PORTLAND OFF-ROAD CYCLING MASTER PLAN

Task 3.3

Survey of Design, Planning and Management Best Practices for Off-Road Cycling Facilities

Appendix A

REVISED DRAFT 7/20/2016

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Appendix A: Off-Road Cycling Best Practices as Addressed in Existing Portland-area Plans

City of Portland Plans

Recreational Trails Strategy: A 20-Year Vision (2006)

https://www.portlandoregon.gov/parks/index.cfm?&a=120478

This plan sets a long-term vision for completing the City of Portland Regional Recreational Trail System (Portland Parks & Recreation (PP&R)). The plan outlines three types of trails: regional trails that "connect communities and significant natural features," community connectors, and local access trails. The plan does not specify which trails currently serve off-road cycling, and the plan generally focuses on shared use paths or on-road cycling trails.

Trail Design Guidelines for Portland's Park System (2009)

https://www.portlandoregon.gov/parks/38306?a=250105

The PP&R Trail Design Guidelines (2009) sets trail design standards to guide city staff in design and maintenance of trails within the City's parks system. The Parks 2020 Vision plan had previously identified the need for trail standards, particularly for different trail types and to implement consistent regional signage. As noted in the plan, the main goals for trail design are: safety, connectivity, context, and diversity of users (accessible trails use the United States Forest Service or USFS standards). The design guidelines note the need for some trails that separate different user groups. The design guidelines include a matrix with several different typologies, trail types, design features, and users. Three trail types are most relevant to off-road cycling (schematics included in the plan document):

- Trail Type G: Mountain Biking- One way or two way single track, 18'' wide for one-way single track, up to 4' wide. Notes design parameters, users, and materials (compacted soil/gravel to prevent erosion).
- Trail Type H: Cyclo Cross--The guidelines note that Gateway Green may be developed for a practice course, generally native soil/turf, 6'-12' typical width (20'-40' starting area)
- Trail Type J: Hiking and Mountain Biking—this trail type is described as more suitable for beginning/less experienced mountain bikers. Native soil/rock is the most common material. 4'-10' trail width is recommended with passing areas.

River View Natural Management Plan (2015)

https://www.portlandoregon.gov/parks/article/553737

The River View Natural Area is a 146-acre property (riparian forest) in SW Portland, located on the west side of Willamette River within the Westside Wildlife Corridor. A goal of the plan is to provide recreational access that is compatible with natural resources protection. The RVNMP takes an 'Ecological Management Program' approach, which sets 'ecological prescriptions' in order to prioritize site restoration efforts. The vision for the site includes "safe and sustainable trails" and recommends that trails be located within 200 feet from the edge of the property boundary. "On-trail recreation" is described as an appropriate use within the site. The Plan recommends that trails create loops, to decommission "demand trails" and to close trails seasonally to protect water quality. The development concept for the site includes a trail system guided by Best Management Practices, as well as recommended half street improvements. Half-street improvements (SW Palatine Hill Road) include shared lane markings. The planned trail system is envisioned as "mainly soft surface" trails meeting the 2009 Trail Design Guidelines. The plan describes that trail design is guided by several BMPs, designed to create trails that are sustainable from both a maintenance and environmental perspective. Key trail BMPs listed in the report include low-impact stream crossings, side hill trails, trail alignment, grade, maintenance, minimizing riparian corridor/wetlands impacts, trail safety, and signage. Refer to the plan for more detail.

The plan notes that existing trails are not to City standards, include "demand trails" and logging roads, and states that "demand trails" have impacted vegetation and stream health.

According to the plan, biking 'of any kind' is 'interim prohibited' on the site, pending the completion of the City Off-Road Cycling Master Plan.

Gateway Green Vision Plan

http://www.gatewaygreenpdx.org/assets/pdf/gateway-green-vision-plan-final-5-27-08.pdf

Gateway Green is a 35-acre parcel of vacant land at the intersection of I-84 and I-205, acquired by the City of Portland in 2014 from the Oregon Department of Transportation. The vision for the property is to develop it for conservation and off-road cycling. A site analysis was conducted in 2006 as a Portland State University master's in urban planning capstone project. This report noted that the property is accessible by TriMet light rail and the I-205 shared use path, and currently is a "main line" for stormwater runoff from I-205. The site analysis included a freeriding facility as a potential site element.

The 2008 Gateway Green Vision Plan notes existing makeshift bicycle jumps and trails, and also transient activity. The site is adjacent to Rocky Butte, although separated by I-205 currently. Bicycling is identified

as key activity for the site, specifically focusing on mountain biking, cyclo-cross, and free riding. This plan envisions the site developed for recreation, open space, and alternative energy innovation. Key goals include economic development, open space, recreation, and connectivity; environmental quality, and placemaking. The Gateway Green vision would add park space in East Portland, which would have both air quality and equity benefits. An initial (Phase 1) rendering was completed in 2014, which includes technical riding tracks, a multi-use path, single track trails, and a nature play area.

Forest Park Natural Resources Management Plan (1995)

https://www.portlandoregon.gov/bps/index.cfm?&a=103939

The Forest Park Natural Resource Management Plan (NRMP) was adopted by City Council in 1995. It guides land use decisions and park management through conservation, recreation and education goals that are the foundation for all actions in Forest Park. As stated in the NRMP, "Implicit in the plan's vision statement and more obvious in the goal statements is the adoption of preservation of natural systems as its top priority." (NRMP pages 97-98). The NRMP goals are:

Conservation Goals

1. Protect Forest Park's native plant and animal communities, its soil and its water resources while managing the ecosystem in order to grow a self-sustaining ancient forest for the enjoyment and benefit of future generations.
2. Design management and restoration efforts to:
    - Maintain and enhance regional biodiversity
    - Provide wildlife habitat and migration opportunities
    - Improve water quality and aquatic habitat
    - Repair damaged and fragmented natural systems

Recreational and Educational Goals

1. Protect and enhance the value of Forest Park as a regionally-significant recreational resource-a place that can accommodate recreational and educational use at appropriate seasons of the year without environmental damage.
2. Enhance the value of Forest Park as a regionally-significant educational resource-an urban laboratory for environmental research and resource enhancement and restoration.

Based on the NRMP recommendation, Forest Park is managed in three units – South, Central and North. These units also reflect a gradient of ecological health and habitat protection that increases from south to north. The one exception is Balch Creek in the South Unit that is of high ecological value. To correlate with the habitat protection gradient, the NRMP also set a recreation gradient that concentrates trails and users in the south unit and limits recreation use in the north unit. In addition to the ecological health gradient, the NRMP recommends the establishment of core preserves in which human use and intervention is limited to ecological management activities. Core preserves include locations of interior forest habitat, rare plant and animal communities, Balch and Miller Creek Watersheds, Newton Wetlands and Doane Lake.

Cycling use on Forest Park trails is allowed in all management units where there is sufficient sight distance for safety of other trail users. As shown in the Trail Summary on pages 76 -77, cycling is allowed under power/utility lines, roads and fire lanes. The plan states that construction of an additional trail is planned in the Central Unit (between Fire Lane 5 and Leif Erikson). This section has been constructed. There is a total of 25.86 miles of trails open to bikes, which would increase to 29.23 miles "when the cycling projects identified in the NRMP are completed".

The NRMP recommendations include:

- Additional bike trails in the South and Central units (between Firelane 1 and NW Germantown Road). The plan includes language on restricting use to that which is appropriate for management unit and season.
- Connect park trails to regional trails, and to plan future trail extensions with "least possible impact" to sensitive areas
- Encourage bicycle, pedestrian, and transit access to the park
- Development of other recreation sites to relieve pressure on Forest Park
- Estimation of recreational 'carrying capacity.' To that end, the Plan recommends completing a survey of current recreational use.

The NMRP also includes guidelines and standards specific to Forest Park for bicycle trails (NMRP page 173):

Guidelines:

- Allow cyclists on all roads and fire lanes with the following exceptions: FL 9 because of steepness; FL 8 because it is a short lane that connects directly to Wildwood Trail where bikes are not allowed; FL 5 because there is no good terminus at present *(note: open since link completed)*; FL 2 and FL 7 due to user conflicts.

Standards:

- Trail surface - hard packed dirt or gravel
- Width - minimum 2.4 meters (8 ft.)
- Clear trail of vegetation to width of 3.7 meters (12 ft.) and height of 3.4 meters (11 ft.)
- Signs - Install "no bike" signs on the pedestrian trails where bike and pedestrian trail cross.

Forest Park Single Track Advisory Committee (2010) Single Track Advisory Committee 2010

https://www.portlandoregon.gov/parks/index.cfm?&a=312553

The Forest Park Single Track Advisory Committee formed to explore options to enhance single track opportunities in Forest Park (without going through a Type III Environmental Review as required in the NRMP). Bikes currently have limited access to single track trails in the park, defining single track as "narrow trail that has a natural surface and tends to wind around obstacles."

Within the Committee's work, only changes to the South and Central Units were considered (per PP&R staff direction). The majority of the committee supported improvements to fire lanes, construction of single track trail in the South Unit, and improvements/construction of single track on utility corridors (loops and access from Highway 30 to Leif Erikson Rd). Management actions recommended by the committee included completing a comprehensive wildlife and vegetation study, completing a recreational user survey, funding for operations, maintenance, and enforcement.

According to the report, the committee did not reach consensus on the trail actions because a minority wanted management actions completed before trail actions would be considered to have a baseline on the ecology and wildlife in the park. The report notes that over 90 percent of mountain bikers wanted trail sharing and new mountain bike singletrack trails. Steep incline was noted as a concern in order for trails to be accessible to families and beginning cyclists as well as the need for contour trails. Construction of new trails could also include the opportunity to enhance vegetation.

In response to the recommendations presented by the Single Track Advisory Committee Report, Commissioner Fish wrote a letter which put forth the 'next series of longer term commitments' related to Forest Park. Recommended actions included starting a vegetation monitoring program, conducting outreach and education related to trail etiquette and safety, and seeking funding for wildlife study. The Commissioner concluded that Forest Park is not ready for expanded off-road bicycling access, and recommended improving one or two fire lanes. The Portland Fire Bureau voiced concerns about this in regards to safety. Fire lane improvements were later retracted as a viable option when the Fire Bureau determined that such improvements would interfere with emergency access. According to the letter, the City will proceed with further recommendations based on the outcome of these studies. The Commissioner also recommended to increase off-road cycling opportunities outside of Forest Park (Gateway Green, temporary skills parks, and Powell Butte).

Forest Park Desired Future Condition and Ecological Prescriptions (2011)

https://www.portlandoregon.gov/parks/index.cfm?&a=335638

The Forest Park Desired Future Condition relates to the desired condition for the vegetation community structure and ecological conditions for the next 25 years to set goals for restoration. The Desired Future Condition is stated as being complementary to the FPNRMP. Ecological goals for Forest Park include conditions related to air, water quality, the structural complexity of the forest, increasing biodiversity, and reduction of fire risk. The Ecological Prescriptions (EP) document outlines projects, action items, and timeline for each ecological goal. The EP document recommends developing "wildlife friendly design standards" as new infrastructure is built (including site selection, design, and construction). Additionally, the document suggests developing BMPs for roadside maintenance that minimize the spread of invasive species and minimizes wildlife disturbance.

Forest Park 2012 Recreation Survey (PP&R and Portland State University)

https://www.portlandoregon.gov/parks/index.cfm?&a=317545

Portland Parks and Recreation contracted with the Portland State University (PSU) Survey Research Lab to conduct a baseline recreation survey for Forest Park. PSU conducted intercept surveys over six days in three seasons; 2,277 park users completed the survey. This method was selected "because it is effective at capturing perceptions of park users as they occur in the park and allow for immediate reporting of experiences, attitudes, and behaviors before the effect of time has lessened reactions." (Recreation Survey, page 3.) The report recommends that the next survey be completed within ten years. The survey highlights include:

- Predominant Users: 25-54 years old, white, with slightly higher than average household incomes and substantially higher levels of education relative to the Portland metropolitan area population
- Use: Majority of respondents use the park at least once a month or more
- Location: Majority of users (68%) live in Multnomah County
- Access: Thurman Gate is the most popular access point
- Motivations: Exercise/Fitness (49%) and Enjoy Nature and Be Outdoors (28%)
- Most Popular Activities: Hiking/Walking (38%), Jogging/Running (25%), Walking the Dog (14%), Plant/Wildlife Viewing (10%), and Cycling (8%)
- Important Natural Area Features: trails, forest, native plants, and wildlife
- Recommended Actions: Increase mountain biking trails, add restrooms, improve maps and signage

Forest Park Wildlife Report (2012)

https://www.portlandoregon.gov/parks/index.cfm?&a=427357

Conducting a wildlife study was one of the recommendations of the Forest Park Single Track Advisory Committee Report. The Forest Park Wildlife Report identified known use, gaps in wildlife knowledge, threats to wildlife, and next steps. Threats to wildlife noted in the report included climate change, non-native invasive plants, insects, and other wildlife; utility corridor management, rogue trails/nocturnal recreation (nighttime cycling noted), air pollution, domestic cats and fire management. The report also notes that connections between wildlife and recreational users is currently poorly understood. Many of the wildlife species found in Forest Park are nocturnal supporting the need for recreational activities and park use to be completed at dusk.

Forest Park Project Objective Screening Tool (2014)

https://www.portlandoregon.gov/parks/index.cfm?&a=459045

In 2014, the City of Portland PP&R published a screening tool to be used for preliminary analysis of construction and capital projects with a total cost of at least $10,000 (not used for minor trail reroutes less than ¼ mile in length). This screening tool included three categories of evaluation criteria: Ecology (60 points), Wildfire Risk Reduction (5 points), and Recreation (35 points). The recreation criteria states that recreation will be managed in levels of intensity, with the highest levels of activity in the NRMP's

South Unit and the lowest levels in the North. The report cites earlier recommendations to "construct and maintain a sustainable, safe trail system" and recommends expanding "appropriate" facilities within limits of resource protection. Sub-criteria under recreation include NRMP and Environmental Review, Park Stewardship, User Experience, and Future Recreation Demands. Under Future Recreation Demands, "off street bicycle trails" is listed as the third priority after soft surface walking trails and nature and wildlife observation areas.

Metro Plans

North Tualatin Mountains Natural Area Project (ongoing, 2015 documents)

http://www.oregonmetro.gov/sites/default/files/North-Tualatin-Mountains-Access-Master-Plan-draft.pdf

The North Tualatin Mountains Natural Area is a property owned by Metro and located north of Forest Park. A planning process is currently underway to determine future uses of the site. Public involvement expressed strong interest in "ride to ride" opportunities as well as in favor of increased off-road cycling opportunities. However, some participants did not feel that off-road cycling was appropriate on the property. Generally, the public expressed a preference for trails that separate different user groups (or provide a mix of shared and separated trails), and preferred loop trails. Public involvement also recommended using best practices to accommodate drainage during trail design and to utilize old road networks where possible.

Based on draft recommendations presented in late 2015, Metro recommended developing two of four sites (1300 acres total) for public access (hiking and off-road cycling trails). Within these two sites, about five miles was recommended for off-road cycling only, four miles of shared use trails, while habitat restoration efforts are proposed to continue on the remainder of the property.

Green Trails: Guidelines for Environmentally Friendly Trails

http://library.oregonmetro.gov/files/greentrailsintro.pdf

This comprehensive manual addresses general principles for trail planning and design, minimizing impacts, and information about site-scale design and maintenance. In addition, being a Portland-specific document, it will serve as one of the most valuable resources on which to draw for planning, design, and management best practices.

Summary

Current best practices for planning, design, and management of off-road cycling facilities in the Portland area are included in the City of Portland Trail Design Guidelines (2009) and the Metro Off-Road Cycling Opportunity Inventory (2016). Other current practices include a series of planning documents and studies related to the management of Forest Park, as well as ongoing efforts to develop off-road cycling facilities or other trails on city/regional properties (i.e., Gateway Green, River View Natural Area, North Tualatin Mountains Natural Area). Generally, many park planning efforts have emphasized the 'ecological prescriptions' of habitat and wildlife restoration, while seeking compatible designs for current and future demand for recreation. In fact, natural area management requires staff to first manage for ecological integrity and then find passive recreation that is compatible with that priority. However, the City of Portland currently lacks a comprehensive planning, design, and management strategy for developing sites in order to expand opportunities for off-road cycling.

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