

RICHMOND AMBULANCE  
**AUTHORITY**  
WORLD CLASS EMS



*Annual*  
**REPORT**  
*2019*



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

The Board of Directors is proud to be a part of yet another great year for the Richmond Ambulance Authority (RAA). Our Board includes volunteers from an array of diverse professional backgrounds who share the core mission that has remained constant since the Authority's creation back in 1991 – providing oversight and guidance to the RAA staff for the consistent delivery of excellent patient care while maintaining our commitment to economic efficiency to the Richmond community. In 2019, we welcomed new members to our Board: Ms. Julia Hammond, Dr. Michael Kelly and Ms. Sheldon Barr. They each bring a wealth of knowledge in their respective fields as well as provide a unique perspective to help move RAA forward in 2020 and beyond.

RAA's commitment to Richmond's citizens and visitors has always been at the forefront of our organization. Our staff has successfully trained thousands in hands-only cardiopulmonary resuscitation (CPR) free of charge, which covers the basics of this invaluable lifesaving skill. We also continued the "Stop the Bleed" training for Richmond Public Schools' staff. This is part of a campaign launched in 2015 to build skills among the general public that allow them to "stop the bleed" in the case of a severe bleeding injury. The course empowers participants to make a life or death difference when a bleeding emergency occurs until EMS arrives. In 2019, RAA participated in a variety of community events and career fairs to help raise awareness about healthcare topics. This participation is aimed to assist the public with their personal decisions regarding their health and the health of their loved ones. RAA remains vigilant in joining efforts with our public safety partners as we work together to combat the ongoing opioid epidemic crisis. In late August, RAA announced the launch of a new program in partnership with the Richmond City Health District (RCHD) called, "First Responders for Recovery," which is an evidence-based program aimed at connecting addicts to recovery resources in the metro-Richmond area.

Our reputation as a leading EMS agency is predicated on the perception of the people we serve. An outside company measures and tracks RAA's patient satisfaction results, and we are proud to report the overall score for 2019 was 98%. This is a direct reflection on our vow to the community. Providing excellent EMS care while assuring financial accountability to the people we serve is paramount. In November, RAA received another "clean audit," report from our outside audit firm (for Fiscal Year 2019) as well as having ended the last fiscal year with net service revenues and expenses both favorable to budget. The current fiscal year - now halfway complete - is also favorable to budget. Remaining good stewards of the City funding we receive is critical in upholding the public's trust.

As we look back on 2019, we can reflect on a number of noteworthy accomplishments our Board has been a part of and are eager to assist the RAA team with making many more success stories in 2020 and beyond!

## *The 2019 Richmond Ambulance Authority Board of Directors:*

- Elizabeth Matish, Chairperson
- Jeffrey Odell, Vice Chairman
- Matthew A. Conrad, Treasurer
- Richard Bennet, M.D., Secretary
- Weet Baldwin, Director
- Joseph Boatwright III, M.D., Director
- Selena Cuffee-Glenn, Director
- Julia Hammond, Director
- Michael Kelly, M.D., Director
- Councilwoman Kristen Larson, Director
- John Wack, Director



# Operational Medical Director's Report



## *Naloxone Drone Delivery to Bystanders at the Scene of an Unconscious Opioid Overdose Victim*

We are in an opioid crisis killing >63,000 Americans a year. An opioid overdose (OD) kills by causing the victim to stop breathing and, within 2-5 minutes, if not reversed by a naloxone antidote, the heart stops beating resulting in death. It is often not physically possible to get EMS responders to the scene to administer the naloxone antidote quickly enough to save some of these victims once they stop breathing.

We are making significant progress on the cutting edge research and emergency treatment collaboration between RAA and VCU's Department of Emergency Medicine and College of Engineering on an exciting project that we reported on last year. We have submitted a grant application to the NIH's National Institute of Drug Abuse to develop and test the ability for seven of our RAA dispatchers to be trained as FAA-certified commercial drone pilots and 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 2 minutes or less. We have soon to be 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 8-9 minutes after dispatch, reversing the OD 5-6 minutes sooner has great potential to save more lives. The grant request got high marks on its initial NIH review, and we are waiting to hear whether NIH has enough funds available to get us started as early as July. Stay tuned for news on this exciting, first-of its kind, life-saving project!

## *Extracorporeal Membrane Oxygenation Protocol for Cardiac Arrest*

RAA fully implemented the Old Dominion EMS Alliance's (ODEMSA) regional protocol for treating selected patients with cardiac arrest who do not respond to initial resuscitation treatments such as defibrillation. Such patients are now transported with resuscitation to one of five Richmond-area hospitals that can now place them on a form of heart lung bypass in the Emergency Department, improving their odds of survival. We are one of only a half dozen systems in the United States that have such a program in place.

## *Other Significant Developments*

Eighteen paramedics and one EMT-Intermediate were successfully precepted and cleared into field service in 2019. Our patient safety initiative is still a model for the nation. In particular, our field providers generate a steady stream of "self-reports" and suggestions on improving the culture of safety. There is now clear proof that our system has a profound effect on safe patient care. For example, analysis of our data for the last five years indicates that our advanced life support providers make dramatically fewer errors (virtually all with no adverse safety consequences) than the best-trained intensive care unit nurses throughout the United States.

JOSEPH ORNATO, MD, FACP, FACC, FACEP

OPERATIONAL MEDICAL DIRECTOR

# Chief Executive Officer's Report



The Richmond Ambulance Authority (RAA) has seen its share of successes and accomplishments over the years, and 2019 proved to be no different. As Chief Executive Officer, I am fortunate to be leading such a dedicated group of individuals who pride themselves on delivering the highest quality of EMS care to the Richmond community.

RAA continues to be one of the busiest systems per capita, having responded to nearly 70,000 calls for service in 2019. This equates to 5,800 calls each month and 190 calls for service each day! Nonetheless, RAA's EMS crews rose to the occasion, meeting stringent response time standards, having arrived on scene to life-threatening emergencies within eight minutes and 59 seconds, 91% of the time. This means our crews arrived to our critical patients' side, on average, within five minutes and 33 seconds.

Recruiting and retaining the most qualified people possible continues to be a challenge for the public safety industry. Therefore, it remains RAA's main focus as we look for ways to better market our agency and attract the skilled individuals necessary to uphold RAA's reputation as a leading,

high performance system and assure our City continues to receive the very best prehospital care and clinical excellence. RAA recently launched a new program for individuals looking to start a career in EMS called the EMS Placement Program. "Cadets," as we refer to them, may have little to no EMS experience. They are provided the training and the opportunity to secure their EMT certification at no cost. We currently have seven cadets enrolled and look forward to seeing these individuals flourish as they work to pursue a career with RAA.

In 2019, RAA submitted its application to participate in the Centers for Medicare & Medicaid Services' (CMS) recently launched Emergency Triage, Treat and Transport (ET3) model. The ET3 model is a voluntary, five-year payment model that will provide greater flexibility to address emergency healthcare needs of Medicare beneficiaries following a 9-1-1 call. CMS will pay participating ambulance providers to: 1) transport to a hospital ED or other destination covered under the regulations, 2) transport to an alternative destination such as a primary care doctor's office or an urgent care clinic, or 3) provide treatment in place with a qualified healthcare practitioner, either on the scene or connected using telehealth.

RAA was fortunate to once again be the proud recipient of awards, both on an agency and individual level in 2019. In May, the American Heart Association awarded RAA with their Gold Award, having met all of the requirements under their program, "*Mission: Lifeline*," which was developed to help improve the quality of care for STEMI (ST Elevation Myocardial Infarction) patients. RAA's own Christina Austin, Communications Supervisor, walked away with the 2019 Old Dominion EMS Alliance (ODEMSA) Regional EMS Council Award in the category, *Outstanding Contribution to EMS Telecommunications*.

RAA continues to uphold its reputation, both nationally and internationally, having played host to a number of visitors from as far away as Egypt and as near as Roanoke, Virginia! We are proud and humbled to be considered a 'must-see,' by our public safety partners around the globe as we all collaborate to improve upon each other's current best practices as well as the future direction of EMS care.

It took a team effort to make 2019 the success that it was, which includes the leadership and direction of our Board of Directors, the clinical expertise and guidance from our Operational Medical Director, Dr. Joseph Ornato, the ongoing support of the City of Richmond Administration and Richmond City Council, not to mention the hard work and commitment from every member of the RAA staff. Together, we can be very proud of our accomplishments in 2019 as we focus our efforts on another successful year in 2020

CHIP DECKER  
CHIEF EXECUTIVE OFFICER

# 2019 News and Events

## JANUARY

The Richmond Ambulance Authority partnered with the American Red Cross to kick off the new year and hosted a blood drive for National Blood Donor Month. Staff and members of the public donated lifesaving blood during what is typically one of the most difficult times of the year to collect donations.



## FEBRUARY

In February, we welcomed paramedic students from universities across Australia. They got a tour of headquarters and learned about how RAA operates. We again taught Hands-Only CPR at the CBS6 Health and Fitness Expo. We also launched a new redesigned website to improve community interaction, customer service and public education.



## MARCH

We hosted the Richmond Police Department's Latino Youth Academy and taught them Hands-Only CPR. We also took part in the March for Muscular Dystrophy with MDA Greater Virginia.



## APRIL

In April, we joined our regional partners to participate in the Triennial Emergency Response Exercise at the Richmond International Airport. We also helped the Virginia Office of EMS with a mental health and wellness video PSA aimed at reducing first responder suicides.



# 2019 News and Events



## MAY

In May, the Richmond Ambulance Authority was presented with the **American Heart Association's Mission: Lifeline Gold Award** for outstanding performance delivering evidence based treatment to people who suffer heart attacks. We also joined public safety partners from across the region to help with a Move Over campaign.



## JUNE

June is Hands-Only CPR and AED Awareness Month. RAA teamed up with the American Heart Association to demonstrate and give out over 200 Hands-Only CPR training kits at community events throughout the month. We also participated with our public safety partners in the Virginia Association for Pupil Transportation's "In an Instant Mock School Bus Crash" exercise.



## JULY

In July, RAA joined former NFL player and **Varina High School** standout **Michael Robinson** to lead education and Hands-Only CPR training at his Excel 2 Excellence Coaches Clinic. We also partnered with Dominion Energy, American Red Cross, Richmond Police, and Richmond Fire to raise awareness regarding heat safety.



## AUGUST

The Richmond Ambulance Authority announced a new partnership with the **Richmond City Health District** called "First Responders for Recovery" aimed at combating the opioid epidemic in the City. We celebrated with communities across Richmond for National Night Out.



# 2019 News and Events

## SEPTEMBER

In September, RAA kicked off **Child Passenger Safety Week** by providing free Child Car Seat Safety Inspections at the Hispanic Parade and Festival. We joined Richmond leaders and first responders for a Day of Service and Remembrance ceremony recognizing 9/11.



## OCTOBER

We had a blast at the **Science Museum of Virginia's "Girls in Medicine Camp-In"** as we gave young girls a tour of an ambulance and answered questions about EMS. We hosted nurses and employees from Sint Maarten as they learned more about our equipment, protocols and communications center.



## NOVEMBER

In November RAA joined the **Secretary of Health and Human Resources, State Health Commissioner, and Richmond Mayor Levar Stoney** to promote the flu vaccine. We also hosted the Richmond Police Department's Citizen's Police Academy and taught them more about RAA's system and Hands-Only CPR.

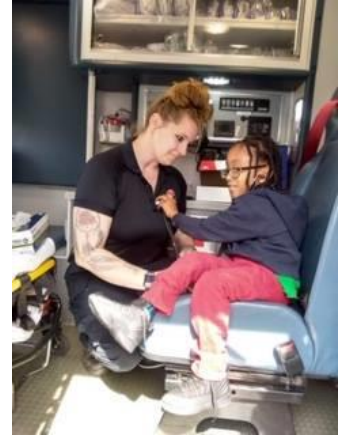


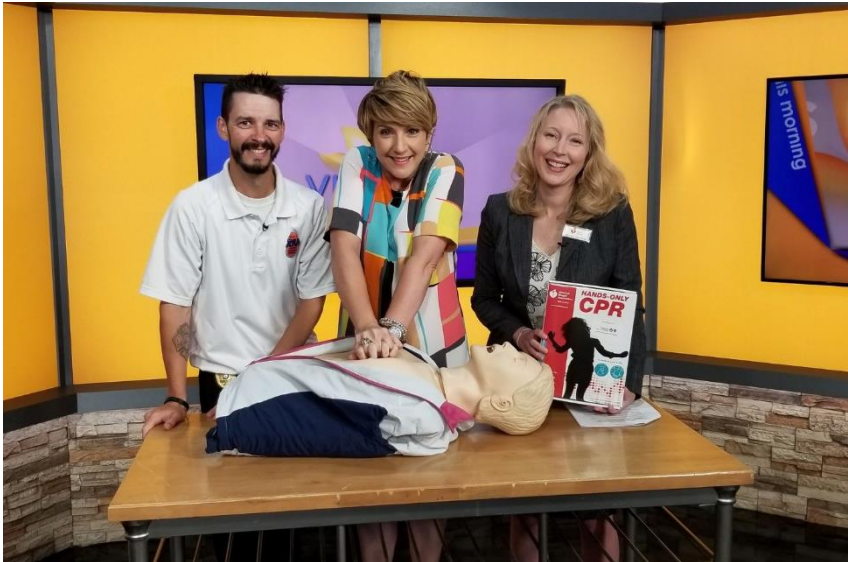
## DECEMBER

RAA launched a new partnership with the **American Heart Association** to offer free Hands-Only demonstrations and training kits. The training will take place at "The Market @ 25<sup>th</sup>" throughout the year. We spread holiday cheer at the 36<sup>th</sup> Annual Dominion Energy Christmas parade.



# Memorable Moments from 2019





# Our Visitors



General Practitioner Aya Elalem from Egypt

4<sup>th</sup> year General Surgery resident Cesar Sanchez from Mexico

Paramedic Students from Australian universities

5<sup>th</sup> year medical students Pablo Vasquez and Claudia Patino from Ecuador

Medical Student Ryana Roso from Brazil

Paramedic Shane Woodhouse from England

Paramedic David Steele from Colombia

Surgery Resident Camila Sotomayor from Chile

Anesthesiology students Jean Mvukiyehe and Jackson Kwizera from Rwanda

Students from Kaohsiung Medical University in Taiwan

Dr. Maria Martinez from the Dominican Republic

Sint Maarten Ambulance Department staff members

Anesthetist Jean de Dieu Ndirima and Assistant Prehospital Team Leader from SAMU Rwanda

Trauma Fellow Juan Melendez from Costa Rica

Trauma Fellow Edison Angamarca from Ecuador

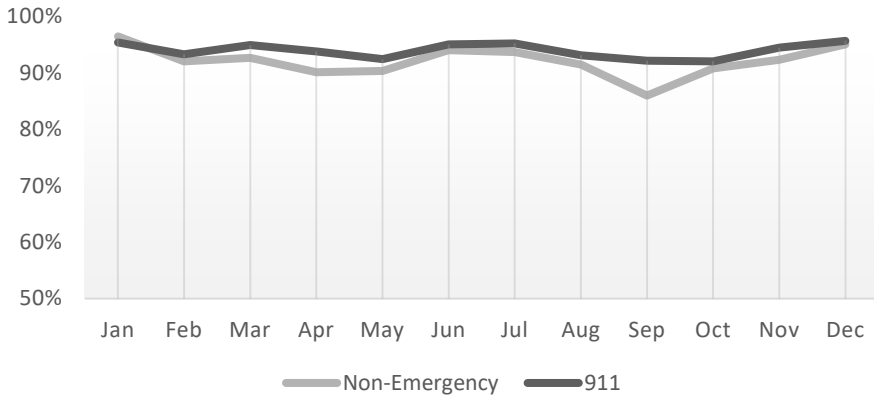
Leadership from Roanoke Fire and EMS



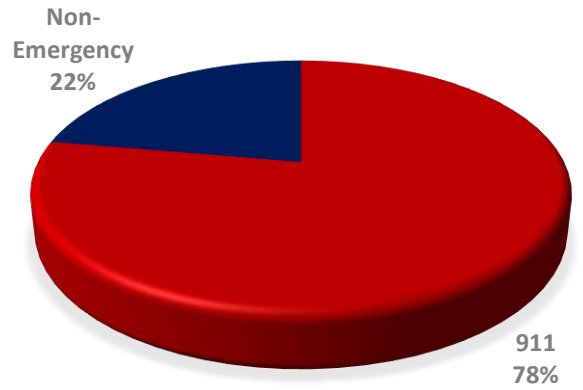


# Our Performance

## 2019 Response Time Compliance



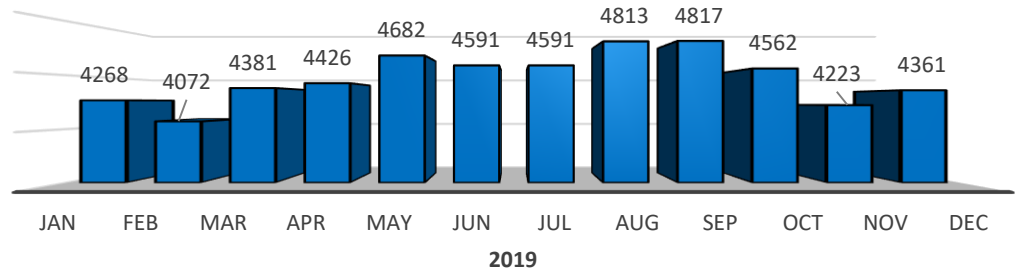
## 2019 RAA SYSTEM DEMAND



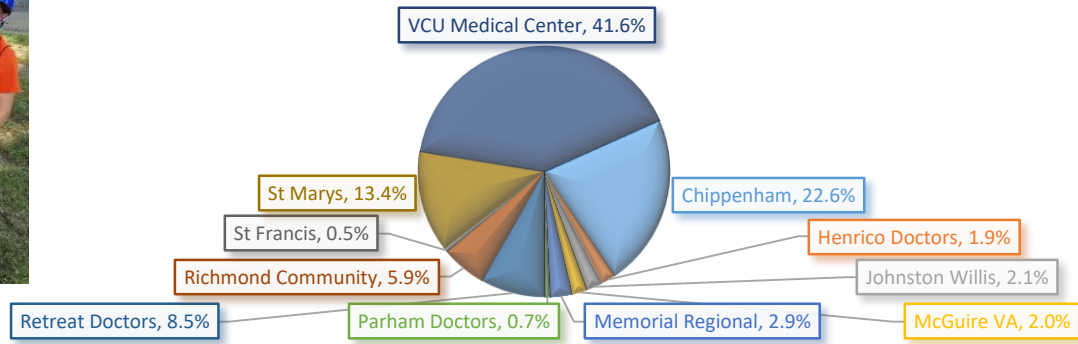
# of Standbys and Community Events  
**298**



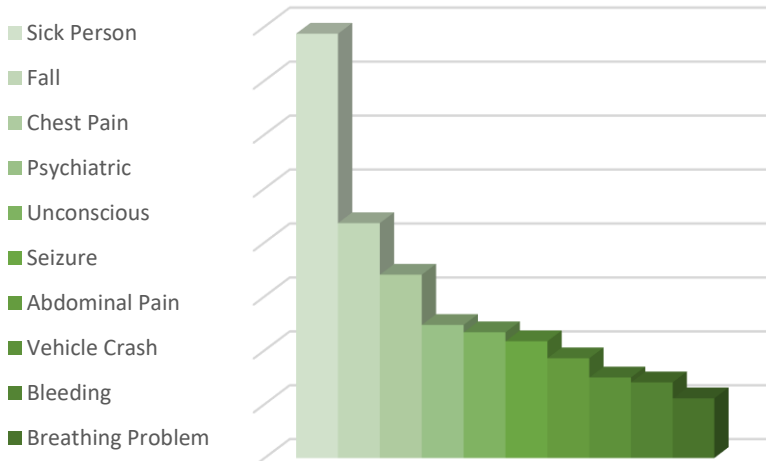
## 911 Responses



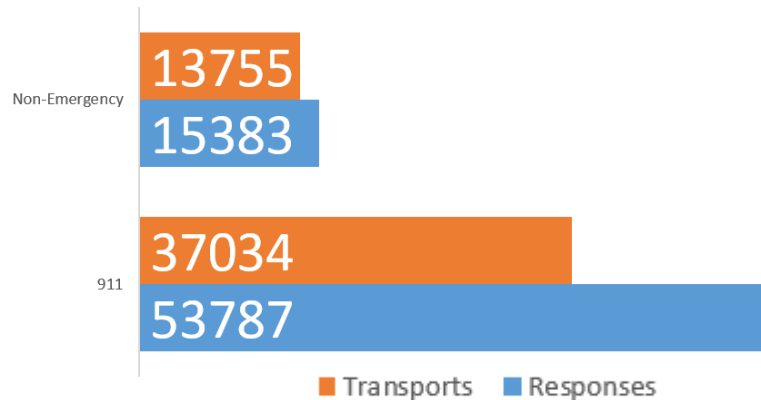
## 911 PATIENT DESTINATIONS 2019



## Top 10 Emergency Response Complaints



## 2019 Call Volume



# Fleet Composition



*In 2019, RAA trucks traveled 1,274,910 miles. That's the equivalent of:*

114,471 trips around Richmond (in square miles)

49.67 trips around the world

2.59 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
- 3 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
- 1 Ford gasoline Utility
- 2 Polaris gasoline ASAP specialty vehicles
- 2 ASAP Trailers
- 1 Mass Casualty Trailer



## Statements of Net Position

### June 30, 2019 and 2018

ASSETS	2019	2018
<b>CURRENT ASSETS</b>		
Cash	\$ 4,346,157	\$ 3,092,266
Short-Term Investments	256,554	760,788
Total Cash and Short-Term Investments	4,602,711	3,853,054
Receivables:		
Service Accounts Receivables, Net of Allowance for Contractual Adjustments and Doubtful Accounts	3,354,851	2,665,747
Reusable Supplies	265,903	259,242
Other Current Assets	476,346	659,352
Total Current Assets	8,699,811	7,437,395
<b>LONG-TERM INVESTMENTS</b>	1,000,000	2,000,000
<b>CAPITAL ASSETS, NET</b>		
Vehicles and Ambulances	6,480,373	6,234,336
Building and Improvements	647,016	626,311
Communications Center	585,009	585,009
Communications Equipment	857,859	896,102
Medical Equipment	2,973,230	3,055,530
Office Furniture and Equipment	972,047	1,019,890
Shop Equipment	77,380	81,680
Less Accumulated Depreciation	(9,031,948)	(8,602,108)
Total Capital Assets, Net	3,560,966	3,896,750
Total Assets	13,260,777	13,334,145
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES</b>		
Accounts Payable and Accrued Expenses	922,602	1,257,435
Accrued Payroll	487,401	455,100
Current Installments of Obligations under Capital Lease	14,796	6,912
Total Current Liabilities	1,424,799	1,719,447
<b>NONCURRENT LIABILITIES</b>		
Obligations under Capital Lease, Excluding Current Installments	14,929	13,049
Total Liabilities	1,439,728	1,732,496
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Membership Fees Received in Advance	11,791	13,963
<b>NET POSITION</b>		
Net Investment in Capital Assets	3,531,241	3,876,789
Unrestricted	8,278,017	7,710,897
Total Net Position	\$ 11,809,258	\$ 11,587,686



Statements of Revenues, Expenses, and Changes in  
Net Position Years Ended June 30, 2019 and 2018

	2019	2018
<b>OPERATING REVENUES</b>		
Service Revenues	\$ 33,061,297	\$ 32,758,842
Provision for Contractual Adjustments and Doubtful Accounts	(18,352,334)	(18,150,700)
Net Operating Revenues	14,708,963	14,608,142
<b>OPERATING EXPENSES</b>		
Salaries and Related Benefits	13,292,013	12,605,942
Health Insurance	1,484,884	1,493,286
Worker's Compensation	330,750	305,268
Depreciation and Amortization	1,403,132	1,425,162
Professional Services	312,925	237,784
Collection Expenses	30,418	31,800
Marketing and Advertising	31,662	38,425
Office Expenses	420,379	400,821
Telephone	172,226	169,366
Communications	94,969	68,310
Public Information	21,820	22,563
Postage and Shipping	51,401	47,885
Occupancy	202,150	197,918
Other	73,054	68,839
Insurance	177,339	174,840
Printing and Artwork	7,604	9,578
Travel	59,334	80,842
Medical Supplies and Equipment	673,773	672,301
Recruiting and Background Investigations	84,691	85,444
Vehicle Fuel and Tolls	534,619	511,528
Vehicle repairs and Maintenance	407,793	379,366
Uniforms and Laundry	90,012	96,867
Total Operating Expenses	19,956,948	19,124,135
Operating Loss	(5,247,985)	(4,515,993)
<b>NONOPERATING REVENUES (EXPENSES)</b>		
City of Richmond Subsidy	5,000,000	4,405,500
Interest Income	39,531	49,379
Grant Revenues	84,198	40,351
Miscellaneous Revenues (Expenses), Net	345,828	108,735
Total Nonoperating Revenues, Net	5,469,557	4,603,965
<b>CHANGE IN NET POSITION</b>	221,572	87,972
Net Position - Beginning of Year	11,587,686	11,499,714
<b>NET POSITION - END OF YEAR</b>	<b>\$ 11,809,258</b>	<b>\$ 11,587,686</b>

# Awards and Recognition

## RAA Annual Employee Awards

Operations Employee of the Year, Christina Austin

Paramedic of the Year, Danielle Geronimo

EMT of the Year, James Lehfeld

Support Employee of the Year, Catherine Chawlk

Administrative Employee of the Year, Ching-Wei Meng



## Industry-wide Recognition

Old Dominion EMS Alliance, Inc. award for Outstanding Contribution to EMS Telecommunications, Christina Austin

American Heart Association's Mission: Lifeline® EMS Gold Award

International Academies of Emergency Dispatch (IAED) Center of Excellence Re-accreditation



The American Heart Association proudly recognizes

**Richmond Ambulance Authority**  
Richmond, VA

Mission: Lifeline®-EMS - GOLD  
Achievement Award - EMS Agency

The American Heart Association/American Stroke Association recognizes this EMS provider organization for demonstrating continued success in using the Mission: Lifeline® program. Thank you for applying the most up-to-date evidence-based treatment guidelines to improve patient care and outcomes in the community you serve.\*

*Nancy Brown*  
Nancy Brown  
Executive Director  
American Heart Association

*Lee Schaeffer, MD, FAHA*  
Lee Schaeffer, MD, FAHA  
Chairman, Quality Council Executive

*Ivor Benjamin, MD*  
Ivor Benjamin, MD  
President, American Stroke Association

\*For more information, please visit [heart.org/MissionLifeline](http://heart.org/MissionLifeline)



# 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 inception, 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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