



**Workshop Information Guide and
Analysis**

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Table of Contents

Introduction	3
Mission:	3
SPOKE Mission:	3
Philosophy:	3
Promise	3
Bikes4All Founding Principles:	4
SPOKE Overview	4
SPOKE Process Explained	5
GET Bikes:	5
GIVE Bikes:	6
Details for donation:.....	6
FIX Stage SPOKE Workshop Operations	7
1 Site Selection & Scheduling.....	7
2 Personnel Recruitment.....	7
3 Workshop Flow.....	7
4 Post-Session Close-Out.....	7
SPOKE Contextual Impact Analysis of Bikes4All's Donation and Recycling Exchange	9
GIVE	9
Contextual Overview: Bikes in California.....	9
Bikes4All: Direct Community Impact.....	9
GET: The Transformative Power of Receiving a Bike	10
Note from the editor.....	10
Impact on Teens, Working-Age, and Older Adults.....	10
Teens.....	10
Working-age adults.....	10
Older population groups.....	10
Economic Returns from Free Bicycles.....	11
Additional Benefits Worth Noting.....	11
FIX (SPOKE targeted stage): An Analysis of Hands-On Kinetic Education.	12
The Education Problem.....	12
The impact:.....	13
The SPOKE assisted FIX (Education).....	14
The Workforce Problem.....	15
The SPOKE assisted FIX (Workforce).....	15
The Mentorship Problem.....	17
The SPOKE assisted FIX (Mentorship).....	17
Concluding Remarks	19

Letter from the editor:..... **19**

Sources..... **0**

 Trends & Statistics0

 Sources under “The Education Problem”0

 Sources Under “The Workforce Problem”1

 Sources Under “The Leadership Problem”1

Introduction

Mission:

Bikes4All is catalyzing a movement where communities reclaim agency, rebuild value, and restore connection—one bike at a time. We align philanthropy with grassroots innovation to drive scalable, community-led solutions that advance environmental and economic justice for generations to come.

SPOKE Mission:

SPOKE (Specialized Program on Kinetic Education) is a collaborative, hands-on learning model where SPOKE participants work alongside experienced bike mechanics (GearHeads) to repair and repurpose donated bicycles. Through this process, students build practical mechanical skills, confidence, and career awareness, while mechanics grow as educators, mentors, and community leaders. By restoring bikes for community use, SPOKE not only promotes sustainability and mobility access, but also strengthens local capacity through shared learning and purposeful work.

Philosophy:

Our philosophy is rooted in the values of our community: sustainability, shared purpose, and active participation. We believe that impactful programming grows from within—designed with long-term relevance and guided by the people it serves. By fostering collaboration across generations and skill levels, we create spaces where learning, leadership, and contribution go hand in hand. This commitment to community-led development ensures that our work remains practical, inclusive, and lasting.

Promise

We promise to create accessible, hands-on opportunities that empower individuals, strengthen communities, and extend the life of every bike we touch. Through inclusive education, collaborative repair, and shared leadership, we commit to building a more sustainable, connected, and equitable future—one person, one skill, and one bike at a time.

Bikes4All | Founding Principles:

Bikes4All was founded on a simple yet powerful cycle: **get, fix, give**. These principles **guide everything we do**. We source discarded bikes, restore them through hands-on effort, and return them to the community—**creating value where others saw waste**.

While our focus is on bicycles, the get–fix–give philosophy can apply to many areas of life and learning. It’s a mindset—one that believes in second chances, shared work, and the idea that impact doesn’t require reinventing the wheel.

SPOKE | Overview

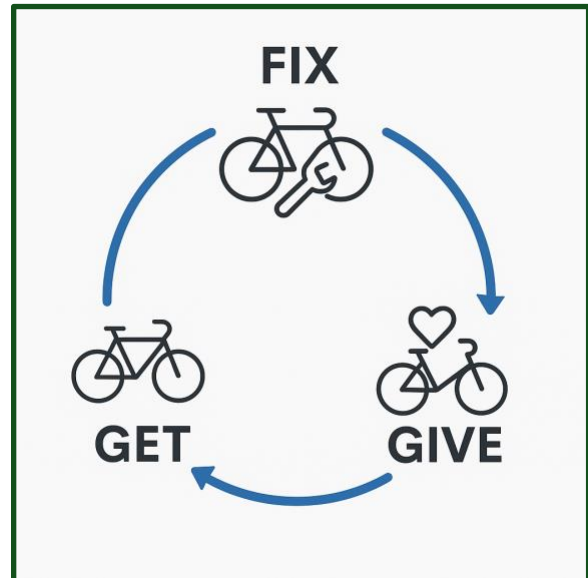


Figure 1

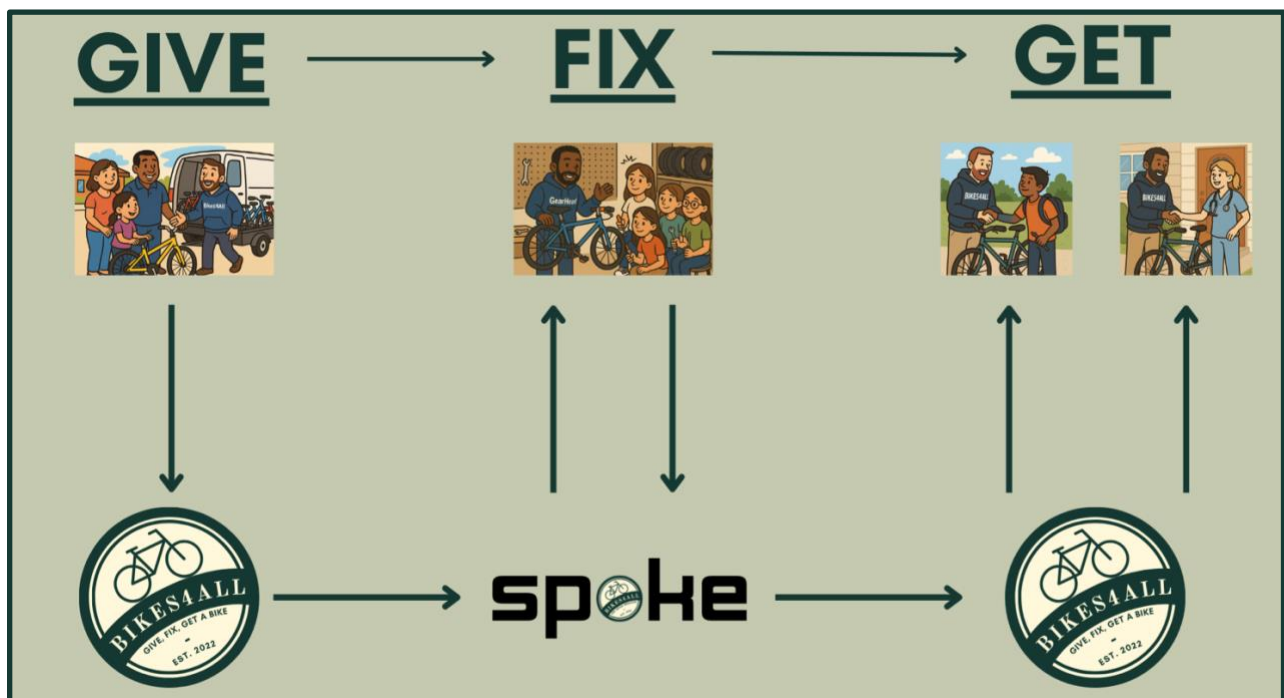


Figure 2

The figure above depicts how a bike moves through B4A and SPOKE. Reference the pictures for info on what goes on in each stage. Reference the illustrations at the bottom for info on where the bikes are.

SPOKE | Process Explained

SPOKE is Bikes4All's flagship, hands-on program. Although the instructional work takes place in **FIX**, the program functions inside a complete **get** → **fix** → **give** cycle; a clear understanding of **GET** and **GIVE** is necessary to understand SPOKE's purpose, integrity, and flow.

GET Bikes:

Bikes4All (B4A) secures donated bicycles through an organized community-recycling program. Every transfer follows one of two approved intake channels:

1. **Scheduled Collection Service** – B4A dispatches a certified staff member or volunteer team to retrieve bicycles directly from donors.
2. **Authorized Drop-Off Sites** – Community members deliver bikes to pre-announced locations — typically aligned with a SPOKE event or an independent B4A “Drop-Off Day.” These events are scheduled and managed solely at B4A's discretion.

Post donation:

- **Intake Tagging:** Each bicycle is logged against B4A's bike-health checklist and assigned a unique identifier; serial numbers are recorded for traceability.
- **Donor Documentation:** Donors are issued a charitable-contribution receipt for potential tax deductions. Completion and accuracy of this form remain the donor's responsibility.
- **Triage & Allocation:** following assessment, bikes are routed to the most mission-aligned destination—SPOKE workshops, auxiliary B4A programs, or direct placement with individuals or families in need.

B4A executes this protocol without exception to ensure accountability, maximize community impact, and maintain the integrity of our donation pipeline.

GIVE Bikes:

Details for donation:

1. Commitment to Non-Discrimination

B4A is an equal-opportunity service provider. We **do not discriminate** on the basis of race, color, nationality, ancestry, citizenship, religion, creed, gender, gender identity or expression, sexual orientation, age, disability, veteran or military status, income level, immigration status, or any other characteristic protected by federal, state, or local law. This policy applies uniformly to every stage of our donation process—from application through final delivery.

2. Confidential Selection Process

- **Governance:** All recipient determinations are conducted by a designated committee of the Board of Directors.
- **Privacy:** Applicant information is reviewed in strict confidence and stored in accordance with IRS 501(c)(3) record-keeping requirements and B4A's internal data-security protocol.
- **Integrity:** Board members recuse themselves from any case in which a conflict of interest could arise.

3. Needs-Based Prioritization

- Given finite inventory, **B4A allocates bicycles where they will create the greatest immediate impact.** Priority is extended to individuals who can document:
 - Imminent transportation barriers affecting employment, education, or medical access
 - Demonstrated financial hardship (e.g. qualifying for SNAP, TANF, Medi-Cal, or equivalent programs)
 - Referral from a recognized social-service agency, school counselor, or B4A partner organization

4. Zero-Cost Transfer of Ownership

Recipients incur **no fees or hidden charges**—labor, parts, safety checks, and basic accessories (lights, lock, and helmet when available) are provided at B4A's expense. Full ownership transfers to the recipient upon delivery.

By adhering to this distribution framework, B4A safeguards equity, accountability, and mission fidelity.

FIX Stage | SPOKE Workshop Operations

B4A's FIX phase transforms community-donated bikes into safe, ride-ready machines while training students in hands-on mechanics. The entire workflow is governed by the following standard operating procedure (SOP).

1| Site Selection & Scheduling

1. The Program Manager designates a host venue (e.g., Aptos High School shop room, Capitola Mall storefront) at least four weeks in advance.
2. A Memorandum of Understanding (MOU) with the host institution secures workspace, utilities, and on-site safety compliance.
3. Workshop dates and time blocks (4 hours per session) are published on the B4A events calendar.

2 | Personnel Recruitment

Role	Pipeline	Notes
GearHeads (Volunteer Mechanics)	Self-register via www.b4a.bike/volunteer	Background-checked
Students	a) School club roster b) Direct sign-up through B4A	Open to all ages/skill levels

B4A enforces a live student-to-GearHead ratio of 3:1 (preferred), flexing to 4:1 when demand surges; a 5:1 ratio is permitted only under Workshop Manager approval.

3 | Workshop Flow

1. **Bike Assignment** – Each *GearHead*-student cluster receives a tagged “SPOKE” bike sourced from community donations.
2. **Demonstrate & Do** – *GearHead* explains the diagnostic and the repair, performs the first maneuver, then guides the student through executing it independently.
3. **Progression** – Once a bicycle passes initial safety checks, the team pulls the next project bike and repeats the cycle for the full four-hour block.
4. **Quality Assurance** – A certified B4A inspector (staff or senior volunteer) road-tests each completed bike and signs off on a safety checklist before it leaves the floor.

4 | Post-Session Close-Out

- Inventory Update: Serial numbers, parts consumed, and labor hours are logged in the SPOKE database.

- Debrief: GearHeads provide rapid feedback to students; Program Manager captures lessons learned for process improvement.
- Reset: Workstations are sanitized, tools are re-racked, and any bikes still in progress are quarantined for the next session.

By executing this protocol without deviation, B4A ensures every SPOKE workshop delivers rigorous mechanical education, maintains safety standards, and maximizes the throughput of fully refurbished bicycles for community distribution.

SPOKE | Contextual Impact Analysis of Bikes4All's Donation and Recycling Exchange

To clearly understand and evaluate the full impact of the SPOKE program and its various components, the following detailed analysis has been undertaken.

GIVE

Contextual Overview: Bikes in California

Each year, approximately **15 million bicycles are discarded** throughout the United States. In California alone, the situation is especially notable: roughly **4,000 bicycles** are disposed of annually in the Bay Area. When we scale these numbers to reflect California's population, which comprises about **12% of the national total**, we find that an estimated **1.8 million unused bicycles** are discarded statewide each year.

Bikes4All: Direct Community Impact

Since its establishment, Bikes4All has been actively addressing this issue by processing **over 200 bike donation requests**. Valued at an average of **\$325 per used**, these donations have generated approximately **\$65,000 in direct community impact**. This number becomes even more compelling when extrapolated statewide, highlighting that California potentially discards around **\$585 million worth of bicycles annually**.

Emerging Trends: The Rise of E-Bikes

There is an additional factor influencing the cycling landscape: the rapid growth of the e-bike market. Currently valued at \$61.9 billion in 2024, this market is expected to nearly double, reaching **\$113.6 billion by 2030**. In parallel, e-bike adoption among U.S. cyclists has surged from 7.8% to 19.4%, indicating a clear and accelerating shift away from traditional bicycles. As a result, adopters of e-bikes will be more likely to discard their older, more traditional bicycles, leading to an increase in bike waste.

Statement from Bikes4All

Bikes4All acknowledges and actively responds to these shifting dynamics. As California embraces the e-bike revolution, we recognize both the opportunities and responsibilities presented by the increasing volume of discarded traditional bicycles. Through the SPOKE program, we focus on reducing environmental impacts, improving community mobility, and fostering vocational education. This comprehensive approach allows us to transform an environmental challenge into an enduring, community-driven solution.

GET: The Transformative Power of Receiving a Bike

When someone receives a bike through Bikes4All's SPOKE program, the effects are profound and multifaceted—touching health, mobility, economic opportunity, and personal well-being. Drawing on a breadth of studies, we can trace how delivering one bicycle ripples through a person's life and their community.

Note from the editor:

“The benefits of cycling are extensive—far too many to list comprehensively in a single document. Below, we've highlighted what we believe to be the most impactful and relevant points for our community. If you have specific interests or require insights tailored to your industry, please feel free to reach out directly to us at iman@b4a.bike. We'd be happy to provide personalized information and assistance.”

Impact on Teens, Working-Age, and Older Adults

Teens

Teenagers benefit in ways that reach beyond mere transport. Regular cycling—from school to errands—increases physical activity, reduces sickness absence, and bolsters mental resilience. Data shows that even modest cycling—around 100 minutes a week—lowers all-cause **mortality risk by about 17 %**, compared to non-cycling peers. Young people who gain autonomy through a bike often gain confidence too: they discover independence, improved attendance at school or after-school programs, and opportunities for social and vocational growth.

Working-age adults

For working-age adults, a bike primarily delivers practical mobility and savings. Commuting by bike reduces dependence on cars and transit, leading to direct cost reductions. Studies show that every bicycle commute yields gains in individual savings and community stimulus. Returns include increased discretionary spending and enhanced local commerce activity. Investment in bicycling yields economic returns of approximately **\$2.50–\$3.00** (upwards of \$2 in USD) for every dollar spent on public bike programs.

Older population groups

Among older adults, the health benefits are particularly impactful. Regular cycling **lowers the risk** of cardiovascular disease, type 2 diabetes, obesity, and all-cause mortality—even for those starting later in life. It also supports sustained engagement in civic and social life by preserving mobility for errands, appointments, and social visits.

Economic Returns from Free Bicycles

The benefits of donating a free bike aren't just individual—they echo in broader economic terms as well:

- **Health savings:** Regular cycling prevents chronic diseases, easing future healthcare burdens. Copenhagen data estimates societal savings of \$0.20 per kilometer cycled—totaling around US\$91 million annually in healthcare savings alone.
- **Stimulating local commerce:** Bicyclists spend money locally—on repairs, accessories, food, and services. One study estimates public bike investments generate close to \$2.00 per euro invested when combining economic and health benefits.
- **Enhanced workforce productivity:** Healthier individuals translate into fewer sick days and improved work output. Communities see gains in workforce participation and reduced absenteeism.
- **Addressing mobility equity:** Programs offering bikes—especially to low-income individuals—reduce transportation barriers. People free from transit or car costs can redirect spending into essentials, savings, or local commerce. Lending and donation programs help level access when owning a bike would otherwise be unaffordable.

Additional Benefits Worth Noting

- **Environmental and sustainability gains:** Each mile ridden by bike avoids emissions that would otherwise cost society through pollution, congestion, and fuel use. Community bike programs help reduce carbon footprints in aggregate.
- **Social inclusion and integration:** Bike programs, especially in underserved areas, build mobility autonomy that supports employment, education, and access to resources. This can reduce social isolation and bridge equity gaps.
- **Long-term behavioral change:** Once an individual gains a bike and uses it, they are more likely to continue active transport habits. Short-term access can lead to sustained uptake and adoption of cycling habits—especially if accompanied by education and community support.

FIX (SPOKE targeted stage): An Analysis of Hands-On Kinetic Education.

While the majority of SPOKE participants are high-school aged students, we still direct our program to many others interested in the practice of bike repair.

While there are unlimited numbers of benefits from our program, We have identified three major impacts that are most relevant to local, and regional trends and concerns. These are: educational, workforce related, and leadership.

The Education Problem

The decline of hands-on, technical education in California and across the U.S. is unmistakable. Over the past decade, schools have increasingly shifted their focus toward academic testing and college-preparatory coursework, often at the expense of vocational learning. As a result, practical classes like auto shop, woodshop, and metalworking—which once provided students with real-world skills and exposure to skilled trades—have rapidly disappeared from high school curricula.

- Fewer than half the auto shop classes that existed in California 30 years ago remain today, with many districts entirely eliminating traditional shop programs since the 1990s.
- Only about 20% of California public high school graduates now complete a Career Technical Education (CTE) pathway, a proportion that has stayed stubbornly flat despite new investments.
- Even after recent efforts to expand CTE, just 23% of California high school students are enrolled in a career-prep pathway, leaving the vast majority without meaningful exposure to hands-on learning.

This trend is further exacerbated by ongoing funding and policy changes. In 2013, California shifted to a new funding formula that no longer set aside dedicated support for vocational programs. Instead, schools now rely on competitive grants and must often choose between academic enrichment and maintaining shop facilities.

- Schools—especially in small or rural districts—struggle to afford the equipment, facilities, and staffing required for high-quality technical education.
- The average number of CTE credits earned by high school graduates nationwide declined significantly from the early 1990s through the 2010s, while academic requirements and testing continued to intensify.
- Nationwide, CTE participation has dropped, with the percentage of students completing a concentrated vocational sequence falling from 27% in the early '90s to just 20% by 2013.

The impact:

As hands-on and vocational programs have faded from the educational landscape, students have lost more than just a set of elective options—they've **lost access to powerful forms of engagement**, growth, and self-discovery. Without the chance to work with their hands, many students miss opportunities to develop problem-solving abilities, confidence in their practical skills, and **a tangible sense of accomplishment**.

This shift disproportionately **affects those who learn best by doing**—students for whom traditional classroom settings may not fully capture their strengths or spark their interests. For these learners, the absence of technical education can lead to disengagement, decreased motivation, and, in some cases, a diminished sense of belonging at school. The pathway from curiosity to career becomes less clear, and students who might have thrived in trades or technical fields often leave high school without a clear direction.

Beyond individual impact, **the erosion of hands-on learning narrows the broader range of skills and perspectives** that schools can cultivate. Students lose the chance to collaborate in diverse teams, encounter real-world challenges, and develop resilience in the face of setbacks—all experiences that are foundational to personal and professional growth. Ultimately, as the divide between academic and practical learning widens, students face a world with fewer entry points for exploration, creativity, and future opportunity.

The SPOKE assisted FIX (Education)

SPOKE restores what many schools have lost: a pathway for students to experience the satisfaction, challenge, and purpose of hands-on learning. In every FIX workshop, **participants are immersed in an environment where learning is tactile, collaborative, and immediately relevant.** Instead of passive observation, students take on real responsibility—diagnosing problems, handling tools, and making decisions with the guidance of experienced mentors. For many, this is the first time they have been trusted to repair and restore something that will go on to help another person in their community.

- Engagement and agency: In a typical SPOKE cycle, **students collectively refurbish over 480 bikes annually.** Each repair session brings together 8–12 students and 3–4 mentors, ensuring personalized guidance and a strong sense of teamwork.
- Skill-building: **Students log 25–40 hours per year in hands-on workshops,** learning not just mechanical skills but critical problem-solving, communication, and leadership abilities.
- Real-world outcomes: **SPOKE participants report a greater sense of confidence and independence after just one workshop.**

Beyond technical proficiency, **SPOKE gives students a space to take risks, make mistakes,** and persist through challenges—all within a supportive, purpose-driven community. Participants don't just fix bikes; they build resilience, pride, and connections that carry beyond the workshop.

- Students see their direct impact, as every repaired bike goes to someone in need—transforming learning into visible, meaningful change.
- Mentorship is central: students interact with local mechanics and volunteers, gaining access to real career stories and practical advice.
- The inclusive, low-barrier setting welcomes students of all backgrounds, including those who may not feel at home in a traditional classroom.

Through SPOKE, the gap left by the decline of hands-on education is filled with real opportunity. Every FIX session proves that when students are trusted with real work, they rise to the challenge—gaining not just skills, but also a renewed sense of agency, belonging, and purpose.

The Workforce Problem

California's workforce is facing a mounting and increasingly visible crisis: a mismatch between the skills employers need and the education students receive. While the state's economy continues to demand workers in construction, mechanics, transportation, and other technical fields, high schools and even some community colleges have failed to produce a reliable pipeline of skilled, career-ready graduates.

This breakdown is rooted in the steady erosion of hands-on vocational education at the secondary level. As schools prioritized academic test scores and college enrollment rates, practical trade experience was squeezed out—leaving employers with a growing skills gap and students with fewer pathways into the workforce.

- California's Employment Development Department lists many skilled trades—like electricians, HVAC techs, and auto repair—as among the fastest-growing job sectors, yet contractors consistently report difficulty filling these roles.
- **A 2021 PPIC study found that nearly 70% of California employers struggle to hire for middle-skill jobs,** citing lack of technical experience and preparedness.
- Community colleges across the state report that fewer high school graduates are entering trades, linking the drop-off directly to reduced CTE access in high school.
- With California's workforce aging and retirement rates climbing, **the state faces an urgent need to upskill young workers, especially in non-bachelor degree roles that support infrastructure, logistics, and environmental targets.**

This isn't just an economic issue—it's also one of equity. The decline in vocational education limits upward mobility for students who may not pursue four-year degrees. It narrows the definition of success in school and disconnects education from local labor needs. As a result, California finds itself with both a shortage of skilled workers and a surplus of young people unsure of where they fit.

The SPOKE assisted FIX (Workforce)

SPOKE reintroduces the kind of experiential learning that labor economists, policymakers, and employers agree is critical to rebuilding the skilled workforce. **While many educational institutions struggle to keep up with changing economic demands, SPOKE inserts itself precisely at the junction where student interest, mentor expertise, and local labor needs meet.**

- By creating a structured, repeatable environment for technical exploration, SPOKE gives students their first taste of vocational identity—one that's hands-on, high-impact, and deeply needed.

- Each year, roughly **150–200 students** participate in SPOKE FIX events across multiple California schools.
- Students collectively refurbish over **480 bikes annually**, simulating work conditions that mirror mechanics, technicians, or field-service careers.
- Over **60% of participants** express interest in exploring further technical or trade-related fields after a single SPOKE cycle.

Unlike theoretical classroom instruction, SPOKE demands real-time problem solving. A broken derailleur or warped rim isn't an abstract exercise—it's a challenge that must be addressed, together, with tools in hand. In the process, students build not only skills, but vocational confidence.

- Students log **25–40 hours** of wrench time per cycle, enough to form muscle memory, pattern recognition, and mechanical logic.
- Mentorship from professional or semi-professional mechanics offers direct exposure to trade language, workflows, and career paths.
- The “mission-driven” format—donating repaired bikes to healthcare workers, low-income residents, and essential laborers—provides additional purpose, often missing from entry-level job training.

Most critically, SPOKE welcomes students who may otherwise be excluded from workforce-aligned programming—either due to GPA requirements, college pressure, or lack of resources. The FIX stage is not selective; it is instructive. It helps students see their hands as tools, not just in service of a bicycle, but of their future.

The Mentorship Problem

One of the less visible but profoundly impactful crises facing today's youth is the steep decline of mentorship and community connection. Amid growing individualism, rising isolation, and fewer meaningful interactions with caring adults, young people today are left increasingly alone to navigate critical developmental and career transitions.

Mentorship is more than guidance—it's a critical social anchor. Yet recent trends reveal troubling gaps:

- Nationally, nearly **35% of youth today report having no meaningful adult mentor** at any point during their formative years. This marks a significant generational decline from Millennials.
- Volunteerism—once a key source of mentorship—has reached its lowest rate in nearly two decades, severely restricting the supply of adults willing or able to mentor.
- Youth from low-income, Black, Hispanic, and historically underserved communities disproportionately bear the brunt of this absence, experiencing fewer mentorship opportunities and even greater isolation from networks of support.

As mentorship wanes, so do key opportunities for young people to develop leadership qualities, resilience, and the capacity to navigate life's complexity. The absence of mentors leaves youth without role models who can demonstrate practical wisdom, offer encouragement, and foster meaningful ambitions. This gap fuels not just personal isolation but also wider social divides.

- **The decline of natural mentors, such as teachers, coaches, and neighbors, has accelerated in recent years, removing critical opportunities for informal but powerful community support.**
- Despite a rise in structured mentoring programs, there remains a persistent shortage of adult volunteers, leaving many willing youth unmatched.
- Research consistently confirms that effective mentorship improves self-esteem, school engagement, civic participation, and overall life outcomes. Yet fewer young people than ever are receiving these benefits.

Without intervention, the mentorship gap threatens to deepen divides and undermine the next generation's capacity to lead, connect, and thrive.

The SPOKE assisted FIX (Mentorship)

Where broader society struggles to deliver meaningful mentorship, SPOKE excels. Through the FIX stage, SPOKE carefully pairs students with skilled mechanic-mentors—individuals who not only teach technical skills but also actively model leadership, collaboration, and interpersonal connection.

SPOKE restores mentorship not just as an ideal, but as an everyday reality embedded in the experience of fixing bikes together. These interactions are intentionally designed to bridge the mentorship gap:

- Every year, SPOKE connects roughly **200 students** with local mentors—mechanics, educators, and community leaders—providing each participant over **25 hours of dedicated mentorship** in small-group settings.
- With mentor-to-student ratios maintained at around **1:3**, every student receives meaningful personal attention and direct coaching.
- **75% of students** report their mentor as a critical factor in their growing confidence and leadership abilities, with many citing these relationships as among the most valuable outcomes of the program.

Unlike typical adult-student interactions, SPOKE mentorships are action-oriented and reciprocal. Students and mentors collaborate toward common, tangible goals, creating trust through shared achievement. Mentors guide students through technical challenges, navigating setbacks with patience, encouragement, and real-world wisdom.

- Mentors serve as visible role models, demonstrating practical leadership skills, from effective communication and problem-solving to teamwork and accountability.
- Through informal conversations during bike repairs, students gain insight into diverse career paths, real-world applications of skills, and the day-to-day responsibilities of leadership.
- SPOKE also equips mentors with training, ensuring they can effectively translate their personal and professional expertise into accessible lessons and supportive relationships.

By investing deeply in mentorship, SPOKE not only rebuilds bikes—it also rebuilds crucial social infrastructure, connecting isolated youth to adults who actively show them what it means to lead, to belong, and to give back.

Concluding Remarks

SPOKE is more than a program—it is a statement about what is possible when education, sustainability, and community intersect. At a time when schools often lack the capacity to provide hands-on, vocational learning, SPOKE fills that gap with mentorship, problem-solving, and purpose. The refurbished bikes that leave our workshops are not just mechanical objects; they are symbols of mobility, empowerment, and opportunity for families who need them most.

The journey ahead is ambitious. Scaling SPOKE across California will require commitment, collaboration, and creativity. Yet, the stories of students who discover confidence through a wrench, or families who receive the gift of a bike, remind us that the effort is both necessary and worthwhile. SPOKE represents the wheels of opportunity in motion—sustaining youth, strengthening community, and setting a course toward a more equitable future.

Letter from the editor:

As I reflect on this paper, I am reminded of why SPOKE exists: because people deserve to learn with their hands, solve real problems, and see the direct impact of their work on the lives of others. Too often, education is confined to the theoretical; SPOKE demonstrates the power of blending theory with practice.

This paper is not meant to be the final word, but rather an invitation—to educators, mentors, policymakers, and community members—to imagine education differently and to join us in making that vision real.

On behalf of Bikes4All, thank you for taking the time to engage with SPOKE. I hope you see within these pages the urgency of our mission and the promise of what lies ahead.

With gratitude,

Iman Moshari

Founder & Executive Director

Bikes4All

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