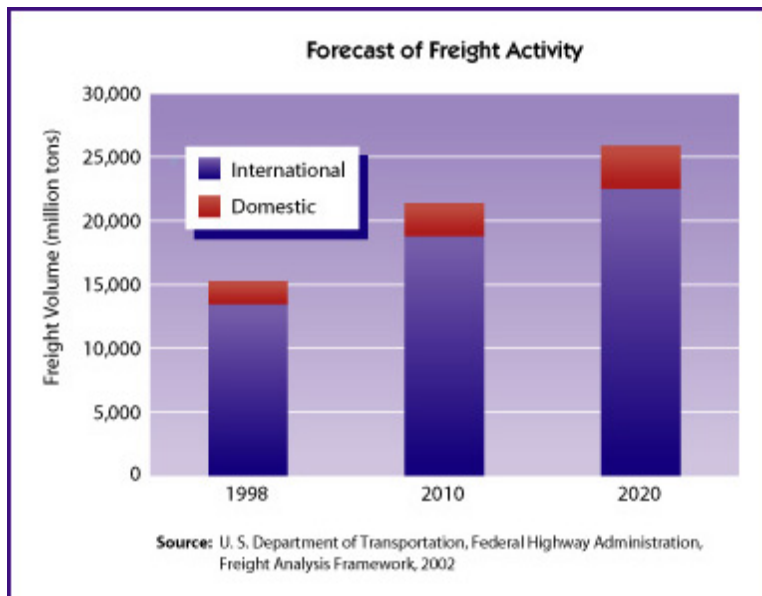


E. Industrial Development & Employment

E-1. The Logistics Industry in Will County

Logistics involves all the operations through which goods are sourced, transported, and distributed. Many large logistics operations are departments of manufacturing, wholesale, or retail companies. Other logistics competitors are “Third Party Logistics” providers that perform a wide range of logistics functions for their clients. Sometimes these lines are blurred as the logistics departments of larger corporations see opportunity or excess capacity and perform logistics functions under contract for other companies, sometimes for direct competitors. Other major logistics companies that are household names, such as Federal Express and United Parcel Service, originated in the document or retail package delivery business and have aggressively entered the competition to perform the full range of logistics functions for corporations as third party providers. Freight transportation companies that traditionally performed specialized functions, such as some major trucking companies have expanded their functions and become full service logistics providers.

Companies are entering the field of logistics from a number of directions because there is a large and rapidly growing market here to be served. The U.S. Department of Transportation has recorded that the volume of freight moved in America has been rising steadily for the past two decades and is projected to grow by more than 80% between the years 2000 and 2020. Besides sheer volume, demands for efficiency and reliability in logistics movements also continue to rise steadily. These pressures grow from fundamental trends in the world economy as more products are produced thousands of miles away from their places where they are used and as virtually all modern manufacturing and distribution systems adopt just-in-time production and stocking techniques.

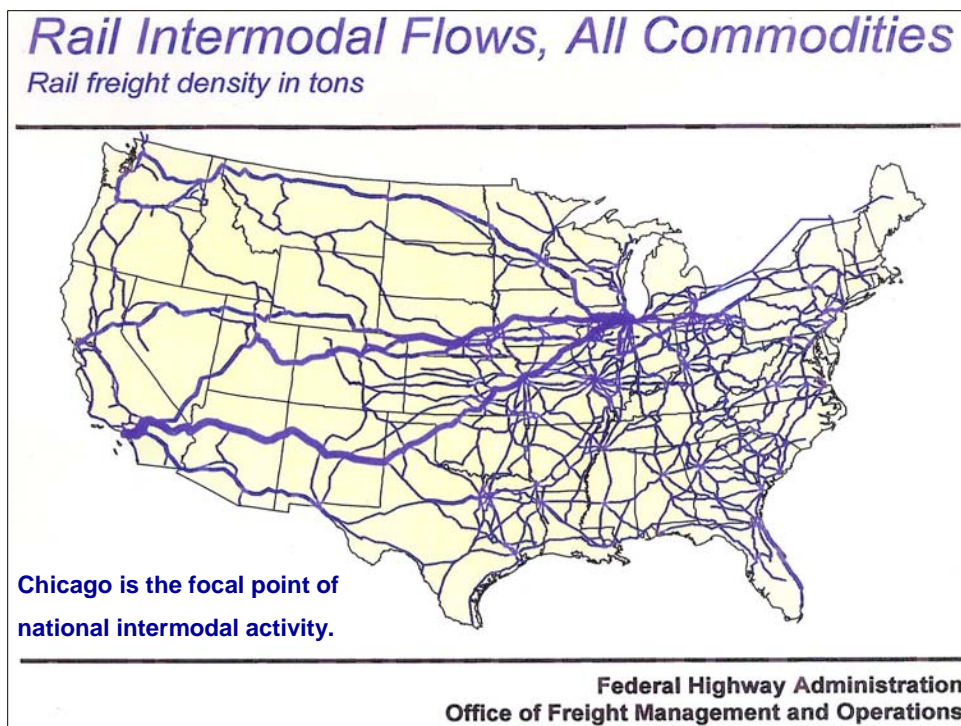


Besides moving products efficiently and reliably logistics businesses perform increasingly broad functions in finishing or assembling goods for final distribution. For example, the Potlatch Paper Company in Elwood takes paper rolls that are compressed for shipping and processes them into household tissue products. The IntraCore company based in Utah, assembles computer hardware from components and distributes the products to retail outlets and mail order customers. In catalogs of logistics companies today firms are listed by services they provide that include: repackaging, fulfillment,

and assembly.

In the new world economy built around international supply chains a growing range of industrial businesses find advantage in locating near intermodal freight terminals and the logistics and other industrial companies that tend to cluster there. For example, Logistics Park was built adjacent to the new intermodal freight terminal of the Burlington Northern Santa Fe railroad in Elwood. Logistics Park opened in 2002, and now approximately 3,000 people work there, performing product distribution and processing functions. In the more mature logistics environment of Chicago, the City government commissioned Rebee Associates to examine the value of intermodal freight terminals in the city. Rebee's 2003 report found that the terminals were critical to retaining or adding approximately 15,000 jobs because a broad range of manufacturing, wholesale, and distribution companies wanted to locate near these terminals.

These patterns of freight volume growth, logistics industry development, and the attraction of freight centers are important to the Chicago area and Will County particularly because this is the freight hub of North America. Goods that move more than 500 miles (for example to the Midwest from any ocean port) are usually shipped by train and then reloaded to trucks for local delivery. Metropolitan Chicago is the only place where all six of North America's major railroad networks meet. So Chicago is the primary place in which goods can practically be transferred from one rail system to another or lifted onto trucks for delivery anywhere in the Midwest. In the intermodal movement of freight, metropolitan Chicago is the third busiest port in the world. And Will County is on the busiest of all railroad routes leading into Chicago (the trunk line from the Port of Los Angeles). Will County is also the nexus of the most heavily traveled east-west and north-south expressways running through the middle of the county. Furthermore, because Will County has had more green field land than any other county in the Chicago area, it has offered economical sites for the new intermodal terminals, large warehouses and linked industrial parks that the new supply chain economy demands.



So Elwood is burgeoning and warehouse and distribution centers are springing up along I-55 and I-80 as a consequence of far reaching economic trends that are likely to continue for the foreseeable future. The growing logistics industry is with us. What sorts of jobs does it bring?

Insight into this question and the compensation for production jobs in Will County is provided by the “Economic Development Wage & Salary Survey” conducted by the Three Rivers Manufacturers’ Association and Will County Center for Economic Development in 2006. In this survey 74 Will County companies provided detailed information about what they pay workers in specific positions. These companies were classified into 4 categories:

- Logistics/Supply Chain, 12 companies
- Manufacturing, 44 companies
- Temporary Agency, 7 companies
- Other, 11 companies

Of the 74 companies:

- 29 had fewer than 100 employees; 45 had more than 100 workers
- 21 were unionized; 53 were non-union

Some selected lines from the survey are presented in the exhibits on the following two pages.

Hourly Wage Positions

	Position Type	Type of Company	Nuner of Companies	Number of Employees	Base Pay						
					Average	Weighted Average	Interquartile Ranges			Average Actuals	
							25th	Median	75th	Lowest	Highest
1	Worker, Maintenance - Semi-Skilled	All	15	42	\$17.79	\$18.39	\$17.76	\$19.17	\$19.85	\$16.75	\$18.74
2	Worker, Maintenance - Skilled	All	17	184	\$22.70	\$24.63	\$21.09	\$24.02	\$29.44	\$21.08	\$24.27
3	Worker, Maintenance in Logistics and Distribution	Logistics	6	17	\$18.79	\$18.27	\$17.69	\$19.90	\$20.80	\$17.65	\$19.96
4	Janitor/Sweeper	Mfg	9	15	\$11.71	\$11.25	\$9.63	\$9.65	\$13.23	\$11.32	\$12.12
5	Janitor/Sweeper	Logistics	6	24	\$11.24	\$11.33	\$10.93	\$11.38	\$11.46	\$10.12	\$12.37
6	Clerk, Inventory	All	11	28	\$13.97	\$13.51	\$11.72	\$13.63	\$14.85	\$13.69	\$14.55
7	Clerk, Shipping & Receiving	Mfg	8	37	\$16.33	\$20.36	\$18.35	\$23.13	\$23.13	\$15.85	\$16.89
8	Clerk, Shipping & Receiving	Logistics	6	40	\$12.55	\$12.92	\$12.35	\$12.95	\$13.76	\$11.74	\$14.27
9	Fork Lift & Power Jacks Operator	All	15	378	\$11.97	\$11.78	\$10.29	\$12.44	\$12.46	\$11.13	\$13.15
10	Fork Lift & Power Jacks Operator	Temporary	5	67	\$10.09	\$10.58	\$10.00	\$10.98	\$10.98	\$9.60	\$10.30
11	Material Handler - Skilled	All	29	472	\$17.13	\$14.17	\$10.25	\$13.00	\$17.36	\$15.80	\$18.24
12	Material Handler - Unskilled	All	9	53	\$12.66	\$12.13	\$9.08	\$13.25	\$15.84	\$11.85	\$13.70
13	Material Handler - Skilled in Logisitics and Distribution	Logistics	10	392	\$13.48	\$13.69	\$11.85	\$13.06	\$16.91	\$12.01	\$14.07
14	Material Handler - Unskilled/Picker/ Packer in Logistics and Distribution	Temporary	5	231	\$8.77	\$8.63	\$8.25	\$8.50	\$8.58	\$7.90	\$10.25
15	Operator, Packaging/Wrapping/ Palletizer Machine	All	6	58	\$11.58	\$10.68	\$7.97	\$11.68	\$12.50	\$10.61	\$12.76
16	Machinist, Maintenance - Skilled	All	7	33	\$24.04	\$25.05	\$20.63	\$6.55	\$28.25	\$23.77	\$24.31
17	Operator, Production Machine	Mfg	13	678	\$13.23	\$14.95	\$13.30	\$14.40	\$20.91	\$11.73	\$15.27

Salaried Positions

	<u>Position Type</u>	<u>Type of Company</u>	<u>Numer of Companies</u>	<u>Number of Employees</u>	<u>Base Pay</u>						
					<u>Average</u>	<u>Weighted Average</u>	<u>Interquartile Ranges</u>			<u>Average Actuals</u>	
							<u>25th</u>	<u>Median</u>	<u>75th</u>	<u>Lowest</u>	<u>Highest</u>
1	Clerk, Traffic	All	8	12	\$36,815	\$40,182	\$33,375	\$35,290	\$53,954	\$34,806	\$38,384
2	Coordinator, Inventory in Logistics and Distribution	Logistics	9	18	\$37,576	\$36,272	\$28,454	\$39,770	\$41,825	\$36,203	\$39,138
3	Dispatcher/Planner/ Scheduler in Logistics and Distribution	Logistics	10	56	\$41,477	\$40,451	\$25,948	\$45,115	\$46,731	\$37,729	\$46,610
4	Manager, Customer Service	Mfg	8	9	\$67,440	\$65,613	\$53,407	\$64,123	\$68,820	\$66,816	\$68,064
5	Manager, Customer Service	Logistics	5	15	\$63,494	\$62,815	\$63,827	\$63,827	\$66,026	\$57,963	\$69,835
6	Representative, Customer Service - Higher Level	All	18	100	\$40,126	\$36,187	\$27,399	\$38,222	\$39,402	\$35,657	\$44,300
7	Representative, Customer Service - Lower Level	All	16	94	\$31,092	\$28,634	\$25,100	\$25,792	\$31,256	\$28,750	\$34,693
8	Representative, Customer Service in Logistics and Distribution	Logistics	10	82	\$32,465	\$33,649	\$25,542	\$27,963	\$44,287	\$28,386	\$40,652
9	Representative, Sales (Inside Sales)	All	11	46	\$52,954	\$50,177	\$37,525	\$50,000	\$72,414	\$45,185	\$60,266
10	Representative, Sales (Outside Sales)	All	17	54	\$73,512	\$75,288	\$69,566	\$70,917	\$84,452	\$64,720	\$81,937
11	Manager, Plant	Mfg	25	32	\$97,166	\$90,387	\$62,003	\$87,867	\$105,245	\$96,052	\$98,484
12	Manager, Plant	Logistics	5	7	\$87,051	\$78,253	\$56,256	\$66,500	\$100,000	\$85,554	\$88,798
13	Manager, Warehouse	Mfg	9	12	\$62,635	\$59,078	\$42,014	\$53,435	\$74,008	\$61,009	\$64,313
14	Manager, Warehouse	Logistics	7	16	\$67,120	\$66,557	\$55,703	\$64,869	\$65,548	\$64,891	\$69,973
15	Supervisor, Receiving/Shipping/ Warehouse in Logistics	Mfg	13	15	\$54,887	\$54,024	\$47,507	\$48,415	\$60,475	\$54,750	\$54,970
16	Supervisor, Receiving/Shipping/ Warehouse in Logistics	Logistics	9	43	\$49,677	\$48,602	\$43,800	\$48,491	\$53,394	\$45,487	\$56,733

Some apparent patterns in hourly wage compensation can be noted from Page 1 of this data:

- Lines 1-3: Among “Maintenance Workers”, who keep plants operating, there was no significant difference between the wages of “Semi-Skilled” workers from the overall survey population and Logistics companies; the range for all was \$18 to \$20\hour with a weighted average wage of \$18\hour. However, “Skilled Maintenance Workers” in the general survey population received a weighted average salary of \$25/hour.
- Lines 4-5: Among “Janitors/Sweepers” there was no significant difference between the wages paid by Manufacturing or Logistics companies, the range for both was \$10 to \$13\hour, with a weighted average of \$11\hour.
- Lines 7-8: For “Shipping & Receiving Clerks” a significant difference was apparent between the hourly wages paid by Manufacturing and Logistics companies. Manufacturers paid \$16 to \$23\hour for this position, with a weighted average of \$20\hour, while the range for Logistics companies for this position was \$12 to \$14\hour, with a weighted average of \$13\hour.
- Lines 9-10: The “Fork Lift Operator” position was relatively common with 15 companies in the overall survey reporting the employment of 378 fork lift operators. There was little difference between wages paid by the overall survey population (weighted average \$12/hour) and the wages paid by Temporary Labor companies (weighted average \$11\hour).
- Lines 14-15: Logistics companies employed “Skilled Material Handlers” who are experienced in reorganizing and repacking products for distribution for wages of \$12 to \$17\hour, with a weighted average of \$14\hour. Ten Logistics companies employed 392 of these Skilled Handlers, indicating that this is a common position in Logistics operations. These positions were distinguished from “Unskilled/Picker/Packer” positions in Logistics that are commonly filled by Temporary Labor workers who are paid only \$8 to \$10\hour with a weighted average of \$9\hour. Five Temporary Labor companies reported employing 231 workers in this position.
- Lines 16-18: Manufacturers offered some types of well-paid jobs for which there are not corresponding positions in the Logistics Industry. For example, 7 Manufacturers employed 33 “Maintenance-Skilled Machinists” with a weighted average wage of \$25\hour, and 15 Manufacturers employed 241 “Petrochemical Plant Maintenance Technicians” with a weighted average wage of \$29\hour. In this survey Logistics companies reported no jobs with comparable hourly wages. However, 13 surveyed Manufacturers reported providing 678 jobs for “Production Machine Operators” with a weighted average salary of \$15\hour. These types of jobs, which may be more common in Manufacturing today, offer comparable wages to skilled work in Logistics.

Some apparent patterns in annual salary compensation can be noted from Page 2 of the selected survey data:

- Lines 1-3: In Logistics businesses “Inventory Coordinators” are paid within a range of \$28,000 to \$41,000 with a weighted average salary just over \$36,000, and “Dispatchers /Planners /Schedulers” are paid within a range of \$26,000 to \$46,000 with a weighted average salary of \$40,000. These positions might be compared to salaries for “Traffic Clerks” in the overall survey population which had a range of \$33,000 to \$53,000 and a weighted average of \$40,000.
- Lines 4-8: Ten Logistics companies employed 82 workers, besides managers, as “Customer Service Representatives”, (for a worker-to-company ratio of 8.2) compared to 18 companies employing 100 customer service representatives in the general survey population (with a

worker-to-company ratio of 5.6). The Logistics Customer Service Representatives were paid salaries within a range of \$25,000 to \$44,000 with a weighted average of \$33,000. These salaries were intermediate between salaries that the overall survey population paid for “Lower Level” and “Higher Level” Customer Service Representatives. The salaries that Logistics companies paid “Customer Service Managers” (weighted average \$62,800) was similar to the salaries paid by Manufacturing companies for this position (weighted average \$65,200).

- Lines 15-16: The salaries paid for the position of “Supervisor of Receiving and Shipping” by Logistics businesses were somewhat lower than Manufacturers’ salaries for the same position (weighted average of \$48,000 for Logistics, compared to \$54,000 for Manufacturing). However, 9 Logistics companies retained 43 employees in this position, compared to 13 Manufacturing companies employing 15, a difference in worker-to-company ratios which suggests that the Logistics Supervisors of Shipping and Receiving” might have somewhat different responsibilities.
- For the position of “Warehouse Manager” Logistics company salaries were somewhat higher than the salaries of Manufacturing companies (weighted average of \$66,500 for Logistics Warehouse Managers compared to \$59,000 for Manufacturers.) As in some other comparisons, there is a difference in worker-to-company ratios, with 7 Logistics companies employing 16 Warehouse Managers and 9 Manufacturing companies employing 12 managers in this position. For the position of “Plant Manager” Manufacturing companies paid somewhat more (weighted average of \$90,000 for Manufacturers compared to \$78,000 for Logistics companies).

Information from interviews with logistics company managers, business school professors of logistics and officers of Will County business organizations provides some insight into the patterns in wage survey data. Particularly their comments shed light on the implications of the service orientation of logistics businesses, the variations in logistics companies, and the ways in which the logistics industry offers career ladders to entry level workers.

Logistics Service Orientation: Logistics is essentially a service business. In competing for work logistics companies strive to offer their clients “one-stop” service in the movement of products from the point of origin to destination at a manufacturing plant or point of retail distribution. Products are frequently moving half way around the world, using several modes of transportation, with connections on tight time schedules; and the logistics company plans the process, tracks movement, and deals with bumps along the road. If products require later stage “finishing” by such processes as packaging, organization into kits, or assembly, the logistics company performs these functions or arranges for them to be performed. If the product volume is highly seasonal, or involves irregular shipments, or promotional deliveries to the product’s customers the logistics company copes with these variations. Logistics companies are effectively the grease that keeps the long and complex supply chains of the modern world economy moving, and this role may help to explain several features of logistics companies’ labor organization.

- *Temporary Labor:* Logistics companies employ temporary workers from temporary labor contractors to cope with the irregularities in work tasks and volumes entailed in meeting their clients’ needs. The extent to which logistics companies also use temporary labor as a means or reducing labor costs for constant or work is unclear. When logistics companies are

performing material handling tasks, such as sorting and repacking good for shipment, they pay their “Skilled Material Handlers” approximately 60% more than “Unskilled Material Handlers” are paid by the temporary labor companies that employ them (weighted average of \$14 vs \$9/hour). The difference represents the value added by the skills of the experienced workers and the expenses and profits of temporary labor contractors. The numbers of Skilled Material Handlers employed by logistics companies (392 workers employed with this job description by 10 logistics companies) indicates that these workers are performing much if not most of the manual labor involved in these tasks rather simply supervising unskilled temporary workers. “Fork Lift Operators”, who require state certification, are commonly employees of logistics and other production work companies and are often supplied by temporary labor companies, which sometimes train workers for this certification. Under either condition of employment Fork Lift Operators receive about the same wages (weighted average of \$12 vs \$11/hour). These examples suggest that logistics companies use their own experienced employees, paid at rates of \$12 to \$15/hour to perform most of their manual labor and engage temporary labor to handle their frequent work irregularities and possibly to provide a means of training workers.

- *Customer Service and Mid-Level Management Staffing:* Ratios of worker-to-company that were noted from the survey data indicate that logistics companies tend to employ more customer service workers and more mid-level managers of inventory control and shipping activities than production companies. This would not be surprising since logistics companies are service companies for which customer interface during the shipping process is no doubt critical. Also because logistics companies are often moving products for many clients, frequently in novel situations, more knowledgeable people to manage this process would seem to be inherently required. Staffing of these workers seems to reflect a need to maintain in-depth, possibly redundant familiarity inventory and shipping arrangements. For the lowest paid workers in these positions, ordinary Customer Service Representatives are paid \$33,600 per year (weighted average), the equivalent of \$16.80/hour. Mid-level dispatchers and shipping supervisors are paid at weighted average rates of \$40,400 and \$48,600, the equivalent of \$20.20 and \$24.30 respectively. These are workers in the logistics industry whose compensation is the equivalent of skilled machinists and other skilled trade workers in manufacturing operations, and their numbers are significant.

Career Paths in the Logistics Industry: In meeting with managers, executives, and consultants in the logistics industry the number of these professionals who began their careers as warehouse floor workers, clerks, or truck drivers is notable. For example, in 2006 an advisory committee helping a Chicago area community college develop a logistic curriculum included five high level managers of major logistics companies. In informal discussion four of these men explained that they began their careers in logistics as material handlers or drivers. This may not be surprising in a relatively young and growing field, for which degree programs are still in formation. But the pattern may also be reinforced by the strong staffing of mid-level customer service, inventory and shipping management positions suggested by the Will County Survey data. Even a skilled material handler must be aware of the issues that a manager addresses, and positions from the warehouse floor to management seem to form a ladder that a person with reasonable ability, drive, and readiness to pursue continuing education could climb. Public policy in business support and education programs may be able to accelerate this fluidity by bringing more new

workers into the field with some useful skills and helping skilled workers and mid-level managers advance.

Variation in Logistics Companies: Earlier we noted that companies have come to compete in the logistics market from several points of origin and related business interests. However, among companies that are competing to perform the logistics functions of other companies there are gradations of operating strategies and practices that were stressed by two logistics managers interviewed for the QOL Plan. Some logistics companies invest more per worker in physical plant, equipment, and computer systems, move higher levels of product by volume and value, pay higher compensation to their workers and use temporary labor only in restricted situations. Other companies adopt a marginal investment, low wage and low worker skill approach. The trend of the industry is in favor of the high investment and high skill strategy, and companies that do not pursue this strategy are on a path to marginalization if not extinction. However, public efforts to retain and attract logistics companies should be aware of these differences. Logistics companies are also differentiated by the types of products they handle and by the types of services they provide. As the field of modern logistics grows and matures these differences will probably be reflected in greater specialization.

Interface of Logistics and Manufacturing: We also noted earlier that logistics and manufacturing operations are linked in two ways. As logistics companies compete to give added value to their customers by performing all of the services needed to deliver the product in complete condition, some companies are performing product processing and assembly functions that blend into manufacturing. Also, as a consultant study for the City of Chicago illustrated some manufacturing companies find benefit in locating near intermodal freight terminals and concentrations of logistics businesses. After a somewhat detailed look at the compensation for various positions in the logistics industry, we can at least make more informed guesses about the importance of these trends for Will County and the development of the Joliet QOL Planning Area particularly.

The specialized functions of moving freight efficiently as a third party logistics provider, on one hand, and manufacturing goods at a high value for cost, on the other, seem subtly but significantly different. They require different types of performance by basic skilled workers on the factory or warehouse floor and different middle management structures. It may be that the cultures of logistics and manufacturing are too different to fit well in jointly managed operations. Logistics managers interviewed for this Plan indicated this when they expressed skepticism about logistics companies adding quasi-manufacturing functions, in spite of evidence that this is happening. If this suggested cultural difference is real, we may expect more complex product processing and assembly functions to be performed only by third party logistics providers that become increasingly specialized in these tasks, such as the IntraCore company discussed earlier as an example. In this case future industrial parks based on logistics activities might anticipate different types of logistics companies, with some performing the “traditional” role of third party logistics firms in the efficient distribution of freight and other companies, which may be functionally linked to the traditional providers, performing complex product processing and assembly functions. This is a type of distinction developers and public sector planners might consider in park development.

If current prevailing trends in the world economy continue – reliance on international supply chains for product sourcing and markets, commitments to just-in-time manufacturing and distribution, rapid declines in the proportional costs of manufacturing labor coupled with soaring costs of energy, materials, and transportation – then industrial locations near intermodal freight terminals and logistics complexes, with multiple modes of freight access will be increasingly valuable. Of course this does not mean that manufacturing companies will desert sites that currently serve them well and in which they are deeply invested to seek logistics advantages. But present trends to indicate that locations with logistics advantages are becoming more desirable now than they have been for generations. This attraction should to be considered in County economic development efforts, and particularly by County institutions, the City of Joliet and the Planning Area community in the development of industrial properties in the I-80 Corridor.