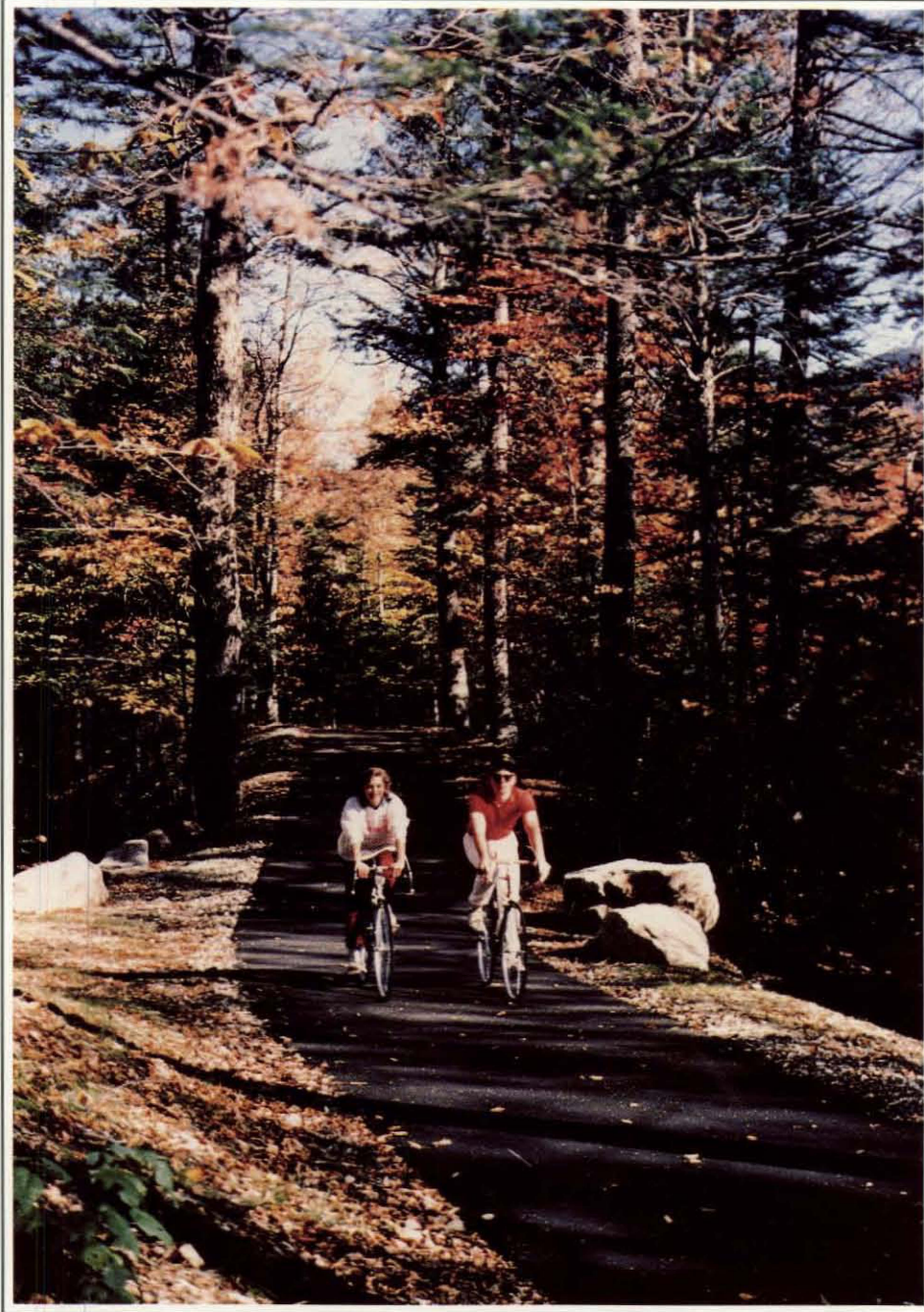


# *LINKING TRANSPORTATION AND RECREATION*

**A LOOK AT OUR NATION'S HIGHWAYS:**



U.S. Department of Transportation  
Federal Highway Administration

***Cover Photo:***

*In conjunction with the Franconia Notch Parkway project, the New Hampshire Department of Transportation constructed this 14.5-kilometer (9-mile) bicycle path separate from the parkway to provide a safe traveling environment for bicycle traffic. Both the parkway and bicycle path were designed to follow the natural mountainous terrain of the Franconia Notch State Park.*

*Additional information is on page 8.*

## ADMINISTRATOR'S MESSAGE



Secretary of Transportation Peña and I are pleased to share examples of creative design solutions by our partners in State and local governments that promote recreational uses near highway projects.

Walking/bicycle trails, golf courses, and easy access to parks and scenic vistas are good examples of how our partners work closely with the Federal Highway Administration (FHWA) to design projects that meet transportation needs and are sensitive to the environment.

As we continue to work with communities on meeting the transportation challenges of the 21st century, FHWA is committed to these innovative design solutions that enhance our environment and improve the quality of life for all our citizens.

A handwritten signature in black ink that reads "Rodney E. Slater". The signature is fluid and cursive, with a long horizontal stroke at the end.

Rodney E. Slater  
Federal Highway Administrator



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## *I-215 in Utah and the Murray Parkway Golf Course*

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### *The Challenge*

Murray City, Utah officials had already initiated plans for a new golf course when they discovered that the Utah Department of Transportation (UDOT) was planning an addition to the southwest portion of I-215 on an adjacent parcel of land. The challenge for Murray City and the UDOT was to combine efforts in a way that would maximize their resources to the greater benefit of both the highway and golf course facility.



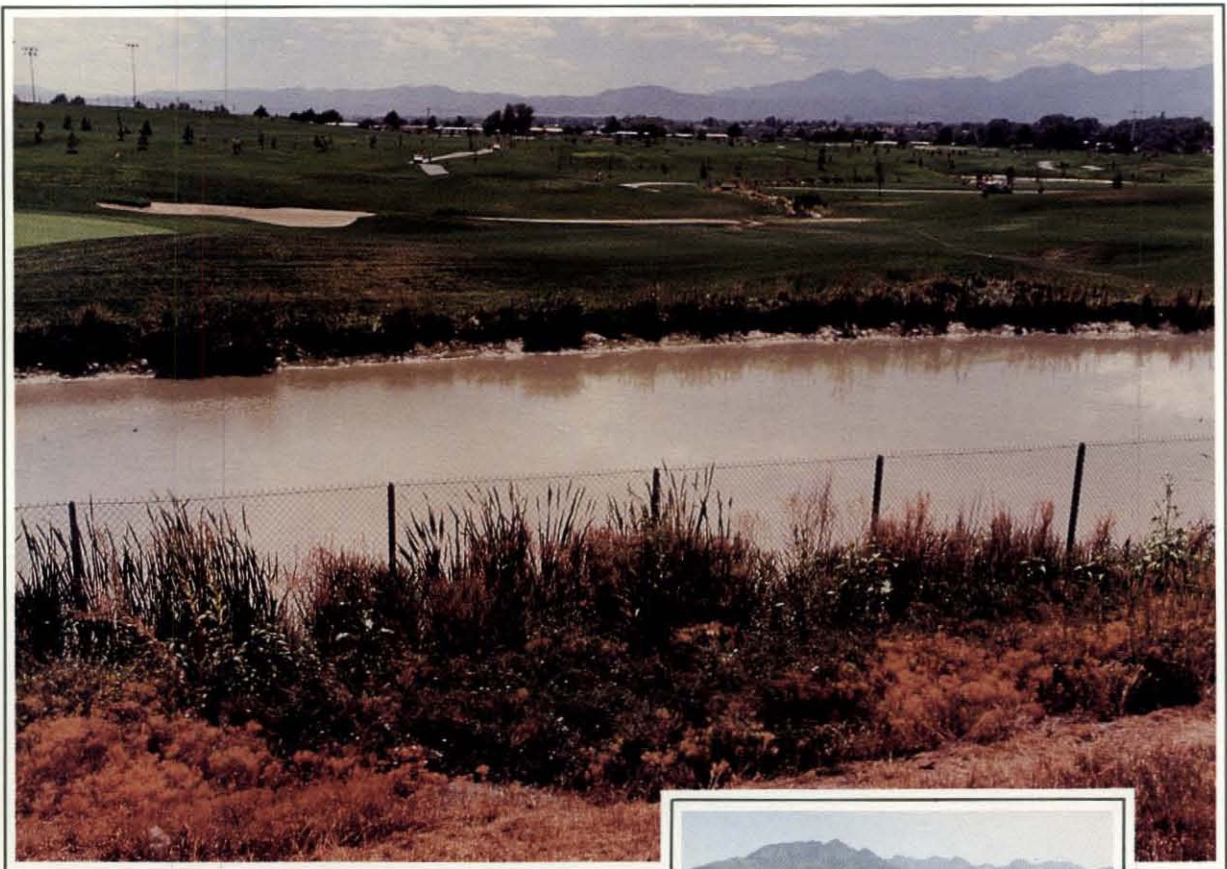
*The innovative golf course design won Murray City the first-ever National Stormwater Control Award from the Environmental Protection Agency.*

### *The Solution*

State and local officials worked together to achieve a plan that directly linked the development of the golf course to the construction of I-215. The 7.2-kilometer (4.5-mile) extension of I-215 was designed for construction below ground level. Instead of hauling the excavated dirt from the construction site to another location, the UDOT, working cooperatively with the FHWA, agreed to donate the extra fill material to Murray City. The 418,000 cubic meters (550,000 cubic yards) of fill gave the city sufficient resources to creatively design and enhance the layout of the golf course. This donation saved Murray City \$1,000,000 in construction costs.

In addition, the UDOT agreed to build a desilting basin upstream from the golf course to collect the abundant subsurface drainage and water runoff from I-215. Water from the desilting basin is routed into four holding ponds, or “water traps,” constructed on the golf course by Murray City. The city uses this water to irrigate and further enhance the appearance of the 54.6-hectare (135-acre) course. The irrigation process circulates the water through the ground several times. When excess water finally flows into the neighboring Jordan River, it is 90 percent cleaner than when it arrived on the course.





*With its natural wetland vegetation along the streams and ponds and its exceptional greenery, Murray Parkway Golf Course is now one of the most popular golf courses in the State.*



**The water control system has resulted in the following:**

- 4.5 hectares (11 acres) of new wetlands created through the development of the innovative storm water system and golf course design;
- An enhanced natural environment with habitat for hundreds of fish, small aquatic mammals, waterfowl, Canada geese, and a wide variety of ducks;
- 2.8 hectares (7 acres) of land area for flood retention;
- UDOT savings of \$300,000—monies that otherwise would have been used to purchase land and install pipes to channel the freeway runoff to the neighboring Jordan River; and
- \$80,000 annual savings in construction and watering cost for Murray City.



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## *Utah State Route 313 and Accompanying Bicycle Trail*

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### *The Challenge*

State Route (SR) 313 is located just outside the city of Moab, Utah, a well-known cycling area. The 25 kilometers (16 miles) of highway serve as an access road connecting U.S. 191 to the Dead Horse Point State Park and the Island-in-the-Sky Recreational Area of Canyonlands National Park.

With its narrow lanes and steep grades—which in some places reached 12 percent—the old road often proved impassable to large vehicles, restricting some visitors from traveling to the parks and enjoying the highway's panoramic view. Bicyclists were often in danger as well. The Utah Department of Transportation (UDOT), working with the National Park Service and the FHWA, determined that reconstruction was needed to improve SR 313's road conditions and support the bicycle traffic.







*Drivers and bicyclists enjoy a spectacular view along newly reconstructed State Route 313 in Moab, Utah.*



*Signs alert motorists of nearby bicycle traffic.*

### *The Solution*

In reconstructing SR 313, the UDOT showed sensitivity to the surrounding natural and cultural environment and adhered to the existing alignment as much as possible to avoid impacts to the surrounding environment. The quality of the highway was improved, and the aesthetic quality was preserved.

To enhance bicycle travel, the UDOT created broad outside shoulders and pullouts for bicyclists. Signs were posted along the highway to warn motorists of the adjacent bicycle traffic. The project has been a huge success, and the numbers of bicyclists using SR 313 are growing. As a result, Canyonlands National Park is now actively promoting bicycling opportunities in the region.



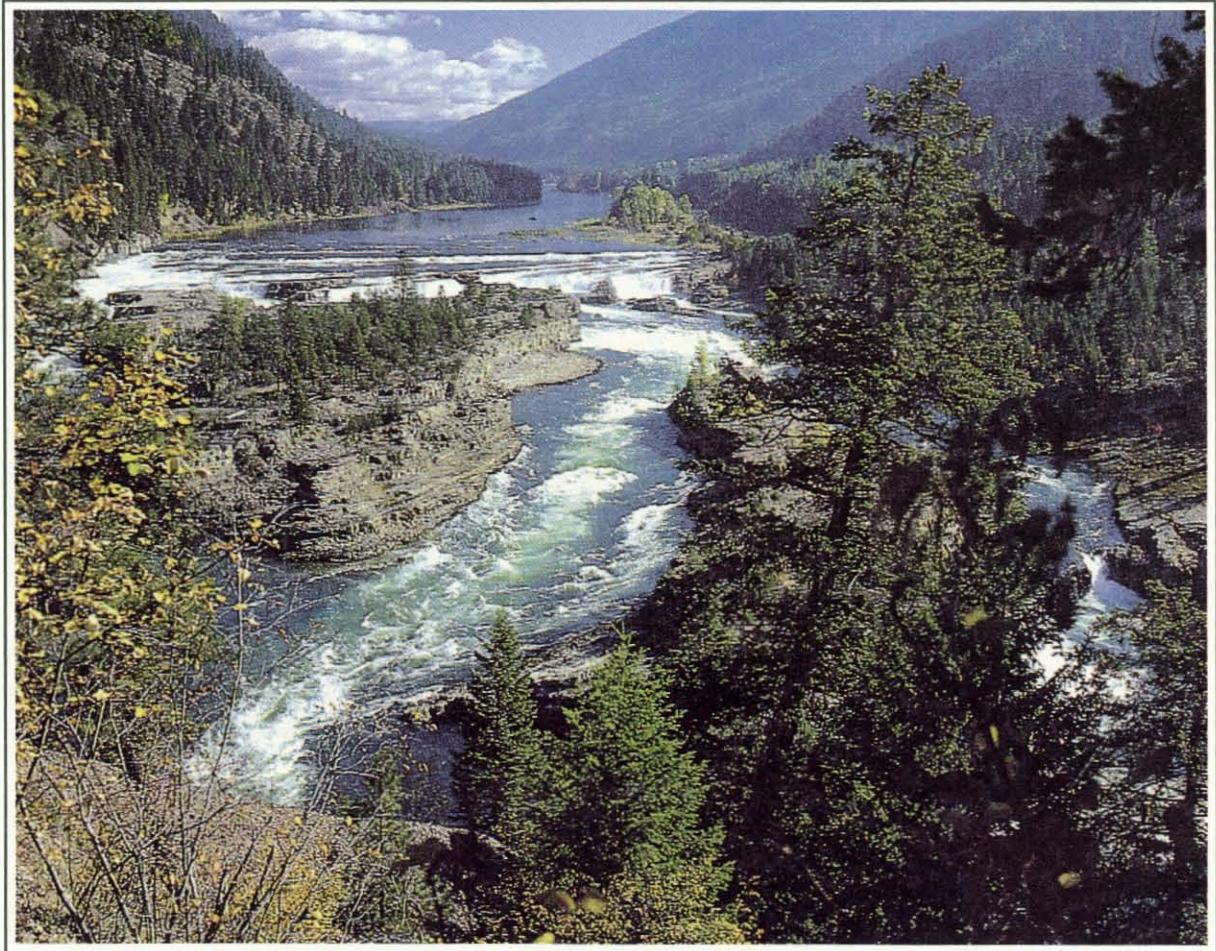
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## *The Troy-Libby Highway and Kootenai Falls Park*

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### *The Challenge*

Located in northwest Montana, the Troy-Libby Highway is part of Highway 2, a major east-west route that crosses the northern part of the State. Constructed in the 1930's, the narrow highway is closely nestled between the Kootenai River and the Burlington Northern Railroad to the north, and the steep cliffs of the Kootenai National Forest to the south. The highway also runs near Kootenai Falls Park, a natural wonder with a spectacular waterfall as a primary attraction. Prior to the reconstruction of the Troy-Libby Highway, highway congestion and safety were problems. Pedestrian access to the park was also difficult. Visitors had to hike a steep trail and cross the railroad tracks to view the falls.



*Photo by Dr. Steven Huffman*





*A pedestrian overpass on a section of the Burlington Northern Railroad improves access to Kootenai Falls Park.*

### *The Solution*

Reconstruction of the 25.8-kilometer (16-mile) stretch of Highway 2 was proposed in order to bring this narrow segment of the road up to modern standards. Upgrading was accomplished in a manner that reflected sensitivity to the highway's natural setting. Rock cuts were made in the mountain cliffs to the south of the roadway. To the north, rock buttress walls and retaining walls were built to avoid impacts to the railroad tracks. The result is a highway that fits well into the surrounding environment.

In addition to improving the roadway, the planning team—which consisted of the Montana Department of Transportation (MDOT), the State Department of Fish, Wildlife and Parks, the Confederated Salish and Kootenai Tribes, Lincoln County officials, the FHWA, and a host of others—worked together to incorporate a pedestrian overpass above the railroad tracks to improve access to the park. A rest area (near the west end of the project) and a parking area (at the Kootenai Falls viewing area) were added to encourage travelers to stop and enjoy the scenery and the park. Once in the park, travelers can gain a marvelous view of the falls from either the Kootenai River's edge or a swinging footbridge that is suspended over the river.



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## *Franconia Notch Parkway and State Park*

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### *The Challenge*

Franconia Notch State Park, a spectacular mountain pass, is located in the heart of New Hampshire's White Mountain National Forest. The park is famous for "Old Man of the Mountains," a natural rock formation that resembles the profile of a man's face and is the State symbol. Other features of the park include an aerial tramway, lakes for swimming and fishing, camping facilities, and ski and hiking trails including the Appalachian Trail. Within this actively used, but environmentally sensitive park, the New Hampshire Department of Transportation (NHDOT) was challenged to construct a section of Interstate 93 without disturbing the park environment or its many recreational features.

### *The Solution*

After many years of planning, working cooperatively with the New Hampshire Department of Resources and Economic Development, a coalition of environmental interest groups, and the FHWA, the NHDOT determined that a two-lane parkway was the best solution. The resulting parkway is the only two-lane Interstate section in the United States. Since transportation standards require that an Interstate must be a minimum of four lanes (two lanes in each direction), the NHDOT needed to obtain congressional approval for the design. The narrower road width, combined with a lower speed limit of 45 mph, enabled the NHDOT to design the roadway with narrower shoulders and steeper grades, fully integrating the roadway into the park's terrain. Many parkway elements were incorporated into the design, such as the use of either stone-faced concrete or dry stone retaining walls, and the use of brown-colored bridge rail and weathering steel guardrail.

In conjunction with parkway construction, the NHDOT built over \$20 million in new visitor facilities, including an 14.5-kilometer (9-mile) bike path parallel to the parkway, extensive landscaping, and construction of trailhead parking. The result is a parkway that is not only sensitive to the park environment, but has contributed to the park's many recreational features, as well.



*The parkway is located between the high peaks of the Kinsman and Franconia Mountain ranges, providing spectacular year-round scenery.*



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## *Summary of Ideas:*

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- Opportunities were sought to maximize resources of highway projects and recreational facilities.
- Recreational facilities were designed to be fully integrated into the surrounding environment.
- Interested parties were involved before major decisions were finalized and the needs of all were addressed.
- The safety of pedestrians and bicyclists was an important part of highway design.

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