DURABLE SKILLS, SAFER FUTURES

The Urban Youth Racing School as a Violence Prevention System

A STRATEGIC EVALUATION

prepared by The Visionary Education Advocacy Group, LLC

URBAN YOUTH RACING SCHOOL

EXECUTIVE SUMMARY

The Urban Youth Racing School (UYRS) operates as a youth development and workforce training initiative. However, when examined through the lens of research on violence prevention, it functions as a developmental prevention system that strengthens the protective factors most closely associated with reductions in youth violence.

Violence prevention research consistently identifies three core protective domains: strengthened emotional regulation and executive functioning, strong bonds to pro-social peers and adults, and access to meaningful economic opportunity (Centers for Disease Control and Prevention, 2016; Hawkins, Catalano, & Miller, 1992). Across instructor, parent, and student surveys, as well as student-written reflections, UYRS demonstrates measurable and observable growth in all three domains.

Through its Build a Dream (BAD) program for youth ages 8–18 and CNC 101 workforce pathway for young adults, UYRS transforms high-interest motorsports and machining environments into structured laboratories for durable skill development. Students are not simply learning to race or operate machines; they are learning to regulate their emotions under pressure, persist through challenges, collaborate with peers, and envision a future worth protecting.

The 2025–2030 Tactical Plan further demonstrates that UYRS is moving from programmatic success to institutional scale, embedding measurable targets, mental health supports, apprenticeship pipelines, and evaluation systems that strengthen its long-term violence prevention impact.

PROGRAM OVERVIEW

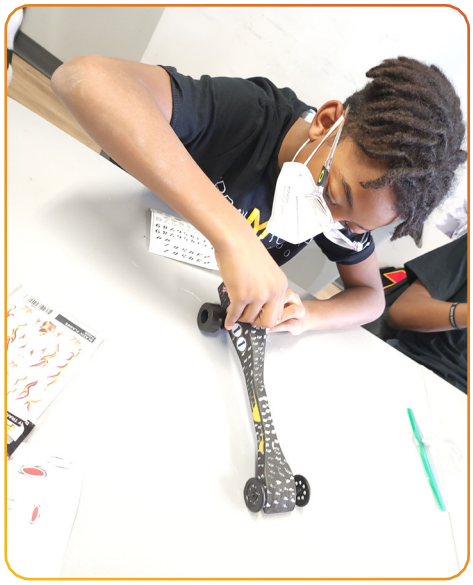
The Urban Youth Racing School provides diversion programming and vocational training that are intentionally designed to match the cognitive, emotional, social, and physical stages of growth of the Philadelphia youth it serves. Its design intentionally addresses root contributors to youth violence, including:

- Economic instability
- Limited exposure to professional pathways
- Lack of structured belonging
- Weak future orientation
- Limited opportunities for regulated risk-taking

At its core, UYRS operates on a simple premise: When young people gain meaningful skills, supportive adult relationships, and credible economic opportunity, their likelihood of engaging in violent or antisocial behavior decreases. According to the 2025-2030 Tactical Plan, UYRS is not only strengthening individual protective factors but also building institutional infrastructure capable of sustaining and scaling violence-prevention mechanisms across communities. Contemporary youth violence prevention frameworks emphasize coordinated, multi-level strategies operating across individual, relational, and community domains rather than isolated programmatic interventions (CDC, 2016; Hawkins et al., 2009). Expansion into regional hubs and advisory boards suggests UYRS is moving toward institutional permanence.

UYRS operationalizes its premise through two distinct but complementary programmatic pathways.

PATHWAY I: BUILD A DREAM (BAD)



Early Engagement Through Structured Excitement

The Build a Dream program is a 10-week enrichment experience serving youth ages 8–18. BAD leverages motorsports to introduce STEM learning within an environment that rewards discipline, safety, technical precision, and collaboration.

Many participants enter the program drawn to speed, adrenaline, and racing culture. Without structure, these interests can manifest in unsafe environments. BAD reframes that energy. Instead of suppressing excitement, UYRS channels it.

STUDENTS PARTICIPATE IN:

- Classroom-based STEM instruction,
- Technical skill-building.
- On-track racing experiences,
- Team-based challenges, and
- Structured reflections.

Students consistently request additional track time—a powerful indicator of engagement and ownership.

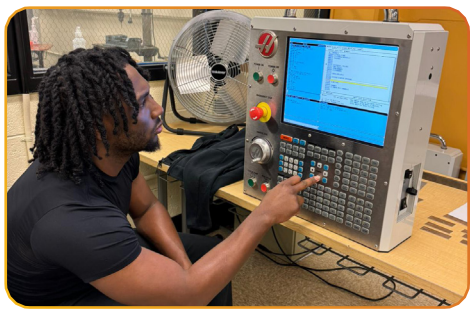
PATHWAY II: CNC 101

Workforce Diversion and Economic Redirection

CNC 101 serves young adults ages 17–26, including justice-involved and court-referred youth. The program prepares participants for entry-level positions as CNC machine operators and general machinists.

PARTICIPANTS DEVELOP COMPETENCIES IN:

- Blueprint reading
- Precision measurement
- Mill and lathe operation
- CNC programming
- Production machining
- Tool calibration
- Quality inspection



MATHEMATICS INSTRUCTION IS EMBEDDED THROUGHOUT, INCLUDING:

- Decimal operations
- Measurement conversion
- Ratios and proportions
- Trigonometry
- Tolerance calculation

Rather than abstract math instruction, students apply quantitative reasoning in authentic machining contexts, including the production of medical equipment components.

THE DEVELOPMENTAL LOGIC OF UYRS

Workforce exposure → Apprenticeship → Employment → Reduced economic strain → Lower violence risk.

At its core, UYRS rests on a simple but research-aligned premise: when youth develop durable skills in emotionally charged environments, experience belonging within pro-social peer cultures, and gain access to credible economic opportunity, their likelihood of engaging in violent or antisocial behavior decreases.

The CDC's Technical Package for Preventing Youth Violence identifies skill-building, connectedness, and opportunity as key prevention levers (CDC, 2016). Social development theory further explains that bonding to pro-social institutions reduces delinquent and aggressive behavior over time (Hawkins et al., 1992). UYRS operationalizes these frameworks daily.

EMOTIONAL REGULATION IN HIGH-AROUSAL ENVIRONMENTS

Experiential learning serves as both a motivator and a teacher. One instructor described a pivotal moment during a racing simulation. A student began losing and became visibly frustrated. Rather than escalating, he paused, took a breath, and told himself: “I will win.” He refocused and finished strong. That moment illustrates the core violence-prevention mechanism embedded within BAD: repeated, real-time practice in emotional regulation under pressure.

A substantial body of research demonstrates that difficulties in emotion regulation and deficits in self-control are associated with increased aggressive and antisocial behavior among youth (Roberton, Daffern, & Bucks, 2012; DeWall, Finkel, & Denson, 2011). BAD creates controlled environments in which youth must regulate to succeed. Regulation becomes a practiced skill, not a lecture topic. This vignette also aligns closely with research linking emotional dysregulation and impulsivity to reactive aggression (Dishion & Tipsord, 2011).

The difference at UYRS is that regulation is not theoretical; it is practiced repeatedly in emotionally stimulating environments. Student reflections reinforce this. One participant wrote that racing requires “practice, concentration, and discipline” and that even though racing happens alone in the car, “being around other racers would help me improve and teach me teamwork”. Another student explained that racing is “not only about speed, but also about safety, focus, learning, and responsibility”.

Parents corroborate these internal shifts. Survey responses indicate improvements in emotional control at home, calmer responses to frustration, and increased responsibility. Emotional regulation practiced during racing simulations translates into improved self-management beyond the track.

PRO-SOCIAL PEER NORMS AND IDENTITY FORMATION

Instructor survey responses describe a peer culture in which students

> *"don't let anything upset the balance of the team."*

Disagreements are resolved through conversation rather than escalation. Team cohesion is protected by the students themselves.

Peer norm research demonstrates that environments promoting pro-social bonding significantly reduce aggressive escalation (Dishion & Tipsord, 2011). UYRS intentionally constructs these environments. Student essays vividly illustrate this cultural shift.

One student reflected that the program helped him

> *"build confidence and build a new part of yourself".*

Another described learning how teamwork connects directly to safety and performance, noting that drivers

> *"work with instructors and teammates to improve and perform their best".*

Another student wrote,

> *"The teachers help kids believe in themselves and try new things... It helps kids dream big."*

Belonging rooted in skill, accountability, and shared aspiration replaces belonging rooted in risk or dominance. That identity shift is central to violence prevention theory (Hawkins et al., 1992).

ACADEMIC ENGAGEMENT AS A PROTECTIVE FACTOR

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UYRS leverages high-interest motorsports content to foster academic engagement, a critical protective factor against community violence and delinquent behavior. UYRS shifts student identity from passive learners to active engineers, building the ***"future orientation"*** necessary for long-term stability and violence prevention.

The BAD program serves as the initial catalyst for this academic immersion. By integrating complex physics, aerodynamics, CO_2 propulsion, and iterative engineering design, the program moves beyond traditional rote learning. Within this ***"High-Expectation/High-Support"*** environment, students do not merely ***"do math"***; they engineer solutions to overcome physical forces. This transition from abstract classroom concepts to tangible application, such as calculating lift and drag or managing the four forces of flight, creates a mastery-based environment. According to research, when youth experience academic content as relevant rather than abstract, their persistence increases and their susceptibility to disengagement, which is a primary precursor to delinquent behavior, decreases (Sánchez & De Tezanos-Pinto, 2020). The shift in professional identity is profound; one participant described himself not as a student, but as a ***"10-year-old engineer,"*** expressing a newfound drive to read physics texts independently and a genuine excitement about how design elements impact performance.

UYRS has developed a comprehensive **CNC career pipeline** where students are first introduced to manufacturing through its core programs, then selected participants matriculate into a free, four-month advanced CNC training program that equips them with industry-level skills and certifications for immediate job placement. For those who choose to further their education, UYRS provides a $10,000 scholarship to Harrisburg University, where students pursue a degree in Advanced Manufacturing. Because of the hands-on training and experience at UYRS prior to enrollment, students can accelerate their studies and complete their degree in three years rather than four.

Ultimately, academic engagement functions as more than a metric of school success; it is a vital shield. When youth experience academic content as relevant and mastery-based rather than abstract and disengaging, persistence increases. This engagement strengthens the ***"future orientation"*** pathway by providing students with a tangible stake in their own success. Parent surveys confirm this impact, reporting renewed interest in math and science at home, indicating that the motivation sparked at UYRS permeates the student's entire ecosystem. By replacing abstract frustration with ***"Engineering Solutions,"*** the BAD and CNC programs provide a structured environment in which academic mastery serves as a vehicle for life-saving stability and professional identity.

WORKFORCE PATHWAYS AND ECONOMIC STABILITY

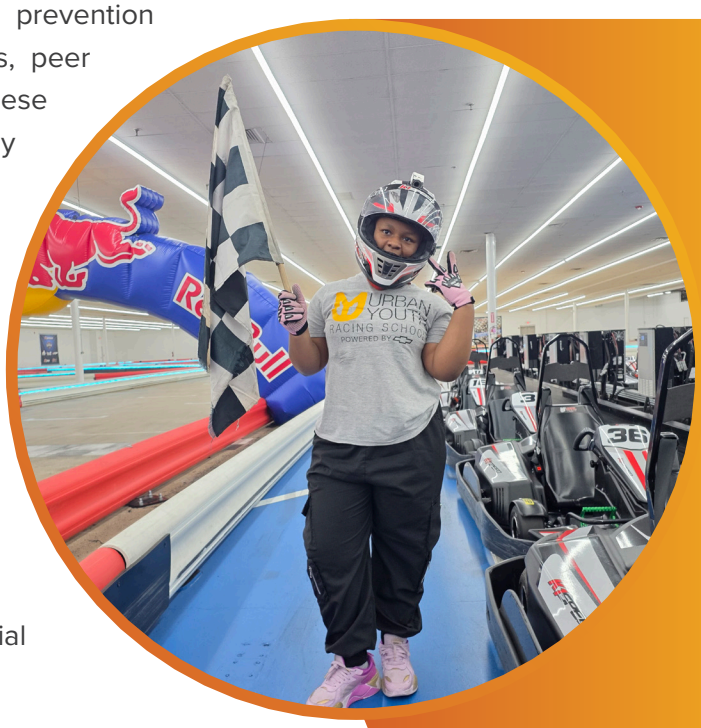
The CNC 101 pathway directly addresses economic instability, a structural predictor of violent behavior (CDC, 2016). Students are introduced to real earning potential, often framed as the possibility of earning $1,000 per week. Research on youth employment programs shows that structured job opportunities paired with adult mentorship significantly reduce violent crime arrests among disadvantaged youth (Heller, 2014).

The Tactical Plan formalizes this pathway with targets that 50 percent of students secure internships or apprenticeships and 80 percent secure employment within one year. These measurable benchmarks demonstrate a commitment to connecting skill development to economic stabilization. Students articulate this connection clearly. One wrote that the skills learned “will help me in other parts of my life”. Another expressed that the program gives “a chance to learn about engineering while doing something I enjoy”.

Future orientation is repeatedly cited in youth development research as a key protective factor; adolescents with stronger future goals are less likely to engage in impulsive or risky behavior (Hawkins et al., 1992). UYRS systematically cultivates this orientation.

MENTAL HEALTH, WELLNESS, AND LEADERSHIP

The 2025–2030 Tactical Plan expands UYRS’s prevention framework by incorporating mental health coaches, peer mentorship programs, and mindfulness integration. These additions deepen the emotional regulation pathway and reflect research emphasizing the importance of social-emotional competencies in violence prevention (CDC, 2016).



The plan also includes a goal that 80 percent of students report improved confidence and leadership skills. Student essays already reflect this growth. One wrote that the program “helped me gain confidence in myself”. Another described feeling “faster and braver” with every lap. Leadership development contributes to identity consolidation, which in turn strengthens commitment to pro-social norms.

INSTITUTIONAL SCALE AND PREVENTION INFRASTRUCTURE

The Tactical Plan's expansion to additional cities, establishment of advisory boards, and 30 percent annual funding growth target indicate a move toward systems-level prevention infrastructure. Violence prevention research increasingly emphasizes that sustained reductions require ecosystem-level strategies rather than isolated programming (CDC, 2016).

Quarterly progress reports, annual strategy reviews, and student impact surveys embedded in the plan demonstrate institutional evaluation maturity. This positions UYRS for federal and state funding streams that prioritize evidence-building capacity. The organization is evolving from a promising intervention into a scalable prevention system.

CONCLUSION

The Urban Youth Racing School functions as a developmental violence prevention system by embedding durable skill development within high-engagement STEM and workforce environments. Students practice emotional control in racing simulations. They practice precision and discipline in machining labs. They practice collaboration and belonging within peer teams. They practice future planning through workforce exposure. Research confirms that these mechanisms – emotional regulation, pro-social bonding, structured opportunity, and economic stability – reduce risk for violence over time (CDC, 2016; Dishion & Tipsord, 2011; Hawkins et al., 1992; Heller, 2014).

The 2025–2030 Tactical Plan demonstrates that UYRS is scaling these mechanisms institutionally. Students repeatedly articulate the transformation in their own words:

> *"Racing is not only about speed, but also about safety, focus, learning, and responsibility."*

> *"The skills I learn—like focus, quick thinking, and confidence—will help me in other parts of my life."*

> *"This program helped me build my confidence."*

In this model, violence prevention is not reactive. It is developmental. It is skill-based. It is identity-driven. And it is increasingly institutionalized.

UYRS provides youth not only with tools, but with a trajectory.

Not only with training, but with belonging.

Not only with opportunity, but with a future worth protecting

RECOMMENDATIONS

The findings from this evaluation demonstrate that UYRS is already functioning as a powerful developmental violence prevention model. The following recommendations are designed not to change the core of UYRS, but to strengthen, codify, and scale what is already working. Each recommendation supports sustainable growth while reinforcing the durable skills that drive long-term violence prevention outcomes.

1

FORMALIZE A STANDARDS-ALIGNED INSTRUCTIONAL AND ASSESSMENT FRAMEWORK

UYRS already embeds substantial academic rigor within its programming. Students learn Shop Math and applied mathematics through machining tolerances and measurement; they apply physics through aerodynamics and dragster design; they practice executive functioning through structured racing protocols and safety procedures. However, these competencies are not yet systematically mapped to Pennsylvania Academic Standards, Career and Technical Education standards, or recognized social-emotional learning frameworks.

Formal alignment would elevate UYRS from a high-quality enrichment program to a standards aligned ancillary academic partner. This shift would increase eligibility for state education funding, strengthen school district partnerships, and reinforce the credibility of UYRS's violence prevention claims by tying durable skill development to validated educational benchmarks.

This work should include a full curriculum crosswalk, development of a standards alignment matrix, and implementation of pre- and post-assessment tools that measure both academic growth and durable skill development (e.g., self-regulation, conflict resolution, executive functioning). Establishing measurable growth indicators will enhance funder confidence and position UYRS for evidence-building grants.

Strategically framed, this initiative is not about compliance; it is about demonstrating that UYRS produces measurable academic persistence and violence-prevention protective factors.

2

BUILD A FORMAL PROFESSIONAL DEVELOPMENT AND INSTRUCTIONAL QUALITY SYSTEM

The strength of UYRS is deeply rooted in instructor expertise, relational trust, and experiential pedagogy. However, as the organization grows, particularly under its 2025–2030 expansion plan, these instructional practices must be codified into a replicable and scalable professional development model. Investment in a formal instructional framework would ensure that teaching practices remain consistent, measurable, and explicitly aligned to violence-prevention outcomes across sites. This system should include trauma-informed training, de-escalation strategies, youth development pedagogy, coaching cycles, observation rubrics, and facilitator certification pathways. Data-informed facilitation training and integration of youth voice and culturally responsive teaching practices would further strengthen instructional impact.

Funders increasingly prioritize organizational infrastructure as a precursor to scale. Positioning this initiative as the development of a “standards-aligned instructional and mentorship framework tied to durable skill development” will align well with federal violence prevention grants, DOJ community-based funding streams, state innovation funds, and private foundations focused on youth workforce development. Professional development transforms UYRS from a strong program into a sustainable institution.

3

DEEPEN WORKFORCE AND POSTSECONDARY ALIGNMENT

The CNC 101 pathway already functions as an economic diversion model by exposing youth to legitimate, skilled career pathways. The next phase of growth requires strengthening and formalizing those pipelines. Expanding partnerships with community colleges, manufacturing firms, and technology companies will ensure that program completion leads seamlessly to credential attainment, apprenticeships, internships, and employment. Formalized apprenticeship agreements and structured career placement supports will reinforce the long-term economic stability pathway that underpins UYRS’s violence prevention impact.

Maintaining stipends and wage framing as extrinsic motivators remains important, particularly for youth navigating economic instability. However, these incentives should be consistently paired with professional identity development that reinforces the long-term shift from informal economies to sustainable careers. Clear transitions from skill-building to certification to employment will strengthen the “future worth protecting” mechanism identified throughout this evaluation.

4

PRESERVE AND EXPAND HIGH-ENGAGEMENT EXPERIENTIAL LEARNING

The evaluation consistently shows that experiential components—track time, simulator training, hands-on machining, and engineering design—are central to student motivation, discipline, and self-efficacy. Students describe these moments as transformative; instructors observe emotional regulation practiced most clearly in high-pressure racing simulations. As UYRS scales, preserving experiential intensity must remain a priority. Expanding access to track time, maintaining small instructional ratios, and protecting hands-on learning environments will ensure that durable skill development remains embodied rather than abstract.

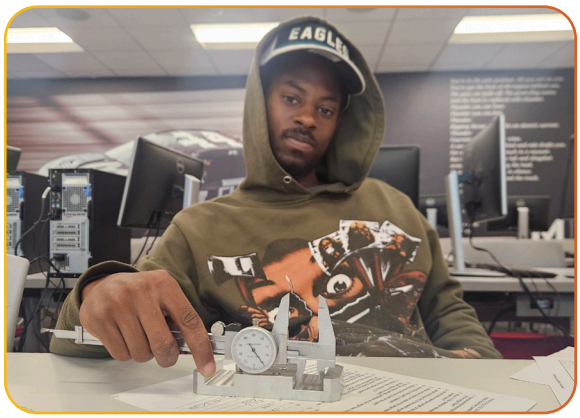
Innovation investments outlined in the Tactical Plan—such as advanced simulators, mobile STEM labs, and upgraded CNC machinery—should continue to support this experiential core. The excitement of motorsports is not peripheral to violence prevention; it is the vehicle through which regulation, teamwork, and perseverance are repeatedly practiced.

5

STRENGTHEN DIGITAL CONTINUITY AND ACCESS

While experiential learning is foundational, continuity of engagement is equally critical. Developing a structured digital learning ecosystem—including a formal Google Classroom platform and expanded Learning Management System integration—will allow students to maintain connection during absences and extend learning beyond physical sessions. Digital continuity can include recorded mini-lessons on shop math, reflection prompts tied to self-regulation, career exploration modules, and mentorship check-ins. This infrastructure increases dosage, reinforces skill retention, and reduces the risk of disengagement during attendance gaps.

As UYRS expands geographically under the Tactical Plan, hybrid and mobile learning systems will become increasingly important in maintaining program fidelity and equitable access.



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MAKE EMBEDDED MATHEMATICS AND DURABLE SKILLS MORE VISIBLE

UYRS integrates rigorous mathematics and executive functioning throughout its programming. However, these competencies are often implicit rather than explicitly articulated to students, families, and funders. Elevating and making visible the mathematics embedded in machining—through structured shop math mini-lessons, visual anchors, and aligned assessments—will strengthen academic credibility and demonstrate measurable learning gains. Similarly, explicitly naming and reinforcing durable skills such as emotional regulation, conflict navigation, persistence, and teamwork will deepen students' metacognitive awareness of their own growth. Implementing pre- and post-assessments for both technical skills and durable competencies will allow UYRS to quantify what students and parents already describe qualitatively: improved confidence, stronger discipline, and greater future orientation.

By making durable skill growth explicit, UYRS strengthens both its educational and violence prevention claims.

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ABOUT UYRS

UYRS FILM:
FOR THE WIN