

TRANSPORTATION TECHNICIAN

SUPPLY & DEMAND

2020 REPORT



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New Ford Tech



Rental | Leasing | Logistics



When TechForce Foundation released its initial [Technician Demand](#) report (Oct 2017) and [Technician Supply](#) report (June 2018), it was clear that the technician shortage was a serious issue in the transportation industry.

This report¹ provides the current status for technician supply and new entrant demand, and makes it evident that this trend continues. Though there is some variance in the numbers from our last report, it is fair to say that on a whole, the shortage continues at similar levels as the industry has been experiencing for the past few years.



TECHNICIAN DEMAND

This report addresses projected annual demand for new entrant technicians in the automotive, collision and diesel fields. By definition, new entrant technicians are those entering the occupation for the first time, as opposed to experienced technicians who may be switching employers but don't increase the number of technicians available in the occupation. These new entrant techs come primarily from postsecondary training programs, but also from high school shop programs and "off-the-street", with no training at all.

As a reminder, the projections below are for new entrant demand, not actual hiring. To the extent that employers are not able to hire all the technicians they seek, the numbers below will exceed the total increase in technicians actually reported by the U.S. Bureau of Labor Statistics (BLS).

With the situation still evolving on a daily basis, it is important to note that technician demand, as well as technician supply projections provided in this report do not reflect any potential impact from the COVID-19 Coronavirus pandemic. On a positive note, we are seeing indications of increased interest in technical program enrollments. This aligns with historical trends. When unemployment is high, we see more enrollments in transportation technical training and other skilled-trades programs. Critical factors in future training capacity relate to how successful educational institutions are in implementing eLearning, as well as meeting the CDC guidelines for social distancing in classrooms and workshops. With our next report at year end, we expect to be able to provide further insight into industry trends related to COVID 19.

¹This report is a combined update supplement to TechForce Foundation's Technician Demand report (Oct. 2017), and the Technician Supply report (June 2018). For detailed information on methodology and background, please see those reports.

1. Demand for Automotive New Entrant Technicians

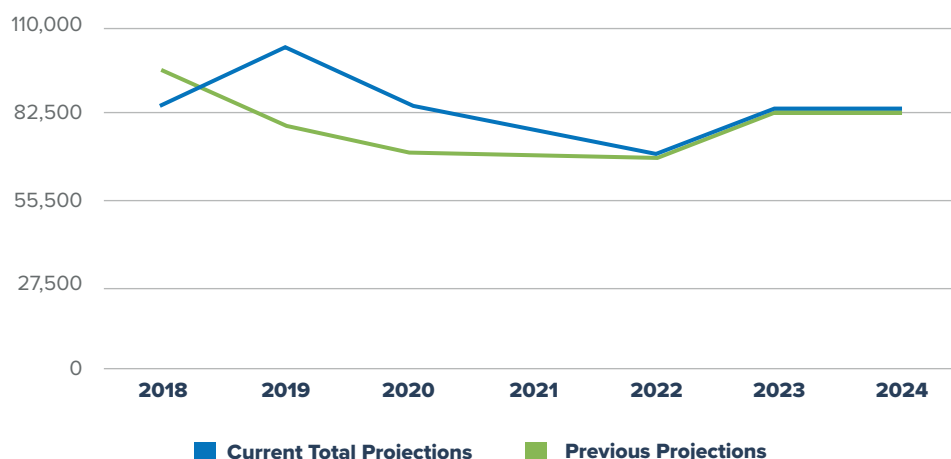
According to the latest BLS projections, which are 10-year projections covering 2018 to 2028, new entrant automotive technician demand is expected to experience a slight reduction over those years. In 2018, there were 770,100 auto technicians employed in the US, and by 2028, that number is expected to drop to 763,600. This is a 0.8% reduction, so it is not particularly significant, but it does indicate that demand is leveling off. The catch-up demand that the industry has been experiencing since the Great Recession of 2008 has been filled, and demand is now back on a more even keel.

Projections (a)	2018	2019	2020	2021	2022	2023	2024
New Positions	10,100	25,477	7,891	0	(8,049)	3,944	3,983
+Replacement Positions	74,700	77,171	77,936	77,936	77,156	77,538	77,925
Total New Entrant Demand	84,800	102,649	85,827	77,936	69,107	81,482	81,908
Prior New Entrant Demand	94,851	77,886	70,049	68,677	68,366		

(a) Projections assume 4.1% growth in 2019, 2.0% in 2020, flat at 0% in 2021, decline by 2.0% in 2022, decline by 1.0% in 2023 and then up 1.0% in 2024

In this next chart, we compare the current automotive technician new entrant demand with our previous report released in December 2018. We see that current demand is higher than was previously forecast, which is due to a stronger than expected economy over the past year. Note that previous projections extended to only 2022, whereas current projections now go out to 2024.

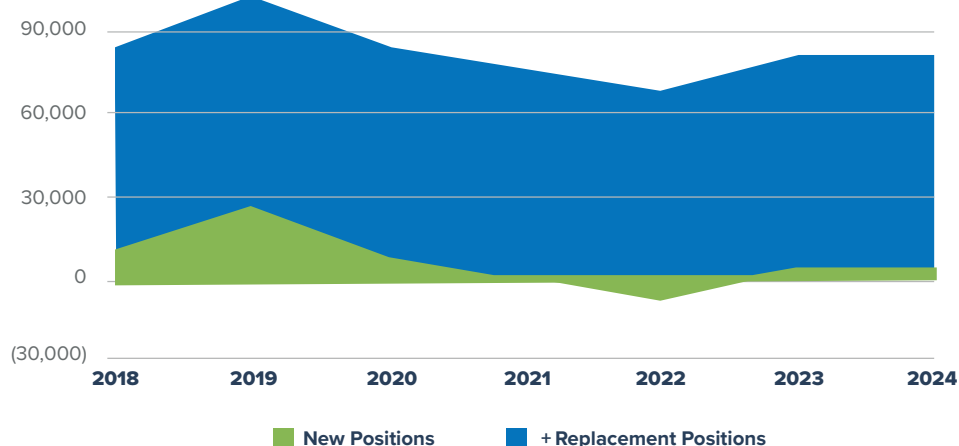
Comparison of New Auto Tech Projections With Prior Numbers



As in the past, the majority of new entrant demand continues to come from replacement positions, created by the retirement of baby boomers as well as turnover. The chart below illustrates what portion of new entrant demand comes from replacement positions as opposed to growth within the industry. An additional factor to note is that the BLS Replacement Rate went up from 9.2% in their 2016 report to 9.7% in the most current (2018) report. Therefore, retirements and turnover are having an even greater impact than seen previously.

Comparison of New vs. Replacement Auto Positions

New positions are created by growth | Replacement positions are created by retirement and turnover



2. Demand for Collision New Entrant Technicians

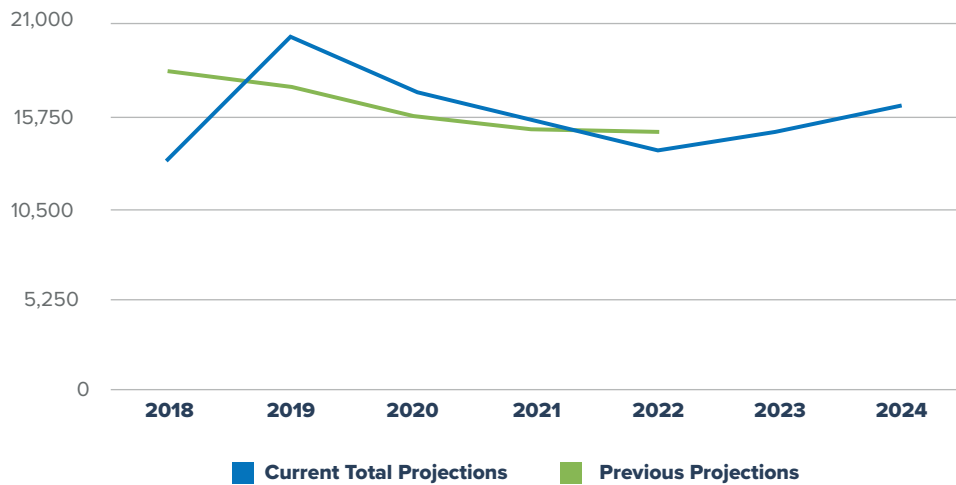
The 2018 to 2028 BLS projections for new entrant collision technicians paint a slightly different picture than for automotive. While automotive demand shows a slight reduction, the collision side of the industry is expected to see a 4.1% increase. In 2018, there were 156,800 collision technicians employed in the US. By 2028, that number is expected to be 163,200.

Projections (a)	2018	2019	2020	2021	2022	2023	2024
New Positions	(1,800)	4,622	1,601	0	(1,633)	(800)	792
+Replacement Positions	15,053	15,496	15,650	15,650	15,493	15,417	15,493
Total New Entrant Demand	13,253	20,118	17,251	15,650	13,860	14,616	16,285
Prior New Entrant Demand	18,314	17,504	15,897	15,001	14,933		

(a) Same economic projections as used for automotive projections

In this next chart, we compare the current collision technician new entrant demand with the previous December 2018 TechForce report. As with automotive, previous projections extended to only 2022. Current projections go out to 2024 and show the upswing in demand.

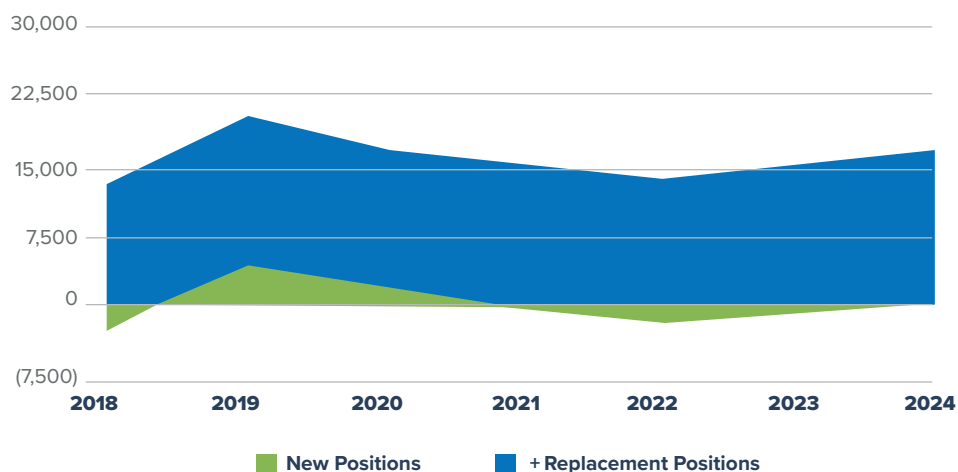
Comparison of New Collision Tech Projections With Prior Numbers



As seen with automotive technician demand, the majority of new entrant demand for collision technicians is also coming from replacement positions; retirements and turnover. The chart below illustrates what portion of new entrant demand comes from replacement positions as opposed to growth within the industry. The BLS Replacement Rate for collision technicians went up from 9.4% in their 2016 report to 9.6% in the most recent (2018) report, demonstrating that retirements and turnover are on the increase.

Comparison of New vs. Replacement Collision Positions

New positions are created by growth | Replacement positions are created by retirement and turnover



3. Demand for Diesel New Entrant Technicians

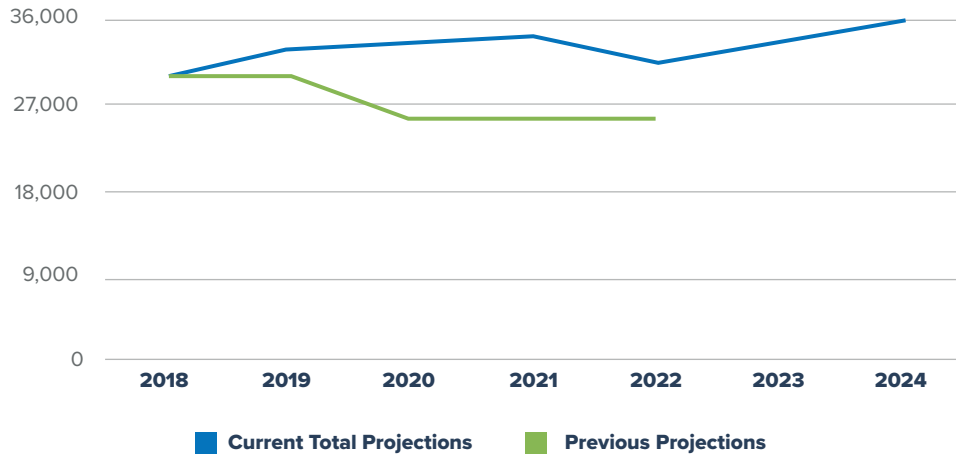
Historically, diesel demand has experienced relatively stable and steady growth in a strong economy. From 2010 through 2018, the number of diesel technicians employed has risen an average of 2.23% annually. Over this period, employment growth in the diesel sector has outperformed both the automotive and collision sectors. Again, the stronger-than-expected economy over the past year has helped contribute to the rise in diesel new entrant demand. The growth trend in total diesel technicians employed is expected to continue for the near future.

Projections (a)	2018	2019	2020	2021	2022	2023	2024
New Positions	3,250	5,706	5,820	5,937	3,028	4,587	6,208
+Replacement Positions	26,533	27,064	27,605	28,157	28,438	28,865	29,442
Total New Entrant Demand	29,783	32,770	33,425	34,093	31,466	33,452	35,650
Prior New Entrant Demand	29,521	29,963	25,655	25,655	25,655		

(a) Projections assume 2.0% growth in 2019, 2020, and 2021, then 1.0% in 2022, 1.5% in 2023 and 2.0% in 2024.

The following chart compares the current diesel technician new entrant demand with the previous December 2018 TechForce report. Current projections going out to 2024 reflect the expectation of continued growth in the diesel sector as previously discussed.

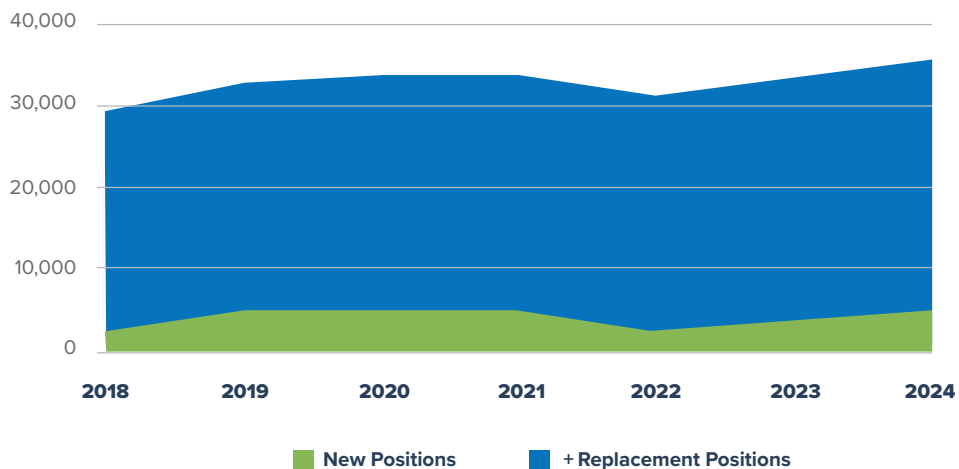
Comparison of New Collision Tech Projections With Prior Numbers



As with automotive and collision projections, the bulk of new entrant demand for diesel technicians comes from replacement positions; retirements and turnover. One key difference, however, is that the diesel sector is the only one of the three that has a demand for new positions attributed to growth over the entire period through 2024. The chart below provides this illustration. Following the trend with automotive and collision, The BLS Replacement Rate for collision technicians has also risen, from 8.8% in 2016 to 9.3% in the current 2018 report.

Comparison of New vs. Replacement Diesel Positions

New positions are created by growth | Replacement positions are created by retirement and turnover



TECHNICIAN SUPPLY

This report provides the preliminary completion data for automotive, collision and diesel technicians for the 2017-2018 year from IPEDS.¹ For information on the value and limitations of these numbers, please see the earlier report.

1. Postsecondary Automotive Completions

Automotive completions dropped from 37,413 in 2017 to 36,742 in 2018. This extends the downward trend that began in 2012 and continues to this day.

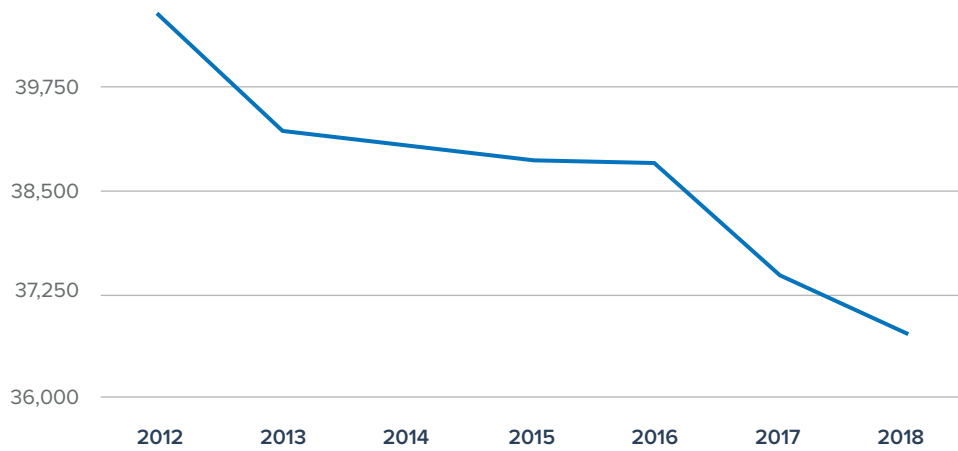
Postsecondary Automotive Completions by Sector 2017-18 (a)		
Sector	#Institutions	Auto Completions
Public, 4-year or above	81	3,420
Private not-for-profit, 4-year or above	12	717
Private for-profit, 4-year or above	2	161
Public, 2-year	547	21,936
Private not-for-profit, 2-year	4	111
Private for-profit, 2-year	33	7,582
Public, less-than 2-year	71	868
Private not-for-profit, less-than 2-year	4	83
Private for-profit, less-than 2-year	22	1,864
Grand Total	776	36,742

(a) Source: IPEDS database. Completions from first major, Automobile/Automotive Mechanics Technology/Technician programs, bachelor's and associate's degrees as well as certificates below the B.A. level. Preliminary data. <https://nces.ed.gov/ipeds/datacenter/login.aspx>

¹ IPEDS is the Integrated Postsecondary Education Data System. It is a system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs.

Based on the historical data cited in the prior report, the downward trend is shown in the chart below.

Auto Tech Postsecondary Completions | 2012-2018



In 2018, the 10 largest providers of postsecondary automotive completions were:

Top 10 Postsecondary Automotive Providers 2018 (a)	
Institution	# Completions
Universal Technical Institute of Arizona Inc	793
NASCAR Technical Institute (UTI)	598
Ivy Tech Community College	535
Universal Technical Institute of Texas Inc.	489
Universal Technical Institute of Pennsylvania Inc	471
Universal Technical Institute of Northern California Inc	467
Universal Technical Institute of California Inc	451
Universal Technical Institute-Auto Motorcycle & Marine Mechanics Institute Division-Orlando	409
Universal Technical Institute-Dallas Fort Worth	406
Universal Technical Institute of Illinois Inc	396

(a) Omits Mech-Tech which is based in Puerto Rico. Mech-Tech had 500 automotive completions in 2018.

2. Postsecondary Collision Completions

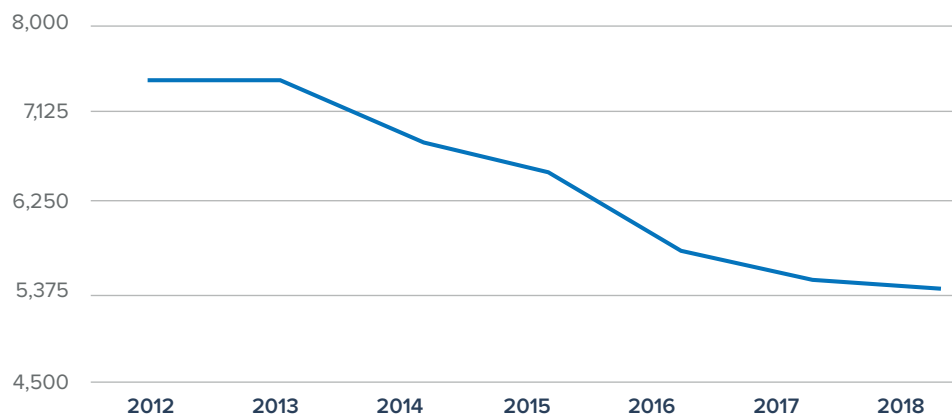
Collision completions continued the downward trend explained in the prior report. Completions totaled 5,564 for 2017, and dropped to 5,426 in 2018 (see table below).

Postsecondary Collision Completions by Sector 2017-18 (a)		
Sector	#Institutions	Auto Completions
Public, 4-year or above	33	426
Private not-for-profit, 4-year or above	5	55
Private for-profit, 4-year or above	1	2
Public, 2-year	245	3,553
Private not-for-profit, 2-year	1	8
Private for-profit, 2-year	16	956
Public, less-than 2-year	31	248
Private for-profit, less-than 2-year	4	178
Grand Total	335	5,426

(a) Source: IPEDS. Includes first major, Autobody/Collision and Repair Technology/ Technician, for Bachelor's degree, Associate's degree, and certificates below the baccalaureate level. Preliminary data. <https://nces.ed.gov/ipeds/datacenter/login.aspx>

Based on the historical data cited in the prior report, the downward trend is shown in the chart below.

Collision Tech Postsecondary Completions | 2012-2018



In 2018, the 10 largest providers of postsecondary collision completions were:

Top 10 Postsecondary Collision Providers	
Institution	Collision Completions
Fayetteville Technical Community College	116
Ohio Technical College	115
Universal Technical Institute of Texas Inc	112
Eastfield College	108
Universal Technical Institute-Southern California	106
Lincoln College of Technology-Nashville	103
Universal Technical Institute of Northern California Inc	76
Western Iowa Tech Community College	76
WyoTech	66 (b)
College of Lake County	62

(a) Omits Mech-Tech and Automeca Technical College-Bayamon, which are based in Puerto Rico. Mech-Tech had 66 collision completions in 2018. Automeca had 110 completions.

(b) On Nov. 8, 2017, Zenith Education Group announced that its WyoTech campuses would be closed. On July 3, 2018 it was announced that a purchase was completed of WyoTech Laramie, and that campus would remain open.

3. Postsecondary Diesel Completions

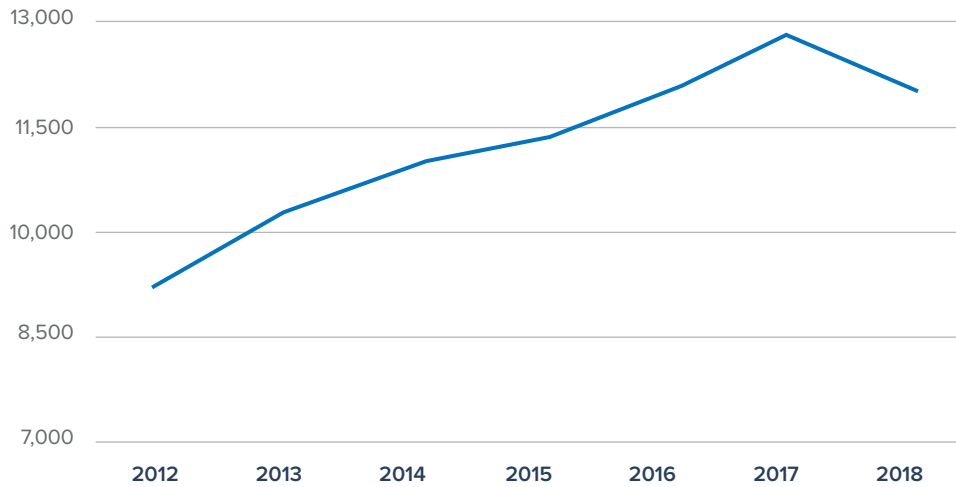
Diesel completions reversed the upward trend that has been in place since 2012. Completions totaled 12,807 for 2017, but dropped to 12,112 in 2018.

Postsecondary Diesel Completions by Sector 2017-2018 (a)		
Sector	#Institutions	Diesel Completions
Public, 4-year or above	41	966
Private not-for-profit, 4-year or above	3	545
Private for-profit, 4-year or above	2	138
Public, 2-year	214	6,729
Private not-for-profit, 2-year	3	167
Private for-profit, 2-year	25	2,992
Public, less-than 2-year	31	316
Private not-for-profit, less-than 2-year	1	23
Private for-profit, less-than 2-year	7	236
Grand Total	327	12,112

(a) Source: IPEDS database. Completions from first major, Diesel Mechanics Technology/ Technician programs, and from Medium/Heavy Vehicle and Truck Technology/Technician, bachelor's and associate's degrees as well as certificates below the B.A. level. Preliminary data. <https://nces.ed.gov/ipeds/datacenter/login.aspx>

Based on the historical data cited in the prior report, the trend from 2012 – 2018 is shown in the chart below.

Diesel Tech Postsecondary Completions | 2012-2018



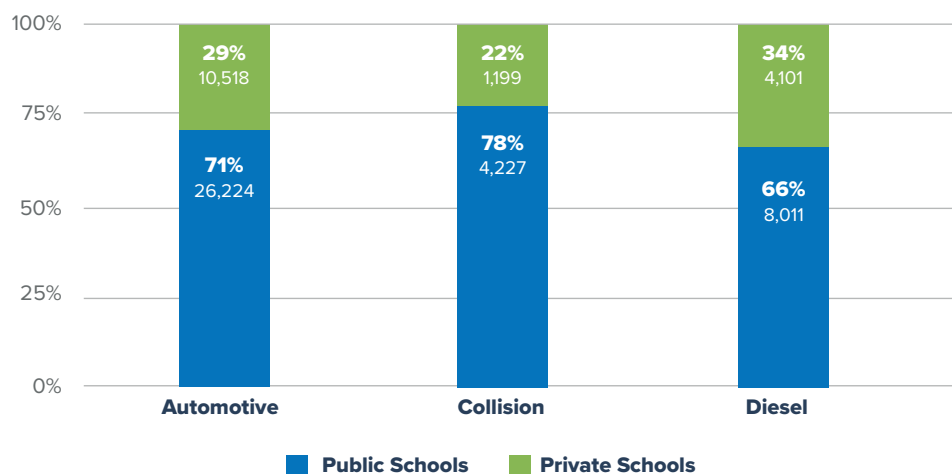
In 2018, the 10 largest providers of postsecondary diesel completions were:

Top 10 Postsecondary Diesel Providers 2018 (a)	
Institution	Collision Completions
University of Northwestern Ohio	425
West Kentucky Community and Technical College	305
Lincoln College of Technology-Nashville	275
Universal Technical Institute of Arizona Inc	256
Texas State Technical College	247
WyoTech	225 (a)
Bates Technical College	196
Universal Technical Institute of Pennsylvania Inc	190
Central Community College	184
Universal Technical Institute of Illinois Inc	177

(a) On Nov. 8, 2017, Zenith Education Group announced that all of its WyoTech campuses would be closed. On July 3, 2018 it was announced that a purchase was completed of WyoTech Laramie, and that campus would remain open.

The following chart shows the distribution of graduates (completions) between public schools and private schools in 2018.

% and # of graduates - Public vs. Private Schools 2018



CONCLUSION

It is of course important to understand new entrant supply and demand individually, but for a holistic picture of the shortage, we must look at them together. In the chart on the next page, you can see that with the exception of a slight peak in 2019, the overall shortage situation continues at similar levels as in the past several years.

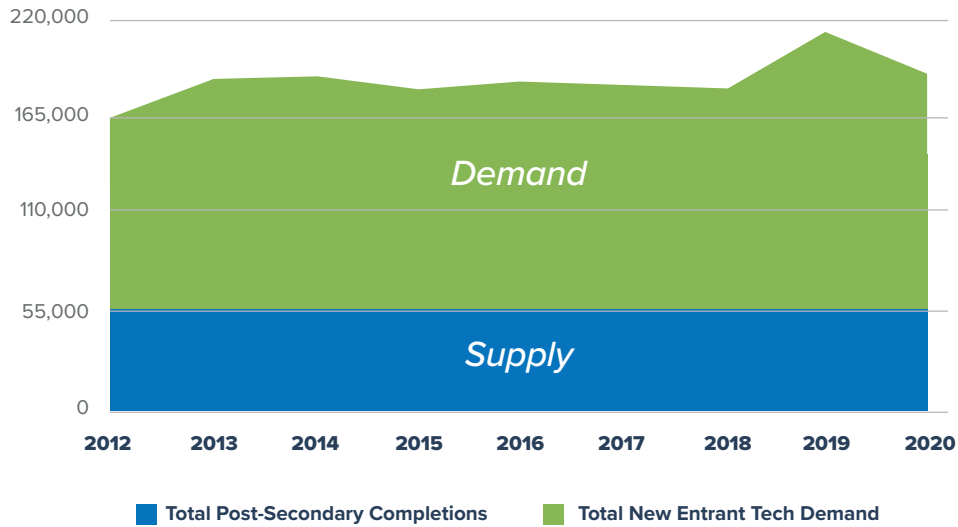
In quantifying supply, the only reliable numbers that can be tracked are postsecondary completions of technical programs. There are no reliable numbers available for high school shop programs, which also provide a source of new entrant technicians, or for those who come “off-the-street” with no formal technical education. So, while it is true that the supply numbers shown do not include high school and off-the street entrants, we also know that some postsecondary technical school graduates never go into industry, so these anomalies offset each other to some degree. In the end, we are still faced with the same issue, supply is woefully short in meeting the needs of industry.

For both the near- and long-term, the only sustainable solution is to:

- Focus as an industry on increasing **awareness** of the career opportunities that exist for new entrant transportation technicians
- Turn that awareness into **interest**
- Turn that interest into **enrollments** in our high school and postsecondary training programs
- **Engage with schools** to bring their students into **mentorships and apprenticeships** to bridge the students’ gap between education and industry
- Turn those mentorships and apprenticeships into **employees**
- **Retain those employees** through competitive pay, good benefits and a great company culture focused on caring for its employees

Auto-Diesel-Collision New Entrant Tech Positions

Supply vs. Demand



QUICK FACTS



NEARLY
400,000
 AUTOMOTIVE TECHS NEEDED
 between 2020 and 2024

NEARLY
80,000
 COLLISION TECHS NEEDED
 between 2020 and 2024

NEARLY
170,000
 DIESEL TECHS NEEDED
 between 2020 and 2024



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