



Do You Know Where Your Kids Are?

Final Report Summary For NSRP Panels

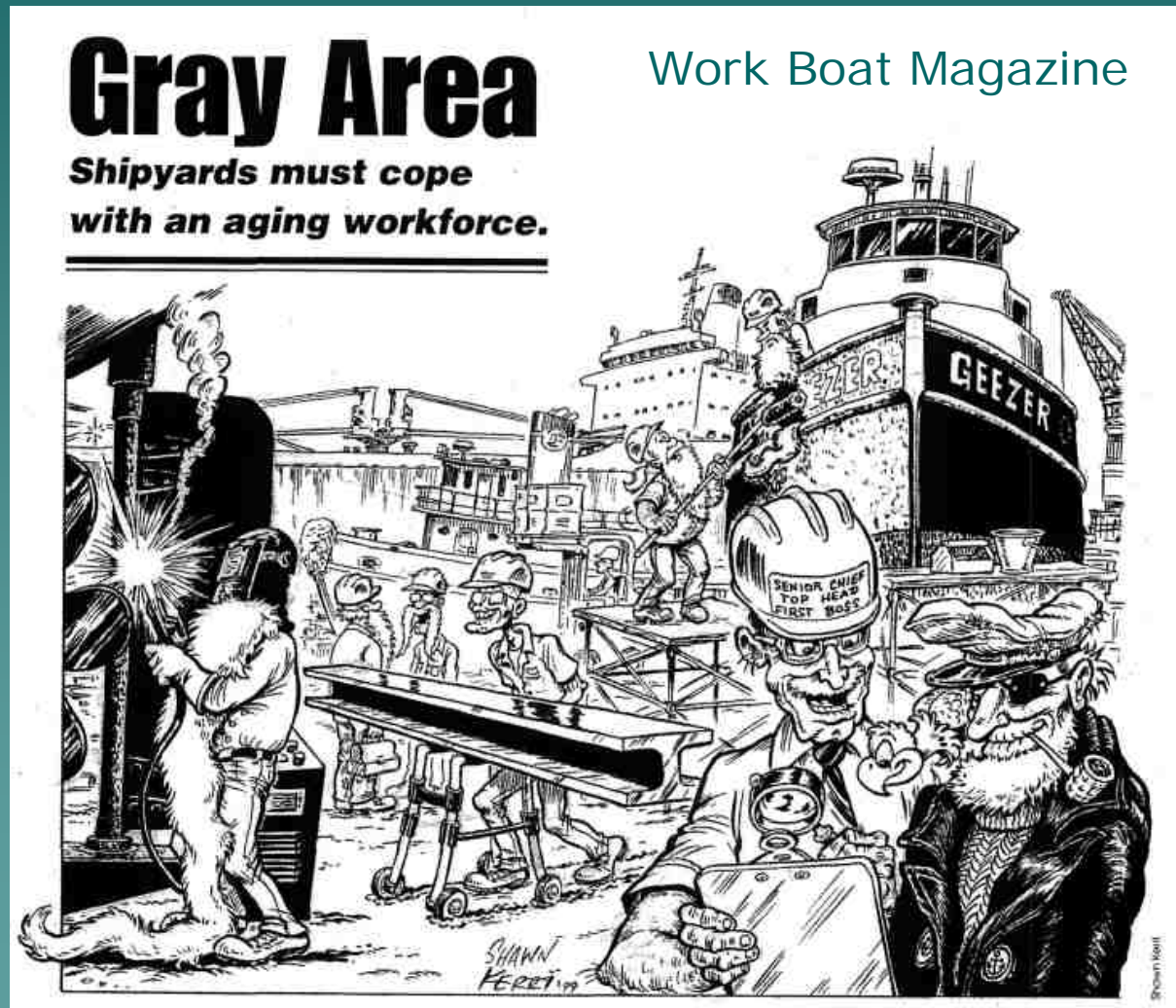
Larry Gebhardt, SENESCO MARINE
and
Les Hansen, Consultant

Crosscut Initiatives
Panel Project
on

Emerging Workforce Development

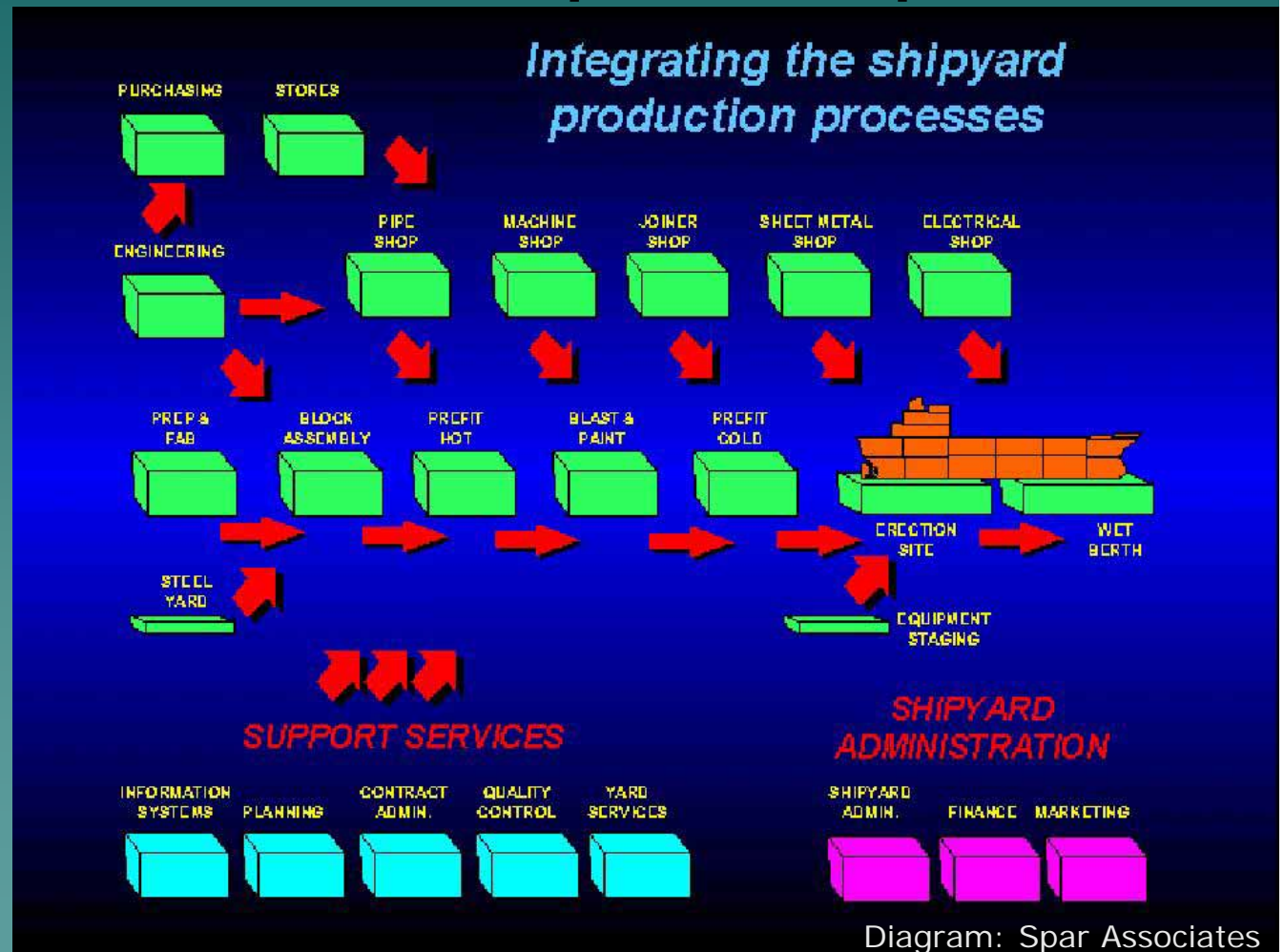
In 2010 ... who will build and repair ships?

- ◆ Existing workforce?
 - aging?
 - turnover?
 - skills to operate new equipment?
 - enough workers?



In 2010 ... who will build and repair ships?

- ◆ Machinery and automation?



Too much complexity

In 2010 ... who will build and repair ships?

- ◆ Subcontractors?
- ◆ Contract workers from other nations?
- ◆ Shipyards in other nations?



Security, flexibility, and responsiveness

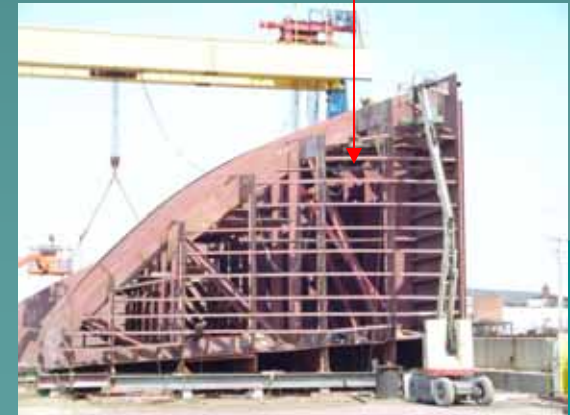
Project Overview

◆ Assumptions:

- Need to recruit and retain an intergenerational workforce
- Perceived decline in US manufacturing
- People not lining up to fill shipyard jobs
- New people require more and different training
- Cost of shipbuilding and repair workforce growing

In 2010 ... who will build and repair ships?

- ◆ New workers – from school to work, job changers, immigrants, women?



The Emerging Workforce


Entry-level folks emerging from:

- School-to-work: education system
- Work-to-work: job-changers
- Welfare or other non-work to work
- Immigrants seeking work

Project Objectives

- Learn about emerging workforce development
- Best practices, issues and problems dealing with
 - Workers transitioning to shipbuilding
 - Educators,
 - Job service organizations
 - Shipyards
- Gaps and additional research or resource needs
- Share findings and recommendations

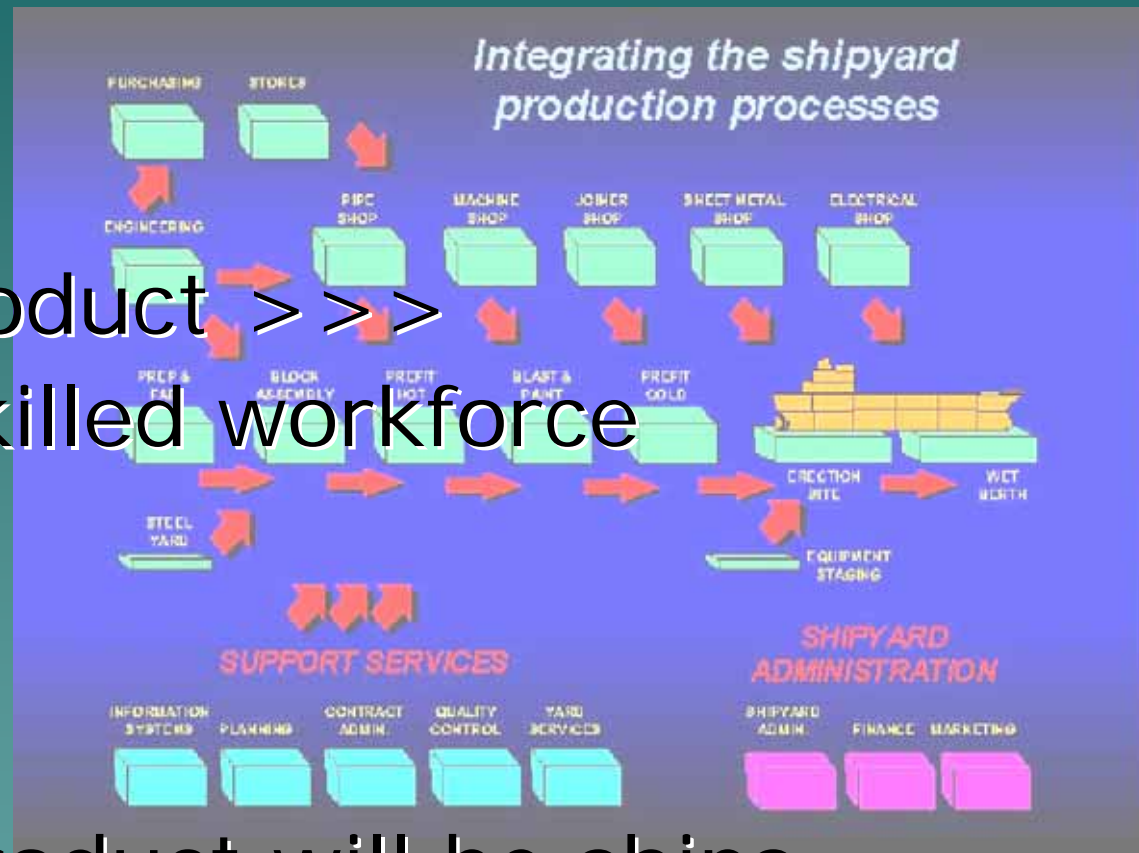
Project Benefits

- Better-defined recruitment, training and educational pathways
 - Enhanced shipyard/school relationships
 - Identification of specific training and development needs for entry-level workers
 - Options to reduce workforce development costs
- 

So what is the real product?

- ◆ Ships?

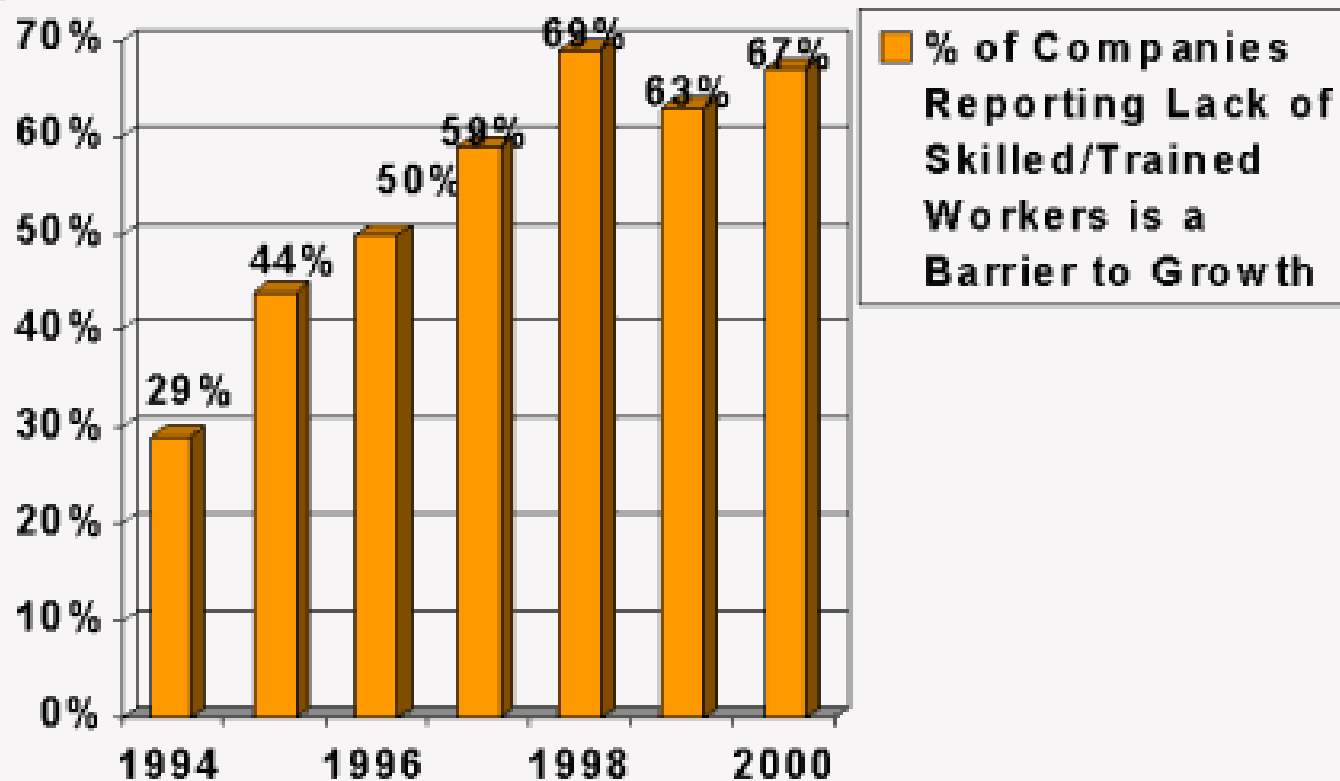
- ◆ Real product >>>
a skilled workforce



- ◆ Their product will be ships



The Lack of Skilled/Trained Workers is a Barrier to Business Growth



Source: PricewaterhouseCoopers Trendsetter Barometer Surveys

Who shares this view?

- ◆ General manufacturing
 - NAM, NACFAM, MSSC, US Chamber, others
- ◆ Shipbuilding and Repair
 - NSRP shipyards, SCA shipyards, Unions
- ◆ Construction Industry
 - AGC, Unions
- ◆ Workforce Boards & Job Centers
- ◆ Educators – K-12, post-secondary
- ◆ Government – Labor, Commerce, others

Symptoms of Emerging Workforce Problems

- ◆ Demand steady or growing:
 - Existing workforce – turnover & retirees
 - Changing business requirements
 - ◆ Business growth
 - ◆ New Technologies
- ◆ Supply shrinking or quality low:
 - Demographic changes – diversity
 - Skills gap among new workers

If symptoms are true implications for:

- ◆ Costs – wages, re-work
- ◆ Time – delivery schedules and flexibility – emergent repair
- ◆ Skills – who can and will do the work vs. investment in automation
- ◆ Place – if not in US yards then where will vessels be built and repaired?

Skilled Labor Shortfall

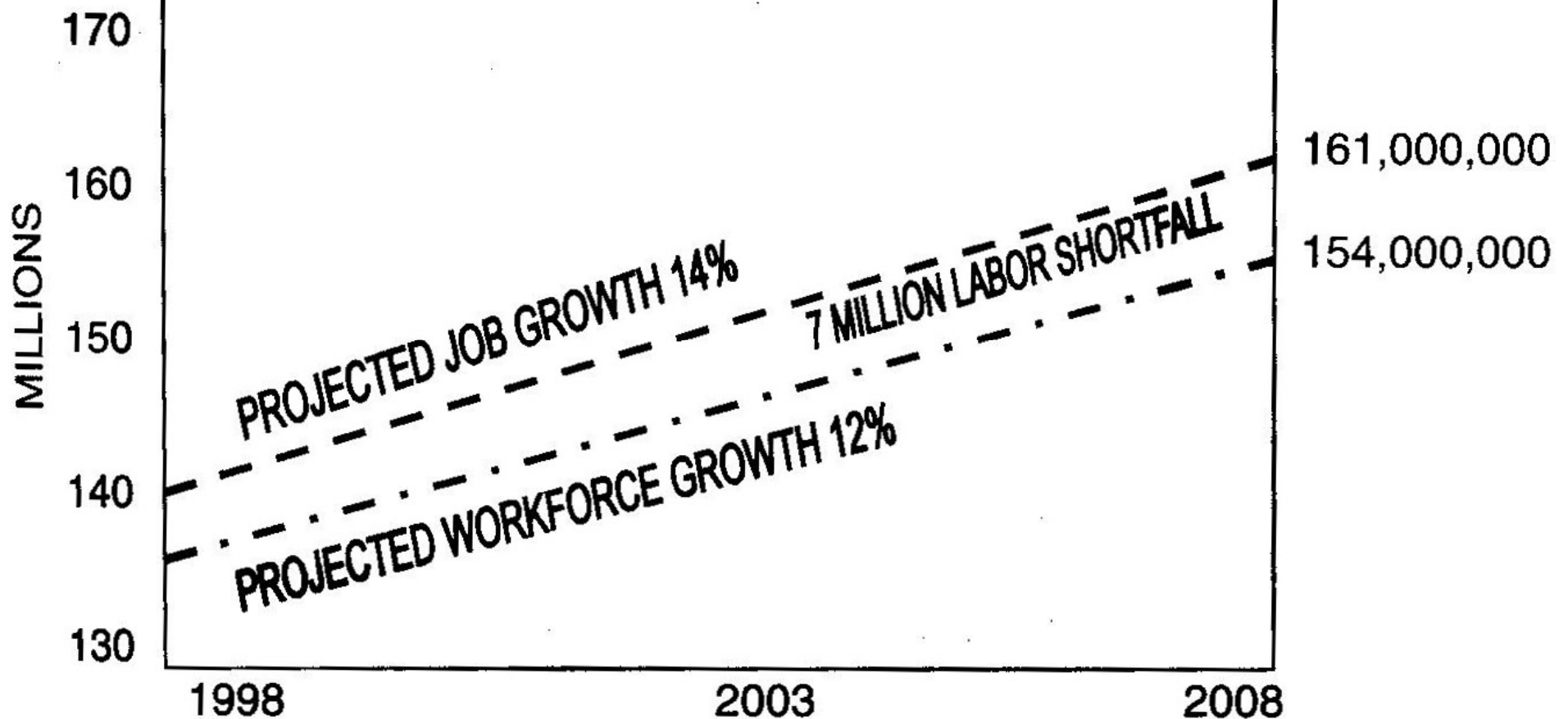
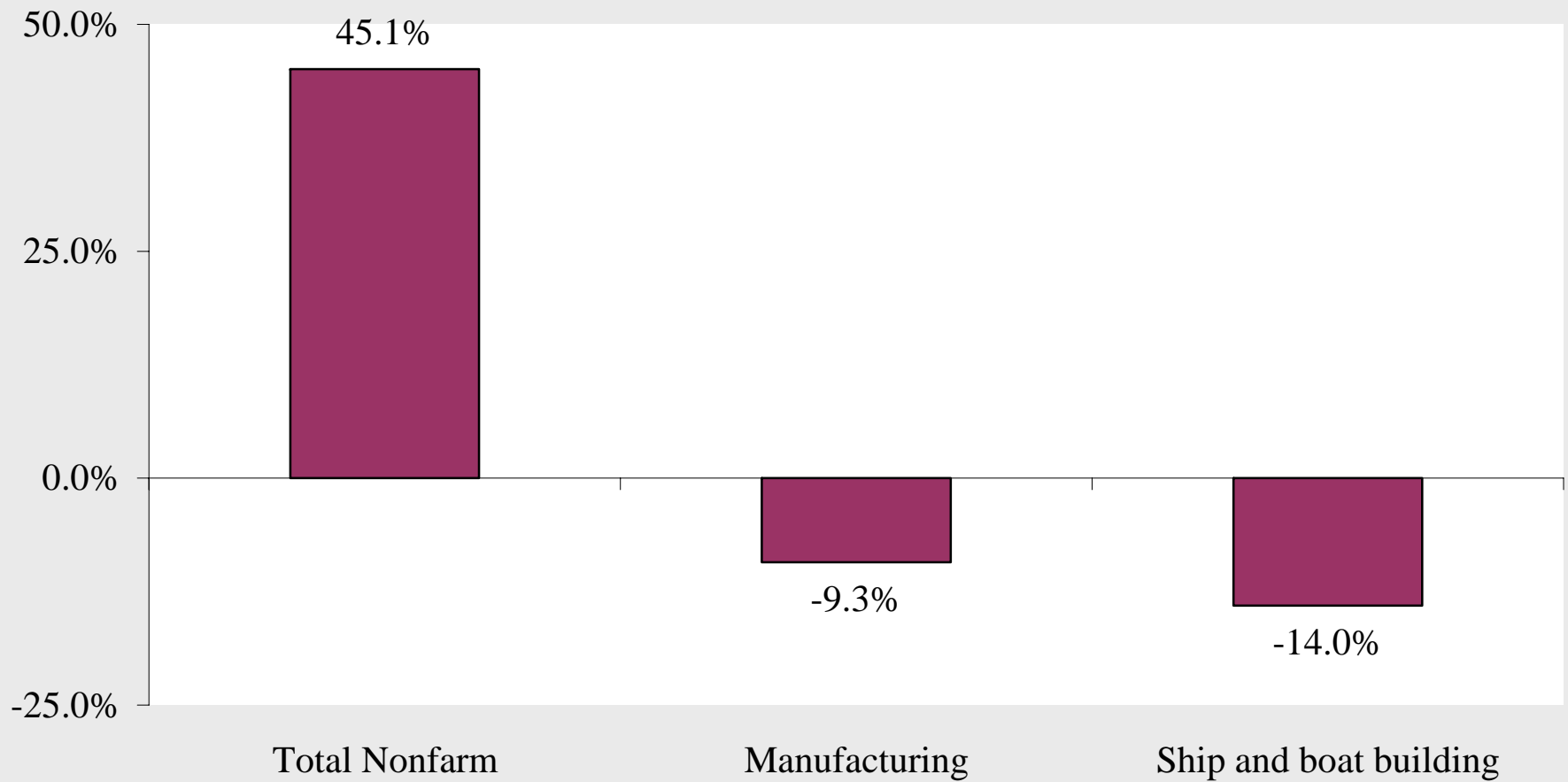


Figure 1-2. Projected job growth and workforce growth in the United States. Adapted from Branham (2001).

Percentage Change in Total Employment and Employment in the Manufacturing and Shipbuilding Industries, US, 1983-2002



Female Contribution to Labor Force Growth, 1990-2000



Area	Change in the total Labor Force	Change in the Male Labor Force	Change in the Female Labor Force	Female share of labor force growth
Norfolk Area, Virginia	61,948	21,623	40,325	65%
New London, Connecticut	2,755	-1,646	4,401	160%
Rhode Island	7,987	-1,971	9,958	125%
San Diego, California	99,765	37,484	62,281	62%
Seattle, Washington	119,073	61,423	57,650	48%
Mobile, Alabama	7,875	2,245	5,630	71%
Orleans Parish, Louisiana	-1,092	-4,086	2,994	NA

Immigrant Share of Population Growth in Selected Areas, 1990-2000

Portugal Mexico over 50



Area	Absolute Change in Total Population	Recently Arrived Immigrants	Immigrant Share of Total Population Growth
Norfolk Area, Virginia	117,410	22,911	19.5%
New London, Connecticut	4,131	4,864	117.7%
Rhode Island	44,855	41,478	92.5%
San Diego, California	315,817	215,502	68.2%
Seattle, Washington	229,715	131,848	57.4%
Mobile, Alabama	21,200	4,376	20.6%
Orleans Parish, Louisiana	-12,264	6,885	NA

Are US workers ready for work?



Academics, technical, attitude?

Gathering Data

- ◆ Crosscut Surveys
 - Shipbuilding and repair yards
 - Educators and job service groups
- ◆ Shipbuilders Council of America
- ◆ National Coalition for Advanced Manufacturing
- ◆ Manufacturing Skills Standards Council
- ◆ National Association of Manufacturers
- ◆ National Association of Workforce Boards
- ◆ Government agencies

Entry Level Academic Knowledge & Skills

What is your perception of readiness to work by your new workforce hires over the past two years: A (very ready); B (somewhat ready); C (not ready)

B Math: Manipulate numeric information

B Reading: Use written info in a variety of formats

C Writing: Express info in written form clearly & accurately

C Science: Apply basic principles of chemical, physical & earth sciences

Entry Level Technical Knowledge, Skills and Abilities

B Hand tools and portable power tools

C Workplace safety and personal protection

C Read, comprehend and follow work orders

B Math concepts: measurements, layouts,
rigging weight

B Materials concepts: strength, joining,
corrosion, wear

C How manufacturing business makes
money

C Waste at work – basic Lean concepts

Entry Level Employability Knowledge & Skills

B Listening

B Speaking

C Using Information & Communications Technology

C Gathering & Analyzing Information

C Recognizing, Analyzing & Solving Problems

C Making Decisions & Judgments

C Organizing & Planning

C Using Social Skills

C Adaptability

C Working in Teams:

C Leading Others: Motivate

C Building Consensus, Resolving differences

C Self & Career Development

Do new workforce demographics affect your business?

A (no impact); B (requires some effort); C (cost, time and management burden)

C Academic-technical (synthesis of KSA attributes above)

C Maturity (synthesis of academic and employability knowledge and skills above)

B Languages different from English

B+ Gender differences – women in the workforce

B+ Gender difference – current generation of boys

B+ Age of workforce – higher age at entry

C Expectations of workforce – for benefits, work

B+ Cultural differences – ethnic, religion

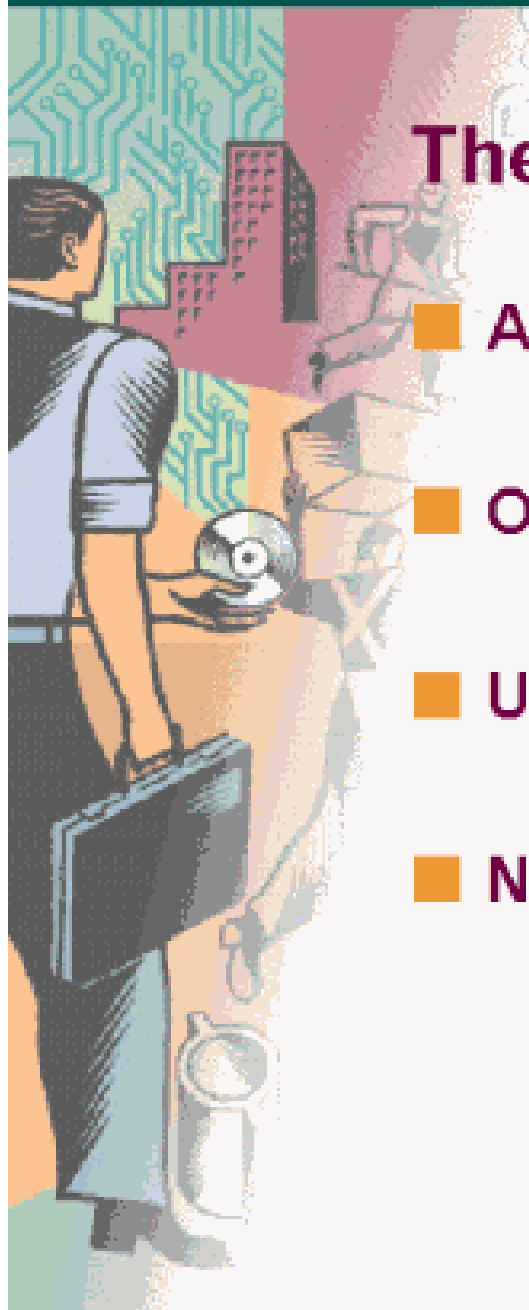
B Immigrant status – concerns for legality, etc.

B Single parents – requirements of children



The Image of Manufacturing

- An Industry in Decline
- Old economy vs. New Economy
- Uncompetitive in the Global Markets
- Not High Tech



How are new workers found?

A (very effective); B (somewhat effective); C (not effective)

B Advertising: print or broadcast

B Radio or TV features on your company

B-C Job fairs

B Company web site

A Current/past employee referrals

C School guidance counselors

C School-to-Career – vocational, college

B Adult referral: Job Service, Manpower, etc.

B Adult services: addiction recovery, correction system, welfare

Others, please list

A 95%+ of our hires are through union hiring halls.

Interface with Educators, Workforce Investment Board or other Job Services

A (Work closely and receive benefits); B (Have little or no experience); C (No return on investment of our time and energy). Survey results shipyard unique

- Local job service or WIB liaison
 - Workforce development
 - Grant funding – federal & state
 - Training grant funding from state agencies
- Shipyard liaison with local educators
 - Discussions with faculty and/or students
 - Intern, coop or work-study programs
 - Integrating shipyard training with courses
 - Student tours, job-shadowing, etc.

Workforce Turnover

- ◆ Survey: Low 2.5 %; High 104%; Average 39%
- ◆ Reasons for turnover – highest to lowest
 - Termination poor performance
 - Resignation for higher pay/benefits
 - Resignation job security worries
 - Termination for poor attendance
 - Poor probationary period
 - Resignation working conditions
 - Resignation personal problems
 - Termination for poor skills
 - Lack of Advancement
 - Resignation to avoid termination

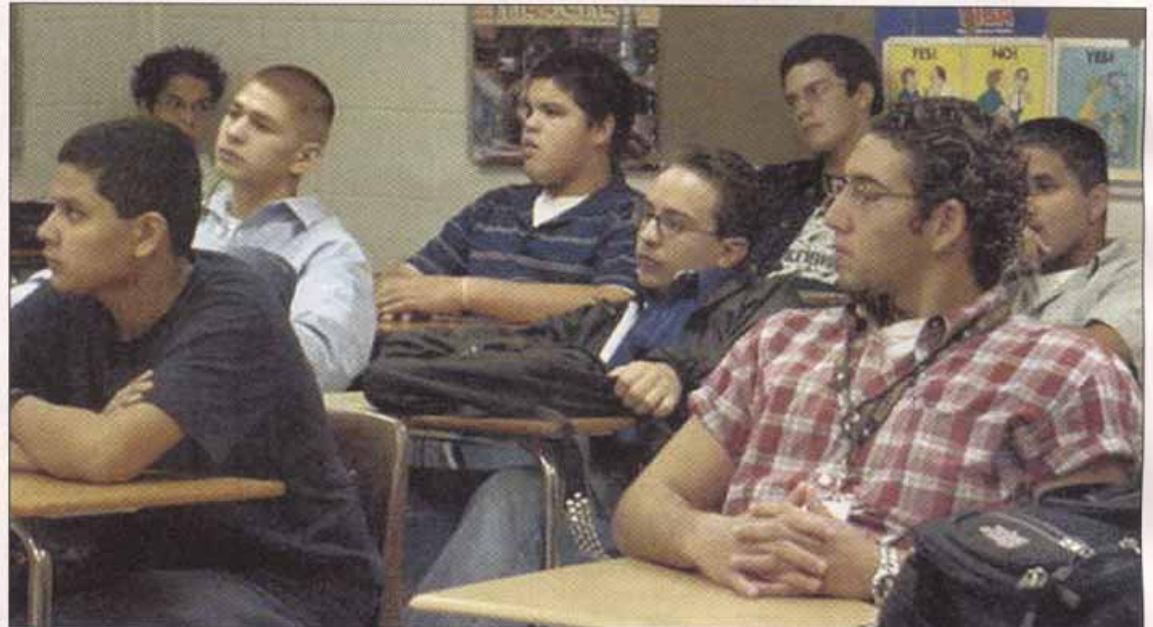
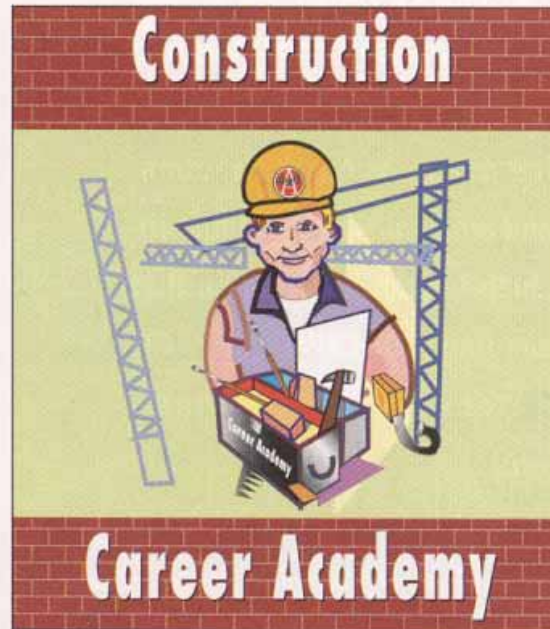
A path ahead

- ◆ Attracting new workers means improving manufacturing and shipyard image
- ◆ Resolve school system pipeline problems
- ◆ Cope with demographic reality
- ◆ Collaborate within shipbuilding, with other manufacturing and related industries

Case Study - Construction

THE CAREER ACADEMY OPTION

CAREER ACADEMIES OFFER BENEFITS OVER TRADITIONAL VOCATIONAL EDUCATION



ALSO INSIDE:

- AGC'S 85th Annual Convention in Orlando
- AGC's Education and Research Foundation
- Leadership Development Tracks
- HR Solutions
- Presidential & Congressional Primaries & Caucuses
- National Directory of AGC Chapter Education Programs

What can we do #1 of 8

Maritime Industry Collaborate:

- Understand emerging workforce issues
- Take an enterprise perspective
- Top level management involved.

This includes

- US Maritime Administration
- Naval Sea Systems Command
- Shipbuilders Council of America
- American Shipbuilding Association
- SNAME, ASNE and others.

**If you believe
this story, take
it to your top
management.**

What can we do #2 of 8

- ◆ Study and understand the local labor demographics
- ◆ This data is available through government labor or workforce board organizations

ESL classes for immigrants?

Transportation pools?

Child care for women & Mr. Moms?

Ergonomics for us geezers?

Veterans from USN, USCG, etc.

What can we do #3 of 8

- ◆ Understand expected literacy from K-12 and post-secondary schools that provide emerging workers.
- ◆ Help fill gaps between shipyard requirements and what educators can do
- ◆ Develop shipbuilding and repair oriented learning aids

Visit schools that feed your shipyard. Ask and volunteer.

What can we do #4 of 8

- ◆ Stronger relationship between Crosscut Initiatives Panel and other NSRP panels
- ◆ More on workforce & skills
- ◆ Retention/turnover
- ◆ Tech Transfer
- ◆ Image

**Include Crosscut
people on your
technical
projects**

What can we do #5 of 8

- ◆ Showcase and share best practices and methods for emerging workforce development
- ◆ Examples:
 - Tidewater Virginia;
 - Philadelphia;
 - San Diego;
 - Rhode Island;
 - Gulf Coast

**Contact yards
where
innovation is
happening.
Learn best
practices**

What can we do #6 of 8

- ◆ Explore teaming and appeal for good national policy and resources
 - With other shipyards
 - With other manufacturing such as your suppliers and vendors
 - Construction industry
 - Workforce boards and educators.

Work with your shipyard's PAC – Shipbuilders Council of America or American Shipbuilding Assoc., Workforce Boards, Veterans, Changing education & more

What can we do #7 of 8

- ◆ Form/improve local/regional industry clusters
 - Shipbuilding and other manufacturing
 - Education providers
 - Workforce boards
- ◆ manufacturing support, image, education, regulations, etc.

Industry clusters work to give manufacturing a voice equal to service industries.

What can we do #8 of 8

- ◆ Implement shipbuilding and repair skill standards
 - Shipbuilding and repair story for new workers
 - Key tasks and their knowledge & skills
 - Assessment & Certification
 - Help educators to teach what we need

**Skill Standards Bridge
between**

- education-learning
- employment-work

Workforce Development System

Image	News Coverage Manufacturing in the general economy	Popular Media TV shows, etc.	School Career Counselor Advice	Company Web Sites & Open House Tours	Company Job Postings	Company participation in education organizations	Family & Friend Referrals	Health, Safety & Environmental Reputations
Sources	K-12 School to Work	Technical-Vocational Education School to Work	Work to Work Job Changers & Dislocated Workers	Welfare to Work Persons Needing 2 nd or 3 rd Chance	Union Sources	Immigrants	Temporary & Contract Workers	
Education	K-12 Curriculum	Technical-Professional Courses, Academies	Community or Junior Colleges	For-profit technical schools	Company-Education Partnership Models	Union-Operated or Industry Apprentice Programs	Immigrant Programs, ESI, etc.	
Support	School-to-Career Organizations	Job Service, Recruitment & Referrals	Labor Market Information and Statistics	Resource Centers, Career Screening & Testing	Education & Training Subsidies, On-the-Job Customized Layoff-Transition	Skills Standards General Industry Specific	Union Programs Dislocated Workers	Welfare - To - Work Subsidies and Support
Shipyard	Recruitment and Hiring Process	Orientation and Initial Training	On-The-Job Training and Mentoring	In-Company Apprentice Programs	Perceptions of Professional Development & Retention			

A Workforce Development System

- Image
- Sources of new workers
- Education connections
- Support connections
- Shipyard-specific levels of effort

So where do we go now?

Crosscut needs your inputs

- ◆ Questions
- ◆ Comments
- ◆ Request for further conversation at this meeting.
- ◆ For reports and graphics – Larry Gebhardt or Les Hansen
 - lgebhardt@senescomarine.com
 - LHansen119@aol.com
- ◆ Download from www.usashipbuilding.com panel pages – Crosscut Initiatives