ndp analytics
turning data into action

Economic Impacts of Wait Times for Commercial Driver's Licenses Skills Tests

Nam D. Pham, Ph.D.
Mary Donovan

January 2019

Economic Impact of Wait Times for Commercial Driver's Licenses Skills Tests

Nam D. Pham, Ph.D. and Mary Donovan[1]

Commercial vehicle drivers are in high demand within the trucking and bus industries. In fact, the American Trucking Association estimated that there was a shortage of 50,000 truck drivers in 2017.[2] To make matters worse, delays for Commercial Driver's Licenses (CDL) skills tests are accumulating. States with the most significant backlogs tend to have state-run testing centers only. In contrast, states with third-party testing, a term referring to private or public entities other than the State Driver License Agencies, that conduct in lieu of or in compliment to state testing centers, have fewer delays and meet demand more quickly.

The testing delays have negative economic consequences to drivers, their families, communities, as well as federal, state, and local governments. CDL permit holders waiting to take the skills test realize delays in getting a job and, subsequently, a paycheck. Without earnings, drivers do not have money to spend on daily activities which in turn support local businesses. Consequently, federal, state, and local governments also forgo income and sales tax revenues.

Using available data of 33 states, we estimated that nearly half of the estimated 669,688 initial CDL skills tests and retests experienced delays in 2016, totaling over 6.4 million days of delays. These delays put 258,744 driver and other jobs on hold and forgo nearly $1.5 billion in wages a year. If skills tests and income were not delayed, local economies could have added nearly $1.4 billion in economic activities and federal and local governments could have collected additional $342 million in income and sales tax revenue. The majority of these losses occur in states with only state-only system. (Figure 1)

Figure 1.
Economic Impacts of Drivers Testing Delays

258,744 jobs on hold	• Direct impact: 248,684 CDL permit holders experienced testing delays. • Indirect impact: 10,060 other jobs to produce goods and services for drivers' spending.
$1.5 billion in lost wages	• Direct impact: $1.087 billion in lost wages of truck drivers. • Indirect impact: $401 million in lost wages of other people to produce goods and services for drivers' spending.
$1.4 billion in lost sales	• $1.375 billion in economic activities in local communities could have generated in the absence of testing delays.
$342 million in forgone taxes	• $234 million in federal and state income taxes and $108 million in state and local sales taxes could have generated in the absence of testing delays.

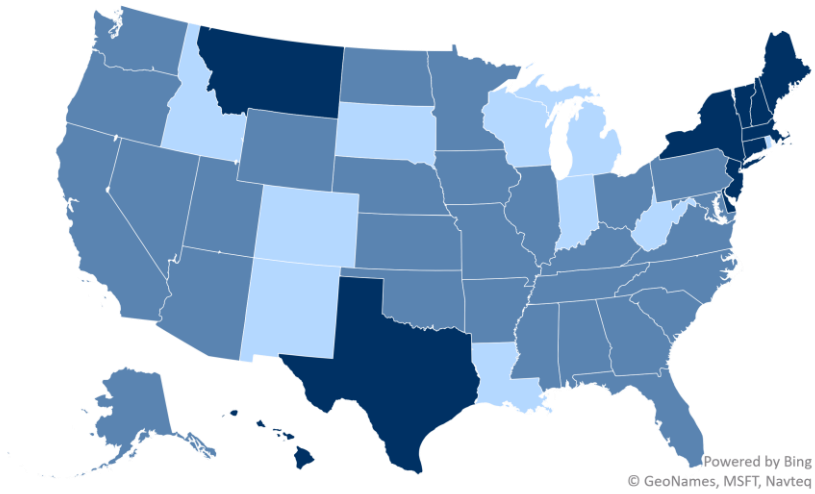
[1] Nam D. Pham is Managing Partner and Mary Donovan is Principal at ndp | analytics. The Commercial Vehicle Training Association (CVTA) commissioned ndp | analytics to conduct this study. The opinions and views expressed in this report are solely those of the authors.

[2] Costello, Bob. 2017. Truck Driver Shortage Analysis 2017. American Trucking Association.

Commercial Drivers Licensing Landscape

There are three types of CDL skills test systems across 50 states and the District of Columbia. The most popular system is a combined state-run and third-party system that gives CDL permit holders the option of scheduling a driver's test through a state-run agency or a licensed third-party administrator. A third-party administrator could be either a private or public entity (private school, community college, employers, etc.). In its 2015 report, U.S. Government Accountability Office (GAO) identified 29 states that used state and third-party administrators, another ten states that used solely third-party administrators, and the remaining eleven states and the District of Columbia that used state-only systems, meaning that all CDL skills tests must be conducted by a state-run agency.[3] (Figure 2)

Figure 2.
CDL Skills Test Providers by State, 2015



State Only (12): Connecticut, Delaware, District of Columbia, Hawaii, Maine, Massachusetts, Montana, New Hampshire, New Jersey, New York, Texas*, Vermont

State & Third-Party (29): Alabama, Alaska, Arizona, Arkansas, California, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Maryland, Minnesota, Mississippi, Missouri, Nebraska, Nevada, N. Carolina, N. Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, S. Carolina, Tennessee, Utah, Virginia, Washington, Wyoming

Third-Party Only (10): Colorado, Idaho, Indiana, Louisiana, Michigan, New Mexico, Rhode Island, S. Dakota, West Virginia, Wisconsin

*Texas began third-party testing in 2017

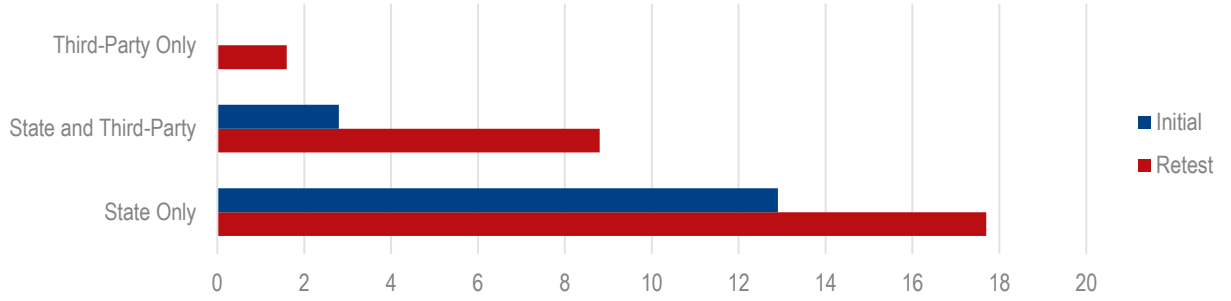
We used CDL skills test and retest data collected by the Federal Motor Carrier Safety Administration (FMCSA) to analyze the economic impacts of wait times. Our sample includes available data of 33 states in 2016.[4] Of those, 22 states reported having no wait time for initial tests, of which 20 had some form of third-party testing and two administer tests from state-run agencies. New Jersey and California had the longest initial wait times with 47 days and 23 days, respectively. On average, those states with third-party administrators had no waiting time for the initial test and under two days for a retest compared to more than

[3] Government Accountability Office. 2015. "Commercial Driver's Licensing: Federal Oversight of State Programs Could Be Improved." GAO.

[4] Our analysis includes seven of the ten states that administer CDL skills tests through third-parties only (Colorado, Indiana, New Mexico, Rhode Island, South Dakota, West Virginia, and Wisconsin), seven of twelve states that administer CDL skills tests through only state-run agencies (Connecticut, Maine, Montana, New Hampshire, New Jersey, New York, and Texas) and 19 of the 29 states that use both systems (California, Georgia, Florida, Iowa, Kentucky, Maryland, Minnesota, Nebraska, Nevada, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Virginia, and Washington). Sources: FMCSA Skills Testing Delays Report, 2016; New York Request for Information #C000842; Texas DPS Report to Texas State Legislature; various industry reports; and authors' estimates.

12 days for initial tests and 17 days for retests in those states with state-only administrators. Our analysis enhances GAO findings. In its 2015 report, GAO found that states that allow third-party CDL skills test administrators realize a number of benefits including increased test availability, reduced wait times, and reduced costs for the state government.[5] Our analysis shows that the wait times in states with state-run and third-party systems are lower than states with only state-run system. (Figure 3 and Appendix for individual state data)

Figure 3.
Average Number of Days for Initial Test and Retest Net Wait Times, by Type[6]



Economic Impact of Testing Delays

In 2016, we estimate that 669,688 CDL skills tests (initial test and retests) were administered in 33 states, of which 333,537 were in states with delays. In other words, 49.0% of all CDL skills tests experienced some delays. These delays result in lost wages for drivers. Because of the high demand for commercial drivers with CDLs and shortage of drivers in the trucking and bus industries, we expect that all CDL holders would be able to obtain a job after passing the skills test. For each day the test is delayed, the CDL holder loses those wages. To estimate the direct impact of the testing delays on CDL permit holders, we multiplied the daily wage of truck drivers by the net wait time (the number of days delayed). We assumed that 68% of CDLs are heavy truck and tractor trailer drivers and 32% are light truck and delivery drivers.[7] We obtained annual mean wages of heavy and light truck drivers in 2017 from the Bureau of Labor Statistics (BLS). We used the BLS economic cost index of transportation and warehousing industry in January – September 2018 to estimate a 3.86% wage increase for truck drivers in 2018.[8] We assumed 260 working days to calculate the daily rate in each state. In total, the CDL delays for the 248,684 drivers totals nearly $1.1 billion in lost wages, over $620 million of which is lost for drivers in states without third-party testing administrators. (Table 1 and Appendix for individual state data)

[5] Government Accountability Office. 2015. "Commercial Driver's Licensing: Federal Oversight of State Programs Could Be Improved." GAO.
[6] FMCSA Skills Testing Delays Report, 2016; Texas DPS Report to Texas State Legislature; various industry reports; and authors' estimates.
[7] U.S Department of Transportation Federal Motor Carrier Safety Administration (FMCSA). 2016. Regulatory Evaluation of Entry-Level Driver Training Notice of Proposed Rulemaking.
[8] Bureau of Labor Statistics; authors' estimates.

Table 1.
Direct Impact: Lost Driver Wages by Type of Test Administrator[9,10]

	Heavy Truck & Tractor Trailer		Light Truck & Delivery		Lost Driver Wages
	Delayed Drivers	Average Annual Wage	Delayed Drivers	Average Annual Wage	
Total	169,105	$46,615	79,579	$36,661	$1,087,066,467
State Only	77,126	$47,372	36,295	$36,541	$620,161,596
State & Third-Party	88,270	$46,750	41,539	$37,248	$460,745,736
Third-Party Only	3,709	$45,326	1,745	$35,037	$6,159,136

The delay in skills test has a ripple effect. A day delay in skills testing is a day delayed in working; without having a driving job, the driver cannot earn income; without income, the driver cannot spend on housing, food, clothes, entertainment, and other items. If drivers could have earned income and spent on local businesses, they would have created other jobs in their local economies.

We applied the Bureau of Economic Analysis (BEA) official economic multipliers to calculate the indirect and induced impacts of drivers' lost wages. Without testing delays, drivers would have earned an additional $1.1 billion in income. This forgone income would have created an additional 10,060 jobs (full-time equivalent), which would amount to $401.3 million in wages, to produce nearly $1.4 billion in goods and services across America. As expected, states without third-party test administrators realized the largest loses, including 5,742 jobs and over $567 million in sales of goods and services. (Table 2 and Appendix for individual state data)

Table 2.
Direct, Indirect and Induced Impact of Testing Delays by Type of Test Administrator

	Direct Impact Lost Driver Wages	Indirect and Induced Impacts		
		Jobs	Wages	Economic Output*
Total	$1,087,066,467	10,060	$401,256,948	$1,375,465,343
State-Only	$620,161,596	5,742	$229,811,949	$800,823,021
State & Third-Party	$460,745,736	4,259	$169,317,303	$567,382,717
Third-Party-Only	$6,159,136	59	$2,127,696	$7,259,605

* Economic output captures the production and sales of goods and services that would have resulted if drivers had received $1.1. billion in wages and 10,060 jobs were subsequently created.

[9] We assume 68% of CDL test takers are Heavy Truck and Tracker Trailer drivers (Class A) based on FMCSA findings on the number and type of CDL holders reported in its 2016 Entry-Level Driver Training Regulatory Impact Analysis.
[10] Bureau of Labor Statistics; FMCSA Skills Testing Delays Report; Texas DPS Report to Texas State Legislature; New York Request for Information #C000842: New York State Department of Motor Vehicles Customer Systems Modernization; various industry reports; and authors' estimates.

There are additional implications of lost wages on federal, state, and local government tax revenue. In total, the lost wages from testing delays amounted nearly $1.5 billion, directly from drivers who must wait longer to get a job ($1.087 billion) and by workers who would have jobs to produce goods and services for the additional spending of the drivers ($401 million). We used federal and state income tax rates and state and local combined sales tax rates published by the Tax Foundation to calculate the income and sales tax from the lost wages. Drivers and workers would have paid income tax on their earnings and sales tax on their purchases. These activities would have generated nearly $342 million in tax revenue for federal, state, and local governments. (Table 3 and Appendix for individual state data)

Table 3.
Forgone Income and Sales Tax by Type of Test Administrator

	Total Lost Wages	Income Tax		State & Local Sales Tax	Total Forgone Taxes
		Federal	State		
Total	$1,488,323,416	$178,598,810	$55,330,162	$107,998,350	$341,927,321
State Only	$849,973,545	$101,996,825	$20,551,504	$61,623,675	$184,172,005
State & Third-Party	$630,063,038	$75,607,565	$34,735,952	$45,865,541	$156,209,057
Third-Party Only	$8,286,832	$994,420	$42,706	$509,134	$1,546,260

Closing Remarks

CDL skills testing delays need to be addressed as commercial drivers are in high demand. The trucking industry alone has a 50,000 driver shortage. However, CDL permit holders across the United States are forced to wait to obtain jobs due to testing backlogs. Importantly, CDL permit holders are missing out on the opportunity to generate income. Every extra day spent waiting translates into an average of $160 in lost wages. For 248,684 CDL permit holders who experienced delays in 33 states, their lost wages totaled nearly $1.1 billion. These earnings have a ripple effect in local economies. If drivers could have obtained licenses without delays, they would have earned income to spend on housing, food, clothes, entertainment, and other goods and services.

States with at least some form of third-party testing are far better off than those with only state-run testing centers. In order to curb the impact of lost jobs, wages, sales, and tax revenue, states should take action to reduce delays. Third-party administrators may be part of the solution. Indeed, GAO found states who allowed third-party administrators were able to cut costs, increase testing availability and reduce wait times.

APPENDIX: STATE TABLES

Table A1. Initial Test and Retest Wait Times for CDL Skills Test by State[11]

	Number of Initial Tests	Initial Test Net Wait Time	Number of Retests	Retest Net Wait Time	Delayed Drivers
California	50,174	23	25,087	37	50,174
Colorado*	8,108	0	1,351	0	0
Connecticut^	5,781	2	1,734	2	5,781
Florida	69,926	0	5,131	0	0
Georgia	16,990	0	5,950	7	5,950
Indiana*	13,985	0	4,392	8	4,392
Iowa	27,879	4	3,702	13	27,879
Kentucky	4,804	0	2,354	2	2,354
Maine^	2,440	0	1,583	15	1,583
Maryland	6,605	11	1,595	25	6,605
Minnesota	2,094	1	658	1	2,094
Montana^	6,453	6	2,026	13	6,453
Nebraska	3,499	0	3,732	0	0
Nevada	13,466	0	1,166	7	1,166
New Hampshire^	1,967	0	618	4	618
New Jersey^	16,969	47	5,000	31	16,969
New Mexico*	2,125	0	565	2	565
New York^	29,496	21	10,029	30	29,496
North Carolina	25,760	0	3,183	9	3,183
North Dakota	2,960	2	930	16	2,960
Oklahoma	15,058	0	6,274	5	6,274
Oregon	4,619	13	1,004	17	4,619
Pennsylvania	30,985	0	12,530	0	0
Rhode Island*	1,396	0	438	0	0
South Carolina	6,792	0	2,133	0	0
South Dakota*	1,585	0	498	1	498
Tennessee	22,547	0	5,997	7	5,997
Texas^,#	52,521	14	33,089	27	52,521
Utah	9,304	0	2,158	10	2,158
Virginia	12,095	0	5,171	7	5,171
Washington	7,786	0	3,225	4	3,225
West Virginia*	3,271	0	409	0	0
Wisconsin*	28,577	0	7,961	0	0
Total	**508,017**		**161,671**		**248,684**

[11] * Third-party testing only, ^ State testing only, # Texas began third-party testing in 2017; Sources: FMCSA Skills Testing Delays Report; Texas DPS Report to Texas State Legislature; New York Request for Information #C000842: New York State Department of Motor Vehicles Customer Systems Modernization; various industry reports; and authors' estimates.

Table A2. Direct Impact: Lost Driver Wages by State[12]

	Heavy Truck & Tractor Trailer		Light Truck & Delivery		Lost Driver Wages
	Delayed Drivers	Average Annual Wage	Delayed Drivers	Average Annual Wage	
California	34,118	$47,319	16,056	$40,256	$360,853,884
Colorado*	0	$48,773	0	$39,633	$0
Connecticut^	3,931	$50,403	1,850	$39,965	$2,720,610
Florida	0	$42,738	0	$34,970	$0
Georgia	4,046	$44,151	1,904	$37,680	$6,740,946
Indiana*	2,986	$48,056	1,405	$34,222	$5,895,588
Iowa	18,958	$44,213	8,921	$35,219	$25,380,029
Kentucky	1,601	$45,106	753	$36,579	$767,364
Maine^	1,076	$42,240	507	$33,266	$3,595,389
Maryland	4,491	$49,053	2,114	$39,166	$19,861,150
Minnesota	1,424	$48,368	670	$40,516	$485,284
Montana^	4,388	$46,425	2,065	$35,042	$10,705,864
Nebraska	0	$45,273	0	$35,468	$0
Nevada	793	$52,387	373	$37,057	$1,490,553
New Hampshire^	420	$46,083	198	$34,461	$402,584
New Jersey^	11,539	$50,154	5,430	$38,833	$170,473,533
New Mexico*	384	$46,592	181	$36,226	$188,079
New York^	20,057	$50,331	9,439	$38,376	$164,606,031
North Carolina	2,164	$44,130	1,019	$33,869	$4,500,496
North Dakota	2,013	$55,067	947	$41,596	$4,059,010
Oklahoma	4,266	$44,795	2,008	$36,164	$5,071,440
Oregon	3,141	$47,360	1,478	$38,563	$13,211,917
Pennsylvania	0	$47,931	0	$34,720	$0
Rhode Island*	0	$48,399	0	$35,717	$0
South Carolina	0	$43,891	0	$32,892	$0
South Dakota*	338	$42,427	159	$33,038	$75,469
Tennessee	4,078	$43,112	1,919	$36,735	$6,631,333
Texas^,#	35,714	$45,968	16,807	$35,842	$267,657,584
Utah	1,467	$47,256	691	$35,240	$3,603,112
Virginia	3,516	$44,431	1,655	$35,562	$5,789,989
Washington	2,193	$48,804	1,032	$41,108	$2,299,231
West Virginia*	0	$40,069	0	$32,903	$0
Wisconsin*	0	$46,041	0	$34,201	$0
Total	**169,105**		**79,579**		**$1,087,066,467**

***** Third-party testing only, ^ State testing only, # Texas began third-party testing in 2017.

[12] We assume 68% of CDL test takers are Heavy Truck and Tracker Trailer drivers (Class A) based on FMCSA findings on the number and type of CDL holders reported in its 2016 Entry-Level Driver Training Regulatory Impact Analysis.

Table A3. Direct Indirect and Induced Impact on Wages

	Direct Lost Driver Wages	Indirect and Induced Impacts		
		Jobs	Earnings	Economic Output[13]
California	$360,853,884	3,335	$136,871,878	$457,526,639
Colorado*	$0	0	$0	$0
Connecticut^	$2,720,610	19	$804,484	$2,755,434
Florida	$0	0	$0	$0
Georgia	$6,740,946	81	$2,726,038	$9,179,146
Indiana*	$5,895,588	57	$2,051,665	$7,015,750
Iowa	$25,380,029	222	$7,210,466	$23,920,677
Kentucky	$767,364	7	$239,724	$838,038
Maine^	$3,595,389	35	$1,162,030	$3,635,658
Maryland	$19,861,150	162	$6,355,568	$22,341,807
Minnesota	$485,284	5	$183,825	$630,432
Montana^	$10,705,864	97	$3,031,901	$9,519,654
Nebraska	$0	0	$0	$0
Nevada	$1,490,553	14	$462,519	$1,519,768
New Hampshire^	$402,584	3	$119,608	$409,065
New Jersey^	$170,473,533	1,481	$60,535,152	$216,774,145
New Mexico*	$188,079	2	$54,825	$175,722
New York^	$164,606,031	1,153	$47,406,537	$174,433,011
North Carolina	$4,500,496	48	$1,663,383	$5,518,958
North Dakota	$4,059,010	28	$1,015,970	$3,535,804
Oklahoma	$5,071,440	50	$1,723,782	$5,553,734
Oregon	$13,211,917	123	$4,217,244	$14,090,509
Pennsylvania	$0	0	$0	$0
Rhode Island*	$0	0	$0	$0
South Carolina	$0	0	$0	$0
South Dakota*	$75,469	1	$21,207	$68,134
Tennessee	$6,631,333	69	$2,600,809	$8,924,448
Texas^,#	$267,657,584	2,955	$116,752,238	$393,296,054
Utah	$3,603,112	42	$1,392,963	$4,623,874
Virginia	$5,789,989	52	$1,864,955	$6,544,424
Washington	$2,299,231	20	$788,176	$2,634,459
West Virginia*	$0	0	$0	$0
Wisconsin*	$0	0	$0	$0
Total	**$1,087,066,467**	**10,061**	**$401,256,948**	**$1,375,465,343**

***** Third-party testing only, ^ State testing only, # Texas began third-party testing in 2017.

[13] Economic output captures the production and sales of goods and services that would have resulted if drivers had received lost wages and additional jobs were subsequently created.

Table A4. Forgone Income and Sales Tax by State

	Total Lost Wages	Income Tax		State & Local Sales Tax	Total Tax Impact
		Federal	State		
California	$497,725,762	$59,727,091	$27,017,615	$39,118,528	$125,863,234
Colorado*	$0	$0	$0	$0	$0
Connecticut^	$3,525,095	$423,011	$176,255	$174,970	$774,236
Florida	$0	$0	$0	$0	$0
Georgia	$9,466,984	$1,136,038	$568,019	$663,652	$2,367,709
Indiana*	$7,947,253	$953,670	$30,804	$491,102	$1,475,576
Iowa	$32,590,495	$3,910,859	$2,481,646	$1,631,390	$8,023,895
Kentucky	$1,007,088	$120,851	$58,411	$50,282	$229,544
Maine^	$4,757,419	$570,890	$321,126	$199,961	$1,091,977
Maryland	$26,216,718	$3,146,006	$1,245,294	$1,340,508	$5,731,809
Minnesota	$669,109	$80,293	$47,172	$46,841	$174,306
Montana^	$13,737,765	$1,648,532	$947,906	$0	$2,596,438
Nebraska	$0	$0	$0	$0	$0
Nevada	$1,953,071	$234,369	$0	$123,709	$358,078
New Hampshire^	$522,192	$62,663	$26,110	$0	$88,773
New Jersey^	$231,008,685	$27,721,042	$5,659,713	$14,307,094	$47,687,848
New Mexico*	$242,904	$29,148	$11,902	$13,671	$54,722
New York^	$212,012,567	$25,441,508	$13,420,396	$14,809,363	$53,671,266
North Carolina	$6,163,880	$739,666	$338,952	$383,568	$1,462,185
North Dakota	$5,074,980	$608,998	$103,530	$241,495	$954,023
Oklahoma	$6,795,222	$815,427	$339,761	$495,948	$1,651,136
Oregon	$17,429,161	$2,091,499	$1,568,624	$0	$3,660,124
Pennsylvania	$0	$0	$0	$0	$0
Rhode Island*	$0	$0	$0	$0	$0
South Carolina	$0	$0	$0	$0	$0
South Dakota*	$96,676	$11,601	$0	$4,361	$15,962
Tennessee	$9,232,142	$1,107,857	$276,964	$844,253	$2,229,074
Texas^,#	$384,409,823	$46,129,179	$0	$32,132,288	$78,261,466
Utah	$4,996,075	$599,529	$249,804	$313,499	$1,162,831
Virginia	$7,654,944	$918,593	$440,159	$369,760	$1,728,513
Washington	$3,087,407	$370,489	$0	$242,107	$612,596
West Virginia*	$0	$0	$0	$0	$0
Wisconsin*	$0	$0	$0	$0	$0
Total	**$1,488,323,416**	**$178,598,810**	**$55,330,162**	**$107,998,350**	**$341,927,321**

* Third-party testing only, ^ State testing only, # Texas began third-party testing in 2017.