MONTEREY BAY REGIONAL CAREER PATHWAYS PLANNING PROJECT

JULY 2017

Overview

Monterey Bay Economic Partnership (MBEP) and the Bright Futures Education Partnership (Bright Futures) are partnering to support existing career pathways and to foster tri-county strategic advancement of future career pathway design. A key goal of this effort is strengthening and aligning our community's various career pathways initiatives. This report highlights the outcomes of the first phase of this effort – research and assessment.

This project kicked off in October 2016 with support from the Lumina Foundation. CAEL, a national leader in career pathway development, was engaged to develop the preliminary definition and framework as well as identify national best practices and potential career cross-walks in the tri-county region. Leveraging the initial work, research was conducted earlier this year to better understand and inventory existing pathways, construct a developmental model, and design a common visualization for Monterey Bay Regional Career Pathways.

This effort sought to be as inclusive as possible – gathering input through multiple methods and sources. Stakeholders included representatives from high schools, regional occupation programs (ROPs), CTE programs, community colleges, universities, community partners, workforce investment boards, city economic development departments, and industry representatives.

The purpose of this foundational work was to develop the following:

- ARCHITECTURE: Define a Monterey Bay regional "pathway architecture"; including definitions, principles, and guiding statements for pathway elements unique to Monterey Bay's target industries and populations.

- PATHWAY INVENTORY: Inventory and categorize Monterey Bay's current pathways and initiatives in order to identify synergies, develop shared goals and strategies, and prioritize gaps to close as we unify and align efforts.

- DEVELOPMENTAL MODEL: Construct a developmental model and metrics to evaluate the maturity and level of robustness for each pathway. This model and these metrics will help identify opportunities for regional efforts.

- CROSS-SECTOR MAPPING: Identify cross-sector pathway opportunities related to competencies in common, across multiple industries, identifying lateral pathways between sectors.

- BEST PRACTICES: Identify pathway models from other regions that offer best practices and address challenges and populations similar to those in Monterey Bay.

The outcome of these efforts will allow us to have deeper understanding of the career pathway landscape in the tri-county region. The architecture and developmental model will provide a common language and metrics to improve program communication, collaboration, and evaluation. The cross-sector mapping and best practices will provide ideas and inspiration for potential initiatives and partnerships. Lastly, the inventory will provide greater visibility into the myriad of programs to identify career/program gaps, potential regional cross-program supports (e.g. transportation, child care), and areas for alignment/leverage. The ultimate outcome will allow the tri-county region to maximize the impact of the individual career pathway programs to increase the number of individuals who can be trained for high-wage and high-growth careers and contribute to the economic viability and strength of the region.

Opportunity in the Tri-County Region and the Value of Career Pathways
The tri-county region is often described as an "hourglass" economy: a divided labor market with a small number of highly skilled, highly paid workers and a much larger number of low-skill, low-paid workers in the hospitality and agriculture industries. In order to develop a sustainable, thriving region, livable-wage, middle-skills jobs are essential. There is a high-demand for many of these middle-skilled jobs by local employers, and it would be best to fill this need with local residents. However, those that might benefit from such opportunities are often unaware of the jobs and do not know what training/education is required to obtain them.

The tri-county area population is significantly Latino/a, low income, with low educational attainment. College readiness and college-going rates at regional schools are low. High percentages of potential college students are first generation. Many students arrive at community colleges unprepared for college-level math and English, and struggle to complete critical gateway courses. Many students (both traditional and returning) are non-native English speakers.

As many of these students have other responsibilities (e.g. family and work), attending daytime classes is unrealistic. With the urgency to increase their skills to find viable employment, students must be able to complete the necessary coursework as efficiently as possible. This is also because of the financial burden. Students must be able to leave and re-enter, responding to changes in their circumstance. Student services and supports are critical to the students' success.

Career Pathways are an excellent way to prepare individuals for middle-skilled jobs. They provide a clear set of required steps to efficiently acquire hirable credentials and skills. At its essence, a career pathway is a series of manageable educational steps leading to successively higher credentials and employment opportunities in growing occupations. Each step is designed to prepare students for the next level of employment and education and also provide a credential with labor market value.

As Career Pathways are structured in such a way that each exit point results in an opportunity, the learning opportunities must be available at whatever point and pace makes sense for individual workers and industries. They are designed to serve not only those who transition

directly from high school to college, but also those who enter postsecondary education and training while working or after spending time in the workplace.

Effective Career Pathways engage and retain a diverse population; programs integrate promising instructional strategies, supports, and employer connections. Monterey Bay Region businesses, labor, educators, community-based organizations and others must work together in order to create a resilient and prosperous workforce.

Architecture -- Definition and Principles

A common definition is challenging to develop, but critical to ensuring that there is a shared understanding of the scope and goals of any effort. This definition was created based on input and feedback from numerous groups and individuals. It is anticipated that it will be a living definition and will evolve with on-going feedback and input from employers, students, educators, and community partners.

Definition

Monterey Bay Regional (MBR) Career Pathways are structured and sequenced programs of study that enable students to obtain the stackable, industry-recognized credentials they need to enter and progress in living-wage careers. MBR Career Pathways are sector and data driven – informed by labor market data and leveraging employers for industry insights and opportunities.

MBR Career Pathways seek to resolve inequities in education and employment outcomes among diverse student groups by being proactive in support services and providing flexible formats, locations, and times for classes. Seamless entry, exit and re-entry enables learners to participate in education and training throughout their lifetimes.

MBR Career Pathways are evaluated using multiple forms of data (e.g., qualitative and quantitative) including industry, employers, and workforce partners. Outcomes are displayed and shared in multiple ways to help stakeholders understand results, improve accountability, and continuously improve.

It is understood that there will be many career pathways, guided pathways, and collaborative pathways defined differently in other contexts. It is intended that MBR Career Pathways will align with other efforts, but be more holistic, encompassing the entire Monterey Bay tri-county region. The focus for this effort is pathways that meet, or aspire to fulfill, this definition/vision.

Principles and Guiding Statements

In order to better understand, categorize, and evaluate different MBR Career Pathways, six guiding principles were developed. These were initially drafted in cross-functional, cross-sector, group meetings in late 2016 and refined in a series of almost 30 interviews with career pathway "owners" in spring of 2017.

- **Sector-focused**
  Career pathways deliver value and talent to employers. Pathways focus on high demand, livable wage careers and are informed by labor market data and regional employers.

- **Career-Centric Learning**
  Curricula reflect real-world scenarios, utilize applied (contextualized) learning techniques, and integrate technical, academic and foundational professional skills to prepare students to think, act and perform effectively as they enter and/or advance in their careers. The pathway includes work-based awareness and learning (e.g presentations in classrooms, workplace visits, internships, apprenticeships, etc.)

- **Modular and Linked Pathway Structure**
  Pre-defined career pathway course sequence and options are developed across organizations. Learning content, structure, and credit is consistent, non-duplicative, and transferrable across organizations. Within the pathway, credentials are stackable. There are multiple entry and exit points with clearly mapped transition points and each designed exit offers market-recognized career value.

- **Access, Equity, and Opportunity**
  Pathways provide opportunities for upward mobility and are accessible geographically and to students from all backgrounds (e.g. first generation, returning adults, Cal Works participants, etc.). Pathways are linked to special supports that address barriers to completion and close equity gaps. Pathways encourage and provide venues for culturally relevant social support networks, cohorts and/or alumni groups for students from high school through career.

- **Partnerships**
  Partners participate in shared pathways planning, development, and outcomes measurement, have clearly delineated roles and responsibilities, and commit to leveraging resources to educate, train, support, and/or locate employment for individuals; partners adjust existing or adopt new policies and structures as needed to support pathways.

- **Measurement and Accountability**
  Qualitative and quantitative data are used to measure student outcomes, value to employers, and identify areas for continuous improvement over time.

Elements and Measurement

While the Guiding Principles describe the core components of the pathways, specific elements and measurements were proposed to allow the pathways to be placed in the developmental framework. This provides a level of specificity and objectivity that allows visibility and consistency in assessing the MBR Career Pathways.

Elements and Measurements *(abridged – complete table available in Appendix)*

Principle	Elements	Measurement
A. Sector-Focused	• Selects jobs/careers based on sector data and predictions	• Data on occupations within the sector is collected on an annual basis and presented to pathway administrators; at a minimum, it includes wage, demand and growth for occupations within the sector. (Y/N)
B. Career-Centric Learning	• Work-based learning (internships, apprenticeships, etc.)	• Curricula includes work-based learning (e.g. internships, apprenticeships). (Y/N)
C. Modular and Linked Structure	• Learning content, structure, and credit is aligned, non-duplicative, and transferrable	• Paperwork, testing, credit, etc. is non-duplicative in the pathway. (Y/N)
D. Access, Equity, and Opportunity	• Programs are available at locations, times, etc. that allow participation by people in a wide variety of contexts (working, family responsibilities, etc.)	• Courses are available in the evening or on weekends (Y/N) • Courses are available in more than one location (Y/N)
E. Partnerships	• Coordinated efforts for employer engagement, student support services, and obtaining funding & other resources	• At least two organizations are collaborating to design the pathway (Y/N
F. Measurement & Accountability	• Incorporating data into process improvement process	• Data is being used on an annual basis (at a minimum) to improve aspects of the pathway (i.e. completion, employment, living wage attainment by completers) (Y/N)

Pathway Inventory and Developmental Model

A regional inventory of Career Pathways provides a high-level view of programs, pathway category, developmental stage, and robustness/integration of elements. This effort sought to include any programs that education leaders identified as a Career Pathway. In so doing, the developmental model and categorization were possible. It is anticipated that this inventory will grow and evolve as more programs are develop and the attributes of success become more definitive.

The inventory captures three attributes of the pathway:

Career Pathway Category
- Established: Pathways that have had program participants, dedicated funds and/or other resources, etc.
- Intentional: Pathways that have been articulated (either in grant applications, articulation agreements, etc.) and have a plan for implementation.
- Emerging: A collection of programs, classes, and/or credential/certifications in a given sector that has potential to develop into a pathway (usually with more wrap around services and closer alignment of programs)

Element Maturity
- Planning: Discussions are occurring, resources are being identified.
- Implementing: Programs are being defined, resources are being allocated.
- Evolving/Sustaining: Programs have defined programs and resources. Programs are evolving based on data and other insights.

Element Robustness

The level of robustness is determined based on the measurements described in the matrix above. As programs develop differently, it is not a linear growth model but rather increasing the number of pieces of a program or offering. There are three levels – low, medium, and high.

Impacted Programs

Successful programs are often filled to capacity and there is no room to grow without some change of resources. Impacted programs are illustrated in light red.

Monterey Bay Region Career Pathway Inventory

Pathway	Sector-Focused	Career-Centric Learning	Modular and Linked Pathway Structure	Access, Equity, and Opportunity	Partnerships	Measurement, Improvement & Accountability
Established						
Salinas Valley Health Professions Pathway Partnership	E	E	E	E	E	E
CS in 3	E	E	E	E	E	E
Intentional						
Sustainable Hospitality 2+2	P	P	P	P	P	P
Ag Business	P	P	P	P	P	P
Ag Tech	P	P	P	P	P	P
Teacher Talent Incubator, 2+2	I	I	I	I	I	P
Emerging						
Nursing (AD to BS)	I	I	I	I	I	P
Digital Media	I	I	P	I	I	P
Web Design and Development	I	I	P	I	I	P
Marine Biology	P	P	P	P	P	P
Environmental Science	P	P	P	P	P	P
Science Education	P	P	P	P	P	P

Stage of Development	Level of Robustness
P (planning)	Low
I (implementing)	Medium
E (evolving)	High

The goal of this synthesis is to identify areas of opportunity for regional efforts. For example, the matrix above highlights (at least) two opportunities:

Data
 The robustness of data is low for almost all pathways. Working regionally to share survey instruments, common metrics, and potentially data, would be highly valuable. It would allow best practices to be applied and eliminate the need to "re-invent the wheel".

Outreach
 Outreach in the community was low for many pathways. The importance of having well-known and respected members of the community (current students, individuals in the career pathway, etc.) involved, having frequent 1:1 or small group engagement, and culturally appropriate materials were all mentioned as critical for successful outreach -- but very resource intensive. Leveraging outreach resources across educational providers might improve regional outreach success.

Career Pathway Visualization
One of the goals of this foundational work was to develop a common visualization for Monterey Bay Regional Career Pathways. The intent of these visualizations was to tie together the career information (job title, number of open positions and median wage), the education information, and the student supports. Three templates were created to enable the visual treatment to be applied to all future pathways.

Note that these are just sample templates - they do not represent all the pathways reflected in the inventory. They were selected to supply a core set of symbols that can be used to create a wide array of pathways.

The pathway visualization has three levels of information:
Job Info
 Jobs were included that had more that 100 currently in the role, were on a trajectory that would provide a livable wage ($20 p/h), and showed projected growth in the next five years.
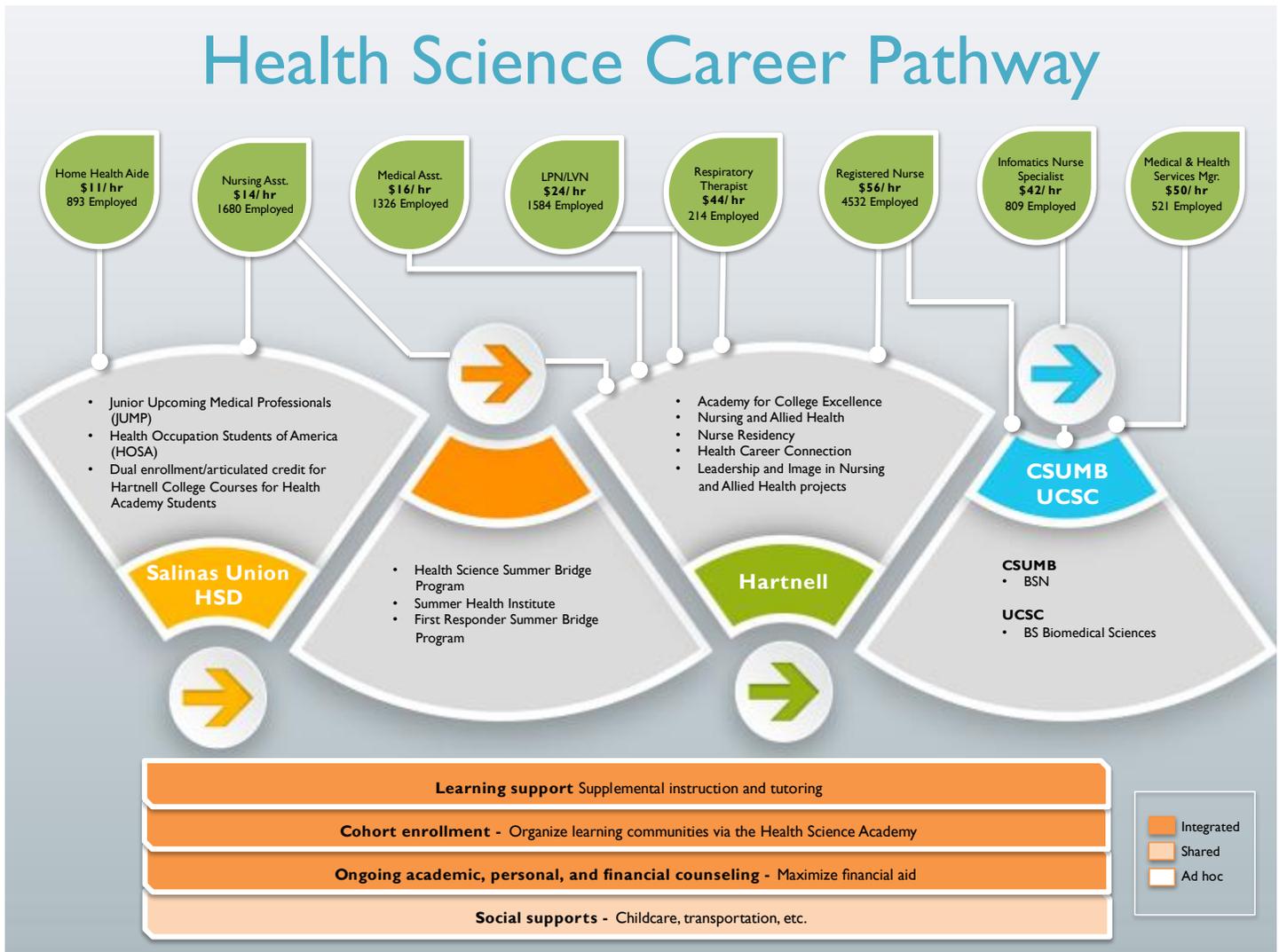**Education and Training**
 Local education and training programs, which would prepare individuals for the jobs, are included.

Support Services
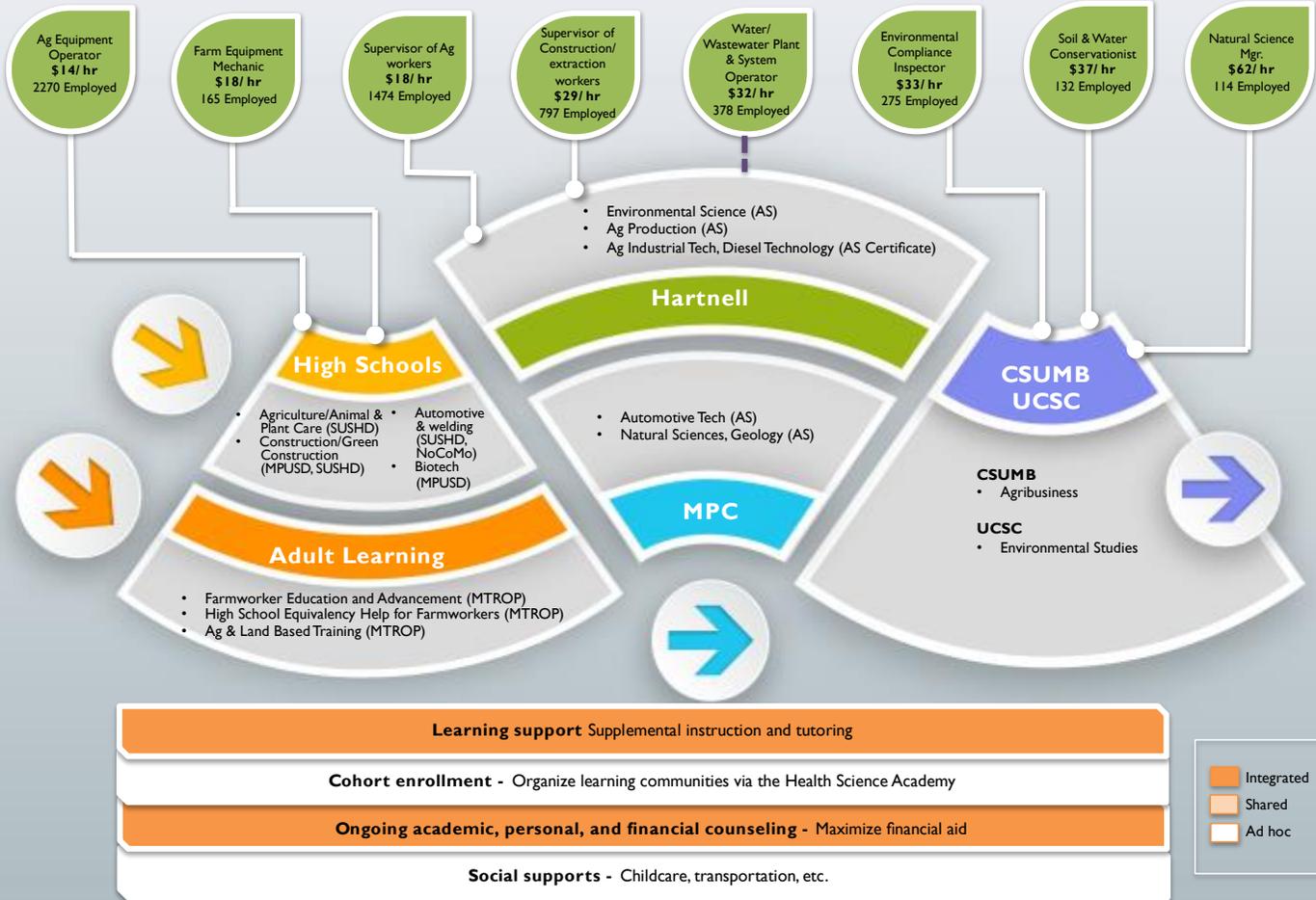
Social, academic, and other services provided by the pathway are shown in orange bars below. There are three types:
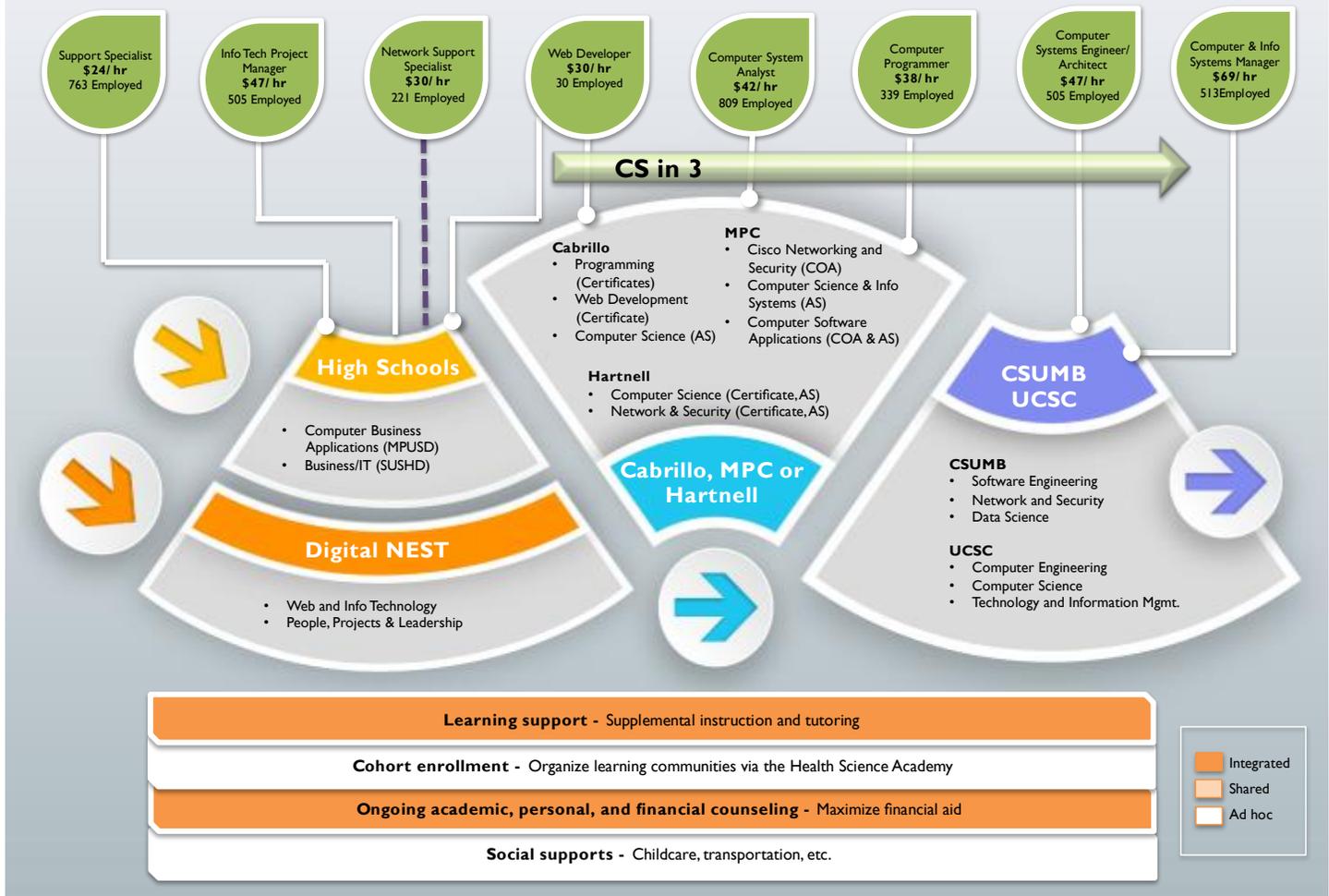
- Integrated: Resources are dedicated specifically to the pathway.
- Shared: Elements are provided by shared resources that are available across the educational organization (or a subset of its programs).
- Ad hoc: Elements are available (and sometimes quite substantially) through a variety of providers and programs. They may or may not be provided by the educational organization.

Health Science Career Pathway

Home Health Aide
$11/ hr
893 Employed

Nursing Asst.
$14/ hr
1680 Employed

Medical Asst.
$16/ hr
1326 Employed

LPN/LVN
$24/ hr
1584 Employed

Respiratory Therapist
$44/ hr
214 Employed

Registered Nurse
$56/ hr
4532 Employed

Infomatics Nurse Specialist
$42/ hr
809 Employed

Medical & Health Services Mgr.
$50/ hr
521 Employed

- Junior Upcoming Medical Professionals (JUMP)
- Health Occupation Students of America (HOSA)
- Dual enrollment/articulated credit for Hartnell College Courses for Health Academy Students

Salinas Union HSD

- Health Science Summer Bridge Program
- Summer Health Institute
- First Responder Summer Bridge Program

- Academy for College Excellence
- Nursing and Allied Health
- Nurse Residency
- Health Career Connection
- Leadership and Image in Nursing and Allied Health projects

Hartnell

CSUMB UCSC

CSUMB
- BSN

UCSC
- BS Biomedical Sciences

Learning support Supplemental instruction and tutoring

Cohort enrollment - Organize learning communities via the Health Science Academy

Ongoing academic, personal, and financial counseling - Maximize financial aid

Social supports - Childcare, transportation, etc.

Integrated
Shared
Ad hoc

Ag Tech Career Pathway

Ag Equipment Operator
$14/hr
2270 Employed

Farm Equipment Mechanic
$18/hr
165 Employed

Supervisor of Ag workers
$18/hr
1474 Employed

Supervisor of Construction/ extraction workers
$29/hr
797 Employed

Water/ Wastewater Plant & System Operator
$32/hr
378 Employed

Environmental Compliance Inspector
$33/hr
275 Employed

Soil & Water Conservationist
$37/hr
132 Employed

Natural Science Mgr.
$62/hr
114 Employed

- Environmental Science (AS)
- Ag Production (AS)
- Ag Industrial Tech, Diesel Technology (AS Certificate)

Hartnell

High Schools

- Agriculture/Animal & Plant Care (SUSHD)
- Construction/Green Construction (MPUSD, SUSHD)
- Automotive & welding (SUSHD, NoCoMo)
- Biotech (MPUSD)

- Automotive Tech (AS)
- Natural Sciences, Geology (AS)

MPC

CSUMB UCSC

CSUMB
- Agribusiness

UCSC
- Environmental Studies

Adult Learning

- Farmworker Education and Advancement (MTROP)
- High School Equivalency Help for Farmworkers (MTROP)
- Ag & Land Based Training (MTROP)

Learning support Supplemental instruction and tutoring

Cohort enrollment - Organize learning communities via the Health Science Academy

Ongoing academic, personal, and financial counseling - Maximize financial aid

Social supports - Childcare, transportation, etc.

Integrated	
Shared	
Ad hoc	

Information Technology Career Pathway

Cross Sector Mapping

Cross-Sector Mapping connects careers that share some core skills and knowledge in order to identify potential transfer points for workers in sectors or careers that may be shrinking. CAEL shared examples of potential "cross-walks" based on our local industries and population. The presentation and report are available here <link>.

Best Practices

CAEL researched national best practices and identified nine that were relevant and inspiring for our region. They focused on target populations, target industries, and multi-organizational partnerships. The presentation and report are available here <link>.

Conclusion

The primary goal of this preliminary work was to provide a strong foundation on which to build a tri-county regional plan, recognize gaps and opportunities for future collaboration, as well as develop shared resources. This work will be leveraged in the development of a Monterey Bay Region Career Pathway strategic plan.

APPENDIX

Elements and Measurement

Principle	Guiding Statement	Elements	Measurement
A. Sector-Focused	Career pathways deliver value and talent to employers. Pathways focus on high demand, livable wage careers and are informed by labor market data and regional employers.	• Selects jobs/careers based on sector data and predictions • Has a sector advisory group • Sector advisory group (and others in industry) influence curriculum and program development	• Data on occupations within the sector is collected on an annual basis and presented to pathway administrators; at a minimum, it includes wage, demand and growth for occupations within the sector. (Y/N) • Pathway occupational data is made available to sector employers, students, and educational institutions in an easily understood visual representation updated at least annually. (Y/N) • Degree and certificate offerings are aligned with data. The pathway leads to high wage, in-demand, growing occupations within the sector (Y/N) • A sector advisory group is convened at least annually. (Y/N)
B. Career-Centric Learning	Curricula reflect real-world scenarios, utilize applied (contextualized) learning techniques, and integrate technical, academic and foundational professional skills to prepare students to think, act and perform effectively as they enter and/or advance in their careers. The pathway includes work-based awareness and learning (e.g presentations in classrooms, workplace visits, internships, apprenticeships, etc.)	• Streamlined course requirements lead to skills for a livable wage job • Curricula incorporate real-world scenarios, tools, and contexts • Passive Exposure (classroom visits, workplace visits) • Work-based learning (internships, apprenticeships, etc.)	• A sector advisory group or data is used to inform hard and soft skills needed for sector occupations on at least an annual basis. (Y/N) • Hard skills are included as part of pathway curricula. (Y/N) • Soft skills are included as part of pathway curricula. (Y/N)

			• Curricula include work-based learning (e.g. internships, apprenticeships). (Y/N) • Curricula includes passive exposure (i.e. workplace and classroom visits) (Y/N)
C. Modular and Linked Structure	Pre-defined career pathway course sequence and options are developed across organizations. Learning content, structure, and credit is consistent, non-duplicative, and transferrable across organizations. Within the pathway, credentials are stackable. There are multiple entry and exit points with clearly mapped transition points and each designed exit offers market-recognized career value.	• Pathway is well articulated with clear on-ramps and off-ramps • Learning content, structure, and credit is aligned, non-duplicative, and transferrable • Each exit point leads to career with a livable wage	• The pathway has at least two entry and exit points. (Y/N) • Data is collected and shared that shows each exit point leads to occupational options with higher wage potential than previous exit point. (Y/N) • Students can exit pathway and return to similar placement at a later date. (Y/N) • Paperwork, testing, credit, etc. is non-duplicative in the pathway. (Y/N) • Materials are available to students/the public that describe the inter-connectedness and non-duplicative aspects of the organizations (e.g. shared paperwork, testing, credit, etc.) (Y/N) • Successive stages of the pathway have options available that can accommodate the number of students who complete early stages (i.e. not impacted). (Y/N)
D. Access, Equity, and Opportunity	Pathways provide opportunities for upward mobility and are accessible geographically and to students from all backgrounds (e.g. first generation,	• Outreach to specific target populations to	• Courses are available in the evening or on weekends (Y/N)

	returning adults, Cal Works participants, etc.). Pathways are linked to special supports that address barriers to completion and close equity gaps. Pathways encourage and provide venues for culturally relevant social support networks, cohorts and/or alumni groups for students from high school thru career.	- encourage/promote participation in programs - Cultural relevance is critical to all aspects of program (social support networks, mentors, teachers, etc.) - Programs are available at locations, times, etc. that allow participation by people in a wide variety of contexts (working, family responsibilities, etc.) - Support services are available throughout the program (and before and after) to promote student success	- Courses are available in more than one location (Y/N) - Completion data is collected and analyzed by subgroups, at a minimum, race, gender, social class, generation (Y/N) - Supports are instituted for subgroups with low completion rates (Y/N) - Income is considered in cost charged to student for pathway participation (Y/N) - Public information about the program is available in at least English and Spanish (Y/N) - Efforts are made to make outreach, supports, and teaching culturally relevant (Y/N)
E. Partnerships	Partners participate in shared pathways planning, development, and outcomes measurement, have clearly delineated roles and responsibilities, and commit to leveraging resources to educate, train, support, and/or locate employment for individuals; partners adjust existing or adopt new policies and structures as needed to support pathways.	- Alignment in goals and strategies for pathway - Coordinated efforts for employer engagement, student support services, and obtaining funding & other resources - Advocacy for change needed to make pathways successful	- At least two organizations are collaborating to design the pathway (Y/N) - At least one formal agreement/document exists between at least two organizations planning the pathway (i.e. grant application, MOU, project charter, articulation agreement) (Y/N) - Publicly available information references collaboration between at least two organizations (Y/N) - At least two organizations are meeting annually (at a minimum) to discuss the pathway (Y/N)

			• At least two organizations share or contribute resources to the pathway (Y/N)
F. Measurement & Accountability	Qualitative and quantitative data are used to measure student outcomes, value to employers, and identify areas for continuous improvement over time.	• Leveraging 3rd party data to inform pathway selection. • Conducting primary research to evaluate pathway and program success. • Sharing research/data across organizations • Incorporating data into process improvement process	• Student completion rates are being tracked (Y/N) • Student job placement rates are being tracked (Y/N) • Living wage attainment by completers is being tracked (Y/N) • Data is being used on an annual basis (at a minimum) to improve aspects of the pathway (i.e. completion, employment, living wage attainment by completers) (Y/N) • Primary research is conducted annually (at a minimum) to identify and improve supports for student needs (Y/N) • Primary research is conducted annually (at a minimum) to understand employer needs and improve satisfaction (Y/N)