

ANNUAL REPORT

World Class EMS



RICHMOND AMBULANCE AUTHORITY

W O R L D C L A S S E M S

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Letter from the Board of Directors

2021 was a very special year for the Richmond Ambulance Authority (RAA). September 23, 2021 marked a significant milestone for us as we celebrated 30 years delivering clinical and operational excellence in EMS to our City's residents and visitors. By 1990, the City of Richmond faced a dire crisis in the delivery of emergency and non-emergency medical services because those ambulance companies operating in the City put profits ahead of people, delivering poor quality of care and were unwilling to serve all neighborhoods in the City. Then in 1991, the Virginia General Assembly authorized the creation of RAA to provide emergency and non-emergency medical services within the City. Shortly thereafter, the City of Richmond adopted the ordinance to establish RAA for the delivery of high-quality patient care throughout the City in an equitable, efficient, and cost-effective manner. The members of our Board of Directors are proud to be a part of the RAA team — an EMS agency dedicated to the health and well-being of its community with a proven track record for three decades and going strong. Happy Anniversary, RAA!

Our Board is comprised of eleven individuals; all of whom are committed to upholding the national and international reputation RAA has proudly earned. In 2021, we welcomed five new members to our Board: Lincoln Saunders, Chief Administrative Officer for the City of Richmond, Sheila White, Director of Finance for the City of Richmond, Brandon Mencini, Chief Operating Officer at Chippenham Hospital, Kirk Roberts, Vice President for Preconstruction at CJGeo, and Marilyn West, Chair and CEO of M.H. West & Co., Inc. With such an array of talent, coupled with the personal and professional qualities each of these individuals bring to the table, we are excited to have them all on board and continue to look forward to the diverse and independent perspectives they contribute to our profound interest of upholding the mission of RAA.

Throughout 2021, the ongoing effects of the COVID-19 pandemic continued to weigh on the healthcare industry particularly hard. RAA has experienced a multitude of challenges to include workforce shortages, periods of low call volume reducing revenues, rising costs of additional medical supplies to combat the pandemic, and a lack of federal funding to support EMS during these unprecedented times. Nonetheless, we continued to find ways to maintain our commitment to our community, remaining visible and accessible to those we serve. Throughout 2021, RAA participated in virtual health seminars, providing hands-only CPR demonstrations to participants. In February, RAA recognized Congenital Heart Defect Awareness Week and held a virtual infant CPR demonstration for parents and caretakers. In the spring, RAA administered COVID-19 vaccines to homebound patients in partnership with the Richmond Health District and joined the Virginia Department of Health in November for a children's vaccination clinic.

We were proud to have RAA employees recognized for their interest and enthusiasm to learn sign language to help hard of hearing and deaf patients. RAA participated in the Ultimate Backpack Supply Drive at The Diamond - an event that successfully collected enough school supplies to fill more than 12,000 backpacks for Richmond schoolchildren! These are just a few examples of the many community awareness and outreach initiatives our team of devoted EMS providers have been involved in 2021.

RAA has a proven reputation for remaining a good steward of the City funding we receive as well as proper financial management to assure our organization continues to have the means to carry out our objectives as best as possible. Once again, we can be proud to receive yet another unqualified ("clean") opinion from our outside auditors, who completed their external audit of RAA's fiscal year 2021 financials in November.

As we are all fully aware, the COVID-19 pandemic remains a worldwide public health crisis that continues to challenge us in ways we have never experienced. We are fortunate to have the dedication and support RAA needs to combat these issues and commend the ongoing hard work of everyone involved to help overcome these challenges. This includes the tireless talent and energy of our EMS providers, the oversight and dedication from the members of our Board, the leadership from our CEO, Chip Decker, the support from Richmond City Council and City Administration and the exceptional clinical oversight of our Operational Medical Director, Dr. Joseph Ornato.



The 2021 Richmond Ambulance Authority Board of Directors:

- Matt Conrad, Chairman
- Weet Baldwin, Vice Chairman
- Richard Bennet, M.D., Treasurer
- Julia Hammond, Director
- Carlos Hopkins, Director
- Kristen Nye, Director
- Beth Matish, Director
- Brandon Mencini, Director
- Kirk Roberts, Director
- Lincoln Saunders, Director
- Marilyn West, Director
- Sheila White, Director

Operational Medical Director's Report



Conversion to a tiered BLS/ALS response system

The COVID pandemic has presented unique challenges to EMS from staffing and operational procedures. National, regional, and local shortages of EMS providers at all levels of training and certification were common even before COVID. The tiered model has two main advantages: 1) it allows BLS responders (EMTs) to utilize their skills fully; 2) it gives ALS responders (paramedics) more critical calls in which they can use and maintain high proficient advanced skills such as endotracheal intubation and cardiac arrest team leadership. RAA joins all other major EMS systems (Henrico, Chesterfield, Hanover) in the Richmond metropolitan area and throughout Virginia in providing tiered EMS service.

Safety

Our innovative safety program patterned after that used by commercial aviation continues to allow us to provide complex patient care with a level of safety well below that of our peers. A vital element is a non-punitive, self-reporting process that enables providers to report a near miss or event. These reports allow us to identify potential safety hazards and take corrective action.

Update of the Naloxone Drone Delivery to Opioid Overdose Bystanders Initiative

The Communicable Disease Center (CDC) recently issued a public health emergency alert indicating that 81,230 drug overdose deaths occurred in the United States in the 12 months ending May 2020, with the most significant spike occurring between March and May 2020 after the COVID pandemic began. ¹ The 18.2% increase in deaths was driven primarily by rapid increases in overdose deaths involving synthetic opioids (likely illicitly manufactured fentanyl). A survey of 60 U.S. EMS Medical Directors conducted between April and May 2020 showed a 20% increase in opioid ODs since the pandemic began. ²

RAA 9-1-1 operators dispatched Fire first response and EMS units to 608 opioid overdose cases in the City of Richmond between 1/1/19 and 10/24/21. Of these, paramedics had to administer naloxone to the victim in danger of dying in 97% of cases (about 4 cases each week). Despite intense public health efforts to distribute naloxone spray throughout communities, bystanders only had the antidote and administered it to the victim before RAA EMS/Fire units arrived in 15 cases (2.5%). This is consistent with what is observed nationally. The most cost-effective way to improve early administration of naloxone spray by bystanders is to deliver it to them rapidly by drone and have 9-1-1 dispatchers direct them to spray it into the victim's nose.

Richmond Ambulance Authority, in collaboration with a VCU and the Richmond-based VirginiaUAS small business, has developed a research team pioneering the development of a program to deliver FDA-approved, intranasal spray naloxone antidote to bystander 9-1-1 callers at the scene of an opioid OD while our first responders and paramedics are racing to the victim. Just five drones placed throughout Richmond can deliver the antidote to the caller within an average of two minutes. Our team recently published data from a completed VCU simulation study showing that laypersons can fetch a drone from outside a building, return to the victim, and administer the antidote to a simulated manikin victim under RAA dispatcher direction in 2 minutes from 9-1-1 contact. Since EMS responders can't physically reach the victim until an average of 8-9 minutes after dispatch, reversing the OD 5-6 minutes sooner has great potential to save more lives.

Our completed Phase 1 research/development program was funded by a grant from the National Institutes of Health's National Institute of Drug Abuse (NIDA) as the nation's one of its kind. Under the grant, VirginiaUAS instructors trained seven RAA dispatchers who are now FAA-certified commercial drone pilots and we ran realistic simulations to identify the type of drone needed for our contemplated mission. The next steps are to 1) apply for NIH funding for further research to finalize the design of the drone; and 2) customize the software/hardware needed for RAA to obtain FAA approval to begin serving the public under a "Certificate of Authorization" (COA). Based on our analysis of the last three years of data in Richmond, we anticipate that delivering naloxone spray to bystanders by drone and directing them to use it can speed reversal of the OD by 7-8 minutes since it will allow us to get the antidote in the hands of the bystander in just two minutes from launch and simultaneous EMS/Fire dispatch.³ Every minute saved until we can get the OD victim breathing again will improve their odds of survival.

Chief Executive Officer's Report



2021 proved to be another year like no other for all of us. The COVID-19 pandemic continues to produce uncertainty and new challenges in our communities none of us have faced in our lifetimes. Despite this all, I am deeply proud of the selfless and tireless work of the RAA staff who continue to sacrifice their time, talent and energy to bring the Richmond community the very best in EMS care possible. Leading an organization made up of individuals who continue to demonstrate their passion, dedication and courage during such challenging times is, to say the least, extremely rewarding.

Through it all, RAA managed to shine, having received the recognition our staff members undoubtedly deserved for their ongoing commitment to the citizens of Richmond. The Old Dominion EMS Alliance (ODEMSA) awarded our Training Officer, Harold Mayfield, with the 2021 Outstanding EMS Prehospital Educator, and RAA received the award for Outstanding Contribution to EMS for Children. In early December, we were excited to join our field providers who were honored at the 31st Annual Valor Awards Ceremony, sponsored by the Retail Merchants Association (RMA). RAA proudly cheered on five of our 2020 and 2021 winners at this year's ceremony! This was the first time RAA providers received these

distinguished awards for their acts of valor, selected by the RMA to those who "demonstrated extreme acts of courage while serving their community."

In the summer of 2021, RAA received reaccreditation from the Commission on Accreditation of Ambulance Services (CAAS). The extensive application process includes a comprehensive assessment and an independent external review of an EMS organization. RAA was found to be 100% compliant with no deficiencies identified and the maximum period for reaccreditation was awarded, which is three years. CAAS accreditation signifies that RAA has met the "gold standard" as determined by the ambulance industry to be essential as a modern emergency medical services provider. These standards often exceed those established for state or local regulations. The CAAS standards are designed to increase operational efficiency and clinical quality, while decreasing risk and liability to an organization.

The COVID-19 pandemic has worsened a nationwide staffing shortage for emergency medical technicians (EMTs) and paramedics. According to a survey conducted by the American Ambulance Association (AAA), the turnover among paramedics and EMTs ranges from 20% - 30% annually. While staffing shortages have been a problem for some time, the pandemic hit the pipeline of new recruits hard. In 2021, RAA implemented some key initiatives to help combat the problem. With the support from Richmond City Council, RAA was able to integrate a BLS tiered response system into our current system, which expands the patient care responsibilities of our EMTs. Doing so decreased the workload on ALS providers when more acute care was not required and has helped to improve recruitment and retention of EMTs by expanding their patient care responsibilities. We also identified and appropriately re-categorized Priority One call types (life threatening emergency) in our system in an effort to free up resources for more serious emergency calls. RAA reduced the hours of our field provider workforce from a 48-workweek to a 42-hour workweek to allow for a better work-life balance and to help promote mental health wellness.

To increase the safety of first responders, the public, and in support of Vision Zero, we have implemented a reduction in the use of lights and sirens when responding to less critical calls. This initiative will promote a more safety-enriched environment for our patients, community, and EMS providers. RAA's Operations team, with the support from Dr. Joseph Ornato, our Operational Medical Director, have reviewed all dispatch determinants RAA uses (established by the International Academies of Emergency Dispatch). Since implementing this change, RAA has seen a six percent decrease in lights and sirens responses. Reducing lights and sirens' responses is a national, industrywide initiative.

2021 marked 30 years RAA has been delivering second-to-none EMS patient care to the City of Richmond. To reach such a milestone amid one of the most challenging years of our lives is more than just coincidental; it demonstrates our team's ongoing dedication and commitment to our community. In closing, I would like to personally thank the work of the RAA staff, who have continued to pull together to be there for our community and, most notably, one another. Their willingness to change direction at almost a moment's notice is exemplary. Almost every aspect of our professional lives have changed as a result of this pandemic, and I am grateful for the way RAA has responded. The guidance, leadership and support of our Board of Directors, Dr. Joseph Ornato, Richmond City Council and City Administration has been instrumental. Together, we can be proud of what we have accomplished in 2021.

2021 News and Events



JANUARY

The Richmond **Ambulance** Authority (RAA) continued its participation in a federally funded pilot study examining the use of drones to deliver lifesaving emergency medical equipment and supplies to bystanders at the scene of an emergency as Paramedics and FMTs are on the way. The study is in partnership with VCU's College of Engineering and a drone pilot training company.





FEBRUARY

We recognized
Congenital Heart
Defect (CHD)
Awareness Week by
sharing the
emotional story of
one of our EMTs
who used infant CPR
to save her son
after he stopped
breathing because
of his condition.

Dr. Amir Louka with VCU trained our Supervisors on how to use our new ultrasound machines. The new equipment helps our agency detect changes in the appearance of organs, tissues and vessels and allows us to better serve our patients.





MARCH



A Richmond mom publicly thanked an RAA crew for helping her deliver her baby at home after she went into labor.

RAA's Operational Medical Director Dr.
Joseph Ornato was recognized at the Governor's EMS
Awards ceremony as the winner of the Physician with Outstanding Contribution to EMS.





APRIL

In partnership with the Richmond Henrico Health District we started administering COVID-19 vaccines to homebound patients.

We joined the Richmond City Sheriff's Office for the JP Jumpers Foundation's Virtual Autism Walk to help raise awareness during World Autism Month.





2021 News and Events









JULY



RAA presented First Aid and CPR education to Richmond Henrico Health District Community Health Workers during a virtual class.





AUGUST

RAA was recognized by the National Commission on Accreditation of **Ambulance Services** (CAAS) and was reaccredited by the organization. CAAS accreditation is considered the "gold standard" for ambulance services.

We participated in the Ultimate **Backpack Supply Drive** at The Diamond. The event collected enough supplies to fill more than 12,000 bags for school students.



MAY

RAA teamed up with Drive Smart Virginia and created a safe driving presentation for high school students as part of the virtual **Drive Smart University** created as a resource for teachers across the state.

We held events and giveaways throughout the week for staff members in recognition of National EMS Week.



JUNE

We held a hot car demonstration in partnership with AAA Mid-Atlantic, BabyIn BabyOut and Child Care Aware of Virginia to raise awareness about the dangers of leaving kids in cars.

RAA joined our public safety partners for a Bike Ride and Community Day in Gilpin Court.





2021 News and Events





SEPTEMBER

In September, RAA celebrated its 30th Anniversary serving the City of Richmond.
Richmond granted the franchise to RAA on September 23, 1991.

We joined
Richmond Police
and Richmond Fire
to raise awareness
for National Rail
Safety Week as we
canvassed a
Richmond
neighborhood near
a railroad.





OCTOBER

We played host to Senator Mark Warner and regional leaders for a roundtable discussion about gun violence prevention.

The Old Dominion
EMS Alliance
(ODEMSA) held its
regional awards
ceremony and
recognized our
agency for
Outstanding
Contribution to EMS
for Children.





NOVEMBER

We partnered with AAA Mid-Atlantic for Child Car Seat Safety Inspections ahead of Thanksgiving holiday travel and inspected dozens of child car seats.

We announced a new partnership with South University-Richmond to add new mental health and injury prevention resources for our staff through monthly visits from the university's Clinical Mental Health and Physical Therapist Assistant departments.





DECEMBER

The Retail
Merchants
Association
recognized current
and former
employees of RAA
at the 31st Annual
Valor Awards for
going above and
beyond the call of
duty during
responses in 2020
and 2021.

The 100 Club RVA awarded RAA a grant to put towards the purchase of EMS protective gear.

We joined the community and marched in the 38th Annual Dominion Energy Christmas Parade which was held in person after going virtual the



Memorable Moments from 2021











mand Ambu







































RAA Celebrates 30th Anniversary

OFFERED SEP 09 1991 A RESOLUTION NO. 91-R257-230 ADOPTEL SEP 23 1991

Creating the Richmond Ambulance Authority.

Patron: City Manager

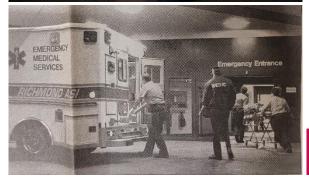
Approved as to form and legality by the City Attorney

MHEREAS, Council has previously determined it to be in the best interests of the City to create and to regulate a unified

















Richmond revives its rescue service

System rated among best - but costly







Patient Satisfaction



Since 2017, the Richmond Ambulance Authority has used the Baldrige Group as a 3rd party vendor to conduct patient satisfaction surveys in our emergency responses.

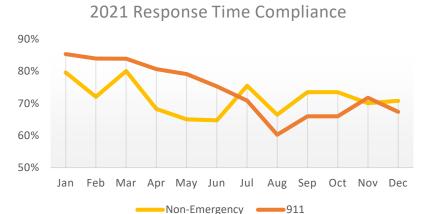
RAA gets monthly reports summarizing patient satisfaction with the services RAA provides in response to their emergency. Since 2017, RAA has consistently provided emergency responses with over 90% patient satisfaction and averaged 97.7% patient satisfaction in 2021.

The data continues to be a useful tool for our agency as we strive to provide the best service possible for the patients we serve. The feedback provided by our patients is invaluable and helps the agency in its mission to deliver patient-centered care through measureable clinical and operational excellence with efficiency, outstanding customer service, and employee engagement.

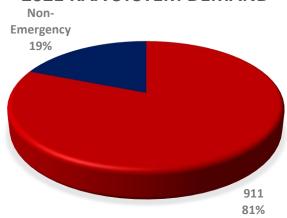
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
— 80th Percentile Engagement — Satisfaction											

Month	Patient		
	Satisfaction		
	%		
January	93.32%		
February	99.18%		
March	97.71%		
April	96.92%		
May	99.46%		
June	97.35%		
July	99.46%		
August	96.95%		
September	99.22%		
October	98.43%		
November	97.11%		
December	97.40%		

Our Performance



2021 RAA SYSTEM DEMAND



Top 10 Emergency Response Complaints

■ Sick Person

■ Person Down

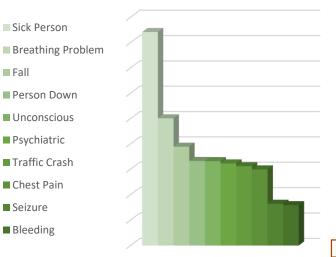
■ Unconscious

■ Psychiatric ■ Traffic Crash

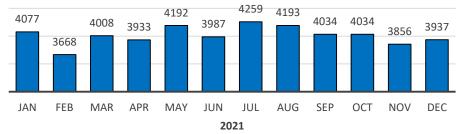
■ Chest Pain

■ Seizure ■ Bleeding

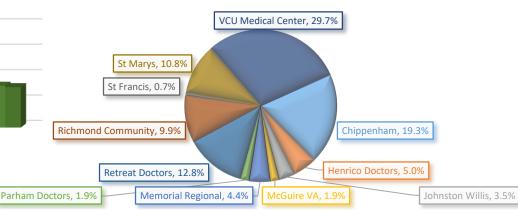
■ Fall



911 Responses



911 PATIENT DESTINATIONS 2021



2021 Call Volume



911

Fleet Composition











In 2021, RAA trucks traveled 923,066 miles. That's the equivalent of:

85,430 trips around Richmond (in square miles)37.09 trips around the world1.93 trips to the moon and back

Our fleet:

29 Ford Type III gasoline chassis ambulances

8 Ford Type II gasoline van style ambulances

1 Freightliner diesel Critical Care Transport

1 International Critical Care Transport

2 Ford gasoline Expeditions

2 Chevy gasoline Tahoes

1 Ford gasoline F-150 resource vehicle

1 Ford gasoline F-250 Tow vehicle

1 Ford gasoline Taurus

2 Polaris gasoline ASAP specialty vehicles

2 ASAP Trailers

Statements of Net Position June 30, 2021 and 2020

ASSETS	2021	2020
CURRENT ASSETS		
Cash	\$ 5,857,544	\$ 5,811,490
Short-Term Investments	1,254,371	1,512,863
Total Cash and Short-Term Investments	7,111,915	7,324,353
Receivables:		
Service Accounts Receivables, Net of Allowance for Contractual		
Adjustments and Doubtful Accounts	3,612,290	2,319,984
Reusable Supplies	253,832	238,796
Other Current Assets	764,140	633,502
Total Current Assets	11,742,177	10,516,635
LONG-TERM INVESTMENTS	-	1,000,000
CAPITAL ASSETS, NET:		
Vehicles and Ambulances	7,547,147	6,930,419
Building and Improvements	647,016	647,016
Communications Center	351,391	351,391
Communications Equipment	747,001	722,488
Medical Equipment	2,778,881	2,889,630
Office Furniture and Equipment	1,181,559	980,713
Shop Equipment	70,825	77,380
Less: Accumulated Depreciation	(8,519,262)	(8,725,426)
Total Capital Assets, Net	4,804,558	3,873,611
Total Assets	16,546,735	15,390,246
CURRENT LIABILITIES		
Current Liabilities:		
Accounts Payable and Accrued Expenses	715,126	1,070,203
Accrued Payroll	355,311	538,411
Current Installments of Obligations under Capital Lease	16,336	14,648
Total Current Liabilities	1,086,773	1,623,262
NONCURRENT LIABILITIES		
Obligations under Capital Lease, Excluding Current Installments	39,824	-
Total Liabilities	1,126,597	1,623,262
DEFERRED INFLOWS OF RESOURCES		
Membership Fees Received in Advance	8,216	9,725
NET POSITION		
Net Investment in Capital Assets	4,748,398	3,858,963
Unrestricted	10,663,524	9,898,296
Total Net Position	\$ 15,411,922	\$ 13,757,259

Statements of Revenues, Expenses, and Changes in Net Position Years Ended June 30, 2021 and 2020

	2021	2020
OPERATING REVENUES		
Service Revenues	\$ 28,111,504	\$ 31,735,326
Provision for Contractual Adjustments and Doubtful Accounts	(13,859,142)	(15,865,321)
Net Operating Revenues	14,252,362	15,870,005
OPERATING EXPENSES		
Salaries and Related Benefits	11,780,514	12,951,162
Health Insurance	1,460,949	1,419,800
Worker's Compensation	299,454	351,906
Depreciation and Amortization	1,311,893	1,306,474
Professional Services	667,402	430,799
Collection Expenses	22,952	28,383
Marketing and Advertising	27,298	12,899
Office Expenses	414,854	416,838
Telephone	161,640	158,836
Communications	165,252	141,615
Public Information	16,766	18,000
Postage and Shipping	29,618	48,668
Occupancy	211,760	190,357
Other	202,071	193,413
Insurance	211,687	188,638
Printing and Artwork	4,150	4,667
Travel	13,640	38,658
Medical Supplies and Equipment	583,406	668,946
Recruiting and Background Investigations	73,225	63,392
Vehicle Fuel and Tolls	238,081	437,412
Vehicle repairs and Maintenance	451,306	550,186
Uniforms and Laundry	61,096	117,422
Total Operating Expenses	18,409,014	19,738,471
Operating Loss	(4,156,652)	(3,868,466)
NONOPERATING REVENUES (EXPENSES)		
City of Richmond Subsidy	5,000,000	5,000,000
Interest Income	36,896	53,706
Grant Revenues	637,259	394,895
Miscellaneous Revenues (Expenses), Net	137,160	367,866
Total Nonoperating Revenues, Net	5,811,315	5,816,467
CHANGE IN NET DOCITION	1.054.003	1 040 004
CHANGE IN NET POSITION Not Position - Reginning of Year	1,654,663	1,948,001
Net Position - Beginning of Year	13,757,259	11,809,258
NET POSITION - END OF YEAR	\$ 15,411,922	\$ 13,757,259

Awards and Recognition

RAA Annual Employee Awards

Operations Employee of the Year, Daniel East

Paramedic of the Year, Xavier Smith

EMT of the Year, Hunter Custalow

Support Employee of the Year, Abbey East

Administrative Employee of the Year, Mark Tenia









Industry-wide Recognition

Old Dominion EMS Alliance, Inc. award for Outstanding Prehospital Educator, Harold Mayfield

Old Dominion EMS Alliance, Inc. award for Outstanding Contribution to EMS for Children, Richmond Ambulance Authority

Governor's EMS Award for Physician with Outstanding Contribution to EMS, Dr. Joseph Ornato

Retail Merchants Association Silver Valor Award, Pete MacKerlich

Retail Merchants Association Bronze Valor Award, Adam Godwin

Retail Merchants Association Bronze Valor Award, Kathryn Duren

Retail Merchants Association Bronze Valor Award, Daniel Miller

Retail Merchants Association Bronze Valor Award, Peter Strickland

Commission on Accreditation of Ambulance Services Reaccreditation













Agency Information









OUR MISSION

To deliver patient centered care through measurable clinical and operational excellence with efficiency, outstanding customer service and employee engagement.

OUR VISION

The Richmond Ambulance Authority is an industry leader, providing World Class mobile integrated healthcare.

HISTORY

In 1990 The Richmond City Council and the city manager recognized they needed to make drastic changes to the city's EMS system in order to ensure all city residents received the best and most effective care. On March 20, 1991, the Virginia General Assembly created the Richmond Ambulance Authority (RAA) and on September 23, 1991, the City of Richmond granted the franchise to RAA to provide EMS services to the City of Richmond.

Since its creation, the goal of the Richmond Ambulance Authority (RAA) has been to provide its community with clinical excellence, while ensuring response time reliability and fiscal responsibility. Although it has the highest call volume per capita in the United States, RAA has gained a national and international reputation as a premiere, high performing EMS system. RAA is one of only 32 systems in the United States that has received accreditation from both the national Commission on Accreditation of Ambulance Services (CAAS) and the International Academies of Emergency Dispatch (IAED). These accreditations are considered the "gold standard" for ambulance services, certifying distinction for quality patient care and ambulance operations.



RICHMOND AMBULANCE AUTHORITY

WORLD CLASS EMS

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