United States Department of Agriculture
Before The Secretary of Agriculture

In re: [Docket No. 23-J-0067; AMS-DA-23-0031]
Milk in the Northeast and Other Marketing Areas

Hearing beginning August 23, 2023

Testimony Presented By:

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My name is Stephen F. Zalar, and I am currently employed by and represent Dairy Farmers of America. I hold an Associate Degree in Dairy Science, Bachelor of Science degree in Food Science, and Master of Science degree in Agricultural Economics, all from The Ohio State University. My graduate thesis work involved the study and publication of "Economic and Institutional Factors Relevant to Defining Mideast Federal Milk Order Marketing Areas" which would become an instrumental reference for Federal Milk Order Reform as directed by the 1996 Farm Bill. My work experience within the dairy industry encompasses work "from the ground to the grocery store", so to speak. I have spent my entire career working within the dairy industry in various capacities with employers such as The Kroger Company's Dairy Manufacturing, Logistics/Optimization Consulting work for Dairy Producers of New Mexico, Dannon Yogurt, and Borden, Inc. I also spent several years as a herdsman on dairy farm operations. I currently serve as a Senior Logistics Analyst and Fleet Manager for Dairy Farmers of America (DFA). I have worked 20 years in milk logistics at DFA. I thank you for the opportunity to testify today.

I have been asked to discuss milk hauling costs in the Mideast Area and how they have changed over the last two decades. For anyone involved in the dairy industry, it is no secret that milk hauling costs have increased significantly, especially since the implementation of Federal Order Reform in 2000. For an example taken from the Mideast Area, from 2006 to 2023 overall costs for a 300-mile roundtrip load of milk on an Ohio based 6,200-gallon tractor trailer increased 70% (Table 1). And with respect to large, 8-axle Michigan-based 12,000-gallon tractor trailers moving milk on a 300-mile round-trip, run costs have risen 69% (Table 2). Some may ask what costs have increased over the last 17 years, i.e., have some costs increased faster than others? Also, what reasons might there be that hauling costs have not increased uniformly, or what has caused costs to change differentially?

Two basic considerations are miles traveled and the demographics of producer farm milk routes. Milk shed production volumes can greatly impact miles traveled during the process of collecting milk on the milk truck, commonly called "milk assembly." Milk haulers will structure routes with the intent of obtaining a full load of milk.

Table 1. Milk hauling cost changes for Ohio milk assembly and delivery, 2006 to 2023[1]

50,000 lb. load, 300-mile round trip; cost per hundredweight

Variable Costs	2006	2023	Difference	% Increase
Fuel	$0.2137	$0.3484	$0.1337	62.6%
Labor	$0.4400	$0.7920	$0.3520	80.0%
Tires	$0.0445	$0.0703	$0.0258	58.0%
Maintenance	$0.0844	$0.1444	$0.0600	71.1%
Total Variable	*$0.7826*	*$1.3541*	*$0.5715*	73.0%
Fixed Costs				
Equipment	$0.1427	$0.2468	$0.1041	73.0%
License &Tax	$0.0199	$0.0359	$0.0160	78.6%
Insurance	$0.0370	$0.0548	$0.0178	48.2%
Mgt. & Overhead	$0.0493	$0.0658	$0.0165	33.3%
Total Fixed	*$0.2489*	*$0.4033*	*$0.1544*	*61.9%*
COST PER HUNDREDWEIGHT	*$1.0315*	*$1.7574*	*$0.7259*	*70.3%*

Table 2. Milk hauling cost changes for Michigan milk assembly and delivery, 2006 to 2023[1]

108,000 lb. load, 300-mile round trip; cost per hundredweight

Variable Costs	2006	2023	Difference	% Increase
Fuel	$0.1280	$0.2081	$0.0801	62.6%
Labor	$0.2241	$0.3972	$0.1731	77.2%
Tires	$0.0664	$0.0971	$0.0307	46.2%
Maintenance	$0.0576	$0.1048	$0.0472	81.9%
Total Variable	*$0.4761*	*$0.8072*	*$0.3311*	*69.5%*
Fixed Costs				
Equipment	$0.1170	$0.1902	$0.2633	62.5%
License & Tax	$0.0098	$0.0284	$0.0671	191.2%
Insurance	$0.0190	$0.0304	$0.0411	60.0%
Mgt. & Overhead	$0.0228	$0.0304	$0.0274	33.3%
Total Fixed	*$0.1686*	*$0.2794*	*$0.3989*	*65.7%*
COST PER HUNDREDWEIGHT	*$0.6447*	*$1.0866*	*$0.4419*	*68.5%*

[1]The data for Tables 1 and 2 were derived from proprietary sources and publicly available milk hauling information. Calculations were performed using hauling rate software developed by the Upper Great Plains Transportation Institute (Agriculture Transport Center, North Dakota State University). Fuel costs represent the prices for the Midwest Region and published by the U.S. Department of Energy. Labor costs were derived from the U.S. Department of Labor Statistics and were increased 25 percent to account for employee, i.e., driver, benefits. Tire costs were based on regional tire price quotes and contract milk hauler responses to a survey administered by DFA Mideast Area staff. Maintenance costs were also based on contract milk hauler survey responses and verified by leasing company estimates. Equipment costs were based on contract milk hauler survey responses and price quotes from manufacturer-dealers and lease companies. License costs and taxes were based on state and Department of Transportation information, as well as costs reported by contract milk haulers. Insurance costs were based on contract milk hauler survey responses as well as quotes obtained by Mideast Area insurance providers. Management and overhead costs were based on contract milk hauler survey responses.

It is simple economics driving their decision, i.e., more volume helps to spread fixed costs while not impacting variable costs as much. Miles traveled to assemble a fixed volume of milk is summarized best with a calculated statistic called the "miles-hundredweight ratio." Milksheds with low milk volumes and that are "thin," i.e., that require more stops and miles traveled to assemble a full load, would have a higher miles-hundredweight ratio. Milk haulers operating these routes will typically charge a "per load" flat rate instead of a "per hundredweight" rate to cover added costs of milk assembly. Milk haulers operating these routes within DFA Mideast will also typically charge a sizeable "stop charge" per producer, which is exactly what it sounds like, i.e., a charge levied upon the farm for each time the truck stops to pick up milk. The stop charge has ranged anywhere from $50 to $200; this would be used instead of a "per hundredweight" rate to cover added costs of milk assembly. In contrast, milksheds that are high volume or that are "flush," requiring fewer stops to assemble a full load, will have a lower miles-hundredweight ratio. Haulers operating these routes can maximize or optimize full load efficiencies via reduced miles and time. In general, large farms that require haulers to make just one stop to fill a truck can create efficiencies and milk hauling cost savings for the producers.

Milk haulers realize when operating in a "thin" or declining milk volume milkshed that an eventual demise to their milk hauling enterprise is possible or even likely. Increasing producer farm hauling rates may help to cover growing operating costs caused by lower milk volume loads and greater distances traveled. Unfortunately, higher hauling rates contribute to uncertain farm profit margins on farms, which may accelerate farm exits from the dairy industry. Here are some actual operational examples of haulers who are currently faced with operating in a "thin" and declining milkshed:

- A Kentucky-based hauler in the spring of 2023 was required to travel almost 200 miles to assemble just 33,000 pounds of milk from six farm stops. This did not include miles to final delivery plant.

- A western Pennsylvania-based hauler in the summer of 2022 was required to travel over 200 miles to assemble just 27,000 pounds of milk from ten farm stops. This did not include miles to final delivery point.
- A southeastern Ohio-based hauler in the summer of 2022 was required to travel over 180 miles to assemble just 32,000 pounds of milk from five farm stops. This did not include miles to final plant deliver.
    - The milk hauler wanted to retire from hauling and no longer had a desire to haul milk.
    - To continue hauling milk, the hauler, being in a strong negotiating position, charged each farm $200 per stop to pick up milk, regardless of amount of milk picked up.
    - Within the first few months of the rate increase, two of the farms were forced to exit the dairy business.

Milk hauling enterprises are dynamic in terms of stability and alignment with farm numbers and concentrations. The Mideast Area has seen decreases in hauler numbers consistent with decreases in dairy farm numbers. For example, in July 2006 DFA contracted with 194 milk haulers, but today, there are just 88 contract milk haulers being used. And during that same period, DFA's milk production in the Mideast Area went from 565 million pounds per month to 601 million pounds per month, even as dairy farm numbers fell by over 70 percent. The conundrum should be clear – fewer farms are producing more milk, and there are fewer milk haulers available to haul the milk to customers. A corollary to this is that with fewer haulers in the Mideast Area, dairy producers have fewer options for finding a milk hauler.

Like any business enterprise, milk haulers are faced with variable cost inputs. Regionality of input costs, such labor and fuel, are perhaps the most obvious examples of regionally variable costs encountered within the transportation sector. With respect to labor, wages tend to be higher in the more populous metropolitan areas located near the eastern and western coasts of the U.S. There are, however, exceptions to this general rule. According to the U.S. Department of Labor Statistics Lincoln, Nebraska was the top paying metropolitan area for heavy tractor-trailer truck drivers, paying an average of $35.10 per hour (Table 3). The heavily dairy region of spanning from LaCrosse, Wisconsin to Onalaska, Minnesota ranked fourth, paying an average wage rate of $30.72 per hour. Rural regions where milk haulers operate are often located somewhat near large metropolitan areas. This means there is competition for milk haulers from employers in other industries such as manufacturing, construction, and other types of transportation occupations. In May 2022, Department of Labor Statistics reported a nationwide average wage of $21.81 per hour for production workers, $25.52 per hour for heavy tractor-trailer truck drivers, and $28.32 per hour for construction workers (Table 4).

Over the seventeen-year period covered in Tables 1 and 2, regardless of variability, the cost of labor for milk hauling is one of the largest percentage increases in comparison to any other cost inputs a milk hauler has faced. Indirectly, cost of labor also impacts the cost to maintain and to repair milk hauling equipment which tends to influence increases to the maintenance input cost (Tables 1 and 2). In addition to actual labor wages paid per region and by occupation, milk

Table 3. Top paying metropolitan areas for Heavy and Tractor-Trailer Truck Drivers

Period: May 2022 Metropolitan area	Empolyment (1)	Employment per thounsand jobs	Location quotient (9)	Hourly Mean wage	Annual mean wage (2)
Lincoln, NE	4,990	28.73	2.14	$35.10	$73,020
Omaha-Council Bluffs, NE-IA	11,020	23.37	1.74	$32.23	$67,030
San Francisco-Oakland-Hayward, CA	15,570	6.51	0.49	$30.83	$64,120
LaCrosse-Onalaska, WI-MN	1,870	25.95	1.93	$30.72	$63,890
Seattle-Tacoma-Bellevue, WA	19,120	9.39	0.7	$30.34	$63,110
Fairbanks, AK	550	15.89	1.18	$30.25	$62,920
San Jose-Sunnyvale-Santa Clara, CA	4,630	4.13	0.31	$29.99	$62,380
Sioux City, IA-NE-SD	3,550	40.99	3.05	$29.70	$61,780
Mount Vernon-Anacortes, WA	790	15.96	1.19	$29.46	$61,280
New York-Newark-Jersey City, NY-NJ-PA	69,230	7.54	0.56	$29.43	$61,210

(1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown seperately. Estimates do not include self-employed workers.

(2) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly wage published, the annual wage has been direclty calculated from reported survey data.

(9) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation is less prevalent in the area than average.

Source: U.S. Department of Labor Statistics

Table 4. Hourly/Annual Mean Average Wage for Select Occupations

Area: National	Period: May 2022	
Occupation (SOC code)	Hourly mean wage	Annual mean wage[1]
Agricultural Equipment Operators (452091)	$19.11	$39,750.00
Construction Equipment Operators (472070)	$28.32	$58,910.00
Production Occupations (510000)	$21.81	$45,370.00
Motor Vehicle Operators (533000)	$22.65	$47,110.00
Heavy and Tractor-Trailer Truck Drivers (533032)	$25.52	$53,090.00

[1]Annual wages have been calculated by multiplying the corresponding hourly wage by 2,080 hours.

SOC code: Standard Occupational Classification code -- see http://www.bls.gov/soc/home.htm
Source: U.S. Department of Labor Statistics

haulers like other commercial for hire transporters must abide by the Hours of Service (HOS) administered by the Federal Motor Carriers Safety Administration (FMCSA). The standard HOS rules require a maximum of 11-hours of work for a commercial truck driver which includes milk haulers. In "thin" milkshed regions where haulers have high miles-hundredweight ratios, the HOS becomes a challenge to meet. Hence, a relief driver may be required to complete the milk run. As expected, the use of an extra driver during milk assembly and milk delivery adds to a hauler's labor costs. Because of adoption of electronic driver logs, milk hauling operational costs have increased as hauler companies have had to recruit, train, and retain drivers willing to understand and to accept use of these types of technologies. Furthermore, in addition to the wage differences shown in Tables 3 and 4, milk hauling companies increasingly compete with other non-agriculture transporters who offer drivers more appealing work, which could be called "no-touch-freight" or "behind the wheel only" work. Hauling milk from farm to plant involves working on weekends, holiday, and off-hours. Milk haulers are also expected to work in all weather conditions and to tolerate substandard infrastructure on farms or at receiving plants.

Diesel fuel, another primary variable input cost in milk transportation is variable through impacts of seasonality, socio-economic influences, political climate, and weather-related events. Since 2010, haulers must also consider the added costs associated with Diesel Exhaust Fluid (DEF) fuel additive compliance to satisfy the Environment Protection Agency (EPA) exhaust emissions standards. Furthermore, according to the U.S. Department of Energy Information Administration (EIA), on-highway diesel fuel prices have wide regional differences (Table 5 and Map 1).

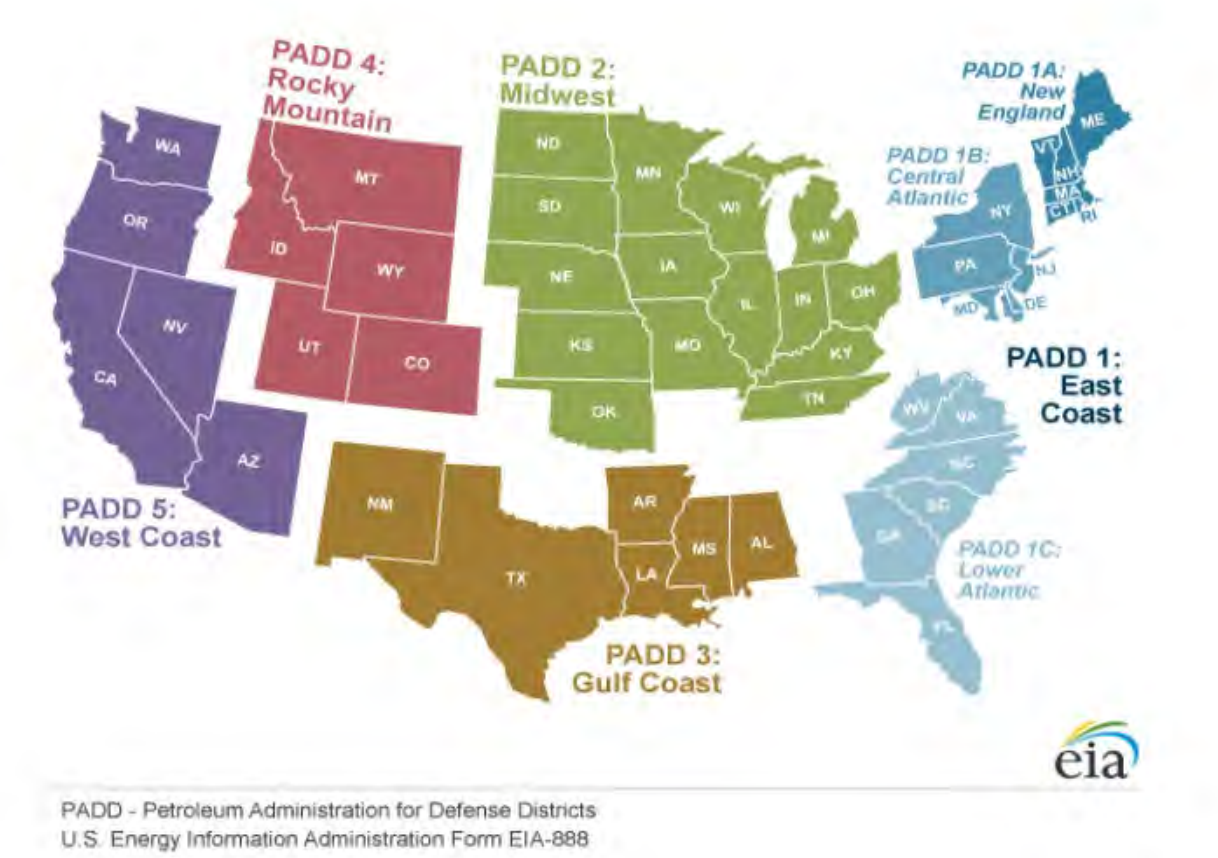
Table 5. Retail prices for No. 2 Diesel in dollars per gallon

Date	U.S.	East Coast	New England	Central Atlantic	Lower Atlantic	Midwest	Gulf Coast	Rocky Mountain	West Coast	California	West Coast (PADD 5) Except California
Sep-2022	4.993	4.927	5.057	5.119	4.842	5.023	4.717	4.937	5.633	6.149	5.183
Oct-2022	5.211	5.211	5.449	5.549	5.065	5.226	4.885	5.195	5.838	6.33	5.412
Nov-2022	5.255	5.424	5.962	5.946	5.188	5.253	4.826	5.392	5.736	6.121	5.401
Dec-2022	4.714	4.963	5.38	5.459	4.743	4.609	4.309	4.971	5.249	5.558	4.98
Jan-2023	4.576	4.812	5.105	5.121	4.671	4.427	4.277	4.727	5.085	5.467	4.753
Feb-2023	4.413	4.606	4.989	4.897	4.459	4.242	4.132	4.645	5.006	5.423	4.643
Mar-2023	4.211	4.33	4.684	4.659	4.171	4.055	3.959	4.378	4.865	5.263	4.517
Apr-2023	4.099	4.194	4.553	4.485	4.048	3.983	3.867	4.118	4.702	4.99	4.451
May-2023	3.915	3.958	4.285	4.251	3.816	3.832	3.619	4.101	4.605	4.842	4.398
Jun-2023	3.802	3.857	4.117	4.132	3.729	3.731	3.5	4.028	4.435	4.76	4.154
Jul-2023	3.882	3.934	4.101	4.136	3.843	3.818	3.59	3.983	4.529	4.907	4.201
Ave.	**$4.461**	**$4.565**	**$4.880**	**$4.887**	**$4.416**	**$4.382**	**$4.153**	**$4.589**	**$5.062**	**$5.437**	**$4.736**

Source: U.S. Department of Energy Information Administration

The Petroleum Administration for Defense Districts (PADD) defines eight regions for reporting purposes (Map 1). However, neighboring states often reflect noticeable differences in fuel

Map 1. Eight regions as defined by PADD

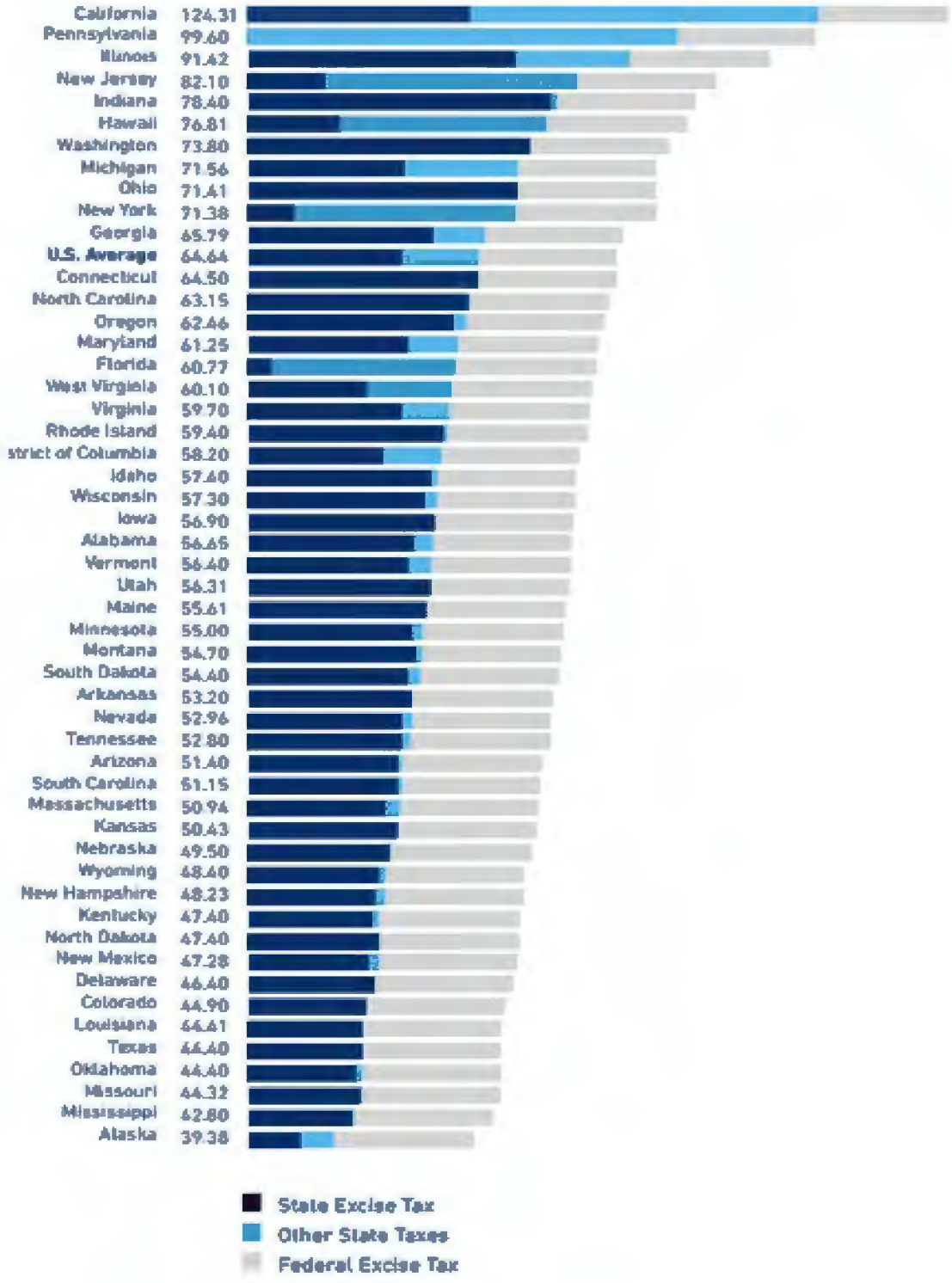


prices due to differences in state excise taxes, along with other state taxes levied on a gallon of fuel (Chart 1). Given the various state taxes applied to the final cost of a gallon of diesel fuel, states bordering each other can have vastly different prices. For example, California is at the top in terms of both overall fuel price and the proportion of states taxes and fees paid (Chart 1). Meanwhile, the neighboring state of Oregon ranks 15th. A similar scenario can be observed with some neighboring states in the Mideast Area, for example, Pennsylvania and New York.

Cost of tires is another variable cost input that has experienced huge increases in costs for milk haulers. Based on in-house DFA Mideast hauler reporting, trailer tire prices increased from $300 per tire in 2006 to $475 per tire in 2023. Furthermore, many of the milk haulers reported discontinuation of the use of cheaper recap tires for virgin (or “factory”) tires due to longer life expectancy and improved safety. Tires prices can vary in price and quality along with type of usage e.g., weight load, local/highway travel. An example of a higher priced tire would be the large “super-single” tires which cost around $900 each.

The cost of procuring equipment, such as a truck and tanker, varies among milk haulers. However, much of that variation is primarily a result of the type of equipment being sought in terms of new versus used, size of tanker, unit configuration, added components, and/or features and accessories. The 2010 EPA exhaust emissions standards have also influenced

Chart 1. Diesel motor fuel taxes by state (cents per gallon)



Source: U.S. Department of Energy Information Administration

hauler purchases of new equipment versus used equipment, hence, driving up the cost to operate a milk hauling company. It should be noted that equipment availability has been compromised over the past three to four years because of supply chain disruptions brought on by the COVID-19 pandemic. For example, as Fleet Manager for DFA, I requested and received a quote from a vendor to purchase a new 2023 cab and chassis tractor unit in April 2022. The vendor bid initially came back at $193,322 but was revised twice within the thirty-day bid acceptance window to arrive at a final bid quote of $201,811, an increase of almost $8,500. The vendor stated reasons for change involved manufacturer to dealer notices related to escalating material costs and labor shortages. In addition to multiple quote adjustments, the actual elapsed time from placing the order to delivery took seven months to complete, due to factory production scheduling backlog. I was informed during the COVID-19 pandemic that if I were to order a tanker trailer, it would have been twelve to eighteen months until delivery. It is also important to note that another reason for recent escalation in equipment replacement costs involve the milk hauler trend of purchasing larger volume tankers and tractors with more horsepower. In the Mideast, we have recently seen Ohio milk haulers replace 6,200-gallon tankers with 8,000-gallon tankers to assemble greater volumes of milk. Although such larger volume loads require special (and costly) load permitting, haulers feel compelled to move this direction due to lack of labor resources and rising equipment costs associated with running numerous smaller volume tanker trucks. The ever-growing usage of larger-sized tanker and trucks capable of pulling larger loads has played a role in the rising cost of license-tax inputs.

Because of larger loads, tires have had to change to bear the added weight, and with specialty or larger weight load tires comes higher costs as mentioned earlier. You will also note in Table 2 where the costs for License & Tax have risen 191% from 2006 to 2023. This is due, in part, to increased weight limit scrutiny and new legislation by individual states that allow larger loads sizes with the requirement of special permits. As such, more of these large 8-axle trailers capable of hauling 108,000-pound milk loads are leaving Michigan. Historically, 8-axle trailers were confined to Michigan because neighboring states, like Indiana and Ohio, prohibited operation of such a large load sizes.

Other variable cost inputs include interest rates on loans, insurance premiums, and costs associated with management and overhead. With respect to interest rates, borrowed money for capital expenses bears an interest cost, which can be highly variable among milk hauling enterprises, depending on the type of loan or lines of credit being sought. This is because so much emphasis is placed on an individual or business enterprises credit score. Based on in-house DFA hauler proprietary survey data, interest on equipment loans paid by milk haulers have ranged from 0% to 12%.

Insurance premiums vary largely because of differences in milk hauler demographics. The most critical factor involves a milk haulers history of accidents and related claims along with safety violations. Other considerations would be type and age of equipment and garage/terminal facilities. These types of activities by a hauler are compiled in the Federal Motor Carriers Safety Administration (FMCSA) Compliance, Safety, Accountability (CSA) score. Other factors that

affect a hauler's insurance premiums include coverage amount and scope of coverage. In recent years, many of the smaller sole proprietor milk hauling enterprises operating in the Mideast Area have conceded that they could not afford the cost of large insurance liability umbrellas. Most companies require $2 million of liability coverage, but there is a growing trend toward $5 million in liability coverage. Numerous industries are following the trend of higher liability coverage due to high-profile trucking accidents. And finally, a variation in insurance premiums paid between milk haulers involves whether their business resides in a state that has "No Fault" vehicle insurance. In short, "No Fault" insurance escalates insurance premiums considerably over those states that do not have this requirement. Michigan is a "No Fault" vehicle insurance state, but it is also one of the top ten milk producing states in the U.S.

Perhaps the most variability of cost inputs among milk haulers involves management and overhead expenses. Factors include operational standards or acceptance thresholds, both decided on by the operators themselves. This would include physical facilities such as a dedicated terminal or simply a place to park equipment. Other variability factors that influence costs involve indirect costs such as administration and service functions. Milk haulers conducting their own in-house accounting, human resources management, safety, and equipment servicing will face a separate set of costs than a hauler opting to hire out those professional services.

Milk haulers also face opportunity costs with respect to operating a milk hauling enterprise. And these opportunity costs to remain in the milk hauling business appear to be increasing. Other sectors of the transportation industry offer work environments more conducive to driver employee recruitment and retention as well as to owners and family members of a milk hauling enterprise. Principally, these would be an improved "work-life" balance, better wages, or healthcare/retirement. Some haulers have had to rely on part-time drivers who are often sourced within the hauler's family or may be recruited from labor pools at nearby farms.

The likelihood of start-up milk hauling businesses is low; it is a capital-intensive business with multiple challenges to manage. Milk hauling business owners are aging, and many of the milk hauling business are family businesses, often many generations old. However, there does not appear to be much desire for the next generation to take over the family milk hauling business. This may because of the required extensive and continued time commitment, added or sole responsibility for management, capital investments with risk, added stress and overall uncertainty in operating in what invariably becomes a 24/7 work environment. Again, the opportunity cost or return-on-investment with other businesses are being considered.

In closing, much of what has been covered in this testimony explains why some milk marketing cooperatives have already transitioned into hauling milk themselves. However, in many cases, this transition was done somewhat reluctantly. For the most part, cooperatives have entered the milk hauling business to assure that the cooperative owner-members milk would be hauled and marketed. In several instances, the cooperative entering the hauling business was initiated due to an urgent need with little advanced warning of a disruption to the milk hauling logistics in a territory. This would be the result when a milk hauler "walks away" or ceases to haul milk

any longer. Hence, in many areas of the U.S., milk hauling has become an increasingly fragile business enterprise with continued dynamics and uncertainty for the future. In the past, milk hauling was taken for granted without any concern for its future viability. But it has grown to an area of great concern within the milk marketing channel as the dynamic dairy industry continues to change and evolve.