

Cementing a Legacy: A Concrete Understanding of Municipal Skatepark Development

By Mark Bradford and Aaron Spohn



Fig. 1: Concrete Wave—After flowing over double rising swells, local skater Dave hits the over-vert lip of a skatable sculpture in Dublin, OH (2017). Project: Dublin Skatepark. Photographer: Nick Adams.

Skateparks have soared in popularity as public facilities. Globally, cities are embracing the once-deemed risky activity and shedding any previous notions of skateparks being mere passing trends. As many municipalities embark on constructing their first—and possibly only—skatepark, city staff members find themselves in a position where they must rapidly acquire knowledge about what constitutes a skatepark and how to successfully develop one. This article provides a comprehensive overview of skateparks, their enthusiasts, the expert builders, the development process, materials, and essential insights to aid

governmental bodies in making informed decisions. Given that concrete is a lasting material, getting it right from the outset is crucial.

THE RISE OF THE SKATEPARK

Skateparks have emerged as a curious anomaly within the domain of public recreational facilities. Consider the design of a typical playground structure: it is heavily engineered with safety as a priority, often resulting in relatively simple challenges and limited opportunity to play outside of the box. We're sure their manufacturers would argue differently,



Fig. 2: Aerial Mastery—Skater Colton Woods blasts a soaring air out of a seamless, flowy bowl in Lehi, UT (2017). Project: Lehi Skatepark. Photographer: Gage Thompson.

but the rigorous application of railings, restrictions on height, and the use of cushioned, rubberized surfaces are all measures to minimize potential risks, which also trends toward the implementation of homogenized play.

Contrast this with skateparks —which are intricate, flowing concrete mazes characterized by deep bowls, hips, gaps, stairs, ledges, and drop-offs. These all-concrete courses are purposely designed to generate speed and momentum and enable soaring airs that provide a rider with ample time to perform difficult tricks only to then land on the unyielding concrete landscape below. Skateparks are conceived to challenge and excite with a focus on high performance and fun, but they come with an implicit warning: ride at your own risk.

At first glance, the sometimes-daunting features of skateparks may seem like a legal risk, particularly when compared to the safety-first aspect of playgrounds. However, the reality is quite the contrary. Cities experience a higher frequency of legal claims and disputes stemming from playground accidents compared to skatepark-related incidents. While playgrounds outnumber skateparks, a clear dynamic prevails: skaters acknowledge the inherent risks and generally accept responsibility for their actions, injuries included.

There's a profound sense of community exhibited by skateboarders and bikers, which encompasses both fledgling riders and seasoned veterans or pros. These stakeholders, whether they are young people hanging with their friends or even vigilant parents giving permission to go to the park, understand the inherent risks. Rather than casting blame in the unfortunate event of an accident, they recognize every fall is a well-earned learning experience and part of the game. This isn't just an individual realization; it's a collective sentiment. Any claim against the municipality jeopardizes the entire facility, and by extension, the broader

bike and boarder community. In a world where many traditional sports participants are artificially formed into seasonal teams, the fellowship found in skateboarding organically forms a long-lasting, diverse collective that transcends age, race, or economics.

Beyond the thrill and camaraderie, skateparks serve as vital community assets. They provide safe havens for enthusiasts to perfect their craft, thereby reducing wear on public structures and keeping skateboarders off busy streets. These parks cultivate community, promote physical activity, reduce risk, and offer platforms for self-expression. With skateboarding and BMX now recognized as Olympic sports, skateparks have evolved into legitimate training grounds for budding athletes; this elevates their significance beyond mere recreation. Recognizing these benefits, and the fact that these young people are not engaging in traditional sports, municipalities are progressively viewing skateparks as invaluable.

Another distinct characteristic of skateparks is the user community's unparalleled commitment. A significant portion of these parks only come to fruition due to community-driven initiatives via organizing, advocacy, or fundraising. Such grassroots efforts often result in local businesses, particularly concrete suppliers, being approached for in-kind donations or sponsorships. When possible, business support not only bolsters resources but also generates vital momentum and demonstrates widespread community backing. This broad-based support is critical to qualify for state and federal grants, which frequently cover a substantial portion, if not a majority, of a project's funding.

Another hallmark of skateboard culture is the specialized community of skatepark builders who have become the foundation of park development. Born from riders-turned-craftsmen who eventually became entrepreneurs, these companies emerged to fulfill the need for dedicated skate

spaces despite early skepticism regarding the need or the sport's risks. What began as small businesses driven by passion has grown into highly respected, sought-after enterprises with national and international operations. Their teams of creative designers, engineers, and concrete artisans, most of whom are riders themselves, bring a wealth of expertise.

These pioneers are now indispensable to municipalities that prioritize quality, safety, and expertise in their projects, especially for those aiming to avoid the costly errors and common pitfalls that can occur with inexperienced or first-time builders.

THE ROLE OF MUNICIPAL PROCESSES IN SKATEPARK DEVELOPMENT

This recognition has prompted cities to tailor their procurement strategies accordingly. The crafting of RFPs and bid documents now frequently features strict provisions,

including securing the expertise of veteran skatepark specialists. Translating a skatepark from concept to concrete demands a nuanced approach of aligning design objectives with budgetary constraints, ensuring efficient execution, and maintaining rigorous quality standards all while navigating the intricate matrix of municipal rules and regulations. Within this complex process, practical experience is indispensable.

Initial Advocacy and Support: The journey of skatepark development typically begins with the local community—skateboarders, parents, and community leaders—all advocating for a space dedicated to skating. Advocates play a crucial role in underscoring the tangible benefits such as improved public health and safety as well as the potential boost to local businesses. Additionally, skateparks have been recognized for their ability to transform underutilized areas and contribute to crime reduction.

Stakeholder Engagement: Effective integration of a skatepark into the community hinges on awareness and comprehensive feedback. It's essential to engage a diverse group of stakeholders, including skateboarders, BMX riders, local residents, business owners, and municipal park architects and planners.

Conceptual Design Development: The project visualization stage is crucial. Public input is instrumental in crafting a preliminary concept and rendering of the design. Catering to future users' desires is vital, but the project's trajectory should also be shaped by practical considerations such as the allotted space's dimensions and landscape. An experienced skatepark designer is key to utilizing available space to its fullest potential especially when dealing with undulating topography or elevation changes. The conceptual design acts as a goal that adds project context in the form of size, visual representation, and a budget range. However, there's a direct correlation between the size, scope, and aesthetic of the project and the exact budget; most often, the budget dictates the project's scale and complexity, but a clever designer can make subtle adjustments to maintain a balance. Early discussions between designers and clients help establish a provisional financial target. There are also analytical tools to help gauge the appropriate size of the park based on community size.

Site Considerations and Budget Impact: When planning a skatepark, understanding the native soil conditions of the proposed site and its stormwater management capabilities is crucial. These factors, while invisible to the casual observer, are fundamental and can have significant budgetary implications.

Understanding the Soil: The ideal soil conditions for a stable substrate are non-expansive and those that can achieve a compaction density between 95 to 98%, which is the typical standard for structural support and integrity. Should an otherwise suitable site have inadequate soil, it may necessitate additional geotechnical work, such as employing soil stabilization techniques or incorporating engineered fill material to reach the required compaction density and bearing capacity. These measures are crucial



Fig. 3: A Cresting Vert Wall—SR Crew Lead and ACI-certified Nozzleman, Kelly Malobovich, sprays colored shotcrete onto an over-vert, free-standing concrete wall in La Puente, CA (2020). Project: Central Park Skatepark. Photographer: @Mikendo.



Fig. 4: Homage to Upland—OG skateboard legend, Lance Mountain, drifts above the elliptically shaped, blue-tiled, pool-coping-ensconced walls of a combi-styled bowl in La Quinta, CA (2022). Project: La Quinta Skatepark. Photographer: @Mikendo.



Fig. 5: Velvety Fresh—The sweeping shotcrete curves of a clover bowl in Crowley Lake, CA begin to take shape (2017). Pictured: Spohn Ranch Build Team. Project: Lake Crowley Skatepark. Photographer: Mark Bradford.

not only for a skatepark's solid foundation but also to minimize the risks of heaving or future subsidence that could endanger the park's safety and durability. An engineer's estimate of construction costs should not be deemed accurate unless it is based on a soils test and includes recommendations from a geotechnical engineer's report.

Managing the Water: Constructing a skatepark essentially seals the ground with a concrete cap, altering the natural infiltration of precipitation. Consequently, a



Fig. 6: Nose Pick—Skater Vincent Luevanos carves to a nose pick along the protruding edge of a sculptural vert wall in La Puente, CA (2022). Project: Central Park Skatepark. Photographer: @Mikendo.

comprehensive Stormwater Management Plan (SWMP), often mandated by regulations, becomes a critical component of the project. The plan must address the redirection of rain or snow-melt that will collect on impervious concrete surfaces.

For above-ground style skateparks with minimal topographic variation and a uniform grade—typically sloping between 1% and 2%—sheet drainage can effectively redirect water runoff off the edges, allowing adjacent soils to absorb it. However, in areas with low soil percolation rates, this runoff may necessitate the construction of engineered bio-swales or the implementation of riprap xeriscapes, which are landscaped areas designed to collect and filter stormwater.

In contrast, skateparks with substantial undulation and deep bowls require more elaborate drainage solutions. Strategic placement of drains at the lowest points, and connected to a network of drain lines, is essential. These lines may lead to pre-existing stormwater systems, or alternatively, they can channel water through filtration systems into engineered

drywells—excavated pits filled with crushed rock. This eco-friendly solution permits the temporary storage of water, allowing it to gradually percolate into the soil and mimic natural processes.

Budgeting and Funding: Financial planning is pivotal when considering the development of skateparks. Although certain municipalities have the luxury of allocating funds directly, many search for alternative funding methods. These can range from applying for governmental or private grants, to seeking sponsorships or in-kind donations from local businesses, to launching crowdfunded campaigns that engage the community in pooling resources. Whatever the source, clarity in budgeting ensures that every phase of the project—design, construction, and maintenance—is properly financed.



Fig. 7: Working the Wall—SR Crew Lead and ACI-certified Nozzleman Kelly Malobovich applies concrete to a crucial consolidation area beneath the steel coping of a new skate spot feature at the Redondo Beach Pier in California (2023). Project: Redondo Beach Pier Skatespot. Photographer: @Mikendo.

Navigating Procurement Rules: The procurement process can often feel like a balancing act. Municipalities that draft detailed RFPs or RFQs that reflect the unique challenges and intricacies of skatepark construction tend to achieve the most successful outcomes.

It is essential to attract contractors and designers with experience in skatepark creation to manifest the

community's vision, but there is also a role for local general contractors. Depending on the size of your project, you might look to bring in a specialty builder that's also licensed in your area, or if it's a larger project with multiple aspects, a more collaborative approach may be more to your benefit. An astute procurement process incorporates an experience component that is usually predicated on a demonstrated history of successful skatepark completions. This enables qualified contractors to bid directly or to partner with the best local contractors. In such collaborations, the general contractor typically prepares the site to rough grade, installs drain lines, and handles ancillary scope, such as landscaping, while the specialist handles the fine grading, steel reinforcement, edging, and concrete placement. This division not only protects the community's interests but also safeguards inexperienced contractors from potentially underestimating the meticulous effort required to achieve the desired quality of the final product.

Ensuring Quality and Expertise: A crucial component in the procurement process, particularly when determining the expertise of specialty builders, is mandating the ACI Shotcrete Nozzleman Certification. While standardization and certification serve as markers of quality and safety, not all contractors prioritize continuing education, training, or maintaining their certifications. However, those committed to honing their skills not only deliver exemplary skateparks but also contribute significantly to fostering a safer and more resilient industry ecosystem.

Regulatory Compliance: The excellence of a design is only part of the equation. Ensuring alignment with local construction codes, environmental standards, and accessibility criteria is vital to sidestepping challenges. Prompt inspections and acquiring essential permits are indispensable. Further, seasoned professionals are adept at navigating local regulations, encompassing aspects like permitting, bonding, prevailing wage, and certified payroll.

ADA Accessibility and WCMX in Skateparks: The Americans with Disabilities Act (ADA) champions inclusivity, ensuring everyone can access and enjoy public spaces. This vision aligns seamlessly with California's Senate Bill 1003



Fig. 8: ACI-certified Nozzleman, and article co-author, Mark Bradford, in his element in Hawaiian Gardens, CA. Project: Clarkdale Skatepark. Photographer: @Mikendo.

(CA SB 1003), which emphasizes the importance of skateparks being open to all non-motorized wheeled activities. The bill specifically cites skateboarding, BMX biking, roller skating, scooter riding, and wheelchair motocross (WCMX) as intended activities for these spaces.

When designing skateparks with ADA standards and the directives of CA SB 1003 in mind (or the equivalent laws in your state), the objective should not merely be regulatory compliance. Designers should envision an environment where every enthusiast, regardless of their choice of wheels, can relish the full skatepark experience. This includes creating accessible pathways to skatepark entries and retaining the challenging design features that make the park a haven for enthusiasts.

In embracing WCMX and the broad spectrum of non-motorized wheeled activities, skateparks answer a universal call for genuine inclusivity, balancing both challenge and accessibility.

Inauguration and Community Engagement: The skatepark's opening is an important community-building activity. Launch events, workshops, or even skate clinics can solidify the bond between the facility and its users.

While skateparks often dazzle with their design and functionality, it's the ability to navigate sometimes complex municipal processes that ensures a successful project. And it is an adherence to contractor quality standards (experience, nozzleman certification, etc.) that ensures a skatepark will continue to be a well-used community asset for years to come.

SHOTCRETE: ESSENTIAL IN SKATEPARK CONSTRUCTION

Understanding the mechanics and nuances of skatepark development is integral, and one of the core components of this is the role of shotcrete. It is an irreplaceable method for placing concrete that is vital in shaping today's modern skateparks.

Traditional concrete pours are suitable for basic, even terrains. However, skateparks, with their curvilinear surfaces, intricate bowls, and daring over-vertical features, require more adaptability. Enter shotcrete with its capability to mold and convey almost any shape imaginable. The method's adaptability is its hallmark. Spraying concrete allows for precision and adherence to ensure the absolute integrity and close tolerances of the concrete surface.

Beyond application, the beauty of shotcrete lies in the robust consolidation it achieves. Delivering concrete at high speed ensures proper encapsulation and consolidation, which yields sturdy skatepark structures that are built to last. The use of shotcrete often results in reduced formwork, keeping costs contained while promoting sustainability. Additionally, the efficiency of shotcrete placement means faster build timelines.

Once the shotcrete is placed, the finishing work begins. Achieving the right texture is paramount—it needs to be smooth and as free of deviations as possible while providing optimal grip for hard polyurethane wheels. This balance is central to delivering that buttery skating experience.



INNOVATION IN SHOTCRETE FOR SKATEPARK CONSTRUCTION

Skateboarding itself is in a constant quest for progression, new tricks, new methods, and new terrain. This ever-evolving ethos necessitates increasingly creative designs with complex features and pushes the boundaries of conventional construction. Shotcrete, as a preferred method for



Fig. 9: Sunrise Silhouette—In the early morning light, Mark Bradford casts a shadow while he skillfully shoots a spray of concrete. Placement and consolidation are crucial. Project: Lake Crowley Skatepark, Lake Crowley, CA.

these builds, hasn't remained static either. There have been important innovations within shotcrete applications that have been tailored specifically for skateparks.

Specialized Mixture Designs: The concrete blend used for skateparks isn't your run-of-the-mill shotcrete mixture. Tailored-mixture designs have emerged, which consider factors like the skatepark's geographical location, soil conditions, and the expected footfall. Even within a single day's application, the optimal mixture may change. A savvy project coordinator may choose to make adjustments based on changing temperatures, lengthening load travel times, and other impacts. This ensures the final structure has the requisite strength and longevity.

Use of Admixtures: Admixtures to resist shrinkage, enhance workability, or delay setting times are being strategically used. These not only ensure that the shotcrete retains its desired properties during application, but they also guarantee the long-term durability of the skatepark structures.

Aggregate Types: A local or regional contractor may only encounter a single type of aggregate for the duration of their projects, but a specialty contractor, potentially working in all 50 states, will continuously encounter different materials. Type of rock, shape, and moisture content can all vary based on location and season. Considering the surface finish is paramount; understanding aggregates is essential.

Equipment Evolution: As the demand for more complex and larger skateparks grows, the equipment used for shotcreting has adapted. Enhanced nozzle designs for better



Fig. 10: The Builder's Reward—Spohn Ranch's own Jacob Welch carves high on the over-vert wall of the full-pipe he helped construct (2022). Project: Newark Skatepark, Newark, OH. Photographer: @Mikendo.



Fig. 11: During a night time ride, Spohn Ranch's SR Crew member, Jacob Welch, carves high on the over-vert wall of the full pipe he helped construct (2022). Project: Newark Skatepark, Newark, OH. Photographer: @Mikendo.

spray patterns, air lances designed for specific tasks, and custom-made, adjustable trowels for finishing are a few of the evolutions.

Sustainability Initiatives: With environmental concerns at the forefront, efforts are underway to make shotcrete mixes more eco-friendly. This includes the utilization of recycled materials and reducing waste during the application process.

Incorporating Artistic Elements: Modern skateparks are as much about aesthetics as they are about functionality. Innovations in shotcrete allow the inclusion of artistic elements, from colored concrete, textured surfaces, custom sculpted rock faces, and even embedding or acid etching designs and logos into the concrete itself; these innovations continue to make skateparks incredible landscapes.

CONCLUSION

Skateparks have transcended their initial purpose of merely being recreational spaces. Today, they symbolize a fusion of community, athleticism, art, and innovation. Their strategic design and construction, particularly with the expert application of shotcrete, have transformed them into cutting-edge infrastructures that stand the test of time and cater to evolving skateboarding styles.

Furthermore, these spaces represent the heart and soul of skateboarding culture. As hubs of creativity, they bear witness

to the ever-evolving nature of the sport – from the pioneering tricks of yesteryear to the revolutionary techniques of today. Every grind, ollie, and kickflip contributes to a larger narrative of progress, resilience, and passion.

Municipalities play a vital role in this progression. Their understanding and support in facilitating these community canvases are crucial. By adhering to meticulous planning, fostering partnerships, and embracing innovative construction techniques, they ensure that skateparks are not just functional sporting arenas but also vibrant community assets.

In essence, the journey of skatepark development is a shared one—a collaboration between skateboarders, municipalities, designers, and construction professionals. The result is a living testament to the power of unity, passion, and innovation—a space that resonates with the beats of skateboarding and the pulse of the community. As the world of skateboarding continues to evolve, these spaces are a reminder of its rich history and a beacon of its promising future.



Mark Bradford is a Partner and Expert in Construction and Concrete at Spohn Ranch Skateparks in Los Angeles, California. Mark is the most respected and in-demand construction superintendent in the skatepark industry. He has spent his entire adult life eating and breathing wheeled sports, developing an unparalleled breadth of

experience. Mark is highly skilled in all facets of construction, from steel fab to mass grading, but is considered a concrete virtuoso with multiple certifications from the American Shotcrete Association and expert analysis featured in industry publications. As the primary leader of Spohn Ranch's major builds, Mark is often on the road over 300 days per year – flying from critical shotcrete placement to Mountain Dew Tour arena set-up to supervising coping fabrication at Spohn Ranch's shop. He is Spohn Ranch's Superman. And as Co-Owner of Spohn Ranch, Mark has the authority and responsibility to make sure that every park is perfect. He calls the shots and holds both sub-contractors and Spohn Ranch's veteran crew to his industry-defining standards.



Aaron Spohn is the Founder and President of Spohn Ranch Skateparks in Los Angeles, California. Aaron harnessed a passion for skating and hands-on craftsmanship to establish Spohn Ranch, a beacon in skatepark innovation. From a homemade backyard skate haven, his vision and relentless entrepreneurship propelled him to influence

the industry significantly, playing a key role in the early development of ESPN's X-Games. His company has now masterminded over a thousand cutting-edge skateparks around the globe. Aaron remains at the forefront by partnering with communities nationwide, guiding a new generation to realize their skatepark dreams, and forging enduring spaces where passion and community converge.