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# HOMELAND SECURITY
## TRENDS ANALYSIS 2010-11

*Considerations for Education, Government, Business and Industry*

PIERCE COLLEGE
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HOMELAND SECURITY
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**Forward**

The Center of Excellence for Homeland Security at Pierce College is pleased to offer the **Homeland Security Trends Analysis 2010 -- Considerations for Education, Government, Business and Industry.** This report highlights the continuing evolution of the Homeland Security field. There are critical emerging trends in the Homeland Security field that will impact higher education, workforce training and the preparedness of our nation.

This report provides a summary of how the field of Homeland Security continues to evolve and remains one of the fastest growing fields in the U.S. This unprecedented growth is not confined to one sector of the economy, but rather transcends all segments. The report identifies changing economic and workforce trends and examines how these changes will impact the field of homeland security in the years ahead. It provides information on current and projected employment and job opportunities in the field, and the training and skills required of our workforce in order to meet the challenges of emerging threats we face as a nation.

This report identifies current and anticipated homeland security job opportunities in both the private and public sectors of the economy and also the opportunities that exist in volunteer organization. It is important to note this report offers a clear distinction between homeland security jobs and those jobs that require homeland security-related knowledge, skills and abilities such as the field of Occupational Safety and Health. Many of these related jobs (or job clusters) have training, equipment, organization, and exercise requirements in the event of a major catastrophe. These job clusters include: Public Works, Public Health, Health Care, Emergency Management Agency, Hazardous Materials Personnel, Government Administrative, Law Enforcement, Fire Service, Emergency Medical Services, Public Safety Communications, and Occupational Safety and Health.

Community colleges have historically played a major role in training many of these first responders. This report stresses the importance of integrating homeland security-related knowledge and skills into existing first responder curriculum. This report is a revision of the Homeland Security Trends Analysis 2007 – 2008 report published by the Center of Excellence of Homeland Security at Pierce College. It is our sincere hope that you will find this information to be both useful and timely.


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# Executive Summary

Before the creation of the Department of Homeland Security, related activities were spread across dozens of federal agencies and an estimated 2,000 separate Congressional appropriations accounts. To say there was little continuity and an incoherent approach to homeland security would have been an understatement. The events of September 11, 2001, provided the impetus for changing the way homeland security was perceived.

In the early years of this decade there was much confusion over exactly what constituted a "homeland security" job, and thus the categorization of jobs was difficult. There is more clarity today, but the field continues to change. The purpose of this report is to familiarize the reader with the evolution of the field of homeland security and to provide some guidance in terms of what the field is today, and what implications there are for educators, government officials, and business and industry representatives.

This report provides information on the industry in general, and examines economic and workforce trends that will continue to affect the industry in the future. Employment trends in homeland security nationally and within Washington State are presented and contrasted. Information is also provided on how to identify the skills and tasks of those working in the field of homeland security, and resources have been identified on where further information can be obtained. Lastly, information is provided on the significant opportunities that exist for community colleges and information on model programs and projects are presented.

This report relies heavily on information and research conducted by the Department of Labor, Career Voyages and the Occupational Information Network (O-Net), Department of Education, Department of Homeland Security, and the Washington State Employment Security Department, Labor Market and Economic Analysis Branch.

**The Evolution of Homeland Security**
This section traces the growth of the homeland security industry in the past decade. It chronicles the creation of the Department of Homeland Security in November 2002, and its rise to become the *third* *largest* *cabinet* *level* *department* in the federal government. It also includes a condensed chronology of the Presidential Directives, Executive Orders and other legislative efforts that have fueled the growth of this industry. The emergence and importance of an all-hazards approach to emergency planning is presented and stresses that all emergencies begin and end locally. Explanations are also provided, which outline the growth of the homeland security industry.

In this section the challenges facing academia in meeting the education and training needs of this industry are explored. Research data is provided which supports the notion that the homeland security industry is a high demand sector.

**Economic and Workforce Trends**
This section provides examples of some of the important demographic changes both nationally and in the State of Washington that will have a significant impact on our economy and workforce. As the U.S. population ages, the labor force will grow more slowly during the next decade. The older labor force (those 55 and older) is projected to grow more than five times faster than the overall labor force. It is believed that the

aging workforce will have extensive societal and economic implications, leading some analysts to suggest that when coupled with the projected decline in people ages 16 to 24 in the population, there will be an increased demand for, and need to retain older workers.  The labor force is also projected to continue being more racially and ethnically diverse.  The increasing diversity of the workplace with different cultures and learning styles represented, will impact the way learning and training is successfully carried out.

This section also covers the growth in the homeland security industry and summarizes the employment outlook for homeland security jobs both nationally and within the State of Washington.  Thirteen homeland security occupations (or clusters) are identified, many of them with sub-categories containing many other job possibilities. Specific data is provided on homeland security jobs including, Projected Need for Employees (2006 – 2016), Projected Growth, 2008 Hourly Wage, and Education and Training.  Comparative data is also provided contrasting homeland security occupations nationally versus the State of Washington.

**Homeland Security Employment and Workforce Trends**
This section provides information on the many and varied jobs and career opportunities that currently exist in homeland security both in the public and private sectors.  In addition, this section also covers available job opportunities in volunteer organizations.  A brief description of the types of jobs available in the ten "First Responder" disciplines recognized by DHS is also provided.  These jobs, though not technically homeland security jobs, are jobs that nonetheless have training, equipment, organization, and exercise requirements pertaining to Homeland Security.

Though the homeland security industry is still emerging there is already considerable information available concerning the kinds of skills required and the tasks that will be performed in a whole array of homeland security jobs.  _Career Voyages_ is a collaborative effort between the U.S. Department of Labor and the U.S. Department of Education and provides a significant amount of information on the _tasks_, _skills_, _knowledge_, _abilities_, _interests_, _work styles_ and _tools_ _and_ _technology_ required for each occupation.  To illustrate the value of these research tools, two examples are provided.  An Emergency Management Specialist (_Standard Occupational Code 13-1061)_ is an occupation that is defined as a homeland security occupation by the Department of Labor.  By contrast, an Occupational Health and Safety Specialist (_Standard Occupational Code 29-9011.00)_ is an occupation that is not homeland security by definition, but requires tasks to be performed that are definitely homeland security-related.

The _Occupational Information Network_ (_O-Net_) validates the information obtained at _Career Voyages_ and takes the information a step further.  The categories of information _O-Net_ provides for each occupation include:  tasks, knowledge, skills, abilities, work activities, work context, job zone, work styles, and wages and employment trends.

**The Role of Community Colleges in Protecting the Homeland**
This section provides information on academic programs and projects at community colleges across the nation. Website links are provided where repositories of program information can be found.  One specific innovative project is highlighted which demonstrates the critical role that community colleges play in helping to defend the homeland.  The Partnership for Environmental Technology Education (PETE) is a national consortium of community colleges involved in environmental, health and safety,

energy and homeland security programs and projects.  PETE, in partnership with the American Association of Community Colleges (AACC) and FEMA'S Citizen Corps, have formed a partnership to provide "The Community College Citizen Preparedness Program." This is a national initiative to address the readiness of U.S. citizens to be better prepared for a natural disaster or pandemic event.  Five Community Colleges selected to be the five lead colleges in this project are: Miami-Dade Community College (Florida), Westmoreland Community College (Pennsylvania), Oakland Community College (Michigan), Monroe Community College (New York) and Pierce College District (Washington).

The lead college in homeland security in Washington State is Pierce College District. The Center of Excellence in Homeland Security at Pierce College was founded in 2004 and facilitates and coordinates Homeland Security initiatives with a coalition of 34 community and technical colleges, public agencies, and private sector organizations in the State of Washington. The Center provides and brokers dynamic education and training to prepare a skilled workforce to maintain our national security.  (See pages 56 – 59)

This section also provides information on career pathways, which are designed to prepare students for work in the real world.  Career Pathways also provide consistency and make for a more seamless transition from one level of education to another, i.e., from high school to a community college and on to a baccalaureate degree granting institution.

**Appendices**
In this section, there are examples of academic programs in homeland security at Pierce College District, and an innovative AAS-T degree program in Occupational Safety and Health offered jointly by Edmonds Community College and Pierce College.   In addition, appendices of common homeland security terms and acronyms used in homeland security are also provided.  A complete list of the Centers of Excellence in Washington State, with website links is included.

# 1. The Evolution of Homeland Security

## 1.1 Homeland Security – A Review

> ***DHS Mission Statement:***
>
> We will lead the unified national effort to secure America. We will prevent and deter terrorist attacks and protect against and respond to threats and hazards to the Nation. We will secure our national borders while welcoming lawful immigrants, visitors, and trade.[1]

Before the establishment of the Department of Homeland Security, related activities were spread across dozens of federal agencies and an estimated 2,000 separate Congressional appropriations accounts. To say there was little continuity and an incoherent approach to homeland security would have been an understatement. Ironically, early in 2001, prior to the event of September 11, a recommendation was made by congress to create a new National Homeland Security Agency which proposed combining FEMA, Customs, the Border Patrol, and several infrastructure offices into one agency responsible for homeland security-related activities. Hearings were held, but Congress took no further action on the bill. [2]

On September 22, 2001, President George W. Bush announced that he would create an Office of Homeland Security with former Pennsylvania Governor Tom Ridge as the director.  In the years that followed, the growth of Department of Homeland Security has been nothing short of phenomenal.  With over 200,000 employees, DHS is now the *third largest cabinet level department* in the U.S. federal government after the Department of Defense and Department of Veterans Affairs.[3]

To trace the evolution of homeland security, one only needs to review the long list of Presidential Directives, Executive Orders, Public Laws, Statutes and other legislative efforts since 2001.  In the 107th United States Congress alone (January 3, 2001 to January 3, 2003), there were dozens of House and Senate bills related to homeland security.  These bills generally fell into one of five categories including, Bioterrorism and Chemical Weapons, Emergency Response and Homeland Strategy, Intelligence Gathering, Protecting Infrastructure, and Transportation and Border Security. To list every bill related to homeland security is beyond the scope of this report, but to get some sense of why homeland security growth has exploded, the following list of Homeland Security Presidential Directives and corresponding timeline will give the reader a clear sense of why this growth has occurred.

# Homeland Security Presidential Directives Timeline

October 29, 2001, HSPD 1, Organization and Operation of the Homeland Security Council:  Created the Homeland Security Council (HSC) and enumerates its functions. The purpose of the HSC is twofold: to coordinate homeland security-related efforts across executive departments and agencies of all levels throughout the country, and to implement the Department's policies through eleven Policy Coordination Committees.

October 29, 2001, HSPD 2, Combating Terrorism Through Immigration Policies: Provided for the creation of a task force to work aggressively in preventing aliens who engage in or support terrorist activity from entering the United States and to detain, prosecute, or deport any such aliens who are within the United States.

March 11, 2002, HSPD 3, Homeland Security Advisory System:  Established a comprehensive and effective means to disseminate information regarding the risk of terrorist acts to Federal, State, and local authorities and to the American people.

September 17, 2002, HSPD 4, National Strategy to Combat Weapons of Mass Destruction:  Applies new technologies, increased emphasis on intelligence collection and analysis, strengthens alliance relationships, and establishes new partnerships with former adversaries to counter this threat in all of its dimensions.

February 28, 2003, HSPD 5, Management of Domestic Incidents:   Enhances the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system.

September 16, 2003, HSPD 6, Integration and Use of Screening Information: Provided for the establishment of the Terrorist Threat Integration Center.

December 17, 2003, HSPD 7, Critical Infrastructure Identification, Prioritization, and Protection:  Established a national policy for Federal departments and agencies to identify and prioritize United States critical infrastructure and key resources and to protect them from terrorist attacks.

December 17, 2003, *HSPD 8, National Preparedness:  Identified steps for improved coordination in response to incidents. This directive described the way Federal departments and agencies will prepare for such a response, including prevention activities during the early stages of a terrorism incident.
*Note:  This directive is a companion to HSPD-5.

January 30, 2004, HSPD 9, Defense of United States Agriculture and Food:  Establishes a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies.

April 28, 2004, HSPD 10, Biodefense for the 21st Century:  Provided a comprehensive framework for our nation's Biodefense.

August 27, 2004, *HSPD 11, Comprehensive Terrorist-Related Screening Procedures: Implemented a coordinated and comprehensive approach to terrorist-related screening that supports homeland security, at home and abroad.
*Note:  This directive builds upon HSPD – 6.

August 27, 2004, HSPD 12, Policy for a Common Identification Standard for Federal Employees and Contractors:   Established a mandatory, Government-wide standard for secure and reliable forms of identification issued by the Federal Government to its employees and contractors (including contractor employees).

December 21, 2004, HSPD 13, Maritime Security Policy:  Established policy guidelines to enhance national and homeland security by protecting U.S. maritime interests.

April 20, 2005, HSPD 14, Domestic Nuclear Detection Office:  As part of the national effort to protect the nation from radiological and nuclear threats, the Domestic Nuclear Detection Office (DNDO) was established as a national office staffed by representatives from several federal, state, and local government agencies. The office resides within the Department of Homeland Security (DHS) and the DNDO director reports to the Secretary of Homeland Security.

March 6, 2006, HSPD 15:  U.S. Strategy and Policy in the War on Terror. (Classified)

June 2006, HSPD 16, Aviation Strategy:  Detailed a strategic vision for aviation security while recognizing ongoing efforts, and directed the production of a National Strategy for Aviation Security and supporting plans.

August 28, 2006, HSPD 17, Nuclear Materials Information Program:  This program is an information management system that consolidates all-source information about global nuclear materials and their security status. (Classified)

January 31, 2007, HSPD 18, Medical Countermeasures against Weapons of Mass Destruction:   Established policy guidelines to draw upon the considerable potential of the scientific community in the public and private sectors to address medical countermeasure requirements relating to CBRN threats.

February 12, 2007, HSPD – 19, Combating Terrorist Use of Explosives in the United States: Established a national policy, and called for the development of a national strategy and implementation plan, on the prevention and detection of, protection against, and response to terrorist use of explosives in the United States.

May 9, 2007, HSPD 20, National Continuity Policy:  Established a comprehensive national policy on the continuity of federal government structures and operations and a single National Continuity Coordinator responsible for coordinating the development and implementation of federal continuity policies.

HSPD 20 Annex, Assigned executive departments and agencies to a category commensurate with their Continuity of Government (COG), Continuity of Operations (COOP), and Enduring Constitutional Government (ECG) responsibilities during an emergency.

October 18, 2007, HSPD 21, Public Health and Medical Preparedness: Established a national strategy that will enable a level of public health and medical preparedness sufficient to address a range of possible disasters.

HSPD 22, Domestic Chemical Defense:   Established a national policy and directs actions to strengthen the ability of the U.S. to prevent, protect, respond to, and recover from terrorist attacks employing toxic chemicals and other chemical incidents. (Classified)

December 2007, HSPD 8 Annex 1, National Planning: Further enhanced the preparedness of the United States by formally establishing a standard and comprehensive approach to national planning.

January 8, 2008, HSPD 23: National Cyber Security Initiative:  The NCSC is responsible for coordinating cybersecurity efforts and improving situational awareness and information sharing across the federal government. (Classified)

June 5, 2008, HSPD 24: Biometrics for Identification and Screening to Enhance National Security:   Established a framework to ensure that Federal executive departments use mutually compatible methods and procedures regarding biometric information of individuals, while respecting their information privacy and other legal rights.

## All-Hazards Approach

Though the threat of a terrorist attack provided the genesis for the creation of the Department of Homeland Security, the Department is also charged with responding to natural disasters and other human and technological events as well.  To be clear, an "all-hazards" approach does not mean being prepared for any and all hazards that might manifest themselves in a particular community, but, what it does mean is that there are things that commonly occur in many kinds of disasters that can be addressed in a general plan and that the plan can provide the basis for responding to unexpected events.  Emergency plans will rarely cover everything that might be required in a disaster.  In the event of any large-scale emergency, the Department of Homeland Security will provide a coordinated, comprehensive federal response and mount a swift and effective recovery effort.

Though DHS is charged with leading the federal effort, tragically, one of the lessons reinforced from the events of September 11 and Hurricane Katrina was that all emergencies are local.  Given the fact that there are 50 states with over 3,000 counties in the US, coupled with US territories and insular areas of the US, the greatest challenge facing any administration will be to ensure the US has a comprehensive strategy that is truly national in scope.  This strategy must be coherent, provide adequate resources and also the flexibility to ensure the security of the citizens of the United States.  Along these lines, DHS sends millions of dollars annually to communities and states to prepare for, respond to and recover from a wide range of events.

## Homeland Security Job Growth

Clearly, the consequences of a significant terrorist attack or a major natural disaster such as a hurricane, tsunami, a pandemic event, earthquake, or a volcanic eruption would be devastating.  Any of these kinds of events could result in a mass fatalities incident, and/or the degradation of critical infrastructure.  An event of severe magnitude could also have a serious economic impact that would certainly have national and perhaps even global implications.

To deal with these potentially devastating realities, the Department of Homeland Security has grown tremendously. In addition to hiring new employees to perform the growing list of tasks and responsibilities within the department, whole agencies, once separate entities, have been swallowed up by DHS and are now represented on the department's organizational chart. Consequently, it's no surprise that a department that didn't exist nine years ago is now the third largest federal agency and now a cabinet level department.

It's also no coincidence that job opportunities related to homeland security have also grown in the private sector as well. Critical infrastructure protection, business continuity planning, industrial and cyber security are just a few of the areas expecting significant job growth in the private sector in the next decade. There is hardly a business or industry in the U.S. that is not impacted to some extent by homeland security.

In addition to the thousands of new and emerging jobs in Homeland Security, it's worth noting that there are many other jobs that although are not considered "homeland security jobs" nonetheless require certain homeland security-related skill sets. The Department of Homeland Security's Office of Grants and Training (formerly the Office for Domestic Preparedness) led the effort to identify training requirements and skills needed to work effectively in the ten key public sector areas recognized by the Department as having training, equipment, organization, and exercise requirements. These disciplines include: Public Works, Public Health, Public Safety Communications, Health Care, Emergency Management Agency, Hazardous Materials Personnel, Government Administrative, Law Enforcement, Fire Service, and Emergency Medical Services.

## 1.2 Challenges for Education

Since 2001, the need for trained professionals in homeland security management and other homeland security-related jobs has increased dramatically. As stated by the U.S. Department of Homeland Security, more than ever before these professionals must be trained to understand the strategy, operations and tactics needed to achieve objectives associated with prevention, protection, detection, disruption, response, economic stabilization and recovery. They must be able to continually adapt to the changing nature of the security environment and the strategies that arise to deal with emerging threats.

Career Voyages is a partnership between the U.S. Department of Labor and the U.S. Department of Education has identified fifteen industry sectors that are considered in demand. To be included on this list, the industry must fit the following criteria: (1) they are projected to add substantial numbers of new jobs to the economy or affect the growth of other industries; or (2) they are existing or emerging businesses being transformed by technology and innovation requiring new skills sets for workers. _Homeland Security was identified as one of the 15 high demand sectors._[4]

The identification of Homeland Security as an in-demand industry has resulted in an explosion of academic programs being developed nationally. Some of these new offerings are credit programs (associates, bachelors, masters, and doctoral). Other offerings include certificate programs and a variety of non-credit programs. These programs vary in content and scope. Still other colleges are being creative and carving out their own niche by applying for grants from federal agencies that have increased

budgets for homeland security projects and are developing non-credit training programs or centers of expertise.

What are the major challenges for academic institutions wanting to develop homeland security programs?  Some of the challenges facing academia include:

> Homeland security continues to evolve and the educational needs of those in the field depend on the threat matrix and realities at the present.  Consequently, being able to adapt quickly to revise curriculum will be an ongoing challenge. Along the same lines, identifying qualified faculty with expertise in homeland security will also be a challenge.

> Determining the target market. This should be decided by conducting a labor market assessment of potential customers to determine their precise training needs. Should the program be credit or non-credit?   There is no program more likely to fail than one that is not market based and market driven.

> Recognizing the technology capabilities of students and the potential digital divide that exists between generations of students.  Will your program be only in the classroom or through various technology means?  Or, will it be a combination?  Will it also include the use of some of the emerging technologies like podcasts, webinars, blogs, and wikis?  Knowing the technology capabilities of students before the program is created is essential.

> Recognizing and adapting to the changing demographics of students is an ongoing challenge for educators as they address the learning styles of an ever-diverse student population.  Focus must be placed on teaching critical thinking skills so the student can appropriately apply what they have learned on the job.

> Besides the many challenges associated with developing new and emerging homeland security curriculum, educators must also ensure that critical homeland security-related skills are infused into existing curriculum in those industry clusters with homeland security responsibilities.

These are just some of the major challenges that face academic institutions interested in offering education and training programs in homeland security, and though there are challenges, there are also many opportunities for colleges and universities.  Since the field of homeland security will continue to grow at a significant rate over the next decade, opportunities to develop academic programs or centers of expertise will be available. There will also be opportunities for colleges to provide professional development opportunities to those already in the field.

## 2. Economic and Workforce Trends

*Highlight*

As the U.S. population ages, the labor force will grow more slowly during the next decade; the older labor force is projected to grow more than 5 times faster than the overall labor force, which will become ever more racially and ethnically diverse.

Source: Monthly Labor Review, November 2007

## 2.1 Shifting Demographic Patterns

Shifting demographic patterns of the population will continue to have a significant impact on the U.S. workforce. The 2006–16 Bureau of Labor Statistics labor force projections point to several key trends that will likely take place in the U.S. labor force during the next decade.[5] These trends, which are a reflection of demographic changes in the size and composition of the population and projected changes in the labor force participation rate of various sex, age, race, and ethnic groups, are as follows:

o As the baby boomers age and move into their "golden years," the growth rate of the labor force will slow significantly over the next ten years.

o As a result of increased life expectancies combined with decreasing fertility rates, the median age of the labor force will increase.

o The labor force will continue to grow more diverse. Minority participation in the workforce is projected to expand their shares substantially.

o The rate of growth of women in the labor force is expected to slow, but will still increase at a slightly faster rate than that of men.

o The participation rate of youths (16 to 24 years old) and their share of the labor force are projected to decrease.

o The participation rate of prime-age workers (those 25 to 54 years old) is expected to increase slightly, while their overall share of the labor force is projected to decline.

o The labor force participation rate of older workers (55 years and older) is projected to increase significantly in the next decade. Since the end of the 1980s, the labor force participation rate of older workers has been on the rise, and it is projected to continue to do so in the next decade. However, the older workers' rate is still half the participation rate of the prime age group, signaling slower growth of the future labor force.

Changing historical rates for labor force participation by gender and race between 1988 and 2018 (Projected) is shown below.[6]

**Figure 2.1 Changing Labor Force Participation Rates**
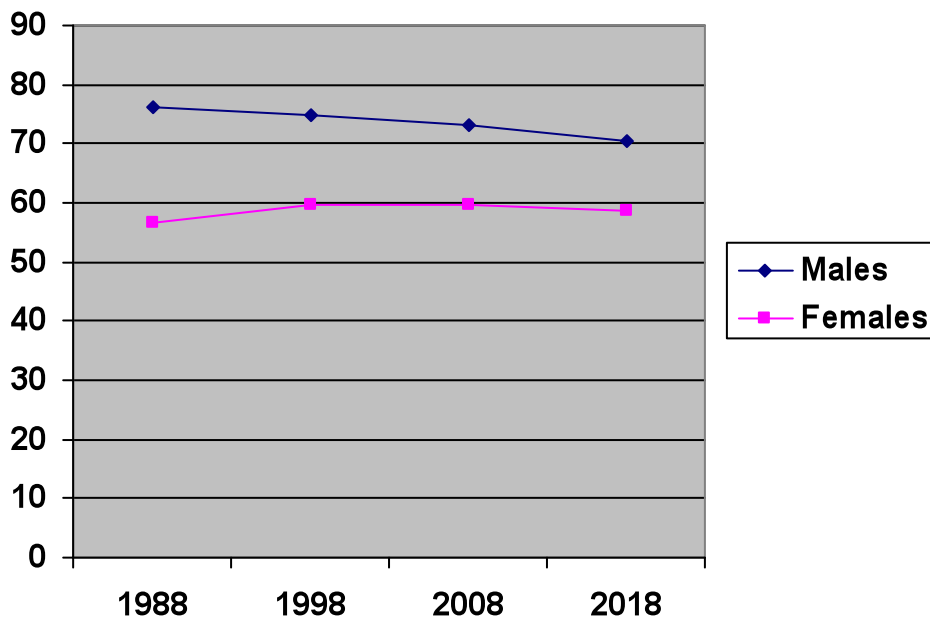


**Civilian Labor Force Participation Rates By Gender With Projections 1988 – 2018**

**Figure 2.2 Changing Labor Force Participation Rates**
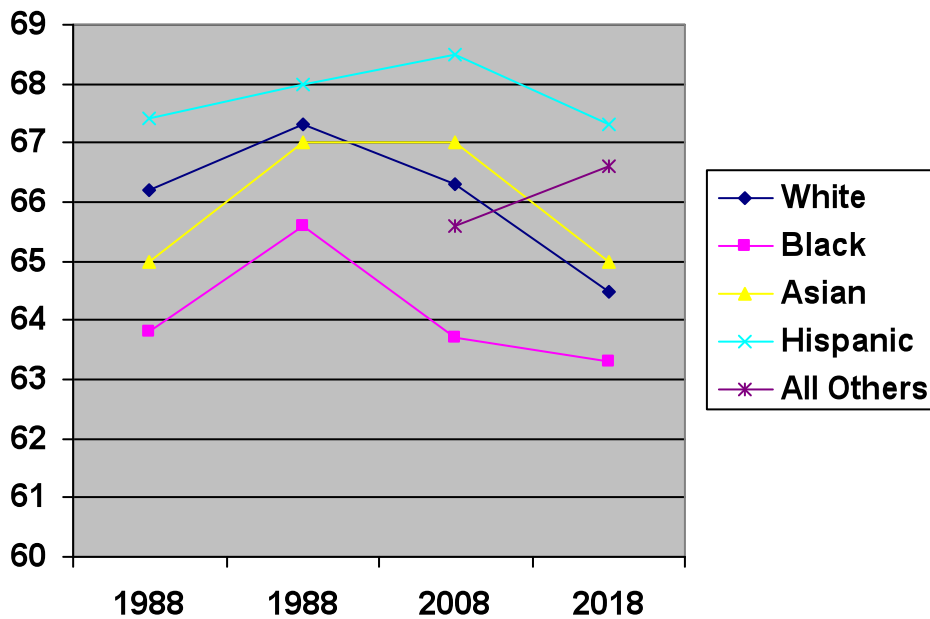


**Civilian Labor Force Participation Rates By Race With Projections 1988 – 2018**

**Note**:  The All Other category includes those classified as being multi-racial, and also includes American Indian, Alaska Native or Native Hawaiian and other Pacific Islanders.

If present demographic trends continue, the proportion of older people in the United States is expected to increase significantly.  At present, there is lively debate concerning the labor force implications of such an "older" population. It is believed that the "graying" of the workforce will have extensive societal and economic implications, leading some analysts to suggest that when coupled with the projected decline in people ages 16 to 24 in the population, there will be an increased demand for, and need to retain older workers.  The increase in the participation of older workers can be traced to a number of factors:[7]

   o  Older workers are leading healthier and much longer lives than in the past.  Both the likelihood of working and the opportunity to work longer years increase with longer, healthier lives.

   o  Today's older individuals are more educated than their counterparts of the past. Higher educational levels result in higher participation in the labor market.

   o  The trend away from defined benefit pension plans and toward defined contribution plans acts as an incentive for the older workforce to stay in the labor market for longer intervals.

   o  In 2000, the full retirement age for Social Security benefits began a scheduled increase.  The recent changes in Social Security laws delayed the eligible age for full retirement benefits for certain birth dates and decreased the benefits for early retirement.

   o  The high cost of health insurance and a decrease in health benefits, especially at older ages, has obligated many older workers to remain working in order to keep their employer-based health insurance or to go back to work after retirement in order to obtain health insurance through their work.

*Highlight*

One of the major implications of the aging population on the U.S. economy is the coming tsunami of entitlement spending. The challenge posed by long-term entitlement spending on programs like Medicare, Medicaid, and Social Security is daunting. Between now and 2050, Social Security, Medicare, and Medicaid costs are projected to surge from 8.7 percent to 19.0 percent of Gross Domestic Product.[8]

The reason why there is a projected decline in the 16 to 24 year old in the workforce is due to smaller numbers of workers coupled with an increased enrollment in higher education prior to entering the work force.

The labor force in the U.S. is also expected to diversify significantly over the next decade. This diversification will have long-reaching ramifications when training considerations are addressed. Culture and learning are connected in important ways. Life experiences, family background, and socioeconomic levels affect the processes of a

student's learning. Well-accepted theories and extensive research has illustrated and documented learning differences based on cultural background. Individuals from different backgrounds bring their own unique approach, talents and interests to the learning situation. Consequently, as the diversity in the US continues, culture and learning styles will continue to have a major impact on education and training.

**Figure 2.3 Percent Distribution of Workforce by Race**
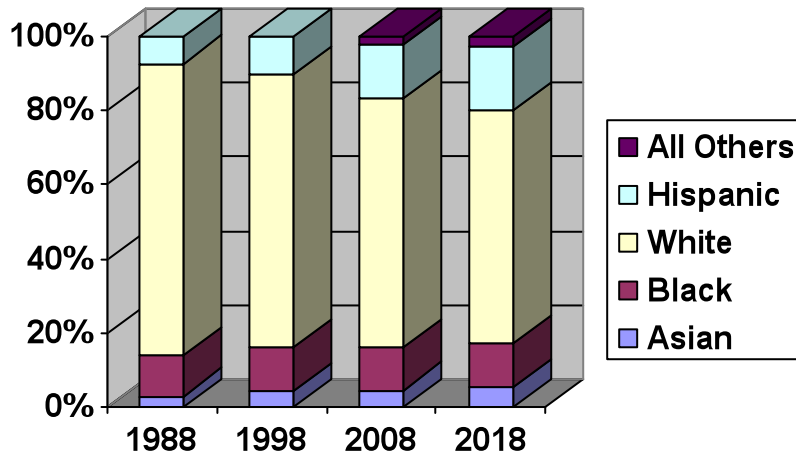


**Source: <u>Employment Outlook: 2008–18</u> Labor force projections to 2018: Labor Force Projections to 2018: Older Workers Staying More Active; Monthly Labor Review, November 2009.**

While these demographic changes are clearly affecting the workplace, the following table compares and contrasts the current community college population in the US versus the general population. The most significant difference between community college enrollment and the general population is the percentage of women versus men enrolled in college.

**Table 2.1: Community College Demographics versus the General Population[9]**

| Community College Enrollees | | The General Population* | |
|---|---|---|---|
| Women | 58% | Women | 50.7% |
| Men | 42% | Men | 49.3% |
| Caucasian | 64% | Caucasian | 69.13% |
| Black | 13% | Black | 12.06% |
| Hispanic | 16% | Hispanic | 12.55% |
| Asian/Pacific Islander | 7% | Asian/Pacific Islander | 3.73% |
| Native American | 1% | Native American | .74% |

**Source: American Association of Community Colleges and U.S. Census Bureau**

*NOTE: Percentages do not add up to 100% due to rounding and counting methodologies.

## 2.2 US Industry and Employment Outlook

The ability of our nation's workers to compete in the fast paced global marketplace will continue to be dependent on a highly skilled, adaptive workforce and on workplaces that provide for needed flexibility. Changes in consumer demand, technology, and many other factors will contribute to the continually changing employment structure in the U.S. economy.[10]

Population is the single most important factor in determining the size and composition of the labor force—that is, people who are either working or looking for work.  During each of the last two decades (1988 – 1998) and (1998 – 2008) the labor force grew by more than 16 million.  The projected 8.2 percentage point increase is less than both the 12.1 percentage-point increase over the previous decade and the 13.2 percentage-point growth over the 1988-1998 timeframe.  The Bureau of Labor Statistics projects that nearly 12 million of the 12.6 million additional workers in the labor force over the next ten years will be in the 55-and-older age group.  This group is expected to be nearly 40 million in 2018, an increase of 43 percentage points.  *As a result, this age group [55 and older] will represent nearly a quarter of the entire labor force by 2018.*[11]

Employment in goods-producing industries has declined since the 1980s. Although overall employment is expected to change little, projected growth among goods-producing industries varies considerably.  Service-providing industries are anticipated to generate approximately 14.5 million new wage and salary jobs, but as with goods-producing industries, growth among service-providing industries will vary by industry.

## Career Voyages

*Career Voyages* is a collaborative effort between the U.S. Department of Labor and the U.S. Department of Education, and is designed to provide information on in-demand occupations along with the skills and education needed to attain those jobs.[12]  On their website, fifteen "in-demand" occupational categories are listed below.  An asterisk indicates the category has also been identified as a Center of Excellence by the Washington State Board of Community and Technical Colleges (SBCTC). More information on these designated Centers of Excellence in Washington State can be found in the Appendices.

*Advanced Manufacturing
*Aerospace
Automotive Services
Biotechnology
Business Management and Administration
*Construction
*Education
Emerging Industries (Geospatial Technology and Nanotechnology)
*Energy
*Health Care
***Homeland Security***
Hospitality
*Information Technology

Retail
*Transportation

In each of the above categories all of the specific occupations that are in-demand are identified.  For example, in the Homeland Security category referenced above, jobs in Emergency Preparedness and Response, Border and Transportation Security, Infrastructure Protection, Information Analysis, and Homeland Defense are included as in-demand occupations.

## 2.3 Washington State Industry and Employment Outlook

The Washington State Labor Market and Economic Report published in December 2008, provides an excellent overview of economic and employment trends in the State.[13] Many of the economic trends that have affected most of the country have also affected the economy of Washington State.  Higher energy, heath care, and food prices added to consumers' woes in the United States during 2008.  Housing foreclosures accelerated, which had a crippling effect on the economy by initially shutting down the construction and financial services sectors.  By late 2008, virtually all sectors of the economy showed weakness, and for all practical purposes, the economy was in a recession.  Congress hopes that the *Emergency Economic Stabilization Act of 2008* enacted shortly before the national presidential election will restore solvency to the financial markets and mitigate foreclosures.

### The Washington Labor Market

Between September 2007 and September 2008, Washington's labor market experienced slowing growth, as only 28,100 jobs were added. The number of jobs added during this period was about one-half that of the previous year, and about one-third from two years prior.   While this is less than spectacular, it was much better than that experienced by the nation as a whole, which actually declined by 519,000 over the same period (or -0.4 percent change).  The outlook for the coming year is somewhat dependent on trends nationally and globally. If the national and global economies continue to struggle, it will undoubtedly have a negative impact in Washington State as well.

### Seasonal–Structural–Cyclical Industry Employment

Changes in employment and unemployment can be classified as being seasonal, structural, or cyclical.  Identifying industries that are historically influenced by one or more of these factors gives us a better understanding of labor markets and causes of unemployment.  Education, tourism, and agriculture industries were found to be the most seasonal.  The list of most cyclically influenced industries has strong representation from the transportation and resource extraction industries. The software, education, health care, and services industries were found to be very structurally influenced.

The Washington State unemployment rate was 9.1 percent in November 2009 and averaged 8.9 percent (January – November 2009). This was compared to an average of 5.3 percent in 2008 and 4.5 percent in 2007.

The industry having the best year was education and health services, which added 8,800 jobs since September 2007, amounting to a growth rate of 2.5 percent. Other industries that added jobs at a healthy clip were professional and business services, government, and leisure and hospitality. All three of these sectors grew by 5,000 or more over the year.

Four sectors contracted between September of 2007 and September of 2008. Construction lost the most jobs, overall down by 9,700. It was followed by administration and support, waste management, and remediation, financial activities, and natural resources and mining.

**Demographic Changes Affect Washington State**

> **Highlight**
>
> If the average retirement age is 65, then more than 200,000 workers will be of retirement age within the next ten years.[14]

As indicated in Section 2.1 *Shifting Demographics Patterns* of this report, the demographics affecting the workforce nationally, will also affect the State of Washington in a similar fashion.

Figure 2.4 illustrates the changing age structure of Washington State. The two older groups – those job holders between the ages of 55 to 64 and 65 and older – are projected to make up a substantially larger portion of the entire workforce in 2030 than they did in 2005 (the latest year for which this data are available).  As is projected nationally, changing historical rates for labor force participation of selected age groups will also have societal and economic implications for the State of Washington, suggesting that when coupled with the projected decline in people ages 16 to 24 in the population, there will be an increased demand for, and need to retain older workers.

**Figure 2.4: Changing Age Structure of Washington's Workforce[15]**
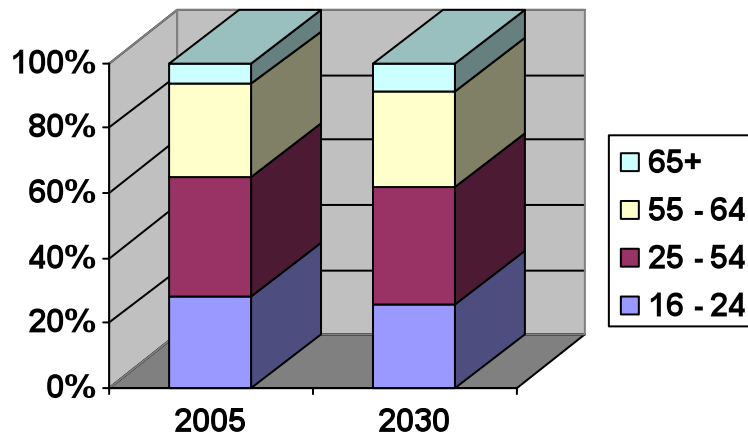


**Source: The 2009 Long-Term Economic and Labor Force Forecast for Washington**

**Defining Homeland Security-Related Employment**

What is a homeland security-related job?   The term "homeland security" job continues to mean different things to different people.  Since homeland security is still an evolving occupational category, even economists are grappling with defining exactly what constitutes "homeland security" related jobs.  The following definition from the article, "*Careers in Homeland Security*," is an accurate description of what the work entails.

> *Definition*
>
> People who work in homeland security anticipate, prepare for, prevent, and react to everything from pandemics to hurricanes to terrorism. These workers help to reduce our Nation's vulnerabilities and to minimize the damage from catastrophic events.[16]

As the definition implies, homeland security is much more than combating possible terrorist attacks, it includes a much broader "all hazards" approach.  The movement to the "all hazards" approach has been gradual.  For example, Homeland Security Presidential Directive 8 indicated an all-hazards approach to national preparedness, but with a special emphasis on terrorism.  In fact, of the fifteen National Planning Scenarios the overwhelming emphasis has been on terrorism, with only three of the fifteen scenarios related to natural disasters (# 3 Biological Disease Outbreak:  Pandemic Influenza, #9. Natural Disaster: Major Earthquake, and #10. Natural Disaster: Major Hurricane).  Still, the all-hazards approach is garnering more and more support and seems to be the most logical approach.  In using an all-hazards approach, our Nation's first responders (and local and state officials), will be better prepared to respond to either a terrorist attack or natural disaster because they will have had more practice on equipment and experience through training.  This approach is also much more cost effective and provides a consistent model for all catastrophic events.

There is no doubt that many homeland security jobs have been created in the last decade as a result of the events of September 11, 2001.  However, there are also many occupations that make-up the Homeland Security industry today that are not new, and until recently were not even considered part of the homeland security industry.  These are the existing jobs in industry sectors such as law enforcement, public works, public health, emergency medical services, and others that are not considered homeland security jobs per se, but have homeland security-related tasks that workers are required.  A current parallel to the homeland security industry is the "green" jobs industry.  Though there have been a number of new green jobs created in the last several years, many jobs that are considered green jobs now are simply jobs that already existed but now require workers to possess new "green" job skills.

**Harvesting and Understanding the Statistical Data**

When sifting through all of the information and statistical data available, it can be rather confusing to find information on homeland security jobs, and even more confusing to understand it.  One place to look for information on homeland security jobs is Career

Voyages. *Career Voyages* is a collaborative effort between the U.S. Department of Labor and the U.S. Department of Education and on their list of "In-Demand Occupations" Homeland Security is identified as an "in-demand" industry. When you go to the site and click on Homeland Security, a list of *thirteen occupations* comes up. These "occupations" would more accurately be called occupational clusters because when you drill down within each occupational cluster, additional jobs emerge. Still, just a few years ago if you had tried this exercise, you would have pulled up *thirty-two occupations*. Consequently, it's obvious that even the economists at the U.S. Department of Labor are still grappling with what constitutes homeland security employment, and no doubt changes will continue into the future.

If you peruse this list of occupations, you might wonder, "Why are these occupations considered as homeland security-related?" The answer to that question is that these occupations (i.e., Security Guards, Police and Sheriff's Patrol Officers, Fire Fighters, Emergency Medical Technicians and Paramedics, etc.) will probably be the first on the scene of any major catastrophe, and as such, have responsibilities as first responders.

When you first click on the Homeland Security link at *Career Voyages*, there are also five distinct categories listed: Emergency Preparedness and Response, Border and Transportation Security, Infrastructure Protection, Information Analysis, and Homeland Defense. There is a wealth of information and resources, as well as links to other job opportunities in the public, private and non-profit sectors.

The following is a list from Career Voyages of Homeland Security-Related Occupations and Their Projected Ten-Year Growth Nationally:

## Table 2.2 – Homeland Security-Related Occupations[17]

| Occupational Title | Projected Need for Employees 2006-2016 | Projected Growth | 2008 Hourly Wages | | | Education and Training | | |
|---|---|---|---|---|---|---|---|---|
| | | | Bottom 10% | Median | Top 15% | High School or Less | Some College | College Degree or Higher |
| Security Guards | 387,000 | 9-17% | $8 | $11 | $19 | 46% | 42% | 12% |
| Police and Sheriff's Patrol Officers | 243,000 | 9-17% | $14 | $25 | $38 | 16% | 52% | 32% |
| Fire Fighters | 142,000 | 9-17% | $11 | $21 | $35 | 23% | 59% | 18% |
| Emergency Medical Technicians and Paramedics | 62,000 | 18-26% | $9 | $14 | $24 | 18% | 68% | 14% |
| Detectives and Criminal Investigators | 42,000 | 9-17% | $18 | $29 | $47 | 10% | 36% | 54% |
| First-Line Supervisors / Managers of Police & Detectives | 38,000 | 9-17% | $22 | $36 | $55 | 18% | 49% | 33% |
| Police, Fire and Ambulance Dispatchers | 38,000 | 9-17% | $10 | $16 | $25 | 44% | 45% | 11% |
| First-Line Supervisors of Fire Fighting and Prevention Workers | 22,000 | 9-17% | $20 | $32 | $52 | 18% | 65% | 17% |
| Security and Fire Alarm Systems Installers | 19,000 | 18-26% | $12 | $18 | $28 | 48% | 44% | 8% |
| Private Detectives and Investigators | 19,000 | 18-26% | $11 | $20 | $37 | 17% | 30% | 53% |
| Transportation Inspectors | 39,000 | 9-17% | $13 | $27 | $49 | 45% | 40% | 15% |
| Ambulance Drivers and Attendants Except Emergency Medical Technicians | 7,000 | 18-26% | $8 | $11 | $15 | 58% | 42% | 0% |
| Emergency Management Specialists | 3,000 | 9-17% | $13 | $24 | $41 | 18% | 33% | 49% |

**Source:  Career Voyages,** careervoyages.gov

At first glance, a logical question that might arise for example is, "Where are the Border Patrol Agents?" At the present time, the way Border Patrol Agents are classified, is with a Standard Occupational Code of 33-3051, and thus they are listed underneath Police and Sheriff's Patrol Officers. This may not seem like a logical place to find Border Patrol Agents, but this example does illustrate the need to "drill down" within categories to find information about other possible jobs.

Another occupation that one might intuitively think would be homeland security-related which is absent from this analysis, is interpreters and translators. The job market for this occupation is projected to increase _much_ _faster_ _than_ _average._[18] In reviewing the Occupational Outlook Handbook two years ago, the reason given for the projected growth of this occupation was due to the need for more interpreters and translators in the field of homeland security. Though homeland security was not cited as a cause of growth in the 2010-2011 edition of the Occupational Outlook Handbook, it no doubt remains a contributing factor to the growth of the occupation.

What these last two examples point out is the imprecise nature of the information and data. Though homeland security-related employment information is much better organized today than it was just a few years ago, one must take into account that the category of Homeland Security is still evolving, and the way information is presented will continue to change over time.

**Homeland Security Growth in Washington State versus the U.S.**

As indicated above, there are currently _thirteen_ occupations/clusters that presently make up the homeland security industry according to economists. It is worth noting that the data below includes estimates of turnover that result from people who leave the occupation (e.g. quit, retire, death), and new jobs that are created. The code listed beside the occupational title is the Standard Occupational Classification (SOC) code.

**State and National Employment Trends in Homeland Security 2006 - 2016**[19]

| Occupation and SOC:  Security Guard: 33-9032.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 1,040,300 | 1,215,800 | 175,500 | 38,660 | $11.28 |
| Washington | 15,320 | 18,110 | 2,790 | 610 | $14.18 |

| Occupation and SOC:  Police and Sheriff's Patrol Officers: 33-3051.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 648,400 | 718,500 | 70,100 | 24,340 | $24.72 |
| Washington | 8,690 | 9,700 | 1,010 | 350 | $30.35 |

| Occupation and SOC:  Fire Fighters: 33-2011.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 292,900 | 328,200 | 35,300 | 14,200 | $21.28 |
| Washington | 7,060 | 7,850 | 790 | 350 | $30.25 |

| Occupation and SOC:   Emergency Medical Technicians and Paramedics: 29-2041.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 201,100 | 239,800 | 38,700 | 6,160 | $14.10 |
| Washington | 2,640 | 3,180 | 540 | 90 | $15.00 |

| Occupation and SOC:   Detectives and Criminal Investigators: 33-3021.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 106,300 | 124,800 | 18,500 | 4,170 | $29.29 |
| Washington | 1,550 | 1,630 | 80 | 40 | $35.87 |

| Occupation and SOC:  First-Line Supervisors/Managers of Police and Detectives: 33-1012.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 93,000 | 101,500 | 8,500 | 3,760 | $36.29 |
| Washington | 1,980 | 2,210 | 230 | 90 | $39.47 |

| Occupation and SOC:  Police, Fire, and Ambulance Dispatchers: 43-5031.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 99,100 | 112,500 | 13,400 | 3,850 | $16.19 |
| Washington | 1,620 | 1,830 | 210 | 60 | $21.94 |

| Occupation and SOC: First-Line Supervisors/Managers of Fire Fighting and Prevention Workers: 33-1021.00 | | | | | |
|---|---|---|---|---|---|
| **Employment Trends** | **Employment** | | **Change** | **Average Annual Job Openings** | **2008 Median Wage Comparison** |
| | **2006** | **2016** | | | |
| United States | 52,500 | 58,500 | 6,000 | 2,240 | $32.42 |
| Washington | 1,970 | 2,210 | 240 | 90 | $39.43 |

| Occupation and SOC: Security and Alarm Installers: 49-2098.00 | | | | | |
|---|---|---|---|---|---|
| Employment Trends | Employment | | Change | Average Annual Job Openings | 2008 Median Wage Comparison |
| | 2006 | 2016 | | | |
| United States | 57,000 | 68,400 | 11,400 | 1,900 | $17.63 |
| Washington | 1,380 | 1,640 | 260 | 50 | $19.77 |

| Occupation and SOC: Private Detectives and Investigators: 33-9021.00 | | | | | |
|---|---|---|---|---|---|
| Employment Trends | Employment | | Change | Average Annual Job Openings | 2008 Median Wage Comparison |
| | 2006 | 2016 | | | |
| United States | 51,700 | 61,100 | 9,400 | 1,950 | $20.08 |
| Washington | 750 | 890 | 140 | 30 | $21.42 |

| Occupation and SOC: Transportation Inspectors: 53-6051.00 | | | | | |
|---|---|---|---|---|---|
| Employment Trends | Employment | | Change | Average Annual Job Openings | 2008 Median Wage Comparison |
| | 2006 | 2016 | | | |
| United States | 26,400 | 30,700 | 4,300 | 1,320 | $26.56 |
| Washington | 1,030 | 1,110 | 80 | 50 | $25.44 |

| Occupation and SOC: Ambulance Drivers and Attendants, Except Emergency Medical Technicians: 53-3011.00 | | | | | |
|---|---|---|---|---|---|
| Employment Trends | Employment | | Change | Average Annual Job Openings | 2008 Median Wage Comparison |
| | 2006 | 2016 | | | |
| United States | 21,500 | 26,200 | 4,700 | 750 | $10.77 |
| Washington | 2,990 | 3,090 | 100 | 10 | $13.32 |

| Occupation and SOC: Emergency Management Specialists: 13-1061.00 | | | | | |
|---|---|---|---|---|---|
| Employment Trends | Employment | | Change | Average Annual Job Openings | 2008 Median Wage Comparison |
| | 2006 | 2016 | | | |
| United States | 11,700 | 13,200 | 1,500 | 270 | $24.26 |
| Washington | 450 | 510 | 60 | 10 | $28.84 |

**Note**:  Individuals that may have a specific question about the employment data represented in this report, or would like further clarification as to how it is represented, are urged to contact the Washington State office of Employment Security Department, Labor Market and Economic Analysis Branch.  Their phone number is:  (800) 215-1617.

## Emergency Support Functions (ESF)[20]

When looking at jobs in the field of homeland security, it's necessary to understand the importance and relevance of Emergency Support Functions (ESF) and their relationship to jobs in the field. Emergency Support Functions are mechanisms for grouping functions most frequently used to provide Federal support to States and Federal-to-

Federal support, both for declared disasters and emergencies under the Stafford Act and for non-Stafford Act incidents (see table below). They provide the structure for coordinating Federal interagency support for a Federal response to an incident.

The Incident Command System provides for the flexibility to assign ESF and other stakeholder resources according to their capabilities, tasks, and requirements to augment and support the other sections of the Joint Field Office (JFO)/Regional Response Coordination Center (RRCC) or National Response Coordination Center (NRCC) in order to respond to incidents in a more collaborative and cross-cutting manner.

## Roles and Responsibilities of the Emergency Support Functions

| Emergency Support Function | Scope |
|---|---|
| ESF # 1:  Transportation | Aviation/airspace management and control<br>Transportation safety<br>Restoration/recovery of transportation infrastructure<br>Movement restrictions<br>Damage and impact assessment |
| ESF # 2:  Communications | Coordination with telecommunications and information technology industries<br>Restoration and repair of telecommunications infrastructure<br>Protection, restoration, and sustainment of national cybe<br>    and information technology resources<br>Oversight of communications within the Federal incident<br>    management and response structures |
| ESF # 3:  Public Works and Engineering | Infrastructure protection and emergency repair<br>Infrastructure restoration<br>Engineering services and construction management<br>Emergency contracting support for life-saving and life-sustaining services |
| ESF # 4:  Firefighting | Coordination of Federal firefighting activities<br>Support to wild land, rural, and urban firefighting operations |
| ESF # 5:  Emergency Management | Coordination of incident management and response efforts<br>Issuance of mission assignments<br>Resource and human capital<br>Incident action planning<br>Financial management |
| ESF # 6:  Mass Care, Emergency Assistance, Housing and Human Services | Mass care<br>Emergency assistance<br>Disaster housing<br>Human services |

# Roles and Responsibilities of the Emergency Support Functions Continued

| Emergency Support Function | Scope |
|---|---|
| ESF # 7: Logistics Management and Resource Support | Comprehensive, national incident logistics planning, management, and sustainment capability<br>Resource support (facility space, office equipment and supplies, contracting services, etc.) |
| ESF # 8: Public Health and Medical Services | Public health<br>Medical<br>Mental health services<br>Mass fatality management |
| ESF # 9: Search and Rescue | Life-saving assistance<br>Search and rescue operations |
| ESF # 10: Oil and Hazardous Materials Response | Oil and hazardous materials (chemical, biological, radiological, etc.) response<br>Environmental short- and long-term cleanup |
| ESF # 11: Agriculture and Natural Resources | Nutrition assistance<br>Animal and plant disease and pest response<br>Food safety and security<br>Natural and cultural resources and historic properties protection and restoration<br>Safety and well-being of household pets |
| ESF # 12: Energy | Energy infrastructure assessment, repair, and restoration<br>Energy industry utilities coordination<br>Energy forecast |
| ESF # 13: Public Safety and Security | Facility and resource security<br>Security planning and technical resource assistance<br>Public safety and security support<br>Support to access, traffic, and crowd control |
| ESF # 14: Long-Term Community Recovery | Social and economic community impact assessment<br>Long-term community recovery assistance to States, local<br>   governments, and the private sector<br>Analysis and review of mitigation program implementation |
| ESF # 15: External Affairs | Emergency public information and protective action guidance<br>Media and community relations<br>Congressional and international affairs<br>Tribal and insular affairs |

For each of the Emergency Response Functions listed, it's possible to identify a specific job that correlates to a function. For example, ESF # 5 – Emergency Management lists some of the specific roles and responsibilities that an Emergency Management Specialist would do in the performance of his/her job.

## 3. Homeland Security Employment and Workforce Trends

***Homeland Security Industry Facts***

With a 2010 annual budget of $42.7 billion dollars and over 200,000 employees in the Department of Homeland Security alone, homeland security careers are some of the most stable, fastest growing, and most rewarding jobs available today.

Source: Office of Management and Budget.[21]

## 3.1 General Trends in Homeland Security Employment

As previously mentioned, occupations related to homeland security are not necessarily new, but until recently these sectors were decentralized and not considered part of one industry sector.  The demands of the 21st century require more unified preparation and a timely and targeted response.  Homeland Security is not yet considered one large, "supersector," but instead related jobs continue to fall into _one_ _of_ _three_ _categories_.  Those categories include jobs in the (1) public sector, (2) private sector and (3) volunteer organizations.  The following is a brief description of job opportunities within each category.

**(1) Public Sector Employment**:  There are numerous career opportunities within the public sector.  The Department of Homeland Security is the most obvious example.  However, there are many other federal agencies that have homeland security responsibilities.  Some notable examples include the Department of Justice and the Department of Energy, both of which offer a wide range of career opportunities that would be considered homeland security or homeland security-related.  The Department of Defense, particularly the U.S. armed forces, offers civilian career opportunities in homeland security-related occupations.  In addition, a number of agencies are involved with a special focus such as Biodefense, which includes agencies such as the Department of Health and Human Services (HHS), Centers for Disease Control and Prevention (CDC), the National Institute of Allergy and Infectious Diseases (NIAID), the Food and Drug Administration (FDA), and two agencies within the Department of Agriculture (DOA) – the Food Safety and Inspection Service (FSIS) and the Animal and Plant Health Inspection Service (APHIS).  In short, the reader would be hard pressed to find a federal agency that is not involved with, or has some responsibilities connected to homeland security.

Department of Homeland Security:  The most heavily involved federal agency in homeland security and the one with the most career opportunities is the Department of Homeland Security (DHS).  As the mission statement of DHS implies, the primary purpose of the department is to provide security for our country.

"*We will lead the unified national effort to secure America. We will prevent and deter terrorist attacks and protect against and respond to threats and hazards to the Nation.*

*We will secure our national borders while welcoming lawful immigrants, visitors, and trade.*"[22]

DHS as a cabinet level agency employs over 200,000 workers.  In a search for homeland security job openings listed on the USA Jobs website, hundreds of jobs are advertised.[23]  These jobs are for positions within various federal agencies under DHS including, the U.S. Coast Guard (USCG), U.S. Customs and Border Protection (CBP), Federal Emergency Management Agency (FEMA), U.S. Citizenship and Immigration Services (USCIS), U.S. Immigration and Customs Enforcement (ICE), Federal Protective Services (FPS), U.S. Secret Service, U.S. Transportation Security Administration (TSA), Management Directorate, Science and Technology Directorate, National Protection and Programs Directorate, Office of Intelligence and Analysis, Pentagon Force Protection Agency, Pentagon Police Department, U.S. Capitol Police, Centers for Disease Control and Prevention (CDC), Federal Bureau of Investigation (FBI), Food and Drug Administration (FDA), National Institutes of Health (NIH), Bureau of Diplomatic Security (DH), and the United States Park Police. It's particularly worth noting that many of these jobs are located nationwide, not just in Washington DC.

First Responders:  Probably the most misunderstood, but arguably the most important segment of our economy that must be prepared in the event of a major catastrophe, is public sector jobs referred to as "first responders."  Why?   Because any major catastrophe would begin and end locally.  Shortly after September 11th, the Office for Domestic Preparedness (now the Training and Exercise Integration/Training Operations) of the Department of Homeland Security recognized the importance of this reality by designating ten critical industry disciplines that would have training, equipment, organization and exercise requirements in the event of a major catastrophe.  These industries include:  Public Works, Public Health, Health Care, Emergency Management Agency, Hazardous Materials Personnel, Government Administrative, Law Enforcement, Fire Service, Emergency Medical Services, Public and Safety Communications. Consequently, career opportunities for first responders are also numerous and varied. Generally, individuals in these occupations work in city, county, tribal and state organizations.

**(2) Private Sector Employment**:  Probably the most prevalent and obvious jobs in the private sector related to homeland security are those in the security and protective services field.  The organization, *American Society* for *Industrial Security* (ASIS) International lists six distinct security disciplines.[24]  These include; Physical Security, Information Security, Personnel Security, Information Systems Security, Homeland Security, and Critical Infrastructure Protection (CIP).

Many private companies in the U.S. have full or part-time safety or security officers. Prior to September 11th, many of the individuals who worked in this field were primarily concerned with protecting employees' workplace safety and guarding against theft of company assets.  In the aftermath of September 11th, their job descriptions have been altered significantly, and in some cases new, more specialized jobs have been created to meet new realities and challenges. For example, conducting threat and vulnerability assessments especially for those companies that are "high value targets" or "soft targets" are becoming increasingly more common.

Another area that has received increasingly more attention is the field of cyber security. In fact, one of the Fifteen National Planning scenarios concerns a potential cyber attack.

ASIS International has recognized the seriousness of this potential threat, and it's no surprise that two of their six security disciplines are related to cyber security. Virtually all private sector companies could be affected by a cyber attack, and are putting more resources into this area to combat potential threats.

Another private sector industry significantly affected by homeland security is the insurance industry. Insurance risk managers, loss control specialists and others in the insurance industry have had to become increasingly more knowledgeable about potential threats to their clients.

**(3) Volunteer Organizations:** There are also employment opportunities in volunteer organizations that require knowledge of homeland security. Volunteer organizations often provide training to citizens in first aid, emergency response and community safety initiatives so that a reserve corps can promote safety and aid municipal emergency services in the event of a disaster.

There are also networks of organizations in place that respond to disasters. One network is the National Voluntary Organizations Active in Disaster (NVOAD), which is a network of over fifty different organizations that respond to disasters. NVOAD coordinates the planning activities of voluntary organization in their network that respond to disasters. They strive to coordinate response activities by meeting ahead of time and planning response activities before disasters occur. A list of their member organizations can be found at: http://www.nvoad.org/membersdb.php?members=National.

Citizen Corps, is a component of USA Freedom Corps, and was created to help coordinate volunteer activities to make communities safer and better prepared to respond to any emergency situation. The Citizen Corps mission is accomplished through a national network of state, local, and tribal Citizen Corps Councils including: the Community Emergency Response Team (CERT) Program, the Fire Corps, USAonWatch (UOW)-Neighborhood Watch, the Medical Reserve Corps (MRC) program, and Volunteers in Police Service (VIPS). These Councils build on community strengths to implement the Citizen Corps programs and carry out a local strategy to have every American participate. Citizen Corps also has an affiliates program that expands the resources and materials available to states and local communities by partnering with programs and organizations that offer resources for public education, outreach, and training. A list of their affiliate organizations can be found at: http://www.citizencorps.gov/programs/affiliate.shtm.

There are also many other well known organizations such as the American Red Cross, the Salvation Army, and others that play a critical role in emergency planning, response and recovery efforts from major disasters and offer numerous volunteer and employment opportunities.

## 3.2 Homeland Security Careers

> ### *Homeland Security Industry*
>
> "Homeland security is a dynamic and diverse career field. Like security threats themselves, the work required to protect the Nation is constantly changing. That work cuts across numerous disciplines, creating job possibilities for people with nearly any level of education and experience. Options exist both for those who like to be in the forefront and for those who prefer to work in the background."
>
> Source: Occupational Outlook Quarterly.[25]

The events of September 11th profoundly changed our world view and sense of safety and security. The need to be prepared for either a terrorist event or natural disaster is driving the career field, and has resulted in an increased importance placed on homeland security.   Though there is more clarity to the field of homeland security than there was just a few years ago, there remains no clear consensus of what the term homeland security actually means when applied to careers and jobs within the workforce.  The evolution of homeland security continues.

The creation of the Department of Homeland Security as a separate Cabinet level position within the Administration fostered the expansion or creation of homeland security agencies at state, regional, and municipal levels.  Due to the integrated nature of the field, career opportunities are found in many disciplines. Consequently, careers may appear in a variety of categories and a number of specialized disciplines. Professionals may work either full-time in one area of homeland security or perhaps part-time in a variety of areas, thus requiring expertise and a variety of skills relating to homeland security.  The positions currently available require a broad range of skills, training and experience to qualify. For up-to-date information on current jobs within the DHS visit their jobs site at http://www.dhs.gov/xabout/careers/.  Analysts predict a continued evolution and expansion of the homeland security job market.

## Career Opportunities in Homeland Security in the Private Sector

The increasing emphasis placed on homeland security and protective services in recent years has had a significant impact on careers in the private sector of the workforce. The current War on Terrorism has also changed how Americans view security. Daily events are lead stories on most news programs which serve as constant reminders of homeland security threats and terrorism.  Opportunities for careers in homeland security abound in the private sector. Eighty-five percent of the critical infrastructure in the U.S. is privately controlled.  Security plays a critical role in most companies, and in smaller companies the individual who is responsible for security almost always wears other hats, and

security may not even be their primary job. Companies tend to have common security related concerns such as:

- o Computer/network security
- o Liability insurance
- o Access control
- o Workplace violence
- o Parking lot/garage security
- o Terrorism
- o Security planning
- o Contingency planning
- o Business continuity planning
- o Disaster preparedness
- o Pandemic Influenza planning

Industry sectors were queried regarding the top three security concerns. The results of that survey are displayed below.  Notice that Computer/network security is common across all industry sectors surveyed.[26]

**Table 3.1: Top Three Security-Related Concerns by Industry Sector**

| Industry Sector | Top Three Related Concerns |
|---|---|
| Agriculture-Mining-Construction | Liability insurance<br>Property crime<br>Computer/network security |
| Finance-Insurance-Real Estate | Computer/network security<br>Information security<br>Identity theft |
| Manufacturing | Computer/network security<br>Liability insurance<br>Employee theft |
| Services | Computer/network security<br>Information security<br>Liability insurance and Property crime |
| Transportation-Communication-Utilities | Liability insurance<br>Property crime<br>Computer/network security and Substance abuse |
| Wholesale-Retail Trade | Employee theft<br>Liability insurance<br>Computer/network security |

**Source: Career Opportunities in Security, ASIS International**

Homeland security and terrorism do not appear as specific concerns, but are integrated throughout and within each area of concern.  Careers in security in the private sector typically fall within one of discipline areas shown below.  Within these "security disciplines" may be found a variety of specialty areas.[27] Each discipline is listed with a brief description of the roles, applications and functions of each.

**Physical Security**:
- o Role: protection of people, property, and facilities.
- o Applications: security forces, systems, and procedures.
- o Function: oversee and assess uniformed security operations, and system requirements, and counter threats to those assets.

**Information Security**:
- o Role: safeguarding sensitive information.
- o Applications: protection of classified information, privacy data, proprietary and contractual information, and intellectual property.
- o Function: deals with data access issues such as who has access and how data is stored, controlled, marked, disseminated, and disposed of.

**Personnel Security**:
- o Role: ensuring the integrity and reliability of an organization's workforce.
- o Applications: background and other pre-employment screening techniques
- o Function: adjudication of results and granting security and access clearances.

**Information Systems Security**:
- o Role: protect against threats to information systems.
- o Applications: maintaining the confidentiality, reliability and availability of data created, stored, processed and/or transmitted via automated information systems.
- o Function: develop procedures and safeguards to protect against threats to information systems.

**Homeland Security**:
- o Role: Civil defense
- o Applications: little consensus on exactly what the term means has a broad connotation and is treated as an emerging crosscutting discipline.
- o Function: protection of U.S. from terrorist attacks.

**Critical Infrastructure Protection (CIP)**:
- o Role: protecting the information systems that control elements of the infrastructure from terrorist attacks.
- o Applications: Various, examples could include petroleum pipelines, bridges, telecommunications systems, and nuclear power plants, or a food processing plant.
- o Function: protection of critical information systems that operate and control the infrastructure, and the infrastructure itself.

## Career Opportunities in Homeland Security in the Public Sector

There are a wide variety of agencies within the federal government that offer career opportunities in homeland security. Some examples include but are not limited to:

- ➢ Department of Justice
- ➢ Department of Energy
- ➢ Department of Defense
- ➢ Department of Health and Human Services

- ➢ Centers for Disease Control and Prevention (CDC)
- ➢ National Institute of Allergy and Infectious Diseases (NIAID)
- ➢ Food and Drug Administration (FDA)
- ➢ Department of Agriculture including the Food Safety and Inspection Service (FSIS) and the Animal and Plant Health Inspection Service (APHIS).

Career opportunities in homeland security at the Department of Homeland Security are varied and abundant. The list below is not all-inclusive, but a very good representative sample of the types of career opportunities that exist within DHS.[28]

**Mission Support Careers**
Mission support careers involve the following fields: medical, human resources, facilities, budget, procurement, science and technology, training, intelligence, planning and coordination, detection, civil rights, fraud detection and more. Examples of agencies that offer these kinds of mission support careers include but are not limited to the following:

- o Office of the Secretary
- o Management Directorate
- o Science and Technology Directorate
- o Citizenship and Immigration Services Ombudsman
- o Domestic Nuclear Detection Office
- o Executive Secretariat
- o Military Advisor's Office
- o National Cybersecurity Center
- o National Protection and Programs Directorate
- o Office for Civil Rights and Civil Liberties
- o Office of Counternarcotics Enforcement
- o Office of Health Affairs
- o Office of Inspector General
- o Office of Intelligence and Analysis
- o Office of Legislative Affairs
- o Office of Operations Coordination and Planning
- o Office of Policy
- o Office of Public Affairs
- o Office of the Chief Financial Officer
- o Office of the General Counsel
- o Privacy Office
- o Recovery and Rebuilding of the Gulf Coast Region

Note: DHS agencies have specific occupational titles called Mission Support Program Manager and Mission Support Specialist. These positions are responsible for the above services to include collateral duties in continuity planning, occupant emergency planning and safety officers.

**Law Enforcement Careers**
Law enforcement careers offer positions in protection of the President, Vice President, their families, heads of state and other designated individuals; securing the nation's borders; interagency law enforcement training; and enforcing economic, transportation and infrastructure security. Related federal agencies include:

- o U.S. Customs and Border Protection

- o U.S. Immigration and Customs Enforcement
- o U.S. Secret Service
- o Federal Law Enforcement Training Center
- o Federal Protective Services (FPS)
- o Department of Defense (DoD) Police Services

**Immigration and Travel Security Careers**
Immigration and travel security careers involve protecting the nation's transportation systems, as well as overseeing lawful immigration to the U.S. Related agencies include:

- o Transportation Security Administration
- o U.S. Citizenship and Immigration Services

**Prevention and Response Careers**
Prevention and response careers protect the public, environment and U.S. economic and security interests in any maritime region, as well as provide preparedness, protection, response, recovery and mitigation to reduce loss of life and property and protect the nation from all hazards are what these careers are all about. Examples of two agencies that offer these kinds of mission support careers include:

- o Federal Emergency Management Agency
- o U.S. Coast Guard

**Note**:  Without question, jobs in DHS are clearly homeland security-related, and although incumbent employees may perform some job functions that are not directly homeland security-related, these jobs are considered homeland security.  For many of the job applicants at DHS, there are often two other additional requirements.   Most of the applicants that apply for jobs with DHS agencies must undergo *security clearances* or *background checks* because of the sensitive information they may come in contact with.  Another common requirement for homeland security employment is that applicants must be *U.S. citizens*.  Applicants for federal jobs are also awarded five additional preference points on their applications if they are a veteran, and ten additional points if they are a disabled veteran.

**Public Sector Career Opportunities as First Responders**

One area of the public sector that requires special mention are those "first responder" agencies recognized by DHS as having training, equipment, organization, and exercise requirements.  These are the individuals that would be most intimately involved in any preparation, response to or recovery from a major catastrophe.  Though these jobs may not be devoted solely to homeland security full-time, they certainly have homeland security responsibilities and should be referenced here.  Anyone seeking a career in one of the categories listed below should be aware that homeland security responsibilities would definitely be part of the job, but would not encompass the entire job.

**Law Enforcement**
Individuals who, on a full-time, part-time, or voluntary basis, work for agencies at the local, municipal, and State levels with responsibilities as sworn law enforcement officers. This category includes:
- o Patrol Officers
- o SWAT Teams

- o Bomb Technicians
- o Evidence Technicians
- o Supervision/Management/Incident Command
- o Investigations

**Emergency Medical Services**
Individuals who, on a full-time, part-time, or voluntary basis, serve as first responders, EMTs (basic), and paramedics (advanced) on ground-based and aeromedical services to provide pre-hospital care. This category includes:
- o First Responders (basic life support)
- o EMT (basic life support)
- o ILS (intermediate life support)
- o Paramedic (advanced life support)

**Emergency Management Agencies**
Organizations, both local and State, that coordinate preparation, mitigation, response, and recovery for WMD incidents. This category includes:
- o State and Local Emergency Management Agencies (EMAs)
- o Voluntary Organizations Active in Disaster (VOADs)
- o Professional Associations (e.g., American Society of Civil Engineers, American Institute of Architects)
- o Human Service Agencies
- o Private Agencies Supporting EMA Activities

**Fire Service**
Individuals who, on a full-time, part-time, or voluntary basis, provide life-safety services, including fire suppression, rescue, arson investigation, public education, and prevention. This category includes:
- o Firefighters
- o Company Officers
- o Fire Marshal's Office
- o Urban Search and Rescue (USAR) Teams
- o Technical Rescue Teams

**Hazardous Materials Personnel**
Individuals, who, on a full-time, part-time, or voluntary basis, identify, characterize, provide risk assessment, and mitigate/control the release of a hazardous substance or potentially hazardous substance. This category includes:
- o Technicians
- o Specialists
- o Metropolitan Medical Response System (MMRS)
- o Environmental Quality Control
- o Private Companies and Contractors Supporting Hazardous Materials Activities

**Public Works**
Public Works refers to those organizations and individuals who make up the public/private infrastructure for the construction and management, of these roles at the Federal level. The categories/roles include administration, technical, supervision, and craft (basic and advanced). This category includes:
- o Environmental Services (Water Quality)
- o Solid Waste

- o Animal Services
- o Water Treatment
- o Public Buildings and Parks
- o Telecommunications, Electric Districts, and Digital Cable
- o Engineering and Equipment Services

**Governmental Administrative**
Governmental Administrative refers to those elected and appointed officials responsible for public administration of community health and welfare during an incident. This category includes:
- o Mayors
- o Elected Officials
- o Executives
- o Chief Administrative Officers (City Managers and Supporting Staff )

**Public Safety Communications**
Individuals who, on a full-time, part-time, or voluntary basis, through technology, serve as a conduit and put persons reporting an incident in touch with response personnel and emergency management, to identify an incident occurrence and help support the resolution of life-safety, criminal, environmental, and facilities problems associated with the event. This category includes:
- o Call Takers
- o Shift Supervisors
- o Medical Control Centers
- o Dispatchers (EMS, Police, and Fire)

**Health Care**
Individuals who provide clinical, forensic, and administrative skills in hospitals, physician offices, clinics and other facilities which offer medical care including surveillance (passive and active), diagnosis, laboratory evaluation, treatment, mental health support, epidemiology investigation, evidence collection, along with fatality management for humans and animals. This category includes:
- o Physicians, Dentists, Nurses, Physician Extenders (Physician Assistants and Nurse Practitioners), Veterinarians, Pharmacists, and Technicians
- o Medical Examiners/Coroners, Therapists, Epidemiologists, Facility Management, Security, Environmental Investigators, and Medical Records

**Public Health**
Individuals whose responsibilities include the prevention of epidemics and spread of disease, protection from environmental hazards, the promotion of healthy behavior, responding to disasters and assistance in recovery, as well as assuring the quality and accessibility of health services. This category includes:
- o Epidemiologists, Environmental Engineers, Environmental Scientists, Occupational Safety and Health Specialists, Health Educators, Public Health Policy Analysts, Community Social Workers, Psychologists and Mental Health Providers, and Counselors

## Career Opportunities in Homeland Security in Volunteer Organizations

Volunteer organizations are often overlooked when thinking about the preparation for, response to, or recovery from a major catastrophe. These organizations are essential

and provide indispensable assistance to communities affected by a major event. There are both career employment and volunteer opportunities in many of the member organizations that are affiliates of the National Voluntary Organizations Active in Disaster (NVOAD).[29] NVOAD coordinates planning efforts by many voluntary organizations responding to disaster. When disasters occur, NVOAD or an affiliated state VOAD encourages members and other voluntary agencies to convene on site. This cooperative effort has proven to be the most effective way for a wide variety of volunteers and organizations to work together in a crisis.

The Federal Emergency Management Agency (FEMA) often works to coordinate the activities of other organizations that make-up the nation's emergency management system. These include state and local emergency management agencies, 27 other federal agencies, as well as 50 other volunteer organizations that are members or affiliates of the NVOAD.[30]

Listing all of the potential job possibilities in volunteer organizations is beyond the scope of this report, but it is important to provide some examples. One of the best known organizations that respond to hundreds of disasters annually is The American Red Cross. American Red Cross employees and volunteers help keep the public prepared to respond to disasters and emergencies. The Red Cross provides training in lifesaving skills such as CPR and first aid, collects and distributes half the nation's blood supply. Job opportunities within the American Red Cross are listed in many different categories including: Armed Forces Emergency Services, Blood Services – (Medical & Technical Staff & National Testing Laboratories), Chapter Management, Communication & Marketing, Disaster/Emergency Services, Finance, Financial Development Health, Safety & Community Services, Human Resources, Information Technology, Public Support, Volunteer Services, Youth Services, and Other Services.

In the category of Disaster/Emergency Services alone, jobs related to homeland security are many and varied. Some job titles include: Director, Emergency Services, Emergency Services Coordinator Emergency Services Director, Coordinator, Readiness & Response, Response Director Disaster Manager, Staff Services and Community Outreach, Manager Emergency Response, EMT Instructor, Emergency Services Specialist, & Chief Operating Officer/Emergency Services Director.

## 3.3 Career Voyages, O-Net and Other Resources

As was mentioned earlier, *Career Voyages* website is designed to provide detailed data on high growth, in-demand occupations. In addition to providing you with an excellent description of an occupation, the site also provides specific information on what it takes to do the job. This information includes a list of *tasks*, *knowledge*, *skills*, *abilities*, *interests*, *work styles* and *tools* *and* *technology*. Another value added feature is that the user is even given the option of watching a short video depicting what people actually do in the occupation. In short, *Career Voyages* offers an in-depth look at the field and is rich in specific details.

Another excellent resource that provides in-depth information about career fields is the *Occupational Information Network (O-Net).* [31] O-NET OnLine was created by the National Center for O*NET Development for the U.S. Department of Labor, Employment & Training Administration. Basically the information retrieved from O-Net supplements

the information on occupations provided by *Career Voyages* or vice versa.  For example, in addition to providing the same identical skills and tasks provided at Career Voyages, O-Net also provides *work context, job zone*, and *wages & employment*. Another extremely helpful feature of *O-Net* is it also provides a sample of *reported job titles* within the Standard Occupational Code (SOC).  For those unfamiliar with the field of homeland security, this is a very helpful feature because it allows one to have a more complete picture of the job titles that are representative of an occupational category.

To illustrate the value of these research tools, two examples are provided.  An **Emergency Management Specialist** (*Standard Occupational Code 13-1061)* is an occupation that is defined as a homeland security occupation by the Department of Labor.  To demonstrate how the field of homeland security continues to evolve, **the information highlighted in *blue font* was not included in the career field description just two years ago**.[32]

By contrast, an **Occupational Health and Safety Specialist** (*Standard Occupational Code 29-9011.00)* is an occupation that is not homeland security by nature, but now requires many tasks to be performed that are definitely homeland security-related.  It is not uncommon for safety and security specialists (depending on the size and structure of the company) to perform such homeland security-related tasks as risk analysis, vulnerability assessments, business continuity planning, development of evacuation procedures and protocols, hazardous chemicals security including use and disposal, general plant security and training.

## 3.4 Emergency Management Specialists
*Standard Occupational Code 13-1061*


**Description:** Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies, hazardous materials spills) disasters or hostage situations.

**Sample of reported job titles:** Emergency Planner, Emergency Management System Director (EMS Director), Emergency Preparedness Program Specialist, Emergency Management Coordinator, Emergency Preparedness Coordinator, Emergency Services Director, Emergency Management Program Specialist, Emergency Response Team Leader, Emergency Services Program Coordinator, and Hazard Mitigation Officer.

**Tasks:**
- o  Keep informed of activities or changes that could affect the likelihood of an emergency, as well as those that could affect response efforts and details of plan implementation.
- o  Prepare plans that outline operating procedures to be used in response to disasters/emergencies such as hurricanes, nuclear accidents, and terrorist attacks, and in recovery from these events.
- o  Propose alteration of emergency response procedures based on regulatory changes, technological changes, or knowledge gained from outcomes of previous emergency situations.
- o  Maintain and update all resource materials associated with emergency preparedness plans.
- o  Coordinate disaster response or crisis management activities such as ordering evacuations, opening public shelters, and implementing special needs plans and programs.

- o Develop and maintain liaisons with municipalities, county departments, and similar entities in order to facilitate plan development, response effort coordination, and exchanges of personnel and equipment.
- o Keep informed of federal, state and local regulations affecting emergency plans, and ensure that plans adhere to these regulations.
- o Prepare emergency situation status reports that describe response and recovery efforts, needs, and preliminary damage assessments.
- o Design and administer emergency or disaster preparedness training courses that teach people how to effectively respond to major emergencies and disasters.
- o Inspect facilities and equipment, such as emergency management centers and communications equipment, to determine their operational and functional capabilities in emergency situations.

## Knowledge:
- o **Public Safety and Security** - Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- o **Customer and Personal Service** - Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- o **Administration and Management** - Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
- o **English Language** - Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- o **Education and Training** - Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
- o **Law and Government** — Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- o **Computers and Electronics** — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming
- o **Communications and Media** — Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.
- o **Mathematics** — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- o **Telecommunications** — Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.

## Skills:
- o **Active Listening** - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- o **Reading Comprehension** - Understanding written sentences and paragraphs in work related documents.
- o **Coordination** - Adjusting actions in relation to others' actions.
- o **Instructing** - Teaching others how to do something.
- o **Critical Thinking** - Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- o **Speaking** - Talking to others to convey information effectively.
- o **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

- o **Writing** - Communicating effectively in writing as appropriate for the needs of the audience.
- o **Active Learning** — Understanding the implications of new information for both current and future problem-solving and decision-making.
- o **Time Management** - Managing one's own time and the time of others.

**Abilities:**
- o **Oral Comprehension** - The ability to listen to and understand information and ideas presented through spoken words and sentences.
- o **Oral Expression** - The ability to communicate information and ideas in speaking so others will understand.
- o **Problem Sensitivity** - The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- o **Speech Clarity** - The ability to speak clearly so others can understand you.
- o **Speech Recognition** - The ability to identify and understand the speech of another person.
- o **Written Expression** - The ability to communicate information and ideas in writing so others will understand.
- o **Deductive Reasoning** - The ability to apply general rules to specific problems to produce answers that make sense.
- o **Written Comprehension** - The ability to read and understand information and ideas presented in writing.
- o **Inductive Reasoning** - The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- o **Information Ordering** - The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

**Interests:**
- o No data available at this time

**Work Styles:**
- o **Dependability** - Job requires being reliable, responsible, and dependable, and fulfilling obligations.
- o **Integrity** - Job requires being honest and ethical.
- o **Leadership** - Job requires a willingness to lead, take charge, and offer opinions and direction.
- o **Stress Tolerance** - Job requires accepting criticism and dealing calmly and effectively with high stress situations.
- o **Cooperation** - Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.

**Tools and Technology:**

**Tools** used in this occupation:
- o Automatic call distributor ACD — Emergency alert notification systems
- o Hazardous material protective apparel — Chemical protective clothing
- o Notebook computers — Laptop computers
- o Radiation detectors — Radiation detection meters
- o Two way radios

**Technology** used in this occupation:
- o Data base user interface and query software — Federal Emergency Management Information System FEMIS; Relational database software; SoftRisk Technologies SoftRisk SQL

- o Map creation software — Digital Engineering Corporation E-MAPS; ESRI ArcGIS software; Geographic information system GIS software; MapInfo Professional
- o Project management software — Alert Technologies OpsCenter; Emergency Services Integrators ESi WebEOC; National Center for Crisis and Continuity Coordination NC4 E Team; Strohl Systems Incident Manager
- o Spreadsheet software — Microsoft Excel
- o Word processing software — Microsoft Word

## Wages and Employment Trends (National)

Median Wages (2008):  $24.26 hourly, $50,460 annual
Employment (2006):  12,000 employees
Projected Growth (2006-2016):  Average (7% to 13%)
Projected Need (2006-2016):  3,000 additional employees

For students interested in getting in to the career field, the University of Washington's Emergency Management Department has posted some excellent "Suggested Career Tips" including ideas on how to get experience in the field.  This information is available at the following website address:  https://www.washington.edu/emergency/suggested-career-tips-emergency-management

## 3.5 Occupational Health and Safety Specialists
*Standard Occupational Code 29-9011.00*

**Description:**  Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector.

**Sample of reported job titles:** Health and Safety Manager, Safety Specialist, Safety Consultant, Corporate Safety Director, Environmental Health and Safety Manager, Loss Control Consultant, Loss Control Representative, and Risk Control Consultant.

**Tasks:**
- o Order suspension of activities that pose threats to workers' health and safety.
- o Recommend measures to help protect workers from potentially hazardous work methods, processes, or materials.
- o Investigate accidents to identify causes and to determine how such accidents might be prevented in the future.
- o Investigate the adequacy of ventilation, exhaust equipment, lighting, and other conditions that could affect employee health, comfort, or performance.
- o Develop and maintain hygiene programs such as noise surveys, continuous atmosphere monitoring, ventilation surveys, and asbestos management plans.
- o Inspect and evaluate workplace environments, equipment, and practices, in order to ensure compliance with safety standards and government regulations.
- o Collaborate with engineers and physicians to institute control and remedial measures for hazardous and potentially hazardous conditions or equipment.
- o Conduct safety training and education programs, and demonstrate the use of safety equipment.
- o Provide new-employee health and safety orientations, and develop materials for these presentations.
- o Collect samples of dust, gases, vapors, and other potentially toxic materials for analysis.

**Tools & Technology:**
**Tools** used in this occupation:
- o **Air pollutant samplers** — Gravimetric dust samplers; Particle sensors
- o **Air samplers or collectors** — Air sampling impingers; Cascade impactors; Dry gas meters; Sampling trains
- o **Air sampling pumps** — High-volume air sampling pumps; Low-volume air sampling pumps
- o **Gas detector tubes** — Benzene detector tubes; Charcoal absorption tubes; Sorbent sample tubes
- o **Liquid leak detectors** — Liquid leak testing equipment; Refrigerant leak detectors

**Technology** used in this occupation:
- o **Compliance software** — ESS Compliance Suite; Mannus Compliance: EHS; Primatech AUDITWorks
- o **Data base user interface and query software** — Curtis Management Resources Training Management System; Microsoft Access; RAE Systems HazRAE; Safety Software OSHALOG 300
- o **Presentation software** — Microsoft PowerPoint
- o **Spreadsheet software** — Microsoft Excel
- o **Word processing software** — Microsoft Word

**Knowledge:**
- o **English Language** — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- o **Public Safety and Security** — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- o **Law and Government** — Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
- o **Chemistry** — Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
- o **Education and Training** — Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
- o **Mathematics** — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- o **Engineering and Technology** — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- o **Customer and Personal Service** — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- o **Administration and Management** — Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
- o **Physics** — Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub- atomic structures and processes.

**Skills:**
- o **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.

- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Speaking** — Talking to others to convey information effectively.
- **Writing** — Communicating effectively in writing as appropriate for the needs of the audience.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Science** — Using scientific rules and methods to solve problems.
- **Active Learning** — Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Instructing** — Teaching others how to do something.
- **Time Management** — Managing one's own time and the time of others.
- **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

**Abilities:**
- **Problem Sensitivity** — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Oral Comprehension** — The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Speech Recognition** — The ability to identify and understand the speech of another person.
- **Inductive Reasoning** — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- **Oral Expression** — The ability to communicate information and ideas in speaking so others will understand.
- **Speech Clarity** — The ability to speak clearly so others can understand you.
- **Written Comprehension** — The ability to read and understand information and ideas presented in writing.
- **Deductive Reasoning** — The ability to apply general rules to specific problems to produce answers that make sense.
- **Written Expression** — The ability to communicate information and ideas in writing so others will understand.
- **Flexibility of Closure** — The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.

**Work Activities:**
- **Evaluating Information to Determine Compliance with Standards** — Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.
- **Getting Information** — Observing, receiving, and otherwise obtaining information from all relevant sources.
- **Communicating with Supervisors, Peers, or Subordinates** — Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- **Provide Consultation and Advice to Others** — Providing guidance and expert advice to management or other groups on technical, systems, or process-related topics.
- **Establishing and Maintaining Interpersonal Relationships** — Developing constructive and cooperative working relationships with others, and maintaining them over time.
- **Making Decisions and Solving Problems** — Analyzing information and evaluating results to choose the best solution and solve problems.
- **Updating and Using Relevant Knowledge** — Keeping up-to-date technically and applying new knowledge to your job.

- **Identifying Objects, Actions, and Events** — Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.
- **Analyzing Data or Information** — Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.
- **Communicating with Persons Outside Organization** — Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

**Work Context:**
- **Electronic Mail** — How often do you use electronic mail in this job?
- **Telephone** — How often do you have telephone conversations in this job?
- **Freedom to Make Decisions** — How much decision making freedom, without supervision, does the job offer?
- **Duration of Typical Work Week** — Number of hours typically worked in one week.
- **Face-to-Face Discussions** — How often do you have to have face-to-face discussions with individuals or teams in this job?
- **Responsible for Others' Health and Safety** — How much responsibility is there for the health and safety of others in this job?
- **Work With Work Group or Team** — How important is it to work with others in a group or team in this job?
- **Contact With Others** — How much does this job require the worker to be in contact with others (face-to-face, by telephone, or otherwise) in order to perform it?
- **Letters and Memos** — How often does the job require written letters and memos?
- **Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets** — How much does this job require wearing common protective or safety equipment such as safety shoes, glasses, gloves, hard hats or life jackets?

**Interests:**
- **Investigative** — Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.
- **Conventional** — Conventional occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.
- **Realistic** — Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.
- **Social** — Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.

**Work Styles:**
- **Integrity** — Job requires being honest and ethical.
- **Dependability** — Job requires being reliable, responsible, and dependable, and fulfilling obligations.
- **Attention to Detail** — Job requires being careful about detail and thorough in completing work tasks.
- **Analytical Thinking** — Job requires analyzing information and using logic to address work-related issues and problems.
- **Initiative** — Job requires a willingness to take on responsibilities and challenges.
- **Persistence** — Job requires persistence in the face of obstacles.

- o **Cooperation** — Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.
- o **Concern for Others** — Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.
- o **Adaptability/Flexibility** — Job requires being open to change (positive or negative) and to considerable variety in the workplace.
- o **Self Control** — Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.

**Work Values:**
- o **Support** — Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.
- o **Working Conditions** — Occupations that satisfy this work value offer job security and good working conditions. Corresponding needs are Activity, Compensation, Independence, Security, Variety and Working Conditions.
- o **Achievement** — Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment. Corresponding needs are Ability Utilization and Achievement.

## Wages and Employment Trends (National)

Median Wages (2008):  $29.93 hourly, $62,250 annual
Employment (2006):  45,000 employees
Projected Growth (2006-2016):  Average (7% to 13%)
Projected Need (2006-2016):  12,000 additional employees

Additional information can be obtained for Occupational Health and Safety Specialists from the Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2010-11 Edition*, Occupational Health and Safety Specialists, Retrieved from: http://www.bls.gov/oco/ocos323.htm

## 3.6 Durable Skills Survey Analysis

The Pierce College Center of Excellence for Homeland Security in cooperation with the U. S. Department of Education conducted a survey of professionals who work in homeland security occupations in an effort to identify the durable or "soft" skills of successful employees so that these skills can be integrated or reinforced into curriculum. Durable skills are defined as those skills that influence how individuals interact with each other on the job.  They include all forms of communication (written, verbal, and electronic), critical thinking and analytical skills, interpersonal and leadership skills, and working in teams.  These skills are often referred to as "soft skills" but recently have taken on the label of "durable skills" because they are necessary at any level within a company.  These skills can also significantly impact the efficiency and productivity of a company or organization.  **Ninety individuals** completed the survey, and a summary of the results are as follows:

## Demographics

What industry are you currently employed in?

| Industry Employed | Response Percent |
|---|---|
| Public Works | 3.5% |
| Public Health | 5.8% |
| Health Care | 8.1% |
| Emergency Communications | 3.5% |
| Emergency Management | 57.0% |
| Government Agencies | 18.6% |
| Fire | 4.7% |
| Law Enforcement | 1.2% |
| Occupational Safety and Health | 3.5% |
| Private Sector (Security or Building Manager) | 7.0% |
| Other (please specify) | |

Other industries represented in this survey included: Private Sector Business Continuity and Emergency Management, Faith Based Organization, Non-Profit, Private Consultant, Private Sector – Wireless Telecom, Agriculture/Non Profit Organization, International Business – Humanitarian Disaster Response, Manufacturing, Insurance, Community and technology education/services to disabled populations, NGO, Emergency Management in private sector, Education, Private Sector – Telecommunications, Research and Development, Non-Profit, Community Service and Advocacy, Mass Notification and Alerting, Environmental Health and Safety – Fire Safety, Public Affairs/Media Relations/Community Relations, Housing Authority, Emergency Preparedness Coordinator for the Agency, Electric and Gas Utility – Emergency Management, Business Continuity and Crises Management for a humanitarian non-profit (NGO), and Volunteer with the American Red Cross (King/Kitsap Co.) as assistant sheltering manager.

## How many employees does your company employ?

| Company Size of Respondents | Response Percent |
|---|---|
| 250 employees or less | 47.7% |
| Between 251 – 500 employees | 9.2% |
| Between 500 – 1,000 employees | 12.8% |
| Between 100,1 – 5,000 employees | 12.8% |
| Over 5,000 employees | 17.4% |

**What is the number of annual job openings in your company?**

| Annual Job Openings | Response Percent |
|---|---|
| 10 new job openings or less | 89.4% |
| Between 11 – 25 new job openings | 5.0% |
| Between 26 – 50 new job openings | -0- |
| Between 51 – 100 new job openings | 2.1% |
| Over 101 new job openings annually | 3.2% |

As indicated in the Demographics section, respondents came from many different occupational areas. The vast majority of respondents (57%) came from the Emergency Management field and (19%) came from Government Agencies. However, respondents also came from public health, public works, health care, emergency communications, fire services, law enforcement, private sector security, occupational safety and health, volunteer organizations, non-profit organizations, and also a wide range of occupations from the private sector were represented.

There was also a wide distribution of company size represented in the survey. Nearly half the respondents (47%) came from small companies which are defined as those companies with 250 employees or less. However, nearly twenty percent (17%) of respondents came from large companies (over 5,000 employees). The average number of job openings in the companies where respondents work (regardless of company size) was overwhelmingly ten new job openings or less (88%).

## Durable/Soft Skills Survey Questions

Respondents were asked how they would rate the importance of each skill listed below to successful job performance, with 1 being the lowest (least necessary) to 7 the highest (most necessary). The results were as follows:

## Durable "Soft" Skills

| Durable/Soft Skills | Rating Average |
|---|---|
| a.) Communication | 6.67% |
| Demonstrate effective Verbal Communication Skills | 6.71% |
| Demonstrate effective Written Communication Skills | 6.45% |
| Demonstrate Active Listening Skills | 6.47% |
| b.) Computer Technical Skills | 5.82% |
| Ability to use Internet/email | 6.15% |
| Ability to use Word | 6.02% |
| Ability to use a Spreadsheet program (Excel, etc.) | 5.37% |
| Ability to use Presentation software (such as PowerPoint) | 5.44% |
| Ability to use a Database program (i.e., Access, Filemaker) | 4.15% |
| c.) Analytical/Research Skills | 5.64% |
| Ability to research regulations/codes | 5.21% |
| Ability to identify problems and solutions | 6.17% |
| Ability to think critically | 6.31% |
| d.) Interpersonal Skills | 6.33% |
| Ability to resolve conflicts | 6.07% |
| Be able to demonstrate cultural competence | 5.83% |
| e.) Leadership & Management Skills | 6.07% |
| Ability to motivate others to a common goal | 5.93% |
| Ability to effectively manage projects | 6.23% |
| Ability to delegate tasks | 5.47% |
| Ability to evaluate others effectively | 5.31% |
| f.) Time Management | 6.24% |
| Ability to prioritize work assignments | 6.25% |
| Ability to use time wisely | 6.24% |
| Ability to work on multiple tasks | 6.08% |
| g.) Work Independently (Work well with little or no supervision) | 6.26% |
| h.) Teamwork (Work well in groups) | 6.37% |
| i.) Flexibility/Adaptability | 6.45% |
| Ability to adapt to new situations and challenges | 6.40% |
| Ability to assume a leadership role if necessary | 6.13% |
| j. Other (please specify): | |

Other responses included:

(1) I think of all the skills that are universally important the ability to manage time by setting priorities and doing what is important rather than what is urgent.
(2) Background in emergency management.
(3) Welcome to the world of the meteorologist!
(4) Ability to work flexibly but appropriately with the people including some very difficult ones we serve.
(5) Meet deadlines.
(6) Multi-tasking.

**Values and Traits in the Workplace**

Respondents were asked how they would rate the importance of each value and trait listed below to successful job performance, with 1 being the lowest (least necessary) to 7 the highest (or most necessary).

| Values and Traits in the Workplace | Rating Average |
|---|---|
| Honesty and Integrity | 6.77% |
| Dependability/Reliability | 6.58% |
| Dedication/Work Ethic | 6.51% |
| Professionalism | 6.40% |
| Self-Confidence:   Have the courage to ask questions if necessary | 6.34% |
| Self-motivated (Ability to work with little or no supervision) | 6.29% |
| Self-Confidence:   Project a sense of calm and ability to inspire others | 6.19% |
| Self-Confidence:  Be able to perform the job | 6.17% |
| Loyalty | 5.88% |
| Dress and Personal Appearance & Hygiene | 5.71% |
| Other (please specify) | |

Other responses included:

(1) Taking the initiative when necessary but never forgetting the individual best suited/skilled to do the job should be doing it.
(2) Self-motivated:  Look for the opportunities for professional/personal growth.
(3) Know when to ask questions instead of assuming.

**Analysis of the Results:**

On the Durable/Soft Skills part of the survey, respondents were asked how they would rate the importance of each skill listed to successful job performance, with the scale being 1 as the lowest (or least necessary) to 7 the highest (or most necessary).  It's instructive to note that all categories were rated very high.  The categories with average score from highest to lowest were:  Communications (6.67%), Flexibility/Adaptability (6.45%), Teamwork (6.37%), Work Independently (6.26%), Time Management (6.24%),

Leadership & Management Skills (6.07%), Computer Technical Skills (5.82%) and a tie between Analytical/Research Skills (5.64%) and Interpersonal Skills (5.64%).

On the Values and Traits survey section, respondents were also asked how they would rate the importance of each value and trait listed below to successful job performance, with the scale being 1 as the lowest (or least necessary) to 7 the highest (or most necessary).  The categories with average score from highest to lowest were:  Honesty (6.77%), Dependability/Reliability (6.58%), Dedication/Work Ethic (6.51%), Professionalism (6.40%), Self-Confidence –Have the courage to ask questions (6.34%), Self-Motivated (6.29%), Self-Confidence – Project a sense of calm and ability to inspire others (6.19%), Self-Confidence – Be able to perform the job (6.17%), Loyalty (5.88%) and Dress and Personal Appearance & Hygiene (5.71%).

Given the results to this survey, it is recommended that educators stress the importance of each of the durable skills and recommended values and traits to those students interested in working in a homeland security occupation.

## 4. The Role of Community Colleges in Protecting the Homeland

> ***Homeland Security Education & Training***
>
> Community colleges have taken the lead in Homeland Security Education, with over 80% of police, fire and EMTs receiving their credentials from these institutions.
>
> <u>Source</u>: American Association of Community Colleges (AACC) [33]

As outlined in the previous section, the Department of Homeland Security has designated several key industry clusters that would have significant responsibilities in the event of a major catastrophe. All of these industry clusters have training, equipment, organization, and exercise requirements and are the cornerstones of our National Response Framework (NRF).[34] The National Response Plan was replaced by the National Response Framework effective March 22, 2008. The National Response Framework defines the principles, roles, and structures that organize how we respond as a nation.

If there was any doubt about the significant role that community and technical colleges play in training individuals in those key industry clusters, one has only to look at the responses to an American Association of Community Colleges survey which indicates that the vast majority of community colleges were actively engaged in training first and second responders. This finding supported data from an earlier report by the National Center for Education Statistics which indicated that *80%* of the nation's *firefighters*, *police*, and *emergency* *medical* *technicians* are credentialed by community colleges. The same report indicates that *60%* of all new *nurses* in the health care industry are also trained at community colleges.

The above referenced survey was sent out to 1,100 community colleges with questions about the growing need for homeland security courses and programs. The survey was sent to chief academic officers of these institutions and 344 colleges responded (a 31% response rate).[35] Though this survey is now a few years old, the results indicated a rapid growth in homeland security program nationally that has not abated. The proliferation of these programs appears to be driven by two factors. The first is that community colleges recognize the importance of the homeland security industry, and the corresponding goal of protecting the homeland. Secondly, there is little doubt that some of the interest is fueled by the prospect of securing grants and increasing revenue. But, regardless of the motives, homeland security is an industry that community colleges have embraced.

## 4.1 Community College Homeland Security Academic Programs Nationally

With new homeland security related programs offering both credit or non-credit options sprouting up almost weekly, any attempt to catalog these programs is bound to be incomplete. However, there are a few websites that have attempted to list homeland security-related offerings and are definitely worth referencing here. Any college considering offering homeland security-related credit or non-credit courses would benefit

greatly by reviewing curriculum content already in place.  These two websites are well maintained and frequently updated.  Having a program listed on either or both of these sites would also assist in marketing efforts.

**Center for Homeland Security Defense**
The Naval Postgraduate School Center for Homeland Defense & Security (CHDS) has certificate and degree programs listed by institution, with a link directly to the program. This is a very "user friendly" site and also provides a direct link to the department referenced so the user doesn't have to "drill down" through the website and search for information.
http://www.chds.us/?partners%2Finstitutions=&degree=associates&state=any&submit=Filter+Results

**Emergency Management Institute (EMI)**
The Emergency Management Institute (EMI) is located in Emmitsburg, Maryland, and offers a variety of emergency management related courses on site and also through distance learning.  The distance learning courses are self-paced courses designed for people who have emergency management responsibilities and the general public. All are offered free-of-charge to those who qualify for enrollment.  In addition, they also maintain a data base of colleges that offer programs in emergency management, homeland security and related programs. http://training.fema.gov/EMIWeb/edu/collegelist/

## Innovative Community College Homeland Security Projects

In addition to traditional community college offerings in credit and noncredit courses and training, community colleges have also been involved in some very innovative projects. The reach and scope of American Community College training capability and capacity is truly phenomenal.  The following are a few examples of innovative projects, partnerships and initiatives involving community colleges in homeland security.

**The Partnership for Environmental Technology Education (PETE)**:  PETE is a national consortium of community colleges involved in environmental, health and safety, energy and homeland security programs and projects.  PETE in partnership with the American Association of Community Colleges (AACC) and FEMA'S Citizen Corps have formed a partnership to provide "The Community College Citizen Preparedness Program" (3CP2) which is a National Initiative to address the readiness of U.S. citizens to be better prepared for a natural disaster or pandemic event.

The need to improve the readiness of U.S. citizens is well documented.  For example, a 2007 American Red Cross study shows that 93% of Americans were not prepared for a natural disaster or pandemic event.  The target audiences for the training are the community college students, faculty, employees and their families. In addition, local businesses, community organizations and governments served by the local community college, will also be targeted.  3CP2 will make them aware of their responsibility to be prepared for a natural, man-made or technological event since emergency personnel will likely be delayed in responding. 3CP2 will also provide students with information and training resources available to help citizens prepare their homes and families. Deliverables include:

Train-the-Trainer:  Citizen Preparedness and Program Sustainability:  The two-day Train-the-Trainer program will enroll a minimum 80 college staff from 40 colleges each year (125 colleges total) that are committed to the goal of building a sustainable program to prepare their students and community for a disaster.  The program will deliver a community college business model that stresses responsibility to the community and nation.  Community preparedness training will be based on the 8 Key Scenario Sets and 15 National Planning Scenarios, putting emphasis on local priorities through the local college's existing collaborative partnerships with local first responders and their needs assessments of the region.

Citizen Preparedness Course:  The two-hour blended curriculum will be developed and delivered to a minimum 125 Hub Colleges and five Lead Colleges, strategically located throughout the United States with the goal of helping citizens preserve life and minimize injuries sustained in a disaster. The five lead colleges include Miami-Dade Community College (Florida), Westmoreland Community College (Pennsylvania), Oakland Community College (Michigan), Monroe Community College (New York) and Pierce College (Washington).

**Westmoreland County Community College (WCCC), (Pennsylvania):**  Tens of thousands of local emergency responders have received their basic and continuing education training at WCCC since 1975.  Emergency medical training ranges from CPR to advanced life support paramedic. The college offers associate degrees in both Criminal Justice and Fire Science. In addition to police and fire academies, WCCC offers in-service police officer training, lethal weapons courses, and advanced police officer skills training.  A new Tactical Officer Academy began in Fall 2008. WCCC has an excellent relationship with state governing bodies and the ten other community colleges and universities who form the Region 13 Training Consortium.  WCCC is working with the University of Pittsburgh Medical Center, Kirkwood Community College, and 13 community colleges in six contiguous states to develop and offer courses in Bio-Incident Response, Business Continuity, Community Resiliency, and Cyber-Security for 1,000 participants to date with funding from the PA National Guard.

The WCCC Public Safety Training Center – with a state-of-the art, 13,000 square-foot six story training tower, two-story training house, classroom building, indoor and outdoor gas-fired training props, firearms range and class A burn building –  provides students hands-on learning experiences.  On a 166-acre site, PSTC has hosted large scale emergency preparedness exercises with the Pennsylvania National Guard Civil Support Team responders and has been the site for region-wide preparedness exercises including "Urban Thunder" and "Steel Rose."

**Oakland Community College, (Michigan):**  Oakland Community College (OCC) is the largest community college in Michigan and the 14th largest in the U.S.A. serving approximately 75,000 students per year on its five campuses.  OCC has more than 30 years experience in first responder training, offering nine different degrees in Emergency Services and graduating more than 325 basic police, fire, and/or emergency medical cadets each year.   In Fall 2008, six Homeland Security classes will be added to the annual schedule.  OCC's Combined Regional Emergency Services Training (C.R.E.S.T.) site is a unique state-of-the-art 22-acre simulated city, built to create a realistic training experience for emergency first responders.  The facility is home to basic and advanced level law enforcement, fire, and emergency medical service training academies that are

able to experience realistic, hands-on, scenario-based training. OCC has been conducting Community Emergency Response Team (CERT) Train-the-Trainer for five years for the State of Michigan Citizens Corps Council.  More than 700 have been trained at the Trainer level and additional courses for CERT members and community awareness in CERT have been provided to more than 500.

OCC is the lead college for the Southeast Michigan Community College Consortium made up of all eight SE Michigan Community Colleges, which serves as the Regional Training Consortium for the Detroit Urban Area Security Initiative (UASI) Region. It has provided NIMS compliance other specialty training to more than 2,200 first responders this year alone and will be conducting a Full Scale Exercise in Fall 2008 involving more than 2,500 participants.

**Monroe Community College (New York)**: Has a $26 million Homeland Security Management Institute complete with a crime scene simulator, forensics lab, hazardous-materials training area and aircraft simulator. It also offers training that educates community members on what to do if disaster strikes.
http://www.monroecc.edu/depts/hsmi/about.htm

**Pierce College (Washington) Center of Excellence for Homeland Security**:  The Center for Excellence in Homeland Security facilitates and coordinates Homeland Security initiatives with a coalition of 34 community and technical colleges, public agencies, and private sector organizations. The Center provides and brokers dynamic education and training to prepare a skilled workforce to maintain our national security.
http://www.pierce.ctc.edu/HomelandSecurity/index.php

**Iowa Central Community College:**  The Iowa Central Homeland Security Training Center.  The vision of Iowa Central Homeland Security Training Center (ICHSTC) is to work with local first responders and related state and federal agencies to create a model Homeland Security Regional Training and Command Center, serving Iowa, and potentially, surrounding states.  It is the goal of the Center to provide basic Homeland Security Training for the First Responders and related public agencies in the State of Iowa. The basic training will be modeled after the United States Department of Justice Training Program guides, as they relate to Homeland Security and Iowa's Homeland Security Office suggestions. ICHSTC will utilize professional trainers throughout Iowa and the nation to provide hands on training based on Iowa needs.
http://www.iowacentral.edu/homeland_security/index.asp

**Owens Community College (Ohio)**:  The Center for Emergency Preparedness is the result of a consortium of law enforcement, fire and emergency medical experts and homeland security professionals who helped shape the development and design of the facility. Located within a secured perimeter, the 150-acre training center is home to some of the most significant training simulators found within the United States. Collaborating with the Nation's leading Emergency Services Professionals and Institutions of Higher Learning, the Center for Emergency Preparedness now offers a wide range of training programs that are enhanced by the hands-on training capabilities found within the Center.  https://www.owens.edu/cep/facility.html

**St. Petersburg Community College (Florida):**  The College's National Terrorism Preparedness Institute (NTPI), a division of the Center for Public Safety Innovation, is proud to be one of the few pre-9/11 institutions of its kind.  NTPI opened in 1998 as a

result of the Nunn-Lugar-Domenici Act, commonly known as the Weapons of Mass Destruction Act.  The mission of the Center is to provide education and training for our Nation in terrorism awareness and emergency preparedness, response, and recovery.

**Barton Community College (Kansas)**:  Barton Community College at Ft. Riley, Kansas in collaboration with (Kansas State University at Salina) offers a 2+2 program in Emergency Management & Homeland Security that allows students to earn an Associate of Applied Science Degree with an emphasis in Emergency Management at Barton, and to transfer the majority of those credits to Kansas State towards the completion of a Bachelor of Science in Technology Management offered through distance education.
http://www.bartonccc.edu/instruction/programs/departments/emergencymgmt/index.html

## 4.2 Community College Preparedness in Washington State

*Colleges Vulnerable*

"Community colleges are particularly vulnerable because of the flexible schedules that they offer students, said Davies, who was recently appointed to the independent Virginia Tech Review Panel. When the administrators and staff go home after the typical 9-to-5 workday, many colleges remain open, which could present a problem in an emergency..."

Source:  Gordon Davies, former director of the State Council of Higher Education for Virginia, and Rebecca Miller, an intelligence analyst with the FBI, speaking at a conference about safety concerns in higher education.[36]

 The Center of Excellence (COE) for Homeland Security at Pierce College is a coalition of all 34 Washington State community and technical colleges, plus public agencies and private sector organizations.  The center facilitates and coordinates homeland security initiatives and provides or accesses education and training to prepare a skilled workforce to maintain our national security and to serve as a liaison with business and industry to the colleges' faculty and administration.  The Center works directly with the State Community and technical college safety, security and emergency management Professionals (SSEMP) to apply state and national standards and practices across all community and technical colleges in the state and to enhance the safety and security of the campus communities through advocacy, collaboration and partnerships which includes training and professional development.  Through the Center economic development entities receive technical assistance, expertise, information and research on current regional, state and national homeland security initiatives.  Businesses benefit from the Center's ability to provide homeland security strategies that create a defense against and preparation for response to "All Hazards" incidents.

COE Accomplishments

- o Completed the curriculum for the U.S. Department of Homeland Security's, AWR 159 Emergency Responder Interface with Ferry Systems in August 2007.

- Published the Homeland Security Trends Analysis 2007-2008, Considerations for Education, Government, Business and Industry in the spring of 2008.
- Conducted ten Skill Panels assessing training gaps and needs in the 10 Homeland Security designated responder disciplines with a final report submitted in 2008.
- Conducted four Statewide Homeland Security Preparedness Summits in 2006, 2007, 2008, and 2009.
- The Center has worked with the K-12 system evaluating the Bethel School District earthquake exercise "Bethel Rocks" in September 2005.
- Conducted a security personnel assessment for the Highline School District in February 2006.
- Conducted numerous Awareness Level table top exercises for the Community and Technical Colleges in Washington and is currently providing Communication Capability Functional exercises for the system as requested, in 2008 – 2009
- Completed vulnerability and risk assessment train-the-trainer courses to all 34 community and technical colleges in Washington State in 2009.
- Developed and brought online an Associate's Degree in Homeland Security/Emergency Management, in 2008 – 2009.
- Provided four training videos and conducted training on response to a hostage situation or an active shooter incident, in 2009.

In addition:

- The Center is currently working with the State Board for Community and Technical Colleges and the Washington Association of Sheriffs and Police Chiefs on a three year project to implement the Critical Incident Planning and Mapping System on college campuses.
- In association with the Partnership for Environmental Technology Education (PETE) and the American Association of Community Colleges (AACC), Pierce College is one of the five lead colleges working with a grant from the Federal Emergency Management Agency (FEMA). The project, "The Community College Citizen Preparedness Program" (3CP2) is a National Initiative which will seek to address the readiness of U.S. citizens to be better prepared for a natural disaster or pandemic event.
- The Center has also received a noncompetitive, Congressionally-directed grant to expand upon the mission of the Center of Excellence for Homeland Security to include curriculum development and training. Specifically, the grant consists of four projects as follows:

**Project 1** supports the ten other Centers of Excellence (COE's) in the state and their respective industries (Energy, Agriculture, Aerospace. Process and Control Technology, Allied Health, Marine Technology, Education, Information Technology, Construction, and Homeland Security) providing Emergency Management/Homeland Security short courses for each industry. The development of these industry specific Homeland Security/Emergency Management short courses is 100% complete. Although the original project was for five COE's, we leveraged grant funds with our current budget developed courses for all ten. The completed project is being placed on each COE web site with sites scheduled to be updated by the end of December 2009. The end product includes mix videos, PDF, direct internet links, and PowerPoint presentations that present two parts: first, educational and career pathways information for each industry

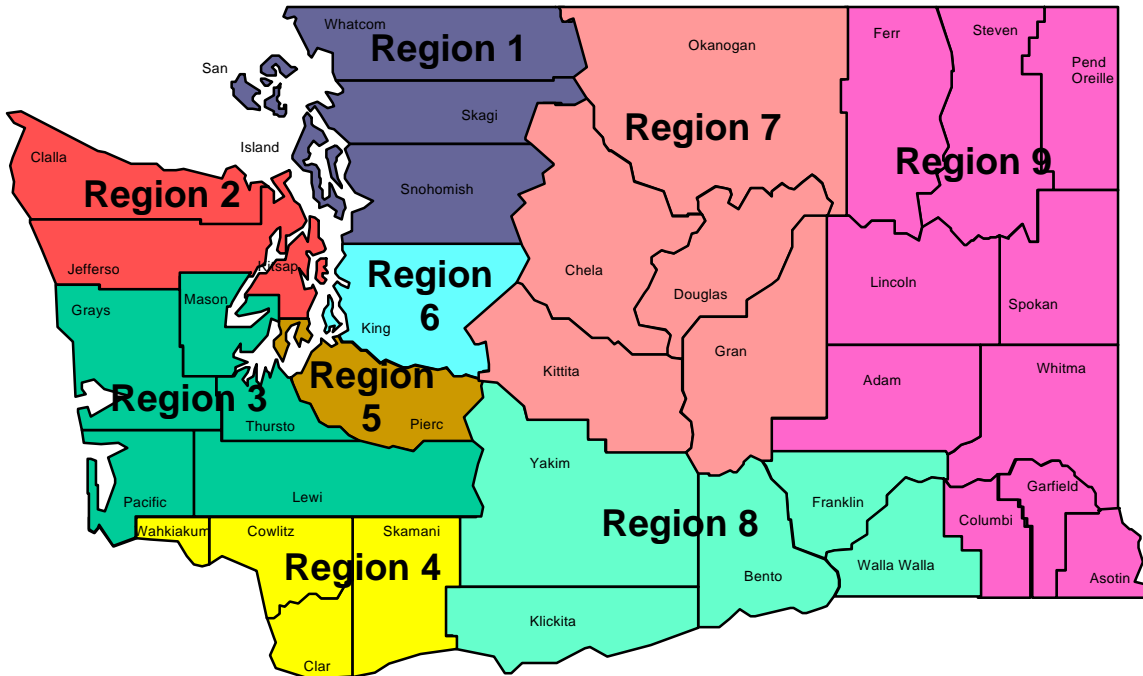and secondly, Homeland Security/Emergency Management industry specific topics that relate to the industry.

**Project 2** provides a seamless educational pathway from certificate training through an Associate of Arts Degree to a Baccalaureate.  (See Section 4.3 Career Pathways)

**Project 3** provides the thirty-four (34) community and technical colleges in the state, with a total enrollment over 500,000 students, with the tools to conduct their own vulnerability and risk assessments and provide internal classes on workforce violence, response to school shooting incidents and the use of Ready.gov.  Four, two-day train the trainer courses on vulnerability and risk assessments were conducted.  70% of the state's community and technical colleges attended these courses. The remaining 30% received one-on-one instruction. Each college received a flash drive with an assessment template, information gathering surveys, and Excel spread sheets identifying hazards in their geographic area. This information was used as part of a teaching tool with the colleges while specific information was gathered by each college representative. The train-the-trainer course concluded in a "table top" discussion exercise.  The template of transferable information provided was designed to ease annual updates.  In addition, each college received instruction on how to access and use Ready.gov in preparing their students, faculty and staff for all hazard emergencies.

**Project 4** includes a much-needed marketing and branding strategy for the Homeland Security Associates Degree and awareness training. As mentioned the new degree provides for a shared curriculum with host colleges offering the General Education Requirements and Pierce College providing the core curriculum.

## Marketing Efforts

- HSEM web page http://www.pierce.ctc.edu/dept/hsem/.
- HSEM video used on campus for students to access and are displayed on the HSEM web page.
- 400 Posters printed and distributed.
- 400 Flyers printed and distributed.
- 1500 Brochure cards printed and distributed.
- Web post cards e-mailed to various organizations/organization members.
- Large poster in stands displayed in lobby areas at Ft. Steilacoom and Puyallup campus.
- Newspaper ad in News-Tribune, September 13, 2009 The Tacoma News Tribune's daily circulation is 127,442.
- Newspaper ad in Guardian, September 25, 2009.
- Radio ads on KISW/ 88 spots from Dec. 7-20, and Dec. 28-Jan. 10. KISW-FM 88 spots 197,800 each spot with a total listening population 404,600.
- Several state emergency services organizations have advertised the HSEM web page link on their organization's intranet.

**Emergency Management Regional Structure in Washington State**

## 4.3 Career Pathways for Homeland Security Programs

> ***Career Pathways Defined***
>
> A Career Pathway is a coherent, articulated sequence of rigorous academic and career/technical courses, commencing in the ninth grade and leading to an associate degree, baccalaureate degree and beyond, an industry recognized certificate, and/or licensure. The Career Pathway is developed, implemented, and maintained in partnership among secondary and postsecondary education, business, and employers. Career Pathways are available to all students, including adult learners, and lead to rewarding careers.[37]

As the above definition suggests, Career Pathways are designed to prepare students for work in the real world. Career Pathways also provide consistency and make for a more seamless transition from one level of education to another, i.e., from high school to a community college and on to a baccalaureate degree granting institution.

The Associates Degree in Homeland Security/Emergency Management (HSEM) at Pierce College was approved by the Washington State Board for Community and Technical Colleges. The new curriculum provides for a shared curriculum with host colleges providing the General Education Requirements and the Center of Excellence for Homeland Security at Pierce College providing core HSEM courses online.

Articulation is through four year colleges with an online capability such as Jacksonville State University in Anniston, Alabama.

The Homeland Security Emergency Management (HSEM) associate degree program was designed to prepare the next generation of emergency management and policy leaders with the knowledge and skills they need to improve outcomes in disasters of all types.  The 96 credit degree program includes instruction in policy as well as planning and operational components of emergency management and homeland security, as well as opportunities to gain practical experience and work with current incident management technologies. The curriculum provides policy foundations and advances students through core competencies in hazard identification, risk and vulnerability assessment, planning, terrorism, mitigation, preparedness, response and recovery; and planning for diverse populations. The Associate in Homeland Security Emergency Management (HSEM) degree will prepare students with the competencies to work in an all-hazards preparedness environment, including an understanding of socioeconomic and cultural diversity issues.

## Career Ladders

There are various ways to move up the career ladder.  Traditionally, the most common ways to advance up the career ladder are by promotions, transfers, and reclassifications within a particular job family. Another way of advancing is to change fields of work.  It is also worth noting that career ladders vary depending on whether they are based on education or work experience.

Career ladders in homeland security are particularly difficult to describe because of the sheer number of jobs, and variations of educational requirements, which vary from agency to agency, and job to job.  Because of the rapid change and the emerging nature of careers in homeland security, advancements may often come as a result of a reclassification.  A reclassification is justified when there have been sufficient changes in a job making it more appropriate to identify the position in a higher classification. Specific criteria must often be met to justify the assignment of the higher level reclassification.  Some examples include:

- o The classification specification for the higher level classification more appropriately identifies the major functions of the position.
- o Significant, logical and gradual change of a permanent nature in the duties and responsibilities of the position.
- o The job change is a result of related outgrowth of the former duties and responsibilities of the position.
- o The higher level duties and responsibilities must be performed for at least six months before reclassification can be initiated.

Typically, movement up the career ladder is based on either increased educational attainment or work experience.  However, there are other attributes that can make an employee more valuable, thus assisting them up the career ladder.  These attributes include:  initiative, judgment, efficiency, dependability, enthusiasm and loyalty. Those interested in career advancement must be familiar with all of the mechanics involved in making this possible.[38]

# 5. Appendices



## 5.1 Pierce College Certificate in Homeland Security Emergency Management

### CERTIFICATE in Homeland Security Emergency Management

| Course Number | Course Title | Number of Credits |
|---|---|---|
| HSEM 102 | Intro to Emergency Management | 5 |
| HSEM 110 | Basic ICS/NIMS | 2 |
| HSEM 120 | All Hazards Emergency Planning | 3 |
| HSEM 130 | Technology in Emergency Management | 3 |
| HSEM 157 | Public Information Officer | 2 |
| HSEM 160 | Emergency Response Awareness to Terrorism | 5 |
| HSEM 180 | Public Administration | 3 |
| OSH 190 | Industrial Security | 3 |
| Total Credits | | 26 |

The Homeland Security Emergency Management certificate is offered at Pierce College through online course work. The certificate is designed to prepare the next generation of emergency management and policy leaders with the knowledge and skills they need to improve outcomes in disasters of all types. The program addresses competencies required of emergency management professionals in careers in federal, state or local government.

Students explore the complex world of emergency and disaster management issues and learn the critical thinking and decision-making skills necessary to support and supervise comprehensive, integrated and effective management in the event of natural, system-wide or human-induced crisis.

**PROGRAM OUTCOMES**
Students who obtain a certificate in Homeland Security Emergency Management will be prepared to:

1. Apply effective interpersonal communication, critical thinking and decision-making skills commensurate with a defined level of responsibility.
2. Develop agency/organization specific tools to evaluate specific domestic security challenges for the 21st Century that face the United States and other industrialized nations.
3. Design and modify plans and programs at federal, state, and/or local levels to reflect the evolving strategic policy issues associated with a statutory and presidential direction for homeland security.

4. Recognize how to access and disseminate information through multiple agencies in order to forecast the risks, types, and orders of magnitude of terrorist threats most likely to confront the nation/state.
5. Define the interdisciplinary nature of Homeland Security/Emergency Management functions and be able to assess and integrate various functional areas.
6. Apply a solid foundation of knowledge and skills to assume leadership roles in emergency management, homeland security, and/or public policy.

For course information please contact Pam Caldwell, 253-677-1735, pcaldwell@pierce.ctc.edu.

## 5.2 Pierce College Homeland Security – Emergency Management AA

**Associate of Applied Technology Homeland Security Emergency Management**

The Homeland Security Emergency Management (HSEM) associate degree program is designed to prepare the next generation of emergency management and policy leaders with the knowledge and skills they need to improve outcomes in disasters of all types. The 96 credit online degree program includes instruction in policy as well as planning and operational components of emergency management and homeland security, including opportunities to gain practical experience and work with current incident management technologies. The curriculum provides policy foundations and advances students through core competencies in hazard identification; risk and vulnerability assessment; planning; terrorism; mitigation, preparedness, response and recovery; and planning for diverse populations. The Associate in Technology Homeland Security Emergency Management (HSEM) degree will prepare students with the competencies to work in an all-hazards preparedness environment, including an understanding of socioeconomic and cultural diversity issues.

**General Education Requirements (40 credits)**

Courses should be selected from the lists prescribed on this degree sheet only.

| Course Number | Course Title | Number of Credits |
|---|---|---|
| **Communications** 10 credits required | | |
| ENGL& 101 | English Composition I | **5** |
| ENGL& 235 | Technical Writing | **5** |
| **Quantitative** 5 credits required | | |
| MATH& 146 | Introduction to Statistics | **5** |
| **Social Science** 10 credits required | | |
| PSYCH& 100  or BUS 240 | General Psychology or Human Relations in the Workplace | **5** |
| HIST& 158 | History  of United States III | **5** |
| POLS& 101 | Introduction to Political Science | **5** |
| **Humanities** 5 credits required | | |
| CMST& 101 | Speech Communication | **5** |
| CMST& 220 | Fundamentals of Public Speaking | **5** |
| CMST& 102 | Introduction to Mass Media | **5** |
| **Natural Science** 10 credits required | | |
| GEOG 210 | Physical Geography | **5** |
| GEOL& 110 | Environmental Geology | **5** |
| ATMOS 101 | Introduction to Weather | **5** |
| ENVS& 100 | Survey of Environmental Science | **5** |
| ENVS 150 | Environmental Issues | **5** |

**HSEM Core Courses (41 credits)**

| Course Number | Course Title | Number of Credits |
|---|---|---|
| HSEM 102 | Intro to Emergency Management | 5 |
| HSEM 120 | All Hazards Emergency Planning | 3 |
| HSEM 130 | Technology in Emergency Management | 3 |
| HSEM 157 | Public Information Officer | 2 |
| HSEM 160 | Emergency Response Awareness to Terrorism | 5 |
| HSEM 180 | Public Administration | 3 |
| HSEM 200 | Emergency Operations Center | 2 |
| HSEM 210 | Exercise Design and Evaluation | 3 |
| HSEM 220 | Developing and Managing Volunteer Resources | 2 |
| HSEM 230 | Disaster Response & Recovery | 2 |
| HSEM 240 | HSEM Work Based Learning | 5 |
| HSEM 250 | Homeland Security Laws & Ethics | 3 |
| OSH 190 | Industrial Security | 3 |
| **Total Credits** | | **41** |

**Elective Courses (Choose 15 credits)**

| Course Number | Course Title | Number of Credits |
|---|---|---|
| HSEM 110 | Basic ICS/NIMS | 2 |
| HSEM 190 | Special Topics in HSEM | 1-5 |
| CJ 112 | Criminal Justice in America | 5 |
| CJ 120 | Constitutional Rights | 5 |
| CJ 140 | Corrections in America | 5 |
| CJ 150 | Police in America | 2 |
| CJ 226 | Response to Terrorism | 5 |
| FCA 170 | Haz-Mat Awareness | 1 |
| FCA 175 | Fire Safety Officer | 2 |
| FCA 270 | Haz-Mat Operations | 2 |
| FCA 261 | Haz-Mat On-Scene Incident Commander | 2 |
| FCA 262 | Disaster & Fire Defense Planning | 4 |
| FCA 274 | Occupational Safety & Health for Fire Service | 4 |
| OSH 100 | OSH 100 Introduction to Occupational Safety & Health | 5 |
| OSH 110 | Safety Management | 5 |
| OSH 240 | Handling Hazardous Materials | 4 |
| **Total Credits** | **(Choose 15 credits)** | **15** |

## AA HSEM TOTAL DEGREE CREDITS   96

## AA HSEM PROGRAM OUTCOMES

Students who major in Homeland Security Emergency Management will be prepared to:

1. Apply effective interpersonal communication, critical thinking and decision-making skills commensurate with a defined level of responsibility.
2. Develop agency/organization specific tools to evaluate specific domestic security challenges for the 21st Century that face the United States and other industrialized nations.

3. Design and modify plans and programs at federal, state, and/or local levels to reflect the evolving strategic policy issues associated with a statutory and presidential direction for homeland security.
4. Interpret ethical and legal issues that impact emergency management and homeland security.
5. Recognize how to access and disseminate information through multiple agencies in order to forecast the risks, types, and orders of magnitude of terrorist threats most likely to confront the nation/state.
6. Define the interdisciplinary nature of Homeland Security/Emergency Management functions and be able to assess and integrate various functional areas.
7. Develop policies, procedures and protocols to allow seamless agency integration from prevention to incident response scenarios.
8. Apply a solid foundation of knowledge and skills to assume leadership roles in emergency management, homeland security, and/or public policy.
9. Participate in employer-directed training for performance enhancement and career advancement.

For program information please contact Pam Caldwell, 253-677-1735, pcaldwell@pierce.ctc.edu.

## NOTES AND CLARIFICATIONS

### HSEM Degree Program Admission
- HSEM 102, Introduction to Emergency Management is the first course (gate keeper course) for admission to the HSEM degree program. Students must take this course before they can enroll in other HSEM courses.
- Students must earn a minimum of a 2.0 in each HSEM course to obtain this degree.

NOTE: Students should be aware that certain criminal behavior and having a criminal record may prohibit their employment opportunities in many homeland security and emergency management occupations. Students are encouraged to research these situations and consult with the HSEM program advisor.

### HSEM Degree Information
- The minimum grade for all HSEM courses is a 2.0.
- A minimum of 96 earned credits in courses numbered 100 or above is required to complete the HSEM Associates of Applied Technology.
- Only 24 Prior Learning Assessment (PLA) credits may be used for the entire degree.
- Only 5 PLA credits for Independent Study courses may be used within the 24 PLA credits.

## 5.3 Occupational Safety and Health AAS-T

### Program Description

The Occupational Safety and Health AAS-T is a unique degree developed as a joint program between Pierce College and Edmonds Community College. It was developed due to the high demand for trained professionals in the field of safety. This two-year degree program provides education and training for individuals currently working in the safety profession who are transitioning or seeking advancement as well as for students desiring to enter this exciting field of study.

This Associate in Applied Science-T (AAS-T) is a 99-101 credit professional technical degree with a core of general education courses commonly accepted in transfer. In general, professional-technical degrees are not designed for transfer to other colleges or universities. This degree may articulate to Central Washington University's Safety and Health Management Program, Evergreen State University, City University and University of Phoenix as well as other programs throughout the country. Students Planning to transfer to a four-year institution should contact an adviser from that school to create a four-year plan.

### Credit/Grade Requirements

The AAS-T degree is awarded upon completion of minimum of 99 credits of General Requirements, Distribution Requirements, and Specified Requirements outlined on the program requirement sheet. A minimum of 30 credits or one-third of the required credits, whichever is less, must be earned at the school where the degree is issued. Students are required to maintain a minimum cumulative grade point average of 2.0 in all college-level courses.

### General Education/Related Instruction Requirements

Students who complete degrees or certificates of 45 credits or more are required to demonstrate learning in the following general education/related instruction areas: communications, computation/quantitative skills, and human relations/group interaction. Any course in the Social Sciences, Humanities, or Science areas meets the human relations requirement. Note: Edmonds CC has a Cultural Diversity Requirement for all students earning a certificate or degree.

### Advising

Students are advised to meet with a faculty advisor before registration each quarter. Students planning to transfer should contact an advisor at the school they plan to transfer to in order to insure a smooth transition and articulation of credits.

The advisor for the OSH Programs is:
Kerrie Murphy     kerrie.murphy@edcc.edu  **(425) 640-1843**

You may also contact:
Ron May         rmay@pierce.ctc.edu        **(253) 964-6736**

### Graduation Applications

Completed graduation application forms must be submitted to Enrollment Services no later than the 10th day of the quarter in which the student expects to graduate.

# OCCUPATIONAL SAFETY AND HEALTH AAS-T

| Course # / Description | | | Credits | Qtr | Grade |
|---|---|---|---|---|---|
| **I.  GENERAL EDUCATION & DISTRIBUTION REQUIREMENTS  (30 Credits)** | | | | | |
| **Communication Skills** | **(10 Credits)** | | | | |
| ENGL& 101 | English Composition | | 5 | | |
| CMST& 101 | Intro to Communication | | 5 | | |
| | | | | | |
| **Quantitative Reasoning** | **(5 Credits)** | | | | |
| MATH& 146 | Intro to Statistics | | 5 | | |
| | | | | | |
| **Science** | **(10 Credits)** | | | | |
| BIOL& 175 | Human Biology | | 5 | | |
| CHEM& 121 | Intro to Chemistry | | 5 | | |
| | | | | | |
| **Humanities & Social Sciences** | **(5 Credits)** | | | | |
| PSYC& 100 | General Psychology | | 5 | | |
| | | | | | |
| **II.  PROGRAM REQUIREMENTS  (35 Credits)** | | | | | |
| OSH 100 | Intro to Occ. Safety & Health | | 5 | | |
| OSH 110 | Safety Management | | 5 | | |
| OSH 140 | Regulatory Environment | | 3 | | |
| OSH 150 | Work-Comp & Risk Mgmt | | 3 | | |
| OSH 160 | Incident Investigation | | 3 | | |
| OSH 170 | Safety Training Techniques | | 3 | | |
| OSH 190 | Industrial Security | | 3 | | |
| OSH 220 | Industrial Hygiene | | 3 | | |
| OSH 230 | Ergonomics | | 3 | | |
| OSH 240 | Handling Hazardous Materials | | 4 | | |
| | | | | | |
| **III.  ADDITIONAL REQUIREMENTS  (23-25 Credits)** | | | | | |
| **Computer Skills** | | **(5 Credits)** | | | |
| Edmonds CC | Pierce College | | | | |
| CIS 100 or | CIS 130 | Computer Applications | 5 | | |
| BSTEC 130 | | | | | |
| | | | | | |
| **Human Relations & Mgmt** | | **(10 Credits)** | | | |
| Edmonds CC | Pierce College | | | | |
| MGMT 100 | BUS 240 | Human Relations | 5 | | |
| MGMT 270 | CONST 260 | Project Management | 5 | | |
| | | | | | |
| **Construction Safety** | | **(3 Credits)** | | | |
| Edmonds CC | Pierce College | | | | |
| CONST 250 or | CONST 250 | (Construction) Safety/Acc. Prev. | 5 | | |
| CONST 251 | | | | | |
| | | | | | |
| **Health & First Aid** | | **(2 to 4 Credits)** | | | |
| Edmonds CC | Pierce College | | | | |
| HLTH 105 | PE 228 | First Aid & CPR | 4/2 | | |
| | | | | | |
| **Internship** | | **(3 Credits)** | | | |
| Edmonds CC | Pierce College | | | | |
| BUS 291 | MNGT 198 | Work-Based Learning | 3 | | |
| | | | | | |
| **IV.  ELECTIVES  (11 Credits)** | | | | | |
| OSH 155 | Special Topics I | | 2 | | |
| OSH 255 | Special Topics II | | 2 | | |
| Edmonds CC | Pierce College | | | | |
| ENGR 231 | ENGL 111 | Technical Writing | 5 | | |
| | | | 2 | | |

## 5.4 Common Homeland Security Terms

**All-Hazards Preparedness:**  Refers to preparedness for domestic terrorist attacks, major disasters, and other emergencies. *(HSPD-8)*

**Capability:**  A capability provides the means to accomplish one or more tasks under specific conditions and to specific performance standards. A capability may be delivered with any combination of properly planned, organized, equipped, trained, and exercised personnel that achieves the intended outcome.

**Critical Task:**  Critical tasks are defined as prevention, protection, response, and recovery tasks which require coordination among an appropriate combination of Federal, State, local, tribal, private sector, and non-governmental entities during a major event in order to minimize the impact on lives, property, and the economy.

**Emergency:**  Absent a Presidential declared emergency, any incident(s), human-caused or natural, that requires responsive action to protect life or property. Under the *Robert T. Stafford Disaster Relief and Emergency Assistance Act*, an emergency means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. *(NIMS, March 2004)*

**Emergency Response Provider:**  Includes Federal, State, local, and tribal emergency public safety, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities. (See section 2(6), Homeland Security Act of 2002, Public Law 17-296, 116 Stat. 2135 (2002) Also known as Emergency Responder, *(NIMS, March 2004)*

**First responder:** Those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment, including emergency response providers as defined in section 2 of the Homeland Security Act of 2002 (6 U.S.C. 11), as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) that provide immediate support services during prevention, response, and recovery operations. *(HSPD-8)*

**Incident Command System (ICS):**  ICS is a management system used to organize emergency response.  ICS offers a scalable response to an emergency incident of any magnitude, and provides a common framework within which people can work together.

**Incident of National Significance:**  Based on criteria established in HSPD-5 (paragraph 4), an actual or potential high-impact event that requires a coordinated and effective response by an appropriate combination of Federal, State, local, tribal, nongovernmental, and/or private sector entities in order to save lives and minimize damage, and provide the basis for long-term community and economic recovery. *(NRP, January 2005)*

**Jurisdiction:**  A range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority. Jurisdictional authority at an

incident can be political or geographic (e.g., city, county, tribal, State, or Federal boundary lines) or functional (e.g., law enforcement, public health). *(NIMS, March 2004)*

**Local Government:**  Local means "(A) a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; (B) an Indian tribe or authorized tribal organization, or in Alaska a Native village or Alaska Regional Native Corporation; and (C) a rural community, unincorporated town or village, or other public entity." *(*Homeland Security Act of 2002)

**Major Disaster:**  As defined under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122), a major disaster is any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought) or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby. (NIMS, March 2004)

**Major Event:**  Refers to domestic terrorist attacks, major disasters, and other emergencies. (HSPD-8)

**Mitigation:**  Any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event.  Mitigation planning is the systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions and following through with an effective mitigation strategy.  Mitigation encourages long-term reduction of hazard vulnerability and can reduce the enormous cost of disasters to property owners and all levels of government.

**National:**  Of a nationwide character, including the Federal, State, local and tribal aspects of governance and policy. (NIMS, March 2004)

**National Incident Management System (NIMS):**  NIMS was developed so responders from different jurisdictions and disciplines can work together in an effort to better respond to natural disasters and emergencies, including acts of terrorism. NIMS benefits include a unified approach to incident management; standard command and management structures; and emphasis on preparedness, mutual aid and resource management.

**Performance goal:**  A statement of the intended result, effect, or consequence to be achieved by carrying out a program or activity.

**Performance measure:**  A quantitative or qualitative characteristic used to gauge the results of an outcome compared to its intended purpose (e.g. percentage, time, or amount).

**Performance metric:**  A particular value or characteristic used to measure the outcome (e.g., "100," "25," or "partially") that is generally expressed in terms of a baseline and a target.

**Preparedness:** Build, sustain and improve the operational capability to prevent, protect against, respond to, and recover from domestic incidents. (NRP p. 71) Preparedness includes:
• Planning, training, and exercises.
• Personnel qualification and certification standards.
• Equipment acquisition and certification standards.
• Publication management processes and activities.
• Mutual aid agreements and Emergency Management Assistance Compacts (EMACs).

**Prevention:** Deter all potential terrorists from attacking America, detect terrorists before they strike, prevent them and their instruments of terror from entering our country, and take decisive action to eliminate the threat they pose.

**Recovery:**  Develop, coordinate, and execute service and site-restoration plans and reconstitute government operations and services through individual, private-sector, nongovernmental, and public assistance programs.

**Region:** As used in this document, "region" generally refers to a geographic area consisting of contiguous State, local, and tribal entities located in whole or in part within a designated planning radius of a core high threat urban area. The precise boundaries of a region are self-defined.

**Response:** Implement immediate actions to save lives, protect property, and meet basic human needs.

**Risk:** Risk is the product of threat, vulnerability, consequence, and likelihood of occurrence.

**State Government:** State means "any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any possession of the United States." (Homeland Security Act of 2002)

**System:** A combination of facilities, equipment, personnel, procedures, and communications integrated into a common organizational structure to achieve a mission or outcome.

**Target Capabilities List:** Provides guidance on the specific capabilities and levels of capability that local, state, federal, and tribal entities will be expected to develop and maintain.

**Tier:** Groupings of jurisdictions that account for reasonable differences in expected capability levels among entities based on assessments of total population, population density, critical infrastructure, and other significant risk factors.

**Universal Task List:** A comprehensive menu of tasks from all sources that may be performed in major events illustrated by the National Planning Scenarios. Entities at all

levels of government should use the UTL as a reference to help them develop proficiency through training and exercises to perform their assigned missions and tasks in major events.

**Volunteer:** Any individual accepted to perform services by an agency, which has authority to accept volunteer services when the individual performs services without promise, expectation, or receipt of compensation for services performed.  (See, for example, 16 U.S.C. 742f(c) and 29 CFR 553.11.) (NIMS, March 2004)

## 5.5 Acronyms Common In Homeland Security

**AAR:**  After Action Report
**APHIS:** Animal and Plant Health Inspection Services
**ASIS:**  American Society for Industrial *Security* (ASIS) International
**ATSA**: Aviation and Transportation Security Act
**BSIR:** Biannual Strategy Implementation Report
**BWIC:** Biological Warfare and Incident Characterization System
**CBP**:  Capabilities-Based Planning
**CBRNE**:  Chemical Biological Radiological Nuclear Explosive
**CCV**: Characteristics and Common Vulnerabilities
**CDL**:  Commercial Drivers License
**CERC**: Crisis and Emergency Risk Communications
**CII Act**: Critical Infrastructure Information Act of 2002
**CI/KR**: Critical Infrastructure/Key Resources
**CIP**: Critical Infrastructure Protection
**COG**:  Continuity of Government Plan
**COOP**: Continuity of Operations Plan
**CSI:** Container Security Initiative
**C-TPAT**:  Customs-Trade Partnership Against Terrorism
**CWA**:  Chemical Warfare Agent
**DHS**:  Department of Homeland Security
**DMAT**:  Disaster Medical Assistance Team
**DMORT**:  Disaster Mortuary Operations Response Team
**DOJ**: Department of Justice
**EFP:** Explosively Formed Projectile
**EMS:**  Emergency Management System
**EOC**: Emergency Operations Center
**EOD**:  Explosive Ordnance Disposal
**EOP**: Emergency Operations Plans
**EP&R**:  Emergency Preparedness and Response Directorate (DHS)
**FEMA**:  Federal Emergency Management Agency
**FMD:**  Foot and Mouth Disease
**FRERP:** Federal Radiological Emergency Response Plan
**GIS:** Geographic Information Systems
**HAZMAT:** Hazardous Material
**HLS**: Homeland Security
**HSA**: Homeland Security Advisor
**HSAC**: Homeland Security Advisory Council (DHS)
**HSEEP**: Homeland Security Exercise and Evaluation Program
**HSGP**:  Homeland Security Grant Program

**HSIN**:  Homeland Security Information Network
**HSOC**:  Homeland Security Operations Center
**HSPD-5**:  Homeland Security Presidential Directive 5
**HSPD-7**:  Homeland Security Presidential Directive 7
**HSPD-8**:  Homeland Security Presidential Directive 8
**HUMINT:**  Human Intelligence
**HV/HR**: High Value/High Risk
**IAD**:  Information Analysis Division (DHS)
**IAIP**: Information Analysis and Infrastructure Protection Directorate (DHS)
**ICS**:  Incident Command System
**IED**: Improvised Explosive Device
**IMT**:  Incident Management Task
**IPD**:  Infrastructure Protection Division (DHS)
**IPRT**:  Incident Prevention and Response Task
**ISIP**:  Initial Strategy Implementation Plan
**JIC:**  Joint Information Center
**LETPP**:  Law Enforcement Terrorism Prevention Program
**LLIS**:  Lessons Learned Information Sharing System
**NADB**: National Asset Database
**NEMA:**  National Emergency Management Association
**NGA:**  National Governors' Association
**NIAC:**  National Infrastructure Advisory Council
**NIC**:  NIMS Integration Center
**NIMS**: National Incident Management System
**NIPP**: National Infrastructure Protection Plan
**NRP**: National Response Plan
**NST**: National Strategic Task
**NSA**: National Security Agency
**NSHS**:  National Strategy for Homeland Security
**ODP**:  Office for Domestic Preparedness (DHS)
**OJP**:  Office of Justice Programs (DOJ)
**OSHA:**  Occupational Safety and Health Administration
**PCII**: Protected Critical Infrastructure Information
**PMTL**:  Protective Measures Target List
**PPE**: Personal Protective Equipment
**RAP**: Radiological Assistance Program
**SCIP**:  Statewide Communications Interoperability Planning
**SHSAS**:  State Homeland Security Assessment and Strategy
**SHSS**:  State Homeland Security Strategy
**SLGCP:**  Office of State and Local Government Coordination and Preparedness (DHS)
**SOP:**  Standard Operating Procedure
**TCL:** Target Capabilities List
**TEW**:  Terrorist Early Warning
**TIC**:  Toxic Industrial Chemical
**TOPOFF**:  Top Officials (Exercise)
**UCS**:  Unified Command System
**US-CERT**:  United States Computer Emergency Readiness Team
**USDA:**  United States Department of Agriculture
**US&R:**  Urban Search and Rescue
**UTL**: Universal Task List
**WMD**:  Weapons of Mass Destruction

## 5.6 Centers Of Excellence In Washington State

**Bellevue Community College** is the <u>Center for Information Technology Excellence (CITE)</u>, which is affiliated and co-located with the National Workforce Center for Emerging Technologies (NWCET). CITE is an information resource and solution provider for model information technology education programs, best practices, up-to-date research, information dissemination, instructor development, and sharing of industry trends impacting employment, education, and business growth across Washington State. http://bellevuecollege.edu/cite/

**Bellingham Technical College** is a <u>Center of Excellence for Process Technology</u>, focusing on education and training related to continuous flow processes and instrumentation for industries such as petroleum refineries, chemical processing plants, food processors, pulp and paper mills and wastewater treatment plants. http://www.nwpta.org/

**Centralia College:**  The <u>Center of Excellence for Energy Production and Distribution Technology</u> provides leadership for a growing alliance of energy industry and college partners. Together, industry and educational partnerships provide comprehensive degree and certificate programs, online courses, and regional classroom training opportunities that focus on the future of the energy industry. http://www.centralia.ctc.edu/coe/

**Edmonds and Everett Community Colleges** jointly host the <u>Materials and Process Development Center of Excellence</u>. The Center's mission is to increase the competitiveness of manufacturers using composites and other advanced materials through workforce training and education.  http://www.mpdc.biz/

**Green River Community College**:  Green River Community College houses <u>The Washington State Center of Excellence for Careers in Education</u>, and provides support, mentoring, and advising to community colleges and their K-20 partners for the creation and expansion of career-ladder programs in education. The Center provides a yearly best practices conference, a comprehensive web site, curriculum development and dissemination, and training for K-20 instructors and para-professionals. http://www.careersined.org/

**Highline Community College:** <u>The Center of Excellence for International Trade, Transportation and Logistics</u> is led by a statewide advisory committee. The Center facilitates linkages and partnerships among education, business, industry, community partners, and workforce intermediaries, advocating for Washington State both nationally and internationally in international trade, transportation, and logistics. http://www.highline.edu/home/ittl/

**Pierce College:**  The <u>Center for Excellence in Homeland Security</u> facilitates and coordinates Homeland Security initiatives with a coalition of 34 community and technical colleges, public agencies, and private sector organizations. The Center provides and brokers dynamic education and training to prepare a skilled workforce to maintain our national security. http://www.pierce.ctc.edu/HomelandSecurity/index.php

**Renton Technical College:**  The <u>Construction Center of Excellence</u> is a resource for industry professionals, colleges, and others interested in preparing a diverse workforce

for the construction industry. The Construction Center of Excellence showcases innovative educational offerings, at RTC and elsewhere, and promotes awareness of career pathways within construction.  http://www.rtc.edu/communityresources/CCE/

**Skagit Valley College:**   Skagit Valley College is home to the Northwest Center of Excellence for Marine Manufacturing and Technology. The Center is a hub for innovative discussions, resources, training and educational services that create a repository of information and illuminate best practices related to industry trends and emerging technologies to foster economic vitality.  http://www.marinecenterofexcellence.com/

**Walla Walla Community College:**  The Agricultural Center of Excellence provides collaborative leadership in addressing the emerging workforce and economic development interests of rural, urban, and related agriculture in Washington State. The Center is a hub for accessing fast, flexible services and education to meet employer needs.  http://www.wwcc.edu/ace/

**Yakima Valley College:**  The Allied Health Center of Excellence is dedicated to addressing Washington State's healthcare workforce needs of today and tomorrow. Through collaboration and cooperation with industry partners, the center provides innovative programs to prepare qualified and competent health care professionals and leaders for the future.  http://www.yvcc.edu/coe/

For information about Centers of Excellence contact the Washington State Board of Community and Technical Colleges at:  http://www.sbctc.edu/

# End Notes

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