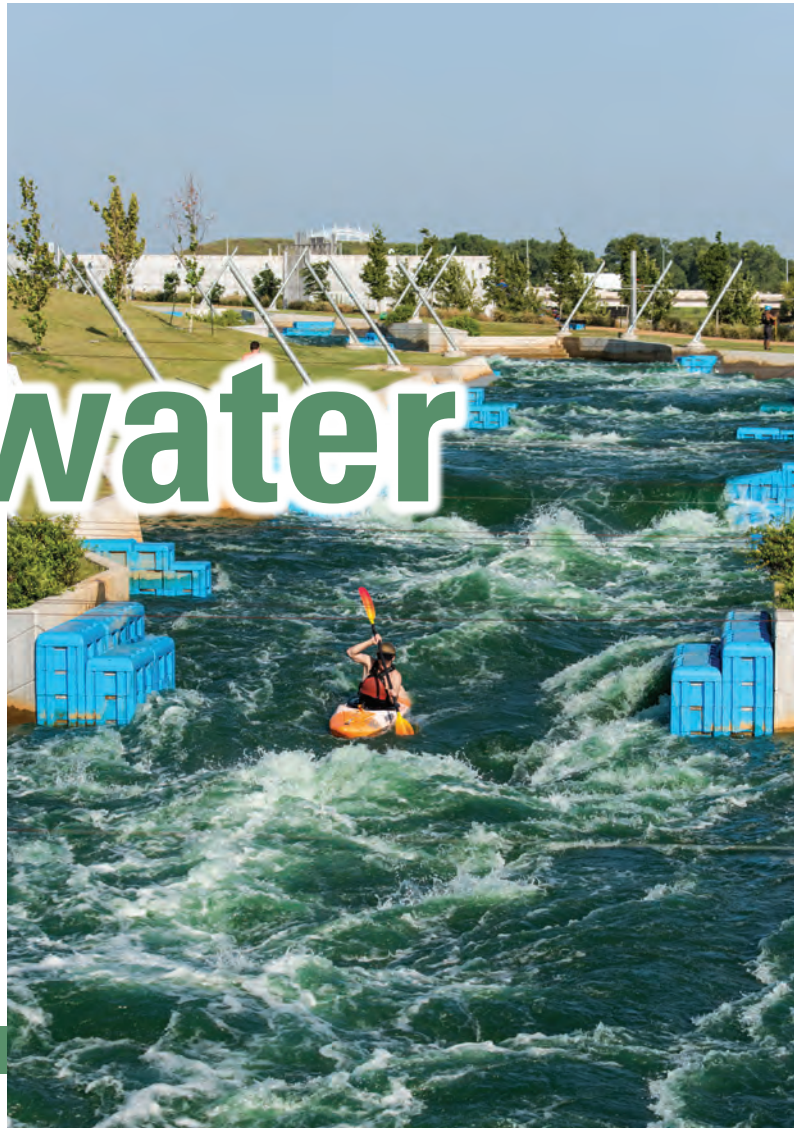


# The Rise Of Urban Whitewater

*River parks are driving recreation, tourism, stewardship, and community brand value*

BY SCOTT SHIPLEY



There is a growing wave of interest among civic leaders, developers, and community groups for well-designed, whitewater-centered river parks to convert under-utilized or inaccessible rivers into treasured assets. With their popular recreational and spectator appeal, river parks are connecting communities to their rivers through better and safer public access—especially when located alongside public parks that include trails, greenways, parking, restrooms, and other amenities. Because they are also delivering significant economic and environmental benefits as well, this trend is expected to swell.

While the design and development of a whitewater park can be complex—requiring a strategic, community-centered approach, as well as a solid financing plan—the process is fairly straightforward. Here’s how to get rowing in the right direction so your community can have one of its own.

## WHAT IS A WHITEWATER PARK?

A river park, or whitewater park, is a section of river that has been altered through careful planning and construction to

enhance recreational opportunities, riparian zones, and fish habitat, while creating a place for a community to gather, host events, enjoy nature, and more. The river park is built by modifying the riverbed to create hydraulic features, including waves, chutes, eddies, and other features for recreational and commercial kayaking, standup paddleboarding, surfing, and tubing.

The size and scope varies considerably, ranging from large-scale, multi-million-dollar recirculating venues—like the U.S. National Whitewater Center in Charlotte, N.C.—to deteriorated and dangerous low-head dams converted into safe, fish-friendly, community attractions, as illustrated by the San Marcos Whitewater Park in San Marcos, Texas.

When paired with other waterfront revitalization efforts, such as the newly opened \$7-million Eagle Whitewater Park in Eagle, Colo., these parks become instant gathering places, attracting walkers, bikers, families, picnickers, and spectators, and play host to events including river festivals, competitions, and concerts. “Our new park has been an amazing success and is truly connecting the soul of the river to the heart of our valley,” says Town of Eagle Trustee Matt Solomon.



Along with energizing downtown areas, river parks also mitigate public hazards. A new whitewater park on the Poudre River in Fort Collins, Colo., for example, recently restored the dangerous Coy Diversion Ditch into a fish-and recreation-friendly amenity now broadly enjoyed by residents and visitors.

### ECONOMIC IMPACT OF WHITEWATER PARKS

Along with recreational and environmental benefits, whitewater parks are also generating a substantial economic impact for their host communities, as users spend money at local restaurants, lodging, and retail establishments. Cities like Golden, Colo., and Reno, Nev., report millions of dollars in economic value per year from tourism and related activities.

While a whitewater park’s economic contribution depends largely on a park’s scale and market size, the data are predominantly positive. A recent study by Applied Economics of Phoenix, Ariz., estimated that Oklahoma City’s recirculating whitewater park attracts 62,000 visitors each year, and contributes \$13.8 million annually to the local economy.

Smaller parks also show positive economic effects. Studies reveal the following annual user and monetary-contribution estimates to communities from their whitewater parks:

CITY	RIVER	ANNUAL USERS	ECONOMIC IMPACT
Golden, Colo.	Clear Creek	14,000	\$2.2 million
Durango, Colo.	Animas River	37,000	\$18 million
Saratoga, N.Y.	Sacandaga River	25,000	\$3.7 million
Kent, Ohio	Cuyahoga River	40,000	\$1.7 million
Steamboat Springs, Colo.	Yampa River	75,000	\$7.2 million
Inglis/Levy County, Fla.	Withlacoochee River	64,700	\$9.3 million

Vail, Colo., has successfully used its whitewater park on Gore Creek as part of the renowned GoPro Mountain Games, whose 83,000 spectators and 3,000 athletes have an \$4.7-million

annual impact on the town—a significant contribution to a community otherwise relying on winter tourism.

These economic impacts include revenues generated from equipment rentals, guide services, instruction, transportation, parking, retail sales, and food and beverage services. Whitewater venues also open the doors to other recreational opportunities, such as zip-lining, canopy tours, disc golf, rock-climbing, hiking, and biking, which attract a broad array of users and corresponding revenues.

### DESIGN CONSIDERATIONS

Designing and installing an in-stream whitewater venue varies in complexity, subject to the myriad factors involved with a specific site—land ownership, the river’s morphology, seasonal usability, flood-plain risk, fish and riparian habitat conditions, and more. The size and scale of a project also depends on the community’s vision and available budget.

The primary considerations in designing a whitewater park include the following:

- The area’s topography
- The dimensions, elevation, and distances of potential features
- High- and low-flow rates
- Bank stability
- River access
- Municipal zoning and regulations.

More broadly though, any design strategy should preserve the river’s natural aesthetic qualities; improve its natural functions; and minimize recreational conflicts with other users, such as anglers. Many of today’s parks, including recent ones built in Eagle and Steamboat Springs, Colo., also adhere to fish-migration objectives suggested or required by Parks & Wildlife and other entities.

Ensuring that a site begins with the right ingredients for success means developing a comprehensive site analysis, programming plan, and conceptual designs, which help guide the project through approvals and financing and define budgets for fundraising, scale, and final design. The area’s soils also must be



taken into consideration, with bedrock the most stable foundation for structures, and clay or sandy soils the most problematic. Streambank stabilization and vegetation restoration are also vital to minimize erosion and improve habitats for fish and aquatic macroinvertebrates.

A relatively new design approach is incorporating adjustability into wave features. The patented RapidBloc technology recently employed in Idaho's new Boise Whitewater Park, for example, allows the waves to be adjusted specifically for surfboard and kayak users, as well as for varying water levels. While this can add cost, it affords more variability and attracts a larger group of users.

### COSTS AND FUNDING

The cost of building a whitewater park also varies greatly, depending on its scope, size, and location. It can range from about \$250,000 for a smaller, one- or two-feature park, to \$10 million or more for larger facilities that incorporate bike paths, event venues, and other recreational amenities.



Other factors affecting a park's cost include the nature of the soils (unstable soils might require additional foundational work); the river's width (wider = more expensive); the project scope (larger projects often require multiple structures, often demanding a phased approach); and location, especially in relation to sensitive ecosystems (parks planned in critical habitat areas are more difficult to design and permit, and often require extensive review periods).

Funding sources for a river park is often a mix of grants, municipal contributions, private investors, and traditional financing. Fort Collins' \$12-million park was funded through a combination of public and private sources, including a city tax initiative, the parks and rec department, and private donations. The Eagle River Park, vetted through an extensive public process and part of the Eagle River Corridor Plan, was funded by a 0.5-percent, voter-approved sales tax, matching grants, and private donors.

Providing comprehensive design, market, and economic impact analyses is crucial to navigating this phase. It is also important to find a location where the local government might be able to help incentivize the project.

### OPPORTUNITIES AND CHALLENGES TO DEVELOPMENT

River parks by nature touch a broad and diverse mix of public and private entities. Land-ownership issues, financing, permitting, politics, and more can all affect their completion. To become a reality, it is paramount to secure community buy-in and cooperation among municipalities, landowners, environmental organizations, neighbors, and users.

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Entities involved usually include the local city or county government (often someone from the recreation department), with permits typically required from federal, state, and local level levels. Obtaining the latter can require detailed site surveys, wetland delineations, the identification of historic structures or culturally significant resources, threatened-species surveys, flood models, design drawings, and more.

Advocates are encouraged to gather as many constituents and stakeholders together as possible to define the opportunity and identify any obstacles to the project's completion beforehand, including everything from timeframe and riparian concerns to costs and landowner and parks and wildlife issues.

The ingredients for a community to start realizing its vision for a whitewater park are a suitable site, community support, and funding. As the growing number of successful projects attests—at last count there are more than 70 such whitewater parks in the U.S., with 10 more in progress—none of these requisites are insurmountable. **PRB**



Three-time Olympian and World Cup kayak slalom champion **Scott Shipley** is the founder and president of S2O Design and Engineering, the world's leading whitewater design firm specializing in both in-stream and pumped whitewater projects, river engineering, and restoration. Find more information, visit [www.s2odesign.com](http://www.s2odesign.com).

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