing water, as in a riverbed.

Alternatives: A reasonable range of options that can accomplish an agency's objectives.

Aquifer: An underground bed or layer that yields ground water.

Backcountry: Backcountry is defined as 50 feet from the roadway.

Braided stream: A stream in which flow is divided at normal stage by small islands. This type of stream has the aspect of a single large channel within which there are subordinate channels.

CEQ: The President's Council on Environmental Quality (CEQ) was established by the National Environmental Policy Act (NEPA). The council's mission is to oversee and develop national environmental policy.

Choosing by Advantages: A decision-making process used as part of developing the Transportation Plan/EIS to analyze and refine the alternatives.

Class I Airshed: A Class I Airshed is the most restrictive air quality category, and was created by Congress to prevent further deterioration of air quality in national parks and wilderness areas of a given size which were in existence prior to 1977, or those additional areas which have since been designated Class I under federal regulations (40 CFR 52.21). The Clean Air Act established stringent requirements for "Class I" areas, national parks over 6,000 acres and national wilderness areas over 5,000 acres. Forty-eight National Park Service (NPS) units are Class I areas and the Clean Air Act (CAA) affords the greatest air quality protection to these areas.

Cub-of-the-year: A cub born in the current year.

Cultural landscape: A geographic area, including both cultural and natural elements, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values.

Cultural resources: Properties such as landscapes or districts, sites, buildings, structures, objects, or cultural practices that are usually greater than 50 years of age and possess architectural, historic, scientific, or other technical value. By their nature, cultural resources are non-renewable.

Cumulative effects: Effects on the environment that result from the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or non federal) or person undertakes such actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

Cygnet: A young swan.

Degradation (natural resources): Refers to negative impact(s) to natural resources or natural processes. The impact may be singular or cumulative; the extent may be local or ecosystem-wide. The term degradation is used broadly and may refer to: reduction in habitat size, reduction in extent of plant populations, declining species vigor exhibited as reduced population numbers, reduced reproductive success, increased mortality rates, and/or decreased percent of available habitat utilized.

Environmental consequences: A section of an environmental impact statement that is the scientific and analytic basis for comparing alternatives. This discussion includes the environmental effects of the alternatives, any adverse effects that cannot be avoided, and short-term, long-term and cumulative effects. These environmental effects include ecological, aesthetic, historical, cultural, economic, and social issues.

Environmental Impact Statement (EIS): A detailed statement required by NEPA when an agency proposes a major action that significantly affects the quality of the human environment. This document describes and analyzes the activities that might affect the human environment.

Environmental justice: Ensuring the rights of low-income people and communities of color to experience and enjoy clean and healthy environments. Executive Order 12898 requires that the NPS ensures that its programs, policies, and activities do not exclude, discriminate, or deny persons because of their race, color, or national origin.

Extirpated: Totally destroyed or exterminated.

Facilities: Refers to buildings, houses, campgrounds, picnic areas, visitor-use areas, operational areas, and associated supporting infrastructure such as roads, trails, and utilities.

Fixed route: Scheduled route for bus transit.

Frontcountry: Frontcountry means an area in a park or recreation area that is generally accessible by vehicle and offer designated campsites, facilities and recreational opportunities.

Graminoid: Grasslike plant or of the grass family.

Habitat fragmentation: The partitioning of larger habitats into smaller more isolated parcels, usually as a result of development. Fragmentation of habitat can negatively affect the abundance and diversity of plants and animals in an area.

Hibernacula: The shelter of a hibernating animal.

Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER): An architectural and engineering documentation program that produces a thorough archival record of buildings, engineered structures, and cultural landscapes significant in American history and the growth and development of the built environment.

Historic character: The sum of all visual aspects, features, materials, and spaces associated with the historic nature of a site, structure, or landscape.

Historic district: A geographically definable urban or rural area, possessing a significant concentration, linkage, or continuity of sites, landscapes, structures, or objects united by past events or aesthetically by plan or physical developments. A district may also be composed of individual elements separated geographically but linked by association or history.

Hydric soils: Soils that are characterized by an abundance of moisture, periodically producing anaerobic conditions.

Hydrology: The science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere.

Impacts: Effects, both beneficial and adverse, of an action on the human environment. Direct effects are those occurring at the same time and place as the action itself. Indirect effects occur later in time or are farther removed in distance from the action, yet are reasonably foreseeable.

Interpretation: Programs that support the mission of the NPS by assisting people in understanding, enjoying, and contributing to the protection of the park's natural, cultural, and scenic resources and dynamic processes. Interpretive programs include walks and evening programs, guided tours, formal education programs for school groups, exhibits, audiovisual productions, and publications.

Lek: Established sage-grouse breeding area.

Lithic: Of or relating to stone or stone tools.

Loam: Soil composed of a mixture of sand, silt, clay, and organic material.

Mission 66 style (architecture): Refers to buildings developed in national parks between 1956 and 1966, during a period of experimentation with new structural forms, modern materials, and machine-driven methods of construction. The intent was to provide low maintenance, economical, permanent structures.

Mitigation: An activity designed to avoid, minimize, rectify, eliminate, or compensate for impacts of a proposed project. A mitigation measure should be a solution to an identified environmental problem.

Moraine: An accumulation of boulders, stones, or other debris carried or deposited by a glacier.

Multi-use trails: Pathways that serve several types of users including bicyclists and hikers.

Museum collection: Objects, works of art, historic documents, and natural history specimens collected according to a rational scheme and maintained so they can be preserved, studied, and interpreted for public benefit.

National Environmental Policy Act (NEPA): The federal act that requires the development of an EIS for federal actions that might have substantial environmental, social, or other impacts.

National Historic Landmark: A district, site, building, structure, landscape, or object of national historical significance designated by the Secretary of the Interior under authority of the Historic Sites Act of 1935 and entered in the National Register of Historic Places.

National Register of Historic Places: The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archeology, engineering, and culture. This list is maintained by the NPS under authority of the National Historic Preservation Act of 1966.

Natural resources: Features and values that include plants and animals, water, air, soils, topographic features, geologic features, paleontologic resources, natural quiet, and clear night skies.

Neotropical: The biogeographic region of the New World that stretches southward from the Tropic of Cancer and includes southern Mexico, Central and South America, and the West Indies.

No Action alternative: An alternative in an EIS that continues current management direction. A No Action alternative is a benchmark against which action alternatives are compared.

Non-native species: Species of plants or animals that do not naturally occur in a particular area and often interfere with natural biological systems. Also known as alien, introduced, or exotic species.

Non-point sources: Pollutants that enter the environment from general noncontained locations. Examples of non-point sources are roadways, parking lots, and landscaped areas. Pollutants from these locations can include petrochemicals, heavy metals, and fertilizers.

Noxious weeds: Weeds that are exotic and that have become pests; see non-native species.

Overstory: The portion of the trees forming the upper or uppermost canopy in a forest stand. This stratum of trees has outgrown the other vegetation in a forest and have their uppermost crown foliage largely or fully in direct sunlight, usually as a relatively continuous layer (excluding gaps).

Oxbow: A bend in a meandering river channel that is abandoned as the river shifts its course over time. Oxbows can remain saturated with surface water or groundwater for some time, providing diverse wetland habitats for vegetation and wildlife.

Restoration (cultural): The act or process of accurately depicting the form, features, and character of an existing historic structure, landscape, or object as it appeared at a particular period of time, by removing modern additions and replacing lost portions of historic fabric, paint, or other elements.

Restoration (natural): Work conducted to remove impacts to natural resources and restore natural processes, and to return a site to natural conditions.

Revegetation: Replacement or augmentation of native plants in an area largely or entirely denuded of vegetation.

Ridership: The number of transit boardings, trips taken, or people using a transit system.

Riparian areas: Areas that are on or adjacent to rivers and streams; these areas are typically rich in biological diversity (flora and fauna).

Road corridor: The graded, disturbed area on each side of the road approximately tree line to tree line.

Social trails: A social trail is an informal, nondesignated trail between two locations. Social trails often result in trampling stresses to sensitive vegetation types.

Stewardship: The responsibility of caring for the park. This often grows from an understanding of and respect for the principles of the National Park System and the needs of the park's natural, social, and cultural environment.

Substantive comment: A comment that does one or more of the following: questions, with reasonable basis, the accuracy of information in the EIS; questions, with reasonable basis, the adequacy of the environmental analysis; presents reasonable alternatives other than those presented in the EIS; or causes changes or revisions in the proposal.

Surface water: Water that naturally flows or settles on top of natural landforms and vegetation, often as rivers, streams, lakes, ponds, and other bodies of water.

Telemetry: Telemetry is the wireless transmission and reception of measured quantities for the purpose of remotely monitoring environmental conditions or equipment parameters in real-time.

Threatened and endangered species: Species of plants and animals that receive special protection under state and federal laws. Also referred to as listed or protected species.

Transportation System Management: A variety of information systems and strategies for managing transportation issues.

Transit: Bus system operated by park or concessioners.

Understory: The trees and other woody species growing under a relatively continuous cover of branches and foliage formed by the overstory trees; also loosely applied to all woody strata below the overstory.

Ungulates: Hoofed herbivores, e.g., mule deer.

Variable messaging signs: Mobile electronic sign that provides timely information on road conditions, accidents, parking capacity etc. as an aid in trip planning/ management.

Visitor experience: The perceptions, feelings, and interaction a park visitor has in relationship with the environment. Within the context of the proposed alternatives, visitor experience includes general access, facilities, visitor services, interpretation and orientation, and recreational opportunities. Other elements also contribute to the quality of the visitor experience, such as the condition of natural and cultural resources, air quality, transportation, and noise.

Wetland: Areas that are inundated by surface or groundwater with a frequency sufficient to support, under normal circumstances, vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Wilderness: Areas protected by provisions of the Wilderness Act of 1964. These areas are characterized by a lack of human interference in natural processes; generally, there are no roads, structures, installations, and the use of motorized equipment is not allowed.

As the nation's conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environment and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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