

## 4.1 Shipper Survey

In order to obtain detailed information on shipper characteristics, and to augment the more macro-level Reebie data on freight origins and destinations presented earlier, a telephone survey of key area shippers was conducted. The survey was aimed at the most significant shipping locations in each county, generally those manufacturers, distribution centers, or agricultural facilities with over 250 employees, including all General Motors and Delphi Automotive facilities in the study area. Knowledgeable shipper personnel were asked about their freight facilities (rail siding and number of dock doors), inbound and outbound freight characteristics, percent of freight decisions they control, as compared to their supplier or customer, and problems or issues relative to freight transportation. For inbound and outbound freight movements, each shipper was questioned about:

- Loads per week by truck and rail;
- Percent moving truckload vs. LTL;
- Percent of freight moving various distances;
- Key origin or destination cities;
- Freight bill allocation by mode;
- U.S.-Canada loads per week;
- U.S.-Mexico loads per week;
- U.S.-Overseas loads per week;
- Intermodal loads per week; and,
- Interest in a Foreign Trade Zone (FTZ).

To select those to be interviewed, each county's industrial directory was used, although for Genesee a list of larger shippers was obtained. The directories included 51 "significant shippers" (Table 4-1). In addition, a separate list of 13 key GM/Delphi (12) and Chrysler (one) facilities in the study area were added to the list for a total of 64 significant shippers. As of this writing, 37 of the non-GM-Delphi/Chrysler interviews have been completed, plus three GM/Delphi/Chrysler interviews for a total of 40 completed shipper interviews out of a total 64 significant shipper locations. Once the interviews are completed, 50 of the 64 significant companies/shipper locations (78%) in the region will have been surveyed. Thirty-seven of these 64 significant companies are automotive related, or 57.8 percent of the total. This initial data set of 40 completed interviews includes 26 auto-related companies (65%) including three major automotive parts facilities.

Table 4-1  
Summary of Shippers/Sample

County	Total Significant Shippers			Interviewed Shippers To Date			GM/Delphi Total To Go	Total	Total Auto- Related in Universe	Auto Completed To Date	Auto To Go	Total Auto To Be Done
	GM/Delphi	Non- GM/Delphi	Total	GM/Delphi	Non- GM/Delphi	Total						
Saginaw	4	9	13	1	9	10	3	13	9	5	3	8
Shiawassee	--	10	10	0	7	7	--	7	5	3	--	3
Lapeer	--	12	12	0	6	6	--	6	10	5	--	5
St. Clair	1	9	10	1	6	7	--	7	5	5	--	5
Genesee	8	9	17	1	9	10	7	17	8	7	7	14
Total	13	51	64	3	37	40	10	50	37	25	10	35

Source: John Taylor

#### 4.1.1 Automotive Industry Logistics

The 13 GM, Delphi, and Chrysler facilities to be involved in the shippers survey (three interviews completed to date) include eight GM facilities (one assembly plant, one SPO facility, two metal fabrication plants, and four GM Powertrain facilities); four Delphi facilities; and, one Chrysler facility (Table 4-2). Given the significant percentage of total freight activity in the region of the auto industry assemblers and suppliers, it is important to first provide a brief overview of their logistics practices, in particular at GM.

Table 4-2  
Key Auto Company Facilities in Shippers Survey

Company	Division	Facility	Location	LLP 3PL
General Motors	Assembly	GM Truck	Flint	Penske Logistics
General Motors	SPO	GM SPO	Schwartz Creek	Schneider Logistics
General Motors	Powertrain	V8/Components	Flint (Hamilton)	Fed Ex/Caliber
General Motors	Powertrain	L-6 South	Flint South	Fed Ex/Caliber
General Motors	Powertrain	Malleable Iron	Saginaw (Center)	Fed Ex/Caliber
General Motors	Powertrain	Metal Casting	Saginaw (Washington)	Fed Ex/Caliber
General Motors	Metal Fabrication	Grand Blanc	Grand Blanc	None Known
General Motors	Metal Fabrication	Flint	Flint	None Known
Delphi	Delphi	Old Delco	Flint Port	Ryder
Delphi	Delphi	Gas Tank	Flint	Ryder
Delphi	Delphi	Saginaw	Saginaw I-75	Ryder
Delphi	Delphi	Chassis	Saginaw E. Genesee	Ryder
Chrysler	After-Market Parts	Marysville	Marysville	TNT Logistics

Source: John Taylor

Over the last 25 years, the auto companies have moved to a system of inbound logistics management in which they control the selection of carriers and take responsibility for planning inbound routes, as opposed to allowing suppliers to manage this process, as was the case prior to about 1975. The shift has important implications for this study because it means that local suppliers to the auto industry have almost no control over carrier selection for their outbound flows. This is true of unaffiliated suppliers GM Powertrain and Delphi, which is still affiliated closely with GM.

A second important logistics management characteristic of the auto industry involves moving from a system of local decisions to one in which major strategic shipping decisions (like whether to use rail or truck, or whether to use a local intermodal terminal, as opposed to one in Detroit, or whether to use a local FTZ) are made at a corporate level.

Over recent years, GM has outsourced much of the day-to-day management of carriers (along with management of route structures) to 3PLs. Auto companies generally call the firm chosen to oversee a given facility its “lead logistics provider,” or LLP. The LLP uses its own fleet and other carriers. GM’s LLP’s include Penske Logistics for the truck plant, Schneider Logistics for the GM SPO facility, and Fed Ex/Caliber Logistics for the GM Powertrain operation. GM has recently outsourced to Vector Logistics a portion of LLP oversight and it is expected that Vector will take over a great deal of the management of GM inbound flows. Delphi uses Ryder Dedicated Logistics as their LLP, while Chrysler after-market parts at Marysville uses TNT Logistics.

There are a few interesting points about GM and its LLP’s management of the inbound logistics flows. First, GM is increasingly requiring that key component suppliers be located within 30-45 minutes of assembly plants. The LLP then calls on these suppliers with anywhere from hourly to weekly “milk run” pickups. These runs are designed to bring on-site just enough inventory for a specified production period. Inbound parts are often taken to “sequencing/staging centers” first, where they are organized by plant dock door and placed on trailers in the reverse order to which they will go into specific vehicles to be assembled. This concept was first pioneered with vehicle seats.

For suppliers located farther than 45 minutes from assembly plants, the LLPs may operate regional consolidation centers where full truckloads are put together for the long distance move to the assembly plant. Also, for major suppliers located around Detroit, GM is using an innovative program in which they bring all suppliers goods by truck to what is known as the Detroit Regional Rail Distribution Center and then cross dock them into rail trains ready to run to each of GM’s assembly plants around the country. For instance, a good deal of the output from Delphi Steering Gear moves to GM assembly plants around the country using this “JIT Rail” concept.

#### 4.1.2 Shipper Survey Results

The following results are for the 40 interviews completed to date, including three of the GM/Delphi/Chrysler facilities. It is important to note that GM/Delphi flows to be obtained in the remaining interviews will account for three to four times the volumes shown here from interviews completed to date.

Given the auto companies practice of controlling freight that comes from suppliers and the number of auto companies in the study area, it is important to know the degree to which freight movement decisions are made by the shipping company as opposed to a supplier or customer. Preliminary survey results indicate that half of the freight moved to, from and within the region is controlled by decisions made at headquarters which oftentimes are outside the region. This will affect how support is gained to improve intermodalism in the study area.

There are a total of 575 truck dock bays available to the 40 shippers surveyed, or an average of 14+ per location (Table 4-3). Sixteen of the 40 companies surveyed had a siding, an unusually high number today. However, only 11 of the shippers actually use them. This is not unusual as shippers have become increasingly frustrated with rail service in part because of the conditions

**Table 4-3**  
**Truck Dock Doors and Rail Sidings/Use**

County (Shippers)	Number of Truck Bays	Rail Siding?		Of Those that Have Siding, Use Rail Siding?	
		Yes	No	Yes	No
Saginaw (10)	251	5	5	4	1
Shiawassee (7)	41	2	5	1	1
Lapeer (6)	46	2	4	0	2
St. Clair (7)	106	4	3	3	1
Genesee (10)	131	3	7	3	0
Total (40)	575	16	24	11	5

Source: John Taylor

brought on by mergers. And, while finished automotive vehicles will continue to be distributed by rail (some 70 percent of all vehicles move to destination by rail), there has been much discussion about continuing to route the amount of inbound rail movement to assembly plants.

Perhaps one of the most important findings from the survey involves the number of movements of freight per week into and outbound from each local facility in the survey (Table 4-4). For the truck mode, there were a total of 5,682 inbound moves per week, or an average of 142 per facility surveyed. However, one major auto facility alone accounted for 2500 of these. In addition, a second facility had 450 inbound truck moves per week. On the outbound side, there were 4,979 truck movements per week. Again, a few facilities accounted for much of the total. For instance, one major auto supplier had 550 truck moves per week outbound, a second auto company facility had 500 moves per week, and a third auto company facility had 730 outbound truck moves per week. For rail, there were 61 inbound cars per week and 279 cars outbound per week for the 40 surveyed facilities.

**Table 4-4**  
**Rail/Truck Movements Per Week**

County (Shippers)	Truck In	Rail In	Truck Out	Rail Out
Saginaw (10)	1,177	8	1,030	18
Shiawassee (7)	250	20	688	1
Lapeer (6)	370	0	580	0
St. Clair (7)	630	21	1,041	25
Genesee (10)	3,255	12	1,640	235
Total (40)	5,682	61	4,979	279

Source: John Taylor

Focusing on truck activity, Table 4-5 indicates that 52 percent of the total inbound freight weight is estimated to move in truckload quantities, while 57 percent of the outbound freight is estimated to move TL. The balances move LTL. These are important points in addressing rail and intermodal developments, which usually move in full truck and above quantities.<sup>1</sup> Likewise, the distance the shipment is moved affects the potential for intermodal facility development. Table 4-6 indicates that an estimated 50 percent of inbound freight weight moves fewer than 200 miles, while 40 percent moves 201 to 800 miles. Just 10 percent of the weight moves more than 800 miles, a distance that is on the short end of viable intermodal trips in most circumstances. Outbound, 44 percent of the weight moves fewer than 200 miles, while 22 percent of the weight is estimated to move more than 800 miles. These percentages are not adjusted for the varying volumes of the shippers.

**Table 4-5**  
**Truckload vs. LTL Freight Percent**

County (Shippers)	Inbound		Outbound	
	TL	LTL	TL	LTL
Saginaw (10)	67%	33%	58%	42%
Shiawassee (7)	45%	55%	47%	53%
Lapeer (6)	37%	63%	53%	47%
St. Clair (7)	60%	40%	84%	16%
Genesee (10)	54%	46%	44%	56%
Total (40)	52%	48%	57%	43%

Source: John Taylor

Note: Raw averages. Not weighted for volume of freight at each company or, in the case of areawide totals, for variations in the number of companies in each county.

**Table 4-6**  
**Percent of Truck Freight Moved and Distances**

County (Shippers)	Inbound			Outbound		
	0-200	201-800	800+	0-200	201-800	800+
Saginaw (10)	64%	29%	7%	60%	25%	15%
Shiawassee (7)	38%	50%	22%	45%	37%	18%
Lapeer (6)	57%	38%	5%	37%	35%	28%
St. Clair (7)	50%	34%	16%	33%	55%	12%
Genesee (10)	39%	50%	11%	47%	17%	36%
Total (40)	50%	40%	10%	44%	34%	22%

Source: John Taylor

Note: Raw averages. Not weighted for volume of freight at each company or, in the case of areawide totals, for variations in the number of companies in each county.

<sup>1</sup> One rail car equals about 3.5 full 45 foot trailers.

The relatively short distances traveled by most of the freight that is received by and sent from area shippers helps to explain the relatively small amount of intermodal activity today (Table 4-7). Only about two inbound loads per week were reported. On the outbound side there were significantly more loads (125.75 per week) with two-thirds of those originating with a few shippers in St. Clair and Genesee counties, primarily at auto company facilities.

**Table 4-7**  
**Rail/Truck Intermodal Freight Loads Per Week**

County (Shippers)	In	Out
Saginaw (10)	0	5.5
Shiawassee (7)	0	8.0
Lapeer (6)	2	23.0
St. Clair (7)	0	44.0
Genesee (10)	.1	45.25
Total (40)	2.1	125.75

Source: John Taylor

There has been considerable discussion about the large volumes of freight that pass through the study area as goods are moved along the I-69 trade corridor, and along the CN international freight rail route. The 40 shippers surveyed reported receiving about 120 loads per week, while outbound-to-Canada loads were reported to be about 226 weekly (Table 4-8). Again, these loads tended to be concentrated across a relatively small number of the 40 shippers surveyed.

**Table 4-8**  
**U.S.-Canada Loads Per Week**

County (Shippers)	In	Out
Saginaw (10)	16.75	41.25
Shiawassee (7)	4.64	5.67
Lapeer (6)	32.25	26.5
St. Clair (7)	46.0	126.0
Genesee (10)	20.2	27.0
Total (40)	119.84	226.42

Source: John Taylor

Those surveyed were asked about their interest in a local Foreign Trade Zone (FTZ) and the number of loads per week shipped into and out of Mexico and overseas markets. Before proceeding it should be noted that four shippers in Shiawassee County were unable to answer this question. It should also be noted that a few additional shippers indirectly shipped or received goods from Mexico or overseas via consolidators that handled all the international parts of the transaction, with the surveyed company not taking title and freight responsibility until the goods were imported to the U.S. However, the total volume involved was fewer than 10 loads per week. Three companies expressed some interest in an FTZ (Table 4-9). Very few shippers have any inbound or outbound movements beyond Mexico, and those that do have very small quantities. With respect to Mexico, there were

**Table 4-9**  
**FTZ Interest and International Loads Per Week**

County (Shippers)	Interest FLT	In		Out	
		Mex.	Overseas	Mex	Overseas
Saginaw (10)	1	15	0	6	5
Shiawassee (7)	1	.1	2.5	1	1.5
Lapeer (6)	0	4	.25	7	3.75
St. Clair (7)	0	7	1	10.33	21.0
Genesee (10)	1	10	0	27.7	40.35
Total (40)	3	36.1	3.75	52.03	71.60

Source: John Taylor

Note: Three or four shipper representatives that were interviewed were not able to comment on international. These were almost all in Shiawassee County.

about 36 reported loads per week inbound, and 52 loads per week outbound. For overseas activities, there were about four loads per week inbound and about 72 loads per week outbound. The bulk of those outbound loads came from GM SPO. Overall, the non-GM/Delphi companies surveyed indicated very little international activity, whether it be Canada, Mexico, or overseas.

Table 4-10 examines the allocation of a shippers total freight bill across various modes of transportation, regardless of whether they pay the freight bill or the supplier/customer does. On the inbound side about 92 percent of the freight expenditures were for the truck mode, with 4.5 percent for rail, and 2.9 percent for package express. Intermodal was insignificant. On the outbound side, about 90 percent was spent on truck, and five percent on rail. Intermodal had 2.6 percent of the expenditures, and package express accounted for the remaining two percent. Considering these data were estimated by the shippers and not based on calculating invoices and if truck and package express are combined, the total expenditures for inbound and outbound shipments vary considerably from the national trends shown on Figure 3-5 -- local truck expenditures are much higher (94% local versus 60%) and rail much lower (5% local versus 10%).

**Table 4-10**  
**Percent of Freight Bill by Mode**  
**(Regardless of Who Pays)**

County (Shippers)	In					Out				
	Air	Truck	Rail	Inter.	Pack.	Air	Truck	Rail	Inter.	Pack.
Saginaw (10)	0%	96%	1.5%	0%	2.5%	0%	81.5%	15.5%	0%	3%
Shiawassee (7)	.4%	91%	4.3%	0%	4.3%	0%	92%	0%	3%	5%
Lapeer (6)	--	98%	0%	.8%	1.2%	0%	97.3%	0%	1.7%	1.0%
St. Clair (7)	--	91%	7.7%	0%	1.3%	0%	95.9%	4.0%	0%	.1%
Genesee (10)	--	85.7%	8.8%	0%	5.5%	0%	85.5%	5.5%	8.5%	.5%
Total (40)	.1%	92.3%	4.5%	.2%	2.9%	0%	90.4%	5.0%	2.6%	2.0%

Source: John Taylor

Note: Raw averages. Not weighted for volume of freight at each company or, in the case of areawide totals, for variations in the number of companies in each county.

### 4.1.3 Summary

Overall, these data reinforce the Reebie data for 1996 in depicting the predominance of trucking in the region's freight movement. Further, the region's products are transported relatively short distances. The Reebie data indicate they predominantly go to/from Michigan and Canada. And, many of the decisions by the producers/manufacturers are being made by those outside the region. There currently are no traditional "intermodal terminals" in the study area. Instead, intermodal loads are "ramped" onto or off trains at terminals in Chicago or Detroit. Chicago is often used for west- and southwest-bound loads because of the dozens of daily arrivals and departures from railroads serving Chicago. There is a cost of about \$285 to "dray" or truck a container/trailer to a Chicago intermodal terminal. There are actually nine intermodal terminals in Detroit serving various railroads and shippers. The cost to dray loads to Detroit is approximately \$125 from Flint. Toledo is also a major intermodal terminal area for CSX. Detroit or Toledo are favored for loads going east and into Canada (for Detroit), although many eastern and Canadian loads are also ramped at Chicago.

The study area also includes a few trailer/boxcar transloading facilities. The Venture facility in Flint is used by some GM and Delphi plants for this purpose. In addition, there is a plastic pellet transloading operation of a very small scale located near Port Huron.

In the auto industry, General Motors has taken the JIT rail cross dock approach described earlier to another level in the southeast Michigan area with development of the Detroit Regional Distribution Center (DRCD) JIT rail crossdock facility. This GM system results in suppliers within 200 miles of the crossdock facility in Melvindale trucking their shipments to the facility where they are backed up to a dock and unloaded. The pallets/bins are then reloaded into boxcars going to various assembly plants 500 plus miles out from Detroit. Each night while trains of these mixed loads are sent out to each assembly plant for second day just-in-time delivery. GM is able to make this system work because of its volumes, and its clout with the railroads. A great deal of Flint/Saginaw GM and Delphi outbound freight moves to assembly plants in this way.

So, the challenge of creating an intermodal emphasis in the region will go beyond just touting the highway and rail facilities available and must influence decision-makers to invest in the five-county region because of other assets. These are discussed next.