Fort Collins Bike Park Feasibility Study



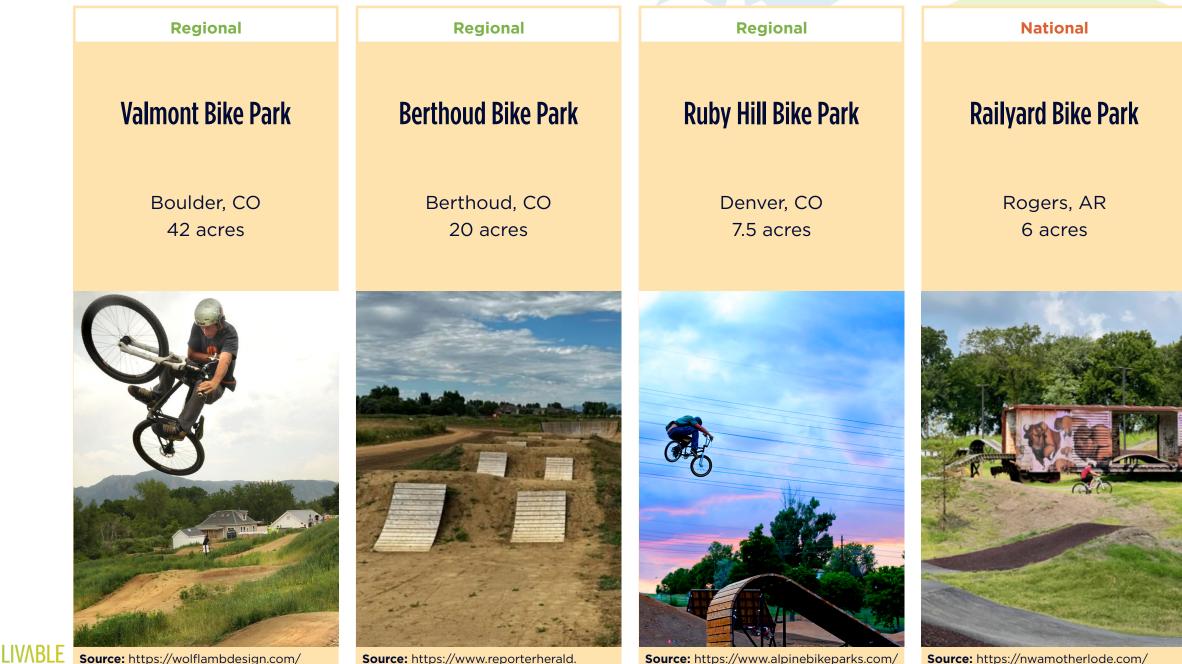
Bike Park Precedent and Research Report January 2025



The project team looked at five bike parks regionally and nationally. An analysis was conducted to understand unique qualities for each and to identify lessons that could be applied to the future Fort Collins Bike Park. The team researched parks at a variety of scales.

The project team conducted virtual interviews with the City of Rogers, the Boise Parks and Recreation Department, and the Town of Berthoud in early December 2024.

Note: See Bike Program Summary document for more information about the bike park zones, features, and amenities mentioned in this analysis document.



project/ruby-hill-bike-park

Source: https://nwamotherlode.com/ review-of-railyard-bike-park-in-rogers/

Source: https://wolflambdesign.com/
valmont-bike-parkSource
com/20

Source: https://www.reporterherald. com/2024/04/06/berthoud-bike-parkramps-up/



National

J.A. and Kathryn Albertson Family Foundation Bike Park

Boise, ID 42 acres



Source: https://totallyboise.com/localstories/articleid/173/the-new-boise-bikepark-is-open



Valmont Bike Park

Boulder. CO 42 acres

> Skill Levels: All skill levels Surfacing: Natural (dirt) **Elevation Change: 78' Parking:** Yes, approximately 137 spots Park Hours: 5 a.m. - 11 p.m. daily

Bike Park Zones

Dirt Jumps	\checkmark
Gravity/Slopestyle Jump Trails	\checkmark
Pump Tracks	\checkmark
Skills Trails	\checkmark
Progressive Drop Zone Trail	
Flow Trails and XC Trails	\checkmark
Dual Slalom	\checkmark

Additional Bike Features

- Permanent race event podium 4 total miles of bike trails 24 terrain park features •
- Cyclo-cross features

Land Use/Context

The Valmont Bike Park is located in the East Boulder neighborhood which is primarily industrial. There are some residential land uses to the west of the park. There is an adjacent dog park.

Amenities

- Restrooms (ADA accessible, year-round) •
- Drinking fountains (Seasonal)
- Bike racks
- Playground Picnic area
- •
- Shelter
- Historic renovation of the Platt Farm House and plaza*
- Safety and information signs
- Right of way improvements along two streets* Children play area and mini tot track •
- •
- Plantings:
- Irrigation
- Landscaping and erosion controls Over 250 trees planted
- 340 Shrubs and native grasses

* Amenities that are adjacent to the park and not directly dedicated to the bike park

Access

Trail Access:

- There is a bike lane/shoulder along Valmont Road for an east/west bike connection to the park. There are several off-street multi-use paths that enhance connections to the park including the Goose Creek Path, the Boulder Creek Path, and the Foothills Parkway Path.

Public Transit:

The closest bus route includes a 1.1 mile walk to the park from the bus stop.

Adjacent Streets:

The bike park is off of Valmont Road which is a busy arterial street.





Unique Attributes

- Largest municipal park in North America •
- Wide variety of additional amenities



Regional Example

Source: https://wolflambdesign.com/valmont-bike-park

Source: https://wolflambdesign.com/valmont-bike-park



Regional Example



Source: https://www.reporterherald.com/2024/04/06/ berthoud-bike-park-ramps-up/



Source: https://overlandmtb.org/wp-content/ uploads/2024/03/berthoud-bike-park.png

Unique Attributes

• Designed to provide regional draw

Berthoud Bike Park

Berthoud, CO 20 acres

> **Skill Levels:** All skill levels Surfacing: Natural (dirt) and paved (asphalt) Elevation Change: Minimal **Parking:** Yes, approximately 52 spots **Park Hours:** Dawn to dusk daily (weather allowing)

Bike Park Zones

Dirt Jumps	
Gravity/Slopestyle Jump Trails	\checkmark
Pump Tracks	\checkmark
Skills Trails	\checkmark
Progressive Drop Zone Trail	
Flow Trails and XC Trails	
Dual Slalom	\checkmark

Additional Bike Features

• Kids bicycle playground

Land Use/Context

The Berthoud Bike Park is adjacent to the Loveland Reservoir. There are residential neighborhoods to the south and east, and open spaces to the north and west. Highway 287 runs along the west side of the park.



Amenities

- Restrooms (ADA accessible, year-round)
- Portable toilets •
- Bike repair station •
- •
- Bike pump Water fountains •

Access

Trail Access:

- Not currently connected to a larger trail system but there are plans to provide trail connections in the future.
- **Public Transit:**

• There is not good access via public transit. **Adjacent Streets:**

Local streets connect to the bike park from the residential neighborhood to the south. Highway 287 runs adjacent to the park on the west side, which creates a significant barrier.



Ruby Hill Bike Park

Denver, CO 7.5 acres

> Skill Levels: All skill levels Surfacing: Natural (dirt) Elevation Change: Approximately 45' Parking: Yes, approximately 46 spots Park Hours: Sunrise to sunset daily

Bike Park Zones

Dirt Jumps	\checkmark
Gravity/Slopestyle Jump Trails	\checkmark
Pump Tracks	\checkmark
Skills Trails	\checkmark
Progressive Drop Zone Trail	
Flow Trails and XC Trails	\checkmark
Dual Slalom	

Additional Bike Features

• Additional 1.7 mile multi-use natural surface loop trail around perimeter of Ruby Hill Park

Land Use/Context

The land use to the west and northwest of the park is residential. There are mixed uses to the south and northeast of the park. The South Platte River and the South Platte River Drive create a significant barrier on the east side of the park. Amenities Note - These amenities are all included within the larger Ruby Hill Park. While accessible by bike park users they are not dedicated amenities for the bike park.

- Restrooms (about 300' away from the bike park near the baseball and softball fields)
- Baseball fields
- Softball fields
- Picnic areas
- Levitt Pavilion (which holds concerts)
- Playground
- Community gardens
- Shade structures

Access

Trail Access:

- Ruby Hill Park connects to the South Platte River Trail, a multi-use City of Denver trail.
- There is a bike lane along the north side of Ruby Hill Park and a buffered bike lane on the south side of the park.

Public Transit:

• There is not good access via public transit.

Adjacent Streets:

• The streets to the north and south of the park are arterial streets, both major roads designed for high-volume through traffic. South Platte River Drive is a collector street on the east side of the park, a low-to-moderate-capacity road. These bordering streets create high traffic stress routes to the park.





Unique Attributes

• The bike park is part of Ruby Hill Park, an 80acre park in Denver with several active and passive recreational amenities

Regional Example

Source: https://www.alpinebikeparks.com/project/ ruby-hill-bike-park

Source: https://americanrampcompany.com/projects/ ruby-hill-bike-park-denver-co/



National Example



Source: https://nwamotherlode.com/review-of-railyardbike-park-in-rogers



Source: https://americanrampcompany.com/projects/ the-railyard-bike-park-rogers-ar/

Unique Attributes

- The bike park utilizes recycled rail infrastructure, like a full-scale recycled rail
- car set on real railroad tracks. One of the few bike parks in the country that is lit up at night.
- Opened in 2016 as a natural surface park, paved the entire park in 2019 due to maintenance issues.

Railyard Bike Park

Rogers, AR 6 acres

> Skill Levels: All skill levels Surfacing: Paved (asphalt) Elevation Change: 26' **Parking:** Yes, approximately 79 spots Park Hours: 6 a.m. - 10 p.m. daily

Bike Park Zones

Dirt Jumps	\checkmark
Gravity/Slopestyle Jump Trails	\checkmark
Pump Tracks	\checkmark
Skills Trails	\checkmark
Progressive Drop Zone Trail	
Flow Trails and XC Trails	
Dual Slalom	

Note - The dirt jumps are paved with prefabricated ramps.

Additional Bike Features

- Kids area with a mini pump track and obstacle course
- Bike park lit up at night

Land Use/Context

The bike park is adjacent to a low density residential neighborhood with low-income disadvantaged populations. There are commercial and industrial land uses to the north that are inaccessible due to a ravine. The trail system connects to Lake Atalanta Park which is a 236acre park. There is an adjacent dog park.



Amenities

- Restrooms (seasonal)
- Doggie stations Drinking fountains •
- •
- Walking trail •
- Parking
- Picnic tables
- Two-story pavilion (upper level able to be rented for events)

Access

Trail Access: • The bike park connects to the Railyard Loop which is a 15-mile loop trail that connects downtown Rogers to the Razorback Greenway and Uptown Rogers. Public Transit:

• There is not good access via public transit. **Adjacent Streets:**

The bike park is on a local road.



J.A. and Kathryn Albertson Family Foundation Bike Park

Boise, ID 10 acres

> Skill Levels: All skill levels Surfacing: Paved (asphalt) and natural (dirt) **Elevation Change: 26**' Parking: Yes, approximately 18 spots. Overflow parking across the street **Park Hours:** Sunrise to sunset daily (weather permitting)

Bike Park Zones

Dirt Jumps	
Gravity/Slopestyle Jump Trails	\checkmark
Pump Tracks	>
Skills Trails	
Progressive Drop Zone Trail	
Flow Trails and XC Trails	\checkmark
Dual Slalom	

Additional Bike Features

• Designed to ensure that anyone using adaptive equipment can still ride throughout the entire park.

Land Use/Context

Mixed uses surround the bike park. There is a hospital, senior center, residential areas, university buildings, are preserved open spaces. There is an adjacent dog park.

Amenities Note - These amenities are shared by the bike park and the adjacent dog park.

- Shade structure
- Restrooms
- Drinking fountains
- Parking

Access

Trail Access:

- Access to the Ridge to Rivers Trail System. **Public Transit:**
- There is not good access via public transit.

Adjacent Streets:

The streets adjacent to the bike park are neighborhood residential streets, creating a low traffic stress way to get to the bike park.



Unique Attributes

- Land was originally part of the military reserve and served as an unspoken dog park
 - Initial push back from nearby residents. Project team promised to do a post-occupancy survey before starting to host any events on-site

National Example

Source: https://visitboise.com/meeting-place/j-a-andkathryn-albertsons-family-foundation-bike-park/



Bike Park Zones

The project team reviewed current bike park standards, best practices, and precedents to evaluate the type of bike features that are commonly desired at a community-scale bike park. The following list of features provides an overview of these features including key design considerations and sizing recommendations.

Dirt Jumps

These are comprised of rollers, tabletop jumps, gap jumps, step down and step up jumps, hip jumps, berms and 'rhythm' features. These are suited for both MTB and BMX.

Design Considerations:

- Separate Beginner, Intermediate and Advanced trails for progression
- Natural surface trails consist of custom clay/sand blend.
- Slope and Area Requirements
 - 1% 3% optimal grade with steeper start hill/run-in
 - 60,000 SF area (400lf x 150lf) is adequate
- Design should incorporate various line options to provide a multitude of riding experiences
- Option to incorporate prefabricated jump lips to reduce maintenance
- Pros and Cons depending on rider preference
- Natural surface construction allows for dirt jumps to evolve over time, providing new experiences for riders
 - Popular trails for volunteer maintenance engagement
- Characterized by tighter feature spacing, steeper lips and landings, requiring less slope/grade for speed generation

Maintenance Considerations:

- Higher maintenance requirements due to steeper trail treads and natural surface construction
 - Requires easy water access for maintenance
 - Option of incorporating soil stabilizer to reduce maintenance and increase longevity of finished tread surface

Adaptive Considerations:

Beginner and intermediate dirt jump lines can be designed/built to accommodate adaptive cyclists via sufficient trail tread width and "rollable" features (no "gap" jumps)



Source: https://www.redbull.com/se-en/matt-jonesrides-gorge-trails

Gravity/Slopestyle Jump Trails

These are comprised of rollers, drops, tabletop jumps, berms, and prefabricated 'slopestyle' riding features (wall rides, whale tails, ladder drops, etc). These are MTB oriented (less suited for BMX).

Design Considerations:

- Slope and Area Requirements
- 3%-6% optimal trail grade
- 100,000 SF area is adequate
- Beginner, Intermediate and Advanced trails for progression
- Natural surface trails consisting of custom clay/sand blend
 - Option to incorporate asphalt surfacing throughout, or on select features (berms, jump lips, etc) to reduce maintenance
 - Option to incorporate rock/paver armoring in higher impact areas (berms, drainage areas, etc) to reduce maintenance
- Characterized by more broadly spaced features optimized for higher speed riding experience, slightly steeper slope requirement for speed generation
- Trails should be separated with strategic points of convergence to allow for varied line options

Maintenance Considerations:

 Moderate maintenance requirements due to natural surface construction and higher speed usage

Required irrigation for maintenance and vegetation establishment between trails and on side slopes

Adaptive Considerations:

Beginner and intermediate trails can be designed/built to accommodate adaptive cyclists via sufficient trail tread width and "rollable" features (no "gap" jumps)



Source: FlowRide Concepts

Pump Tracks

These are comprised of rollers, berms and optional jump features. There is an option to incorporate prefabricated wall rides. These can accommodates Beginner, Intermediate and Advanced riders.

Design Considerations:

- options
- parks
- Slope and Area Requirements
 - Flat area required

- functioning pump track
- rest and reset
- safe for accidental falls

Maintenance Considerations:

maintenance concerns

Adaptive Considerations:



Source: https://www.parksfdn.com/bikepumptrack

• Natural (clay/sand blend), Asphalt or Concrete surface

Asphalt surface is most common in modern bike

Asphalt or Concrete surfacing allows for other recreational users (skateboards, scooters, etc)

Small pump track ~10,000 SF

Larger pump track ~25,000+ SF

Typically includes sub-grade drainage system

Suited for both MTB and BMX

Optimal to have a separate Beginner or 'Strider' track for kids and novice riders to develop pump track skills Size and spacing of rollers and berms critical to a well-

Minimum of 2 elevated staging/start areas for riders to

'Infield' areas can be grass, turf or decorative gravel Should deter riders from cutting between trails but

Paved pump tracks are preferable to minimize

Can be designed/built to accommodate adaptive cyclists via sufficient trail tread width requirements



Skills Trails

Natural surface 'singletrack' trail built for technical skills progression. These are Comprised of features including rollers, berms, technical rock gardens, prefabricated ladder bridge features, 'skinny' log or bridge features, and XC singletrack trail built to replicate local trail characteristics. These are MTB oriented.

Design Considerations:

- Can be located on flat ground or sloped terrain
- Oriented in a loop or integrated into perimeter trails
- Beginner, Intermediate and Advanced trails for ٠ progression

Maintenance Considerations:

Lower maintenance requirement

Adaptive Considerations:

Can be designed/built to accommodate adaptive cyclists via sufficient trail tread width and skill feature (wood or rock) width requirements



Source: FlowRide Concepts





Source: https://www.denverpost.com/2021/04/27/yard-mountain-bikeskills-park-fremont/

Progressive Drop Zone Trail

Natural surface trail built for drop skills progression. These are comprised of rollers, prefabricated or wooden drop features with progressive, varied heights. These are MTB oriented.

Design Considerations:

- Requires ~5% or greater grade
- Beginner, Intermediate and Advanced progression

Maintenance Considerations:

• Lower maintenance requirement

Adaptive Considerations:

Can be designed/built to accommodate adaptive cyclists via sufficient trail tread width and "rollable" drop features

Flow Trails and XC Trails

tabletops, natural rock features.

Design Considerations:

- •

Maintenance Considerations:

Adaptive Considerations:



Source: FlowRide Concepts



Source: FlowRide Concepts



Source: FlowRide Concepts



Natural surface trails built to replicate experience of area MTB trails. These are comprised of rolling contours, berms,

• Flow Trails require sloped terrain XC Trails suitable for sloped or flat terrain Suited for Beginner, Intermediate and Advanced riders Offers more traditional MTB experience

Lower maintenance requirement

• Can be designed/built to accommodate adaptive cyclists via sufficient trail tread width



Source: https://mtbzone-bikepark.com/en/willingen/trails/flow-trail



Dual Slalom

These are natural surface race tracks with dual, 'mirrored' trails for heads up racing. These are comprised of rollers, rhythm sections, jumps and berms. These are MTB oriented. Can accommodates beginner, intermediate and advanced riders. These features are essential to support collegiate level race events.

Design Considerations:

- 1,000+ LF minimal length
- Requires minimum 3-4% grade

Maintenance Considerations:

• Higher maintenance requirements due to higher speeds and steeper bermed surfaces

Adaptive Considerations:

Can be designed/built to accommodate adaptive cyclists via sufficient trail tread width



Source: FlowRide Concepts



Source: FlowRide Concepts

LIVABLE

Criterium Training Course

A criterium race is a bicycle race of a specified number of laps on a closed course over public roads closed to normal traffic. Criterium training courses replicate the racing conditions for road bikers to train.

Design Considerations:

- Ideal lap on a training course ranges from .5 miles to 1.5 miles
- Incorporate a closed-loop design with varied cornering angles to simulate real criterium conditions
- Maintain a minimum width of 20' to allow safe passing and group riding
- Include small elevation changes (if possible) to challenge riders
- Position barriers or buffers at high-speed corners and avoid sharp obstacles near track edges
- Ensure a smooth, durable surface with good traction, such as asphalt or concrete

Maintenance Considerations:

- Inspect for cracks and surface damage regularly
- Implement routine cleaning to remove debris, leaves, and gravel
- Maintain clear directional and safety signs

Adaptive Considerations:

Provide accessible entry points



Source: https://www.trainerroad.com/blog/5-best-workouts-forcriterium-racers/

Cyclocross Course

A cyclocross training course is a designed or improvised track used to train for cyclocross racing, a type of off-road cycling competition. Cyclocross races are characterized by a mix of surfaces, including dirt, grass, gravel, sand, and even pavement, with obstacles that may require dismounting and carrying the bike.

Design Considerations:

- to practice bike-handling drills
- camber sections as obstacles

Maintenance Considerations:

- markers to enhance safety

Adaptive Considerations:

Provide accessible entry points



course

• Include varied terrain for the cyclocross course, including grass, dirt, gravel, sand, or small sections of pavement to mimic race conditions

Utilize existing terrain features like hills, slopes, and

wooded areas for authenticity Include a mix of fast straightaways, technical turns, and challenging obstacles to provide variety Aim for a la length between 1.4 to 2 miles

Consider including skill zones for participants to

practice dismounting and re-mounting their bikes and

Ensure any barriers meet regulation height for

competition practice, 15.75 inches maximum Consider including run-ups, sand pits, stairs, and off-

Maintain the terrain on the course by repairing ruts, ensuring proper drainage, and inspecting the obstacles for safety and functionality Check for hazards and replace damaged course

• Monitor wet or frozen areas to prevent damage and consider temporary closures when necessary

Source: https://www.cxmagazine.com/faq-what-to-expect-cyclocross-



Accessory Elements and Amenities

The project team identified the following accessory elements and amenities that are frequently included in community-scale bike park designs.

Entry Plaza

- Safety Signage and Bike Park Map
- Bike rack
- Bike repair station
- Locking entry gate to control access (weather/seasonal closures)



Source: https://americanrampcompany.com/projects/ portland-or-gateway-green/

Maintenance/Equipment Storage Shed

~10'x20' shed for tool and equipment storage



royal-gorge-wood-shed/

Parking Area



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Source: https://www.stthomas.edu/visit-us/parkingtransportation/

Spectator Areas

- Main spectator area with shade structure and picnic seating oriented with views overlooking bike park
 - Often located proximal to pump track and/or beginner trails
- Smaller 'satellite' spectator areas located within view shed of advanced jump trails and/or 'signature' featuresPicnic table

 - Crusher fine surfacing



Source: https://www.redbull.com/in-en/soderstrom-pumptrack-racing

Material Storage Area

- Proximal to Maintenance Shed
- Bays for dirt and material storage



Source: https://www.hollyandsmith.com/portfolioproject/ new-orleans-city-park-golf-course-maintenance-buildings

Overflow Parking



Source: https://www.newbiggintowncouncil.gov.uk/ events/overflow-car-parking-2/

Access/Service Trails

10' wide crusher fine access trails for maintenance and emergency vehicle access



Source: https://www.westminsterco.gov/ParksRecreation/ Parks,TrailsOpenSpace/OpenSpaceTrails

Bike Repair Station

Bike tools, tire pump



Source: https://www.duo-gard.com/bike-repair-stationsso-popular-duo-gard-expands-line-2/

Fencing and Landscaping

- Post and rail fencing around bike park perimeter to help control access
- Landscaping to be planted in non-riding zones to reduce erosion and enhance site aesthetics



Source: https://wolflambdesign.com/valmont-bike-park





Source: https://nwamotherlode.com/review-of-railyardbike-park-in-rogers/OpenSpaceTrails





Shade Structure

• Minimum 20'xw20' shade structure with picnic tables



Source: https://www.flickr.com/photos/bouldercolorado/ albums/72157634244459549/

Restroom Facility



Source: https://romtec.com/large-restrooms/

Pavilion



Maintenance

Regular maintenance is required for the successful operation and management of a safe bike park facility. Routine tasks include, but are not limited to:

- Monitoring of trail and feature conditions, reporting any issues
- Watering of natural surface trails (especially dirt jumps and slopestyle trails) During peak use
- Raking and re-compaction of impacted features and trail tread
- Clearing debris and loose aggregate from trail tread
- Inspecting and repairing hardware and decking on prefabricated and wooden structures
- Flow checking (riding trails) and revisions/improvements of trails and features
- Inspection and maintenance of signage

Regular maintenance can be conducted in various ways:

Internal Staff

- Full time or Part time seasonal position responsible for managing bike park maintenance. Ideal candidate would be dependable local rider with experience building and maintaining a bike park
 - Pros efficient internal management of maintenance process and procedures / reliable staff labor
 - Cons lacks community engagement / effectiveness depends on skills and availability of staff

Annual maintenance budget is typically estimated at 5-10% of total construction cost. This can be reduced by utilizing hard surfacing (asphalt, concrete, etc.) and prefabricated riding features.

Best Practices for Risk Management

- Create a Master plan for the bike park aligned with best practices for the design and operation of a bike park facility (offer progression, optional lines, adequate sight lines, adequate buffer on fall zones, etc.)
- Ensure the park has a comprehensive signage program including rules, regulations and way finding
- Ensure the park has adequate barrier between participants and spectators, and clearly signed entry and exit points
- Develop an operations and management plan and MOU with the active volunteer group (if applicable). The operations plan should include a risk management plan, signage plan, maintenance plan and plan for tracking/ managing incidents and accidents
- The park design, operation and management plans and MOU should be reviewed and approved by staff and/or consulting risk manager
- Integrate a method to enforce park rules, set hours of operation and required use of safety apparel
- Introduce periodic law enforcement patrol of the park
- The park should be routinely inspected and maintained with reports logged
- All organized events should be supervised and require purchase of liability insurance through the sanctioning event body

Contractor

- Professional bike park contractor would fulfill all maintenance requirements and procedures, logging maintenance activities with status reports
 - Pros ensures professional maintenance occurs on regular basis / requires minimal oversight / accountability and quality control
- **Cons** lacks community engagement unless contractor is tasked with engaging volunteers to assist with maintenance

Volunteers

- The City implements a comprehensive volunteer builder maintenance training program outlined in an Operations Plan and Memorandum of Understanding (MOU) with a local user/advocacy group
 - **Pros** Community engagement can result in "ownership" of the park, empowering entire community of builders to take pride in upkeep of the bike park
- **Cons** requires significant planning, coordination and oversight by staff. Availability and dependability of volunteers is inconsistent and challenging. Effectiveness depends on skills and experience of volunteers / requires professional training for volunteers/leaders

Hybrid

- Could include contractor + volunteer or contractor + staff maintenance programs where contractor is responsible for maintenance trainings for volunteers and/or staff, and performing regular inspections to support volunteer/staff maintenance efforts and procedures
 - **Pros** (for contractor + staff) ensures professional oversight / ensures maintenance performed on regular basis
 - **Cons** effectiveness depends on skill level of staff / doesn't facilitate community engagement





Source: https://www.flickr.com/photos/fortcollinsgov



Source: https://www.flickr.com/photos/fortcollinsgov

