

Northern Arizona Workforce Training Center
Demand Study Executive Summary

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Executive Summary

During summer 2009, the Center for Business Outreach conducted a Demand Study of the need for a Northern Arizona Workforce Training Center (NAWTC) in the five-county region that includes Apache, Coconino, Mohave, Navajo and northern Yavapai County -- the Verde Valley. Two groups were surveyed to establish demand – Opinion Leaders and Business Leaders throughout this region. Sufficient responses were gathered to represent these groups with confidence, both geographically and in terms of organization and business types. The Opinion sample represented City and County officials, Chambers of Commerce leaders, leaders of area non-profits, educational institutions, and Native American tribes – leaders whose support would be critical to successful implementation of a NAWTC. The Business sample, weighted toward larger businesses and those that employ skilled workers, represented a cross-section of regional businesses.

Opinion Survey. More than three-fourths of Opinion Leaders said it was *difficult* today for organizations and businesses in their area to hire the skilled employees they need. Recruitment and retention problems

were mostly due to the region's lower wages, few possibilities for advancement, and inadequate benefits – problems that tend to be “regional” rather than “industry-wide.” Today, businesses and organizations rely mostly on area community colleges and in-house training programs for their training needs. The major benefits of a NAWTC would be to: provide a greater pool of qualified applicants; increase productivity of area businesses; decrease training time; and increase employee efficiency.

Thus, Opinion Leaders' *interest in establishing* a NAWTC is very high (83% favored the idea, only 17% opposed), and their *support for establishing* a NAWTC was overwhelming – 89% favored the idea. They also believe that area businesses and organizations *would send their employees* to a NAWTC – 86% responded in the affirmative, 14% in the negative.

Specific findings of the survey of northern Arizona opinion leaders are presented below. They are based on a representative sample obtained from the five-county northern Arizona area that encompasses Coconino, Mohave, Apache, Navajo and the northern part of Yavapai.

- Local government leaders (26.7%), Business leaders (21.3%), County government leaders (17.3%) and Leaders of not-for-profit organizations (17.3%) provided 83% of all surveys; the remainder came from educational institutions and state and tribal governments.
- On the factors of availability (4.3), quality (4.0) and stability (3.7), leaders ranked the regional workforce at or near the mid-point (on a 7-point scale), suggesting the local workforce could use improvement in all three areas.
- Leaders ranked the ability of local organizations and businesses to hire the skilled workers they need *as difficult* (5.1 on 7-point scale, where 1 is not difficult and 7 is very difficult).
- The current number of unfilled positions was largely stable (50.0%) or decreasing (36.5%), with only a small fraction increasing (13.5%), wholly fitting with current recession conditions.
- The inability of local organizations or businesses to hire qualified employees was judged to be largely a community/regional problem (71.2%) as opposed to a national or industry-wide problem (28.8%).
- Again, given recessionary conditions, it was no surprise to find that the current level of investment in employee training was largely decreasing (47.2%), as opposed to increasing (11.1%); the remainder saw training investments as stable (41.7%).
- The majority of respondents (58.0%) did not think that emerging technologies would substantially change workforce demand in the area, while a minority (42%) thought they would change demand – especially in areas of wind and solar power, sustainable and green technologies.
- When asked to identify three skilled areas for which local employers have the *most difficulty finding qualified workers*, local opinion leaders identified a large group among which were: medical, computer/ engineering and technical trades.
- When asked to identify the top three skilled areas for which local employers had the *most frequent openings*, the long list included nursing/medical, tourism and welding, among others.
- From a list of seven attributes of a NAWTC that would most contribute to its success and viability, the top three were: the types of training programs offered, the provision of appropriate equipment/technology, and the cost of training programs.

- From a list of skill deficiencies in the local workforce, opinion leaders judged the top three to be: *work ethic/dependability, information analysis and application, thinking critically and acting logically*.
- The top three existing barriers to the recruitment and retention of the workforce in northern Arizona were: wages offered, lack of advancement opportunities, and benefits offered. Although not listed as a choice field, many listed “cost and availability of housing” as a barrier under the “Other” category.
- Topping the list of technical skills most lacking in the workforce were the generalized skills of: computer literacy, math skills and reading-comprehension skills. These were followed by more *specific skills*, including: electrical and electronics, reading blueprints, HVAC and machining.
- The vast majority (73.6%) of organizations and businesses identified area community colleges as the top provider currently of workforce training and development, followed by in-house training (68.1%) [note multiple responses to not sum to 100%].
- The overwhelming majority (82.5%) of opinion leaders were interested in a NAWTC that offered customized skills training, while only 17.5 percent said they were not interested.
- The major uses of such a center, in declining order of importance, were: upgrading the present workforce (83.9%), training for future green jobs (77.4%), training for new jobs of the future (71.0%), and retraining the present workforce (67.7%).
- Fewer than half of all respondents saw a need for instruction in languages other than English; of those that did, the most desired was Spanish (45% of respondents) followed by Navajo (21%).
- Opinion leaders believed the greatest unmet training needs currently were for: Computer Networking Technician and Supervisory Management Specialist, followed by Certified Manufacturing Specialist, Office Accounting and Certification or Recertification for HVAC.
- In terms of sustainable practices and green employment, the greatest unmet training needs were for: Renewable Energy Electricians, Green Building Construction and Carpentry, Weatherization and Energy Reduction Technology, and Solar Green House Builders.
- From a list of eight perceived benefits of a NAWTC, the top three benefits were: providing a greater pool of qualified job applicants in the workforce, increasing employee efficiency in area businesses, and decreasing training time for area businesses.
- When respondents were asked whether or not they supported the establishment of a Northern Arizona Workforce Training Center, the overwhelming majority (88.7%) did support the center, while only 11.3% did not.
- When asked if they thought that local organizations or businesses would send employees to a NAWTC for training, the response was overwhelmingly positive – 85.2% said area employers would use the center, while only 14.8% thought they would not.

Business Survey. Business respondents completed a longer, more detailed survey providing data that will inform the Business Plan (to be created as a separate document by the Center for Business Outreach at NAU). They reported, for example, that the average age of area businesses is 34 years (29 years median), and that the average number of current employees is 273 (222 full-time, 54 part-time, 23 contract). They reported that projected employee needs are either stable or increasing (16% decreasing). More than three-fourths of these businesses are in growth or maturing phases of development (one-fourth

in declining or emerging phases). More than half have introduced a new product, service or technology in the last five years, and 56% currently provide innovative *green* products or services. More than 70% said their revenue was stable or increasing; only 29% reported decreasing revenue. Fewer than ten percent of businesses reported that they were at risk of leaving their community. About 80% reported core work processes that require average or high skill levels. These findings are all evidence of increasing demand for skilled workforce training in the region.

A majority of business respondents said that the recruitment and retention of skilled workers is largely a *regional* issue, and a majority has experienced recruitment problems, especially in manufacturing, machining and technical skills. More than 90% said it would be increasingly difficult to hire skilled employees in the future. To satisfy training needs, the vast majority of employers use on-the-job training, though training by outside providers is also heavily used. Employers estimated that 28% of their current workforce requires formal technical training, and 96% said their training needs were stable or increasing. Costs for training were increasing or stable (only 6% reported they were decreasing), and 82% of employers had paid for skilled classroom training in the past year. Average annual training *cost* paid to outside providers was \$1,870 per employee; average annual training *time* per skilled employee was 23 days; and, average annual training cost per *skilled employee*, was \$2,415.

Top skill deficiency areas included: *information analysis and application, thinking critically/acting logically*, followed by *dependability-work ethic, math skills*, and *using tools and technology* – though all of these were considered to be only moderate, not extreme, deficiencies. The technical skills most lacking were in: *computer literacy, electrical, maintenance and troubleshooting*. Almost all respondents wanted Certificates of Achievement issued to those who complete NAWTC programs. The most important current obstacles to employee training are: *the low number of applicants with required skills (52%), lack of work experience needed by businesses (36%), remoteness of the workplace (33%), and lack of qualifications needed by business or organization (28.8%)*.

Business respondents rated the likelihood of using skilled training programs, if available at a NAWTC, at a realistic 4.1 on a 7-point scale (where 7 is high) or in the area of “somewhat inclined.” However, the likelihood of their use is dependent on desired attributes of the center; in descending order of importance the desired attributes of the NAWTC were:

- Types of training programs offered (6.0).
- Provision of appropriate equipment/technology (5.8)
- Training schedules, hours and length of training (5.7)
- Cost of training (5.6)
- The location of the training centers (5.6)
- The ability to customize course offerings (5.1)
- Competition with existing training programs (3.7)

More than half of business respondents would contribute to Transportation costs associated with employee training at the NAWTC (on average \$50 per employee/day); 80% would contribute to Tuition expenses (\$76-\$100 per employee/day); however, only a third were prepared to contribute to temporary Housing costs associated with training at a NAWTC (\$50-\$75/day).

Specific *unmet* training needs were most mentioned for: Supervisory Management Specialist, Office Accounting, and Certification or Recertification of Welding, Electric Arc Welding, Commercial Truck

Driving, Welding and Joining Technician, and Electrical Technician Analog. Training needs for *sustainable practices and green employment* were most needed in: OSHA Training, Welding Technicians, Electricians, Green Building, Construction and Carpentry, and Cost Estimation. Less than one in five respondents saw the potential to use the NAWTC as an incubator site for research and development.

What would constitute the most important benefits or outcomes of a Northern Arizona Workforce Training Center? The top three were:

- Providing a greater pool of qualified job applicants in the workforce (5.5).
- Helping retain employees in area businesses (5.0)
- Increasing employee efficiency in area businesses (5.0)

Overall, it is apparent that Opinion leaders and Businesses in the five-county region see a clear and unmet need and demand for the skilled training that could be provided at a NAWTC. Their use and support of such a center are conditional and are particularly dependent on the kinds of training programs offered, the equipment provided, training schedules and cost. However, if a Northern Arizona Workforce Training Center incorporated the desired attributes, businesses and organizations would send their employees to the center for training and would help defray the costs of tuition and transportation and, to a lesser extent, temporary housing costs.

Specific findings of the survey of northern Arizona businesses and organizations are presented below. They are based on a representative sample obtained from the five-county northern Arizona service area that includes Coconino, Mohave, Apache, Navajo and the northern part of Yavapai. In addition, this sample was specifically weighted to capture both the largest businesses and those with the most skilled jobs.

- Overall, the businesses and organizations represented in the sample were of long duration; on average they had been operating in their communities for 34 years (median of 29 years).
- The average total number of current employees per business was 273, including 222 full-time and 54 part-time, with 23 contract employees; a wide range of employee numbers was found in different industry sectors.
- The number of projected employees was found to be largely stable (63.0%), although one-fifth (20%) said their employee needs were *increasing*, while 16.4 percent said projected employee needs were *decreasing*.
- In terms of ownership, the largest number were Private businesses (46.9%), followed by Family-owned businesses (28.0%), Public (12.0%), Non-Profit (10.7%), Employee-owned (9.3%), Foreign-owned and Federal government (4.0% each), and County, State and Tribal government (at 1.3% each).
- The majority of businesses indicated that their products were either in a *growth* (41.2%) or *maturing* phases (39.7%), with far fewer (11.8%) in a *declining* cycle. A relatively small group was categorized as *emerging* (7.4%).
- A majority of companies had introduced a new *product* (54.7%), a new *service* (52.8%), or a new *technology* (52.8%) in the last five years. Relatively few companies (15.1%), however, had changed their *mission* during this time.

- New products were found mostly in manufacturing, most new services in building and construction, and new technology in manufacturing.
- More than half of all businesses in the survey (56.3%) indicated that they currently provide innovative green products or services, while 43.7% did not.
- In the next two years, 49.2% of respondents indicated that they plan to introduce green products or services, although 50.8% did not.
- A majority (54.4%) of the sample operated in *regional* markets, followed by a fair number with international (19.1%), local (14.7%), and national (11.8%) markets.
- The largest group of respondents (43.1%) indicated that their revenue or funding was *stable*, while 29.2 percent had *decreasing* and one-fourth (27.8%) had *increasing* revenues or funds.
- Only a small minority (8.2%) indicated that they might be at risk of leaving their community, while the vast majority (91.8%) was not at risk of leaving.
- Three fourth (75.4%) of respondents indicated employee turnover rates of 25 percent or less; suggesting that employee turnover is not a major problem in northern Arizona businesses, especially those offering skilled jobs.
- Of all respondents, less than one-fourth (23%) reported core work processes that required *low* employee skills, while two-fifths (41%) reported a need for *average* employee skills.
- Further, the largest cohort (45%) of reporting businesses or organizations used core work processes that required *high* employee skills.
- In rating their local workforce, the availability and stability of the workforce was judged to be *relatively high*, but quality of the workforce was *neither high nor low*, perhaps suggesting a need for training.
- A majority of survey respondents (60.6%) said they *were* experiencing recruitment problems for specific employee positions or skills – largely in medical, manufacturing, machining and other technical positions – while 39.4% were not.
- Overall, more than half of respondents (58.3%) reported that the number of unfilled positions was *stable*, while 26.4% said they were *decreasing*, and 15.3% said unfilled positions were actually *increasing*.
- A majority of respondents (58.6%) indicated that the recruitment of a qualified workforce is strictly a *community/regional* issue, while 41.4% indicated that recruitment issues were *industry-wide*.
- Respondents volunteered job titles for which they have the greatest trouble finding qualified workers; these included CDL drivers, auxiliary operators, computer technicians, machinists, welders and many others. They also noted jobs for which they have the most frequent openings; these included mechanics, machine operators, electricians, welders and sheet metal workers, among others.
- The vast majority of respondents thought it would be *difficult to very difficult* to hire skilled workers in the next three to five years; only 8.2% thought it would be easy or very easy to hire such workers in northern Arizona.

- The survey found that, among a host of reasons, the four main causes of difficulties in employee retention and recruitment during the last 12 months were largely explained by the low number of applicants with required skills, lack of work experience, workplaces in remote locations, and lack of qualifications.
- In the last 12 months, the most important sources used by businesses and organizations to meet their training needs were *on-the-job training* (used by 84.9%), *training by outside providers* (50.7%) and use of *tuition reimbursements* (45.2%).
- Respondents indicated that, on average, 28% of their current employees needed further training in formal programs such as those offered by community colleges or vocational technical schools (median was 15% of current employees).
- More than half of all respondents (56.3%) indicated that their training needs were *stable*, while 39.4% said their training needs were *increasing*; only a very small percentage (4.2%) indicated that their training needs were *decreasing*.
- In terms of the cost of training, a large majority (60.0%) indicated that their costs for employee training were *increasing*, one-third (34.3%) said they *stable*, and only a small group (5.7%) thought that their training costs were *decreasing*.
- More than one-third (38.3%) of respondents had paid for *basic skills* classroom training or workshops (of more than 4 hours) in the past year, but most businesses (61.7%) had not.
- The situation was the reverse, however, for *job-specific skills*, where the vast majority of businesses (81.9%) had paid for *classroom training/workshops for job-specific skills* in the last 12 months.
- Overall, training budgets were allocated 33% to *new job skills* training, 45% to *proficiency training*, and 14% to *remedial skills* training.
- The average annual training *cost* per employee paid to outside training providers was \$1,870.
- The average training *time* per employee for outside training providers was one month or less.
- Specifically for *skilled employees*, the average (mean) annual training time was 23 days, while the median (mid-point of the frequency distribution) was 7 days; the average annual (mean) cost was \$2,415, while the median cost was \$1,000.
- When listing all providers used for training and development, a large majority (65.3%) used *in-house training*, 44% used *local community colleges*, 42.7% sent employees to *externally contracted trainers*, and 40.0% had their employees take *professional association courses*.
[multiple responses do not sum to 100%]
- When asked to rate job skill deficiencies among workers and job applicants, some deficiencies were reported for *information analysis and application*, *thinking critically acting logically*, followed by *dependability-work ethic*, *math skills*, and *using tools and technology*, but all were at the minimal to moderate level.
- When asked to rank the most important *technical skills* lacking in their local workforce, respondents ranked *computer literacy* (56.9%) at the top of the list, followed by *electrical* (35.4%), *maintenance* and *troubleshooting* (33.8% each).

- When asked to rate the likelihood of their using skilled training programs if they were available in northern Arizona, the mean score of 4.1 is above the mid-point of the scale (3.5), indicating that businesses and organizations in the service area were *somewhat inclined* to use skilled training programs if they were available in Northern Arizona.
- Few respondents reported a need for training in languages other than English, but for those who did, the greatest need was expressed for Spanish followed by some interest in Navajo.
- The idea of issuing Certificates of Accomplishment to employees who completed skilled training was highly popular; 92.9% of respondents indicated that they desired certification for employees who completed skills training.
- When asked to rate the significance of a set of attributes in determining the likelihood of their using a Northern Arizona Workforce Training Center, the seven factors were ranked in the following order:
 - Types of training programs offered (6.0).
 - Provision of appropriate equipment/technology (5.8)
 - Training schedules, hours and length of training (5.7)
 - Cost of training (5.6)
 - The location of the training centers (5.6)
 - The ability to customize course offerings (5.1)
 - Competition with existing training programs (3.7)
- Respondents were asked about willingness to contribute to employee training expenses while at the NAWTC in three areas:
 - More than half of all employers (56.5%) were willing to contribute to the *transportation costs of their employees*, while 43.5% were opposed – generally less than \$50 per employee per day.
 - About a third of employers (35.2%) were willing to contribute to the *temporary housing* of their employees, while two-thirds (64.8%) were unwilling to pay for temporary housing – for those that were willing the sum was \$50 to \$75 per employee per day.
 - The vast majority (80.6%) of respondents were willing to contribute to the *tuition or fees* for their employees to receive training at a NAWTC, while a minority (19.4%) was unwilling. Payments were generally in the range of \$76-\$100 per employee per day.
- When asked to suggest specific unmet training needs, respondents mentioned most frequently Supervisory Management Specialist (35.5%), Office Accounting (33.9%) and Certification or recertification of welding (32.3%); followed by Electric Arc Welding (29.0%), Commercial Truck Driving (27.4%), Welding and Joining Technician (22.6%) and Electrical Technician Analog (21.0%), among others.
- Unmet employee training needs for *sustainable practices and green employment* were most frequently mentioned for: OSHA Training (51.1%) and Welding Technicians (31.9%), followed

by Electricians (29.8%), Green Building, Construction and Carpentry, and Cost Estimation (21.3% each).

- A relatively small percentage of businesses and organizations (18.0%) saw the potential to use the NAWTC as an incubator site for research and development; the far larger group (82%) expressed no interest in using the NAWTC as an incubator.
- When asked to pick from a list of the most important benefits of a NAWTC, the top three benefits were:
 - Providing a greater pool of qualified job applicants in the workforce (5.5).
 - Helping retain employees in area businesses (5.0)
 - Increasing employee efficiency in area businesses (5.0)
- When asked to choose from a list of the most important existing obstacles to training and development for their employees, the largest cohort of respondents (56.2%) chose *low number of applicants with required skills*, followed by *lack of work experience needed by business or organization* (35.6%), *remoteness of the workplace* (32.9%), and *lack of qualifications needed by business or organization* (28.8%).

Demand Analysis. This report also estimates likely demand for the NAWTC, which is a step-by-step analysis based on population and employment by sector in the five-county service area. Numbers of businesses and numbers of employees by sector are reduced according to demand data and likelihood of use of the NAWTC obtained from the Business survey. The survey data are used to calculate low, average and high scenarios to determine the number of potential workers by industry sector needing training at a NAWTC. Average hours and costs of training obtained from survey data are used to project days of training and costs of training, also calculated according to low, medium and high scenarios – to estimate potential annual revenue at the NAWTC. The final step in the demand analysis is to reduce training demand by sector according to the practical or realistic potential need for training by different employment sectors in the training region. For example, government, hospitality, health care and retail sectors are less likely to make use of the kinds of skilled technical training offered at the NAWTC. Assumptions based on use per industry sector were used to modify potential workers needing training at a NAWTC and, again, three scenarios (low, medium and high) were used, along with average tuition costs to report overall training demand and potential NAWTC revenue.