

The Tipping Point

A Predictive Analysis of the Stenographer Shortage



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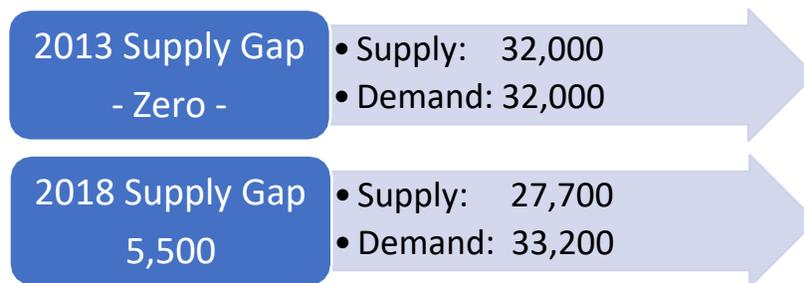
In 2013, the National Court Reporters Association commissioned a study by Ducker Worldwide to get a perspective on the demand for stenographic court reporters across the United States compared to the supply. The study was intended to serve two purposes.

First, NCRA wanted to put data around a trend that was genuinely understood to be taking place; the population of stenographers was declining as a large number of veteran stenographers was retiring while too few new stenographers were entering the profession.

Second, NCRA was on the verge of launching a publicity campaign to attract more students to stenographic court reporting schools, but before investing significant resources in this recruitment effort, the organization felt it should better understand what the marketplace demand for new court reporters would look like over the subsequent five years.

The study has become famous within court reporting circles. The key point made in the study, which was introduced with fanfare at the 2014 NCRA Annual Conference in San Francisco, was that, by 2018, there would be a gap of 5,500 between the supply of stenographers and the demand for them. By 2018 there would be 27,700 stenographers with a marketplace demand for 33,200.

Stenographer Shortage, as of 2018



While the Ducker Report acknowledged the *presence* of various technologies in creating the legal record, certainly a flaw in the report was the notion that marketplace demand for court reporting services in 2013 could be calculated then or in the future *only* by the number of stenographic court reporters. We won't spend a great deal of time belaboring the point, but in the early 1990s, a court reporter census estimated the population of stenographers at about 50,000. Over the ensuing 20 years or so, leading up to the publishing of the Ducker Report, the number of stenographers shrunk by about 18,000. This occurred as the world economy and the U.S. population had grown significantly, which only has increased demand for court reporters. We know that the legal system has not ground to a halt for the lack of stenographers during that time. So, unless there were 18,000 stenographers at home twiddling their thumbs in the 1990s, the roles stenographers previously had filled have been replaced by court reporters using technologies other than stenography. Thus, market demand in the Ducker Report *should* have included positions already filled by reporters who use digital recording, voice writing, and/or video to capture the spoken word and convert it to text.

Nonetheless, the Ducker Report shed light on and applied numbers to a marketplace shift that anyone within the legal community with their eyes open—courts, firms, schools—had seen coming for a long time.

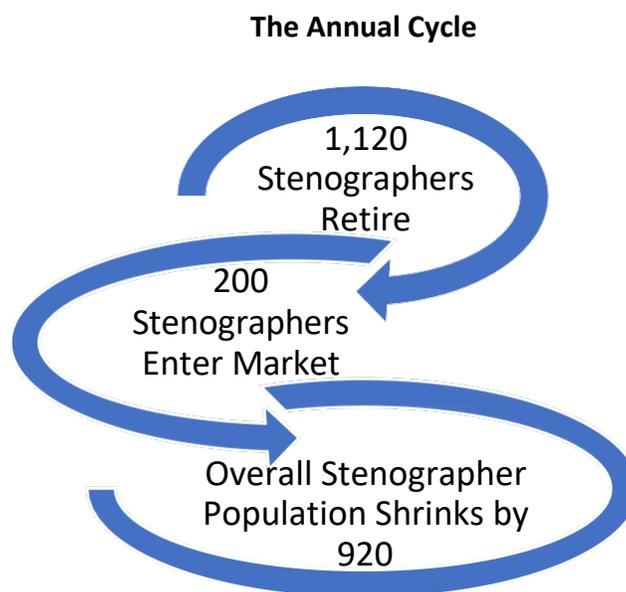
NCRA did the right thing with the Ducker Report, using it as the launching point for an urgent and ongoing promotional campaign to attract a new generation of students to stenography schools with the promise of rewarding careers waiting at the conclusion of their education. NCRA and its corps of volunteers took things a step further over the subsequent few years to introduce new types of programs intended to introduce prospective students to stenography without these people having to incur the expense or make the life commitment of enrolling in stenographic court reporting school just to get acquainted with the profession.

This was a smart way for NCRA to make use of the marketplace reality—push the shortage of stenographers as career opportunity for prospective students. However well-intended—even inspiring—those efforts have been, the impact of NCRA’s and others’ efforts at recruiting students to stenographic schools has had no significant effect on enrollment, which is the main reason stenographic reporting schools continue to close. If anything, it seems that overall enrollment in stenography schools has decreased, which is one reason why stenography schools continue to close and others are changing their business models. Meanwhile, the predictions of the Ducker Report have proven remarkably reflective of marketplace reality with the stenographer shortage becoming particularly acute in states such as California, New York, Illinois, and Texas, just as the study predicted. We have spoken with many firms that are regularly turning business down for lack of stenographers. Many of those same firms now are actively incorporating digital recording into their service models.

From here, the stenographer shortage is mathematically certain to exacerbate nationally and by region. In states that already have been impacted by the shortage, the situation will become more acute. In states that have not to date felt the shortage, they will feel the shortage soon.

The mathematics are simple:

1. On average, 1,120 stenographers will retire each year.
2. At most, 200 new stenographers will enter the marketplace each year.
3. Marketplace demand for speech-to-text services within the legal community will increase.



As of 2019, using the findings of the Ducker Report for what was to occur by 2018 as a baseline, the national shortage of stenographers in 2019 is about 6,435¹.

Let's take a look at what will happen over the next four years, nine years, and 14 years.

Stenographer Recruitment Efforts:

Great Idea, Won't Come Close to Fulfilling Market Demand

Notwithstanding the spirited and dedicated efforts of those from throughout the court reporting community to promote stenography to new audiences of prospective students, there is an unfortunate reality that will prevent these efforts from making anything more than a negligible impact on the shortage. That reality is that fewer than one in ten students who enter stenography school emerge as court reporters. The inverse of that equation is the problem: For every single stenographer who enters the workforce, schools must recruit ten students, nine or more of whom will never become stenographers.

For every single stenographer who enters the workforce, schools must recruit at least ten students.

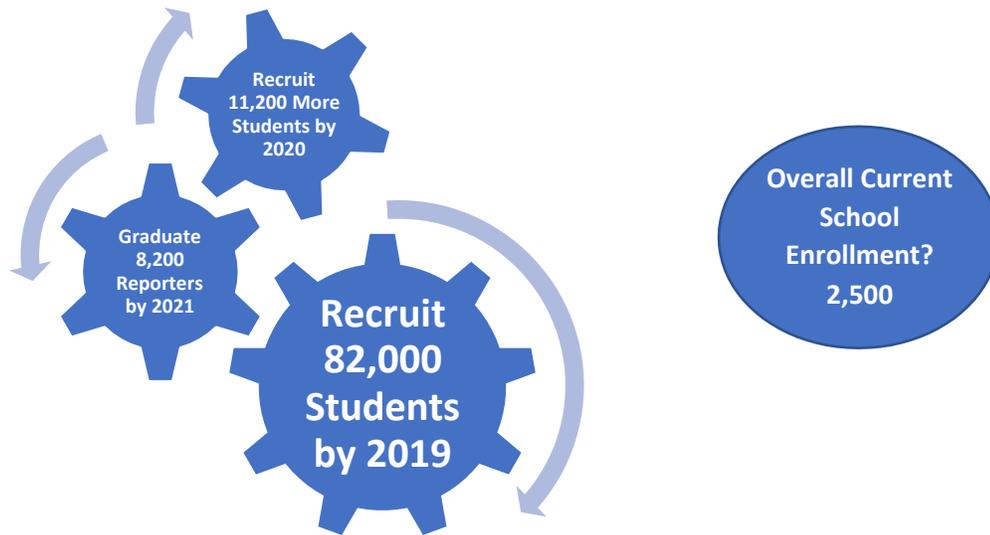
Extending that math becomes daunting. It means that to fill just the *current* shortage gap of 6,435 with stenographers alone, schools would need to get their hands on 64,350 new students.

To be more precise, to produce the 6,435 stenographers needed to fill TODAY's market gap, you would have needed to recruit 64,350 new students into stenography school *two years ago*. Because that *didn't* happen, you now need to account for the subsequent two years—the minimum time it takes for students to get through school—while the number of stenographers will shrink by 920 each year (1,120 will retire and no more than 200 will emerge). This is significant and we'll explain why.

During the two years it would take to train and graduate 6,450 stenographers to fill the *current* supply gap, which is in *no way* feasible, the gap will grow by another 1,840 (920 annually). This, in turn, will require *another* 18,400 new students to fill the widened gap over the next two years. So, rather than 64,350 new stenography students, you'd need to start with more than 82,000 new students. Moving forward, you'd then need to recruit 11,200 new students every subsequent year in order to graduate 1,120 two years later, this to fill the jobs of the 1,120 retiring stenographers. Meanwhile, the marketplace demand will grow.

¹ Presumes 200 new stenographers enter the market and 1,120 retire.

The Impossibility of Solving the Stenographer Shortage



So, you need 82,000 new students to fill the marketplace gap. And we've not yet arrived at the most sobering news. At most, total enrollment *across all schools* is 2,500. That comes from the most recently published number, which is in the Ducker Report from 2013. To be clear, that is *total* enrollment, not a single class (as in "the Class of 2020"). Even if you were to presume that *all* students emerge or abandon stenography school within two years, and estimating a generous overall graduation rate of 10 percent, the market would get a maximum of 125 new reporters each year (half of 2,500, or 1,250, being in their second year and 10 percent of that 1,250 graduating).

Nonetheless, the recruitment efforts for stenographers should continue. The more stenographers there are, the better it is for the marketplace. And the earnest and innovative recruitment efforts for stenographers should have some positive effect. For our calculations, we will presume the efforts will result in placing an additional 750 students into stenography schools *each year*, pushing overall enrollment on a rolling basis to 4,000 from 2,500. At a 10 percent graduation rate—again presuming students get out of school in two years and become certified—this would yield 200 new stenographers every year. Anyone who is familiar with court reporting education knows that this is an extremely ambitious, yet, even with such an ambitious projection, the total number of stenographers will shrink *dramatically*.

What Happens Next?

Making further calculations about the extent of the stenographer shortage requires nothing more than arithmetic:

- The market begins with 27,700 stenographers in 2018;
- On average, 1,120 stenographers retire each year;
- On average, 200 new stenographers enter the market each year;

- And, every five years, we calculate that market demand for stenographers increases by 3.75 percent.²

In 2013, the Ducker Report estimated the population of stenographers at 32,000. That number suggested that the market was at equilibrium, meaning that the number of stenographers was *exactly* meeting the demand. We will repeat that calculating the size of the market without acknowledging positions filled by digital court reporters and voice writers was not measuring the full court reporting marketplace. However, for the purposes of forecasting the future of what will happen to the population of stenographers, that is a side point.

Whereas half of the general population in the U.S. is 46 or older, 75 percent of stenographers were 46 or older ... and that was six years ago.

In 2013, the median age of all stenographers was 51, which compares to a median age of 42 for the general American workforce. The Ducker Report further revealed that an overwhelming 70 percent of stenographers were 46 or older. That means that just 30 percent of stenographers were 45 or younger, suggesting that something closer to 25 percent of stenographers were younger than the median age for all American workers.

Periodically, stenographers and firm owners step back and ask, “Why is the stenographer shortage happening?” **Here is the reason—whereas half of the general working population in the U.S. is 46 or older, 70 percent of stenographers were 46 or older ... and that was six years ago.** Try as any of us might, a daily routine of yoga and kale smoothies can only do so much to slow down the aging process. Thus, five years later in 2018, the dense population of stenographers that were 46 or older are now 51 or older.

In the meantime, nothing close to the same number of new stenographers are entering the workforce each year to replace those who are retiring. And for a workforce to remain in equilibrium, the number of workers entering the market must roughly approximate the number who are leaving the market via retirement. That is demonstrably not the case for stenography.

- 1) With 70 percent of the 32,000 stenographer population 46 or older in 2013 according to the Ducker Report, we know that the total number of stenographers who were aged 46 or older was right around 22,400.
- 2) If we take 22,400 and divide it between the age range of 46 to 65, you arrive with 1,120 stenographers by each age. In other words, in 2013, there were, on average, 1,120 stenographers who were age 65, 64, 63, and on down the line to 46.
- 3) Using simple subtraction, we can calculate that there were 9,600 stenographers within the age bracket of 26 and 45 in 2013 (30% of 32,000). This presumes that 26 is the average age when stenographers enter the workforce. We then distribute the population of 9,600 evenly across

²We are estimating marketplace demand will increase by 3.75% every five years.

that age group (the same number at the age 45, 44, 43, etc.) to arrive with 480 stenographers at each age.

Some might suggest that stenographers retire at a later age than the general population, which we will accept and use 65 as a hard-and-fast retirement age as an average. We will presume that at least as many stenographers who work *beyond* the age of 65 retire *before* the age of 65. For general reference, according to the U.S. Federal Reserve, 63.1 percent of Americans retire between the ages of 57 and 66.

Now, let's go back to the Ducker Report calculations for 2018. The number of stenographers was to drop to 27,700, which—combined with

STENOGRAPHER POPULATION

2013	32,000
2018	27,700
2023	23,100
2028	17,260
2033	13,900

increased marketplace demand for stenographers—led to a supply shortage of 5,500.

But the stenographer shortage problem is just beginning, which you can see in the chart below. By 2018, a full 60 percent of stenographers were 51 years or older. That also means that 9,650 stenographers fall within the age bracket of 31 to 50. We are presuming that all new reporters are 30 or younger, even if that's not likely the case. To explain the chart a bit more, the orange cells represent the cohort of stenographers born from 1948 through 1967; the green cells are those born from 1968 through 1987; the yellow cells are those born from 1988 through 1992; and the blue cells are those born after 1992. For what it's worth, we are not accounting for those who leave stenography early; nor are we significantly adjusting for those entering stenography at ages beyond 30. That should average out.

Year	Stenographers by Age Cohort				Total	Demand	Supply Gap
2013	26-45		46-65		32,000	32,000	n/a
	9,600		22,400				
2018	26-30	31-50		51-65	27,700	33,200	5,500
	1,250	9,650		16,800			
2023	26-30	31-35	36-55	56-65	23,100	34,445	11,345
	1,000	1,250	9,650	11,200			
2028	26-35	36-40	41-60	61-65	17,260	35,737	18,477
	2,000	1,250	9,650	5,600			
2033	26-40		41-45	46-65	13,900	37,077	23,177
	3,000		1,250	9,650			

In looking at the colored cells of the chart, what you see is that in 2013 the largest cohort (orange), representing a 20-year span of ages, was more than double the size of reporters in the green cohort, which likewise represents a 20-year age span. Needing to use fixed data points, the next cohort, in

yellow, represents a five-year span followed by the blue cohort, which grows from a five-year span in 2023 to a 15-year span by 2033.

Now, fast forward five years and let's see what happens in 2023 – just four years from now.

- 5,600 stenographers have retired.
- 1,000 new reporters have entered the market (200 per year).
- Market demand for stenographers has increased to 34,445.

You now have a gap between supply and demand for stenographers of 11,345. With no significant backfill of new stenographers, the problem will accelerate because:

- 11,200 stenographers will be 56 to 65 (48%) in 2023.
- 9,600 stenographers will be 36 to 55 (42%).
- Just 2,250 stenographers will be 35 or younger (just 10%).

By 2028, nine years from now, the gap between supply and demand of stenographers will 18,477. You now will have a total population of 17,260 stenographers. **At this point what we were calling a “supply gap” will be larger than the entire population of stenographers.**

- 5,600 stenographers will be aged 61 to 65 in 2028.
- 9,650 stenographers will be 41 to 60.
- Just 3,250 stenographers will be 40 or younger.

By 2033, what we were calling a supply gap of stenographers will be significantly larger than the overall population of stenographers. There will be 13,900 stenographers in the U.S. and the gap will be 23,177.

- 9,650 stenographers will be 46 to 65.
- Just 4,250 stenographers will be 45 or younger.
- Just 3,000 stenographers will be 40 or younger.

At the State Level

Human perception being what it is, there are those who will doubt a phenomenon or market shift exists until they have witnessed it firsthand. Firm owners, clients, and others are less likely to consider the stenographer shortage to be significant, or even real, until it has arrived within their geographic market. Ignoring reality—even if it hasn't reached into your market—is a dangerous game to play. It's like looking out the window to see that it's sunny and leaving your umbrella at home the rest of the week even though the forecast is calling for torrential rain.

Going back to the Ducker Report's state-by-state projections for 2018, we have applied the same proportions we used for the national estimates to project the population of stenographers on a state basis within the top ten most populous U.S. states. While market demand, retirement, and new reporters will not unfold uniformly in proportion within each state, the general trends will look like what you see below.

Year	California		Texas		New York		Florida		Pennsylvania	
	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand
2018	6,110	8,430	2,270	2,680	1,590	1,850	915	910	940	980
2023	5,096	8,746	1,893	2,780	1,326	1,919	763	944	784	1,017
2028	3,807	9,074	1,414	2,885	991	1,991	570	979	586	1,055
2033	3,065	9,414	1,138	2,993	797	2,066	459	1,016	471	1,094

Year	Illinois		Ohio		Georgia		North Carolina		Michigan	
	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand
2018	1,730	1,990	770	780	915	910	750	940	540	700
2023	1,443	2,065	642	809	763	944	626	975	450	726
2028	1,078	2,142	480	839	570	980	467	1,012	336	753
2033	868	2,223	386	871	459	1,017	376	1,050	271	781

Not surprisingly, in markets where the shortage already is rearing its head most significantly—California, Texas, New York, Illinois—the shortage becomes more severe as time elapses.

- In California, market demand for stenographers was to exceed supply by 2,320 by 2018. That gap will grow to 3,650 in 2023 and then to 5,267 in 2028 and 6,349 by 2033.
- In Texas, the gap will double from 410 in 2018 to 887 in 2023 before reaching 1,855 by 2033.
- In New York, the gap will more than double from 260 in 2018 to 593 in 2023. Consider that by 2033 the entire state of New York—to include all of New York City—will have a supply of only 797 stenographers.

What also will occur is that states where there was to be market equilibrium in 2018—Florida, Pennsylvania, Ohio, Georgia—will soon begin to feel the impact of the shortage before it arrives in a significant way in the years ahead.

How Will the Market Evolve?

Amid the “irrational exuberance” that characterized the onset of the stock market technology bubble during the late 1990s, investor Warren Buffett suggested that if he were a business-school professor at the time, he would assign the following research paper to students. He said he would hand out a blank piece of paper to students and ask them to develop a pricing model for placing a value on the stock of Internet-related companies. Buffett would evaluate the papers in

What will the industry look like when the dust and the pieces settle? No one knows, but it will look much different than it does today.

the following way: If students wrote a single word on the paper, he would give them a zero. The point Buffett was making was that no one yet knew what to do with Internet stocks. If Warren Buffett didn’t know, no one did. There was no clearer ratification of Buffett’s prescience a few years later when the technology bubble burst spectacularly in the early 2000s.

There is a similar knowledge vacuum that exists within the court reporting market, which would be better termed the “speech-to-text” market. The inevitability of technology disruption along with the growing shortage of stenographers will completely reshape the market over the next decade. Genuine marketplace forces are grabbing a hold of an industry that to some degree had been insulated from such forces for a century or longer. These forces will turn the industry upside down at least once and perhaps more than once over the next generation. What will the industry look like when the dust and the pieces settle? No one knows, but it will look much different than it does today.

For starters, the workforce will change in fundamental ways. Relevant to discussion of court reporting—more than in other industries—is that the collective workforce cannot be neatly divided into individual workers or full-time equivalents (FTEs) as readily as other industries can. This is particularly the case on the deposition side of the market. That’s because most individual stenographers who focus on depositions are independent contractors rather than employees, with those contractors often doing work for multiple firms. Firms likewise refer a good amount of work to other firms.

The good news if you are a current stenographer, even if you are quite young, is that you are now, and will remain, an extremely valuable commodity with your value in the marketplace increasing as the shortage of stenographers becomes more severe.

As a result, the stenographer shortage will develop differently than a shortage

might within other professions or industries. When two decades ago there was a nursing shortage, hospitals and doctors’ offices were more likely to feel the shortage earlier than court reporting firms because open, full-time positions would go unfilled. Hospitals and doctors’ offices roughly know how many nurses they need to operate, so that when one nurse retires or leaves, they just hire another nurse. In court reporting, at least in the part of the business that has traditionally used only stenographers, firms have looser ties to their workforce. Rather than positions going unfilled, the shortage is manifesting itself with firms having to refer more business to other firms, investing more time in finding contract stenographers, and, finally, with firms having to turn away business.

To deal with the shortage in its current state, large stenography firms are actively working toward adding digital reporting and transcription to their repertoire. Small- to medium-sized firms are following, albeit at a slower pace, with many of them choosing instead to sell their businesses to larger firms.

By 2028, what we have referred to as a “supply gap” of stenographers within the U.S. will be larger than the entire supply of stenographers. The national supply of stenographers will be 17,260; the supply gap will be 18,477. The implications of that will be profound. Nine short years from now, 18,477 positions that now or in the recent past were filled by stenographers will be held by professionals employing something other than stenography to capture the record and convert it to text.

This is good news if you are a current stenographer, even if you are quite young, particularly if you’re good. You are now, and will remain, an extremely valuable commodity with your value in the

marketplace increasing as the shortage of stenographers becomes more severe. But the same can and should be said about good reporters using voice writing and digital reporting.

The supply gap of stenographers also creates significant opportunities for schools. While there are varying opinions on how much training is necessary for digital reporters and transcribers, there is no debate whatsoever that without the roadblock of needing to learn and master the art of machine shorthand, the timeline for training a workforce of digital court reporters is shortened to a period of months rather than years. The timeline for voice writers is about nine months. And in both cases, with digital reporting and voice writing, rather than a 10 percent success rate at emerging from schools, the success rate is 80 to 90 percent.

Still, if we're looking at a supply gap of 18,477 by 2028, just as you're not going to see enough stenographers installed in those jobs, it will require a significant, industry-wide challenge to recruit and train nearly 20,000 new court reporters using digital recording, voice writing, or video recording to capture the record, along with a corresponding workforce of transcribers to convert recordings to text and transcripts. Those schools that already understand this or that figure it out soon will play a significant role in shaping the future of the speech-to-text industry.

As we sit here in 2019, the largest stenography firms are in the process of building digital reporting and transcribing practices. Those small- to medium-sized firms that don't explore their options as well are, at the least, missing a significant opportunity and, at worst, subjecting their businesses to failure over the next decade.

Several factors related to digital reporting and transcribing must be considered.

- Because it takes significantly less time and effort to train digital reporters and transcribers, the cost of training and education is significantly lower.
- As a result, firms likely do not have to pay digital reporters and transcribers at the same level that they pay stenographers.
- Firms either will enjoy a larger margin in the deposition market by using digital reporting or, over time as economies of scale come into play, the costs of serving the deposition market will decline.
- Another cost factor is sure to come into play, which is that firms that predominantly have existed by transcribing digital recordings from courtrooms and other entities at a much lower rate per page are sure to welcome the opportunity to make proportionally more via depositions. This still is likely to be less than what "deposition firms" now charge for services, and it could put downward pressure on pricing.
- Finally, without judgment to its current or future capabilities, the impact of automatic speech recognition—whether as a tool to supplement other technologies or as a cost-lowering alternative—also will have some role in reshaping the cost model.

So, the workforce will be overturned. The most frequent technology used in today's depositions—stenography—will change in large measure because there will be so many fewer stenographers. Multiple waves of new technologies will enter the market. Education and training systems will change dramatically. Pricing models will be disrupted. And some other major factor that no one is anticipating—a recession, an invention, a fundamental change to the judicial process—will present itself.

No one knows exactly what the speech-to-text industry will look like in ten years, but one thing is certain: The number of stenographers will dramatically decrease and, thus, it will look entirely different than it does today.

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