FREIGHT NEWS

Freight Transportation Profile—Michigan Freight Analysis Framework

Understanding future freight activity is important for matching infrastructure supply to demand and for assessing potential investment and operational strategies. To help decisionmakers identify areas in need of capacity improvements, the U.S. Department of Transportation developed the Freight Analysis Framework (FAF), a comprehensive national data and analysis tool, including county-to-county freight flows for the truck, rail, water, and air modes. FAF also forecasts freight activity in 2010 and 2020 for each of these modes. Information about the methodology used in developing FAF is available on the Office of Freight Management and Operations' website www.ops.fhwa.dot.gov/freight.

The U.S. freight transportation network moves a staggering volume of goods each year. Over 15 billion tons of goods, worth over $9 trillion, were moved in 1998. The movement of bulk goods, such as grains, coal, and ores, still comprises a large share of the tonnage moved on the U.S. freight network. However, lighter and more valuable goods, such as computers and office equipment, now make up an increasing proportion of what is moved. FAF estimates that trucks carried about 71 percent of the total tonnage and 80 percent of the total value of U.S. shipments in 1998. By 2020, the U.S. transportation system is expected to handle about 23 billion tons of cargo valued at nearly $30 trillion.

Michigan

Table 1 presents information on freight shipments that have either an origin or a destination in Michigan. As shown in the table, trucks moved a large percentage of the tonnage and value of shipments, followed by water and rail (tonnage) and air and rail (value). Figures 1 and 2 show freight flows on the highway and rail modes.

Truck traffic is expected to grow throughout the state over the next 20 years. Much of the growth will occur in urban areas and on the Interstate highway system (Figures 3 and 4). Truck traffic moving to and from Michigan accounted for 14 percent of the average annual daily truck traffic (AADTT) on the FAF road network. Approximately 19 percent of truck traffic involved in-state shipments, and 8 percent involved trucks traveling across the state to other markets. About 59 percent of the AADTT were not identified with a route-specific origin or destination.

Table 2 shows the top five commodity groups shipped to, from, and within Michigan by all modes. The top commodities by weight are nonmetallic minerals and secondary traffic. By value, the top commodities are transportation equipment and secondary traffic. Secondary traffic is defined as freight flows to and from distribution centers or through intermodal facilities. No commodities are assigned to this intermediate step in the transportation process.

Table 1. Freight Shipments To, From, and Within Michigan: 1998, 2010, and 2020

MICHIGAN	Tons (millions)			Value (billions $)		
	1998	2010	2020	1998	2010	2020
State Total	687	942	1,139	811	1,549	2,510
By Mode						
Air	2	3	4	118	280	513
Highway	463	672	836	595	1,099	1,737
Other[a]	3	3	3	<1	<1	1
Rail	100	127	151	88	157	240
Water	119	137	144	8	13	18
By Destination/Market						
Domestic	547	735	867	495	846	1,241
International	140	207	272	315	704	1,269

Note: Modal numbers may not add to totals due to rounding.

[a] The "Other" category includes international shipments that moved via pipeline or by an unspecified mode.

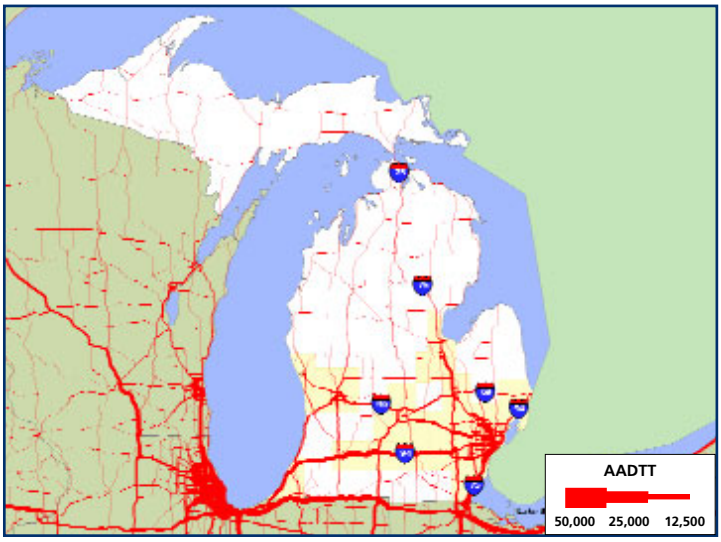
Figure 1. Freight Flows To, From, and Within Michigan by Truck: 1998 (tons)

Federal Highway Administration

Figure 2. Freight Flows To, From, and Within Michigan by Rail: 1998 (tons)

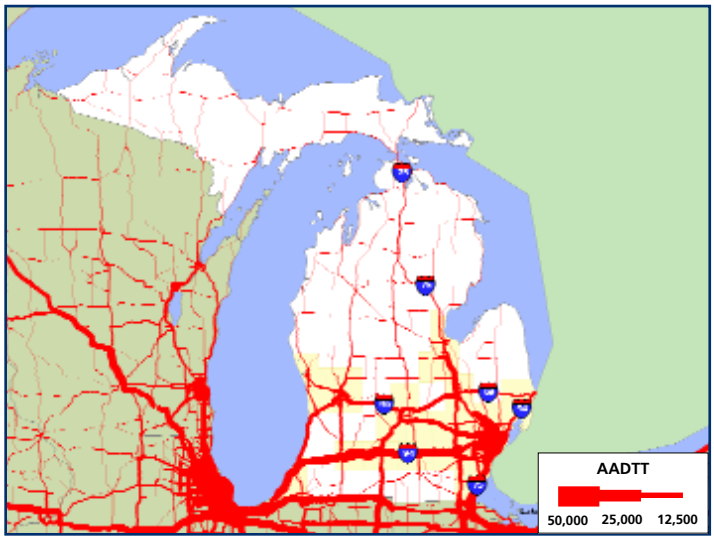
Federal Railroad Administration

Figure 3. Estimated Average Annual Daily Truck Traffic: 1998



Federal Highway Administration

Figure 4. Estimated Average Annual Daily Truck Traffic: 2020



Federal Highway Administration

Table 2. Top Five Commodities Shipped To, From, and Within Michigan by All Modes: 1998 and 2020

Commodity	Tons (millions)		Commodity	Value (billions $)	
	1998	2020		1998	2020
Nonmetallic Minerals	146	171	Transportation Equipment	328	816
Secondary Traffic	73	184	Secondary Traffic	75	283
Clay/Concrete/Glass/Stone	55	110	Machinery	62	230
Coal	51	55	Instr/Photo Equip/Optical Equip	44	272
Transportation Equipment	50	96	Chemicals/Allied Products	38	108

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November 2002
FHWA-OP-03-059
EDL 13747

A series of FAF products are available on the website noted below. FAF outputs include freight flow maps for states, modes, and gateways; detailed databases on traffic flows and commodity movements; information on the methodologies used to develop FAF; and forecast assumptions.

The U.S. Department of Transportation, Bureau of Transportation Statistics (BTS) is also developing a series of state transportation profiles. For more information and to obtain a copy of the BTS reports, please call 202-366-DATA.

U.S. Department of Transportation

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