

# The Virginia 811 Dirt

WORKING AS ONE TO GET THE JOB DONE



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## LETTER FROM THE CEO

### B. Scott Crawford

2022 has proven to be an exciting year for damage prevention and for Virginia 811. Early in the year, Taskforce 2022 was formed and has collaborated to identify areas to improve the Damage Prevention Act. At this time, the recommendations are on the cusp of advancing into the General Assembly. Virginia 811 has been proud to work with stakeholders in formulating these recommendations. As part of this dialogue, noteworthy changes are about to be implemented related to Code 60, so be sure to check out the article in this issue of The Virginia 811 Dirt to learn more about this important modification.

Over the course of 2022 Virginia 811 worked with stakeholders to also engage one another through a series of Town Hall meetings to identify ways to improve the strain on the industry resulting from the Infrastructure Bill and the drive to get fiber into the ground throughout Virginia, in particular, in more rural areas. This noble endeavor, bringing broadband to those in need, is moving fairly fast and requires that utilities currently in the ground in the areas impacted by this initiative are located and marked. 2022 witnessed only the tip of a much larger iceberg that is going to become more evident in 2023 as more funding is available for broadband extension. Virginia 811 is excited about a pilot program it has entered into with two members that are extending broadband and with the Virginia Department of Housing and Community Development to provide several months’ notice to affected utilities so they can better prepare to locate their utilities as projects unfold in their service areas.

In the shadow of these two significant initiatives, Virginia 811 continued to serve its stakeholders. While ticket volume dropped relative to 2021, which was a record year, it still remained higher than 2020, which had also been a record year. Excavation is going strong, and with

the Infrastructure Bill, 2023 is anticipated to be busy as well. In order to continue to improve QA/QC efforts, the partnership Virginia 811 has with Virginia Tech continued to focus on the improvement of the use of Artificial Intelligence in the Web Ticket Entry ticket auditing process. Using funding from a second PHMSA grant, Virginia Tech’s Statistical Applications and Innovation Group refined and retrained the model, integrated GIS data into the model, and introduced a degree of machine learning capabilities. The use of the model in its new iteration will allow the model to better identify possible risk and allow for ticket concerns to be addressed in a timely manner.

As you will learn in this issue, Virginia 811 successfully navigated a call switch conversion, allowing Virginia 811, for the first time, to operate in a cloud-based environment. The move to Five9 allows Virginia 811 to not only find resiliency through running the switch through an East Coast data center, with a West Coast center as backup, it also allows Virginia 811 to begin to identify new functions to improve service. For example, callers in queue can now opt to have a DPS call them back rather than sit on hold. Without losing their “place in line”, callers can now go about their business and when a DPS is available, receive a call and work with the DPS to process a ticket or address any questions.

These are just a few highlights from 2022. Be sure to scan this issue of The Dirt to learn more!

- B. Scott Crawford  
President & CEO  
Virginia 811

# IMPORTANT UPCOMING CHANGES

- B. Scott Crawford

## TICKET PRICE INCREASE

Since Virginia 811 opened 20 years ago ticket prices have only been increased one time, from \$1.00 to \$1.05. The price has stayed at that level for over 10 years now, even as the consumer price index has continued to increase.

Virginia 811 is committed to keeping ticket prices as low as possible for its Members. Being a 501(c)(6), not-for-profit, it has a duty to achieve this goal. However, experiencing record high inflation not seen in decades has resulted in rising prices across all industries, including the utilities Virginia 811 serves. Virginia 811 is not immune to this inflationary pressure. Due in large part to rising costs in labor, along with increases in utilities and general supplies, Virginia 811 has realized that it will become necessary to implement a ticket price increase.

On July 1, 2023, ticket price per transmission will increase by 5 cents and on January 1, 2024, ticket price per transmission will increase another 5 cents. Over the course of 2024, Virginia 811 will evaluate expenses and overall revenue to determine if another 5-cent increase needs to be implemented on January 1, 2025.

While maintaining low ticket prices for Members, Virginia 811 must also ensure it is able to operate in a manner that can continue to attract, and retain, highly skilled team members and invest in technology that can increase overall ticket accuracy and efficiencies, allowing for future cost savings to members to be realized. This phased approach to ticket price increases, allows its members to better prepare for increased ticket costs. During the September 2022 Board meeting, after careful consideration and discussion, the Virginia 811 Board of Directors voted in favor of this phased price increase.

I know that you will continue to be pleased with our services and know how deeply we, as a team, appreciate and value your support. We have come a long way in 20 years, and we look forward to finding new ways to leverage technology to better serve you and protect life and property!

## CHANGE IN CODE 60

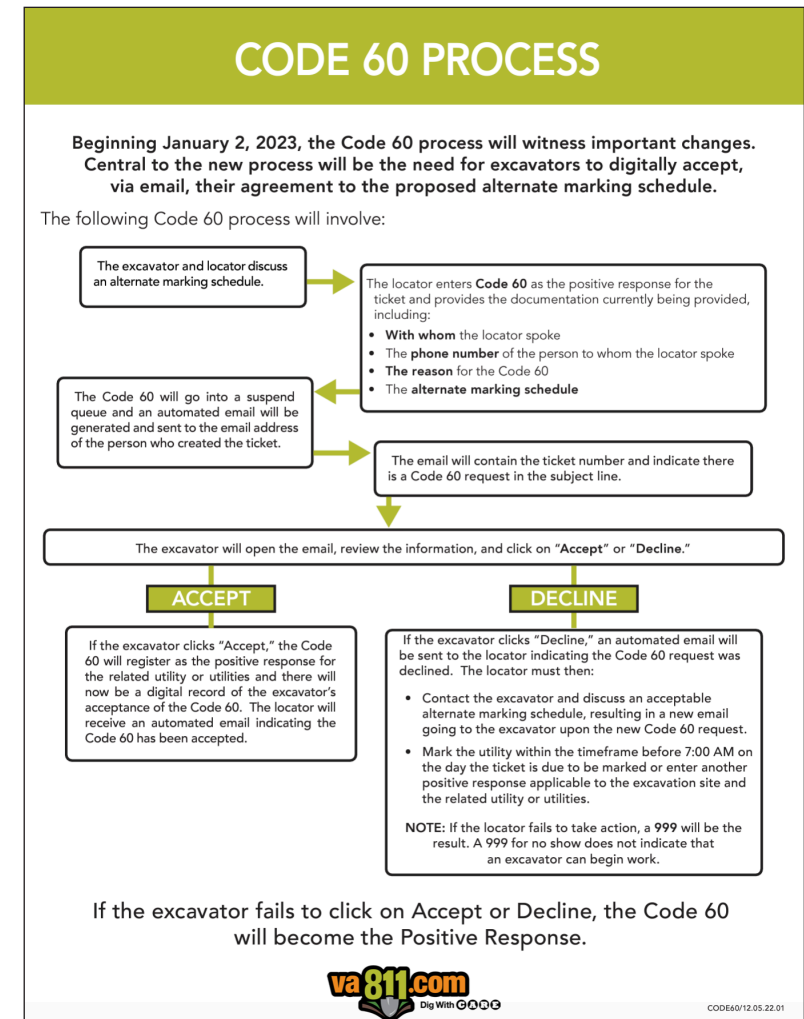
Earlier this year the State Corporation Commission's General Counsel determined that as it currently exists, Code 60 is not aligned with the spirit of the Damage Prevention Act. It was determined that as of December 31, 2022, the "sun would set" on Code 60, and it would no longer be an option for Positive Response. Out of concern for the impact this might have on locators and excavation, Taskforce 2022 worked toward finding a means through which Code 60 could align with the Damage Prevention Act and remain tied to Positive Response.

Virginia 811 has worked with its Ticket Entry software provider, Norfield Development Partners (NDP), to implement this solution. The programming team is finishing code for testing, and it is anticipated this solution will go live in the coming weeks, at the end of December.

The primary concern about Code 60 as it currently exists is that there is no record of the excavator agreeing to the Code 60. In order to alleviate this issue, the Code 60 process will be changing. After the excavator and locator discuss, and agree to, an alternate marking schedule, the locator will continue to enter currently collected information related to the Code 60. However, when the locator submits the Code 60 as a Positive Response, it will not register but will be placed in a queue. An automated email will notify the excavator that the locator has requested a Code 60. The excavator will now need to click on either "Accept" or "Decline" depending on if he or she is in agreement or not with the Code 60.

- If the excavator clicks "Accept", the Code 60 will move out of the queue and be recorded as the Positive Response. A digital record of this agreement will be kept and will indicate the locator's request to use Code 60, the reason the locator has requested Code 60, and the excavator's acceptance of the Code 60 request. This digital record will provide the evidence needed to demonstrate that the excavator and locator did indeed reach an agreement.
- If the excavator clicks "Decline", the locator will receive an email stating that the excavator does not agree with the request. The Code 60, at this point, will not be accepted as a Positive Response. The locator then has the option to call the excavator and reexamine the need for the Code 60 or enter a different Positive Response code. If the locator contacts the excavator again and the excavator agrees after any concerns are addressed, the locator will need to re-submit the Code 60, resulting in the excavator receiving the email requesting the excavator to accept the Code 60.
- If the excavator fails to click on "Accept" or "Decline", the Code 60 will become the Positive Response.
- This new process is going to require excavators and locators work together to ensure Code 60's are handled correctly and in a manner that accurately captures the agreement between the two parties.

Learn more about this change to Code 60 by visiting [va811.com/code-60/](https://va811.com/code-60/).



# STRIKING A BALANCE OF RESILIENCY

How Virginia 811 is juggling the demands of change, staying connected, and having a little fun in the process!



## UPDATES IN TECHNOLOGY

### New Contact Center Software

One of the most exciting updates that has occurred this year is the addition of a new call switch, Five9 Cloud Contact Center Software. The Professional Development and Education team spent time learning how to use the software, developed the quick reference user guide and then trained the Operations team how to use it. The transition to the new call switch occurred during one of our busiest seasons and to ensure that our customers received premier customer service, some of our Damage Prevention Specialist (DPS) received their training after regular business hours and on Saturday. Their dedication is highly commendable and greatly appreciated.

The Agent Desktop Plus is a user-friendly interface making the answering of calls and dialing outbound more efficient. Additionally, the new Interactive Voice Response (IVR) system has been updated to better serve our customers. The IVR communicates with Agent Desktop Plus by providing the DPS with the option selected by the customer. For example, if the customer selected the option for "questions", the call is routed to one of our Senior DPS who can respond to the customer's question or need.



## DEVELOPMENT & TRAINING

### New Team Member Training



The Professional Development and Education team is preparing training for a group of new team members. We start by bringing an aspect of training into our hiring process. All qualified candidates go through the Web Ticket Entry training for a Normal ticket in the Virginia 811 Academy as well as engage in a discussion during the group interview after watching the DIG With CARE video produced by the State Corporation Commission (SCC). These steps not only help to prepare our selected candidates but educate everyone who participates in the interview process.

## STAYING CONNECTED

### Water Cooler Talks



Do you miss having conversations with your teammates at the watercooler? We sure did until we started meeting at our "virtual watercooler" on Zoom. During our last meet-up, we discussed the exciting topic of the Metaverse and how someday we may be able to use this tool to virtually connect the contractors with the locators to discuss where the work is taking place. This futuristic idea may be available to us sooner than we may have anticipated, so now is the time begin learning more about what possibilities are out there.

## TEAM ENGAGEMENT

### Alcohol Ink Paint Night



Virginia 811 offered an exciting team engagement event held in September at Big Lick Brewery in Roanoke, Virginia. Diana Quick was the instructional artist assisting everyone with their masterpieces, creating a set of artistic coasters. Diana brought out the artistic ability in all 15 team members that participated in the unique paint technique of alcohol inks. Of course, what is a team engagement gathering without food and drink? The event was catered by Tuco's Taqueria Garaje, with drinks provided by Big Lick Brewery. A wonderful time was had by all, and it was so much fun to spend time together!

# FAST FACTS

CHANNEL	COUNT	PERCENTAGE
PHONE	406,594	28.8%
WTE	570,877	40.4%
SAT	240,862	17.0%
TRE	194,677	13.8%
<b>Total</b>	<b>1,413,010</b>	

## Total Internet Originated Tickets YTD 2022

# 1,006,416

(71.2% of all tickets)

# GOLDEN SHOVEL AWARD WINNER

**STACEY CLARK**

GOLDEN SHOVEL AWARD  
THIRD QUARTER



Stacey Clark has been with Virginia 811 since January 18, 2005. She has held positions as a Damage Prevention Specialist (DPS) and as a Senior DPS/Mentor. She frequently assists the Professional Development and Education Supervisor, with the new hire training for Damage Prevention Associates (DPA) in the virtual classroom. She always brings a positive and cheerful presence when working with new team

members to give them encouragement and to help them feel welcome as part of the Virginia 811 team. She always coaches her team members with positive reinforcement.

Stacey recently started a new position as a Senior DPS/Mentor Outreach Coordinator, as of June 13, 2022. Stacey continues to assist with Senior DPS job duties and serves in a part-time role as the Mentor Outreach Coordinator. As a coordinator she collaborates with the Executive team, managers, and supervisors to better communicate with team members throughout the organization and identify areas of praise for specific team members and departments. She has embraced this new role with her usual enthusiasm that radiates encouragement, happiness, and positivity in every aspect of her interactions with Virginia 811 team members.



“ Since I started with Virginia 811, Stacey has been with me through the entire process. She’s always willing to share her wealth of knowledge and is a friendly face who lights up the room any time she’s around! ”

# HAPPY ANNIVERSARY

Team Members Celebrating  
Their Service to Virginia 811 This Quarter



**Shannon Bishop**

10/24/2014 | 8 Years of Service

**Kayla DeHart**

10/27/2014 | 8 Years of Service

**Scott Crawford**

12/19/16 | 6 Years of Service

**Devian Trevey-Boitnott**

12/4/17 | 5 Years of Service

**Vanessa Dye**

11/29/2021 | 1 Year of Service

**Mark Raleigh**

11/29/2021 | 1 Year of Service

**Karen Wiseman**

11/29/2021 | 1 Year of Service

**Samantha Young**

11/29/2021 | 1 Year of Service

**Thank You  
for Your Years of Service**

Together they bring a combined **31** years of experience to the Virginia 811 team!



# Local Damage Prevention Committee (LDPC) Meetings

## The Importance of Reviving In-Person Meetings in Virginia

- Brian Morehouse

The first LDPC meeting I attended was in Charlotte, North Carolina in 2008. Between the long drive and the ever-mounting workload waiting for me back at my office, I remember being less than enthusiastic about attending. Not having attended one before, I didn't know what to expect from these meetings, nor what their exact purpose was. There were about 15 people from around the county in attendance that day. I sat and listened but didn't contribute much.

But with each meeting I attended, the numbers grew, and so did my understanding of their importance, the role I played as an attendee, and the power that these local meetings held. Now I can't imagine operating in our industry without them.

Covid restrictions have prevented in-person meetings for too long, and subsequently interfered with the open exchange LDPC's provide.

Virginia 811 is committed to reviving and supporting in-person LDPC meetings throughout Virginia. We are ready to assist with anything from compiling local contacts through our Virginia 811 resources, presenting Virginia 811 updates and safe digging practice talks, as well as supporting any training coordination needs you may have.

In an effort to get these in-person meetings kick-started again throughout Virginia, here a few key features about LDPC's that I wish I understood before my first meeting and may help others who are new to the industry better understand their vital purpose:

### IMPORTANT FEATURES OF LDPC MEETINGS

#### THEIR PURPOSE

LDPC meetings provide an optimal forum where local stakeholders can share information and perspectives while also working together on all aspects of damage prevention issues.

#### WHO SHOULD ATTEND THESE MEETINGS

In promoting a spirit of shared responsibility, LDPC's welcome all who would like to be a part of damage prevention solutions, from industry leaders to stakeholders including contractors, utility operators, pipeline operators, municipalities, utility locators, excavators, engineers and other industry focused individuals.

#### IMPORTANT LDPC MEETING GOALS

- To facilitate communication, cooperation and coordination among all industry stakeholders in the prevention of underground utility damages.
- To heighten stakeholder awareness to the requirements of **Virginia Underground Utility Damage Prevention Act**.
- To promote safe digging best practices.
- To sponsor, promote and participate in education and training programs related to the prevention of damage to facilities in an effort to increase public safety and environmental protection by including the four steps of Virginia's Dig with CARE message:
  - Contact Virginia 811 Before You Dig
  - Allow the Required Time for Marking
  - Respect and Protect the Marks
  - Excavate Carefully
- To establish and maintain relationships with related interest groups.

### WAYS TO CONTRIBUTE

#### ATTEND REGULARLY

This is your opportunity to share information relative to your business concerns in your local area. Whether it's providing details of a current or upcoming major project, damage prevention, or just to network with peers.

#### VOLUNTEER TO CO-CHAIR FOR YOUR MEETING OR ACT AS YOUR LOCAL MEETING SECRETARY

Many local meetings have lost key organizers and need individuals to organize meetings. Please contact Brian Morehouse if you are interested in assisting your area LDPC.

#### SUGGEST TOPICS TO DISCUSS WITH ORGANIZERS

Reach out to the organizers of your LDPC if you have a topic you'd like to see discussed or information you'd like to learn more about.

#### HOST A MEETING

If you have a facility that accommodates these meeting and are interested in hosting an event please reach out to Brian Morehouse and let him know that you can accommodate a future meeting.

#### VOLUNTEER AS A LUNCH SPONSOR

Many LDPC's are scheduled during normal lunch hours in an effort to get as many attendees as possible and lunch is often provided. Each regional meeting is always looking for assistance with providing lunches to those who attend.

If you have questions about LDPC meetings or can assist in any way with your area's meetings, please contact [Brian Morehouse](mailto:bmorehouse@va811.com) | [bmorehouse@va811.com](mailto:bmorehouse@va811.com) | 336.482.6890

### UPCOMING LDPC MEETINGS

#### CENTRAL VIRGINIA LDPC MEETING

Friday, December 9th  
11:00 AM  
Columbia Gas Training Center  
1812 Coyote Drive  
Chester, Virginia, 23836

#### NORTHERN VIRGINIA LDPC MEETING

Tuesday, December 13th  
10:00 AM  
Fairfax Water  
9800 Ox Road  
Fairfax, VA 22079

Be on the lookout for LDPC meeting invitation emails or go to [va811.com/events/](https://va811.com/events/) for more information on dates and times that a meeting near you will take place.

# LOCATOR CERTIFICATION TRAINING

## Virginia 811 Brings Classes to Virginia

Over the last few years, Virginia 811 received many requests to bring back locator training classes in Virginia. So in September, we arranged for Staking University to return to Virginia for a series of 2-day, in-person Locator Certification Training classes in October and November.

Due to the hands-on nature, class size was limited to 20-24 students per session, with each session comprised of both field and classroom training. A total of 86 students attended statewide with classes held in four regions: **Northern VA** - Springfield; **Central VA** - Chesterfield; **Southwestern VA** - Roanoke; **Eastern VA** - Chesapeake.

Many of the students who took part were from both large and small municipalities, electrical co-ops and gas companies. Students were encouraged to bring their locating equipment, which allowed others the opportunity to gain knowledge and exposure working with many different types of equipment during the course. Field training included practical exercises - from setting up for a locate, grounding the device, running cable, to performing locates for each utility type.

The Virginia 811 Education & Marketing team also took part in these trainings and received certification. The course provided a great opportunity to learn more about the technology and processes that go into locating, as well as learning from other students the scenarios and challenges they face in the field.

"I know this isn't a process we will use on a normal basis, but as liaisons, we need to understand the theory, process and what goes into locating," said Brian Morehouse, Virginia 811 Public Awareness Supervisor. "When we're out in the field talking with locators, we'll be better able to relate to the locator experience having been exposed through this learning opportunity."

A post-event survey was sent out to attendees and the responses were overwhelmingly positive regarding the level of training received. 100% of respondents indicated they would like to see this training made available more often throughout the year. If you are interested in attending future locator training classes, please reach out to Brian Morehouse. He will collect statewide feedback and gauge interest for potentially coordinating classes in 2023.

Brian Morehouse | [bmorehouse@va811.com](mailto:bmorehouse@va811.com) | 336.482.6890

### THANK YOU TO THE MEMBERS WHO HOSTED THESE TRAININGS AT THEIR FACILITIES.

Without your help and support, events like these would not be possible.



#### About Staking University:

Staking University is located in Manteno, IL. Since 1999, they have delivered locating equipment training courses for over 600 client companies throughout the U.S., including utilities, municipalities and private organizations. Their highly skilled and experienced instructors provide classroom and hands-on instruction that benefits all levels of utility locators, from novice to expert.

### UPCOMING LOCATOR TRAINING OPPORTUNITIES IN VIRGINIA

**FAIRFAX** Tuesday  
December 6, 2022

**VIRGINIA BEACH** Thursday  
December 8, 2022

Presented by: 

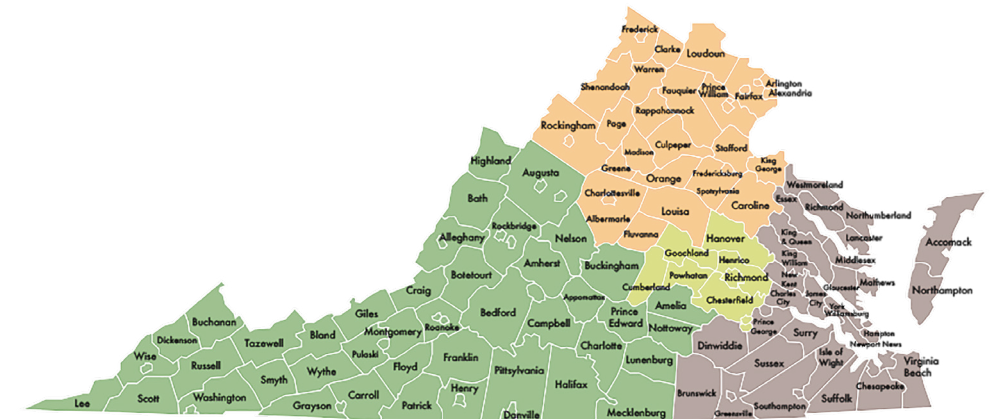
Eastcom Associates, Inc. is hosting seminars in **Virginia Beach** and **Fairfax** to teach the basic theory behind electromagnetic locating, the functionality of today's instruments, and how to maximize their use in the field. These seminars will also cover locating methods for non-metallic lines. Morning refreshments and lunch will be provided. CEU's for Water, Wastewater, and Engineers will be offered. Visit the Eastcom Associates, Inc. Events page to learn more about each seminar: [eastcomassoc.com/upcoming-events](http://eastcomassoc.com/upcoming-events)

# Meet the Team

THE PUBLIC AWARENESS LIAISON TEAM

## Virginia 811 Public Awareness Efforts

Education, Training, Community, and Display Truck Events



Joseph Sparrow  
Western & Southwestern VA  
jsparrow@va811.com



Kimberly Swope  
Central VA  
kswope@va811.com



Fernando Mendez  
Northern VA  
fmendez@va811.com



Brian Morehouse  
Eastern & Southeastern VA  
bmorehouse@va811.com

### Virginia 811's Public Awareness Liaison team has grown and evolved this year...

And we've recently reorganized state liaison regions to reflect these changes. Please review the map above to find your Virginia 811 liaison and point of contact. Liaisons are here to serve you, and they welcome any questions, feedback, collateral requests, or training needs you have.

**Joseph Sparrow** joined the team this November as Regional Public Awareness Liaison in the southwestern region of Virginia. He brings with him experience as a Virginia 811 Damage Prevention Associate and we look forward to Joseph building the southwestern region's public awareness program.

**Fernando Mendez** is our Regional Public Awareness Liaison in the northern region of Virginia. Fernando has been with the organization for over two years. In addition to his regular duties, Fernando also travels throughout the state conducting presentations and training to Spanish-speaking workers.

**Kimberly Swope** is our Central Region Public Awareness Liaison, as well as serving as Virginia 811's Communications/Branding Supervisor. Many will recognize her contributions in the presentations and Virginia 811 collateral pieces you receive from Virginia 811.

As many of you know, **Nikki Turpin** recently changed positions at Virginia 811 and is now a Professional Development and Education Specialist. **Brian Morehouse** is currently acting as interim liaison in the eastern region of Virginia. Brian joined Virginia 811 this past August from North Carolina 811 and is Public Awareness Supervisor for the liaison team.

- SU Locator Training - Chesapeake
- SU Locator Training - Chester
- SU Locator Training - Roanoke
- SU Locator Training - Springfield
- LDPC Meeting - Spotsylvania
- American Water - Alexandria
- Core Ex Paradigm - Roanoke
- Core Ex Paradigm - Blacksburg
- Core Ex Paradigm - Martinsville
- Core Ex Paradigm - Lynchburg
- Core Ex Paradigm - Ruckersville
- Core Ex Paradigm - Fork Union
- Core Ex Paradigm - Emporia
- Core Ex Paradigm - Smithfield
- Core Ex Paradigm - Virginia Beach
- Core Ex Paradigm - Manassas
- Core Ex Paradigm - Front Royal
- Core Ex Paradigm - Fredericksburg
- Core Ex Paradigm - Sandston
- Core Ex Paradigm - Colonial Heights
- Shentel/Glo Fiber - Williamsburg
- Shentel/Glo Fiber - Suffolk
- Shentel/Glo Fiber - Charlottesville
- City of Chesapeake Public Utilities - Chesapeake
- American Water Safety Summit - Woodbridge
- Guillermo Amaya Construction - Stuarts Draft
- Chesapeake Water Department - Chesapeake
- Virginia Environmental Health Department - Gloucester
- SCC Damage Prevention Settlement Training - Richmond
- City of Chesapeake Storm Drain and Traffic Division - Chesapeake
- Lowes - Roanoke /Surrounding Areas
- Home Depot - Roanoke /Surrounding Areas
- Smith River Festival – Henry County
- Richmond City Works - Richmond
- VDOT Hampton Roads 2022 Fair - Wakefield
- Prince William Operations Center - Prince William
- Virginia State Fair - Doswell VA

3rd Quarter Footprint



3,379 Individuals Trained YTD





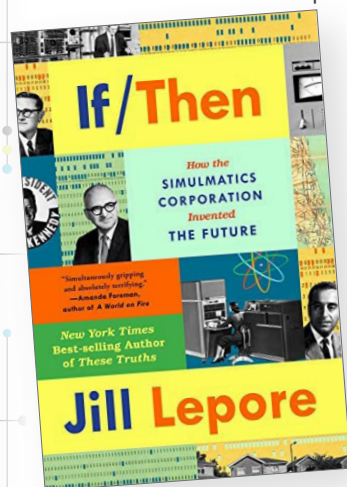
# The Roots of Big Data and Predictive Analytics

## Book Review of *If/Then*: How the Simulmatics Corporation Invented the Future

- B. Scott Crawford

The electorate had been broken down into 480 sub-groups, based on a host of categories, from race, sex, and age to income, and marital status. Education, number of children in the household, and rural or urban living environment all came together to produce a massive demographic sampling of those potentially going to the polls to choose the electors that would determine who would be the next president. Guiding one candidate was an algorithm that could, relying on this massive data set, run simulations based on how the candidate approached a host of political topics. This use of predictive analytics gave the candidate some sound, "big data" driven guidance, and allowed the candidate to close the gap in the polls and win the election!

This probably sounds familiar, and you may be thinking this is referring to the 2016 Presidential Election and the candidate leveraging big data was Donald Trump. However, this particular election was actually decades ago, and the successful candidate was John F. Kennedy; the year was 1960. The 1960 election was the first presidential election where "big data," or "massive data," as it was called in 1960, was tied to computer algorithms to allow for simulations to be run to help predict a host of outcomes; "if candidate supports issue 'x,' then 'y' will be the result." In three key areas of the 1960 presidential election between Kennedy and Nixon simulations provided Kennedy with insights that helped him win. The algorithm gave insight into how Kennedy should support civil rights, handle issues tied to religion and his being Catholic, and how to best perform in the first ever televised presidential debates.



Noted historian Jill Lepore provides a fascinating look at the rise of computers and the use of simulations and predictive analytics in the period between 1952 and the early 1970s in her work *If Then*. Central to this story are a host of mathematicians, behavioral scientists, and computer programmers who came together to create the Simulmatics Corporation in 1959 in the years following the use of computers in forecasting elections. The 1952 presidential election, between Eisenhower and Stevenson, was the first presidential election in history to have the results aired on TV. However, also noteworthy was that CBS enlisted the aid of a UNIVAC computer on election night to provide real-time forecasting to predict the election outcome as results from precincts came in. As Lepore notes, the computer in the studio, the first computer most Americans had ever seen, was an empty shell. The real UNIVAC computer was simply too large to bring to the studio, so while it resided in Philadelphia, the CBS newsroom created a fake computer using Christmas lights

to represent an acceptable image of what a computer should look like. However, the real UNIVAC was able to fairly accurately predict an Eisenhower victory well before all results were available.

By 1959, the Simulmatics Corporation, with Simulmatics being a combination of the words "simulation" and "automation," had been formed. The founders of the company hoped they could leverage and build on the predictive power of UNIVAC in order to help create a better society. Just as "Simulmatics" never became a catchphrase and as "Artificial Intelligence" became the phrase related to simulations and automation, the company itself failed to reach its lofty goals and ended up going bankrupt in 1970. However, its roughly 11-year history allowed it to provide analytic data to help Kennedy find a viable path to the White House, provide analytics to support a host of commercial efforts in regard to marketing, support US military forces



in Vietnam, and begin to explore ways to predict riots during the Civil Rights Era. As Lepore's research reflects, it is this attempt to use computers to predict human behavior that proved difficult, and which ultimately led Simulmatics to fail and file bankruptcy.

To know the past is to better understand the present. To know the past is to better understand obstacles we may face in order to better navigate those obstacles. For us in business, as we embrace "big data" and a host of algorithms to predict the future and provide predictive analytics, we need to be aware of how others have embraced these ideas and where they found progress, as well as where they found failure. Jill Lepore's *If Then* provides this insight and gives reason to pause and reflect on what data we are using and how that data may be inadequate or fail to adequately account for a host of variables.

In possibly the most chilling section from the work, Lepore describes a scene where massive amounts of data are provided to a computer in relation to the struggles the military is facing in Vietnam. Lepore notes:

**"On a Friday in 1967, McNamara's men fed the last punch cards into the maw of this giant computer. They asked a question: 'When will we win in Vietnam?' The machine hummed. The machine whirred. Its lights blinked. It hummed and thrummed and blinked and whirred, all weekend. On Monday, McNamara's men came back. The output tray contained a single punch card. It read, 'You won in 1965.'"**

This one excerpt is an important reminder that algorithms are only as strong as the data it uses. The data we use and feed our algorithms must be the "right" data. That data must count, and we must constantly explore how to allow for data to be factored in that simply can't be counted.

If you enjoy history, particularly the history of the Cold War and Vietnam, and if you find yourself in business turning to Artificial Intelligence and predictive analytics, Jill Lepore's *If/Then* is definitely a work you will want to read.



