

COUNTY OF SACRAMENTO
CALIFORNIA

For the Agenda of:
June 22, 2017

To: Recreation and Park Commission
From: Department of Regional Parks
Subject: Off Paved Trail Cycling Pilot Program
Supervisory
District: Serna
Contact: Mikki McDaniel, Associate Planner

Overview:

On July 28, 2016 the Recreation and Parks Commission (Commission) conditionally approved the off-paved trail cycling pilot program described in the American River Parkway Plan for the Cal Expo and Woodlake land use areas of the American River Parkway. The conditional approval required a series of reports back and supplemental items, including an environmental monitoring plan. The report back on conditions 1-8 is being forwarded to the Commission for final approval of the pilot program.

Measures/Evaluations

The proposed action fits into the “Sustainable and Livable” County Strategic Objective and supports Regional Parks stated Performance Measure:

To provide safe, accessible, and clean recreational facilities for Park users (County of Sacramento residents, residents/visitors from nearby counties, and tourists).

Recommendation:

Find that the report back meets the conditions of approval #1-8 and approve the pilot program.

Fiscal Impact:

None

BACKGROUND

On July 28, 2016 the Commission conditionally approved the off-paved trail cycling pilot program described in the American River Parkway Plan for the Cal Expo and Woodlake land use areas of the American River Parkway. The conditional approval required a series of reports back and supplemental items requested by the Commission:

- 1) Includes completed, comprehensive monitoring program including benchmarks.
- 2) Complete funding before program implementation (as per staff recommendation).
- 3) Monitoring program includes frequent reporting to public and Commission.
- 4) During initial time there will be enhanced Ranger patrol on trails.

- 5) Request Parks staff to re-visit analysis of areas with mixed use; include case study research of other areas of mixed use trails.
- 6) Time is of the essence.
- 7) Further refinement of what is being piloted.
- 8) Monitoring program to include explicit conditions of program continuance or cessation.

In order to meet the conditions set forth by the Commission the Department prepared materials required by the Commission for program implementation. Supplemental items addressing conditions 1-8 are in the discussion below. The environmental monitoring plan in Attachment 1 directly addresses conditions 1, 3, and 8. If the Department meets the conditions outlined and the program is approved at the June meeting of the Commission, the pilot program will begin in fall 2017.

DISCUSSION

- 1) Includes completed, comprehensive monitoring program including benchmarks.

The Department has developed a program for environmental and operational monitoring as part of one of the Commission’s conditions of pilot program approval.

The Department entered into an agreement with Environmental Science Associates (ESA) to prepare and environmental monitoring plan and to conduct monitoring. This Final Environmental Monitoring Plan is included as Attachment 1. Table 1 below is the Operational Monitoring Plan, as was included in the Final Off-Paved Trail Cycling Implementation Plan presented to the Recreation and Park Commission in July 2016. The operational plan has been revised to specify method of trail counts and other measures of evaluation.

Table 1: Operational Monitoring Plan

Desired Outcome	Measure of Evaluation	Data Collection
Increased number of recreational users in the pilot areas	<ul style="list-style-type: none"> • Number of off paved trail cyclists in pilot area 	<ul style="list-style-type: none"> • Trail counts • Number of group permits • User surveys
Less off trail cycling in the Parkway outside of pilot areas	<ul style="list-style-type: none"> • Number of reports from the public • Number of citations by rangers 	<ul style="list-style-type: none"> • Regional Parks on-line “Oak Leaf” • Sacramento County 311 Connect • Ranger Mobile 311
No change or decrease in complaints of off-trail cycling in pilot areas	<ul style="list-style-type: none"> • Number of reports from the public • Number of citations by rangers 	<ul style="list-style-type: none"> • Regional Parks on-line “Oak Leaf” • Sacramento County 311 Connect

		<ul style="list-style-type: none"> • Ranger Mobile 311 • Trail cameras
Increased community support for the pilot areas	Number of participants at volunteer events	<ul style="list-style-type: none"> • Registration sign-in sheet • User surveys
Effort to maintain restrooms, trash cans, litter pick-up, and maintenance to address vandalism remains at baseline over the pilot areas	Hours of work	Account system data retrieval by WBS code
Effort to block off informal trails and features remains at baseline	<ul style="list-style-type: none"> • Number of unauthorized trails identified • Number of unauthorized trails blocked off 	<ul style="list-style-type: none"> • Regional Parks on-line “Oak Leaf” • Sacramento County 311 Connect • Ranger Mobile 311
Level of department resources were sufficient for the operation of the pilot	Hours of work	<ul style="list-style-type: none"> • Account system data retrieval by WBS code for Maintenance • CAD code for Rangers
No change or decrease in user conflict (between equestrians, pedestrians, and cyclists)	<ul style="list-style-type: none"> • Number of reports from the public 	<ul style="list-style-type: none"> • Regional Parks on-line “Oak Leaf” • Sacramento County 311 Connect • Ranger Mobile 311 • User surveys

A baseline operational study will be undertaken in summer 2017 using existing data sources. The Department’s existing databases include Regional Parks online “Oak Leaf” reporting system, Sacramento County 311 Connect, and Ranger Mobile 311. Operational monitoring will occur twice a year during pilot years, in May and October, using all methods of data collection with the exception of user surveys. User surveys will occur once during or near the conclusion of the pilot.

For the trail user count, the Parkway Manager will choose a peak two-hour period for study based on local conditions and guidelines from the National Bike and Pedestrian Documentation Project (undated), such as Saturday, 9-11 a.m. Counts will be taken during the months of May and October during pilot years and will reflect the expected peak two-hour period in 15 minute intervals. The two-hour count will then be used to extrapolate daily volumes. Approximately five monitoring locations will be needed. The Department will pay a consultant to conduct counts. Counters would perform screenline counts in order to identify trends in volume. Counts are taken during the same day and time period

at each monitoring location. The National Bike and Pedestrian Documentation Project provides adjustment factors for summer versus winter months that can be used to adjust counts to extrapolate annual volumes.

- 2) Complete funding before program implementation (as per staff recommendation).

In Fiscal year 2015-2016, the department received a \$200,000 allocation for projects in the Cal Expo and Woodlake land use areas to improve and enhance recreation opportunities to the lower portions of the Parkway. The Department used \$61,295 to fund grants for recreation and educational programs. The remaining funds have been re-budgeted in Fiscal Year 2017-2018 for the Off-Paved Trail Cycling Program.

- 3) Monitoring program includes frequent reporting to public and Commission.

If the pilot program is approved in June, the environmental and operational monitoring programs will produce the following reports to be made available to the public and Commission as follows:

Monitoring Schedule and Reporting

2017: Summer: baseline monitoring and report; Fall = one memorandum

2018: Spring and Fall monitoring = one memorandum

2019: Spring and Fall monitoring = one memorandum

2020: Spring = one memorandum and final report

- 4) During initial time there will be enhanced Ranger patrol on trails.

Currently, the Department has five rangers (i.e. four rangers and one supervising ranger) and four maintenance staff assigned to the illegal camping enforcement team who routinely patrol the Discovery Park, Woodlake and Cal Expo land use areas for coverage Tuesday through Friday. In addition to the rangers on the camps team, two rangers are assigned to the Woodlake and Cal Expo as part of their stewardship areas. Their duties will specifically include enforcement for the Off-Paved Trail Cycling Pilot Program.

Additional Park Ranger Assistant hours were approved by the Board in the Department's Fiscal Year 2017-18 growth requests, as part of the Visitor Services team. Part of the duties for Park Ranger Assistant will be to provide a presence in the pilot areas every afternoon driving the maintenance roads. Although not assigned specifically to the pilot program, the Park Ranger Assistant staff would be additional staff in the pilot areas on a daily basis that would provide information to visitors and be of assistance in emergencies.

- 5) Request Parks staff to re-visit analysis of areas with mixed use; include case study research of other areas of mixed use trails.

For background, the following information was included under the Impacts to Other Users analysis in the Final Implementation Plan:

Impacts to Other Users

Activity	Potential Impact	Mitigation Steps
<p>Trails Recreation</p>	<p><i>Pedestrians</i> Minimal impact. Pedestrian trails prohibit use by cyclists and equestrians. The pilot will maintain this prohibition.</p> <p><i>Equestrians</i> According to ARP 5.14 on page 23, “Horseback riding shall occur only on designated equestrian/hiking trails and signage should specify that horses have the right of way. These trails should be kept separate from bicycle trails in order to avoid conflicts. Where practical, new trails should be combined with fire breaks.”</p> <p>The impact to equestrians is expected to be minimal. For the majority of the proposed off-paved trail system, the trails do not coincide with equestrian trails. However, there is a one mile section, of proposed off-paved trail in Woodlake where the equestrian trail coincides with the maintenance road from the intersection of NC1 and NC2 at the western edge of Woodlake near the rail road tracks east to the restroom at Mile 3.5. This trail section is approximately 15-20 feet wide, sight lines are very good, and is relatively straight. To put this width into perspective, the recommended width for a local street is more narrow, at 9 to 12 feet (A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials) with design speed ranging from 20 to 30 mph, much faster than average non-motorized traffic.</p> <p>A second shared use segment of approximately 640 feet is found at the southwestern corner of Cal Expo from the intersection of an existing maintenance road and equestrian trail west through a pedestrian bridge under railroad tracks and around a small trail bend to where the equestrian trail diverges from the maintenance road. There is adequate stopping sight distance, 100 feet of continuous length of path ahead, visible to the user, for the 375 feet section from the maintenance road and equestrian trail west to</p>	<p>Where equestrians, pedestrians and cyclists share the proposed trail, signage shall be posted on how to yield. Trail information and rules, including courtesy rules, will be posted at all public access points. The courtesy rules specify that horses have the right of way per the Parkway Plan, Horseback Riding section on page 23.</p>

	<p>the railroad. Specifically, there is 100 feet of continuous length of path ahead, visible to the user, given an assumed 15 mph design speed (Highway Design Manual, Chapter 200-1, Table 201.1). Around the trail bend from the intersection of the maintenance road and fire road/equestrian trail to Woodlake Slough, sight distance is limited to 20 to 40 feet for a 100 foot segment. Signs will be placed indicating users to slow down as they travel through this segment. From the end of the trail bend at Woodlake Slough west to the diverging point between the equestrian trail and fire road, there is adequate sight distance.</p> <p>While horseback riding is sanctioned only on designated equestrian/hiking trails according to ARPP 5.14, in practice, a few trail segments in different areas of the Parkway are sanctioned as multi-use due to the limitations at the particular location. For example, at William Pond river crossing and at Rossmoor Bar bend, equestrians are allowed on the bicycle trail because there is no other way to provide continuous trail for horses. Some flexibility in implementing policies is needed in order to provide a continuous recreation experience for all users.</p>	
<p>Nature Appreciation</p>	<p>Increased use of the areas could impact nature appreciation by increased visibility and noise.</p>	<p>The pilot will be limited to existing maintenance and firebreak roads and will exclude these facilities that lie within the Nature Study Area land use designation.</p>

In the analysis of impacts to others for trails recreation, the following factors were considered:

- Trail width and height
- Stopping sight distance
- Management principles on mitigating user conflict on trails
- Local equestrian feedback

The trail corridor for equestrians should be 8 to 10 feet wide and 10 to 12 feet high (Tennessee Pathways; Rails-to-Trails Conservancy). The multi-use segments of the proposed off-paved trails meet trail width and height guidelines for equestrians.

The analysis in the Impacts to Others table above references the Caltrans Highway Design Manual which defines stopping sight distance as "... the minimum sight distance

for a given design speed to be provided on multilane highways and on 2-lane roads when passing sight distance is not economically obtainable. Stopping sight distance also is to be provided for *all users, including motorists and bicyclists*, at all elements of interchanges and intersections at grade, including private road connections (Highway Design Manual, Chapter 200, Sight Distance Standards).” For a design speed of 15 mph, stopping sight distance for all users is given as 100 feet. Specifically for equestrians, sight distance should also be at least 100 feet “and proper signage is needed to indicate which user has the right-of-way priority” (Rails-to-Trails Conservancy).

In developing the proposal for a pilot program, the Parkway Manager is following several management principles to minimize conflict on the multiple-use trail segments, including:

- Recognize conflict as goal interference
- Provide adequate trail opportunities
- Minimize number of contacts in problem areas, involve users as early as possible
- Promote trail etiquette
- Monitor progress
- Encourage positive interaction among different users (Federal Highway Administration)

On January 8, 2016, staff from the Department of Regional Parks met with staff from the American River Parkway Foundation, two representatives from the Parkway Equestrian Patrol, and a mountain biking advocate at Woodlake to review the site and discuss equestrian concerns. Equestrian stakeholders have continued to provide input on the pilot through the ARPAC workshop, letters, and phone calls. Concerns from the equestrian community, as well as all public comment, have been considered in the development of the pilot program.

UPDATE, JUNE 2017

The multiuse trail analysis in the Implementation Plan investigated issues related to user safety – design standards for sight distance and user conflict. For this report back, the multiuse areas were re-examined.

The areas of shared use between motor vehicles, cyclists, pedestrians, and equestrians in the pilot areas will be further limited to NC1B, NC2B, and ND3B as shown on the trails map in Attachment 1 – Final Environmental Monitoring Plan, Figure 2, Pilot Program Trails. Since the time that the program was conditionally approved, a section of multiuse trail in southwestern Cal Expo has been closed due to erosion. In winter 2017, rainstorms flooded out this section of maintenance road/equestrian trail (See Attachment 1, Figure 2, Pilot Program Trails, trail section marked “Closed for erosion 2017”). There will be a detour for equestrians also marked on the pilot program trail map. Pictures of shared use areas are included as Exhibits 1-7 below.



Exhibit 1 – NC2B from eastern end looking west, 15’-20’ wide, 640 feet long
(Department of Regional Parks, June 2017)



Exhibit 2 –NC2B western end, 17’ wide at intersection with NC1B and NC2
(Department of Regional Parks, March 2016)



Exhibit 3 – NC1B – East end 3,273 feet long (Department of Regional Parks, July 2016)



Exhibit 4 – ND3B –Aerial view with trail widths, 363 feet long (Google Maps, 2016)



Exhibit 5 – ND3B – intersection with ND4 – 17' wide
(Department of Regional Parks, July 2016)



Exhibit 6 – ND3B – Bridge – 10’ wide (Department of Regional Parks, June 2017)



Exhibit 7– Erosion Area – Closure – looking west from train trestle
(Department of Regional Parks, June 2017)

Much of the literature on trail monitoring is for narrow, non-motorized trails in a wilderness setting, not an urban landscape like the American River Parkway where one of the uses is by maintenance vehicles (ESA, 2017, 4-1; Leung and Marion, 1999; Pettebone, Newman and Theobald, 2009; Duffy, Basch, and Sharlow, 2012). Existing studies also varied widely from the pilot program in trail conditions, land use setting, trail rules, types of users, and study purpose. Due to the dearth of literature on trails similar to the pilot program, staff looked instead to literature on managing multiuse, single track trails where motor vehicles are excluded, for best practices.

The challenges and recommendations on managing multiuse trails are derived from the following sources:

- Narrow Natural Surface Trails, Managing Multiple Use – A Survey of San Francisco Bay Area Park and Open Space Management Agencies. East Bay Regional Park District, March 2011 - **15 open space agencies surveyed**
- Draft Trail Use Conflict Study, California State Parks Road and Trail Change-in-Use Evaluation Process. Alta Planning and Design, June 2012 – **80 literature sources and 34 agencies surveyed**
- Conflicts on Multiple-Use Trails: Synthesis of the Literature and State of the Practice. Federal Highway Administration and the National Recreational Trails Advisory Committee, undated
- Guide to Sustainable Mountain Trails – Trail Assessment, Planning & Design Sketchbook. National Park Service, 2007
- Phone interview with a Jim Michael, Park Administrator for the Granite Bay Trail, Folsom State Recreational Area, June 2017
- Safety Considerations for Multi-Use Trails. California Equestrian Trails and Lands Coalition, June 2005
- Managing Mountain Biking, IMBA’s Guide to Providing Great Riding. International Mountain Bicycling Association, 2007

Managers of multiuse trails face challenges of maintaining user safety, protecting natural resources, and providing high quality user experiences. Design that benefits one user can be an obstacle to another. (EBPRD, 2011; Jim Michael, Folsom State Recreation Area, phone interview, June 2017; FHWA, undated). Complaints about trail conflict amongst users is common, but little data about actual user conflicts are available and actual incidents between trail users are relatively rare (Alta Planning + Design, 2012; 80 literature sources reviewed; 34 agencies surveyed). Considerable time and effort is spent minimizing impacts to natural resources due to trail use (FHWA, undated). While there is a large body of research on natural resource impacts of outdoor recreation, assuming wilderness trails, evaluations of impacts cannot be generalized and “should be made on a site-specific or area-specific basis due to many interrelated factors affecting them” (Kuss, Graefe, and Vaske 1990 in FHWA, undated). Managers also face the challenge of providing high quality user experiences in the face of trail conflict and crowding, “a subjective judgement on the part of an individual that there are too many other people there” (FHWA, undated; Alta Planning + Design, 2012; IMBA, 2007; California Equestrian Trails and Lands Coalition, 2005; EBPRD, 2011).

The table below summarizes the recommendations on strategies to respond to these challenges:

Table 2: Summary of Recommendations on Managing Multi-Use Trails

Tool	Strategies
Design	<ul style="list-style-type: none"> • Moderate grades • Good sightlines • Trail width • Grade reversals • Speed Control Features • Sinuosity • Turn radius
Management	<ul style="list-style-type: none"> • Rules and Signage. Adopt enforceable rules, regarding staying on designated trails, right-of-way, warning when overtaking, speed limits, etc. • Enforcement. Establish enforcement strategies, including monitoring, warnings, and citations. • User Information. Provide information to users about rules, policies, and advice for trail user respect, right-of-way requirements, courtesy, routes, destinations, and conditions. • Data Tracking. Collect and track data on trail use conflict incidents and design or management response successes.
Outreach	<ul style="list-style-type: none"> • Education. Provide user-specific printed materials and web postings, and/or an active, focused public relations campaigns to educate users about trail use rules and appropriate behavior. • User Group Relations. To establish or improve constructive relationships with user groups, arrange and conduct general meetings with user groups about trail safety or conflict-related issues, or objectives, such as making improving and maintaining trails and making the trail experience more enjoyable. • Volunteer Programs. Organize, encourage, and /or support establishment of volunteer trail stewardship programs, such as ongoing trail patrol and/or maintenance assistance, specific projects, and help with outreach and education regarding conflict avoidance, safety, and courtesy. • Events. Organize, encourage, and/or support multi-user social, fun, trail construction, or maintenance events (e.g., Trail Clean-up Days).

6) Time is of the essence.

If approved, the pilot program will follow the tentative schedule below.

July 2017 – baseline monitoring
September 2017 – pilot open
October 2017 – first monitoring event

7) Further refinement of what is being piloted.

The pilot purpose and scope is described in Policy 5.17.1 of the Parkway Plan: “Off-pavement bicycle use may be further expanded in other areas of the Parkway *after a three-year trial period and evaluation*, subject to Parkway Manager discretion. Locally adopted area plans shall be updated to reflect permitted areas of use, *consistent with conditions 5.17 a-f.*” The pilot will look at off-paved trail use under conditions 5.17 a-f and “monitoring to assess impacts to both the environment and other users” (ARPP 2008, page 97).

In item 1, the environmental and operational indicators for the monitoring program are detailed. The process for evaluation of monitoring outputs and other data generated by the pilot is proposed below. The process and tool for evaluating a change in use is adapted from the California State Department of Parks and Recreation Trail Change in Use Process, which has undergone a statewide programmatic Environmental Impact Report. See evaluation tool in Attachment 2. The state process was developed for use in non-motorized change in use of trails and roads in a state park setting and excludes motorized vehicles. This adapted process intends to achieve the objectives to inform decision-making to include a diversity of resources and users; ensure that changes are considered in a transparent process; and establish a process for decision making with objective criteria for evaluating proposed changes to trails.

The Off-Paved Trail Cycling Pilot evaluation process follows:

1. Pilot approval from Recreation and Park Commission
2. Implement pilot monitoring program (see item 1)
3. Inventory of existing conditions by evaluation team: Department staff and consultants – note and record features and condition of the trail noting evaluation criteria
4. Monitor and report
5. Complete evaluation tool at conclusion using monitoring results from pilot
6. Team evaluates the proposed change in use for compatibility, feasibility, sustainability and safety
7. Recommendation made by team

Evaluation will consider the following information:

- existing conditions
- compatibility with the Parkway Plan land use designations and other trail uses
- trail circulation patterns
- trail safety
- trail sustainability
- impacts to natural and sensitive resources
- impacts to operational costs

Possible recommendations based on evaluation considerations include:

- Recommend initiation of Parkway Plan Amendment process to approve permanent use with design or management modifications in the pilot areas

- Recommend initiation of the Parkway Plan Amendment process to approve permanent use with no design or management modifications in the pilot areas
- Conclude pilot and put change in use proposal on hold

After the conclusion of the three year Off-Paved Trail Cycling Pilot Program, a team will be assembled to perform program evaluation. The team members will use the American River Parkway Trail Change In Use Evaluation Tool (Attachment 2) with the respect to data generated by the pilot program to assess results. Using baseline studies and a trail log, the team will validate the existing pre-pilot conditions, then project future conditions based on empirical data from the final monitoring program reports and user surveys. The team will then summarize their findings and make recommendations to the Recreation and Park Commission. For future Change in Use proposals for mountain biking elsewhere in the Parkway, after the evaluation of the Off-Paved Trail Cycling Pilot Program, the same evaluation tool can be used again based on a trail log for the proposed trail and with consideration to the post-pilot evaluation findings.

- 8) Monitoring program to include explicit conditions of program continuance or cessation.

The pilot is limited to a three year period per the Parkway Plan as reiterated in the environmental monitoring plan. However, if during the pilot program, the interim monitoring results or other reports are found to have an adverse impact on the Parkway and its users, the pilot can be suspended immediately at the Department's discretion. Issues of concerns such as user safety and environmental impacts have been outlined in the monitoring program. The conditions of opening an off-paved trail cycling program, in the pilot areas or elsewhere in the Parkway, after the completion of the pilot is governed by the American River Parkway Area Map Amendment process as described in Chapter 11 of the Parkway Plan.

MEASURES/EVALUATIONS

The proposed action fits into the "Sustainable and Livable" County Strategic Objective and supports Regional Parks stated Performance Measure:

To provide safe, accessible, and clean recreational facilities for Park users (County of Sacramento residents, residents/visitors from nearby counties, and tourists).

FINANCIAL ANALYSIS

There is no financial impact to implement this pilot program. Funding has been included in the Fiscal Year 2017-18 budget.

Respectfully submitted,

JEFFREY R. LEATHERMAN, Director
Department of Regional Parks

Attachment 1: Final Environmental Monitoring Plan

Attachment 2: Evaluation Tool

Works Cited

- Alta Planning + Design and National Bicycle and Pedestrian Documentation Project. (undated). *National Bicycle and Pedestrian Documentation Project, Conducting Counts*.
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National Park Service. (2007). *Guide to Sustainable Mountain Trails – Trail Assessment, Planning & Design Sketchbook*.

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