PORTLAND OFF-ROAD CYCLING MASTER PLAN

Project Advisory Committee Meeting #6

MEETING DATE: THURSDAY, JUNE 23, 2016
LOCATION: 1900 SW 4TH AVENUE, 7TH FLOOR
TIME: 4:00 – 6:00 P.M.

MEETING PURPOSE:
Wrap-up discussion on best practices and impacts: review sections on health and human safety and economics.
Discuss site suitability criteria/screening process.
Provide an update on needs assessment questionnaire and community outreach.
Discuss next steps

AGENDA

1.	(Info)	**Welcome and Overview of Agenda** *Adrienne DeDona, JLA Public Involvement*	**10 minutes**
2.	(Info)	**Impact Assessment & Best Practices: Focus on Health and Human Safety, Economics** *Lori Grant, Bureau of Planning and Sustainability*	**30 minutes**
3.	(Info/Discussion)	**Site Suitability/Screening Criteria** *Adrian Witte, Toole Design Group*	**50 minutes**
4.	(Info)	**Community Engagement Update** *Adrienne DeDona, JLA Public Involvement / Lori Grant, Bureau of Planning and Sustainability*	**10 minutes**
5.	(Info)	**Public Comment**	**10 minutes**
6.	(Info)	**Meeting Wrap up/Next Steps** *Adrienne DeDona, JLA Public Involvement/Adrian Witte, Toole Design Group*	**10 minutes**

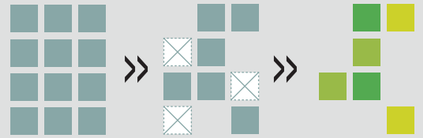
A PROCESS FOR IDENTIFYING HIGH POTENTIAL SITES

PORTLAND OFF-ROAD CYCLING MASTER PLAN

INVENTORY OF ALL CITY OF PORTLAND OWNED PROPERTIES

Explore opportunities for improvement, enhancement, expansion, and addition of off-road cycling opportunities in the City of Portland.

IDENTIFY SITES WITH THE MOST POTENTIAL BENEFITS



IDENTIFIED CANDIDATE PROPERTIES

1 FATAL FLAW SITE ANALYSIS

>> ANALYZE FOR: ACCESSIBILITY, SIZE, TOPOGRAPHY, ENVIRONMENTAL, AND DEVELOPMENT CRITERIA

NATURAL AREAS & OPEN SPACES

Properties that have significant natural resources that need to be protected or managed when allowing for recreation uses.

DEVELOPED PARKS & RECREATION AREAS

Developed parks and recreation areas where the primary management goal is recreation.

RIGHTS-OF-WAY & GREENWAYS

Rights-of-way and Greenways defined as more linear areas with a length-to-width ratio of at least 4:1, where the primary management goals are utilities, transportation, recreation, or aesthetics.

2 IDENTIFY LEVEL OF EXISTING ACCESS

SITES WITH EXISTING OR PROPOSED TRAILS

Including designated trails for off-road cycling, walking, or other uses.

UNDISTURBED SITES

3 IDENTIFY OFF-ROAD OPPORTUNITIES

>> EVALUATE OFF-ROAD OPPORTUNITIES BASED ON CRITERIA SPECIFIC TO EACH FACILITY TYPE

TRAILS
- > TRAIL WIDTH
- > LENGTH
- > ELEVATION CHANGE
- > TOPOGRAPHY

BIKE PARKS
- > SIZE
- > GRADE
- > ACCESS
- > AMENITIES

TRAILS
- > OPERATIONS REQUIREMENTS
- > ENVIRONMENTAL SENSITIVITY
- > ELEVATION CHANGE
- > TOPOGRAPHY

4 CATEGORIZE OPPORTUNITIES

>> EACH OPPORTUNITY WILL BE CATEGORIZED BY LEVEL OF INTENSITY AND LEVEL OF CONSTRAINT

LEVEL OF INTENSITY
- IMPROVEMENT
- ENHANCEMENT
- EXPANSION
- ADDITION

LEVEL OF CONSTRAINT
- LOW
- MEDIUM
- HIGH

Based on the City's Natural Resources Combined Rankings GIS map. Uses wetlands, streams, slope, soil infiltration, special habitat areas, and other variables to determine environmentally sensitive areas.

5

LIST OF CANDIDATE PROPERTIES & OFF-ROAD CYCLING OPPORTUNITIES

Bureau of Planning and Sustainability
Innovation. Collaboration. Practical Solutions.
City of Portland, Oregon
Charlie Hales, Mayor • Susan Anderson, Director

Toole Design Group
HILRIDE
Winter Brook

Task 4.1 Site Suitability Criteria Development and Screening of Candidate Sites

DRAFT 06-16-2016

Contents:

Overview of Candidate Site Screening Process

The objective of this memorandum is to establish the process for identifying candidate sites for off-road cycling amongst the list of City-owned properties such that these can be taken forward for more detailed analysis, including the social, environmental, and other analyses that need to occur in order to develop a city-wide off-road cycling network.

The site screening process will follow the steps identified in Figure 1 and described below. It will utilize staff, project team, and stakeholder knowledge as well as available GIS, plans, policies, and other information.

Step 1: Fatal Flaw Analysis

The comprehensive list of city-owned properties will be screened using a "fatal flaw" analysis to remove any sites that are already fully developed or not physically feasible for off-road cycling facilities due to accessibility constraints, size (i.e., the property is too small to accommodate any type of facility), topography (e.g., the property is too steep to develop facilities of any kind), significant presence of wetlands or other critical environmental criteria, or other constraints. These criteria are described in *Table 1*.

Table 1: Criteria for Fatal Flaws Analysis

Criteria	Description
Accessibility	Inaccessible sites will be removed from consideration. This includes properties on Ross Island, Toe Island, and others that currently have no public access to the site.
Size	Sites with less than 2,500 square feet of open space will be removed. This threshold is the minimum space required for a kids pump track (the smallest off-road facility type) in the Facility Typology. This will be based on a GIS analysis of all City-owned properties.
Topography	Sites with extremely steep topography – trails can traverse across the slope of even steep topography. However, sites with an average grade of more than 70% should be avoided because of difficulty to access the site and the potential for disturbance to destabilize the slope. This will be based on a GIS analysis of all City-owned properties.
Environmental	Sites with significant presence of water resources, wetlands, riparian areas or other significant environmental constraints, such as with high hazard (flood risk, steep slopes, poorly infiltrating soils). This will be based on a GIS analysis of all City-owned properties.

Criteria	Description
Development	Sites that are already fully developed and not being considered for reprogramming, e.g., gardens, cemeteries, etc. It is important that this analysis does not exclude sites that are currently programmed but that the City would consider reprogramming space from other uses (e.g., an under-utilized tennis court in an existing city park). There is no obvious GIS layer to describe this feature – as a result, this may be a qualitative analysis.

Properties will then be grouped into three categories:

- Natural Areas and Open Spaces: properties that have significant natural resources that need to be protected or managed when allowing for recreational uses.
- Developed Parks and Recreation Areas: properties that have generally already been disturbed or where the primary management goal is recreation (or other non-conservation goal).
- Rights-of-Way and Greenways: linear areas with a minimum length to width ratio of 4:1 where the primary management goals are utilities, transportation, recreation, or aesthetics.

Step 2: Level of Existing Access

Properties in each category will then be sorted by whether or not there is existing or proposed access – specifically, whether the property has existing or proposed trails, including those that are purpose-built for off-road cycling and those that are designated for hiking, walking, or other users. This includes informal trails.

The presence of existing or proposed trails is a way to assess the types of opportunity available including:

1. Purpose-built off-road cycling trails – opportunity to improve or expand these facilities.
2. Purpose-built hiking trails – opportunity to upgrade to current design standards (e.g., to reduce erosion) to allow for shared use or to add separate dedicated trails for off-road cycling.
3. Informal hiking trails – opportunity to close or consolidate trails and to upgrade to current design standards to allow for shared use
4. Areas without trail access – opportunity to add facilities dependent on further analysis considering environmental, access, and other site criteria (see Step 3).

For example, properties that have existing trails for off-road cycling such as Forest Park, Powell Butte, or Mt. Tabor could be considered for improvements, enhancements, or expansion to accommodate more off-road cycling or different off-road cycling experiences. Other properties, such as Pier Park, that have existing trails that are not currently designated for off-road cycling, could have opportunities for enhancement or expansion of these trails to become off-road cycling trails. Sites such as Riverview would also fall into this category. Although the property has no existing designated trails, its management plan calls for the development of a trail system with the possibility of constructing that trail system to accommodate off-road cycling.

Step 3: Identification of Off-Road Opportunities

Candidate properties will be evaluated for their potential for off-road cycling facilities – both trails and bike parks. Natural areas and open spaces and rights-of-way and greenways are likely to be most consistent with trail opportunities, whereas developed parks and recreation areas could be consistent with both trail and bike park opportunities.

The evaluation will consider variables such as size, slope, presence and form of existing trails, the need for other developed facilities and amenities, and other criteria to identify a comprehensive list of the types of off-road facilities (if any) that might be possible on the property. For example a site might be identified as having the potential for a number of different types of cross-country trails, gravity trails, and/or different types of bike parks. Multiple opportunities (or none) might exist on a single property. These criteria are described in *Tables 2 and 3*.

Table 2: Off-Road Cycling – Criteria for Consideration of Trail Opportunities

	Sites with Existing Trail Access	**Sites with no Existing Trail Access**
Cross-Country Trails		
Surface Type	Natural surface trails	n/a
	Criteria **Existing Trail Width**	**Criteria** **Operations Requirements, Environmental Sensitivity**
Wide Trails / Service Roads	>10’	Maintenance and service access required, suitable for less sensitive locations.
Mid-Width Trails	6’-10’	Maintenance and service access required, suitable for less sensitive locations.
Narrow Trails	3’-6’	Maintenance and service access required, suitable for less sensitive locations.
Single track Trails	1’-3’	Hand built trail construction required, most suitable for more sensitive locations
Gravity Trails		
	Criteria **Minimum Length (miles), minimum elevation change (feet), topography**	**Criteria** **Minimum elevation change (feet), topography**
Downhill Trail	0.25, 100, mountainous/steep	100’, mountainous/steep
Flow Trail	0.5, 100, rolling/moderate	100’, rolling/moderate
Freeride Trail	0.5, 100, rolling/moderate	100’, rolling/moderate
Jump Trail	0.1, 100, rolling/moderate	100’, rolling/moderate
Dual Slalom Trail	0.25, 100, rolling/moderate, width for side-by-side riding	100’, rolling/moderate, width for side-by-side riding

Table 3: Off-Road Cycling – Criteria for Consideration of Bike Park Opportunities

	Size (minimum available unprogrammed or reprogrammable space)	**Other Criteria**
Kids Facilities (pump track, skills trail)	2,500 SF	Level grade, close proximity to parking/park access, close proximity to restroom (not required, but ideal)
Linear Pump Track	10,000 SF	Level-moderate grade
Non-Linear Pump Track	10,000 SF	Level grade
Skills Park	10,000 SF	-
Skills Trail	8,000 SF	-
Observed Trails Area	2,500 SF	-
Speed Trails Course	12,000 SF	-
Jump Park	30,000 SF	-
Jump Trail	8,000 SF	-
BMX Track	25,000 SF	Level grade
Dual Slalom Track	30,000 SF	Minimum 25-feet elevation change
Terrain Park	30,000 SF	Minimum 25-feet elevation change

Step 4: Categorization of Opportunities

Secondary analyses will be conducted to categorize the type of opportunities on each property.

Opportunities will be categorized as one of the following types:

- Improvements: simple changes to an existing off-road cycling facility to make it more user-friendly, e.g., addition of signage.
- Enhancements: physical changes to an existing facility, e.g., upgrading the surface or features of an existing off-road cycling trail or a walking trail, to make it usable for off-road cyclists.
- Expansion: physical changes to the size of an existing facility, e.g., widening an existing trail or extending the length of the trail.
- Addition: creation of new off-road cycling facilities at a property that currently does not have facilities. This could include undeveloped natural areas or unprogrammed developed areas.

The level of constraint will be categorized for each property as high, medium, or low based on the City's Natural Resources Combined Rankings GIS map. This map combines wetlands, streams, slope, soil infiltration, special habitat areas, and other variables to determine environmentally sensitive areas of the City. These features should not exclude consideration of these properties for off-road cycling, but may introduce more stringent considerations and analysis in later analyses.

Step 5: List of Candidate Properties and Opportunities

The final output of the site suitability analysis will be a list of candidate properties and their suitability for each of the facility types. An example of the output is shown in *Table 4*.

Future Steps – Network Building

Future steps will use the list of potential off-road cycling opportunities to start building an off-road cycling network. The network will look at existing gaps and select sites to provide a geographic distribution that can deliver local, district, and city-wide off-road cycling experiences. A suggested break-up of "districts" is shown on *Figure 1* and a concept for creating district and city-wide experiences is shown on *Figure 2*.

The process will be iterative, with selected sites needing to go through a more detailed evaluation to look at things such as:

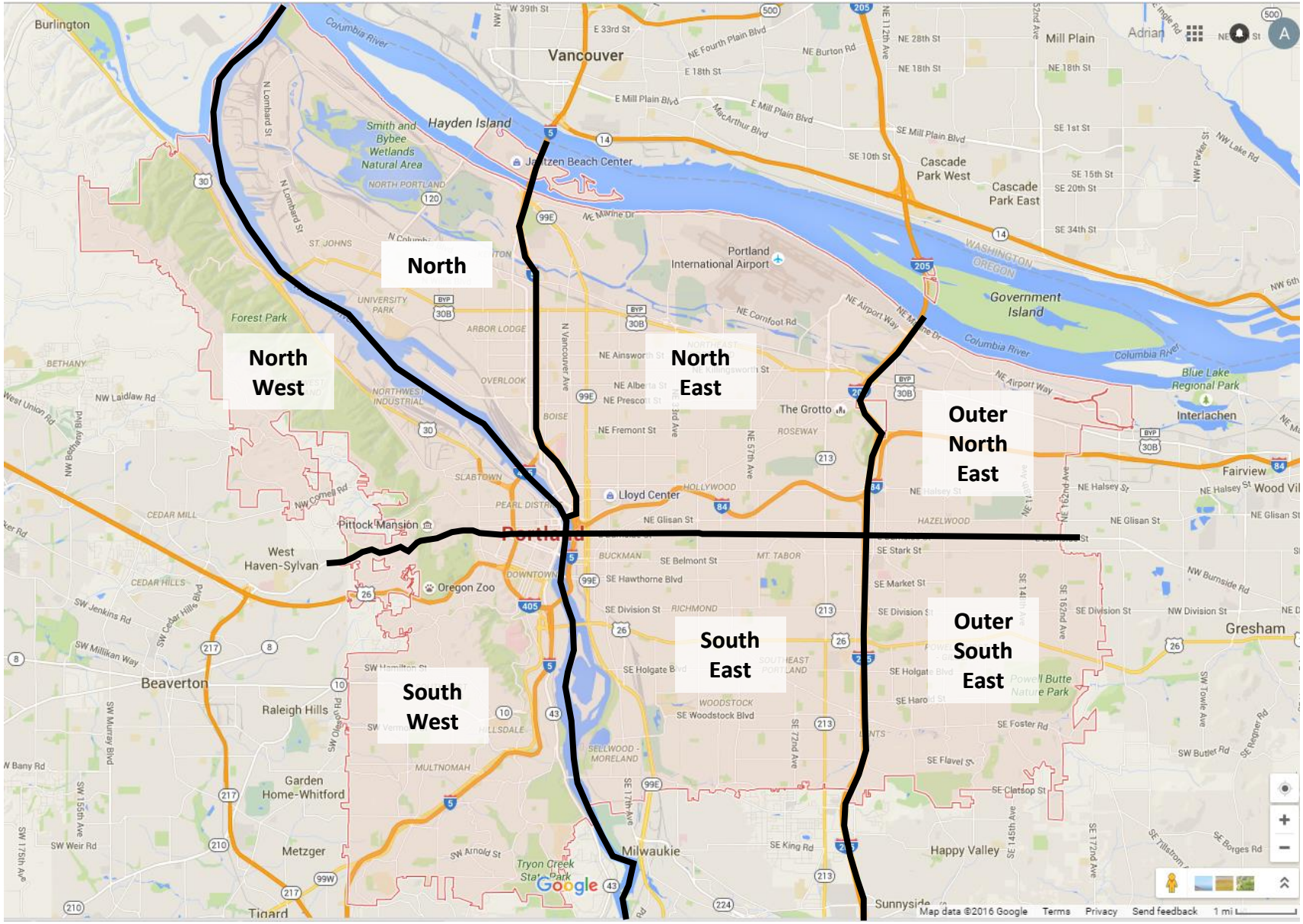
- Connectivity:
  - Ability for the property to connect into District and City-Wide Off-Road Loops
  - Ability for properties to be connected via the off-street or low-stress bikeway network
- Ease of implementation:
  - Improvement, enhancement and expansion opportunities may be easier to implement than where sites need to be added new to a property.
  - Review of policies, regulations, management plans, and other documents to determine approval type and process for a site
  - Presence of existing amenities such as parking, restrooms, shelters, etc.
- Range of experiences:
  - Properties that offer a variety of off-road cycling opportunities may be preferred over single-use sites to provide flexibility in building out the network.
- Physical characteristics / environmental sensitivity. More detailed analysis may be required to explore environmental conditions on the site. This could include:
  - Terrain (slope)
  - NRCS Soil Drainage Class
  - Water features / sensitivity
  - Stream protection
  - Vegetation coverage
  - Significant tree inventory
  - Habitat for protected species
- Operations:
  - Consideration of other park users
  - Supportive user group, e.g., to assist with trail maintenance
  - Risk Management Considerations (Security/Emergency Access)
  - Maintenance Operations Access

Table 4: Potential Off-Road Cycling Opportunities

		Wide Trails / Service Roads	Mid-Width Trails	Narrow Trails	Singletrack Trails	Cyclocross Venue	Downhill Trail	Flow Trail	Freeride Trail	Jump Trail	Dual Slalom Trail	Kids Pump Track	Linear Pump Track	Non-Linear Pump Track	Skills Park	Skills Trail	Observed Trails Area	Speed Trails Course	Jump Park	BMX Track	Terrain Park
Natural Areas & Open Spaces	Property 1	E	E	En	En	N/A	Ad	En	Ad	Ad	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Property 2	Ex	Ex	E	E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Property 3	N/A	N/A	N/A	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Developed Parks & Recreation Areas	Property 4	Ad	En	Im	Ad	N/A	Ad	Ad	Ad	Ad	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Ad
	Property 5	Ad	Ad	Ad	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Etc.																				
	Etc.																				
Rights-of-Way & Greenways	Property 4	N/A	Ad	Ad	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Property 5	N/A	N/A	N/A	N/A	N/A	N/A	Ad	N/A	N/A	N/A	N/A	Ad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Etc.																				

Legend

E: Facility currently exists
Im: Facility possible with improvement
En: Facility possible with enhancement
Ex: Facility possible with expansion
Ad: Facility needs to be added / created
N/A: Facility type not appropriate


North
North West
North East
Outer North East
South West
South East
Outer South East
Portland
Vancouver
Burlington
Beaverton
Gresham
Milwaukie
Tigard
Hayden Island
Government Island
Portland International Airport
Lloyd Center
Pittock Mansion
Oregon Zoo
West Haven-Sylvan
Raleigh Hills
Garden Home-Whitford
Metzger
Cascade Park West
Cascade Park East
Mill Plain
Fairview
Wood Village
Happy Valley
Sunnyside
Interlachen
Blue Lake Regional Park
Powell Butte Nature Park
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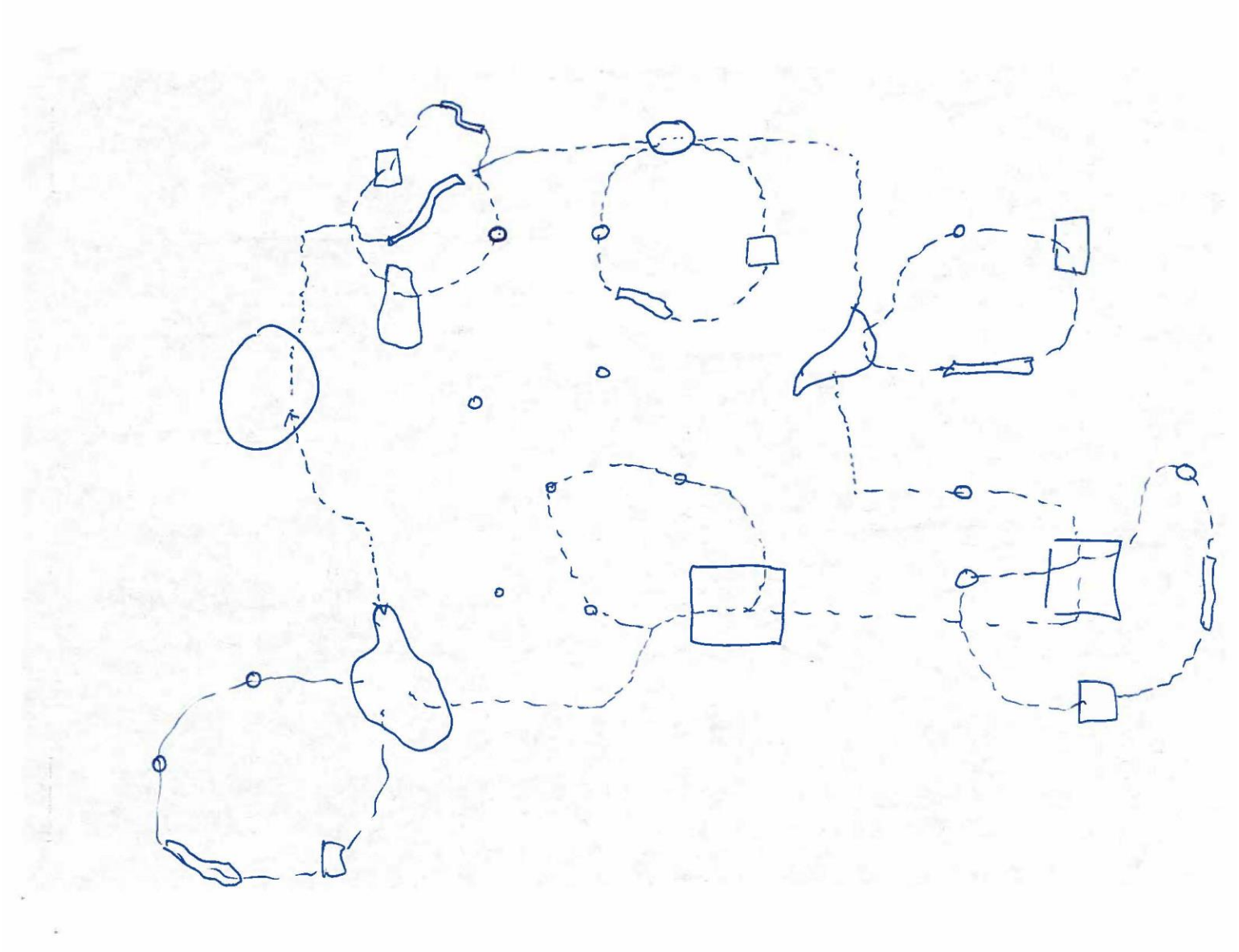

Concept of Regional and District Off-Road Cycling Loops.