

DAY 3: PLENARY SESSION (PANEL)

## Labor and Technology

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Richard Walker, *Maritime Administration, Moderator*

Richard Hollingsworth, *Gateway Cities Partnership, Inc.*

Eugene Pentimonti, *Parsons Brinckerhoff*

James Spinosa, *International Longshore and Warehouseman Union*

Michael Belzer, *University of Michigan*

Jon Helmick, *U.S. Merchant Marine Academy*

### OVERVIEW

*Richard Walker*

Over the past two days, most of the sessions I attended suggest that this panel is most timely. We have had lively questions in other sessions that indicate we are faced with a number of challenges, requirements, and opportunities; I am hoping this panel can enlighten us on some of those issues. I will take a few minutes to set the context in which the panelists will make their remarks and respond to previous sessions and your questions.

The U.S. transportation industry continues to embrace technology as a way to increase productivity and system throughput capacity. In today's competitive environment, industry applies technology to operations as soon as benefits to the consumer and the bottom line can be realized. Technology has helped U.S. companies provide a wide range of products to their customers at very attractive prices. Technology such as Global Positioning Systems and intelligent transportation systems expedite the movement of cargo more efficiently, whereas new innovations such as the Internet and cyber technologies are still being explored.

It takes people to make all this technology work. The best and most modern technology does not function properly without skilled labor to use it. America has some of the highest skilled workers of any of the industrialized nations in the world. Many advances we see in the United States have resulted from labor innovations

in the workplace as well. Billions of dollars have been spent by foreign corporations to set up plants in the United States to take advantage of the skilled labor pool.

We should also be mindful that both labor and management have benefited from the introduction of technology in a variety of ways. One of the first big technology gains resulted from the introduction of bar codes in the grocery industry. Since then, this technology and many others have expanded to nearly all industries in the United States as well as throughout the world. It is anticipated that the future holds many more advances.

### INFRASTRUCTURE CAPACITY

*Richard Hollingsworth*

*Richard Hollingsworth is President and Chief Executive Officer of Gateway Cities Partnership, Inc., a regional economic development corporation. He has been active in transportation for many years, including 5 years as Executive Vice President of a Long Beach-based trucking and distribution company and West Coast Regional Sales Director for a transportation software company. In 1996, Hollingsworth developed the curriculum for the global logistics specialist program at California State University at Long Beach, which is unique in the nation. He teaches classes dealing with integrated logistics issues, information technology, and trends in the logistics industry.*

I will begin my presentation with a question: Can the infrastructure in southern California handle the increased growth in traffic through the ports without adopting new technology and processes?

My interest in this question arises from my position as president of Gateway Cities Partnership, which is an economic development collaborative for the 27 cities in southeastern Los Angeles County. Eighty percent of the truck traffic coming out of the ports goes through our cities and on our freeways, and over 200,000 jobs in our region are directly attributable to the ports' existence as an economic engine in the region.

Indeed, our activities in the ports and its stakeholders are such that we have formed a partnership with California State University in Long Beach to create the Center for International Trade and Transportation (CITT). The role of CITT is to act as a neutral forum where all the players in the industry can come together to discuss issues of mutual interest in a spirit of cooperation and mutual respect. Last year, CITT organized the first International Longshore and Warehouseman Union (ILWU) industry town hall to discuss issues of interest with everybody in the industry. Almost 2,000 union members and industry people showed up, and we had to turn away about 500 people. This year on April 6, we will hold the second ILWU industry town hall at the Terrace Theater in Long Beach and expect an audience of up to 3,000 people.

Now that you understand my interest, let's get to the question I posed: Can the infrastructure in southern California handle the trade growth that is projected for the next 20 years without adopting new technology and processes? On the way to addressing that question, I will talk about two kinds of infrastructure: the first is physical infrastructure and the second is people and process infrastructure.

Let's talk about the physical infrastructure first, because we are all used to driving on freeways. Since 1990, the southern California ports have grown by about 150, which is a magnificent testimony to the growth of international trade through our region and to the efforts that have gone into developing the ports. A study done for the port of Long Beach suggests that trade through these ports will triple by the year 2020. Everything is fine, so far.

Now, I have a question for you, particularly those of you who may live in southern California and who know the 710 freeway: Can you remember what it was like on the busiest day you drove on that freeway recently? If you have driven on the 710 freeway during peak traffic in the past year and during the peak business season, just remember for a moment what it was like. Now, try to imagine twice as many trucks on that freeway on the same day. By 2003, we will be looking at an average daily truck traffic on the 710 freeway of 50,000 vehicles per

day, just trucks. That is double what it was in 1998, and that is way beyond the capacity of that freeway.

The California Department of Transportation (Caltrans) ran a model and they have estimated that at 40,000 truck trips per day that freeway grinds to 17 mph (27 km/h)—essentially gridlocked during business hours. They expect that to happen in 2003. That spells real trouble for anybody doing business in the southern California ports and for anybody who derives business from the southern California ports. What makes the traffic situation even more difficult is that almost all the containers are delivered from and returned to the port during peak traffic hours, 5 days a week. Very little of this activity occurs off-peak, and hardly any occurs on the weekends.

The simple solution may appear to be just to expand the freeway to match the traffic flows. That is easier said than done. Two days ago, Caltrans received the go-ahead from the California Transportation Commission to begin work on a major infrastructure study to determine what needs to be done with the freeway to cope with the increased traffic. My best estimate for completion of that study, and it is my opinion, is early next year; the money was just appropriated and the requests for proposal have not yet gone out. When the study is completed early next year, all the stakeholders (and there are plenty of them) will sit down to decide which of the recommendations in the study will be adopted and how they will be prioritized.

Who gets to make these decisions about what should be done to close the infrastructure gap? The list includes Caltrans, the Southern California Association of Governments, my colleagues at the Gateway Cities Council of Governments, and each of the cities along the 710 corridor and the ports. There is some tension between Caltrans and the ports about whether the ports should pay for part of the cost of improving the freeways, because they generate the vast bulk of the truck traffic. The tussle between Caltrans and the ports is likely, I believe, to delay rapid implementation of the study's recommendations. My own opinion that asking the ports (and ultimately the shipper) to pay for freeway expansion is like asking Los Angeles International Airport (LAX) to pay to expand the 405 freeway that goes by the airport and then pass the cost on to each passenger who flies into LAX. It does not make sense, but that does not mean time will not be wasted arguing about it.

After everyone has had their say, the design work will commence. It will require a scope of work, and so forth—you get the picture. There will be no immediate infusion of funds to widen the freeways before it gets a lot worse than it is. As a local Caltrans director said to me, "Richard, I don't believe we can build enough freeways to really solve this problem with the growth coming out of the ports." I agree with him.

Today we have 16 lanes on our freeway and I do not see anybody widening it to 18 lanes to cope with the kind

of traffic projected by the ports. The reality is that the ports are growing faster than our ability to expand the freeways and there is no solution in sight from a physical infrastructure perspective. When construction finally does start on the 710 freeway, the construction itself will cause delays. Therefore, we are forced to begin looking seriously at nonphysical infrastructure processes to begin to effect a change in this issue.

Let's turn to the ports themselves. Geraldine Knatz, Director of Planning for the Port of Long Beach, has indicated that the port of Long Beach will have run out of expansion space or options in terms of finding new land by the year 2008, and keep in mind that the port is projecting 200 percent growth 20 years out. We will not be closing any more naval bases in Long Beach and we have run out of water to fill in. This means that, after 2008, the existing facilities will have to deal with increased trade without the option of increasing acreage. This, in turn, means that the people who operate the terminals are going to have to operate more efficiently than they do now in terms of land use. This means longer operating hours and grounding every container. Grounding every container means slower turn times, which means it takes longer for the truckers to get in and out of the terminals. Let's review where we are.

- The freeways are heading toward gridlock—they simply cannot cope with the projected demand;
- The ports are nearing build-out; and
- We are headed toward grounded operations in every container terminal at some point, which means sooner or later such operations will become a thing of the past in southern California ports.

Let me turn now to the other infrastructure we have: the people and the processes we use to make these ports work. The ILWU is on everybody's lips. Everybody wonders what the ILWU is going to do. Are they going to go on strike or are they not going to go on strike? Are they going to slow down, are they going to walk out, are they going to do something strange? Well, let me tell you something. The ILWU is here to stay. Its rank and file probably has a longer-term commitment to the port than anybody else. They are not going anywhere and they are not hurting even a little bit.

On the other hand, another part of the labor equation in the southern California ports is the independent truckers. Independent truckers are not tied to the port. Independent truckers are hurting badly, and independent truckers are going somewhere. They are leaving the industry.

Let's do some arithmetic. When you talk about independent truckers—how are they doing? If you go back to 1984, the average local trip for roundtrip dray in the southern California port would yield about \$80.00 for

the roundtrip to independent truckers. They would do maybe three to four turns a day, \$80.00 locally. If they go to Orange County or Inland Empire, they get more. They would make somewhere around \$350 or \$360 a day and that would give them an okay living, but out of that they have to pay for insurance, truck maintenance, and diesel and they have to take care of their families.

In 2000, average truckers make \$80.00 a roundtrip for a local dray, a little bit more to Orange County or the Inland Empire. However, they are doing, on a good day, two to three trips a day, 25 percent less than 15 years ago, or \$160 to \$240 per day is what they are making now. But today, diesel costs are considerably higher. Their standard of living has declined precipitously. Their hours of work are fewer than they were 10 years ago, and time spent at a terminal waiting to get in to pick up a container is counted as driving time. So, if they spend 3 hours a day making nothing, they have only 5 hours left to make money, and 3 hours a day waiting at a terminal is not unusual—it is more than likely the norm.

Now add some other ingredients to this mix. Average freeway speeds are inching toward 17 mph—virtual gridlock. More and more containers are being grounded, which means more uncompensated waiting time for drivers. These added problems force more owner-operators out of the industry—the worse the traffic, the fewer roundtrips for drivers, and the less attractive it is to be a driver. Let me tell you, the driver shortage is real and it is long term.

It used to be that the surest way you could tell what month of the year it was in the trucking business—and remember, I am a recovering trucker—was to look in the driver waiting room. In January, you would find drivers sitting around playing cards waiting for a load or a dispatch. During January of this year, every driver is working all the time at the slowest time of the year, and if it is busy for drivers now, you can imagine, or perhaps you cannot imagine, what it is going to be like during the peak season later this year. My friends in the harbor trucking industry tell me that last year they operated on a 2-day delay for most of their customers during the busy season. Expect that situation to worsen this year.

To replace these lost drivers, the companies must buy trucks and hire company drivers, pushing up their cost of operation. In addition, given how low trucking rates have been historically in this port, there is a great reluctance on the part of the trucking companies to invest in trucks, to spend on capital costs, and to put themselves at risk of a sudden dip in rates again. The cost to move containers in and out of the ports of southern California will increase considerably, and the flexibility currently provided by the owner-operators will be lost.

On the trucker side of the equation, cargo insurance costs are up 20 to 40 percent this year, so insurance companies are getting out of the cargo insurance business

because the theft situation is so bad here in southern California ports. Today, small companies, those with fewer than five trucks, simply cannot get insurance unless they have a minimum premium payment of about \$10,000. The companies that get insurance pass the cost on to their customers.

One more issue that exacerbates the situation here in southern California, or that has the potential to, is that currently U.S. Customs inspects about 1 percent of all the cargo coming through the port. Congress has determined that is simply not enough. Now, 1 percent of six million 20-ft equivalent units (TEUs) is a lot of containers. Congress wants customs to get closer to 2 percent. That pushes the number of inspections up to about 120,000 TEUs a year. If you project that out over the next 20 years, using the port's numbers, it means that in 2020 customs is going to try to inspect 360,000 TEUs a year on the port—this is major gridlock for the port operators unless customs can use new technology or bring massive manpower to bear in the situation.

Again, let's summarize where we are in terms of challenges:

1. The freeways are not able to handle the projected traffic.
2. It will be years before the 710 freeway is expanded.
3. The construction work to widen the freeway will make the situation worse in the short term.
4. Room for port expansion ends in 2008 or thereabouts.
5. It takes too long for trucks to get in and out of terminals.
6. The number of drivers in the port is declining because of shrinking income.

Where do we go from here to forestall or remedy the situation? The good news is that some people are working on this issue. As a result of pressure from the Gateway Cities Council of Governments and my organization, there is now a 710 Freeway Expansion Task Force and there is a real sense of urgency on behalf of state agencies with regard to expanding the freeway. It is just that it may be too little too late.

Because it is clear we cannot build our way out of the infrastructure problem, we are going to have to figure out how to use the existing infrastructure more efficiently in the near term to solve current problems and to absorb the projected 200 percent growth in the next 20 years. I am not just talking freeways but also the terminals we use to move the freight off the ships.

How is this going to be accomplished? If we are to apply reasonable logistics principles to the operation of all the players and the ports, we would see there are tremendous opportunities to maximize efficiencies every-

where, if everyone is prepared to give a little to gain a lot. A few things spring to mind.

1. Exchange empty containers between trucking companies outside the port area. Do not bring every empty back into the port unless you absolutely have to and unless it is going out empty.
2. No pickup or drop-off in the port by trucking companies without an appointment.
3. Use the off-peak hours to move containers around the region.
4. Automate the interchange process between truckers and the ocean terminals.
5. Create a shared chassis pool.
6. Make the interface between the trucker and the ocean terminal more efficient to eliminate waiting time. This will enable the truckers to get more loads and enable them to make more money so they will keep on working in the industry.

Most of these ideas require the use of technology for sharing information. They also impinge on the work of the ILWU and they, quite properly, have questions about how ideas such as these would be implemented. One thing is for sure—if we do not deal with their concerns sooner, we will deal with their concerns later.

Let me just make an aside here. Do not fall into the trap of thinking the ILWU rank and file do not think about how to improve the ports. Two years ago, CITT surveyed all the stakeholders in the industry to get their opinions on impediments to productivity in the ports and suggestions for how we might make improvements. The most enthusiastic responses with the most suggestions were from the union rank and file and from the trucking companies. The least responsive, curiously enough, were the steamship lines and the terminal operators. They barely responded at all.

To improve matters here in the port, all the stakeholders—steamship lines, customs brokers, truckers, ILWU, forwarders, terminal operators—are going to have to sit down and figure out a new way to do business in this region. At CITT we have established a neutral forum to discuss how the whole industry—and the ILWU is very much a part of the industry—can move ahead together in a spirit of mutual respect. Obviously, labor negotiations are a matter to be dealt with directly between the ILWU and the Pacific Maritime Association (PMA). However, that does not preclude a discussion of all the options by all the stakeholders in an open and candid forum.

In closing, I want to remind you of the remarks by Lieutenant General Brown at dinner earlier this week, when he described how the army carried out its amphibious landings at the turn of the century in Cuba by tossing mules off a ship and letting them swim to shore. He also spoke about how the armed forces have drastically

improved their capacities, even since Desert Storm, by adopting new logistics concepts and technologies to project massive force quickly and efficiently. The question for us in southern California and along the whole West Coast is: Are we going to keep throwing the mules off the boats, or are we going to use technology to project force when we need it and where we need it, and are we going to do it in a way that benefits all the stakeholders? Thank you.

## ADVANCES IN TECHNOLOGY

### *Eugene Pentimonti*

*Eugene Pentimonti is Director of Intermodal Planning for Parsons Brinckerhoff and has more than three decades of professional experience in marine engineering and intermodal transport. He has served in senior executive positions with industry advocacy groups, major global shipping firms, and shipbuilders. As President of the American Trucking Association Intermodal Conference, he led an advocacy group of intermodal carriers. Earlier, during a lengthy executive tenure with American President Lines, he served in numerous key engineering and management positions. His responsibility included managing military and government business activity, developing new sealift agreements and contracting processes with military customers, and representing American President Lines' interests in U.S. legislative and regulatory matters.*

I am going to represent the ocean carrier and terminal operator industry and its assessment of where we are going in our state of readiness in labor and technology. The background for my remarks is issues that are becoming extremely repetitive, not only from what Richard just gave us but from what we have heard all week about what is happening in our intermodal industry—huge investments by carriers, operators, port authorities, railroads, and so forth, along with the infrastructure of our government to make this system work. There is huge growth potential that is going to stress it and the need for productivity to be able to take our limited capacity and take it forward so that we can go beyond the gridlock that everybody predicts. I think if there is one thing we can all agree on it is that there is going to be gridlock if we do not use technology and if we do not improve the productivity of the system we have available to us. Although not yet at full capacity, the system soon will be and if we do not act, we are collectively going to be in a crisis. We heard that from General Wykle on the highway system. We heard it from our rail-

road colleagues. We surely heard it from those of us who have been toiling in the area of serving the marine and inland terminals. There is little doubt it is true.

The situation we find ourselves in, with regard to the mix of technology and implementation of technology and labor, is that there has been a reluctance (and I think that is about as discrete a word as I can find) to accept and implement the technology that is available today in our marine terminals. Many of us who have been involved with the port and terminal business have made huge public and private investments to advance technology. Unfortunately, we have not been able to take advantage of those investments.

What is the result? The result is that more investments will not be made and are not being made and that the development and research that allow for technology to be introduced are also going to wane.

For some reason, gate technology is the area where we are seeing the most reluctance. I see people in the audience here from 10 and 15 years ago whom I have worked with in attempting to put gate technology together that makes it paperless and automated. What happens? It does not get implemented. In the largest terminal in this area—and I will not mention names—there was an attempt to put a semiautomated gate together in the design. What happened midway through the design? They had to change the design and a laborer is now installed on that gate, handing out receipts to a driver. The driver has to get out of the cab and go get the receipt from the clerk. Why? We all go through parking lots every day. A ticket comes out of the machine, and you pick it up; it appears to be efficient and it is available. We cannot use it in our ports, even though the gate is the most congested place in the terminal.

All week we have heard people say if we could only operate 24/7—if we could only open the gates when the volume wants to come in. Labor says, “No problem—open the gates.” Maybe the economics do not work, but technology would allow for that to work. We could get more capacity and more throughput out of our gates if we could automate them, if we could make them paperless. On the East Coast, there are gates that are automated and paperless. We do not have them on the West Coast. In my current job, I get to travel all over the world and see terminals. Terminals are automated. Gates run without paper. Why can't we do it here? Is it just a dream? Are we ever going to be able to realize the reality of being able to operate more efficiently by using technology? I hope so. This is not something we have to take off the drawing boards and take out of the laboratories. It is here today.

I am fortunate to chair the Cargo-Handling Cooperative Program (CHCP) that the Maritime Administration and the U.S. Department of Transportation put together. The program brings together terminal operators, port

authorities and ocean carriers, railroads, and others to sit and talk. We had a 2-day meeting here in Long Beach earlier this week. One young technology expert stood up—a young man, not a great deal of maritime experience—and presented some technology he was working on that would help to automate gates. In his naivete he said, “This is great stuff, but unfortunately we cannot sell it to customers in the United States, so we are selling it to customers outside of the United States because our customers in the United States cannot implement this technology.” That tells us a great message—we have got to find ways to allow ourselves to take advantage of what is available today. It is here. Our competitors in foreign countries are using it. Terminals around the world have automated their gates.

What is labor’s concern? Are they concerned about their jobs? Let’s get real. There are hundreds of casual workers. There is too much work for what we are doing today with the labor force we have got today. Beyond that, guarantees were made in this year’s contract that everybody who has a job will have that job until retirement. You cannot be worried about the job—it is guaranteed. Are we worried about training? The industry spent \$25 million in the past 2 years training dockworkers on technology, computers, safety, and new processes. They are willing to spend much more than that if necessary to train displaced workers to make sure the technology that is installed or distributed can be operated.

Aren’t they getting paid enough or worried about getting paid? I do not know if you saw the *Journal of Commerce* this week: the average earnings for a Class A longshoreman is \$101,000, and for a foreman it is \$160,000. Understand that the crane operators in Los Angeles–Long Beach engaged in slowdowns last week to get more money. They currently work an average of three 4-hour shifts a week and are guaranteed pay for five ships per week. I have heard that some go back to the hall after working their steady job and get more work. Some of the people who do this earn \$250,000 a year. I think they are getting fair pay for the day’s work that we provide them. I want to know what the problem is. Why can’t we take advantage of this technology?

Whom does it affect? It affects all of us, not just the operators. The operators pay these high costs and are operating more or less productively and the assets that they are buying, both their own and through the leasing of port facilities and other terminal operation sites, are not being fully utilized. Who pays for that? The manufacturer and the consumer—those costs are passed on. You can argue that everybody has to pay the same. This is not a U.S. operator versus foreign operator issue. Everybody who goes through the ports on the West Coast and through our country has to pay these rates. Who pays for them? The manufacturer and the consumer. The port authorities pay too. Their asset utilization, the lim-

ited facilities they have that we have heard about, are going to run out. They are going to be stymied. Who pays for it in the long run? The consumer and the manufacturer in the United States. Our economy is really where the buck stops. We are going to be less globally competitive if we continue this spiral. If we cannot fix these issues, the strategic advantage that the United States has within its fabulous rail and highway infrastructure is going to be throttled at the ports.

Richard said he challenges you, and so do I. I primarily challenge labor to sit down in partnership with our industry to address issues of how to practically implement the available technology in a way that meets their requirements and allows us to go forward. As chairman of the CHCP, I have decided to not have a meeting without inviting all aspects of labor to participate in the industry’s cooperative research efforts and discussions. I challenge all of you; it is not just a carrier and a terminal operator problem. The port authorities have been silent for years. Stand up. It is going to affect you. It is going to affect all of us if we cannot implement the technology that this broad organization and all of you, in your efforts, have available to make our terminals operate more productively and extend their ability to take on the trade growth of the future. Thank you very much.

## IMPACT OF TECHNOLOGY ON LABOR

*James Spinosa*

*James Spinosa is International Vice President of ILWU. He started with the organization as a terminal warehouseman in Local 13 in 1969. A year later he was registered as a PMA marine clerk. In 1984, Locals 13, 63, and 94 appointed him the first union Commodity Flow Survey monitor. He has served as both President and Vice President of Local 63 since 1987.*

Gene’s questions beg for an answer and I will try to do the best I can to give you ILWU’s insight to the problems of the industry.

I came into this industry as a young man some 31 years ago. Labor at that time and the movement of cargo were far different than it is today in the major ports. It was not that the longshore industry did not change its way of moving cargoes on and off vessels or setting up terminals to handle that particular type of cargo movement. It was not very different or any different than it had been maybe 50 or 60 years before when they were using nets; they were using pallet boards and then along came a mechanized piece of equipment called a pallet jack.

Longshoremen at that time had to learn and understand what this device was that was going to mechanize their industry. In the beginning, there was frustration, as there is today, in understanding what that meant to our industry and to the worker, but soon that particular piece of equipment became part of the industry and we mastered it and we started moving freight and cargo with it.

From that point forward, the forklift, the hostlers, and other types of equipment started to appear on the dock. In 1959, a predecessor, Harry Bridges, the founder of our organization, along with international officers and coast committee people put together an M&M agreement—a mechanization agreement—that said the ILWU would work as best they can with labor. Labor would work with management in the industry not to frustrate technology and mechanization needs. The ILWU has met that challenge. We meet it on an everyday basis. Go to your ports today and look at the statistics. We hear the concerns that cargo is going to stack up, and we are going to have an excess of cargo coming at us for triple digits if we are looking at the 2020 situation. We are moving more cargo today, more TEUs today, than at any other time in history on the West Coast. Statistics do not lie and today everybody wants to talk statistics.

Why does labor get labeled with being the problem when it comes to moving cargo? Port authorities know the ports are growing by 12 to 14 percent in volume, which means millions and hundreds of thousands more TEUs are coming through the ports, and who is expediting those cargoes, those containers, those pieces of equipment? Our equipment that we work with today, our mastery, and our skills are what is moving those TEUs. The volumes are more today than at any other time.

We look at technology and you say the ILWU is frustrating technology. We say, where? Where are we frustrating technology? You have introduced new equipment to us for many, many years and we have mastered that equipment. We have become highly skilled at using that equipment. We move more cargo for you today and more tonnage today than at any other time in history. Why are you saying labor stands in the way of technology and movement?

The only area, and I think the main area that Gene speaks to, is in the electronic area. Yes, there are systems out there that are not yet being used on the West Coast. That does not mean the ILWU has not sat down with the employers. We recently took a trip with the PMA to get familiar with and educate ourselves on the systems being used throughout the world. We did that together. The ILWU has not moved away from its commitment to look at technology and not stand in the way of progress. However, once we have done that and we sit down as we did in the 1999 negotiations 6 months ago, it has to be understood that, if labor and management and technology are to blend, there has to be a place for the worker.

We visited the port of Rotterdam—the Delta terminal. For those of you who have not been there to see that operation, it is a robotic operation. You cannot find a person working in the terminals on that particular facility. Do you think that is fair for the industry today to move to that extent to eliminate the workforce almost completely off terminals for profit? Where is our partnership in this thing for the ILWU if we are going to continue to embrace moving cargoes and working with technologies? There has to be a responsibility to the workforce. The responsibilities have to be that as technology moves forward, training must be provided for the jobs that are left in the industry. The responsibility has to be that there is no outsourcing of work and moving work away to other workers when it could be coming to the ILWU. The M&M agreement said go ahead and mechanize, but remember that the ILWU is a partner in this progress, in this process. As we move forward in mechanization, we have to embrace all the needs of the industry together.

At the last set of negotiations, we did not accomplish what we hoped for, but it was not because the ILWU did not want to get there. It is because on the management side employers did not want to sit down with the union and bring us along and show us what they wanted to do and where we fit in. We asked over and over again, where are we? What do you want to do here? Give us an example.

I chaired this last set of negotiations. I was the guy who was asking those questions across the table. I got no response. Do you know what the answer was? With no answer to us—to the ILWU—it is “Robotics. You are no longer needed. Take your job and go.” That is not acceptable and will never be acceptable to the ILWU and should not be acceptable to any workforce throughout this world—to be eliminated completely. If you want production and you want cooperation, you have to find a middle ground. There is a way for this thing to work and it has been working since 1959. The cargo movements, the statistics, the volumes that move through our ports today are done with expertise and with labor. Yes, we use machines. We have mastered those machines and will continue to do so.

You cannot put 10 pounds in a 5-pound bag, and that is what is happening in today’s world. Terminals, no matter how big, are not big enough for today’s volumes. Containers require a lot of space. So, what is happening out there? Gridlock.

We heard a lot of talk about gate movements. Let me offer my view. You go anywhere in the ports of Long Beach, Los Angeles, or up and down this coast but especially here in Los Angeles and Long Beach, you will see that six people handling computers are turning somewhere between 2,400 and 3,000 moves a day at the gate. What does that mean on an average day at a terminal? Divide it up. You have anywhere from 200, 300, to 400 trucks with containers inside terminals trying to

drop their loads or pick up another load or container, and you have vessels working at the same time, hundreds of people working on terminals between vessel movements and rail movements, and trucking movements. The result? You have 10 pounds in a 5-pound area and you have gridlock.

I have asked management over and over for traffic control in our terminals. You want to pick up a little bit of speed here, and you want to expedite a little more efficiently; we need traffic control. If everybody knows what they are doing, if everybody has a safe route throughout that terminal, you will pick up a few moves here and there. Otherwise, it is chaos. You should go to some of these terminals and watch some of the terminal operations work. You will realize the ILWU is working every day under duress, in situations where we can be killed at any moment because there is no traffic control. There is very little communication because management meets with management; they do not meet with labor that often. There is a lot of confusion out on the terminal areas.

This all has to come to roost. We are the workforce. We are committed. We have always been committed. We bring our skills and we move your cargoes and we are doing it better and better everyday and our successes are in the statistics as the volume of TEUs continues to grow at each port. But safety has to be there.

Another factor is that there are no places to deliver cargoes 24 hours a day. You are relying on the ports and the terminals to do the work while others shut down and truckers have no place to go with cargoes. They sit in the late evenings and in the early mornings. You cannot blame that on the ILWU. You cannot even blame it on the terminals. Everybody has to work together. That does not take technology. That is logistics. That is sitting down and making it work.

There are many, many problems that plague the port, but the ILWU is not the problem—it never has been the problem and never will be the problem. We are ready to sit down at any time with management, as we have in the past and as we will in the future, to take a look at the ports, take a look at our operations on a daily basis, and work toward streamlining those operations, provided that the jobs that are left in the industry are ILWU jobs. No outsourcing of work—giving it to others when it should be coming to the ILWU. If you want cooperation, you have to deal us in, not deal us out. I can tell you that, on a daily basis, we fight with management because there is outsourcing going on and they are moving work away from us that rightfully belongs to the ILWU. Cooperation begets cooperation.

We are ready to do it. The ILWU has stepped forward since 1959. Our skills are there. The statistics are there. We have made offers and we have gone on trips. I have led the charge since 1989, putting together the first mechanization trip with the PMA to go over to Europe to take

a look at mechanization, to understand it, bring that back to our union. I did it again this past year. We are ready to do it, but you have to include us and you have to train us and you have to give us the work that is left in this industry. That is the ILWU's position on this.

To say that the ILWU is standing in the way of progress is simply not the case. We are moving more cargo than we have ever moved in history. The statistics are there and the TEUs are there. We have a job to do and we are ready to sit down with management, but is management ready to step up and put a level playing field for us together so that we can clearly understand where this industry is going and continue to be a part of it? Without us being a part of it, yes, there will be frustrations because people without jobs cannot feed their families and we are not prepared to go there. With that, I will close. Thank you.

## TRUCKING "SWEAT SHOPS"

*Michael Belzer*

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I have heard a number of references to the owner-operators in the industry and I think that is probably the most obvious Achilles' heel at this point in the industry, because the entire intermodal industry relies on people with whom you cannot negotiate, with whom you cannot bargain, who have no bargaining power whatsoever, and who have some working conditions that I believe can be characterized as sweatshops.

I brought with me a couple of recent articles from local newspapers. One article states that Los Angeles and Long Beach combined put out more TEUs than the other three of the top five ports in the United States. The vast majority of that volume, with the exception of what goes on rail, is going to be handled by owner-operators, because that is the way things work today. What many port cities have in common is their dependence on owner-operators to move the containers within the port

region, and the owner-operators on whom they rely work at or below the subsistence level. We certainly are not talking about \$100,000 a year.

One of the *Los Angeles Times* articles mentions an individual supposedly netting \$21,000 a year and I calculated he was working 3,000 to 3,500 hours per year—conservatively that works out to \$7.00 an hour if you do not count time and a half for overtime, which other workers in similar jobs in the United States can expect to make. If you think you have a labor shortage, I do not think it is rocket science to figure out where it comes from, and you have all the strikes and protests to show for it.

What would the world look like if we all worked like truck drivers? We would have no regular 40-hour work week. We would work an average of 65 hours a week. We would have no regular work schedule. It would be day and night, and more than likely it would be irregular. Our wages would stop whenever production stopped. Employers would decide which work activities are paid for and which are not. That would be 25 percent of our workday. As long as you are all willing to live under those circumstances, then I guess we do not have a problem here.

We have met the enemy and it is us. Imagine a perfect labor market where everybody is a perfect price taker. When the individual's market power as an individual comes only from the shortage of his or her skills and the unwillingness of anyone else to take that job, wages are in competition and firms compete on wage costs alone. That is just like the 19th century, isn't it? Well, it isn't; it is now the 21st century.

Are they sweatshops? The classic definition of sweatshops is low wages, long hours, unsafe and unsanitary conditions, and a significant degree of subcontracting and piece work. As we know, everybody in this business right now is on piece work. At this point, they are also dramatically shifted to subcontracting; therefore, we have no one who can talk to anyone about any of the problems. You have all these protests that have happened and there is no negotiation. Why? Because there is no one with whom to talk. Only recently am I seeing this situation finally show up in the newspapers. There is no one to talk with. There is nothing we can do. It is out of our hands. Everything is out of our hands, not only out of our hands, but spiraling out of control. We have empirical evidence for this, so I am not simply basing this on what I read in the newspapers.

Since deregulation in 1980, real annual earnings among drivers in the trucking industry have declined by 30 percent. Average annual earnings for unionized less-than-trailerload drivers—the Roadways and the Consolidated Freightways and all the rest of those people—was a little over \$43,000 a year. It is not what you read in the papers when you read an article on bargaining. By the

time bargaining comes up, I always watch for the code words “as much as” and “as low as”—words you would watch for if you were shopping. The average nonunion truckload driver—we are talking about over-the-road, not just ports—works for \$8.17 an hour. Assuming the comparable labor market conditions you would find outside the trucking industry, that is time and a half after 40 hours. Average intermodal drivers earn less than the minimum wage, as suggested in the earlier example from the *Los Angeles Times*. They pay for their own equipment and fuel. I saw figures in some of the articles scanned citing gross annual earnings of \$40,000 and \$50,000, which is laughable. We are talking about people who own their own truck; they have to pay for the investment in that truck, and they have to pay for the insurance and fuel. At this point, when they turn the key, they are already losing money. That means they are losing their investment as well as working for free. As long as we are all willing to do that, I do not think that is a problem.

The average nonunion road driver works 70 hours a week and exceeds the maximum legal hours of service by almost 20 percent—that is the average road driver. Local and long distance, according to our research, are not significantly different. Average hours are more than 50 percent greater than the national average. These guys are not slackers; they live in their trucks, away from home an average of 3 weeks, with the highest number of lost-time injuries of any industry in the United States, and 100 percent turnover. You have a shortage, but you have 100 percent turnover. In the economics area, we look at this as a perfect market, because people are equally indifferent between keeping their jobs and going on to the next job. It is very nice for economic theory, but it is very difficult for business.

We base this on a driver survey we conducted. The data I will be discussing are from the first wave of this driver survey. We have a second wave of the survey, but the two have not yet been integrated. We have enough significance to rely on the point estimates I am going to give you. We found the mean earnings total \$36,500, and local drivers make a little more. The median is higher because the union is more significant in the local area. Our big gap is between the union and nonunion drivers. These drivers put in long miles on average. The mean on long haul is almost 125,000 mi (20 117 km) a year. The nonunion drivers put in a lot more, despite the fact that they make about 40 percent less. They put in more miles, but they earn less. There is little or no difference between your long-haul and your local driver. At the top 10 percent, we are looking at a fair number of hours per week. Most people do not like to work that many hours, especially when they are making less than minimum wage.

The difference between union and nonunion tells the difference between those people in the labor market who

are complete price takers and those people in the labor market who have something more than their individual market power to rely on. I think that is what you are really dealing with and you are going to have to have a resolution for this in the ports because you are dealing with people who have no way to talk with you and you have no way to talk with them in any institutionalized fashion.

The worst problems are at the extremes; 10 percent of the drivers work more than 94 hours a week and 10 percent of nonunion drivers work more than 100 hours per week. Remember, on average, 25 percent of those hours are unpaid. The daily figures are very similar. Remember, on average, 5 of those hours are unpaid. On average, that is 26 percent for all drivers—the ratio of nondriving hours to total hours. In the local area, which is what we are, it is 37 percent unpaid for most of these drivers. Unionized drivers have contracts, so for the most part (not 100 percent), they get paid for their time whether they are waiting or whether they are loading or unloading. In the nonunion sector, they simply are not paid, and the fact is they do not log it. That is one of the reasons we have extraordinarily long hours in this economy and it has become acceptable in that industry. It is part of the culture. The fact is, it is reaching its limits.

Look at trucking versus manufacturing wages over the past 30 years and you can see where they are heading. There has been no change in these trajectories except the lines have crossed since this last data point was put together and the trucking ones are heading south below manufacturing ones; that is your labor market. You cannot complain about a labor market shortage if you are not willing to live by the market, which is to pay what the market will bear. All of this is interesting paradox, because employment is up and wages are down. This drives economists wild. We do not like this. We should have a shortage and we should see supply and demand work the way supply and demand is supposed to work. Well, it does not work that way in part because the institutions that govern the trucking industry are different from the ones that govern the rest of our blue collar labor market.

Over the years there has been a union decline, resulting in part from deregulation itself. There is dislocation that took place as a result of all the companies that went out of business very rapidly in the early years of deregulation. Based on recent census statistics, we are probably looking overall in trucking at close to a 20 percent decline. What we have is a declining industry prosperity that goes along with declining wages and a union decline. What we have is an industry in crisis. This is not just drivers; they are, simply put, the canaries in the mine. The industry is in trouble and we have allowed this to happen and we are basing this entire transportation infrastructure on that.

My conclusion about what caused sweatshops is economic deregulation, which removed all the constraints on competition. As a result, we have freedom of entry, freedom of pricing, discrimination—you absolutely must discriminate. We have wide-open entry, which allowed an explosion of low-cost truckload carriers to come in, all of which were nonunion; therefore, their employees have no bargaining power whatsoever. We have lower profits and we have lower wages. We add weakness in the Teamsters, especially starting in 1980, which finally has led to trusteeship of the union by the federal government. The union was unable to get it together and figure out how to react. I am not at all sure they could have done anything about this had they had their act together, especially in 1980. Labor laws make it very difficult to organize far-flown mobile operations.

You know that the National Labor Relations Act does not, as currently interpreted, allow owner-operators to be represented by the Teamsters. That was not always the case; they could be 25 to 30 years ago. It is a case of the same law, different interpretation. A few still remain. Neither can they be represented by their own association, because that is prohibited under the Sherman Antitrust Act. Interesting that we find that Act—enacted to control the Rockefeller monopoly—to be appropriate to apply to the individual owner-operator making about \$3.00 to \$4.00 an hour.

We have a union density decline and we have this 100 percent decline in the ports. That all is a crisis we must address. If we do not do something about it, we will have no solution whatsoever to the problems the transportation industry faces and, in particular, in the intermodal area, where the abuses are absolutely the worst anywhere in the economy in the United States. Thank you.

## WORKFORCE DEVELOPMENT

*Jon Helmick*

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**M**y topic this morning is workforce development, and by that I mean issues relating to education, training, and, of course, recruiting.

I would like to first summarize some of the drivers, the reasons for change in this area, many of which have been discussed at this conference. I will also talk about the needs of industry as they have been articulated through various needs assessments in which I have been involved and I will discuss some of the recruitment issues and challenges associated with that within the intermodal industry. We will look at what the industry has told us are the necessary skills and abilities to effectively further the industry and finally to outline some of the strategies that can be used to develop the workforce along these lines.

We have heard several people talk about the globalization of business and it is clear this is an international business. To the extent that we fail to recognize that and explicitly incorporate that in curricula and the educational process, clearly we lose. The demands of customers have been outlined by many of our speakers here: the need for faster transit times, more reliable delivery, higher levels of service, and so forth, which are constantly ratcheting up. Of course, the in-transit visibility components place demands in terms of information system literacy. Deregulation has created a situation in which there is a lot more flexibility in rate making. Negotiation becomes much more significant. Skills related to that become paramount.

Restructuring in the industry—I am referring here to mergers, acquisitions, consolidations, downsizing, and so forth—has significant implications for the workforce. Constraints on infrastructure have been well documented at this conference and certainly the challenges related to that mean that we need to develop some highly brain-powered people for this industry. Other factors include the need to get more out of existing resources, to extract more productivity out of existing terminal space, utilize equipment better, get higher load factors in vessels and vehicles, and so forth. All this has to happen in the context of strong public interest in safety and environmental issues and the sometimes conflicting goals that are inherent in that. Technological development is really what we are up here talking about today more than anything else. Certainly understanding the information systems, the tagging and tracking technologies and related technologies that make this all go, is critical. Yet another factor is the need for reengineering the defense transportation system with a greatly increased focus on intermodal transportation and supply-chain management.

The context of my interest in all this is the development of a new academic program at my institution, the U.S. Merchant Marine Academy, which is an undergraduate program in logistics and intermodal transportation.

As a result of that development and also an expansion of our fine continuing education program, we have been involved in a number of needs assessment efforts in government and in industry. We have conducted a large number of interviews with many senior people in industry and the military, who have been extremely helpful in allowing us to understand what the industry needs and how to best develop curricula and programs and supporting elements to make it happen.

We are part of a cooperative agreement within the U.S. Department of Transportation, a joint effort among the Maritime Administration, the Research and Special Programs Administration, FHWA, and the Office of Intermodalism. This one is a cooperative agreement on freight education and training. The idea is to develop an alliance that will more effectively further the national transportation education agenda.

In November 1997, TRB organized a national conference on intermodal education and training, out of which came some pretty well-defined needs with regard to education, training, and workforce development. My organization partnered with the Intermodal Association of North America in an effort to understand the members of that organization and their needs as far as education, continuing education, and undergraduate and graduate programs, which provided further information.

Before talking about what kind of curricula and what kind of supporting programs to put in place and how to best do that, clearly we have to interest the right people in the industry. I think it is safe to say that transportation—for those who are bright, able, and who have options—is not necessarily a glamour industry. There are challenges, in fact, whereby we see people going to Wall Street or other industries and not recognizing the great potential that lies in the transportation sector. Capturing the interest of all the right kind of young people in the industry, and in the intermodal industry in particular, is a bit of a challenge.

The U.S. Department of Transportation has done something that has gone a long way toward making sure there is a fully qualified transportation workforce for the 21st century and that is the Garrett A. Morgan Technology and Transportation Futures Program. The objective is to ensure that young people are aware of the opportunities represented by transportation careers, to get them interested in the field, and to set the stage for them to follow that track. The program operates from kindergarten right through lifelong learning. In addition to the development of an undergraduate program, we at the U.S. Merchant Marine Academy play an active role in the kindergarten through 12th grade outreach by bringing in young people, particularly at-risk young people, to make them aware of transportation career opportunities, to provide them with role models, and to show them what this sector of the industry is all about. So, we at the U.S.

Merchant Marine Academy and many other institutions do this as well, bring in groups like the Boy Scouts of America, the Reach for Tomorrow Program, and many others to provide them with this exposure and it appears to be very effective.

There are a number of other proactive industry efforts to try to bring young people into the fold. For example, work study programs; there is a recent one I was just made aware of at United Parcel Service (UPS), in which college-age students are brought into the night shift to work part time and have their college education subsidized by UPS. This kind of proactive effort can be very effective in drawing in the right kind of people.

You cannot have a discussion on this topic without a three-letter acronym, so I offer KSA—knowledge, skill, and ability. If we talk about intermodal workers, and we are focusing here primarily on entry-level managers, one of the things we have learned from these various needs assessment efforts is that a systems view is essential. People continually harp on this—particularly the need to get out of the “modal silos.” Curricula must be developed early on that are not built around or within silos; in other words, curricula that emphasize the end-to-end perspective instead of a strictly modal perspective. A global perspective is essential.

Strong analytical skills are essential—instead of simply shooting from the hip or managing by the seat of the pants, having the ability to sit down and evaluate problems again from that systems, supply-chain, end-to-end perspective—to analyze these problems effectively and to come up with meaningful solutions. Employers repeatedly emphasize the importance of interpersonal skills and teamwork skills; these skills are often emphasized more than functional skills. Information technology and literacy in technology are crucial. A customer orientation is also important, developing an orientation early on that the customer is king. Also needed is a toolbox full of measurement capabilities—understanding how to measure various performance dimensions and understanding what needs to be done to improve performance.

Given the dynamic nature of the industry, including all the downsizing, the mergers, the acquisitions, and all the upheaval that goes along with that, flexibility and adaptability are essential for those who are going to survive in this field. Knowledge of basic geography is considered to be really important by many people. Being able to put Chicago on a map—we find that young people today have a whole lot less capability in this regard on balance than the older generation—is clearly a function of primary education. Communications skills are extremely important—oral and written, being able to make effective presentations, write reports, and so forth.

What are some of the strategies that can be used to develop the right skills and the right attitudes and impart

the kind of knowledge that we have defined as necessary? First and foremost are degree programs. It is striking that in the logistics field, which presumably incorporates intermodal, fewer than 5 percent of current practitioners have a degree of any kind related to the field. Now, clearly that is partly because it is relatively new. As time goes on, there are likely to be more specific degreed formal education opportunities.

As many people have said, partnerships are the wave of the future. Meaningful alliances, through which industry and academia get together to do something constructive, can be extremely fruitful, particularly in the area of curriculum development. For example, with cooperation from SeaLand, the U.S. Merchant Marine Academy developed a case study project that has proven to be very productive. Case studies were given to teams of midshipmen to analyze and then executives from there came to the Academy to listen to and critique the presentations. It was a win-win situation, with the midshipmen working on real-world problems and SeaLand getting the benefit of what they described as “out-of-the-box” thinking. As undergraduates, students had the advantage of not being bound by organizational culture or a mindset developed over time in a particular firm or sector of the industry.

Internships are very valuable and can involve both students going to industry and industry coming to the schools as executives in residence. This kind of cross-pollination can be extremely fruitful. Mentor programs encourage professionals to, in a sense, “adopt” students and provide them with a role model and some insight about what the industry is really like. Another avenue for this communication and exchange is guest lectures in which people in the industry come in to talk to students and communicate to them what is going on in the field and how things happen and what some of the challenges and opportunities are. Involving students in research can also be productive, providing them with the opportunity to work real-world problems in a structured setting.

Having representatives from industry come in to do career workshops, to talk about resume preparation, and to talk about interviewing skills, presentation skills, and so forth is also a productive avenue. For students who end up interviewing with a firm that has hosted such an event, it often means they are better prepared to interview and articulate their skills and abilities and it helps the company to sort out who goes where more effectively.

Alternative delivery systems, such as CD-ROM-based education, distance learning over the Internet, are proliferating and serving those people who do not have the time or the financial resources to sit down in a classroom for an extended period of time. This also applies to continuing education, whereby short courses and seminars can be delivered quite effectively by faculty and practi-

tioners to people in the industry who require specific knowledge upgrades.

The human element is crucial. As Gene Pentimonti said, we tend to focus on the technology, but it is the people who manage the system that utilize the technology or design the technology in the first place. It is crucial to ensure they are appropriately educated, qualified, and trained and that they have the right mindset to enhance the system and meet all its challenges. There are success stories and in the spirit of a report card, which is what this conference is about, I am glad to say there are some

programs and approaches that are meeting these challenges effectively.

The shortfalls are problematic. We heard from Belzer about some of the reasons why there might be a shortage of truck drivers in the industry and, again, the challenge of getting the right kind of people with the right motivation interested in the industry will be an ongoing challenge. Meaningful collaboration between industry, government, and academia and between labor and management is truly the only way these challenges are going to be effectively met. Thank you for your attention.