



Citrus shipping costs and concerns

By Tara Wade

On Dec. 16, 2019, all commercial motor vehicles (CMVs) are mandated to carry electronic logging devices (ELDs). These ELDs will replace paper logs and attach to trucks' engines. They easily record idle time, driving time, miles driven, vehicle movement, and on- and off-duty time — making it easier for law enforcement to check if drivers are compliant with Hours of Service (HOS) rules.

ELD EFFECTS

Paper logs are easily manipulated, and it's an open secret that drivers may have two types of paper logs: one for law enforcement and another for their records. The ELD mandate is the Department of Transportation's latest attempt to improve road safety by ensuring that *all* CMV drivers (including those who transport citrus and citrus products) are compliant with HOS rules. Added compliance will increase road safety but will also increase travel time, which can have adverse effects for transporting fresh produce.

For example, unpredictable loading and unloading times, unexpected traffic, or looking for parking are included in on-duty hours and result in delayed deliveries and increase risk of losing produce. These issues could lead to an increase in costs for long-haul trips, which are essential to the citrus industry since fresh fruit and juice originate in few states (California, Florida and Texas) and are transported regionally. This article discusses the HOS rules

and exemptions, as well as the cost of transporting citrus across the country.

HOS RULES

The first HOS rules were developed in 1937 and have always been a point of contention between the transportation industry and those who advocate highway safety. The rules are designed to reduce driver fatigue and improve road safety by restricting the number of hours that CMV operators spend on duty and driving. The rules have changed over time, but the current rules have been in effect since 2015. Here are some HOS basics:

- CMVs may drive a maximum of 11 hours after 10 consecutive hours off duty.
- CMVs may not drive beyond the 14th consecutive hour of being on duty following 10 consecutive hours off duty.
- On duty includes loading.
- A 30-minute rest break after 8 hours of driving is required.
- CMVs may not drive after 60/70 hours on duty in 7/8 consecutive days.

AG EXEMPTIONS MAY BE HELPFUL

Agriculture does have one exemption that other groups do not, and this can be particularly helpful over relatively short hauls. According to the Federal Motor Carrier Safety Administration, CMV drivers who haul "agricultural commodities" or "farm supplies for agricultural purposes" are exempt from HOS rules within 150

Origin	Destination	Miles
California	Georgia	2,447.80
California	Maryland	2,804.8
California	Massachusetts	3,054.2
California	Illinois	2,072
California	Texas	1,565.1
California	Florida	2,737.7
California	New York	2,778.3
California	Washington	1,073.9
California	Pennsylvania	2,676.4
Florida	Georgia	363.4
Florida	Maryland	897.5
Florida	Massachusetts	1,268.1
Florida	Illinois	1,297.4
Florida	Texas	1,297.9
Florida	California	2,734
Florida	New York	1,187.5
Florida	Pennsylvania	1,066.3
Texas	Georgia	1,117.4
Texas	Maryland	1,714.3
Texas	Massachusetts	2,064.6
Texas	Illinois	1,188.7
Texas	California	1,543.7
Texas	Florida	1,299.2
Texas	New York	1,724.1
Texas	Washington	2,054.4
Texas	Pennsylvania	1,606.4

Source: www.truckrouter.com

Table 1. Approximate distance from central points in origin states to central points in destination states

air miles (or 172 ground miles) of the "agricultural source."

Agricultural commodities refer to crop, non-processed food, feed, fiber or livestock (including fish, bees and insects). Farm supplies refer to products directly related to the growing or harvesting of agricultural commodities during the planting and harvesting seasons. The agricultural source refers to the location at which an agricultural commodity is loaded onto an empty CMV. Note that orange juice is a processed food, so juice haulers are subject to all HOS rules.

The 150 air-mile exemption may work well for haulers making local trips, but 172 ground miles is well short of the 1,268 miles, 1,297 miles or 2,734 miles to transport citrus from Florida to Massachusetts, Illinois or

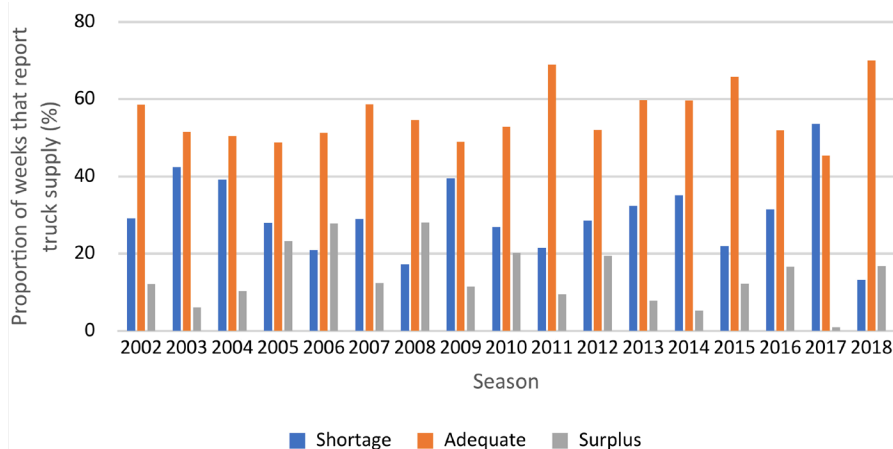


Figure 1. National truck supply during the citrus harvest season

Source: U.S. Department of Agriculture, Agricultural Marketing Service, Truck Rate Report (www.ams.usda.gov/market-news/fruits-vegetables)

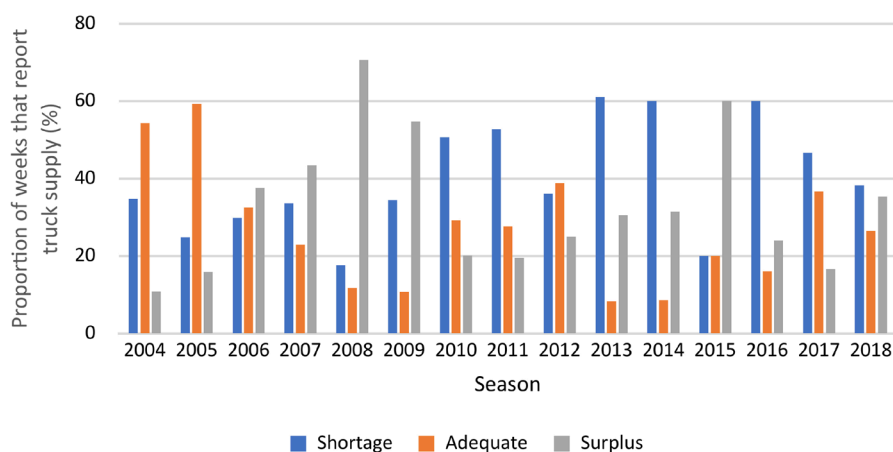


Figure 2. Florida truck supply during the citrus harvest season

Source: U.S. Department of Agriculture, Agricultural Marketing Service, Truck Rate Report (www.ams.usda.gov/market-news/fruits-vegetables)

California, respectively (Table 1, page 22). These journeys are significantly longer for drivers who are compliant with HOS rules relative to non-compliant haulers. The following sections examine the cost of transporting citrus in the United States but make no assumptions of compliance.

TRANSPORTATION AVAILABILITY UNCERTAINTY

If the transportation industry is generally not compliant with HOS rules, the new mandate will increase travel time for citrus products. But it is difficult to predict if this will affect transportation costs. The typical payment structure accounts for the load and distance but not the time it takes to make deliveries. This makes

unexpected delays in loading, traffic and stops costly.

Increased transportation costs may also be related to driver shortages. In a 2017 report, Bob Costello, chief economist and senior vice president of the American Trucking Associations, predicted a shortage of over 174,000 drivers by 2026. A few in the transportation industry speculate that the ELD mandate will drive smaller freight companies out of the transportation industry, exasperating the shortage issue and increasing prices.

However, others believe that shortages existed before the ELD mandate and they will continue after the mandate. Instead, they blame shortages on not having enough of the right kind of drivers in the workforce due to strict hiring policies based on CMV driving

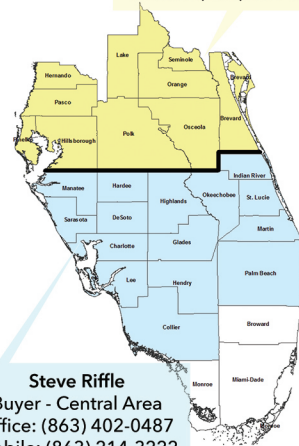
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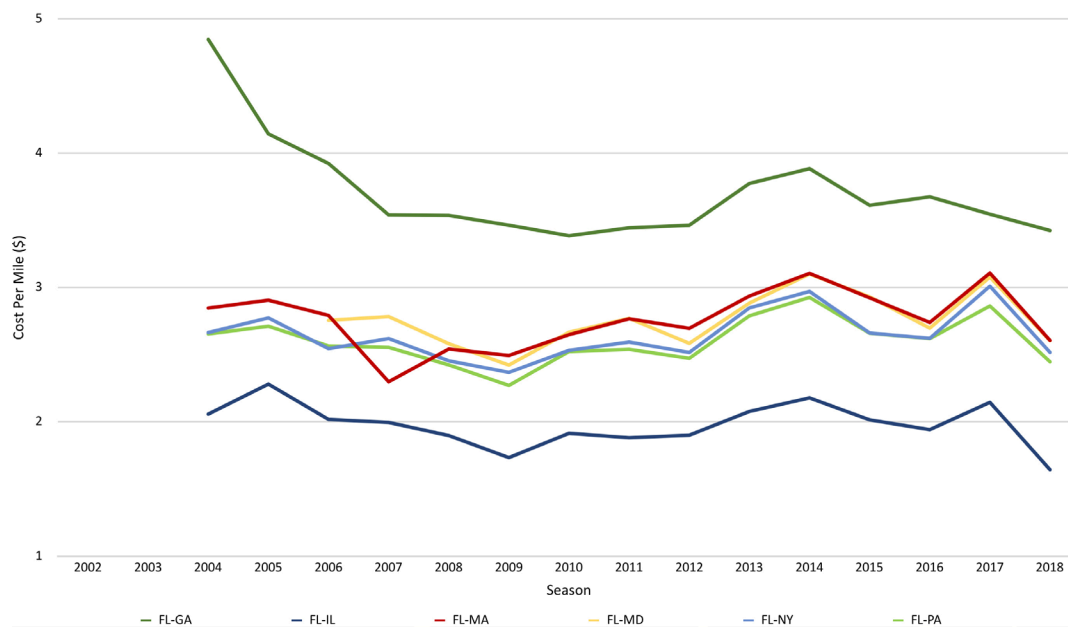


Figure 3a. Per-mile estimate of fresh produce shipping costs, for shipments originating in Florida, in 2018 dollars

Source: U.S. Department of Agriculture, Agricultural Marketing Service, Truck Rate Report (www.ams.usda.gov/market-news/fruits-vegetables)

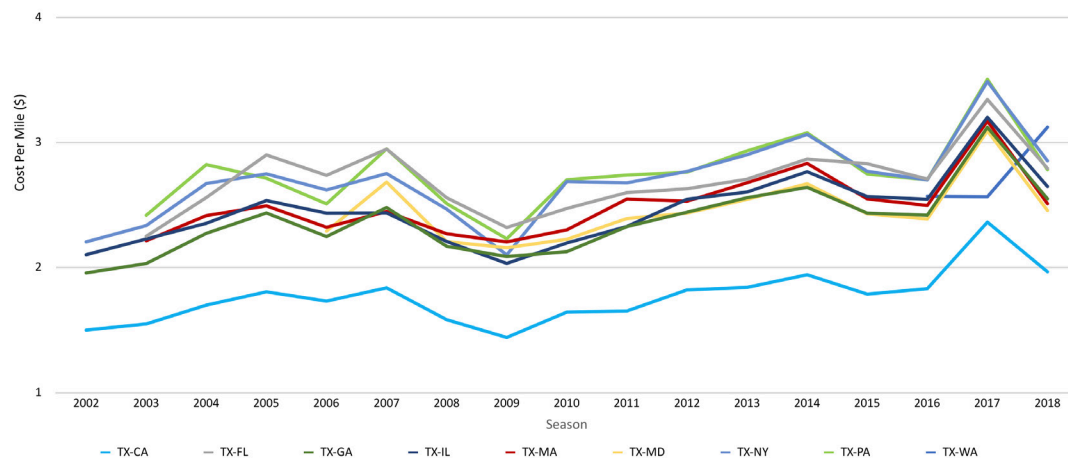


Figure 3b. Per-mile estimate of fresh produce shipping costs, for shipments originating in Texas, in 2018 dollars

Source: U.S. Department of Agriculture, Agricultural Marketing Service, Truck Rate Report (www.ams.usda.gov/market-news/fruits-vegetables)

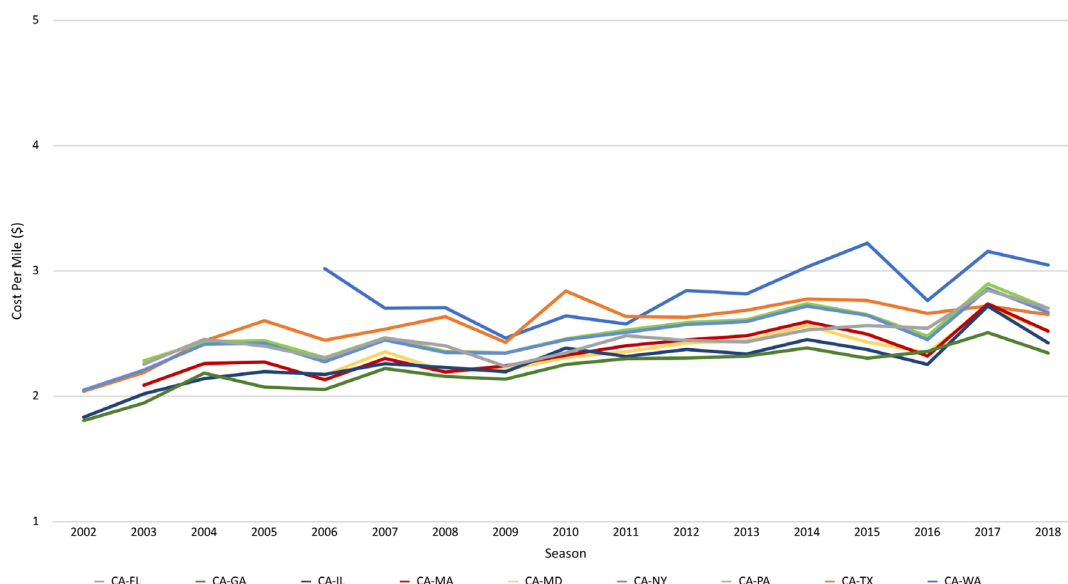


Figure 3c. Per-mile estimate of fresh produce shipping costs, for shipments originating in California, in 2018 dollars

Source: U.S. Department of Agriculture, Agricultural Marketing Service, Truck Rate Report (www.ams.usda.gov/market-news/fruits-vegetables)

experience, accident record and the appropriate license (i.e., for liquid juice versus fresh fruit), thus limiting the candidate pool. Therefore, many predict that ELDs will have little effect on transportation costs.

The U.S. Department of Agriculture's Agricultural Marketing Service (AMS) provides weekly categorical transportation shortage information ranging from "severe shortage" to "surplus" for specialty crops, when available. Figure 1 (page 23) reports the percentage of weeks that fall into "shortage," "adequate," and "surplus" categories for the country during typical citrus harvest seasons (October to June). Nationwide, all seasons, except 2017, show that truck supply is mostly adequate with surpluses being relatively rare. 2008 had the highest surplus at 28 percent of weeks.

The data tell a different story for Florida (Figure 2, page 23), where there were more instances of shortages and surpluses than adequate supply in the 2010, 2011, 2013, 2014 and 2016 seasons. There were more weeks with shortages than combined adequate and surplus supply. It is likely that these swings will be reflected in weekly truck rates, but rates will appear to be far less dramatic when the entire season is examined.

INCREASING COSTS

Figures 3a, 3b and 3c (page 24) illustrate the per-mile cost of transporting fresh produce from citrus-producing states over time using the previously mentioned AMS data. AMS cost estimates assume open market shipping costs (including brokers' fees) based on a single load to a single destination. Rates are based on typical loads in 48-foot to 53-foot refrigerated trailers from the origin shipping district to the destination receiving city (Willkie, 2019) and were converted to 2018 dollars. It should be noted that the shipping rates are quoted for specific city destinations. However, this state-level analysis chooses a central location within the state for creating per-mile estimates (Table 1, page 22).

All citrus-producing states show a general increase in costs from the 2005 to 2017 seasons. The 2018 season shows an 11 percent drop in costs from the 2017 season (\$2.91 per mile in 2017

and \$2.58 per mile in 2018, not shown in figures) which is consistent with the 40 percent drop in the number of shortages from the 2017 season. Shortages were observed in 54 percent of weeks in the 2017 season and 13 percent of weeks in the 2018 season.

The figures also show that per-mile prices are clustered where mileage is similar. However, it should be noted that closer distances, though they will have a smaller total cost, will have a high per-mile cost, relative to other locations (see, for example, Florida to Georgia in Figure 3a, page 24). On average, per-mile costs from Florida (\$2.74 per mile) are higher than California (\$2.45 per mile) and Texas (\$2.46 per mile), though total costs are expectedly lower since Florida is substantially closer to eastern markets.

SUMMARY

The 2018 cost estimates show an increase in per-mile costs over time. This is likely due to shortages caused by stringent hiring policies and drivers preferring shorter trips. While the ELD mandate will increase travel time, there is no clear indication that it will affect already rising transportation costs.

There are, however, other costs that the mandate may affect that are not addressed here: increased food waste due to increased contamination risks since citrus products will be in transit for longer periods, increased refrigeration costs as drivers will be off duty for longer periods, increased CO₂ emissions related to refrigeration costs, increased pair driving to ensure on-time deliveries, and possible switches in rate structures to reflect longer travel times to attract more drivers to the industry. Since the ELD mandate is not yet in effect, we can only speculate on the effect the new policy will have on transportation costs. 🍊

Acknowledgements: The author thanks Shellye Suttles and an anonymous reviewer for their useful comments on this article.

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