Aligning Future Career Academies with Economic Opportunity for East Oakland Youth

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Schools are at the Heart of Health in our Communities
PLUS Leadership Regional Learning Initative
Fellows Report 2012-2013







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Client report submitted in partial satisfaction of the requirements for the degree of Master of City Planning in the Department of City and Regional Planning of the University of California, Berkeley

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Executive Summary

Project Objective

This project seeks to identify opportunities for Youth UpRising (YU) to support and collaborate with the Oakland Unified School District (OUSD) in developing a new career academy at Castlemont High School, both in support of OUSD's goal to enroll 80% of secondary students in career academies by 2015 and Youth Uprising's goal to foster economic development in East Oakland while connecting youth to long-term employment. To that end, this paper analyzes potential career academies against the current economic and educational landscape of the East Bay and provides tools for YU and OUSD to work together in the development of a career academy at Castlemont High School that prepares East Oakland youth for real workforce opportunities in the East Bay.

Career Academy Analysis

After an analysis of workforce data, a review of local economic development strategies, and extensive interviews with staff at OUSD, City of Oakland agencies and local nonprofits, three career academies – finance, health sciences, and advanced manufacturing – have emerged as most promising. This paper presents an analysis of the opportunities and challenges for each.

Potential Career Academies – Summary of Strengths and Weaknesses

Strengths Weaknesses

Finance

- Unmet need in OUSD there is only one high school finance academy in development
- Skills have broad applicability for many fields, including entrepreneurship
- Opportunity to partner with UniversityNow for classes at the Patten University campus
- Could be tailored to dovetail with YU's youth leadership development programs
- Off-campus classes present transportation challenges and can lead to attendance drop off
- Local job growth in sector is expected to be weak

Health Sciences

- High level of confidence about future employment growth due to health care reform and aging population
- Leverages YU's existing relationships and postsecondary pathway in health
- Offers careers for varying levels of education with a wide variety of advancement potential
- There are many health academies within OUSD already
- The most accessible jobs such as home health aide – are lower-paid and offer low mobility
- Preconceived notions of field may limit interest in sector from young men

Advanced Manufacturing

- National interest in on-shoring and supporting domestic manufacturing
- Unmet need for skilled replacements of graying workforce
- Leverages local momentum around "Design It, Build It, Ship It," which will provide infrastructure for postsecondary career pathways
- Strong partners at Laney College

- Uncertainty about potential for significant growth of new jobs, despite optimism about LBNL and Port of Oakland expansions
- Potential business partners tend to be smaller shops, leading to higher overhead in building relationships
- "Design It, Build It, Ship It" does not incorporate secondary schools
- Preconceived notions of field may limit interest in sector from young women

The best fit for the Castlemont community and the East Bay's economy may be a more tailored approach to one of these traditional academies. Two potential hybrids that take advantage of both local employment opportunities and institutional strengths within YU:

- Advanced manufacturing for biotechnology. This approach combines the momentum of such manufacturing initiatives as "Design It, Build It, Ship It" with the acknowledged strength of the health sector.
- Community development finance academy. This approach could marry a business-oriented curriculum with YU's proven strength in fostering youth leadership to nurture a new generation of change agents for East Oakland.

Additional Findings and Recommendations

Interviews surfaced several additional issues that provide opportunities for action by Youth Uprising and OUSD as they move forward.

- Despite the challenging year that the Castlemont community is having, steps that YU and OUSD can take now to support the launch of a new academy include:
 - Host professional development events on linked learning, particularly with an eye to building
 excitement among faculty, understanding faculty interest areas, and bringing potential
 industry partners to the table to discuss opportunities for careers and work-based learning.
 - Administer career aptitude assessments to understand where student interests and strengths lie. OUSD has the tools to conduct these tests quickly and easily.
 - Engage youth in further pathways research through Y-PLAN (youth-led planning) and health-impact assessments.
- Teachers are rarely equipped to cultivate the industry relationships required to build a fully-rounded linked learning program, nor do they have sufficient time to devote to this critical task. And, even when partnerships can be developed, they must be maintained in the face of frequent teacher turnover.
 - Develop tools to help faculty understand the industry partners who can support their work for each of the potential academies, such as stakeholder maps outlining the roles played by various local agencies and organizations.
 - Create a channel for sharing up-to-date workforce and economic development data with teaching staff to keep them abreast of employment and industry trends.
- Potential partners in the civic and private sectors have misconceptions about what career academies
 are and the role that outside partners play in their success. In addition, these potential partners find it
 difficult to respond to broad invitations to participate, preferring requests for specific types of
 support.
 - Develop tools to facilitate communication between faculty and industry partners who can support their work for each of the potential academies, such as standard forms to streamline the process of finding work-based learning opportunities for both teachers and industry partners as well as FAQs about linked learning.
 - Continue to engage the city's economic development team to support collaboration between the civic sector and the school district.

Introduction

East Oakland's Castlemont High School is undergoing a process of transformation from a campus of several small, autonomous schools to a single full-service community school. At the same time, Castlemont High's next-door neighbor, Youth UpRising (YU) is broadening its mission to include neighborhood transformation in an acknowledgement that place and local opportunities matter to the prospects of the youth they serve. Adopting a theory of change that encompasses transformations at the personal, community and systems levels, YU is making an ambitious and comprehensive plan to revitalize their community at the same that the school district has embraced the powerful role of schools in their neighborhoods.

Youth UpRising's theory of change



YU's dual goals are to revitalize the local corridor and to help neighborhood youth take advantage of job opportunities in the greater East Bay. In support of local community and economic development, YU hopes to help prepare youth for and connect them to the labor force in a meaningful and lasting way. The goals of Castlemont High School and Youth Uprising dovetail closely, but there is no road map for collaboration between community-based organizations and school districts on neighborhood transformation. This report will explore the opportunities and barriers for the two organizations to work together toward this goal through the creation of a new career academy at Castlemont High.

Project Objective

This project seeks to identify opportunities for Youth UpRising to support and collaborate with the Oakland Unified School District (OUSD) in developing a new career academy at Castlemont High School, both in support of OUSD's goal to enroll 80% of all secondary students in career academies by 2015 and Youth Uprising's goal to foster economic development in East Oakland. Specifically, this paper analyzes potential career academies against the current economic and educational landscape of the East Bay and provides tools for YU and OUSD to work together in the development of a career academy at Castlemont High School that aligns East Oakland youth with

How can Youth Uprising support Castlemont High School's linked learning programs to build more robust pathways to jobs for East Oakland youth?

workforce opportunity in the East Bay. To that end, this work compares the career pathways with the most local support up to the economic development strategies of local agencies, the trends in economic growth, as well as local institutional assets for opportunities to align and leverage efforts.

Why a Career Academy?

A career academy is a small thematic learning community within a larger comprehensive high school. Though career academies have a specific industry focus, such as law, engineering, or fashion and design, they are not vocational schools. Rather, they provide students with a college-preparatory curriculum and project-based learning opportunities that help them make the link between academics and their real world applications. Instructors across all disciplines collaborate to ensure that each class incorporates curriculum tailored to a given industry so that a budding designer can see how he may use math in his career and the future lawyer understands the relevance of history to her chosen vocation. Students in these academies also learn specialized technical skills that they can carry directly into the workplace, such as lab skills for health sciences students. The final, critical, component of a well-implemented career academy is work-based learning that provides students with real experience in using their newly acquired skills and exposes them to the larger world of work.

Research shows that career academies improve attendance and increase the likelihood that students will gain the credits needed to graduate on time. At Castlemont High School, where the drop-out rate is high, keeping youth in school through graduation is a struggle, and a primary goal. In addition, graduates of career academies earn an average of 11% more than their non-academy peers. Importantly, these results are shown to be particularly strong among young men of color (Stern and Hoachlander 2011). If a new career academy can help graduate more students, who are better prepared for work, with a stronger earning capacity, the goals of YU and OUSD will be well met.

Methods

This work is informed by interviews with stakeholders from education, workforce development, and local economic development agencies as well as a review of economic development policies, labor force data, and education literature. In developing the analysis, recommendations, and tools in this report, I looked across these resources in search of opportunities for synergy as well as potential conflicts. This resulted in an analysis of job market trends in the East Bay for three possible academies with an assessment of the strengths and weaknesses of each, including a map of stakeholders in the school-to-career continuum that can be used to clarify the education, civic, and industry representatives who ought be included to ensure linked learning initiatives are preparing youth for long-term success in the local workforce. This synthesis also brought to light additional tools that could be helpful to YU and OUSD as they deepen their collaboration.

Background

Youth Uprising and the Context of East Oakland

Although Youth Uprising has historically been a youth-serving organization, offering such services as after-school programs, youth leadership development and a summer job placement, in recent years the organization has expanded its focus to include community and economic development. As staff has learned more about the economic factors that put youth at a disadvantage, the organization has added programs to bring economic opportunity to the area. As part of their efforts, YU is an active partner in the East Oakland Building Healthy Communities economic development working group – a group that bridges sectors to support economic growth by improving job training to increase job readiness and access to living wage jobs. All of these efforts are attempts to address both the decades of historical disinvestment East Oakland has suffered as well as more recent damage from the foreclosure crisis and subsequent economic downturn, both of which struck East Oakland particularly hard. These factors continue to contribute to Oakland's continuing high rates of unemployment and foreclosure compared to the rest of the Bay Area (OWIB 2011).

Educational Landscape and Policies

Oakland Unified School District has been named the most improved urban school district in California for the past eight years in a row (OUSD n.d.). However, the improvements so dramatically measured in rising test scores at elementary schools have not reached most of Oakland's high schools, many of which still have poor academic achievement, as measured by API (GO Public Schools 2012). In an attempt to address these ongoing challenges, and, in particular, the inequities in educational outcomes for students of color, OUSD adopted a new strategic plan to become a full-service community schools district in 2011. This commitment to more comprehensive services is intended to help address the challenges – beyond traditional academics – that make it difficult for students to succeed in school. Similarly, at the state level, California educators are embracing the model of linked learning, which prepares students for the broadest range of post-secondary educational and career options by engaging them in project-based learning and introducing them to the world of work. OUSD has set a goal, as part of its strategic plan, to have 80% of secondary students in linked learning programs, such as career academies, by 2015. (See box for a brief overview of each of these

education reforms) It is important to note that the district has funding now to support the launch of a new academy. This creates an additional sense of urgency around getting an academy of the ground soon.

Transitions at Castlemont High School

For many years the Castlemont campus was home to three separate small high schools. Although these small schools were meant to create an intimate setting for learning, they also increased overhead dramatically as each school bore the cost of a full administration. This year, those small schools have been reconsolidated into a united Castlemont, but the transition has not been entirely smooth. Enrollment at the campus continues to drop – it has gone from 869 students in 2010-11, to 699 in 2011-12 to 649 (unofficial) at the beginning of the 2012-13 school year (J. Wing interview). Castlemont's administrative team appears to be fully occupied with the task of reintegrating the campus and running the school. Despite the district's goal to guide most secondary students toward career academies, the campus currently houses only one. The Sustainable Urban Design Academy (SUDA), with approximately 60 students, focuses on urban food systems. YU and

Overview of education reforms

Full Service Community Schools – Based on the model of the Children's Aid Society schools in New York City, full-service community schools acknowledge the role that schools can play as centers of community while also seeking to address the role that environment beyond the school grounds can play in a child's ability to thrive academically. Such a school provides:

- A strong core instructional program as an academic foundation
- Educational and cultural enrichment for expanded learning opportunities.
- Social, health, and mental health services to help remove barriers to learning

For additional information, visit the National Center for Community Schools website (http://nationalcenterforcommunityschools.childrensaidsociety.org/).

Linked Learning – A district- and state-level reform that provides support for college and career pathways with a focus on project-based learning. Linked learning could be considered an expression of full-service community schools at the secondary level. A well-designed program consists of four components:

- Challenging academics: A rigorous academic curriculum tied to real-world applications prepares students for college, apprenticeships and employment training programs.
- **Technical skills and knowledge:** Career and technical coursework emphasizing the practical use of academic learning to prepare youth for high-skill, high-wage employment.
- Work-based learning: Opportunities to learn through real-world experiences such as job shadowing, internships, and school-based enterprises.
- **Support services:** Counseling and supplemental instruction in academic fundamentals to prepare students for the transition to college and career.

For additional information, visit ConnectEd (http://www.connectedcalifornia.org/linked_learning).

Career Academies – Small teacher-led learning communities with a defined cohort of students within a larger school. A career academy is the site-level expression of linked learning around a specific career or industry sector focus. All career academies share three foundational elements:

- **A small learning community**, made up of a group of students from within a larger high school community, taught by a cross-disciplinary team of teachers.
- A college-preparatory curriculum with a career theme, that helps students see relationships among academic subjects and the real-world applications of their studies.
- External partnerships with employers, the community, and local colleges, bringing resources from outside the high school to improve student motivation and achievement, and sharing student expertise with the community.

For additional information, visit the Career Academy Support Network (http://casn.herkelev.edu/)

Pueblo, another local nonprofit, currently support SUDA by providing the work-based learning component at on-campus enterprises including urban agriculture and a new aquaponics facility (S. Shoraka interview).

Economic Development in Alameda County

There are many agencies working to foster economic growth in the East Bay. The Oakland Workforce Investment Board (WIB) and the City of Oakland's Economic Development Department are each in the process of creating sector-based strategies for workforce and economic development. In addition, the East Bay Economic Development Alliance (EDA) and the Association of Bay Area Governments (ABAG) are actively striving to understand which sectors hold the best opportunities for economic growth. Each of these agencies, plus the Chamber of Commerce, acknowledge in their literature the need to engage directly with schools both to improve the quality of the available workforce and to better attract new businesses. However, none has a well-developed strategy for coordinating with OUSD. In addition, many don't talk amongst themselves. In fact, there is not always agreement even within an agency on what the current strategy is.

The most frequently discussed sectors, chosen for their economic promise as well as their alignment with Oakland's traditional strengths are health and wellness, trade and logistics, food and beverage retail and production, clean and green technology, and the creative economy – which encompasses both physical creation (from artisanal products to light industrial) as well as ideation in such fields as design, digital media, and the performing arts. The EDA also

Though there is rough consensus on key areas of focus, based on economic trends and historic local strengths, economic development strategies for the City, the WIB and the Chamber of Commerce are all in the planning phase.

Sectors most often mentioned as areas of opportunity and strength in the East Bay:

- Health and wellness
- Trade and logistics
- Food and beverage retail and production
- Clean and green technology
- The creative economy
- Advanced manufacturing

recognizes advanced manufacturing – because of the East Bay's proximity to Silicon Valley and strength in clean technology and health care devices – as a promising avenue for economic growth. But the WIB is far more cautious about making projections: "Where is Oakland going to grow? We don't know for certain; we just don't know." (L. Giordano interview)

Analysis of Career Academies

There are many possible focus areas for career academies, ranging across the arts, sciences, and business. This paper reviews three potential academies that already have considerable interest and momentum at YU, within the community, or in the district. These three have been selected both because of that support and because they leverage local strengths within Oakland's economy or in YU's current programs. Although academies focused on finance and advanced manufacturing are the most frequently discussed within YU, other opportunities that build on existing assets should not be overlooked. In particular, YU already supports a health care pathway and has built strong relationships within the field. Health care also tops the list of growing employment sectors and Oakland has a historical strength in the health sector. Therefore, the possible academies reviewed here are finance, health sciences, and advanced manufacturing.

The following fact sheets on each of the potential academies include basic information about the academy curriculum, as well as brief descriptions of possible career pathways, relevant economic trends, an academy case study, local economic development opportunities, and a SWOT analysis for the academy and its pathways. In addition, there are details on potential partners for each subject area. This is particularly important because a well-implemented career academy relies on a diverse pool of partners for academic support, career and industry data, and relevant work-based learning opportunities. Building and maintaining

this network of resources is a huge job. A diagram of the partnerships required to support a strong academy is below. Given the frequency of staff turnover, the challenge of maintaining business engagement, and the complex networks of agencies and organizations working to further economic development, workforce development and education reform in Oakland, this tool can help newcomers to the program quickly understand who can support their work, and how. In addition, each career academy brief includes a more tailored list of potential partners. Continuing to develop and update these charts is an excellent opportunity for YU and OUSD to collaborate and a natural way for YU – a highly networked organization – to leverage its resources on behalf of Castlemont High School.



Finance Academy

Piloted in New York in the early 1980s to help urban youth take advantage of the boom in careers on Wall Street, finance academies have broadened to include skills related to banking, accounting, and real estate transactions. Nonetheless, finance academies introduce students to analysis skills that are essential to any businessperson or entrepreneur.

Pathways

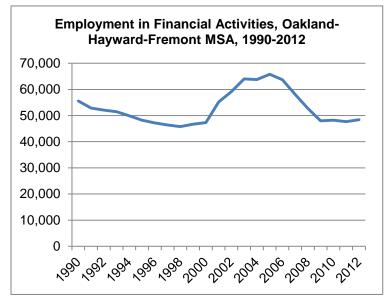
One of the advantages of the finance academy curriculum is that the skills provided are so broadly applicable. Jobs in the field range from bank teller, which requires little post-secondary education, to tax preparer, to certified public accountants who go through an extensive credentialing process, to management positions requiring an MBA. However, the skills are also transferable to any kind of entrepreneurship, opening up many avenues for career growth. UniversityNow, a new hybrid university that blends online and on-campus coursework has expressed interest in collaborating with YU and OUSD. The campus at Patten University is relatively easy to access from Castlemont by bus. Cal State East Bay also offers strong business, accounting, and real estate programs. And the Haas School of Business, home to one of the nation's premiere MBA programs, is available to the highest achievers. In addition, these universities, Haas in particular, offer a pool of potential mentors for youth interested in pursuing finance-related careers.

Economic trends

The utility of finance and business skills cannot be overstated, but it's important to note that employment specifically in this sector has been relatively flat. However, the EDD projects employment in financial activities for the Oakland-Hayward-Fremont MSA will grow by nearly 17% by 2020 (EDD 2012). On the other hand, many of the most accessible finance jobs, from banking services to tax preparation, are being automated and computerized and so growth for those entry-level positions may not be as robust. And, as noted above, the tools of financial analysis and financial management are critical to almost any field.

Case study

Philip and Sala Burton Academic High School has housed a finance academy since 1999. The



Source: California Economic Development Department.

diverse high school in San Francisco's Visitacion Valley has a high proportion of English language learners and students on free and reduced lunch, but is increasing it's API scores each year. One of the most frequently noted programs at Burton's Academy of Finance is the VITA tax preparation program. A partnership between the school, the IRS, and the United Way, the Volunteer Income Tax Assistance offered by students serves as both work-based learning and a service to the community (Bernard 2008).

Opportunities to spur community economic development

In addition to tax preparation services, there are several other ways that a finance academy could support economic development in East Oakland. Credit Unions, especially in Minnesota, are piloting student-run credit unions in high schools as a way of promoting financial literacy (CUNA 2013). In a community as chronically underbanked as East Oakland, a student-run branch could also offer much-needed services to the

community. And, on a more general level, if YU and Castlemont hope to nurture the next generation of change agents for East Oakland, understanding economics and the financial system will be critical to success.

Finance Academy SWOT Analysis		
Strengths	Weaknesses	
 Unmet need in OUSD. Currently only one finance academy is in development within the District Skills attained have broad applicability across most career pathways Opportunity to partner with UniversityNow for both online classes, as well as classes at the Patten University campus Could be tailored to dovetail with YU's youth leadership development programs Financial literacy is a vital skill for all fields, and the responsibilities of adult life 	 Few finance-specific jobs are being added to the local economy Curriculum relies, in part, on students arriving in high school with adequate numeracy Off-campus classes present transportation challenges and students disengagement during the transition between campuses is common UniversityNow is in start-up mode and the organization's track record is not yet proven 	
Opportunities	Threats	
 Build next generation of community and economic development capacity for East Oakland Provide support for local entrepreneurs as tax preparers and financial advisers 	 Preparation in basic math skills during middle school – a key component of student success – is a chronic challenge and beyond the control of YU and Castlemont 	

Potential Partners

- UniversityNow
- Cal State East Bay
- Haas School of Business
- Chamber of Commerce, which is starting a new small-business advisory service that could provide connections to local firms
- Local credit unions and community development financial institutions, such as One Pacific Bank

Health Sciences Academy

Health science academies introduce students to skills and concepts relating to a variety of health fields from the biology required of practitioners, to the lab skills of technicians and computer skills for administration. In addition, the more general concepts of public health are often emphasized.

Pathways

The health care field includes jobs for people with a wide range of education – from those that require very little training, such as home health aides, to those that require certification (Licensed Practical Nurses, for instance) and provide better pay and job security, on up to Physician's Assistants, Registered Nurses and Medical Doctors. Youth UpRising, in partnership with

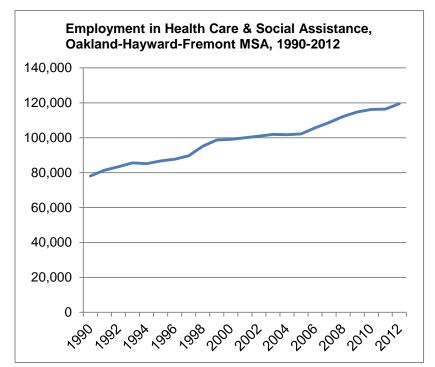
"The health care industry has been one of the brightest spots in the East Bay labor market over the past decade."

> East Bay EDA Economic Outlook, May 2012

the Unity Council, has already identified several pathways for students in the health field, with a second cohort of students now beginning training to become EMTs or dental assistants. A range of local post-secondary programs are available, from certifications associates degrees in nursing, radiology or dietetics at Merritt College to full medical degrees at UCSF.

Economic trends

Despite the economic downturn, growth in health-sector employment has been remarkably steady and is expected to continue to add new jobs over the next decade. In fact, the EDD projects employment in health care and social services in the Oakland-Hayward-Fremont MSA will grow by more than 14% by 2020. Long-term demographic trends, such as aging baby boomers; changes in health care policy and delivery brought about by health care reform; and renewed focus on public health within community development circles are all factors combining to ensure that the health sector will remain a reliable area for job growth. Of occupations requiring no more than a post-secondary certification, 4 out of 5 of the fastest growing in Alameda and Contra Costa Counties are in health and wellness (EDD 2012). Additionally, Oakland has a historic strength as a hub for health organizations, such as Kaiser Permanente and Children's Hospital Oakland Research Institute (CHORI).



Source: California Economic Development Department.

Case study

Biotech Partners began as a community benefit negotiated between Bayer and the City of Berkeley and has grown to oversee Biotech Academies at both Oakland Tech and Berkeley High School. Not only do students complete a rigorous science curriculum, they are also guaranteed an 8-week paid internship the summer between their junior and senior years and have the option to continue directly into a bioscience certificate program at Berkeley City College.

Opportunities to spur community economic development

Several of SUDA's programs have strong links to public health – from urban agriculture to sustainability audits. Health sciences students could support those programs in the neighborhood and contribute scientific rigor to the information disseminated to community members. Trained students could also provide support at the health clinic currently housed at Youth Uprising and also provide health education services to other youth.

Health Sciences Academy SWOT Analysis Strengths Weaknesses Strong local sector with many potential partners, Merritt College programs are pereived as a including Bayer, Kaiser, and Children's Hospital, weak link in the pathway as well as local clinics and practitioners Current YU cohort has had a high drop out Agreement among economic development and rate due to difficulty mastering study skills workforce agencies to attract and support local Home health care, which offers some of the health and wellness businesses largest growth, is a low-skill, low-pay occupation Multiple pathways available at a broad range of with little mobility education levels, with many stackable certificate Back-office jobs, brought about by health care reform, may go overseas options Expectation of strong growth for providers, technicians, and administrators due to graying population and reforms in the Affordable Care Act of 2010. In particular roles at community clinics and insurance advisory services are expected to grow **Opportunities Threats** Existing infrastructure at YU for post-secondary Potential conflict for resources and professional students interested in continuing training as EMTs or partnerships with multiple existing health dental assistants academies Current students have not been adequately prepared Perceptions of the health field as primarily for for YU's pathway program – a health academy could help bridge the skills gap the current YU pathway cohort has experienced

Potential Partners

- Unity Council, current YU pathway partner
- Alameda County Health Pipeline Partnership
- CHAMPS, which matches students with opportunities at Children's Hospital
- Merritt College for stackable credentials
- EMS Corp a 10-week full-time paid EMT training
- Bay Area Workforce Collaborative, which works primarily with community colleges

Advanced Manufacturing Academy

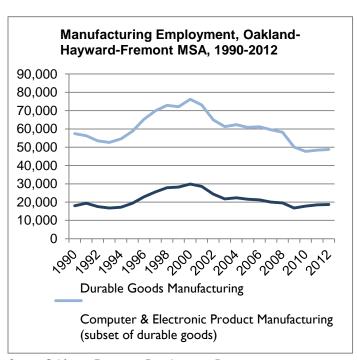
Advanced, or high-tech, manufacturing academies prepare students for the increasingly technical field of specialized manufacturing. Unlike in manufacturing jobs of the past, today's employees need to have high levels of math and computer skills to work with sensitive computerized equipment to manufacture medical, computer, and clean-tech components to extremely fine tolerances. For this reason, manufacturing academy often marry engineering curriculum with more specific technical skills.

Pathways

There are several local post-secondary programs that can graduate students directly into jobs. Laney offers both a machinist pathway and an industrial maintenance technology certificate. Machinists often go on to do highly technical work with local small manufacturers. Industrial maintenance workers are in high demand with large entities, such as Chevron and EBMUD. Many manufacturing certifications are available, including NIMS, offered at Laney College. In addition, a coalition of universities, community colleges, and workforce and economic development agencies recently received a \$15 million grant for an initiative called "Design It, Build It, Ship It" (DBS). As part of the initiative, the coalition is working to found a workforce intermediary to identify clear career pathways within the themes of design (engineering), build (manufacturing), and ship (trade and logistics) for post-secondary employees.

Economic trends

The debate around the future of manufacturing in the Bay Area is deeply polarized. On the one hand, there is significant interest at the national level in rebuilding the nation's strength in manufacturing. In part this is driven by a quest to replace the medium-skill, living wage jobs that previously supported the middle class. There is also a belief that rapid prototyping and proximity to manufacturing is an important factor in building "innovation economies," in which engineers, designers, and manufacturers can quickly iterate product advances (Helper, et al 2012). In addition, the City of Oakland is hoping to build on the growth of the local "maker" culture by supporting small manufacturers and artisans. Despite this optimism, many economists and academics believe that a resurgence of domestic manufacturing, particularly in high land value, high wage regions such as the Bay Area, is highly unlikely (IRLE 2012). Indeed, the local outlook for jobs in durable goods manufacturing is not promising – the EDD projects employment in manufacturing activities for the Oakland-Hayward-Fremont MSA will grow by less than 5% by 2020 (EDD 2012). And, while the DBS



Source: California Economic Development Department.

proposal cites new development at the Port of Oakland and Lawrence Berkeley National Lab's Richmond expansion as sites of new job creation, preliminary job projections from these projects have been mixed.

Case study

Austin Polytechnical Academy in Chicago is currently considered the gold standard for advanced manufacturing academies because of its strong ties to industry and well-equipped facilities. Sponsorship from local manufacturers, who are also involved in mentoring and internship programs, ensure that the program

addresses real workplace needs. Educational outcomes, however, have been less than stellar with only 7% of students meeting or exceeding grade-level standards in all subjects, compared to the city's average of 29%. The school is still relatively new though – APA graduated its first class of seniors in 2011 – and now carefully tracks graduates in post-secondary schools and employment with the intention of continually honing their program to better prepare students.

Opportunities to spur community economic development

Students at Austin Polytechnical Academy have started a small business creating custom mouthpieces for brass instruments. Although the revenue generated is small, students are learning business skills as well as technical skills required to make the precisely tuned instrument components. There may be a similar opportunity for Castlemont students to partner with a local manufacturer to create custom parts.

Advanced Manufacturing Academy SWOT Analysis

Strengths

Weaknesses

- Strong network of local supporters including Bay Area Manufacturing Renaissance Council, Bay Area Workforce Collaborative, and Laney College
- Robust infrastructure and eager partner at Laney College (led by Mark Martin)
- Certain pipeline of jobs in large utilities and corporations, such as EBMUD and Chevron, and opportunities at many smaller local firms
- Renewed interest at a national level in the importance of manufacturing to the innovation economy
- Workforce is graying rapidly and there are not enough skilled workers to replace retirees

- Requires substantial investment in equipment and instructor with highly specialized knowledge
- Economic data does not predict growth in jobs, in fact, manufacturing jobs in the Bay Area are declining
- EBMUD/Chevron jobs tend to be more traditional machining and industrial maintenance, rather than high-tech
- Current landscape of advanced manufacturing is made up of many small firms that may be less able to support apprenticeships or hire on a large scale
- Laney's program is already at maximum capacity

Opportunities

Possible opportunity to adopt previous generation equipment from Laney program

 "Design It, Build It, Ship It" initiative will focus on strengthening post-secondary pathway – opportunity to collaborate on extending the pathway down to secondary schools

Threats

- Potential conflict for resources and professional partnerships with engineering academy at McClymonds
- Hoped for jobs associated with new development at Port and LBNL unlikely to materialize in the near future
- High Bay Area real estate prices makes new, large-scale, manufacturing endeavors unlikely
- Very few apprenticeships available to bridge gap between skills acquisition and full employment
- Perceptions of manufacturing as dirty, low-skill work, primarily for men

Potential Partners

- Laney College, which offers machining and industrial maintenance pathways and NIMS certification
- Bay Area Workforce Collaborative, and their Design It, Build It, Ship It initiative
- Bay Area Manufacturing Renaissance Council
- City of Oakland Economic Development Department, which can provide links to local small manufacturers
- Local businesses including Chevron, EBMUD, Tesla and Rolls Royce

The Potential for Cross-Sectoral Academies

The curricula for finance and health sciences academies are readily available from the National Academies Foundation, a highly regarded linked learning organization. Manufacturing curriculum is also well tested and easy to obtain. However, the best fit for both the Castlemont community and the East Bay's economy may be a hybrid approach to these traditional academies. In addition to the three academies discussed previously, two potential hybrids that take advantage of both local employment opportunities and local institutional strengths have been proposed as well. However, it is important to recall that any themed curriculum should remain broad enough to be widely applicable upon graduation.

Advanced Manufacturing for Biotechnology

This approach combines the momentum of such manufacturing initiatives as "Design It, Build It, Ship It" with the acknowledged strength of the health sector. While information technology firms are clustered in Silicon Valley, the East Bay is developing into a hub of biotechnology innovation, attracting an outsize share of venture capital investment in the sector (EDA 2011). The DBS grant targets biotechnology as one pathway focus – the consortium received \$2.5 million grant to focus on job creation in development of medical devices and other biotechnology (J. Pitt interview). In addition there are currently bridge programs into biotech at both Skyline College and Community College of San Francisco. While overspecialization must be guarded against, this hybrid career academy could prepare students well for this growing and innovative field.

Community Development Finance

While a finance academy provides useful financial literacy and business skills to youth, the needs in East Oakland go much deeper. Understanding the mechanics of markets and economics, as well as the fundamentals of economic development will help youth develop the skills to help transform their own community. A community development finance academy could marry a business-oriented curriculum with YU's proven strength in fostering youth leadership to nurture a new generation of change agents for East Oakland. And Oakland's strong network of nonprofits could provide ample work-based learning opportunities.

Additional Recommendations and Tools

Throughout the conversations that have fed this work, a number of themes and opportunities have emerged that shaped these additional recommendations. In particular, the need for resources that support the development and maintenance of cross-sectoral partnerships was a common theme. Another theme was broadening the dialogue to ensure that the interests and concerns of students, faculty, and business are incorporated early.

Engaging and Supporting Castlemont High

This academic year has been a challenging one for the Castlemont community, with students and administration alike adjusting to the newly-consolidated high school. While the administration focuses on knitting the community, there are several steps that the district and YU can initiate to engage both faculty and students in the decisionmaking process for a new career academy.

Enlist Faculty Support

Faculty are not always fully aware of the thinking and strategies behind changes to school curriculum and academic policies. This may be in part because staff turnover is common, faculty are focused on their primary classroom goals, and the lines of communication between the district's administration and front-line staff are not well-developed. With that in mind, engaging and educating faculty on career academies is an obvious first step. YU, in conjunction with the district, could host a professional development event on linked learning, particularly with an eye to building excitement, determining faculty interest areas, and introducing potential

industry partners. The success of a career academy rests on the faculty so choosing a sector that plays to their strengths and interests is critical.

Engage Students

As one interviewee said, "if you want to fill the classrooms, you need the kids engaged." Most of the speculation about possible career academies has happened without student input. OUSD has tools available to administer career aptitude assessments to understand where student interests and strengths lie. In addition, Castlemont ethnic studies teacher Carrie Haslanger will be working with her students in a Y-PLAN (youth-led planning) exercise to more deeply canvas community members on careers and economic growth. Lastly, YU is planning a youth-led health impact assessment of the career academies under discussion. These are excellent opportunities to engage youth further in determining which pathways are most exciting to them and most needed in the community, which can then inform the selection of a career academy focus. YU, as a traditionally youth-oriented organization, is perfectly poised to lead these efforts.

Map the Networks and Pathways

The network of support required to implement a career academy is broad. Making that network visible in the form of updatable stakeholder maps, similar to the one on page 9, will help new faculty and administration understand the resources they have to draw from. In addition, mapping out the potential pathways – and stackable credentials required to progress along them – will help both students and teachers understand their opportunities and map out goals. As YU continues its research into the three potential academies, they can continue to build on that work started here.

Communicating with Potential Partners

Conversations with stakeholders from diverse sectors have uncovered a fundamental challenge in connecting career academy students with work-based learning opportunities. Although mentoring, field trips and, ultimately, internships all are vital components of a linked learning program, building and maintaining connections with the business community is a perennial challenge. In addition, employer involvement is vital to creating a program that truly prepares students for business.

Help Teachers Reach Industry, and Vice Versa

Currently, the burden for organizing field trips, in-class lectures by professionals, and internships outside of school rests primarily on teachers. Teachers, however, are generally already fully engaged with their teaching load. In addition, the culture of the classroom is different from that of the business world, where email correspondence flows rapidly. Teachers, busy in the classroom all day, have a different schedule for

"Building bridges isn't hard; managing the relationships is hard."

—Administrator

following up on business leads – a difference in culture that may lead to misperceptions about interest and availability. In addition, frequent teacher turnover means that even when partnerships are developed, continuity is a challenge.

The communication challenge goes in the other direction as well. Even civic and business leaders who wish to participate can find it difficult to understand what is needed of them. One interviewee mentioned requests for industry connections that were too broad to be actionable. Rather than ask for "connections with healthcare" she suggested that very specific requests would be easier for her to respond to. City of Oakland staff shared the sentiment. As with most City of Oakland agencies, the economic development department is extremely thinly staffed, but they are willing to help, especially when the requests dovetail with the industry focus of a given staff member. With both teacher and industry needs in mind, a sample form follows (see appendix 1) that can help a teacher define a student's skills and streamline the matchmaking process for both faculty and business.

YU is a highly networked organization, with connections at the highest levels of local nonprofits and agencies. These connections can be leveraged on behalf of faculty and students. As planning gets under way,

YU is a natural host for convenings of potential nonprofit, civic, and business partners. YU also has access to data about economic development and workforce trends that is beyond the expertise of Castlemont's staff. Creating a channel for keeping faculty and administration abreast of developments in these areas would lift that burden from site staff.

Help Potential Partners Understand Linked Learning

Another potential barrier to participation from the private and civic sector in linked learning initiatives is a basic lack of understanding about career academies and the role they play in Oakland's high schools. OUSD's history of adopting and then abandoning school reforms has left many wary of any new reform. Some likened the transition to career academies to the small schools movement, which is now, in part, blamed for some of the school district's economic woes. Said one interviewee "Are we reinventing small schools and getting ourselves into that same death spiral?" Others were surprised to learn that career academies were not the same as career technical education (CTE), which often serves as a direct pipeline to industry. The college preparatory aspect of the academies needs to be fully explained. A prototype FAQ on linked learning and career academies is shown in appendix 2. Paired together, the FAQ and work-based learning request form could provide potential partners with a quick primer on both district strategy and specific student needs, allowing them to quickly grasp how they can play a role.

Continue to Reach Out to Civic Partners

Although local economic development agencies often state engagement with schools as a goal in their strategic plans, the actions rarely go beyond rhetoric. As the WIB, the city's economic development department, and the Chamber of Commerce build new sector-based strategies, it will likely be the school district's responsibility to maintain contact to ensure alignment of efforts. YU, with its strong relationships in many of the agencies, is well positioned to draw partners together to continue the dialogue. Indeed, a logical next step would be to connect the City of Oakland's team – including Fred Blackwell and Kelly Kahn – with the College and Career Readiness staff to further explore common interests and opportunities for collaboration.

Conclusion

In addition to showing that career academies improve academic outcomes as measured by graduation rates and matriculation to post-secondary education, research shows that career academy students also show greater optimism than their non-academy peers (Conchas 2002). As plans for a new career academy in East Oakland are being made, it is important to remember that the goal of the career academy is not necessarily to immediately place students in jobs – it is not job training – but the preparation for college and career and exposure to the world of work that can instill that optimism. The academy should be seen as a way to open opportunities rather than narrow pathways.

"It's about more than connecting them to the labor force, it's about starting that spark and getting them interested in an issue."

Community member

There are very real opportunities *right now* for the District and Youth UpRising to work together to build a new career academy at Castlemont. District and philanthropic funding, community interest, and a critical need on site are all in place. But YU can only try to influence and shape certain aspects of the program and there are very real challenges to moving forward swiftly and successfully. The resignation of Superintendent Tony Smith has stunned the district and, although every indication suggests that the strategic plan he so carefully built will continue to be carried out, staff at every level is concerned about uncertain leadership. Closer to home, violence continues to devastate the neighborhood. In just one week in April, there were three shootings within a one-block radius of Castlemont High School and YU. With this level of violence,

maintaining enrollment will continue to be a struggle and the administration at Castlemont will remain occupied with holding their students safe, rather than focused on building new programs. And YU's ambitious engagement in community development is stretching the organization's own human resources thin.

Despite these challenges, YU and OUSD staff remain committed to launching a new career academy. Perhaps this report, and the next steps it inspires, can be a catalyst for action by the on-site team as well as potential industry and civic partners. To galvanize support and maintain momentum, engagement of faculty and students is the next critical step. With these tools in hand, Youth UpRising and OUSD can continue to move forward in partnership to help revitalize East Oakland while providing paths to success for East Oakland's youth.

Appendix I

Work-Based Learning Request Form

Thank you for your interest in supporting Oakland's youth! These students are working hard to expand their horizons. If you are unfamiliar with career academies, please see the opposite side to learn more about this powerful approach to learning and why your participation is so vital.

Academy			
Academic Focus/Class title			
Number of students			
Skills Students Have Acquired (instructor, please	list programs, study areas, lab skills, etc.):		
Additional information regarding students and the	eir interests		
Type of work-based learning experience desired			
☐ Internship	☐ Field trip / site visit		
☐ Periodic mentoring	☐ Classroom visit by professional		
☐ Other			
Length/time frame desired (instructor, please spe internship, and or expectations for frequency of n	ecify dates for classroom visit or fieldtrip, length of mentoring contact.)		
Additional information regarding desired work-ba	ased learning opportunity		
Instructor name			
	□ email		

Questions? Comments? Please contact the instructor or the OUSD Office of College and Career Readiness at (510)273-2360.

Appendix 2

Linked Learning and Career Academies Frequently Asked Questions

What is linked learning?

Linked learning is a statewide education reform that aims to provide project-based education that's connected to real world career opportunities. Linked learning programs combine rigorous academics, applied technical skills, and work-based learning to prepare students for college and career.

How does that relate to career academies?

Career academies are the subject-based small learning communities that provide linked learning in Oakland. For instance, Oakland Tech's Engineering Academy is focused on preparing students for careers and further education in science, technology, engineering and math.

Are career academies vocational schools?

No. Although students learn career-specific technical skills, career academies broaden the range of options available to students by preparing them for college as well as the workplace. Career academies are not tracking students, but broadening horizons.

Is this the same as "small schools"? I thought Oakland was moving away from those.

No. Small schools required multiple administrations that strained district budgets and divided school communities. Career academy students spend part of their school day within their academy's small learning community and part of their time among the larger student body at their campus.

Who gets to go to career academies?

Career academies are open to all OUSD students.

Does it work?

Yes. Research shows that students who are part of a career academy are more likely to complete high school and more likely to continue on to a post-secondary education than their peers who are enrolled in comparable high schools.

Why am I hearing so much about this right now?

As part of its strategic plan, the Oakland Unified School District has made a commitment to enroll 80% of all OUSD high school students are participating in a linked learning program by 2016.

How many academies are there in Oakland?

For the 2012-13 school year there are 25 academies either running or in development at 12 high schools in Oakland. The focuses range from environmental science to fashion, art, and design.

How can I get involved?

Because work-based learning projects and exposure to real-world work environments, teachers are always looking for professionals who can share their experience with students through classroom visits, field trips, mentorship or internships.

Questions? Comments? Please contact the OUSD Office of College and Career Readiness at (510) 273-2360.

Bibliography and Sources

- Aman, A. (2012). The Role of Career Academies in Realizing Oakland Unified School District's Full-Service Community School District-wide Policy and Goals. University of California, Berkeley.
- Association of Bay Area Governments, & Metropolitan Transportation Commission. (2012). *Jobs-Housing Connection Strategy*.
- Bay Area Council Economic Institute (BACEI). (2012). The Bay Area: A Regional Assessment. San Francisco, CA.
- Bernard, S. (2008, March 4). Financial Aides: Teens Become Tax Preparers. *Edutopia*. (http://www.edutopia.org/high-school-tax-assistance)
- Biotech Partners. (n.d.) About Biotech Partners. (http://www.biotechpartners.org/about.html)
- California Economic Development Department (EDD). (2012) "2010-2020 Comparison of Growing Occupations by Entry Level Education, Alameda and Contra Costa Counties." (www.labormarketinfo.edd.ca.gov)
- Career Academy Support Network. http://casn.berkeley.edu/
- Conchas, G. Q., & Clark, P. A. (2002). Career Academies and Urban Minority Schooling: Forging Optimism Despite Limited Opportunity. *Journal of Education for Students Placed at Risk*, 7(3), 287–311.
- ConnectEd California. (n.d.) Linked Learning FAQs. (http://www.connectedcalifornia.org/linked_learning/faqs)
- Credit Union National Association (CUNA). (2013). CU's Student Branch Wins Progress Minnesota Award. (http://www.cuna.org/Stay-Informed/News-Now/CU-System/CU-s-Student-Branch-Wins-Progress-Minnesota-Award/)
- Dinkelspiel, F. (2010). Biotech Academy students get hands-on education. *Berkeleyside*. (http://www.berkeleyside.com/2010/08/17/biotech-academy-students-get-hand-on-education/)
- Dryfoos, J. (2005). Full-service community schools: A strategy—not a program. *New directions for youth development*, 2005(107), 7–14.
- Dryfoos, J. G., & Maguire, S. (2002). Inside full-service community schools. Thousand Oaks, CA: Corwin Press.
- EdSource. (2009). Multiple Pathways in California: An Emerging Option for High School Reform. Mountain View, CA: EdSource.
- Great Oakland Public Schools Leadership Center (GO Public Schools). (2012). 2012 Oakland Schools API Maps. (http://www.goleadershipcenter.org/2012/12/2012_oakland_sc.php)
- Helper, S., Krueger, T., & Wial, H. (2012). Why Does Manufacturing Matter? Which Manufacturing Matters? Washington, DC: Brookings Institution.
- Hoachlander, G. (2008). Bringing Industry to the Classroom. Educational Leadership, 65(8), 22–27.
- Hughes, K. L., Karp, M. M., & Orr, M. T. (2002). "Business Partnerships for American Education": Employer Involvement in the National Academy Foundation's High School Career Academies. *Journal of Vocational Education & Training*, 54(3), 365–94.
- Institute for Research on Labor and Employment (IRLE). (2012). Conference Summary. What Future for Jobs and Manufacturing?, Berkeley, CA: University of California at Berkeley.
- Kemple, J. J., & Educational Resources Information Center (U.S.). (2001). Career academies impacts on students' initial transitions to post-secondary education and employment. Washington, DC: Manpower Demonstration Research Corp.; U.S. Dept. of Education, Office of Educational Research and Improvement, Educational Resources Information Center.
- Knight, M. (2011, April 21). School on Probation Faces a Struggle. *The New York Times*. (http://www.nytimes.com/2011/04/22/us/22cncprobation.html)
- Levy, S., Haveman, J., & Belzer, D. (2011). Building on Our Assets: Economic Development and Job Creation in the East Bay. East Bay Economic Development Alliance.
- Linked Learning Alliance. (n.d.). About Linked Learning. (http://www.linkedlearning.org/about)
- Maxwell, N. L., & Rubin, V. (2000). High school career academies a pathway to educational reform in urban school districts? Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research.

McGraw Hill. (2002). Introduction to Career Clusters. (http://www.glencoe.com/sec/careers/cclusters/student/introclusters.shtml)

National Academy Foundation. (n.d.). Academy Themes. (http://naf.org/our-themes)

Oakland Metropolitan Chamber of Commerce. (2007). Taking Stock of Oakland's Economy.

Oakland Unified School District (OUSD). (2011). Community Schools, Thriving Students.

Oakland Unified School District (OUSD). (n.d.). Linked Learning and Oakland Unified School District (http://www.linkedlearningousd.org/node/6)

Oakland Workforce Investment Board (OWIB). (2011). Oakland Workforce Investment Board Strategic Plan 2012-2014.

Oakland Unified School District (OUSD). (n.d.). Overview. (http://www.ousd.k12.ca.us/site/default.aspx)

Self, R. O. (2003). American Babylon: race and the struggle for postwar Oakland. Princeton, N.J.: Princeton University Press.

Siri, D. K., Zinner, J., & Lezin, N. (2011). Blending Rigor and Relevance. Leadership, 40(3), 8-11.

Stern, D. (2012). Comparing Students in Each California Partnership Academy with Non-Academy Students at the Same High School, 2009-2010.

Stern, D. & Hoachlander, G. (2011). *Evidence on Career Academies and Linked Learning*. Berkeley, Calif.: University of California at Berkeley, Career Academy Support Network.

United States Bureau of Labor Statistics (BLS). (n.d.). Occupational Outlook Handbook. (http://www.bls.gov/ooh/occupation-finder.htm)

Viadero, D. (2008). Career Academies Found to Pay Off in Higher Earnings. Education Week, 27(43).

Youth UpRising (YU). (2011). The Castlemont Advantage: Achieving Community Transformation with Intentional Investment in People and Place.

Interviews

Susan Benz, Career Readiness Coordinator, Oakland Unified School District

Fred Blackwell, Assistant City Administrator, City of Oakland

Lorraine Giordano, Program Analyst, Oakland Workforce Investment Board

Lisa Haynes, Career and Education Director, Youth UpRising

Eleanor Hollander, Economic Development Director, Oakland Chamber of Commerce

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Susana Konishi, Director of Community and Economic Development, Youth UpRising

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Mark Martin, Director, Advanced Manufacturing Workforce Development, Laney College

Deb McKoy, Executive Director, Center for Cities and Schools

Jessica Pitt, Coordinator, Bay Area Workforce Collaborative

Margot Prado, Economic Development Specialist, City of Oakland

Drew Prober, CTE instructor, Fremont High School

Sabaa Shoraka, Senior Career Coach, Youth UpRising

Jed Silver, Operations Manager, Regional Technical Training Center

Olis Simmons, Executive Director, Youth UpRising

Jean Wing, Executive Director, Research, Assessment and Data, Oakland Unified School District

Conferences

Manufacturing Reshoring in California, Laney College, October 27, 2012

Building a Vibrant East Bay Economy, East Bay EDA, December 18, 2012

Building a Strong Economy: Vision 2020, Oakland Chamber of Commerce, February 6, 2013

Partners

Youth UpRising

Located in the heart of East Oakland, Youth UpRising is a neighborhood hub offering young people services and programs to increase the physical and mental wellbeing, community connection, educational attainment, and career achievement among youth members.

Youth UpRising envisions a healthy and economically robust East Oakland powered by the leadership of youth and young adults as well as improvements in systems and environments that impact them. To achieve this, their focus has grown to include building a systems change and community economic development platform that supports and strengthens their personal transformation work.





Center for Cities and Schools

Established in 2004, Center for Cities and Schools (CC&S) is an interdisciplinary initiative between UC Berkeley's Graduate School of Education and the College of Environmental Design. The vision for CC&S was born out of more than twenty years of work related specifically to schools and public housing in the San Francisco Bay Area and across the nation.

The CC&S *PLUS Leadership Initiative* is a multi-year initiative designed to prepare current and future educational, community, and civic leaders in the Bay Area region to develop collaborative, mutually beneficial policies and practices, and facilitate comprehensive systems-change. The *PLUS* program helps institutions and agencies learn about each other's work and cultures by engaging in projects directly impacting both to make the "win-win" of collaboration visible by providing coaching, technical assistance, public institutes, and graduate student research to teams of city and school leaders.