

National Park Service
U.S. Department of the Interior
Aztec Ruins National Monument
New Mexico

Old Spanish National Historic Trail Bicycle Use

Environmental Assessment



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CHAPTER 1: PURPOSE AND NEED

PURPOSE AND NEED

The purpose of this plan is to continue to allow bicycle use on the Old Spanish National Historic Trail (Old Spanish Trail) at Aztec Ruins National Monument (AZRU) so that park visitors, park employees, and town residents can have multi-modal access between the AZRU visitor center and the town of Aztec. Action is needed at this time to designate the portion of the Old Spanish Trail within AZRU as a bike trail under 36 CFR Part 4.30, which requires park units to evaluate bicycle use on trails and administrative roads in an environmental assessment or environmental impact statement prior to authorization.

BACKGROUND

The Old Spanish Trail was the first recorded trade caravan from Santa Fe, NM all the way to Los Angeles, CA. The first journey was led by Antonio Armijo in 1829, and it was so difficult the traders never took that exact same route again. It is unclear where the trail on the ground is today and how close the caravan actually came to AZRU. Visitors follow the nationally designated trail from the picnic area, over the bridge across the Animas River, and into historic downtown Aztec. In 2014, the city of Aztec, in partnership with the National Park Service (NPS), completed a pedestrian bridge and trails project to promote the city's parks, the river, trails and cultural resources. This bridge and trail network connect to the Old Spanish Trail, expanding visitor opportunities for AZRU and the city of Aztec.

The Old Spanish Trail within AZRU is a shared use bicycle and pedestrian pathway that was originally constructed in 2014 and paved with asphalt in 2016. It extends from the parking lot at AZRU to the park boundary where a connector trail and pedestrian bridge span the Animas River leading to the city of Aztec (see Figure 1). The approximate length of the trail within AZRU is 1226 feet (ft) and the trail is approximately 8 ft wide. The general use of the trail is largely pedestrian with an estimated 10 percent bicycle use, but the trail is well suited for bicycle use given its width, paved asphalt surface, and grade.



This environmental assessment (EA) refers to bicycle use, which includes electric bicycle (e-bike) use. The National Park Service defines traditional bicycles as a device propelled solely by human power upon which a person or persons may ride on land, having one, two, or more wheels, except a manual wheelchair (36 CFR 1.4). E-bikes are defined as two or three wheeled cycles with fully operable pedals and an electric motor of less than 750 watts (1 horsepower) that provides propulsion assistance and meets the requirements of one of the following three classes (36 CFR 1.4):

- Class 1- An electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 2- An electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 3- An electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour.

It is important to note that there are other electric-assist micromobility devices on the market, such as e-scooters, that do not meet the NPS definition of an e-bike. These are not considered e-bikes in the context of this EA.

NPS Regulation 36 CFR § 4.30 requires that a park unit, before authorizing bicycle use on an existing trail, must evaluate the use in an EA or environmental impact statement (EIS). Consistent with this regulation, AZRU is now evaluating bicycle access on the Old Spanish Trail. Bicycle use is not permitted on paved or unpaved trails in and around the West Ruins archeological site north of the visitor center.

ISSUES CARRIED FORWARD FOR DETAILED ANALYSIS

The following issues and resource topics associated with the EA were identified during internal park scoping. Issues and resource topics dismissed from detailed analysis are found in Appendix A.

Visitor Use and Experience

On average, AZRU has experienced approximately 52,000 annual visitors over the last decade, and approximately 10 percent of Old Spanish Trail users engage in bicycle use. The continuation of bicycle use would provide a positive visitor experience by connecting AZRU with the city of Aztec, and would expand visitor access, and opportunities to experience the ancestral Puebloan resources of AZRU. Discontinuing bicycle use would eliminate multi-modal access via the Old Spanish Trail which would increase commuting time for those travelling on bicycle between the AZRU visitor center and the town of Aztec; and requiring cyclists to drive on roads with vehicles which creates safety hazards.

CHAPTER 2: ALTERNATIVES

ALTERNATIVE 1, NO ACTION/PROPOSED ACTION (NPS PREFERRED ALTERNATIVE)

Under alternative 1, the Old Spanish Trail would continue to be open for bicycle use from the AZRU visitor center to the pedestrian bridge outside the park that connects to the city of Aztec. Where appropriate, to prevent or minimize pedestrian-bicyclist conflicts along the trail, AZRU would install signs and post information on their website about the Old Spanish Trail and trail etiquette for a shared use path. Pedestrian access would continue to be allowed. The Old Spanish Trail was constructed with asphalt so that the trail surface and underlying soil conditions are suitable for accommodating bicycle use. No bike-specific maintenance, rehabilitation or armoring would be necessary to upgrade the trail to sustainable conditions. Current maintenance costs are as follows:

- Cyclic pavement of the Old Spanish Trail: \$12,500 every 10 years
- Crack sealing: \$850 every other year
- Vegetation maintenance: Estimated \$760 every year, includes invasive species and weed removal along trail.
- Signs: \$75.00 every 3 years

In order to prevent resource and vegetation damage near the Old Spanish Trail, both sides of the trail are lined with an 18-inch-wide buffer of river cobble to prevent visitors from walking or biking off the trail.

ALTERNATIVE 2

Under alternative 2, the Old Spanish Trail would be designated for pedestrian use only, with no bicycle use allowed.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

AFFECTED ENVIRONMENT

This chapter considers issues that would be affected by the alternatives and for which a detailed analysis of impacts to that resource is necessary. The current condition of the resource is described in the affected environment, followed by an analysis of impacts.

Visitor Use and Experience

AZRU averages approximately 52,000 visitors per year, and peak visitation occurs from mid-May through September (NPS 2021c). Because of AZRU's small size, easy access, and convenient location, the facilities at the monument are for day use only and many visitors access AZRU from the city of Aztec by walking or biking across the pedestrian bridge to the Old Spanish Trail which leads to the visitor center. The average length of stay at AZRU is less than two hours (Lee, M. and G. Teich 2004). From October 2019 through July 2021, AZRU documented 16,000 total visitor counts on the Old Spanish Trail, averaging 736 counts per month, or around 24 counts per day. Bicycle use accounts for 10 percent of all visitor counts on the trail. Bicycle use represent approximately .03 percent of total visitation to AZRU (Personal communication Emily Helton, Lead Interpretive Ranger 2021).

For bicyclists in the vicinity of AZRU, the Old Spanish Trail represents an important connecting trail from the city of Aztec to the AZRU visitor center and neighboring communities, encouraging expanded bicycle commuting. Park visitors, park employees and city residents value the experience of commuting by bicycle and find this to be a safer alternative than riding on adjacent roads.

Similar to traditional bicycles, e-bikes are used on the Old Spanish Trail. E-bikes increase bicycle access to and within AZRU and make bicycle travel easier and more efficient because they allow bicyclists to travel farther with less effort. E-bikes expand the option of bicycling to more people by providing a new option for those who want to ride a bicycle but might not otherwise do so because of physical fitness, age, or convenience (Gordon et al 2012, Leger et al 2019, MacArthur et al 2020).

Based on existing research, there are not many differences between the use of e-bikes and traditional bicycles (NPS 2021a), and NPS observations on the Old Spanish Trail support the research findings (NPS2021b). Based on a review of available studies, use of e-bikes may increase the risks of mounting and dismounting crashes due to the weight of the bicycle from the motor assist technology, intersection-related or speed-related crashes, and skidding while navigating corners from power transfer to the front wheels on some bicycles (NPS 2021a). AZRU has not documented any cases of these incidents occurring and no documented cases of visitor conflict between bicycle users, e-bike users, or pedestrians has been documented.

According to the Bureau of Land Management, the noise associated with e-bikes includes the sound of their tires rolling over a road or trail and, at most, a low, steady whine that may be emitted when the electric motor is engaged. While reactions to sound are different for every visitor, the impacts on the acoustic environment and other recreational uses caused by e-bikes are similar to those caused by traditional, non-motorized bicycles and substantially less than those resulting from typical motor vehicle use (BLM 2020). AZRU has not documented any complaints from visitors regarding the noise from e-

bikes or bicycles.

AZRU plans for cyclic maintenance of the Old Spanish Trail which includes repaving the trail every 10 years. When this occurs, the trail would be temporarily (lasting the length of repaving) closed to pedestrian and bicycle use. Other cyclic maintenance includes vegetation maintenance comprising hand and mechanical removal of vegetation along the trail, which typically does not induce closing the trail to pedestrian and bicycle use. No other trends or foreseeable actions have been identified that would affect visitor use and experience on the Old Spanish Trail.

ENVIRONMENTAL CONSEQUENCES

Impacts of Alternative 1

Under this alternative, AZRU would continue to allow bicycle, including e-bike, use on the Old Spanish Trail and provide park visitors, park employees and city residents the ability to easily move between the AZRU visitor center and the city of Aztec. Pedestrian use on the Old Spanish Trail is likely to continue following trends discussed in the affected environment. This represents a continuation of the existing visitor use and experience provided by AZRU on the Old Spanish Trail and uses and experiences described in the affected environment would continue.

Park visitors, park employees and city residents who enjoy biking would continue to have a positive experience on the Old Spanish Trail. Park visitors, park employees and city residents who dislike bicycle use on the Old Spanish Trail and prefer pedestrian access only may continue to have a negative experience on the trail. Conflicts between these two user groups on the trail are not anticipated because the number of people engaging in bicycling is extremely low (.03% of total AZRU visitation) and conflicts have not been documented since the paving of the Old Spanish Trail.

It is anticipated there would be a slight increase in the number of bicyclists in future years as visitation numbers grow and development continues around AZRU and the city of Aztec. This may impact pedestrian visitors who are sharing the trail with bicyclists. Bicycle use is not permitted on paved or unpaved trails in and around the West Ruins archeological site north of the visitor center, therefore, bicycle use and associated effects would continue to be confined to the Old Spanish Trail and roads and parking areas within AZRU.

Impacts of Alternative 2

Discontinuing bicycle use on the Old Spanish Trail would remove a visitor experience that is valued by a segment of park visitors, park employees and city residents. Visitors with bicycles would need to dismount at the visitor center or at the pedestrian bridge and walk their bicycle the length of the Old Spanish Trail, 1226 feet. Alternatively, visitors could use existing roadways such as New Mexico Highway 516, RD 2900, Ruins Road, NE Aztec Blvd, or Chaco Street to commute between AZRU and the city of Aztec. Using existing roadways would add approximately 20 minutes additional time to commute and could pose safety issues while riding on narrow road shoulders or with traffic. Converting the Old Spanish Trail to pedestrian use only would impact the 10 percent of users that currently engage in biking activity at AZRU and the 0.03 % of all visitors to AZRU. It is possible that pedestrian visitors who are unhappy with the shared use of the Old Spanish Trail would see a positive change to their experience at AZRU.

CHAPTER 4: CONSULTATION AND COORDINATION

The National Park Service (NPS) must consult, coordinate, and cooperate with other federal, state, local, and tribal governments and other bureaus and federal agencies whenever possible concerning actions and environmental impacts within the jurisdictions of, or of interest to those entities (DOI NEPA regulations, 43 CFR, section 46.155).

Section 106 of the National Historic Preservation Act (NHPA)

New Mexico Historic Preservation Office

Apache Tribe of Oklahoma; Fort McDowell Yavapai Tribal Council; Fort Sill Apache Tribe of Oklahoma; Hopi Tribe of Arizona; Jicarilla Apache Nation; Kiowa Indian Tribe of Oklahoma; Navajo Nation; Pueblo of Acoma; Pueblo of Cochiti; Pueblo of Isleta; Pueblo of Jemez; Pueblo of Kewa; Pueblo of Laguna; Pueblo of Nambe; Pueblo of Ohkay Owingeh; Pueblo of Picuris; Pueblo of Pojoaque; Pueblo of San Felipe; Pueblo of San Ildefonso; Pueblo of Sandia; Pueblo of Santa Ana; Pueblo of Santa Clara; Pueblo of Taos; Pueblo of Tesuque; Pueblo of Zia; Pueblo of Zuni; Southern Ute Tribe; Ute Mountain Ute Tribe; White Mountain Apache Tribe of the Fort Apache Reservation; Yavapai-Apache Nation of the Camp Verde Indian Reservation; Ysleta del Sur Pueblo of Texas

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APPENDIX A

ISSUES AND IMPACT TOPICS CONSIDERED BUT DISMISSED

Soil Compaction

The Old Spanish Trail is a shared use bicycle and pedestrian pathway within AZRU that was originally constructed in 2014 and paved with asphalt in 2016. The Old Spanish Trail was built so that the trail surface and underlying soil conditions are suitable for accommodating bicycle use. Additionally, off-trail soil compaction would be minimal due to the 18” wide river cobble buffer that help keep bicyclists from traveling off the Old Spanish Trail pathway. Because there would be no impacts to soil compaction from the alternatives presented in the EA, this issue was dismissed from detailed analysis.

Cultural Resources- Old Spanish National Historic Trail

The United States Congress added the Old Spanish National Historic Trail to the National Trails System on December 4, 2002. The legislation authorizing the Old Spanish National Historic Trail identified four major routes (Armijo Route, Northern Route, North Branch, and Mojave Road) that cover approximately 2,850 miles of trail, extending from Santa Fe and Albuquerque, New Mexico, to Los Angeles, California. The designation of the trail commemorates the commercial trading activities between New Mexico and California that began in 1829 and ended around 1848. Local New Mexican merchandise carried in mule trains as well as livestock and other animals traveled across extremely rugged terrain for trade between New Mexico and California. These trade routes, as well as the sites and segments along the trail, are associated with events that made significant contributions to broad patterns of our nation’s history. AZRU lies on the Armijo Route, which follows Antonio Armijo’s 1829 trade caravan route more or less directly west through New Mexico, with short segments in southern Colorado, through Arizona, with a few short segments in southern Utah, through southern Nevada, and then on to Los Angeles, California (DOI 2016).

The Old Spanish Trail Historic Trail Final Comprehensive Administrative Strategy (strategy), completed in 2016, discusses the importance of providing a wide range of recreational opportunities along trail segments and section 7(j) of the National Trails System Act states that potential trail uses may include bicycling among other activities (DOI 2017). As a result, bicycle use does not impact the historic value of the trail, and this topic was dismissed from detailed analysis.

In 2013, NHPA compliance for the USDOT NEPA process was completed for the Old Spanish National Historic Trail implementation at Aztec ruins National Monument. The State of New Mexico Historic Preservation Office, FHWA, and NMDOT concurred with the determination of a no adverse effect on any resources listed or eligible for listing on the NRHP. Additionally, the National Park Service requested that FHWA conduct additional consultation with the tribes, which was conducted in November 2012. Five responses were received. Of the five, three responses had no comment other than the project would not affect any objects or places of religious or cultural importance. Ohkay Owingeh was of the same opinion but added that the Pueblo would like to be contacted if there are any unanticipated discoveries. The Hopi considers Aztec Ruins National Monument a Traditional Cultural Property (TCP). They have requested that the prehistoric sites be avoided by project activities, and if so, then the project is unlikely to affect cultural resources significant to the Hopi Tribe.

Wildlife and Park Resources

The location of the Old Spanish Trail is in a previously disturbed front country area. This area has high levels of disturbance due to its proximity to a busy road and the AZRU visitor center and parking lot. Given the previously disturbed nature of the area, the narrow footprint of the trail (1226 ft long and 8 ft wide), the relatively small percentage of cyclists compared to other users/visitors, the mobility of wildlife species in the area, and available dispersal habitat surrounding the trail, the continued use of bicycles on the trail would not disturb wildlife beyond the current impacts from other uses.

Cycling, along with other recreational uses (such as hiking), has the potential for users to go off-trail or off-road and trample vegetation. The potential for impact is low given the relatively small number of cyclists compared to other users/visitors, and because of the 18" wide river cobble buffer that helps keep bicyclists from traveling off the Old Spanish Trail pathway. Therefore, the chance of vegetation trampling is unlikely, and in the rare case that a user rides off road or trail, individual plants may be lost. However, impacts at the plant community level would not occur.

No threatened, endangered, or sensitive species has been documented along the Old Spanish Trail at AZRU. Additionally, no critical habitat is in the project area. While the potential remains that an endangered plant or animal species, including migratory birds could be observed in the park, there is very little chance for these species to be directly on or around the trail. The trail crosses two heavily disturbed fields that are in early stages of revegetation, very limited vegetation or vertical structure exists that would encourage any plant or animal species to be on or around the trail.

For these reasons, wildlife and park resources were not carried forward for detailed analysis.

Natural, Scenic and Aesthetic Values

Bicycle use on the trail would not affect AZRU's natural, scenic or aesthetic values because this activity would occur on a paved trail in the front country, developed area of the park and directly adjacent to the existing road that leads visitors to the visitor center. The area is already subject to visual impacts and noise from RD 2900 and park operations. Given the relatively small number of bicyclists compared to other users/visitors, allowing bicycles would not substantially contribute to the existing impacts of human-caused sounds and sights in the area. For these reasons, natural, scenic and aesthetic values were not carried forward for detailed analysis because.

Visitor Use and Experience- Carrying Capacity

Visitor carrying capacity, or the type and level of visitor use that can be accommodated while sustaining desired resource conditions and visitor experiences in the park, was analyzed in the AZRU General Management Plan (2010) on pages 33 and 34 and Appendix C. Alternatives 1 and 2 are not expected to impact visitor carrying capacity as bicycle use accounts for around 10 percent of users on the Old Spanish Trail and does not contribute to visitor crowding in areas of AZRU. Because no change to visitor carrying capacity is expected under this plan, this issue was dismissed from detailed analysis.