

Massachusetts Commission for the Blind Vocational Rehabilitation Research Initiatives 2020

Scope 6: Feasibility of Apprenticeships   
in Emerging Industries for Blind   
VR Consumers

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# Abstract / Executive Summary

Registered Apprenticeship Programs (RAPs) are structured paid work-based learning programs which aim to provide businesses with a diverse and consistent talent pipeline and provide apprentices a structured opportunity to grow their skillset while increasing their earnings.

Apprenticeships in the United States are going through a significant revival as a workforce development solution for states and local areas. Tuition increases are pushing Americans to look for alternatives to traditional four-year higher education institutions. As the New America Foundation notes, “Stubbornly high college costs, combined with employers’ inability to recruit enough skilled workers through conventional channels, have contributed to resurgent public interest in apprenticeship.”[[1]](#footnote-2)

However, research shows that the disability community remains underrepresented in RAPs due to systemic barriers and pervasive biases. Paradoxically, RAPs are designed precisely to remove a number of the barriers that preclude those with disabilities from being hired or remaining on the job. As noted on apprentiveshop.gov, the US Department of Labor’s official apprenticeship page, employers benefit from RAPs because they help foster a diverse and inclusive culture.[[2]](#footnote-3)

As this report outlines, strong RAPs assist employers with diversifying their workforce by recruiting talent from organizations like American Job Centers (AJC) who often serve Vocational Rehabilitation (VR) consumers with job placement and training. By encouraging partnerships at a policy level between AJCs, workforce development boards, VR agencies, offices of apprenticeship, industry stakeholders, and related instruction providers, RAPs effectively remove many barriers by braiding programs and resources. As this report demonstrates, states with strong partnerships between their state Office of Apprenticeship and agencies like workforce development boards and VR agencies, can and have effectively expanded businesses hiring apprentices from traditionally underrepresented populations.

**States with strong partnerships between their state Office of Apprenticeship and agencies like workforce development boards and VR agencies, can and have effectively expanded businesses hiring apprentices from traditionally underrepresented populations.**

This combination creates a unique window of opportunity for organizations like the Massachusetts Commission for the Blind (MCB) to meet business demand while providing its VR consumers with structured, long-term, and integrated career pathways.

This feasibility study reviews existing literature and best practices as provided through government organizations, such as the US Department of Labor and its Office of Disability Employment Programs (ODEP), to assess MCB’s capacity to expand utilization of RAPs by the employers and VR consumers they serve.

The study reviews findings and information from advocacy organizations and policy think tanks to better understand the opportunities for – and barriers to – deploying integrated RAPs. The study also provides a review of national best practices from a variety of states which successfully demonstrate VR consumer employment through apprenticeship.

Broadly speaking, this study finds that RAPs are a viable model for expanding integrated employment opportunities for MCB’s VR consumers. The Pennsylvania Office of Vocational Rehabilitation (OVR) provides a particularly strong roadmap for how a state VR agency can implement apprenticeship programs. The recommendations by Public Consulting Group, Inc. (PCG) closely align with the roadmap presented by Pennsylvania OVR during its presentation to the Apprenticeship Inclusionary Models Community of Practice. However, this report also draws on PCG’s work with the Massachusetts Executive Office of Labor and Workforce Development Division of Apprentice Standards (DAS) and higher education in Massachusetts, as well as key informant interviews with MCB employers, the state workforce board, and existing Massachusetts RAPs in advanced manufacturing. The interviews confirm that Massachusetts and MCB have the required components to establish or expand the use of Registered Apprenticeships. MCB can capitalize on these resources by formalizing partnerships, training staff, and documenting a talent pipeline to begin placing consumers as participants in existing RAPs.

**This study finds that RAPs are   
a viable model for expanding integrated employment opportunities for MCB’s VR consumers.**

# introduction

## Study Objective

The objective of this study was to assess the feasibility of apprenticeships, specifically in expansion industries (Healthcare, Information Technology, and Manufacturing)[[3]](#footnote-4), for blind and visually impaired consumers served by MCB. The goals of the research were to understand the current apprenticeship landscape for blind and visually impaired consumers, and identify best practices, opportunities, and barriers for supporting and connecting this population to apprenticeship opportunities.

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## Results Vision

The purpose of conducting this study was to help MCB understand more about apprenticeship as a training, employment, and career pathway strategy for the consumers they serve. The results should also equip MCB with a better understanding of how employers view apprenticeship as a workforce development strategy and what resources they have in place to support apprentices with disabilities. MCB hopes to replicate best practices identified from the research, understand the associated barriers and challenges, and leverage concurrent apprenticeship expansion work happening locally and nationally.

# methodology

The PCG project team used several methods to better understand the feasibility of apprenticeship as a

training, employment, and career pathway strategy for MCB consumers. These methods are summarized below:

1. **Interviews**
   1. Businesses who currently advise MCB or hire MCB VR consumers.
   2. One industry association that actively runs advanced manufacturing RAPs.
   3. Executive Office of Labor and Workforce Development.
   4. MassHire (State Workforce Development Board).
   5. The Massachusetts Division of Apprentice Standards.
2. **Literature Review**
   1. Reviewed nearly 30 articles and resources from government and advocacy sources.
   2. Sample sources included the Office of Disability Employment Programs (ODEP), Partnership on Employment & Accessible Technology, The Council of State Governments, Massachusetts Executive Office of Labor and Workforce Development, and National Conference of State Legislatures.
   3. Section 9 includes a complete list of references cited.
3. **Surveys**
   1. Business Customer Survey: 14 responses from Massachusetts businesses who have worked with MCB. The survey, part of PCG’s work compiling a Comprehensive Statewide Needs Assessment (CSNA), included questions related to apprenticeship.
   2. MCB Staff Survey: Survey of MCB staff to assess existing capacity and knowledge of apprenticeship. 19 responses from career counselors and 5 responses from business services staff.
4. **National Research**
   1. Conducted research on other state programs to identify policies, programs, and partnerships which may provide insights to MCB.
   2. Coordinated with the Council of State Governments to review additional state practices.

## Terminology

The following terminology is used throughout the study and is defined below:

1. **Apprentice** – Refers to an individual enrolled in a RAP or IRAP.
2. **Competitive Integrated Employment** – With respect to an employment outcome for purposes of the VR program, under 34 CFR §§361.5(c)(9)(ii) and 361.5(c)(32)(ii), an employment setting must meet two criteria to be considered an integrated location and satisfy the definition of “competitive integrated employment.” The employment setting must be:
   1. Typically found in the community; and
   2. Where the employee with a disability interacts, for the purpose of performing the duties of the position, with other employees within the particular work unit and the entire work site, and, as appropriate to the work performed, other persons (*e.g.,*customers and vendors) who are not individuals with disabilities (not including supervisory personnel or individuals who are providing services to such employee) to the same extent that employees who are not individuals with disabilities and who are in comparable positions interact with these persons.[[4]](#footnote-5)
3. **Industry-Recognized Apprenticeship Program (IRAP)** – Refers to industry-led apprenticeship programs recognized as such by a Standards Recognition Entity (SRE) pursuant to the DOL’s standards.[[5]](#footnote-6)
4. **Registered Apprenticeship Program (RAP)** – Refers to the U.S. Department of Labor Registered Apprenticeship Programs. RAPs meet the Department of Labor’s requirements for on-the-job training, related classroom instruction, occupational standards, mentorship, and national certification.[[6]](#footnote-7)

# Audit of Current Services

PCG worked with MCB to do a review of MCB’s current offerings and knowledge base as it related to apprenticeship as an employment opportunity for VR consumers and as a workforce development strategy for employers to recruit and retain a diverse pipeline of skilled workers. PCG sought to understand the services offered to businesses as a customer of MCB, and whether apprenticeship is part of the menu of career opportunities discussed between career counselors and consumers. The findings below reveal that while MCB has a robust offering of services for both business customers and VR consumers, apprenticeship is not a major component to-date. Lack of knowledge and training about apprenticeship are at the core of this issue. The following subsections outline PCG’s findings.

## Business/Employer Services Components

MCB’s employer services team provides free, high touch, personalized ongoing support, consultation, and communication with both the individual and key business stakeholders throughout the pre and post-employment process of their consumers. MCB services for businesses are tailored to each individual and work environment and are provided in collaboration with organizational supervisors, IT departments, and other relevant key stakeholders. To date, apprenticeship education is not a component of the typical training and education offerings for employers, nor is it a common question or strategy brought up by either MCB or the employers they serve. The services provided to employers by MCB are outlined below, as documented in the MCB Employer Challenge campaign:

### Training and Education

* Consultation on questions and accommodations related to the employment of individuals with visual impairments
* Training for hiring managers, HR staff, and other employees on best practices for hiring and working with people with visual impairments

### Assistance with Recruiting and Screening

* Manage, prepare and refer a pipeline of qualified, vetted applicants to best meet job requirements
* Ongoing support, consultation, and communication with key business stakeholders throughout the recruitment process
* Informational interview coordination and support
* Workplace support services for applicants including O&M, RT and AT services listed below
* Information on tax credits for hiring MCB’s job seekers

### Internship Program

* Manage, prepare and refer a pipeline of qualified, vetted applicants to best meet internship requirements
* Ongoing support, consultation, and communication with key business stakeholders throughout the internship process
* Workplace support services for interns including O&M, RT and AT services listed below
* $1,000 internship stipend

### Workplace Orientation and Mobility (O&M) - Travel training, Cane training, Guide Dog Orientation

* Employee onboarding support including to and from work and throughout critical areas such as emergency exits, supervisor’s office, break/dining areas, restrooms, etc.

### Workplace Rehabilitation Teaching (RT)

* Physical assessment of and adjustments to the work environment to ensure accessibility
* Label appliances and other items in staff break and dining areas with tactile markings
* Adapt and instruct how to complete work tasks and job requirements non-visually
* Adapt use of color contrast and lighting to maximize job performance

### Assistive Technology (AT)

* Comprehensive workplace technology assessment to identify required consumer driven software and/or technology accommodations
* Required equipment provided and installed on work devices by MCB
* Screen reading software (audio feedback for totally blind), such as [Job Access With Speech (JAWS)](https://www.freedomscientific.com/products/software/jaws/)
* Screen magnification software, such as [ZoomText](https://www.zoomtext.com/)
* Desktop video magnifier (closed-circuit television (CCTV))
* Note taking devices using a braille display or speech output

## Current Understanding of Apprenticeship & Emerging Industries

PCG worked with MCB to draft and distribute a survey to business services and career counselor staff. The goal of the survey was to better understand the staff’s current knowledge of Registered Apprenticeships and the value they may add to their respective customer bases. Key findings from the surveys are described below.

The staff survey asked respondents, *“On a scale of 1 to 5, with 1 being the least knowledgeable and 5 being the most knowledgeable, how would you rate your knowledge of Registered Apprenticeships?”* On average, the business services staff reported a stronger knowledge base of Registered Apprenticeships (3.4) compared to the Career Counselors Staff (2.0).

Results were mixed among business services staff regarding whether they had ever discussed Registered Apprenticeships as a potential offering for employers working with MCB, with some respondents reporting they had, while others had not. Among career counselors, 61% of respondents reported they did not recall their team ever discussing Registered Apprenticeships for VR consumers. When career counselors were asked, *“When working with VR participants, do you seek out Registered Apprenticeships as viable employment opportunities? Why or why not?”* multiple respondents referred to a lack of knowledge or familiarity of Registered Apprenticeships. Similarly, 72% of career counselors responded they were “somewhat uncomfortable” or “extremely uncomfortable” when asked, *“Are you comfortable that you have enough knowledge of Registered Apprenticeships to discuss or promote them as a viable hiring option for your VR participants?”*

**76% of career counselor respondents said that they would like to receive training on Registered Apprenticeships.**

When career counselors were asked, *“How could MCB help increase your ability to assist VR participants with securing a job as a Registered Apprentice?”*, 76% of career counselor respondents said that they would like to receive training on Registered Apprenticeships.

# research

PCG conducted an extensive literature review and national scan of best practices. The goal of the research was to understand the “current state” of apprenticeship for blind and visually impaired consumers and identify case studies and best practices for MCB to build on as they work to develop a strategy to connect consumers to apprenticeship opportunities.

## Literature Review

### What Are Apprenticeships?

Apprenticeships, as defined by the US Department of Labor, differ from other workforce development strategies. They are not internships, fellowships, or contract work. Similarly, they are not subsidized work, such as paid work experience, where the participant is paid by a third-party to perform work on-site. Rather, apprenticeships today are a business-driven and coordinated effort. According to the US Department of Labor, apprentices typically enter their apprenticeship earning approximately $70,000 annually in wages with 94% being retained by their employer long-term.[[7]](#footnote-8)

Apprenticeships have a long and complicated history in American workforce strategy dating back to the late 1800’s when workers learned a trade on-the-job and did not require a formal education. At the dawn of the 20th century, apprenticeship use began to decline in favor of higher education.[[8]](#footnote-9) Since then, many view apprenticeships as a career pathway for the trades, however, apprenticeships have evolved to become a structured and effective way for businesses to expand their talent pipeline.

**Registered Apprenticeship is expanding into in-demand and high-tech industries. In Massachusetts, Information Technology (IT), Healthcare, and Advanced Manufacturing have been identified as target industries for apprenticeship expansion.**

Today, with the support of the U.S. Department of Labor, Registered Apprenticeship is expanding into in-demand and high-tech industries.[[9]](#footnote-10) In Massachusetts, Information Technology (IT), Healthcare, and Advanced Manufacturing have been identified as target industries for apprenticeship expansion[[10]](#footnote-11).

As defined by the US Department of Labor, apprenticeships typically follow the models below:

**Registered Apprenticeship Program (RA)** is a proven model of job preparation that combines paid on-the-job training (OJT) with related instruction to progressively increase workers’ skill levels and wages. RA is also a business-driven model that provides an effective way for employers to recruit, train, and retain highly skilled workers. It allows employers to develop and apply industry standards to training programs, thereby increasing productivity and the quality of the workforce. As an “earn and learn” strategy, RA offers job seekers immediate employment opportunities that pay sustainable wages and offer advancement along a career path. Graduates of **Registered Apprenticeship Programs (RAPs)** receive nationally-recognized, portable credentials, and their training may be applied towards further post-secondary education.[[11]](#footnote-12)

**Pre-Apprenticeship** is a program or set of strategies designed to prepare individuals to enter and succeed in a RAP and has a documented partnership with at least one, if not more, RAP(s). Pre-Apprenticeships provide participants with a combination of soft skills and classroom skills to help prepare them for on-the-job training.[[12]](#footnote-13)

Industry-Recognized Apprenticeship Programs (IRAPs) are high-quality apprenticeship programs that provide individuals with opportunities to obtain workplace-relevant knowledge and progressively advancing skills. IRAPs include a paid-work component and an educational component and result in an industry-recognized credential. An IRAP is developed or delivered by entities such as trade and industry groups, corporations, non-profit organizations, educational institutions, unions, and joint labor-management organizations. The final rule establishes a process for the DOL’s Office of Apprenticeship Administrator to recognize qualified third-party entities, known as Standards Recognition Entities (SREs), which will, in turn, evaluate and recognize IRAPs consistent with the Department’s standards.[[13]](#footnote-14) Industry-Recognized Apprenticeship Programs are new and currently being deployed for the first time by the US Department of Labor.

This study focuses primarily on RA as an employment strategy for MCB consumers and businesses they serve. However, it is important to note the role of Pre-Apprenticeships as a strategy for connecting youth to career pathways, as well as the potential for IRAPs to fill gaps in serving employers and populations that have not used RA in the past.

### History of Apprenticeships for People with Disabilities

Individuals with disabilities experience systemic disadvantages to participating in RAPs. According to Jobs for the Future, this starts in youth and is tied into factors including:

1. Disclosure and fear of perceived or real discrimination
2. Employer resistance to hiring youth apprentices, subsequently limiting the talent pool
3. Employer resistance to apprenticeships and the perceived rigidity of RAPs compared to internships
4. Higher rates of high school non-completion resulting in a lack of minimum credentials
5. “Benefits Cliff” effect

The result is individuals with disabilities receive significantly less exposure to RAPs.[[14]](#footnote-15)

Additionally, there have been very few RAPs designed for or marketed to be inclusive of the disability community. As stated in a 2015 US Department of Labor Office of Disability Employment Policy report,

*“The distinction of being a RA program requires that the program be registered with OA [Federal Office of Apprenticeship] or SAA [State Apprenticeship Agency]. Many career-training programs for people with disabilities call themselves ‘apprenticeship’ programs, although they are not RA.”[[15]](#footnote-16)*

This combination creates a challenging environment for expanding adoption and use of apprenticeships broadly and creates a downstream effect of limiting opportunities for those with disabilities.

However, the report did note a successful program from 2006 to 2010 known as *Transition into Registered Apprenticeship Careers and Employment (TRACE)*. The program resulted in a series of recommendations around best practices for a RAP interested in serving VR consumers, outlined in the following section.

### Elements of Successful Apprenticeship Programs for People with Disabilities

Despite the general lack of representation by the disability community in RAPs, the US Department of Labor was able to assess and provide best practices from early grantees in the TRACE program.

The TRACE program identified seven elements to a highly successful RA program for VR consumers in New Mexico. These elements were:

|  |  |
| --- | --- |
|  | Working relationships between clients, parents, schools, and VR |
|  | Awareness increased around RA |
|  | Client understanding of competitive income opportunities increased |
|  | Development and availability of promotional literature in multiple languages, including braille |
|  | Measurable taxpayer savings as measured by employer contributions to OJT |
|  | Increased job satisfaction by VR consumers enrolled in apprenticeships |
|  | VR counselor staff buy-in |

Overall, the program seems to establish that RAPs can be effective means of providing VR consumers with integrated, competitive jobs.

RAs have been expanding as a workforce development tool for high-demand industries such as information technology and logistics. The expansion of the model into new industries is creating new opportunities for individuals with disabilities to participate in integrated working environments.

Integrated working environments are ideal opportunities for VR consumers. These environments help ensure consumers receive equal pay, experience equal recognition to their peers, and consumers to demonstrate their capacity to contribute to a full career path.

A Walgreens case study published in American Society of Safety Professionals publication *Professional Study*, featured an integrated work environment in an Anderson, South Carolina, distribution center. *Walgreens* aimed to “create an integrated work environment in which employees with and without disabilities would work side by side, doing the same jobs for the same pay, and being held to the same standards.”[[16]](#footnote-17)

Walgreens built its revised hiring practices on three strategies:

1. Forge partnerships with state and local social services agencies early in the process to assist with the initial screening and training of candidates with disabilities on an ongoing basis.
2. Build a physical workplace conducive to accommodating employees with different abilities. Focus on building design, equipment selection and management practices to maximize efficiency among workers of all abilities.
3. Create a welcoming and accepting culture in the building from the first day of operations. One expected benefit was to make safety a top priority among all employees.

As the Walgreens case study demonstrates, there are willing employers in high-demand industries, such as logistics, willing to foster integrated working environments and partner with state and local service agencies to do so. These employers can be leveraged to use the best practices documented in the New Mexico TRACE program to expand access to apprenticeship for populations with disabilities.

This willingness by employers like Walgreens can provide a roadmap for VR agencies to complement consumer support services with business support services to enhance worksite accessibility and reduce misperceptions of employers on the perceived burden of hiring individuals with disabilities.

To incentivize success, organizations may be able to leverage the resources of the Workforce Innovation & Opportunity Act (WIOA) in a Registered Apprenticeship Program as seen below:

**WIOA Resources**

* Businesses who hire eligible consumers in the federally-funded workforce development system may be able to have their wages covered by Title I WIOA funding.[[17]](#footnote-18)
* Consumers may be eligible to have required training costs necessary for the RAP covered under WIOA funds through Individual Training Accounts.
* Combine with Vocation Rehabilitation resources to increase Registered Apprenticeship enrollments (count as hires) by reducing employer barriers to hiring individuals with disabilities.

RAPs can be integrated relatively seamlessly. Information for establishing RAPs is available on [apprenticeship.gov](file:///C:\Users\Admin\Downloads\apprenticeship.gov). Similarly, many grantees were required to develop and publish materials such as toolkits and checklists, as seen online with the Healthcare Career Advancement Program’s toolkit: <https://www.hcapinc.org/toolkit>.

Because of both the standardization of the process of deploying Registered Apprenticeships and the availability of public information, information to deploy RAPs is readily available.

For example, ExploreVR provides an online step-by-step guide for VR agencies to develop Registered Apprenticeships.[[18]](#footnote-19) The guide recommends that VR agencies work through the following high-level steps below:

**Eight Steps for VR Agencies to Develop Registered Apprenticeships**

1. **Assess the Labor Market** and VR consumers’ interest in specific occupations in their regional economies, and training and WBL programs that already exist for these programs.
2. **Identify Existing Pre-Apprenticeship and RAPs**, and begin establishing relationships with the state apprenticeship directors or federal staff responsible for apprenticeship programs in their respective states.
3. **Build a Team** and develop strategic partnerships that will support the reach, implementation, and ability of apprenticeship programs to include people with disabilities.
4. **Define Your Pre-Apprenticeship and RAP** and the key components and resources to support consumers.
5. **Strategize the Roles** for how the VR agency will participate, what barriers consumers might face, and how employers’ demands will be served.
6. **Implement the Program** once an approach has been identified and be sure to develop an implementation plan with action steps, work products, performance measures, and timelines.
7. **Evaluate Progress and Measure Results** using outcome measures and key metrics.
8. **Make Continuous Improvements** over time based on feedback and outcomes.

## National Scan of Best Practices

As a USDOL program, information on RAPs is widely available. Additionally, the USDOL Office of Disability Employment Programs (ODEP) has funded and assisted with the deployment of RAPs to target serving traditionally underrepresented populations. PCG conducted a national scan, including collaboration with the Council of State Governments, to identify current and past programs that prioritized serving VR consumers in RAPs.

PCG’s literature review confirmed that there are few dedicated RAPs available across the country for populations with disabilities. There are even fewer that specifically prioritize the blind and visually impaired.

Despite this, there are a wide variety of RAPs led by states or state agencies which have the components for engaging a VR population. PCG, working with the Council of State Governments, has compiled a brief scan below. The Pennsylvania and Kentucky case studies cited below represent replicable models.

### Pennsylvania: ApprenticeshipPHL

ApprenticeshipPHL is a regional apprenticeship initiative led by PhiladelphiaWorks, the regional local workforce development board overseeing its local American Job Centers. The RAP was launched in partnership with Pennsylvania’s Office of Vocational Rehabilitation (OVR) and was designed with inclusive practices starting at youth and through adult services. ApprenticeshipPHL was featured by the Apprenticeship Inclusion Models (AIM) team as a best practice in creating inclusive RAPs in part due to its partnership with the Pennsylvania OVR.

ApprenticeshipPHIL launched the Urban Technology Project.[[19]](#footnote-20) The Project established the Computer Support Specialists Information Technology Apprenticeship Program.[[20]](#footnote-21) Partners included the School District of Philadelphia and Communities in Schools of Philadelphia.

The RAP establishes a pre-apprenticeship program where the participant enrolls as a Digital Service Fellow. The pre-apprentices are funded through AmeriCorps (braided funding strategy) and learn digital literacy skills & tech support with a Digital Literacy Teacher and apprentice mentors.

By beginning with a combination of youth recruitment and inclusivity principals, the program expands representation of individuals in RAPs with physical, mental health, and intellectual disabilities by ensuring they are represented in the pre-apprenticeship stage.

### Pennsylvania: Collaboration with the PA Labor & Industry Apprenticeship & Training Office

In addition to the local example cited in Philadelphia, the Pennsylvania OVR was featured by AIM for its work collaborating with the Pennsylvania Labor & Industry Apprenticeship & Training Office (ATO). This partnership was led by OVR and was successful due to OVR’s business-first approach, reflecting a key success factor in deploying RAPs.

The partnership was conceived under a two-step approach. First, OVR reached out to the ATO to discuss potential joint opportunities. Second, OVR and ATO reviewed and discussed the state’s “high priority occupations” that use pre-apprenticeship and RAPs. By doing this, OVR was able to identify gaps where demand for talent among businesses hiring RA’s was high and then could align VR consumers’ career objectives. Together, OVR and ATO identified unmet needs in construction and trades, health, and service sector occupations including logistics.[[21]](#footnote-22)

OVR has aimed to build a more robust team to connect current PA OVR business customers and apprenticeship sponsors to their office VR counselors and subsequently to their customers (talent) to drive increased use of apprenticeships in career outcomes. To move to a sustainable plan, OVR worked to educate its VR counselors on RAPs as a career opportunity, expanded outreach by its business services team to RAP sponsors provided by ATO, and developed a model to braid VR funding for apprentices to support RAP sponsors with wage and training costs.

OVR VR counselor staff are organized through Service Employees International Union (SEIU). These business services teams are responsible local business customers and apprenticeship sponsor engagement, WIOA Title I and Title III engagement, and regional collaboration with ATO specialists.  Business Services staff and their local District Administrators coordinate their District Office and business service engagements, apprenticeship exploration, internships and the use of OJT’s with support and technical assistance from our Central Office Business Services specialists.

OVR uses a designated statewide apprenticeship specialist who works closely with each OVR District Office and ATO, in connecting apprenticeship sponsors and local traditional trades representatives in information sessions so VR counselors are familiar with registered apprenticeships in their region.

The partnership between OVR and ATO resulted in two major victories. First, the initiative established strong relationships with apprenticeship sponsors interested in hiring and capable of accommodating VR talent. Second, OVR’s initiative assisted ATO, apprenticeship sponsors, and their own staff with establishing and formalizing a talent pipeline to meet consumer and business needs.

### Kentucky: State as a Model Employer (SAME)

State as a Model Employer (SAME) is an umbrella term covering workforce policies that increase disability inclusion and access in state agencies by establishing the state as a leader in best practices in inclusive hiring and worksite environments. These policies capitalize on the advancements made in the public sector since the implementation of Americans with Disabilities Act to demonstrate viable inclusive and accessible employment models for private sector firms.[[22]](#footnote-23)

The Council of State Governments and Urban Institute highlighted Kentucky in 2018 for its implementation of Civil Service Apprenticeships as part of its SAME strategy.

The apprenticeships focused on four occupations:

1. Direct Support Specialist program administered by the Department of Community Based Services
2. Computer Support Specialist (Help Desk Technician) program administered by the Commonwealth Office of Technology
3. Automotive Technician Specialist program administered by the Transportation Cabinet
4. Office Administrative Services program administered by Barren County Government.[[23]](#footnote-24)

Broadly speaking, the program provided three main benefits. From the Urban Institute’s report:

*First, it is striking that several new apprenticeship programs were quickly able to develop occupational frameworks, gain registration, attract applicants, and begin employing apprentices. This process usually takes far longer than the few months Kentucky took to translate an idea into action. The speed at which new programs have been put into place owes a good deal to the collaborations between departments, Kentucky’s Division of Apprenticeship and the Personnel Cabinet.   
  
Second, at this point, both apprentices and managers of their units are generally pleased with how the apprenticeships are proceeding regarding the work of the apprentices, the mentoring of the apprentices, the skills being developed, and the positive impact on the department.  
  
Third, the success so far of departments adopting apprenticeships bodes well for the expansion to other areas. Indeed, the Departments of Corrections and Veteran’s Affairs are already exploring apprenticeship opportunities for various positions.[[24]](#footnote-25)*

These outcomes suggest the Commonwealth of Massachusetts would be positioned well to deploy a similar program led by MCB.

### Additional States with Elements for Success

The following case studies from Texas, Virginia, and New Mexico showcase best practices from state and industry-led RAPs. The final case study in Michigan represents a legislative model.

**Texas**: **Explore Apprenticeship**

VR piloted a new program called Explore Apprenticeship that was aimed at assisting VR students to learn about and experience careers that can be entered through the apprenticeship training model. The program took place at two community college districts: Dallas County Community College District (DCCCD) and San Jacinto College (SJC). It was designed to build the knowledge of apprenticeship career pathways for students with disabilities and is focused on awareness through interactive and project-based learning coupled with site visits.

**Virginia: Learn the Ropes with CVS**

CVS Health partnered with the Commonwealth of Virginia to create a mock CVS pharmacy in the Wilson Workforce and Rehabilitation Center, which is used to teach youth with disabilities essential skills for working in retail.[[25]](#footnote-26)

**New Mexico: New Mexico Manufacturing Extension Partnership**

In New Mexico, the majority of apprenticeship opportunities are in the Building and Construction trades and include some manufacturing, maintenance and machinist programs. In partnership with the New Mexico Manufacturing Extension Partnership (NMMEP), and in concert with efforts of the 21 statewide Workforce Connections Centers (AJCs), manufacturers and apprentices will be matched for the initial training program to include a particular focus on women, young adults aged 16-24, and people with disabilities.

**Michigan**: **Michigan House Bill 4579**

As an example of legislation, Michigan House Bill 4579 establishes a local workforce development board that is tasked with establishing a peer-to-peer apprenticeship mentoring program for women, minorities and individuals with disabilities. This bill is intended to establish employee resource groups and diversify the workforce (Michigan Legislature, 2019).[[26]](#footnote-27)

# Summary of findings

PCG conducted an extensive literature review using existing information from government and advocacy resources. Appendix A: Research Index includes a complete list of sources reviewed. Below follow the primary themes and objectives:

## Themes

The following themes emerged from PCG’s research:

1. There is already low employment among the blind and visually impaired. Very few blind and visually impaired consumers participate in apprenticeship nationally. As of 2017, MCB has recorded zero apprentices among consumers served.[[27]](#footnote-28)
2. There may a lack of understanding among VR staff serving the blind and visually impaired about what apprenticeship is and how to connect consumers. PCG worked with MCB to distribute a survey to better understand the current staff capacity and is awaiting responses.
3. There are few tested examples of apprenticeships with intentional inclusion strategies for disabled populations that show high participation rates.
4. Apprenticeship is expanding to populations historically underserved by apprenticeship and to in-demand industries. Businesses are more willing than in the past to engage in Registered Apprenticeships – and subsequently work with historically underrepresented populations – than in previous years.
5. There is a lack of understanding among employers and the job-seeking population about what a Registered Apprenticeship is, what is required, and the benefits of a Registered Apprenticeship as compared to more traditionally flexible workforce development strategies such as internships.
6. There is a lack of knowledge among employers about supportive technologies and practices to create an inclusive work environment and support the visually impaired and blind.
7. Industry associations and consortiums – who often serve as RAP sponsors – may provide an early avenue to quickly expanding access of RAPs to more diverse populations.

## Opportunities

As part of PCG’s literature review and key information interviews, the following concepts arose as prospective opportunities that would contribute to the successful implementation of RAPs and IRAPs for MCB business customers and VR participants.

### Future of Apprenticeship

Based on trends in the labor market and apprenticeship strategies at the state and national level, we hypothesize that employer demand for a steady talent pipeline of trained workers in high-demand fields such as Healthcare, Manufacturing and Information Technology (IT) will provide an increased opportunity for VR agencies to work with employers to help provide talent to fill employer needs in those fields. The apprenticeship expansion strategies in motion in Massachusetts and nationally points to an increased number of RAPs and Pre-Apprenticeship Programs to provide on-ramps to apprenticeship. Additionally, Massachusetts has targeted efforts to reach populations historically underserved by apprenticeship, including populations with disabilities, to help them connect to apprenticeship opportunities.[[28]](#footnote-29) The new IRAPs may also provide opportunities for occupations that are not a good fit for RAPs to become “apprenticeable” under the IRAP model, increasing apprenticeship opportunities under unique models that may not have the some of the same barriers job-seekers face under RAPs.

### Establish Relationships with Existing Registered Apprenticeship Sponsors and Intermediaries

The US Department of Labor markets Registered Apprenticeships as an opportunity for businesses to diversify their workforce while achieving their business needs. RAPs are designed to incorporate a wide array of partners to assist with more equitable recruitment and support for apprentices as they enter worksites. Sponsors and Intermediaries are conduits to join in those partnerships.

Three of the businesses that participated in the business survey confirmed they do offer apprenticeships; however, five of the business respondents providing an answer were unsure whether they were interested in expanding apprenticeships. During key informant interviews, a respondent which currently operates as a sponsor and intermediary for Registered Apprenticeships in advanced manufacturing expressed a strong desire to support VR consumers engagement in their programs. MCB should establish a relationship with this organization, and others like it, to begin conversations. Massachusetts also has intermediary industry collaboratives across the state for Healthcare and Information Technology (IT). This type of early-stage partnership was identified by the Pennsylvania OVR as a key element to its successful initiative to expand utilization of VR consumers as apprentices

As all Registered Apprenticeships must be coordinated with the Division of Apprentice Standards (DAS) at the Executive Office of Labor and Workforce Development (EOLWD) in Massachusetts, MCB should contact DAS to begin identifying sponsors who may be interested in partnering.

## Prospective Barriers to Success

As part of PCG’s literature review and key information interviews, the following themes arose as prospective barriers to success:

### Employer Misperceptions about Apprenticeship

During the key informant interviews conducted for this study, some businesses expressed an interest and understanding of the commitment required to establish RAPs. However, the majority of business representatives interviewed expressed they were generally not familiar with Registered Apprenticeships. Respondents were unclear on what the commitments of Registered Apprenticeships were and if their firm could commit to the framework. Additionally, as literature shows, the structured nature and documentation requirements of deploying new RAPs may be a disincentive to this expansion.

Additional employer education, particularly existing case studies, can assist with this. Most expressed an openness to learning more. Additionally, many states are adopting an expansion of RAPs. The barriers described below can be addressed through this process.

### Employer Misperceptions about Hiring Individuals with Disabilities

As noted in the literature review, while some employers had a strong understanding of integrated work environments and universal design principals, other respondents were unclear how they could accommodate individuals with disabilities, specifically visually impaired and blind consumers. During interviews, employers did express an interest in learning more about MCB’s employer services offerings to assist with addressing universal design principals, assistive technology, and case studies on how businesses have successfully worked with individuals with disabilities.

*“Business customers may be unaware of strategies to effectively help legally blind workers learn, particularly assistive technology and may view participants as a liability especially if they have very limited experience.” – MCB Business Services Staff Member*

### Integrated Work Environments & OJT Requirements

Registered Apprenticeships are typically deployed in structured environments with requirements for participants to be on a worksite for on-the-job training (OJT). One entity which runs an existing RAP articulated that there may be challenges in addressing worksite requirements, such as the accessibility of industry-specific equipment. However, the representative ultimately articulated that a series of “creative solutions” could be deployed to potentially resolve this barrier.

# Recommendations

The following section includes specific recommendations based on the research and findings for MCB to consider for further exploration and implementation as part of the agency’s strategy to use apprenticeship

as a training, employment, and career pathway strategy for the consumers they serve. The recommendations are organized around five themes:



## Formalize Partnerships with the Massachusetts Division of Apprentice Standards, MassHire, & WIOA State Partners

RAPs – and soon-to-come Industry-Recognized Apprenticeship Programs – require extensive coordination between the federally-funded workforce system, employers, institutes of higher education & training providers, and other partners like economic development or VR agencies.

MCB should engage with these partners to establish a customer journey map for businesses and consumers. MCB should subsequently map existing resources to be “braided” to support the customer consumers and employers.

**MCB should formalize partnerships around apprenticeship goals with the Massachusetts Division of Apprentice Standards, MassHire, and WIOA state partners.** MCB can replicate the success of the Pennsylvania Office of Vocational Rehabilitation (OVR) by following the roadmap Pennsylvania OVR presented to the ODEP Apprenticeship Inclusion Model Community of Practice. MCB can do this by:

1. Exploring employer demand for talent in existing RAPs with the Massachusetts Division of Apprentice Standards
2. Deliver statewide VR counselor training on RAP
3. Working with VR counselors, identify and prepare VR consumers for careers in high-demand occupations hired through RAPs
4. Establish a braided funding strategy with OA, MassHire, and other partnerships to support funding protocols for use of OJT, milestone payments, and supportive services to the VR consumers
5. Establish relationships with existing RA sponsors to expand hiring opportunities for VR consumers as they progress through the RA
6. Sustain outreach to RA sponsors and develop outreach materials to showcase successes

## Leverage Existing Relationships with Employers and Industry Collaboratives to Pilot RA

During key informant interviews, all employers expressed high satisfaction with MCB’s employer services team. Many respondents were currently using existing work-based learning programs, such as recruiting MCB VR consumers through the Carroll Center. Meanwhile, during the research period, MCB conducted multiple virtual stakeholder convenings with significant employer presence and participation.

These employer representatives represented large scale firms which consistent talent needs in highly “apprentice-able” occupations. The employers represented high growth industries in healthcare, finance, information technology, advanced manufacturing, and retail.

To accelerate adoption, MCB may want to consider joining or partnering with an existing employer or intermediary industry association to form a sponsor “committee.” Sponsor and intermediary are described below.

**Sponsor:** Any person, association, committee, or organization that operates a RAP. This entity assumes the full responsibility for administration and operation of the apprenticeship program. Sponsors can be a single business or a consortium of businesses. Alternatively, the sponsor can be a workforce intermediary, such as an industry association or a labor-management organization. Community colleges and community-based organizations can also serve as sponsors of apprenticeship programs.[[29]](#footnote-30)

**Intermediary:** An apprenticeship intermediary is an organization with the capacity, expertise, and network to help businesses successfully create, launch, and expand apprenticeship programs. Intermediaries could be any of the following: Industry Associations and Business Organizations, Community and Technical Colleges, Non-Profit and Community-Based Organizations, Labor Management Partnerships, or Workforce Development Boards.[[30]](#footnote-31)

This would allow for MCB to form strategic partnerships directly with industry to understand their hiring needs and opportunities to connect MCB consumers to apprenticeship opportunities.

**To begin this process, PCG recommends MCB coordinate with the Massachusetts Division of Apprentice Standards and MassHire to (a) survey these businesses for potentially “apprentice-able” occupations for VR consumers and (b) establish an employer-driven task force charged with deploying strategies to expand MCB VR consumer representation in Registered Apprenticeships.**

## Establish & Monitor Apprenticeship Performance Metrics

In its 2017 RSA Monitoring Report, MCB recorded .5% of consumers as enrolled in an apprenticeship. If MCB seeks to increase this number, **MCB should establish a series of metrics to assist with tracking interest, referrals, and enrollment in RAPs**. Some sample metrics include:

1. Number of employers interested in RAP
2. Number of employers provided information on RAP
3. Number of consumers interested in RAP
4. Number of consumers provided information on RAP
5. Number of consumers referred to RAP apprentice job listing
6. Number of employer RAP apprentice job listings posted

By monitoring these metrics internally, MCB can create more visibility around promoting and engaging parties in enrolling consumers into RAPs.

## Train Staff & Promote RAP as Viable Career Option

As featured in the National Scan of Best Practices, the Pennsylvania OVR established a goal of training VR career counselor staff in understanding RAPs as a career pathway, the role of pre-apprenticeships in RAP career pathways, and identifying candidates who may be a good fit for a high-demand occupation RAP career pathway. Staff must understand the demands of the work, the requirements for related instruction, and the ability to braid funding streams to provide wrap-around supports for the apprentice. Additionally, as noted in **Section 4**, staff are interested receiving additional training in this area.

Similarly, MCB employer services staff must be trained to understand the role Apprenticeship Sponsors play as an intermediary to employers, be supported with accurate outreach materials, and should understand the commitment employers make in hiring apprentices under a RAP.

PCG provided MCB with an internal survey to assess staff’s existing understanding of RAPs and how RAPs may benefit their VR participants or business customers. As described in detail above in Section 4.2, MCB staff have a limited understanding of RAPs and are interested in receiving training. When asked how MCB could help increase career counselor’s abilities to assist VR participants with securing a job as a Registered Apprentice, one career counselor said, *“Providing information about what Registered Apprentices are, where they work, and the businesses in the area that employ them. Additionally, what skills and abilities to look for in participants to evaluate and assist participants in evaluating whether Registered Apprentice is a good choice for them.”* The employer services staff and career counselors must understand RAPs to be able to effectively promote their utilization to customers as a career option or hiring practice.

**MCB should contact the Massachusetts Division of Apprentice Standards to request technical assistance and training for VR staff. MCB should establish a training calendar and competency standards to ensure staff can adequately educate VR consumers and business customers on the benefits and resources MCB can provide to support RAPs.**

## Integrate RAPs into “State as a Model Employer” (SAME)

To accelerate a focus on hiring MCB consumers, **MCB should integrate use of RAPs as part of Massachusetts’ “State As a Model Employer”[[31]](#footnote-32),** which establishes the Executive Branch of the Commonwealth as a model employer for persons with disabilities. This would enable MCB to establish standards for occupations it hires for, refer existing staff in (who would gain experience to pass on to consumers), and expand relationships with employers through shared occupational standards. By using RAPs for its own occupations, MCB can experience and demonstrate the value RAPs provide in achieving business goals, providing participants integrated on-the-job trainings and career pathways, and in enhancing internal understanding of the role RAPs play. As described in **Section 5.2.3**, Kentucky successfully implemented a SAME apprenticeship model.

**PCG recommends MCB replicate the Kentucky SAME apprenticeship model. To implement this strategy, PCG recommends MCB adopt an existing apprenticeship program or sponsor the development of a new apprenticeship program in coordination with the Massachusetts Division of Apprentice Standards (DAS) for its own staff.** To achieve this, MCB should:

1. Assess and index the talent demands of MCB and other MA state government agencies to understand which occupations are in-demand, what skills are necessary to fill those occupations, and understand the wages.
2. Assess the skills and credentials of its existing VR consumers to understand their current capacity to fill those positions and what additional training or credentials VR consumers may need to fill those positions.
3. Conduct a crosswalk of state agency demand, such as MCBs own needs, and VR consumer skills & credentials to establish a skills gap assessment.
4. Using this crosswalk and assessment, collaborate and secure technical assistance from the Massachusetts Division of Apprentice Standards (DAS) to confirm if an existing apprenticeship program exists.
   1. If an approved program exists, MCB should work with DAS to adopt the program for its own hiring practices.
   2. If an approved program does not exist, MCB should work with DAS formalize and register an apprenticeship program that prepares consumers for employment with MCB or other state agencies and employers with similar needs.
5. If other agencies join in adopting the same Apprenticeship Programs as MCB, MCB business services staff should identify and secure apprenticeship job listings from state agencies to match MCB VR consumers.
6. If other agencies join in adopting the same Apprenticeship Programs as MCB, MCB career counselors should recruit and prepare prospective apprentices with training, credentials, soft skills support, and other information to assist them with achieving a successful employment match in Massachusetts state government apprenticeships.
7. Lead a collaboration with MassHire as the State Workforce Board to identify wrap-around resources and support and report positive outcomes.
8. Establish and maintain a recurring evaluation schedule to ensure state agencies and VR consumers are successful and have relevant support from MCB and its resources.

Additional information is available in the Urban Institute report, “[Leading by Example: Public Sector Apprenticeships in Kentucky](https://www.urban.org/research/publication/leading-example-public-sector-apprenticeships-kentucky/view/full_report)”.

# Conclusion

The recommendations put forth by PCG are summarized in Table 7 below. PCG recommends that MCB consider all of the recommendations, make decisions about which ones to implement, and develop an implementation plan to put the recommendations in action.

1. **Formalize Partnerships** – MCB should formalize partnerships around apprenticeship goals with the Massachusetts Division of Apprentice Standards, MassHire, and WIOA state partners.
2. **Pilot RAPs** – MCB should coordinate with the Massachusetts Division of Apprentice Standards and MassHire to:
   1. Survey these businesses for potentially “apprentice-able” occupations for VR consumers and
   2. Establish an employer-driven task force charged with deploying strategies to expand MCB VR consumer representation in Registered Apprenticeships.
3. **Establish Metrics** – MCB should establish a series of metrics to assist with tracking interest, referrals, and enrollment in RAPs.
4. **Train Staff** – MCB should contact the Massachusetts Division of Apprentice Standards to request technical assistance and training for VR staff. MCB should establish a training calendar and competency standards to ensure staff can adequately educate VR consumers and business customers on the benefits and resources MCB can provide to support RAPs.
5. **Integrate RAPs** – MCB should integrate use of RAPs as part of Massachusetts’ “State as a Model Employer”. PCG recommends MCB replicate the Kentucky SAME apprenticeship model. To implement this strategy, PCG recommends MCB adopt an existing apprenticeship program or sponsor the development of a new apprenticeship program in coordination with the Massachusetts Division of Apprentice Standards (DAS) for its own staff.

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