

Programs Offered Through Industry and Professional Groups

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I begin with two caveats: (a) what I say is based in large part on my personal views and experience, and (b) I come here from the Business Logistics Department of a College of Business, which suggests that my view may be somewhat different from that of the mix of engineering and business representatives here. The College of Business faculty, through the Pennsylvania Transportation Institute, works with civil and mechanical engineers on transportation research and education projects, which has enabled me to become familiar with the engineering perspective.

My presentation is based on a review of business logistics-related organizations; however, much of what I say will apply to other transportation organizations as well. If it does not, members of the audience are encouraged to step up and offer an engineering perspective.

In preparing the presentation, I began with the Directory of the Council for Logistics Management (CLM), the largest professional organization in the logistics field, composed of over 12,000 members representing all the functional areas of logistics, including transportation. The CLM Directory, in addition to membership information, includes a listing of related logistics organizations both in the United States and outside the United States. A quick count of the logistics-related organizations in the United States revealed that there are 56, which does not include those centered around transportation engineering or transportation economics. At Penn State, there are faculty in agriculture, geography, and even some in psychology who perform transportation-related research. This suggests that there are more transportation-related professional groups than are rep-

resented in the CLM Directory. I attempted to identify a major focus of the different professional organizations and how their focus relates to the education and training services they offer. All provide education and training directly to industry personnel as well as to and through educational institutions.

Academic research organizations provide a forum for presenting theoretical and applied research carried out by academic faculty in business, engineering, and other transportation-related disciplines, as well as industry researchers who frequently work with universities, particularly in support of graduate student theses and dissertations and in development and introduction of university curriculum materials. The Transportation Research Board, although a somewhat special case because it is a unit of the National Research Council, is a good example of this type of professional organization, which encompasses issues relating to transportation technology, design, policy, operations, and education as well as the environment. The Transportation Research Forum (TRF), transportation engineering societies (such as the American Society of Civil Engineers), and transportation academic societies would also fall into this category. The forums provided by these groups range from annual meetings and conferences to workshops, seminars, symposia, and conferences on specific topics. All provide for the exchange of ideas, presentation of research, standing committees to develop research topics and monitor research in particular areas, and dissemination of information and research through journals, proceedings, and reports, often technical reports.

Practitioner education focuses on applied research and education, specifically application of research that was performed by another sector to improve the way things are done in industry, whether it be in the area of business or engineering. For example, the academic research sector may develop the mathematics for an optimal vehicle routing algorithm. At this level, the applied research would focus on using the algorithm in industry, in a company, and the type of presentation or publication at this particular level would involve applying the algorithm in a company, demonstrating how it was used and the improvements that were made, and might be coauthored by the research personnel in the company. There is still significant academic involvement, but now the emphasis is on the application of research. Many of these organizations also provide parallel academic conferences and publications. For example, the CLM has an educators conference in which more theoretical research can be presented, whereas in the main conference presentations, the emphasis is more at the applied level. The CLM also publishes the *Journal of Business Logistics*, which is one of the top academic journals. The American Society of Transportation and Logistics (AST&L) publishes the *Transportation Journal*, which is considered an academic journal but is also read by practitioners.

In the intermodal area, there are many forums and ways information is disseminated, ranging from major national conferences, annual conferences, annual meetings, specialty conferences, local chapter activities, and applied research studies. CLM, for example, provides funding for research studies, such as a current one of interest to this group because it involves logistics skills assessment. The study will try to identify some of the core transportation skills, but with a broader perspective at many different levels, looking at other areas of logistics as well. Journals, proceedings, and reports are ways of disseminating information from conferences and meetings. Facility tours and equipment exhibits are useful aspects of many conferences; from an academic perspective, such conferences provide one way for educators to find out what is going on and how things are being done in industry. The International Intermodal Expo, cosponsored by the Intermodal Association of North America (IANA), is an excellent example of a forum where various types of educational experiences take place.

The next level of organization, a little farther away from what some might consider research, focuses on industry practices. These are organizations that improve, set standards for, and monitor industry practices, for example, the American Warehousing Association, a trade association of public warehouses. Although not all relevant organizations have "transportation" in their title, most of their members are providers, users, or recipients

of transportation services or may serve as transportation brokers. Most of these organizations have a transportation interface if they are not direct providers of transportation. At this level of improving practices and processes, the focus may be on providing personnel training required as a result of some new industry operations or safety standard, in other words, getting down to really an operational level. Some of these organizations also develop and promote industry positions. The National Industrial Transportation League (NITL), for example, develops positions not only on U.S. legislation, but often on transportation-related policies developed by international multilateral organizations such as the United Nations. They may also be involved in lobbying. Most, however, also have an educational or research function and may make materials available to those outside the organization. For example, in one of the courses I teach, I order information packets from the American Trucking Associations (ATA) because they provide the latest financial statistics on truckload and less-than-truckload carriers. It is information I could compile myself, but it would take a long time and ATA has already organized it into a nice package. In this way, ATA provides educational materials both for their membership and for academic institutions.

There is also a group of organizations that offer certification. They go a step farther in establishing educational standards for the profession to the extent that they have developed assessment methods, usually in the form of examinations or some type of formal assessment, rather than just attendance at conferences. They provide educational support for the certification process in the form of study materials, instructors, and mentors and focus on a particular area, all of which relates in some way to transportation, logistics, or both. For example, the following organizations relate to these specific areas: American Production and Inventory Control Society (APICS), production and inventory management, a logistics component; National Association of Purchasing Management (NAPM), purchasing; Society of Logistics Engineers (SOLE), logistics engineering; Transportation Intermediaries Association (TIA), third-party providers; and National Customs Brokers and Forwarders Association of America (NCBFAA), which is in the process of developing a new certification program for customs brokers and foreign freight forwarders.

I will talk briefly about a certification program with which I am familiar, namely, that of the AST&L. The certification program is run by a board of examiners selected from universities represented on the current AST&L board. The program is based on current transportation and logistics curricula of universities that have strengths in those particular areas. The board operates on a rotation system to ensure opportunity to bring in

new people, new universities, and fresh ideas in an effort to keep the certification content current. There are various areas of AST&L certification, with three required general management components in finance, marketing, and information systems. Other components are oriented toward transportation logistics, specifically transportation economics, logistics systems management, public policy and legal issues, and international transportation and logistics. The creative component of the certification process can take one of several forms: a research paper, a project done through work or internship, a major presentation, or a case study provided by AST&L in an exam format.

We have been talking about what skills are required, what the basic education requirement is. I would argue that you may not need a degree in transportation logistics, but it is strongly advisable to have a common body of knowledge. I think this is a way to complement employees who may not have degrees in transportation and logistics but can acquire the equivalent through a variety of delivery mechanisms—self-study, industry groups, or in-house training programs such as those offered by AST&L.

Finally, the theme of this conference is intermodal transportation, and in many of the industry group programs I have mentioned, intermodalism is not always readily identifiable or even separate. Nevertheless, it is part of the overall program and is included in the components of all the transportation-related exams or is part of the study track. Perhaps a next step to come out of a conference such as this is to rethink the programs of these professional organizations in light of intermodalism.

I want to mention that these organizations also offer other types of educational support to students in high schools, colleges, and universities, often in the form of scholarships and awards. Many of the organizations sponsor student competitions not unlike that which was sponsored as part of this conference for students enrolled in the TCAP program. Often, they offer research opportunities for graduate students, which can lead to either undergraduate or graduate master's degree papers, as well as doctoral dissertations. These organizations also encourage student participation in conferences, and several offer reduced student memberships.