Leading by Example

Public Sector Apprenticeships in Kentucky

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Executive Summary

Kentucky has embarked on a serious effort to expand apprenticeships in the Commonwealth. Led by Secretary of Education and Workforce Derrick Ramsey, state officials have put new energy into widening the scope of apprenticeships well beyond the construction industry. In early 2018, they realized that state government itself could contribute to this effort by creating apprenticeships within the civil service. Making these apprenticeships a reality required the Personnel Cabinet (Personnel) to help develop the program by creating the first ever Apprenticeship I and Apprenticeship II job categories. Personnel strategically established these job categories in spring 2018 to offer sufficient flexibility to meet the diverse needs of each agency and position, while still incorporating appropriate criteria to meet statewide employment requirements. Personnel and the Kentucky apprenticeship staff subsequently worked to inform agencies about the potential use of apprenticeships and to help them implement programs.

The establishment of new apprenticeships across Kentucky agencies is a continuing project. Among the apprenticeships developed in state and local employment thus far are four examined by Urban Institute staff: the Direct Support Specialist program administered by the Department of Community Based Services; Computer Support Specialist (Help Desk Technician) program administered by the Commonwealth Office of Technology; Automotive Technician Specialist program administered by the Transportation Cabinet; and Office Administrative Services program administered by Barren County Government.

Kentucky managed to implement apprenticeships in these four occupational areas and register them with the state quickly, partly because of extensive support from the Division of Apprenticeship. Expediting this process was made easier because of the flexibility in the program design, established by Personnel in conjunction with the Division of Apprenticeship. To recruit apprentices, each of the four apprenticeship programs leveraged relationships with high schools or technical colleges as well as the statewide Tech Ready Apprenticeship for Careers in Kentucky (TRACK) program.

Researchers from the Urban Institute examined these apprenticeship programs by conducting 22 interviews with apprentices, public officials, and supervisors and reviewing press and collateral materials about the programs. Although the civil service apprenticeship initiative is still in its early phases and the apprenticeships in the four occupational areas described in this report are ongoing, several conclusions emerge. First, the new apprenticeship programs were quickly able to develop occupational frameworks, gain registration, attract applicants, and begin to employ 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 departments. 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.

Kentucky's civil service apprenticeships are off to a good start. Although the effort to scale civil service apprenticeships will be challenging, the early success in four occupational areas bodes well for expansion.

Public Sector Apprenticeships in Context

The government sector in the United States employed nearly 23 million workers or about 15 percent of all US nonfarm workers at the end of 2018. Local governments account for about two-thirds of this total, with just over half of local government workers having jobs in education. In addition to these civil service positions, governments employ many workers through outside service contracts and influence jobs through their purchases of goods and services. In Kentucky, the share of government workers is 16.2 percent, or slightly higher than the national average.

Although public employers have long used apprenticeships and public administration currently provides over 23,000 apprenticeships in the 31 states that report individual industries, recent initiatives to expand apprenticeship have generally not addressed the possibility of expanding apprenticeships in the public sector.

This is a potentially large missed opportunity for several reasons. First, the number of quality opportunities could increase substantially with a public-sector apprenticeship initiative. The United Kingdom (UK) set a goal to have 2.3% of its public-sector workforce in apprenticeships. Achieving this target in the US would mean doubling the existing number of apprenticeships registered with the state or federal government. In Kentucky, the results are even more striking: Reaching the target would mean over 7,000 new registered apprenticeships, more than doubling the number of registered apprenticeships. Public service apprenticeships operate in the US with varying numbers. For example, about 1,800 apprentices are firefighters, mainly in California, representing about 0.5% of all firefighters in the country.

In the UK, public-sector apprenticeships cover a broad range of roles and careers, including teaching, firefighting, and housing the homeless. With over 30 apprenticeships in the sector, apprenticeships range from adult care worker to security services to educational leadership. In 2018, the UK introduced the teacher degree apprenticeship, which trains apprentices to teach pupils ages 3 to 19. Apprentices can earn police degree apprenticeships, where they learn how best to exercise their powers in maintaining the peace across diverse communities.

A second rationale is that apprentices can be quite productive, even during their apprenticeship training. The training embedded in apprenticeships will generally raise the level of expertise of caregivers, security personnel, and teachers, while strengthening their identification with a public

service culture. These apprenticeships can increase the diversity of public service workers, as increased emphasis is placed on "learning by doing" instead of an exclusive focus on academic learning.

A third rationale relates to the ability of government officials to promote apprenticeships in the private sector. Having public service apprenticeships provides officials with not only an in-depth understanding of how apprenticeships can improve workplaces, but also with credibility when they speak with potential apprenticeship sponsors in private firms and nonprofits about why such organizations should embrace apprenticeships.

Finally, many occupations in the public sector have counterparts in the private sector. Thus, demonstrating the success of apprenticeship occupations in information technology, security, maintenance, administration, and counseling can help make apprenticeship adoption more seamless in the private sector.

For all these reasons, the Kentucky state government's decision to begin developing public sector apprenticeships is worth examining. This report examines the initial steps taken by Kentucky to build talent for state government through apprenticeship. While these early efforts are small, they can lead to scale within the public sector and help translate Kentucky's broader initiative to expand apprenticeship in the private sector.

Learning about Kentucky's Civil Service Apprenticeships

Kentucky recently adopted a serious initiative to develop apprenticeships for public-sector employment. This effort is part of a broader strategy related to talent development for filling critical gaps in the Commonwealth's talent pipeline. In 2018, Kentucky launched several pilot apprenticeship programs, including a pioneering program to provide increased opportunities for individuals pursuing a social services career in state government. Researchers from the Urban Institute sought to understand these innovative, newly created civil service apprenticeship programs by conducting a series of interviews and reviewing existing press and collateral materials about the programs. Urban staff conducted interviews in December 2018 and January 2019 with 22 individuals—including five apprentices, and public officials representing the Kentucky Department of Human Resources Administration (DHRA), Department of Workforce Investment (DWI), Commonwealth Office of Technology (COT), Department of Community Based Services (DCBS), Transportation Cabinet, and Barren County Government.

Through the apprentice interviews, Urban staff gathered information on apprentices' experiences in their respective programs, such as each apprentice's background prior to the program; competencies and knowledge gained to date; goals for their employment; how they discovered the apprenticeship program and what their first impressions were; how the classroom and on-the-job training are complementary and reinforcing; the duties, responsibilities, and opportunities as an apprentice; and their thoughts about how the apprenticeship might be improved for future cohorts. Interviews with public officials and apprentice supervisors covered a range of topics, such as program design and registration; recruitment and screening; program implementation and administration; benefits to state and local government; and plans for program modification and/or expansion.

Urban staff examined four apprenticeship programs:

- Direct Support Specialist program administered by the Department of Community Based Services;

- Computer Support Specialist (Help Desk Technician) program administered by the Commonwealth Office of Technology;

- Automotive Technician Specialist program administered by the Transportation Cabinet; and

- Office Administrative Services program administered by Barren County Government.

While each program was developed differently to meet the unique needs of each entity, the Education and Workforce Development and Personnel Cabinets identified and created public sector apprenticeships mainly to address the Kentucky government's talent pipeline challenges, some of which are driven by an aging workforce and tightening budgetary constraints.

How Were the Civil Service Apprenticeships Developed and Designed?

Conception

The initial steps began with Derrick Ramsey when he was secretary of Kentucky's Labor Cabinet. As part of his broader initiatives in promoting apprenticeships, Secretary Ramsey recognized that the state had leverage to develop quality government positions that would fit the skills required by various state departments. He realized that as government pensions were becoming less attractive, new steps were

necessary to attract, train, and retain a high-quality state workforce. Moreover, the initiative could diversify the public sector workforce and provide new options for young people to enter apprenticeships early in their careers. Making these apprenticeships a reality required the Personnel Cabinet (Personnel) to help develop the program. Personnel started the process by creating the first ever Apprenticeship I and Apprenticeship II job categories, which offer sufficient flexibility to meet the diverse needs of each agency and position, while still incorporating appropriate criteria to meet statewide employment requirements. The flexibility of the job categories helps ease idiosyncratic obstacles that might slow groups from creating an effective program. Another attractive feature of the classifications is their inclusion of wage progression into the sequence of training and work-based learning. The multilevel job classification series for the apprentice job classifications are consistent with all other graded, merit job classifications in the state.

In addition, local and regional apprenticeship champions—from Secretary Ramsey to the state's apprenticeship coordinators and local technical education teachers—contributed to and sparked interest among the various offices that acted on this opportunity. Officials from the Personnel, Labor, and Education and Workforce Cabinets led discussions with state and local government staff to make the case for apprenticeship in their offices. Once these conversations turned to action, the Commonwealth publicized their progress through press releases and public events, which gained further attention through state and local media coverage. Finally, because most of the offices' directors expressed curiosity about apprenticeship programs and in this initiative specifically, offices successfully moved toward establishing their programs.

Developments by Office

Each office took proactive steps to use apprenticeship to strengthen the state's talent development pipeline and fill civil service job openings, while answering the need to boost individual office productivity. Each office apprenticeship sponsor or representative took steps to learn more about this opportunity and was eventually paired with a Division of Apprenticeship coordinator from the Department of Workforce Investment team. These partnerships allowed the interested offices to learn more about the structure and requirements of an apprenticeship and provided offices with the opportunity to discuss the needed pieces from both sides of the table to match individual and statewide criteria for successful program design. Once connected, the process advanced relatively swiftly; usually program inception to implementation took only 60 days.

In the Automotive Technical Specialist (TMAP) program, for example, the administrative branch manager's background in human resources management played a key role in the development of the program. Using existing apprenticeship program standards and leveraging the garage supervisor's interest, the branch manager and garage supervisors collectively created a draft program outline. Once an outline had been created, the branch manager circulated the outline to numerous regional garage supervisors, in advance of an in-person meeting. The branch manager gathered feedback and revised the program standards prior to this in-person meeting. The branch manager and garage supervisors were then able to finalize the program design elements efficiently in a consensus-driven process.

The programs in Barren County, DCBS, and COT each began similarly to the TMAP program, where the office supervisors pulled job functions from existing relevant programs and paired them with specific needs in various offices. Working together, the office supervisors and the Division of Apprenticeship created suitable programs for the apprentices.

The Program Registration Process

Like many registration processes, the ins and outs of registering a state program can be intimidating and complex. Not surprisingly, the Division of Apprenticeship served a pivotal role in all the programs' registration processes as they continued working with each branch from early development stages. This allowed for the branches to learn more about the program registration process and provided opportunities for the Labor and Education and Workforce Cabinets to consult on skill competencies that were suitable for the unique job occupations.

When it did come time for agencies to register their programs, they had hands-on support and guidance to help their registration processes run smoothly. Once all the required pieces were completed, the program sponsor registered the program. The interested office then submitted their paperwork to apprenticeship officials, who then registered the program at the state level through the state apprenticeship agency. In addition, the agency began using the federal Office of Apprenticeship database to track progress, including participation, retention, and completion rates.

Once a program was created, apprentices could apply for and ultimately enter the program. Urban staff learned that it took one to two more months to begin hiring and placing apprentices in the program. The apprentice then signed an agreement with the employer, sponsor or intermediary, or any other contacting party to formalize the employment and training arrangement.

Throughout the duration of the programs, apprentice sponsors are required to maintain records of the apprentice's performance, time on the job, and related technical instruction. These records ensure that programs remain compliant with their initial agreement and provide metrics for the apprentice to meet to document their progress on the job.

Actual Registration Requirements

- Each program has followed the same registration process. The sponsoring office began their process by identifying the occupation of interest to administer under the apprenticeship program. In identifying the occupation of interest, offices had to determine whether the occupation was an "apprenticeable" occupation.

  » After identifying the occupations' apprenticeability, the sponsors worked with the Division of Apprenticeship to determine if the occupation was one of over 1,000 occupations currently registered with the Department of Labor's Office of Apprenticeship. Doing this provided agencies the chance to tap into the occupation's network for support, by leveraging existing materials and resources from those already navigating the field.

  » Each program sponsor used existing work processes and competencies related to the relevant occupations with guidance from the Division of Apprenticeship. Each program used these existing work processes and competencies as a starting point in their program design and then customized those job functions based on their specific needs. This created efficiencies and allowed the agencies to fully design and register their programs in a timely manner.

  » The participating agencies, in partnership with the Division of Apprenticeship, also determined whether the programs would be time based, competency based, or a hybrid of the two approaches. In a time-based apprenticeship program, the work process schedule states how many hours that apprentice will spend on the job and in the classroom to complete the program. A competency-based program prioritizes how well an apprentice can demonstrate the ability to fulfill his or her main job functions in the workplace, regardless of the time to proficiency. In a hybrid program, the employer may require the demonstration of competencies to complete some elements of the program, and the completion of a certain number of hours to meet other requirements.

    » The DCBS Direct Support Specialist program is competency based (see Appendix A); the COT Computer Support Specialist program is a hybrid (see Appendix B); the Transportation Automotive Technician Specialist program is competency based (see

Appendix C); and the Barren County Government Office Administrative Services program is time based (see Appendix D).

» Working with the Division of Apprenticeship on this step allowed sponsors to move quickly by taking advantage of their knowledge of existing occupations and expertise in the current environment.

- The next step in the registration process required offices to partner with a subject matter expert (SME). This expertise could come via a person, an educational or technical institution, or an organization with experience and comprehensive knowledge of the skills required for the job. The SME partner would generally be able to provide or recommend the related technical instruction (RTI), a key component of the Registered Apprenticeship program. All time-based apprenticeship programs require an apprentice to attain 144 hours of RTI in conjunction with the required 2,000 hours of on-the-job training (OJT). In each of the programs Urban staff learned about, the offices teamed up with nearby high schools, universities, and technical colleges to comply with this requirement.

- Supporting Documents and Paperwork for Registration:

  » A "work process schedule" document is one of the necessary parts of the application to officially register an apprenticeship program. The document outlines the program's components and competencies for each occupation.

  » Another requirement in the registration process is the Occupational Standards. They provide the apprentice and the sponsor or employer with the required criteria for determining whether the apprentice can successfully perform on the job. The documents must be signed by the apprenticeship sponsor and the Department of Workforce Investment.

    » All the programs worked with the Division of Apprenticeship to create these pieces to ensure their materials were relevant to the job needs and upheld the program standards.

- Required Criteria: Occupation Wage. This aspect of the registration process asks interested groups to provide a schedule of apprentice wage increase concurrent with the time spent throughout the program. In addition, programs typically include a minimum ratio of experienced workers to apprentices.

- In the creation of the program, Personnel established 12-month probationary periods for the apprentice job levels to facilitate program structure and create mechanisms for apprentices to achieve increased pay rates.

Challenges

In the interviews, Urban staff did not hear of any glaring challenges in the registration process from apprenticeship sponsors, who credited the extensive support from the Division of Apprenticeship. The apprenticeship coordinator team sought to walk through the process of program registrations with each sponsoring agency to ensure it operated smoothly. Expediting this process was made easier because of the flexibility in the program design, established by Personnel in conjunction with the Division of Apprenticeship.

Advantages

The program's success owes much to the support of the Division of Apprenticeship. Moving forward, interest continues to increase for using the apprenticeship model across civil service offices. As noted above, the results of these civil service apprenticeships may influence private sector employers experiencing talent recruitment and retention issues in the state.

How Were Apprentices Recruited?

Each of the four apprenticeship programs leveraged relationships with high schools or technical colleges to market the programs and target recruitment of apprentices. In Barren County, a prominent local official used his community connections and established relationships with high school college coordinators to identify promising students who had taken coursework in business-related subjects. Relying on teachers to serve as a bridge between the government agencies and students was common, as four of the five apprentices we spoke with reported that they learned about the apprenticeship opportunity either individually from a teacher or from a message disseminated by the teacher to a group of students. The fifth apprentice, however, became aware of the apprenticeship program when his mother saw an ad on Facebook and relayed the information to him. Several agencies also took into consideration geographic areas when engaging in targeted outreach. For instance, DCBS placed added emphasis on identifying candidates in parts of the state where economic opportunities are fewer. The Transportation Cabinet's apprenticeship coordinator conferred with supervisors from all the state's regional equipment garages to ascertain which regions faced greater difficulty in finding and retaining quality mechanics. In the Urban researchers' conversation with the Department of Human Resources

Administration, officials indicated that the Personnel Cabinet is willing to assist with recruitment but that they defer to individual agencies to determine their own recruitment processes.

Several programs have tapped into the statewide Tech Ready Apprenticeship for Careers in Kentucky (TRACK) program to recruit students.[1] The TRACK program, administered by Kentucky's Department of Education, was created to offer students the ability to obtain dual secondary and postsecondary credits while earning an apprenticeship wage. For the Computer Support Specialist apprenticeship program, participation in TRACK is required to be eligible to apply. The Direct Support Specialist program saw TRACK as one pathway for candidates to reach DCBS as an apprentice. The Automotive Technician Specialist program required students to be enrolled in an Automotive or Diesel Technology Program through the Kentucky Community and Technical College System (KCTCS).[2] As a result, the Transportation Cabinet collaborated with KCTCS instructors to select students who were likely to be strong apprentice candidates.

Now that each of the four apprenticeship programs have undergone at least one phase of recruitment, some are actively utilizing current apprentices to find new candidates. For instance, in Barren County, the apprentice's supervisor has invited his apprentice to external meetings so that she may communicate directly with community members about the value and advantages the program has offered her. At DCBS, program administrators have encouraged apprentices to discuss their experience in the program with their peer students to help build awareness of and interest in the program.

Once the agencies identified promising candidates, often with the aid of high school or technical college counselors and teachers, they used distinct application processes to make hiring decisions. Each program included a paper or online application followed by at least one interview. In the case of the Automotive Technician program, applicants interviewed with the equipment garage supervisor and then also spoke with several other mechanics in the garage. The equipment garage supervisor then consulted with the mechanics and delivered feedback to the Transportation Cabinet apprenticeship coordinator in order to make a final joint decision. For the Direct Support Specialist program at DCBS, candidates first interviewed with the Cabinet-level apprenticeship coordinator and then with supervisors at the appropriate Protection and Permanency and Family Support locations. In Barren County Government, the candidate interviewed with a high-level county official and was selected for the position. However, at the time of selection the position was slated to be a conventional internship. The state Education and Workforce Cabinet then convinced the county official to work with their staff to formally design and register the position as an apprenticeship, and the county subsequently converted the candidate from an intern to an apprentice.

Throughout the interviewing and selection processes, each agency was looking for certain qualities in the candidates. For example, the Commonwealth Office of Technology was looking for the capacity and willingness to learn, maturity, a baseline of workplace skills, and analytical thinking capability. For the Automotive Technician program, the equipment garage supervisor was seeking candidates who possessed some automotive experience—even if it was primarily tinkering with their own vehicles—a desire to engage in the mechanical work, and an interest in working with basic electronics.

If you don't have the desire to do this, it's not as rewarding. To be a good mechanic you have to have that passion, [and] you can tell from talking to people whether or not they're into the mechanical work.
—Transportation Equipment Garage Supervisor

While the programs were ultimately successful in recruiting quality candidates, they did encounter challenges and even adjusted their approaches during the selection process. The Computer Support Specialist program hit an early barrier when they began their outreach effort to high schools during the final weeks before summer vacation. Program administrators learned that this was an inopportune time to connect with students and will adjust their schedule in future years. Another challenge administrators faced when recruiting for the Computer Support apprenticeship was the requirement that apprentices spend the first few months working from Frankfort. This can pose issues for young people who live in different parts of the state and may not be able to afford to live in Frankfort. While the program administrators hope that apprentices will return to their hometowns—especially those from rural areas with acute shortages of people who possess sufficient tech skills—the nature of their employment and training with COT necessitates working in Frankfort for a discrete period.

Within the Transportation Cabinet, several students were selected for the apprenticeship program and then either resigned or were dismissed from their positions. There were several reasons for these departures, but one cause stemmed from the timing of recruitment in their classroom instruction. Initially, students were recruited during their first semester and therefore instructors made recommendations with minimal exposure to the students. After several apprentices were not retained in the program, the Transportation Cabinet decided, in conjunction with KCTCS, to recruit from students in their second semester, when instructors had more familiarity with students and could better assess their aptitude and work ethic. A Transportation Cabinet official also told the Urban

Institute staff that she would develop a document that clearly stipulates expectations and responsibilities of apprentices, so as to minimize miscommunication or misalignment regarding program fit. Overall, this process has helped the Transportation Cabinet develop a more proactive approach to hiring. Prior to this apprenticeship, a garage supervisor told the Urban Institute staff, they would simply post open positions on their webpage and then wait for applicants. Now, through their partnership with KCTCS, they have taken a more hands-on approach to finding the candidates best suited to work in state-managed garages.

How Do the Civil Service Apprenticeships Operate?

Each apprenticeship program sought potential apprentices who, prior to the program, came with a range of skill sets, dispositions, and existing knowledges and competencies pertinent to that occupation. Apprentices that the Urban Institute staff interviewed had the aptitude to master the relevant technical foundations for each program and demonstrated proven interests in the programs' subject matter prior to joining. In the interviews, we heard from each apprentice and apprentice sponsor that while apprentices advanced their technical skills on the job, they also achieved understanding and exemplified appropriate office norms in each of the branch's professional settings, thereby honing in on applicable soft skills per office. Every apprentice interviewed by Urban staff explained how beneficial their experience was in effectively advancing their desired career paths. The components of the programs allowed them to apply their technical knowledge with practical scenarios, learn the foundations of civil service offices and branches, engage with customers and clients, and ascertain familiarity with how to be a part of a professional staff.

The apprentices were at varying education levels and ranged from high school juniors to first- or second-year students in college and vocational schools. Finally, each program had ample support services in the form of mentorship for the apprentices, which largely benefited all programs.

In the Urban Institute researchers' interviews with the apprentices and their supervisors, it was clear that the flexibility of the program structure, the willingness of apprentice sponsors to share institutional knowledge, and the motivated nature of the apprentices all contributed to the functionality and scalability of the program across the state.

On the Job Training (OJT)

Civil service apprenticeships offer unique experiences for young people looking to learn more about the services that each government office provides, and they also allow apprentices to contribute to the community and access direct exposure to the field.

While each program expected apprentices to demonstrate specific knowledge or skills coming into the program, all programs aligned in the ways apprentices were taught the basic functions of the job duties that other entry-level staff would perform. Additionally, most of the apprentices highlighted the opportunities they received for continued learning to further their skill sets beyond the basic needs of the entry-level positions. A common theme amongst the apprentices' feedback was that although most were somewhat intimidated at the start of the program—as many entry-level staff can be—at the time of Urban Institute researchers' interviews, all had come to feel autonomous and confident in their jobs' basic functions. Furthermore, each apprentice spoke about the gradual development of their skills, demonstrating the challenging and rewarding opportunities offered to perform more advanced job functions to support higher-level projects in their programs.

Each apprentice received either formal or informal training on office norms for their respective programs, which facilitated a smooth onboarding process. This allowed for faster turnaround in both productivity and comfort of apprentices in the new roles. The COT apprentice sponsors also conducted a pre-assessment test to identify the apprentices' preexisting skill sets. This provided the sponsors with clear insight as to where each apprentice would fit best, increasing not only apprentice effectiveness on the job, but also increasing general happiness on the job, as apprentices leveraged the skills they already obtained.

As apprentices perform regular job duties, they explained that while on the job they are not treated differently than other full-time employees. The Automotive Technician apprentice spoke to this point and appreciated the inclusive environment, noting this cultivated a more thorough immersion in the job. Being included helped develop the apprentices' confidence, instilling a self-motivational outlook to the job that strengthened both their technical and soft skills.

In each of the apprenticeship programs, all but one of the apprentices stated they received information about the overall standards of the program and expectations of their performance on the job. The one program coordinator that did not provide upfront guidelines mentioned that in the next cohort this was something they would add to their onboarding process.

TMAP

In the Automotive Technician apprenticeship program, located in one of the state's regional equipment garages, the apprentices assist with many different projects. Given the garage's large facility and capacities, there can be as many as 8–10 large-scale vehicles for repair in the shop at any given time. The apprentices were primarily trained in assessing basic mechanic issues on any given vehicle and applying the needed repair, with supervision. Prior to apprentices working on heavy equipment, they were required to take a safety training course that lasted for one full day. We learned that due to the large-scale operating that takes place, all staff were required to take frequent trainings throughout a given year.

At the time of the interviews, the apprentice and apprentice sponsor explained that because apprentices mastered the core mechanic diagnostic and repair functions on the job, they were now positioned to fully own these tasks. This allows the apprentices to start these types of jobs immediately when they come in, providing a diagnostic assessment and carrying out the work needed all the way through repair. The apprentice sponsor emphasized the apprentices' ability to learn and develop efficient systems that work to their strengths, thereby allowing them to lead the repairs. These contributions of the apprentices free up time for more senior mechanics and technicians to focus on the more complex repairs. And, once all basic repairs are completed, the apprentices are engaged by senior technicians, or feel confident enough to pursue senior technicians, to shadow and assist on other more complex scenarios.

DCBS

In the DCBS program, apprentices provide office administrative support and assist with tasks such as guiding clients to fill out required forms needed to file a case, logging clients into their case management accounts, and scanning and filing documents to comply with state recordkeeping procedures. The apprentice who spoke with the Urban Institute staff has also shadowed field workers in other facets of office operations. These opportunities for apprentice engagement with higher level staff allow apprentices to see how direct support services operate firsthand. Helping the apprentices gain basic knowledge of jobs in the field offered relevant connections to their administrative duties and to their broader goals of giving back to the community. The DCBS apprentice interviewed by the Urban Institute staff expressed empathy as one of the main skills learned on the job. Along with learning how to empathize with others, the apprentice also mentioned strengthening her computer skills and learning more about how to manage time and prioritize required tasks.

The DCBS program now offers positions for ten apprentices across the state. These allow similar opportunities across regions, regardless of proximity to the central office administering the program. The program sponsor mentioned keeping records of the activities each apprentice is doing more broadly to maintain program integrity across the field and avoid idiosyncrasies between program experiences. In the beginning of the program, apprentices received materials from the DCBS office outlining the goals of the program. The materials also described what the office intended each apprentice to gain from the program. Defining a clear goal upfront seemed to be an important step in enabling program success.

COT

Given the varying nature of technology functions, the apprentice sponsors were strategic in the placement of their apprentices. They began by administering a pre-assessment test to understand each apprentice's talents in more depth. This approach allows the program to be more flexible across offices to address the different needs within each participating office. The Urban Institute researchers interviewed two apprentices that are working with COT in various state government agencies. These two apprentices' jobs varied. One apprentice worked in a more client-facing role and interacted directly with staff and clients to maintain computers. The other COT apprentice Urban staff interviewed had job duties that required a more technical approach to upgrade old computers by installing updated software. This set of tasks not only provides the apprentice the direct hands-on practice needed to strengthen skills, but it also allows offices to be cost-effective in reusing computers that might otherwise have very limited use. The apprentice's role offered the opportunity to learn and practice asset management and understand the procedures for equipment reuse. Low-risk reprogramming and equipment repair is a win-win for not only the COT but also the apprentice.

Barren County Government

In the County Judge Executive's office, the apprentice received some informal training and guidance on relevant office norms, such as how to respond to emails, how to answer and respond to calls appropriately, and the basics of filing fiscal and budgetary paperwork. After training, the apprentice began filtering and responding to emails, answering calls and interfacing with constituents, filing paperwork, and helping with other secretarial jobs around the office. The apprentice continues to receive guidance and trainings along the way in these tasks but mentioned newer tasks in a broader role. In the newer job functions, the apprentice has begun accompanying the Judge Executive to meetings with other high-level officials such as the Governor, drafting and submitting formal fiscal letters, and facilitating fiscal court trainings.

In addition to the basic and intermediate in-office roles and meeting support that the apprentice provides in this office, the apprentice has also gained networking skills and experience with common behaviors at public events. Broadly, the apprentice has become quite knowledgeable about the county office's government procedures and interacting publicly with the community. These acquired skills provide a resource for both the County Judge Executive and the fiscal supervisor.

Becoming an apprentice with the Barren County Judge Executive's office has been a life-changing experience. Not only have I had the opportunity to learn… but [I've also been] challenged to lead initiatives and serve my community.
—Barren County Government Apprentice

Related Technical Instruction and Classroom Training (RTI)

Most of the apprentices viewed their classroom instruction as supplementing their OJT. Many noted the ways in which their RTI has specifically enhanced their performance on the job. Additionally, some of the apprentices mentioned that the skills they have learned on the job are also helpful to their performance in the classroom. Some RTI complemented the OJT in a less direct way, but apprentices still found parallels in lessons learned and overall approach to business practices.

The apprentice in Barren County is a first-year university student, and the apprentice's chosen major of accounting and minor in political science are perceived as complementary to the program's job functions. Given this concurrent educational pathway, once graduated from the BA program, the apprentice looks forward to advancing the experience gained in the apprenticeship program to increase her professionalism. This apprentice is eligible to receive six credit hours per semester at her university for the time spent in the program.

The Automotive Technician apprentice who spoke with the Urban Institute researchers has seen multiple direct connections and advantages between the classroom instruction and on-the-job learning. Because of the on-the-job learning, the apprentice has occasionally been ahead of others in the classroom when the curriculum brought the students to certain modules, like transmission repairs. Because the apprentice was already managing this process in the garage, the classroom instruction was simply a refresher. However, the apprentice stated that in some cases the classroom instruction helped fill in some of the gaps that hadn't been taught in the garage. Although the apprentice knew *how* to do

something in the equipment garage, he wasn't always taught *why,* and the classroom provided those connections.

Due to the evolving nature and advancements in machinery technology, the Automotive Technician apprentice sponsor commended the Kentucky Community and Technical College System instructors' approach to the field. The sponsor noted many times the ways in which the apprentices have brought innovative methods for newer repair jobs that the garage has begun to see. Lastly, while there were no added certifications being granted in any of the apprenticeship programs that the Urban Institute staff learned about, the automotive tech apprentice emphasized the apprenticeship program's benefits for obtaining further industry-recognized credentials pertinent to advancing their marketability for a full-time position in the field. The apprentice is not currently receiving official class credit for participating in the program, but the part-time pay, hands-on experience, and ability to be challenged each day have been greatly rewarding.

In some cases, like at COT, the apprenticeship program offered a way for the state agencies to interact with the classroom instructors and come to the table to discuss the needs of the field that either weren't being taught or could be strengthened. Another development the program has sparked in the community is that the school district located nearby has recently sought to join the statewide TRACK program, as a way to better connect their computer science students—and many others—to real-life scenarios and practical skills. The apprentice sponsors mentioned their excitement for future pipeline opportunities in this regard.

The DCBS apprentice with whom the Urban Institute researchers spoke is currently a high school student and mentioned a focus on business studies in their curriculum. Apprentices receive two class credits over the year for their time in the program. In addition, one apprentice explained that time in the program provided context for her existing classes. Moreover, successfully following the career path is the ultimate goal of the apprentice, and the program has granted unprecedented opportunity to continue on that path.

Mentorship

In all programs, mentorship is a key element to achieving programmatic success. Each apprentice reported positive reflections about their mentor's ongoing support and encouragement throughout the program. Each apprentice had a mentor, or group of mentors, who has been integral to their motivation to learn and do more on the job. As the apprentices are relatively new to the professional setting, the mentors also provided equal guidance and support in ways that spanned outside of the job.

Most apprentices explained feeling autonomous and encouraged to reach beyond the basics of the program's functions within two to three months on the job. They attributed this confidence to the support of the program sponsors, mentors, and peer colleagues who have championed the success of the apprentices and the program, more broadly.

In the TMAP program, the apprentice highlighted the strong relationships with not only the garage and apprentice supervisor, but also the garage director. These meaningful relationships increased the apprentice's opportunities to continue mastering the basic job duties and to feel comfortable with and welcome to take on new tasks as they arose. This apprentice praised the broad guidance provided by their mentors as a benefit of the program, one they weren't necessarily expecting. Other apprentices also noted that they drew on the advice of mentors and peers in becoming more knowledgeable through reading specialized materials and learning about additional certifications and trainings not currently offered at job locations or in the school, and becoming more aware of long-term career trajectories.

In the COT program, one apprentice mentioned his officemates as a dependable group of advisors. They actively offer shadowing opportunities that expose the apprentice to a variety of experiences. In addition, this apprentice primarily works with one peer-shadow partner with whom the apprentice has developed a trusting and secure relationship. The second COT apprentice expressed confidence in going to their mentor to ask any question that might come up.

The apprentices in the DCBS and Barren County programs each have a direct supervisor they can go to when any questions come up. Each of the apprentices shed light on the understanding and encouraging nature of their supervisors. The apprentices appreciated the fact that if they made a mistake, the supervisors were accepting and encouraged the apprentices to try again, instilling confidence in the apprentices that they would get it right next time.

What Are the Benefits of Civil Service Apprenticeships?

The Kentucky Division of Apprenticeship enumerates the myriad benefits of the apprenticeship model for employers.[3] These benefits include custom training for employees to meet specific business needs, reduction in recruitment and training costs, increased productivity of newly trained and appropriately skilled workers, enhanced employee loyalty and high employee retention after programs end, and structured transference of knowledge from experienced and older workers to the next generation.

Apprenticeship can increase Kentucky's competitive edge in the global economy by building a steady supply of skilled workers in high-demand industries.

Similarly, the Division of Apprenticeships touts the benefits of this type of work-based learning to potential apprentices.[4] Reported benefits for apprentices include receiving training and education at a reduced or no cost, getting paid to learn, earning more pay as new skills are mastered, obtaining nationally recognized and portable industry credentials, gaining real-world, hands-on experience, and potentially receiving college credit leading to an associate's or bachelor's degree at little to no additional expense.

What Are Civil Service Apprenticeships Aiming to Achieve?

Through interviews with state officials, apprentice supervisors, and apprentices, the Urban Institute staff sought to determine whether these and other benefits have been or are expected to accrue to the participating apprentices and their employing government agencies. Speaking with program administrators and supervisors, we discussed their impetus for launching an apprenticeship program and how they might determine whether the pilot has been a success. In the Commonwealth Office of Technology, officials told Urban staff that they sought primarily to develop a pipeline of young talent to fill critical positions within COT and to be in a better position to rely less on temporary or contract staff and more on permanent civil servants. Due to increased demand on their services across state government agencies combined with steady or decreasing budgets and fewer young people interested in government jobs, COT has grown increasingly dependent on contract workers for project-based assignments. To increase opportunities for young people, COT is aiming to use the apprenticeship program as a pathway to permanent state government employment for computer support specialists without the standard requirement of holding a bachelor's degree. COT also hopes that the apprenticeship program can serve as a reliable source of talent for rural areas in Kentucky that are experiencing an acute shortage of IT workers. One official noted how especially challenging it can be for rural school districts to recruit and retain IT professionals, from chief technology officers to help desk technicians.

For the Transportation Cabinet, officials are aspiring to cultivate the next-generation workforce that can fill automotive technician jobs across the state's twelve transportation districts. Transportation Secretary Greg Thomas succinctly captured the aims of the apprenticeship program in a press release when he noted, "TMAP apprentices will help maintain and repair the equipment our road crews use to provide a safe and reliable transportation system for all who travel Kentucky's roadways."[5]

As such, the primary goals for the apprenticeship program are to ensure that apprentices successfully complete the program within two years and then are poised to fill permanent full-time positions in one of the state's equipment garages. An equipment garage supervisor put his projected staffing concerns in stark terms when he told Urban researchers, "In 3–5 years, 70 percent of people in this garage might be retired and [the apprenticeship program] will be a good way to get good, qualified candidates [whose skills] are up to date."

For the Barren County Government's apprenticeship program, officials hope to spark more interest in county government operations among young residents in the community. Through the apprenticeship program and a more visible presence for county government in high schools and colleges, county officials aspire to motivate greater involvement of youth in county government by making them more familiar with their elected and appointed officials so they know where to go to resolve certain issues they are facing.

Officials from the Department of Community Based Services shared with the Urban Institute researchers that the state requires 54 hours of college credit and two years of experience to qualify for social service positions. In the Direct Support Specialist apprenticeship program and the opportunities it will create, they are aiming to ensure that these statewide job requirements will be amended to account for the apprenticeship experience. Further, at a program launch event, DCBS Commissioner Adria Johnson noted the apprentices will provide added bandwidth for the department, which helps provide benefits to hundreds of thousands of Kentuckians.[6] In a similar vein, Personnel Secretary Tom Stephens said, "DCBS employees provide critical services in all of Kentucky's 120 counties. These critical positions are especially difficult to fill in a tight labor market. This program can change that. An apprenticeship program will help Kentuckians specifically prepare for these important jobs, and in turn, help better meet the needs of some of our most vulnerable citizens. I'm truly excited about the possibilities this program will provide."[7]

The Urban Institute researchers' conversation with the Department of Human Resources Administration, situated within the Personnel Cabinet, offers insights relevant to the overall strategy of creating civil service apprenticeships across state government agencies. DHRA officials shared with Urban staff that from their perspective, the chief goals of civil service apprenticeships are to prepare the apprentices to obtain entry-level positions in state government and to support apprentices in gaining merit status—which confers specific rights and benefits—after twelve months of public service. The Personal Cabinet will measure success of the apprenticeship pilot programs by how many apprentices convert to full-time, permanent government employees and by how well the apprenticeship programs help to generally boost recruitment of younger workers from high school to civil service

positions. DHRA suggests that the extent of retention and conversion to permanent employees should speak to the program's ability to recruit candidates who are genuinely interested in civil service careers.

What Are the Benefits for Employing Agencies?

Although the programs have operated for less than one year, each of the four civil service apprenticeship programs that Urban Institute researchers examined offer tangible, practical benefits, as viewed by the employing government offices. At a minimum, apprentices are completing tasks that incumbent workers would have been doing if the apprentices were not employed. This is something that officials and apprentices explicitly mentioned to Urban Institute researchers for three of the four programs. In the case of the Auto Mechanic program, the apprentice supervisor remarked that apprentices regularly complete work that would be delayed several days without their labor. A Social Services apprentice noted that after a few months of on-the-job training, she could complete virtually the same set of tasks as an incumbent worker, which helped to reduce the workload for fellow office staff.

During the Barren County Government program, the apprentice achieved a level of proficiency and knowledge that has enabled her to substitute for senior county officials at public speaking engagements. Further, the program supervisor noted that the apprentice's preexisting technological knowledge and familiarity has increased efficiency in office operations, while her dedicated energy and willingness to help has enhanced office productivity and improved the general workplace environment. Similarly, in the transportation equipment garage, apprentices have been able to apply lessons learned during classroom instruction to their work in the garage, demonstrating new methods, tools, and technologies to journeymen mechanics.

At the Commonwealth Office of Technology, the employing team was in the middle of a government-wide effort to upgrade all staff computers to Windows 10. The apprentices were quickly able to support journeymen help desk technicians and contribute to the advancement of the upgrading initiative. Another way that civil service apprentices have made an immediate impact is during the busy seasons of snow and ice treatment and grass mowing. In the transportation equipment garage, experienced mechanics can be overwhelmed with increased workloads. Apprentices have been able to assist with these maintenance and repair assignments, thereby putting these critical pieces of equipment back into use more rapidly.

In speaking with several officials and an apprentice associated with the Transportation Automotive Technician program, we learned about numerous ways in which the program has benefited the state's

equipment garages. For instance, supervisors observed that apprentices proactively seek out ways to contribute to garage operations, such as independently looking for pieces of equipment in need of cleaning or repair and performing maintenance on tools used for repair throughout the garage. Apprentices have also been able to transfer knowledge about advances in diagnostic software from the classroom to their colleagues in the garage. After roughly one year of on-the-job experience, supervisors have seen apprentices progress to a level of mastery in which they can receive a piece of equipment, diagnose a problem, select the appropriate and necessary tools, and accurately complete the repairs without instruction or oversight. Through the structure of an apprenticeship, supervisors can assess work ethic, skill proficiency, and professionalism before making a permanent hire. These characteristics are virtually impossible to ascertain during interviews, but they will certainly surface over several thousand hours of on-the-job learning that an apprenticeship entails.

What Are the Benefits for Civil Service Apprentices?

Throughout conversations with five apprentices and their supervisors from four of Kentucky's civil service apprenticeship programs, we learned about the ways in which these programs have advanced the skills, knowledge, and career prospects for the employed apprentices.

The Direct Support Specialist apprentice shared with Urban staff that she applied to the program because she wanted to serve her community and that she aspires to obtain full-time, permanent employment with the Department of Community Based Services. Without this apprenticeship opportunity, she explained, she would likely be earning relatively low wages in a retail or service sector job. With the program, she's able to work meaningfully toward her ultimate career goal of serving as a professional social worker. The on-the-job training she has received at the Protection and Permanency and Family Support locations where she is based helped to improve her social, communications, and computer skills, in addition to teaching her how to multitask in an office working environment. By being exposed to different facets of the social service delivery process, she has considerably increased her subject matter knowledge and relevant work experience, all of which should help her to obtain a permanent position in the social services field.

This apprenticeship is an amazing opportunity and I'm proud to be a part of it.
—DCBS Direct Support Specialist Apprentice

At the Commonwealth Office of Technology, the two Computer Support Specialist apprentices outlined the career and educational goals they hope to achieve as a result of this opportunity. They include continuing to work in state government as a permanent civil servant if that is possible at the culmination of the apprenticeship, enrolling in a four-year college program in computer science, or pursuing job opportunities at prominent private sector employers, such as Amazon. One apprentice noted that he was finding it difficult to break into the tech field without prior work experience and that the apprenticeship will provide the necessary entry-level experience to ascend in the field. After roughly four months on the job, the apprentices were able to master certain competencies and become comfortable doing the work through repetition and guidance, especially on issues related to systems software. Moving forward, the apprentices aim to master more complex tasks under the tutelage of supervisors and peer technicians. The apprentices also expressed appreciation for hands-on learning while gaining valuable experience, as well as the friendships and connections they have made throughout their employment.

The Automotive Technician Specialist apprentice shared his goals for applying to the program. They include a desire to obtain relevant experience in the field, gaining the ability to diagnose and repair a broad range of vehicular problems, and to be well-positioned to obtain full-time employment in a state transportation equipment garage. The apprenticeship has already helped him earn an advantage over many classmates in progressing toward the eligibility requirement of two years' work experience required for the National Institute for Automotive Service Excellence (ASE) certification exam. While many classmates will not gain this experience when their classroom training is complete, the apprentice will have met the threshold. Even for peer students who have found work, some have struggled to balance schedules for school and employment. In contrast, the state transportation equipment garage has been flexible and accommodating of the apprentices' classroom instruction schedule. The apprentice commented that the biggest strength of the program is the breadth of the on-the-job learning and the experience he will attain working on a variety of vehicles and machines, including learning aspects of repair that would not be covered in technical schools. On the job, the apprentices work with a broad array of vehicle makes and manufacturers, enabling them to qualify for jobs in the both the private and public sectors. If an equipment garage did not offer a permanent job at the end of the program, the apprentice would be an attractive candidate to local private sector employers such as Caterpillar, John Deere, and auto dealerships.

In the Barren County Government program, the apprentice told the Urban Institute researchers that she plans to study accounting and political science in pursuit of a bachelor's degree and, ultimately, Certified Public Accountant (CPA) licensure. Since classroom training is an integral part of the program,

the apprentice has been afforded scheduling flexibility from her workplace supervisors, as they recognize the connection between classroom and on-the-job learning. She views the Office Administrative Services apprenticeship as a valuable experience for sharpening her networking skills and cultivating professional relationships as well as significantly expanding her knowledge about the mechanics of developing the county's $13 million budget and how those resources are allocated and managed. Beyond the cultivation of a professional network, the apprentice has been able to interact with and learn from community members who she would not have met if not for the apprenticeship, which has enriched her passion for continuing to serve the community and support its growth.

When they first discovered the respective apprenticeship programs, all five apprentices possessed little to no knowledge about what an apprenticeship was, how it operated, or how it could boost their career prospects. Yet, at the time of their conversations with the Urban Institute researchers, it was evident that they were convinced of the value these programs can bring in terms of applied education and skills and career advancement. Perhaps most tellingly, all five apprentices said they would recommend their apprenticeship program to peers, friends, and family members interested in the same career path.

What Is the Future of Civil Service Apprenticeship in Kentucky?

Kentucky Education and Workforce Cabinet Secretary Derrick Ramsey stated at the launch of the DCBS Social Services apprenticeship pilot, "Simply put, apprenticeships within state government have the potential to bring important long-term cost savings to Kentucky taxpayers. Apprenticing social services positions at the DCBS is only the beginning for implementing this training model in other agencies."[8]

Across the Urban Institute researchers' interviews with public officials in Kentucky, this sentiment was reinforced. As has been discussed throughout this report, two state government agencies and a county government office followed the DCBS decision to launch apprenticeship pilot programs—the Commonwealth Office of Technology, Transportation Cabinet, and Barren County Government Judge Executive's Office. However, based on our conversations, the state is not stopping there when it comes to civil service apprenticeships.

In Barren County, the Judge Executive has witnessed the value of apprenticeship and intends to add one additional apprentice to his office operations. Further, the Judge Executive is working with

other county-level agencies to develop similar apprenticeship programs for local youth. For instance, the county Department of Parks and Recreation has quadrupled its program participation in recent years and would benefit from the added staff capacity that an apprenticeship would bring. The Judge Executive has observed that younger, creative thinkers can inject energy and innovation in government operations and help offices reach a broader audience of constituents. The Judge Executive is so invested in the apprenticeship training model that he would like to see at least one apprentice in each county office, starting with administrative support and management roles.

The Department of Community Based Services has launched three distinct apprenticeship programs for direct services roles across the various Protection and Permanency and Family Support locations. Moving forward, DCBS intends not only to launch new cohorts in these three apprenticeships, but to create additional apprenticeship programs in the Division of Child Care as well as central office roles in policy support and financial administration. The Transportation Cabinet has already participated in preliminary discussions about developing additional apprenticeship programs beyond the Automotive Technician program. Currently, the Cabinet is more focused on recruiting more regional garages to participate in that program than in creating new programs. Some garage supervisors, as well as rank-and-file mechanics, remain skeptical of the apprenticeship model. Other garages are convinced by the value proposition of the model but are having difficulty with recruitment from local technical colleges.

The Departments of Workforce Investment and Human Resources Administration provided Urban Institute staff with a broad view of the state's plans and prospects for advancing civil service apprenticeships. These teams are in varying stages of working with numerous agencies to design and register new apprenticeship programs, including the following: project estimator with the Department of Housing, Buildings and Construction; library technician with the Department for Libraries and Archives; correctional officer with the Department of Corrections; nursing assistant, medical aide, and culinary specialist with the Department of Veteran's Affairs; and dispatcher with the State Police. The Department of Human Resources Administration is proactively conducting outreach to agencies that have positions with relatively high turnover rates, which is characteristic of the agencies and positions referenced above. The biggest barrier to scaling civil service apprenticeships, public officials note, is that agency management wants to see the returns and results from the pilot programs before committing to investing in this strategy. For the most part, sufficient interest exists among state agencies. The gap between early adopters of apprenticeship and other agencies will likely narrow once the apparent successes achieved so far cover a range of occupations and become widely known.

Conclusion and Implications

Kentucky has embraced the apprenticeship model as a key element of its strategy for recruiting, training, retaining, and diversifying a skilled workforce to become Commonwealth employees. The process began with the realization that the state, as a major employer, could improve the cost-effectiveness of its operations while widening opportunities for careers in the public sector.

This report describes the early stages of the initiative, presents reactions of key participants in the process, and draws lessons about the evolution of civil service apprenticeships in Kentucky. The effort began in early 2018 with the initiative of Secretary Derrick Ramsey, then secretary of the Labor Cabinet. He accelerated the creation of apprenticeship classifications for state positions and encouraged the Personnel Cabinet to reach out to all agencies and encourage them to consider developing apprenticeship positions.

A good example of an early adopter was the Department of Community Based Services. This Department found high turnover among many of the college graduates they hired to undertake social services work, partly because these graduates not only had to undertake high pressure work but also spend time on various record-keeping functions. Under an apprenticeship program, apprentices could take on some of the administrative aspects of the work, thereby allowing graduate social workers to concentrate on their cases. As we report, other agencies that have adopted apprenticeship are encountering similar patterns, where the work of an apprentice allows skilled workers to focus on advanced tasks.

Although the apprenticeships in the four occupational areas described in this report are ongoing, we can already draw a few conclusions from the research. 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.

As the initiative continues, policymakers can take certain steps that may increase take-up by departments while maintaining quality. One is to make departments aware of the occupational scope of apprenticeships for civil service already in place in the US and abroad. Listing and describing the apprentice occupations can provide examples that departments may wish to emulate. A second step is to give the successful civil service apprenticeships visibility by having political leaders include references to the programs when they speak to the public and to private employers. A third step is to create a plan for monitoring the apprenticeships to deal with unexpected issues, to learn about the best approaches department managers have for organizing apprenticeships, and to assess the benefits and costs of the apprenticeships to the operations of departments and to the apprentices.

The following appendices show the work process schedules provided by the Kentucky Division of Apprenticeship.

Appendix A. Department of Community Based Services Direct Support Specialist Work Processes

KY DIRECT SUPPORT SPECIALIST (Human Family Services) WORK PROCESS SCHEDULE
O*NET CODE: 21-1093.00   RAPIDS CODE: 1040CB

DESCRIPTION: The Direct Support Professional (DSP) supports individuals with disabilities and others who need assistance to lead self-directed lives and contribute to their communities and supports behaviors that enhance inclusion in their communities. Key work duties are drawn from a nationally validated occupational analysis and include the following:

COMPETENCIES	MINIMUM HOURS	Or Demonstrated Competency
Introduction to the Direct Support Role and Orientation to the Work Environment	**400**	
A. Orientation to the role of the Direct Support Professional		
1. Job description and requirements		
2. Expectations and needs of individual(s) receiving support		
3. Overview and fulfillment of employer's philosophy of support service		
4. Employer history		
5. Employer policy and procedures		
6. Coworker, mentor, and supervisory relationship/working with employer's networks (for DSPs directly employed by service participant)		
7. Access to mentors, supervisors, employee assistance programs, and other support structures		
8. Overview of upcoming regular and specialized events		
B. Overview of specialized and technical knowledge unique to the work environment		
1. Characteristics of the individual(s) served, consideration of individual circumstances, and use of specific systems to determine eligibility based on interviews		**Modified**
2. Terminology necessary for the work environment		

	MINIMUM HOURS	Or Demonstrated Competency
3. Operation and maintenance of any specialized equipment (adaptive technology, communication devices, breathing or nutritional support equipment, etc.)		
4. Learns various public assistance programs requirements, forms, policies, and procedures (Medicaid, Supplement Nutrition Assistance Program, etc.)		**Modified**
5. Introduction to roles of specialist/consultants supporting service participant(s) in the work environment		
C. Employee and Service participant safety in the support environment		
1. Understanding of clients served and circumstances; social crisis awareness; awareness methods of crisis prevention and intervention		**Removed #1, 2, 4, and 6. Modified.**
2. Individualized risk assessment through conducting interviews		
COMPETENCIES	**MINIMUM HOURS**	**Or Demonstrated Competency**
3. Reasonable risk and common sense		
D. Ethical and professional practice		
1. Implementing ethics and state policy into practice		**Changed wording**
2. Career and educational paths associated with the work environment		
3. Becoming a culturally competent practitioner		
4. Identifying and mastering team work and collaboration skills		
5. Self-assessment, performance appraisal, and use of supervision		
6. Communicating effectively with others		
7. Confidentiality		
8. Creative problem solving		
9. Understanding and fulfilling the employer's mission		
Contemporary Best Practices in Community Support	**200**	
(Customized for unique support environment/special population)		
a. Individualized planning strategies		
b. Community-centered supports		
c. Focus on participant defined life outcomes		
d. Integrating formal and informal supports		
e. Eliciting, respecting, and actively supporting participant choices and preferences for local/state programs		

	MINIMUM HOURS	Or Demonstrated Competency
f. Welcoming individuals chosen by the participant into the circle of support		
g. Educate on various programs toward inclusion and engagement in community and neighborhood life		
h. Planning and Educating: Promoting appropriate social roles sought by the service participant such as student, church member, friend, homeowner, career professional, income enhancement, quality health care, etc.		
i. Planning and Educating: Promoting typical life patterns and conditions that enhance quality of life including income enhancement, a comfortable home, quality health care, relaxation and recreation, career and educational advancement and connection to social and family (where appropriate) networks		
Advocacy, Supporting Empowerment and Recognition, Prevention and Reporting of Abuse, Neglect, and Exploitation	**200**	
a. Promotion of empowerment and self-confidence of service participants to programs that lead to self-sufficiency when possible		**Modified**
b. Determine barriers that keep clients from self-sufficiency and the need of public assistance		
c. Mastery of abuse prevention strategies		
COMPETENCIES	**MINIMUM HOURS**	**Or Demonstrated Competency**
d. Review of state and employer requirements and protocols regarding mandated or other reporting of fraud		**Modified**
e. Recognizing signs of abuse, neglect, and exploitation		
f. Common challenges facing clients (health, addition, etc.)		
g. Common challenges to human, civil, and legal rights for this (special population)		
Wellness Issues (Customized to Work Setting or Special Population)	**400**	**modified**
a. CPR (if applicable)		
b. First Aid (if applicable)		
c. Preventive health and dentistry options		
d. Characteristics of a healthy lifestyle referrals		
e. Responding to common health concerns		
f. Responding to individual health needs (issues pertinent to special population, people receiving support, etc.) referrals		
g. Childhood Protective Services, etc.		
h. Use of adaptive equipment		

COMPETENCIES	MINIMUM HOURS	Or Demonstrated Competency
i. Safety (environmental, personal, and driving)		
j. Identifying health resources, judging quality and coordinating/communicating with health care practitioners and community partners		
k. Supporting service participants in understanding and participating in routine and special health care screening and employment opportunities, etc.		
Communication	**400**	
a. Effective and appropriate communication skills		
b. Basic counseling skills		
c. Basic team communication skills and facilitation structures		
d. Effective, efficient, and timely documentation		
e. Using alternative communication devices		
f. Obtaining interpreters when needed		
Teaching and Supporting Others	**800**	
a. Coaching methods, choices, and goals of people receiving support		
b. Teaching strategies, principles of reinforcement, relationships, task analysis and prompting, positive feedback, and natural times to teach		
c. Teaching skills customized to the individuals in the support environment (e.g., teaching daily living skills, self-care, teaching work skills, working with children and youth, leisure and recreation skills, etc.)		
COMPETENCIES	**MINIMUM HOURS**	**Or Demonstrated Competency**
d. Recognition of the unacceptability of the use of punishment procedures in teaching		
Crisis Management	**600**	
a. Awareness of the individual needs of service participants		
b. Familiarity with crises typical or common to the support environment and the service participants and prevention and intervention strategies specific to individuals and circumstances		
c. Familiarity with procedures for prevention and intervention in atypical crises including securing the safety of all involved and the means of obtaining emergency assistance		
d. Standard operating procedures following a crisis, including communication with parties involved to better understand the situation; documentation in accordance with standard operating procedures and		

review and refinement of prevention procedures where necessary		
e. Familiarity with statutes and regulations regarding the use of potentially aversive management practices including physical restraints and time out		
f. Fulfillment of all statutory or regulatory skill certifications in crisis prevention and management		
g. Familiarity with principles of positive behavior support		
h. Conflict Resolution		
TOTAL	**3,000**	***NOTE: Direct Support Tech Career Lattice 2,000 hrs.**

DISCLAIMER: *THE FOLLOWING RELATED TECHNICAL INSTRUCTION (RTI) OUTLINE IS AN EXAMPLE ONLY AND COURSES DESCRIBED BELOW ARE NOT REQUIRED. THESE COURSES ARE RECOMMENDATIONS ONLY. A MINIMUM OF 144 HOURS, PER YEAR, OF RELATED INSTRUCTION MAY BE ACCOMPLISHED IN A CLASSROOM SETTING BY A SUBJECT MATTER EXPERT OFFERED IN-HOUSE, BY A VENDOR, ONLINE INSTRUCTION, AND/OR AT A VOCATIONAL/TECHNICAL SCHOOL.*

RELATED TECHNICAL INSTRUCTION
DIRECT SUPPORT SPECIALIST 1040CB

Related Instruction Outline   Approximate Hours

A.   Course 1:   30
Introduction to (Name of the Special Population is inserted, e.g., Developmental Disabilities, Psycho-Social Rehabilitation, At Risk Youth, Gerontology, etc.).
   a) Historical perspectives on human services (special population);
   b) Introduction to human and community needs;
   c) Concepts of a helping profession;
   d) Contemporary principles of service delivery;
   e) Basic terminology and acronyms of human services and (special population) ;
   f) Defining the (special population); and
   g) Common causes and issues associated with (special population).

B. Course 2:   30
Supporting people's well-being at home, work, and in recreational activities (may be customized for specific population)
   a) Risk, choice, and common sense;
   b) Safety at home (fire safety, accessibility, home hazards);
   c) First aid;
   d) Universal precautions and infection control;
   e) Responding to emergencies;
   f) Crisis prevention, intervention, and follow-up;

g) Safety in community settings; and

h) Recognizing, preventing, and reporting abuse, neglect, and exploitation.

C. **Course 3**: **Supporting Healthy Lifestyles** 30
  a) Supporting healthy lives: nutrition, exercise, and recreation;
  b) Preventive health and dental care;
  c) Signs and symptoms of illnesses;
  d) Medical abbreviations and terms;
  e) Medication support, administration, and self-administration;
  f) Recognizing side effects of medication;
  g) Finding and communicating with quality health care providers;
  h) Quality health care expectations;
  i) Caring for common health conditions;
  j) Use of psychotropic medications; and
  k) Sexuality and responsibility.

D. **Course 4**: **Planning and Facilitating Support** 30
  a) The role of the DSP in planning and delivering support;
  b) Learning what people need and want;
  c) Concepts of strengths-based/person-centered planning;
  d) Community and service networking;
  e) Documentation;
  f) Teamwork and communication;
  g) Confidentiality; and
  h) Partnering with service participant, families (where appropriate), and others important to the service recipient.

E. **Course 5**: **Empowerment and Citizenship** 36
  a) Human, legal, and civil rights and their protections;
  b) Privacy and confidentiality;
  c) Empowerment and control in helping relationships;
  d) Participant choice, control, and decision making;
  e) Advocacy and supporting self-advocacy; and
  f) Common barriers people with (special population) face.

F. **Course 6: Ethical and Professional Practice** 30
  a) Ethics of support relationships;
  b) Translating ethics into practice;
  c) Becoming a culturally competent DSP;
  d) Communication and teamwork;
  e) Self-assessment, self-direction, and supervision in professional development;
  f) Coworker relationships; and
  g) Sharing information and knowledge.

G. Course 7: Special Topics
(The content of this course should be customized to meet the needs of a particular apprenticeship program) 30

Programs preparing people to work in home settings may choose to address topics relevant to home life including:

a) Budgeting and income management;
b) Accessing entitlements;
c) Finding accessible and low-cost housing including;
    1) First time home buyers;
    2) Managing home maintenance; and
    3) Identifying community resources.

Programs preparing people to support others in finding and maintaining employment may choose to address:
a) Assessing vocational interests;
b) Examining job content and opportunities;
c) Identifying candidate job skills;
d) Teaching basic work readiness skills; and
e) Developing supports on the job.

Programs preparing people to work with troubled youth may offer:
a) Youth development and adolescent psychology;
b) Counseling skills;
c) Strategies for outreach;
d) Organizing youth recreation; and
e) Working with gang members.

Programs preparing Head Start personnel may offer:
a) Managing the Early-childhood classroom;
b) Child development;
c) Supporting and communicating with families;
d) The purpose of play; and
e) Promoting healthy social skills.

TOTAL HOURS   **216**

Appendix B. Commonwealth Office of Technology Computer Support Specialist (Help Desk Technician) Work Processes

COMPUTER SUPPORT SPECIALIST WORK PROCESS SCHEDULE
(Existing Title: Help Desk Technician)
O*NET-SOC CODE: 15-1151.00 RAPIDS CODE: 1131HY

Work Process and Classroom Training Duties and Hours		On-the-Job Learning Hours
Period 1 General Practices—Foundations		
1	Demonstrate a working understanding of the organization's structure; personnel rules; responsibilities; and general understanding of work ethics, interpersonal communications, and related policies. Understands and practices safety procedures and rules.	16–24
2	Demonstrate a working understanding of the goals, mission, and vision.	16–24
3	Demonstrate a working understanding of the organization's office tools, such as copiers, fax machines, etc. Create document using MS Word for management.	16–24
	Subtotal hours for Period 1	48–72
Period 2 General Practices - Computer Basics		
1	Demonstrate a working knowledge of the components of a computer and perform basic troubleshooting on communication issues within a computer.	120–160
	Example On-the-Job Duties: Identify the components of standard desktop personal computers. Install and configure computer components. Maintain and troubleshoot peripheral components. Install and configure operating systems.	
2	Demonstrate a working knowledge of the hardware components of a computer and perform basic troubleshooting on hardware-related issues.	120–160
	Example On-the-Job Duties: Install and configure system components. Troubleshoot system components.	
3	Demonstrate a working knowledge of basic networking, to allow the flow of information between multiple computers.	120–160
	Example On-the-Job Duties: Manage, maintain, troubleshoot, install, operate, and configure basic network infrastructure.	
	Subtotal hours for Period 2	360–480

	Period 3 General Practices—Security Basics	
1	Demonstrate knowledge of "best practices" in general network security.	120–160
	Example On-the-Job Duties: Implement secure network communications. Designate how to manage public key infrastructure and certificates.	
2	Create a security awareness program in the organization which is used to communicate "best practices" for end users.	120–160
	Example On-the-Job Duties: Establish security best practices for creating and running web-based applications.	
	Subtotal hours for Period 3	**240–320**
	Period 4 General Practice—Client Operating System Basics	
1	Install and configure client operating systems for the organization.	160–200
	Example On-the-Job Duties: Configure User Account Controls. Configure Local Security Policies. Configure Windows Firewall. Configure Windows Defender. Set indexing locations and modify advanced options. Create a library and set security permissions. Create and deploy a search connector.	
2	Maintain and troubleshoot a client operating systems for the organization.	160–200
	Example On-the-Job Duties: Prepare to deploy Windows 7 business desktops. Assess and resolve application compatibility issues with Windows 7. Determine the most appropriate method to deploy Windows 7 based upon specific business requirements. Design a standard Windows 7 image by assessing and evaluating the business requirements.	
	Subtotal hours for Period 4	**320–400**
	Period 5 General Practice—Demonstrating Learned Competencies	
1	Utilize all of the skills taught during all of the GPs.	1,040–1,112
	Example On-the-Job Duties: Maintain and troubleshoot installations of Microsoft Windows. Identify personal computer security concepts. Identify network technologies. Install and manage network connections. Perform networking technologies design principles including adherence to wiring standard and use of testing tools. Design network specific security practices, disaster recovery procedures, data storage technology implementation procedures.	
	Example On-the-Job Duties: Create procedures to enforce organizational security policies. Monitor the security infrastructure and manage security incidents. Use the built-in diagnostics tools to diagnose and resolve system problems. Collect system performance information using Performance Monitor. Configure the Action Center and view messages. Configure Device Manager and control device installation. Run Windows PowerShell commands. Configure Backup and Restore option. Configure the Sync Center.	

Example On-the-Job Duties: Deploy Windows 7 by using WAIK. Deploy Windows 7 by using WDS. Deploy Windows 7 by using Lite Touch Installation. Deploy Windows 7 by using Zero Touch Installation. Migrate user state by using Windows Easy Transfer and User State Migration Tool 4.0. Design, configure, and manage the Windows 7 client environment. Plan and deploy applications and updates to Windows 7 client computers.	
Total Work Process Hours (including Period 5 hours)	**2,008–2,312**

RELATED INSTRUCTION OUTLINE: COMPUTER SUPPORT SPECIALIST
(Existing Title: Help Desk Technician)
O*NET-SOC CODE: 15-1151.00 RAPIDS CODE: 1131HY

DISCLAIMER: *THE FOLLOWING RELATED TECHNICAL INSTRUCTION (RTI) OUTLINE IS AN EXAMPLE ONLY AND COURSES DESCRIBED BELOW ARE NOT REQUIRED. THESE COURSES ARE RECOMMENDATIONS ONLY. A MINIMUM OF 144 HOURS, PER YEAR, OF RELATED INSTRUCTION MAY BE ACCOMPLISHED IN A CLASSROOM SETTING BY A SUBJECT MATTER EXPERT OFFERED IN-HOUSE, BY A VENDOR, ONLINE INSTRUCTION, AND/OR AT A VOCATIONAL/TECHNICAL SCHOOL.*

	Related Instruction Outline	Related Instruction Hours
	Period 1: General Practices—Foundations	
1	New apprenticeship orientation session	2–4
2	MS Word Level 1	Up to 8
	Period 2: General Practices—Computer Basics	
1	CompTIA A+ Essentials	55
2	CompTIA A+ Practical Application	55
3	Comp TIA Network +	55
4	Passing the certification exams for CompTIA A+ Essentials	8
5	Passing the certification exams for CompTIA A+ Practical Application	8
6	Passing the certification exams for CompTIA Network +	8
	Periods 3 and 4: General Practice—Security Basics and Client Operating System Basics	
1	CompTIA Security +	42
2	Microsoft 6292: Installing and Configuring Windows 7 Client	32
3	Microsoft 6294: Planning and Managing Windows 7 Desktop Deployments and Environments	55
4	Passing the certification exam for Microsoft 6292 (70-680)	8
5	Passing the certification exam for Microsoft 6294 (70-686)	8
	Period 5: General Practice—Demonstrating Learned Competencies	
	No Additional Related Instruction	Not applicable
	Related Instruction Suggested Hours: **Related Instruction Maximum Hours:**	**271** **346**

Appendix C. Transportation Cabinet Automotive Technician Specialist Work Processes

WORK PROCESSES SCHEDULE

AUTOMOTIVE TECHNICIAN SPECIALIST - TECH "C"

O*NET-SOC CODE: 49-3023.02 RAPIDS CODE: 1034CB - LEVEL 2

Description: Provide service, repair, and maintenance on customer vehicles. Analyze vehicle problems and utilize troubleshooting techniques to determine the needed repair. Utilize hand tools, power tools, lifts, and electronic metering devices. Inspect, remove, and replace worn and defective parts according to manufacturers' vehicle scheduled maintenance.

Term: Competency-Based (estimated 2,000 to 4,000 hours): It is intended that after a combination of 2,000 to 4,000 hours of OJL, including a minimum of 144 hours of related instruction, the apprentice will demonstrate competence in the skills outlined below. Select apprentices will be able to demonstrate competence and receive advanced placement in the program.

On-the-Job Learning: Apprentices will receive training in the various work experiences listed below. The order in which this training is given will be determined by the flow of work on-the-job and will not necessarily be in the order listed. The times allotted to these various processes are the estimated times that the average apprentice will require to learn each phase of the occupation. They are intended only to be a guide to indicate the quality of the training provided and the ability of the apprentice to absorb this training in an average amount of time. The suggested related instruction supplements OJL and follows the work processes schedule.

<u>**Competencies**</u>   <u>**Approximate Hours**</u>

A. Shop Safety, First-Aid, and Hazardous Waste Disposal **450**
   1. Identify shop hazards and explain the necessary steps to avoid personal injury or property damage.
   2. Define the steps required to avoid fire in the shop.
   3. Demonstrate the proper selection and operation of a fire extinguisher.
   4. Identify the necessary steps for personal safety in the shop.
   5. Identify personal protective equipment such as safety glasses and explain their use in an automotive shop and the importance of that use.
   6. Demonstrate how to protect your hands from the hazards found in an automotive shop.
   7. Describe how to properly lift a heavy object and demonstrate the process.
   8. Demonstrate the safe use and proper maintenance of pneumatic and hydraulic tools including vehicle lifts.
   9. Identify, describe, and record all unsafe or potentially unsafe conditions or acts, environmental noncompliance, malfunctions, and health or industrial hygiene problems.

10. Identify and define hazardous materials by chemical and physical properties, such as color, corrosivity, density, flammability, reactivity, specific gravity, and toxicity.

B. **Suspension and Steering** 400
1. Utilize manufacturer vehicle schedule maintenance of suspension and steering systems.
2. Inspect steering shaft universal-joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism, and steering wheel; perform necessary action.
3. Remove and replace manual or power rack and pinion steering gear; inspect mounting bushings and brackets.
4. Inspect and replace manual or power rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.
5. Inspect power steering fluid levels and condition.

C. **Brakes** 500
1. Utilize manufacturer vehicle schedule maintenance of brake systems.
2. Identify and interpret brake system concern; determine necessary action.
3. Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins.
4. Check master cylinder for internal and external leaks and proper operation; determine necessary action.
5. Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, or wear; tighten loose fittings and supports; determine necessary action.
6. Select, handle, store, and fill brake fluids to proper level.
7. Bleed (manual, pressure, vacuum, or surge) brake system.
8. Flush hydraulic system.
9. Diagnose poor stopping, noise, pulling, grabbing, dragging, or pedal pulsation concerns; determine necessary action.
10. Remove, clean (using proper safety procedures), inspect, and measure brake drums; determine necessary action.
11. Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.
12. Remove, inspect, and install wheel cylinders.
13. Remove caliper assembly from mountings; clean and inspect for leaks and damage to caliper housing; determine necessary action.
14. Remove, clean, and inspect pads and retaining hardware; determine necessary action.
15. Clean, inspect, and measure rotor with a dial indicator and a micrometer; follow manufacturer's recommendations in determining need to machine or replace.
16. Remove and reinstall rotor.

D. **Electrical/Electronic Systems** 250
1. Utilize manufacturer vehicle schedule maintenance of electrical/electronic systems
2. Battery repair and service
3. Inspect and install wiring
4. Install and adjust lights
5. Install electrical accessories
6. Diagnose and repair starting and charging systems
7. Diagnose engine performance with diagnostic software

E. **Tire** 50
1. Utilize manufacturer vehicle schedule maintenance of tires.
2. Demonstrate tire care maintenance.

3. Inspection and repair tires.
4. Mounting, balancing, and installation of tires.

F. Heating, Cooling, and Air Conditioning **100**
1. Manufacturer vehicle schedule maintenance of heating, cooling, and air conditioning systems.
2. Identification of heating and cooling components and system requirements and procedures.
3. Overhaul and install water pump
4. Install hose, thermostat, and fan belt
5. Repair radiator
6. Test coolant properties to ensure they meet manufacturer's specifications.

G. Fuel Systems **150**
1. Unit injector repair
2. Part identification
3. Calibration and testing
4. Cleaning and installing fuel line
5. Ordering pump and injector parts
6. Diagnose and repair fuel pump

H. Repair to Power Transmission **100**
1. Clutches-repair and adjustment
2. Transmission repair
3. Drive shaft and universal joint

Minimum Hours of On-the-Job Learning: **2,000**

Appendix D. Barren County Government Office Administrative Services Work Processes

KY OFFICE MANAGER/ADMINISTRATIVE SERVICES WORK PROCESS SCHEDULE
O*NET/SOC CODE: 11-3011.00   RAPIDS CODE: 1033

DESCRIPTION: Office Manager/Administrative Services is responsible for a variety of administrative and clerical duties that are necessary to run and maintain organizations efficiently. Managerial training for office manager/administrative services should include prioritizing units' work, assigning work to others, organizing and analyzing operations and procedures, reviewing/revising work and forms, teambuilding and supervision and managerial skills.

COMPETENCIES	MINIMUM HOURS		
Keyboarding/Computer Applications—Supervision	**400**		
1. Prioritize work assignments 2. Choose appropriate software and format/type for letters, memos, reports, tables, business forms, and financial documents 3. Proofread and edit documents using automatic software features 4. Backup, retrieve/delete, files, save/name/print documents/envelopes and lists/forms 5. Merge mailing lists/forms 6. Design and/or type newsletter, announcement, and brochure 7. Import graphics/data 8. Create and/or manage databases 9. Create and/or manage spreadsheets 10. Use macros 11. Type agendas, meeting minutes, and legal documents 12. Use boilerplate materials			
Records Management—Supervision	**400**		
1. Prepare file folders and labels (color coding) 2. File four basic filing methods and retrieve information 3. Prepare cross-references for filing documents 4. Use a tickler follow up file 5. Maintain contents of files			

6. Follow retention/transfer/purge/destroy procedures for files 7. Apply computer conventions for filing 8. Use/prepare PC directories 9. Establish subject filing master index 10. Select filing supplies and storage equipment 11. Use pending, reading, and suspense files			
Office Procedures—Management	**400**		
1. Greet visitors professionally 2. Maintain visitor records 3. Make/take/transfer calls using correct telephone techniques 4. Take accurate messages 5. Handle people/customers professionally 6. Make/cancel appointments 7. Use a telephone directory 8. Contact appropriate associates 9. Coordinate and schedule/meetings/projects/conferences 10. Take meeting minutes 11. Make meeting minutes 12. Make travel arrangements/itineraries 13. Read maps, recognize time zones 14. Make photocopies, assemble/collate/staple documents 15. Maintain photocopiers 16. Maintain office supply inventory and order office supplies using purchase orders 17. Use reference and instruction manuals 18. Use electronic dictionaries and thesauruses 19. Set priorities, manage time, and arrange workstations 20. Display supervision skills 21. Complete expense reports and forms 22. Portray a good company image 23. Follow safety practices			
Communication Skills	**300**		
1. Speak and write clearly and concisely 2. Use appropriate grammar 3. Ask questions clearly 4. Use positive tone of voice 5. Follow directions (oral and written) 6. Give clear instructions 7. Demonstrate ability to present information orally 8. Exhibit good listening skills			

9. Demonstrate ability to use shorthand/ speedwriting/note taking			
Computational Skills (if applicable)	**300**		
1. Perform mathematical computations (interest, percentage, discounts, and averages)			
2. Use accounting software			
3. Demonstrate 10 key calculation skills by touch			
4. Post from journals to ledgers			
5. Use steps to locate errors in accounting			
6. Demonstrate ability to make monetary change			
7. Prepare payrolls data			
8. Handle accounts receivable/accounts payable /cash receipts			
9. Prepare bank deposits and reconcile bank statements			
10. Compute petty cash totals			
11. Prepare invoices			
Mail Processing Managerial Instruction to include	**100**		
1. Use a postage machine			
2. Process incoming/outgoing/interoffice mail			
3. Maintain mail registers			
4. Process faxes			
5. Prepare e-mail messages			
6. Send e-mail messages			
7. Use a zip code directory			
Interpersonal/Employability Skills—Managerial Training	**100**		
1. Demonstrate punctuality/dependability/flexibility			
2. Demonstrate positive attitude/ethics			
3. Demonstrate teamwork skills			
4. Demonstrate ability to work with all types of people in a diverse workplace			
5. Demonstrate awareness of cultural diversity			
6. Demonstrate critical thinking/problem solving skills			
7. Demonstrate resume writing and interviewing skills			
8. Follow line of authority			
9. Supervise/train office workers			
10. Delegate work			
11. Handle multiple responsibilities			
12. Demonstrate cost consciousness			
Computation Skills—Supervision	**300**		
1. Use calculator or adding machines efficiently			
2. Demonstrate familiarity with basic computer			

terminology			
3. Use/create spreadsheets and databases for compilation of a source data			
4. Use accounting payroll software applications			

Accounts Receivable—Supervision	300			
1. Prepare billing invoices and check for accuracy				
2. Verify records and post customer/client transactions				
3. Maintain aging of accounts receivables, i.e., 30, 60, 90, 180 days				
4. Adjust/apply finance charges when necessary; send overdue notices				
5. Generate outstanding accounts receivable listing				
6. Run monthly billing cycles				
7. Supplement computerized processes with paper trail, i.e., maintain accounts receivable filing				
8. Purge uncollectibles and send to collection				
Accounts Payable—Supervision	300			
1. Verify records and post all payables into current system				
2. Prepare, record, and organize purchasing documents, i.e., purchase order invoices, warranty information, etc.				
3. Maintain monthly accounts payable/disbursements listing Prepare disbursement check and record payable information in appropriate check register				
4. Prepare 1099 tax reports where applicable				
Banking Procedures—Supervision	300			
1. Complete check registers manually or electronically				
2. Prepare deposit slips and prove to receipt reports				
3. Maintain and update checking, savings, and money market accounts				
4. Reconcile various bank statements				
5. Prepare outstanding check lists				
Payroll preparation—Supervision	300			
1. Demonstrate understanding of the processes and function of time cards, payroll registers, and payroll earning forms				
2. Verify and record information for W-4 forms into employee data				

3. Calculate employee earnings based on hourly time records or based on annual salary 4. Enter data into current payroll system 5. Complete payroll data for in hours/outsourced payroll check generation 6. Calculate and process payroll taxes through bank deposits and/or EFTPS 7. Prepare monthly, quarterly, and annual state and federal payroll reports, i.e., withholding employment disability, etc.			
Inventory Control—Supervision	**200**		
1. Demonstrate ability to take physical and perpetual inventory 2. Compare inventories to locate shrinkage or shortage; prepare comparison report 3. Maintain inventory database and reports			
Auditing/Reporting—Supervision	**300**		
1. Demonstrate knowledge of the functioning of a business entity 2. Identify, maintain, and generate various reports used in connection with booking procedures, i.e., aged accounts receivable, outstanding accounts 3. Payable, inventory control reports, and payroll reports 4. Maintain source documents to prove above reports 5. Demonstrate understanding of monthly close-outs of bookkeeping records			
TOTAL HOURS	**4,000**		****RAPIDS will accept 3,000 hours**

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RELATED INSTRUCTION OUTLINE
OFFICE MANAGER/ADMINISTRATIVE SERVICES
O*NET CODE: 11-3011.00 RAPIDS CODE: 1033

Suggested 1st Year	APPROXIMATE HOURS

Office Procedures: Supervision   64
Office Management
Secretarial Duties
Time Management
File Management
Record Keeping
Supply Inventory

Supervisory Skills   64
Team Building Skills
Conflict Resolution
Training the Adult Learner
Diversity Training
Sensitivity Training

Supervision Applications   16
Computer Application
Creating, editing, and proofreading word-processing documents
Returning data
Creating spreadsheets, databases, and documents
Developing graphics and importing to text

Suggested 2nd Year	APPROXIMATE HOURS

Supervision and Managerial Skills   68
Interpersonal/Employability Skills
Communication Skills
Organization Skills
Personnel Procedures
Management Responsibility

Accounting and Financial Services--Supervision   68
Theory of Accounting Cycle
Payroll
Banking Procedures
Journal and Ledgers

Office Equipment--Supervision   8

Using the Copier
Fax
Electronic Mailing
Internet Communication

TOTAL HOURS   **288**
Other related courses as deemed necessary by the sponsor and/or the apprentice coordinator.

Notes

[1] "TRACK: Tech Ready Apprentices for Careers in Kentucky," Kentucky Department of Education, February 4, 2019, https://education.ky.gov/CTE/cter/Pages/TRACK.aspx.

[2] "Transportation's Mechanic Apprenticeship Program," Kentucky Transportation Cabinet, accessed December 21, 2018, https://transportation.ky.gov/pages/tmap.aspx.

[3] "Where to Find Your Next Great Hire," Kentucky Division of Apprenticeship, employer flyer accessed December 6, 2018.

[4] "Your Dream Career Starts Here," Kentucky Division of Apprenticeship, employee flyer accessed December 6, 2018.

[5] "KYTC Aims to Develop Future Workforce through Paid Apprenticeship Program with Colleges," *American Association of State Highway and Transportation Officials (AASHTO) Journal*, June 23, 2017, https://news.transportation.org/Pages/062317kentucky.aspx.

[6] "Kentucky Launches First-of-Its-Kind Apprenticeship Program for Social Services," *The Lane Report*, May 15, 2018, https://www.lanereport.com/101252/2018/05/kentucky-launches-first-of-its-kind-apprenticeship-program-for-social-services/.

[7] "Kentucky Launches First-of-Its-Kind Apprenticeship Program for Social Services," *The Lane Report*, 2018.

[8] "Kentucky Launches First-of-Its-Kind Apprenticeship Program for Social Services," *The Lane Report*, 2018.

About the Authors

Robert Lerman is an Institute fellow in the Center on Labor, Human Services, and Population at the Urban Institute as well as professor of economics at American University and a research fellow at IZA in Bonn, Germany. A leading expert on apprenticeship, he recently established the American Institute for Innovative Apprenticeship. His current research focus is on skills, employer training, apprenticeship programs in the United States and abroad, and housing policies. Lerman earned his AB at Brandeis University and his PhD in economics at the Massachusetts Institute of Technology.

John Marotta is a research analyst in the Center on Labor, Human Services, and Population at the Urban Institute, with more than six years' experience in nonprofit and governmental organizations and expertise in workforce and economic development policies and programs. He studies economic opportunity and skills, particularly how job training and work-based learning programs can lead to family-sustaining wages and viable career pathways. Marotta holds an MPP from Georgetown University and a BA in economics from Hofstra University.

Myca San Miguel is a project manager and policy assistant in the Center on Labor, Human Services, and Population at the Urban Institute, with four years' experience in supporting mixed-methods research analyses and providing operational and technical support for various federally funded and other nonprofit work. Myca's research primarily supports workforce and economic development initiatives that leverage innovative models to improve the workforce environment in nontraditional ways. San Miguel received her BA in communications at the University of North Carolina at Chapel Hill.

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