BUSPATROL

SAFER BUSES, SAFER KIDS

Making Communities Safer With AI-Powered Technology

Transforming Pupil Transportation

BUSPATROL

We are a **safety focused tech company** powered by **AI and machine learning** that emerged from tackling a serious issue in the school bus safety space.

Our journey has led us to reinvent how school districts and communities can **modernize their fleets and leverage cloud-based technology** to transform their operations and safeguard all student riders.

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Addressing a Pervasive Problem Across North America

17MILLION (1)

ESTIMATE NUMBER OF STOP-ARM VIOLATIONS PER YEAR IN AMERICA

95K	Violations Observed in One-Day Survey	(1)
0.73	Violation Rate (Per Bus / Day)	(1)

NASDPTS
National Association of State Directors of Pupil Transportation Services

130,963 (1)
Bus Drivers Participated

Source:
(1) Motorists that ran school bus stop arms, based on a survey conducted by National Association of State Directors of Pupil Transportation Services in 2019.

Tackling the Problem Through New and Proven Solutions

OPERATION SAFE STOP

When readily available,
police presence deters violators

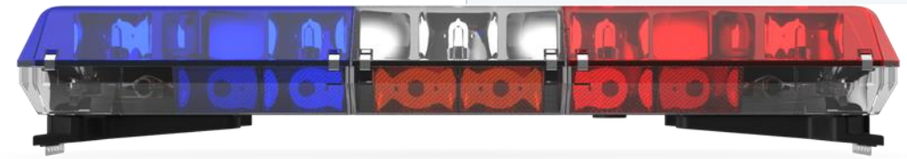
Enforcement Constraints

550,000 [1]
School Buses

260M [2]
Daily Trip Miles

2.75M [2]
Stops Per Day

LACK
of Required
Police Resources



Source:
(1) Figures sourced from SBF and School Transportation News (US & CAN Figures). (2) Figures sourced from American School Bus Council

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ALLENTOWN PA PILOT PROGRAM HIGHLIGHTS THE NEED FOR SUPPORTING TECHNOLOGY

Traditional Enforcement

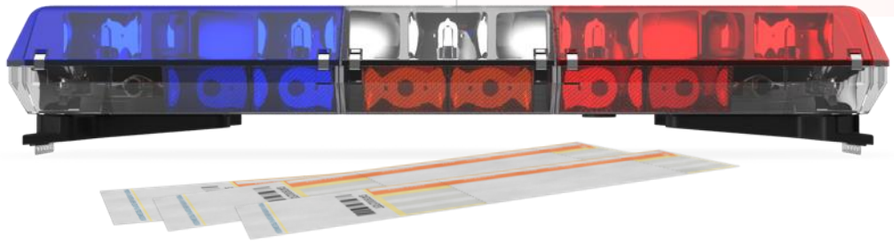
2018 CITATION DATA

All
School Days

21,596
PA School Buses

667
Tickets

0.00017
Citations / Bus / Day



Automated Enforcement

2019-2020 PILOT PROGRAM

47
School Days

2
School Buses

205
Violations

2.18
Violations / Bus / Day

Visualizing the Problem

Stop-Arm Camera Footage

Introducing Safety as a Service (SAAS)

We are a safety technology company entirely focused on improving school bus safety through our innovations and services.

- Leading stop-arm enforcement program provider
  - Deployed on the ***most buses***
  - Protects the ***most student riders***
  - Issued ***more school bus citations*** than all competitors

- Core business and dedication
  - Products, services and solutions built for pupil transportation

Footage from our school bus safety programs in NYS

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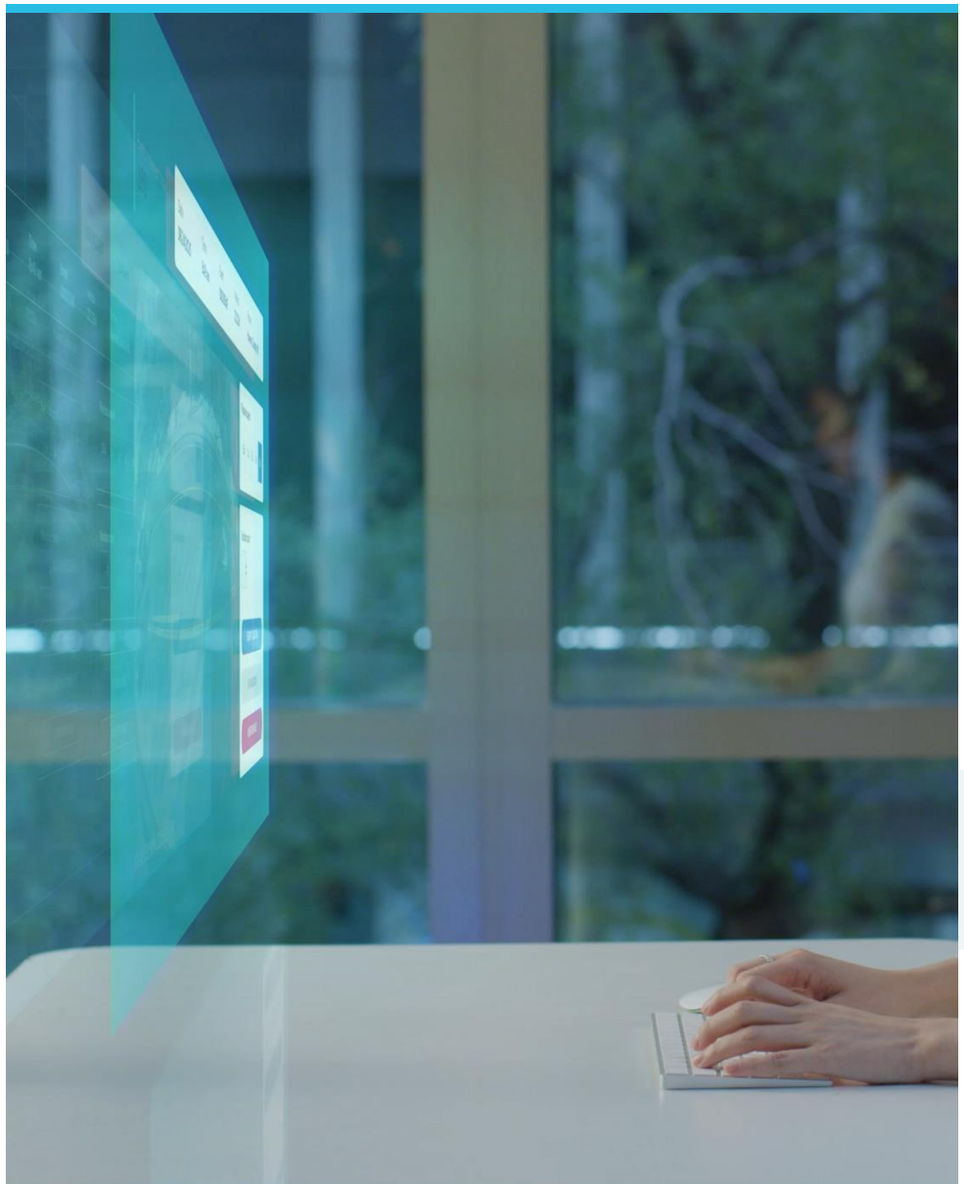
School Bus Safety Programs



Changing Motorist Behavior, One Citation at a Time

1. BP develops partnerships with school districts or municipalities

2. Deploys AI-powered technology and cloud-connectivity on entire school bus fleet

3. Active buses capture events, identify incidents and help develop evidence packages to issue citations

4. **School districts receive new available funding through cost savings**

SAMSUNG ZONAR FIRSTNET Built with AT&T

transfinder BusPlanner by georef

\+ Fleet modernization options available at $0 to improve safety and operations

SCALING ENFORCEMENT

Leveraging Full-Fleet Automated AI Technology

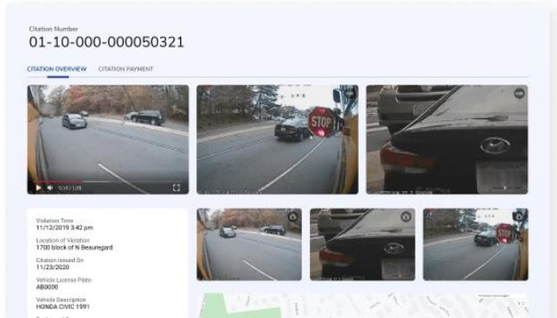
STOP → BUSPATROL → AT&T FIRSTNET Built with AT&T → amazon web services

AI TECH | **4G / LTE** | **AWS Edge**

BusPatrol Student Safety Platform | Powering Community Enforcement Programs

AlertBus

Secure Cloud Interface
Built for Law Enforcement



- Capture stop-arm events
- Identify and isolate infraction events
- Streamline delivery of evidence packages

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Managing Seamless AI-Powered Automated Enforcement Programs

SCHOOL BUS ROUTES

School bus stops, stop-arm and lights are deployed and IoT devices activated

Automated Violation Analysis (AVA AI) cameras capture stop-arm events and identify violations

Video, GPS, and other supporting data sent to processing center via secure network

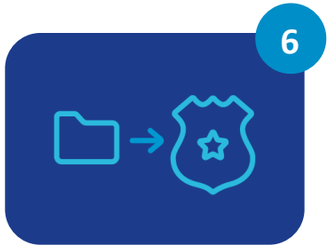
SECURE NETWORK & DATA TRANSMISSION

AT&T FIRSTNET Built with AT&T

QA & REVIEW PROCESS

AVA AI filters footage to help prepare evidence package for reviewers

BusPatrol reviewers QA compiled video and evidence package



Video and supporting evidence package sent to law enforcement

BUSPATROL

ALERTBUS PORTAL

SECURE ACCESS PROVIDED TO LAW ENFORCEMENT

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Managing Seamless AI-Powered Automated Enforcement Programs

ENFORCEMENT & EDUCATION

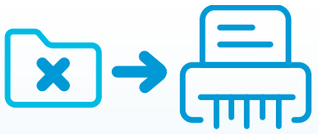
Law Enforcement use AlertBus platform to review evidence packages and issue citations or disapprove them

Citations are autogenerated and mailed to offender with web link providing access to video evidence

Motorist makes payment online or at a designated municipal office

ENFORCEMENT & EDUCATION

Call center available to educate drivers on how to change behavior



All citation data is purged from DVR, cloud, and servers, according to state law.

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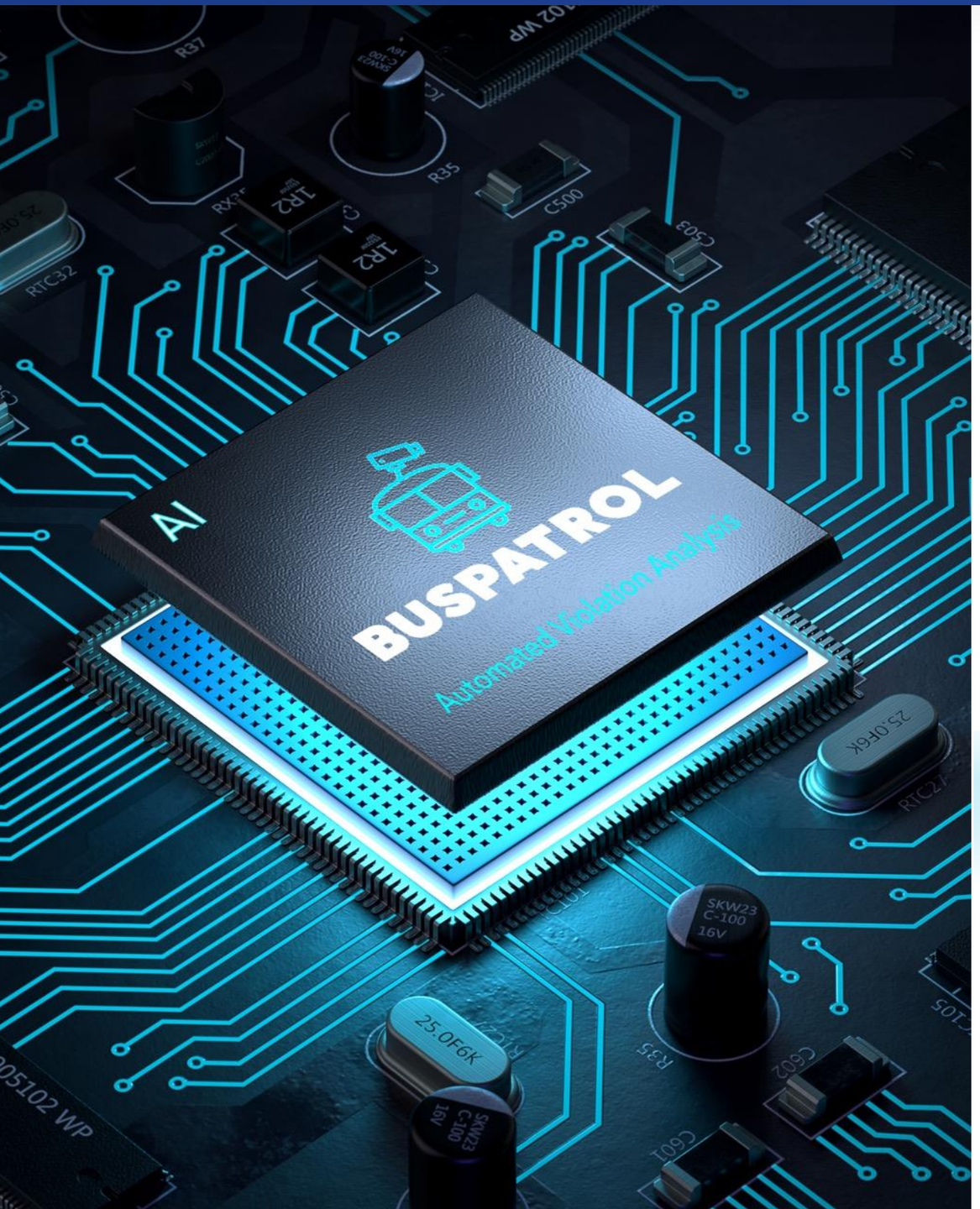


Why AI Technology?

AVA AI TECH

- Most effective automated enforcement technology solution in the industry

- **Efficiency benefits:**
  Capture and process **ALL** stop-arm events across entire school bus fleet

  - *Scalable solution for efficient citation management*

MORE VIOLATIONS IDENTIFIED

A LOT MORE TICKETS ISSUED

AI-POWERED ENFORCEMENT PROVIDES

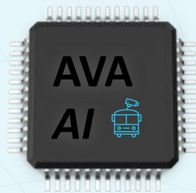
- **GREATER BEHAVIORAL CHANGES**
- **EDUCATION & SAFETY**

AUTOMATED VIOLATION ANALYSIS (AVA AI)

Introducing Pupil Transportation's Only AI-Powered Platform

ENABLING FULL-FLEET ENFORCEMENT

Developed to help process volume of millions of stop-arm events across entire school bus fleets



AUTOMATED VIOLATION ANALYSIS (AVA AI)

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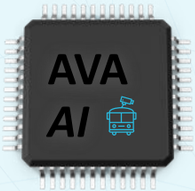
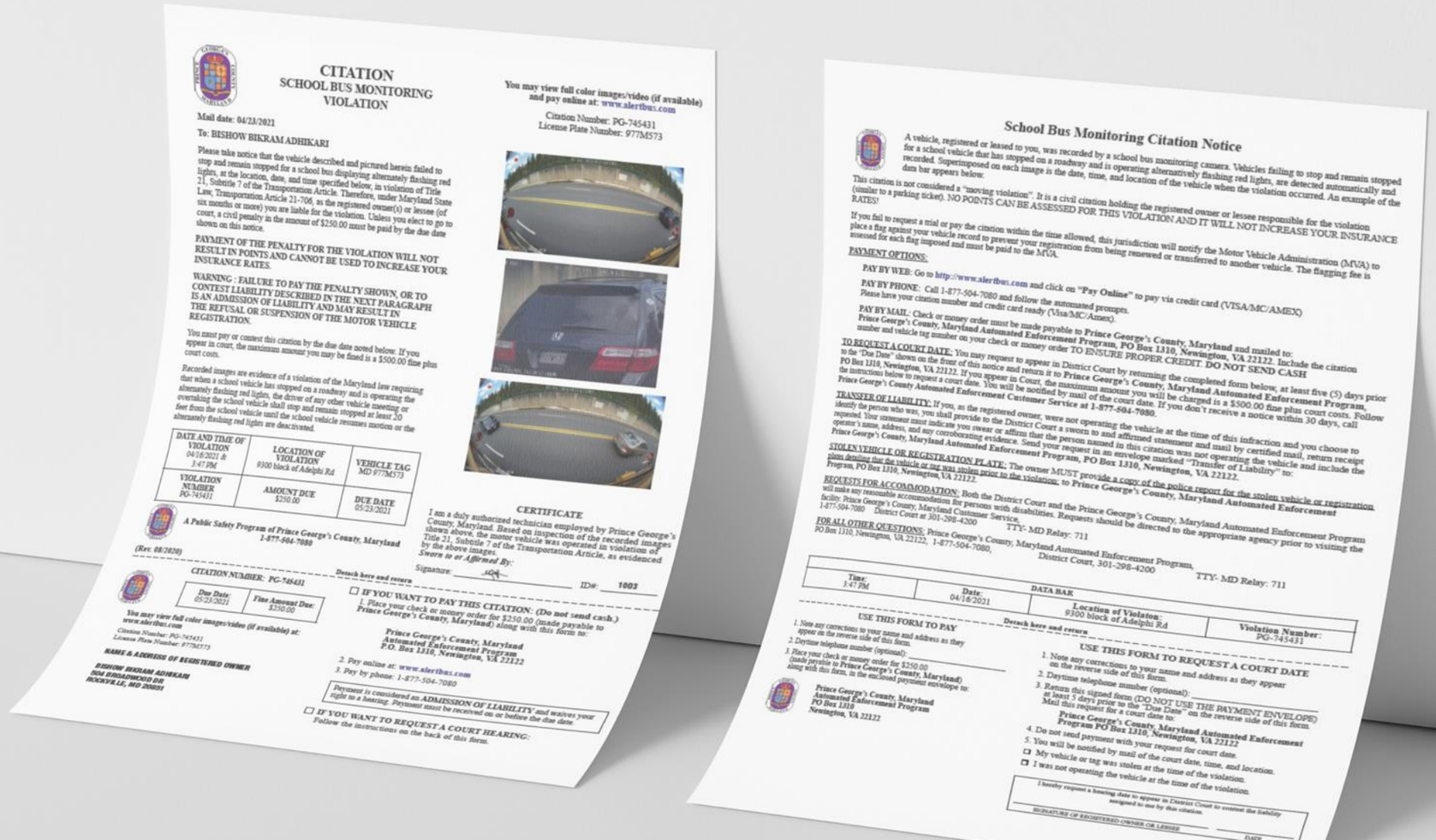


Sample of Citation Issued by Law Enforcement



CITATION
SCHOOL BUS MONITORING VIOLATION

You may view full color images/video (if available) and pay online at: www.alertbus.com

Citation Number: PG-745431
License Plate Number: 977M573

Mail date: 04/23/2021

To: BISHOW BIKRAM ADHIKARI

Please take notice that the vehicle described and pictured herein failed to stop and remain stopped for a school bus displaying alternately flashing red lights, at the location, date, and time specified below, in violation of Title 21, Subtitle 7 of the Transportation Article. Therefore, under Maryland State Law, Transportation Article 21-706, as the registered owner(s) or lessee (of six months or more) you are liable for the violation. Unless you elect to go to court, a civil penalty in the amount of $250.00 must be paid by the due date shown on this notice.

PAYMENT OF THE PENALTY FOR THE VIOLATION WILL NOT RESULT IN POINTS AND CANNOT BE USED TO INCREASE YOUR INSURANCE RATES.

WARNING : FAILURE TO PAY THE PENALTY SHOWN, OR TO CONTEST LIABILITY DESCRIBED IN THE NEXT PARAGRAPH IS AN ADMISSION OF LIABILITY AND MAY RESULT IN THE REFUSAL OR SUSPENSION OF THE MOTOR VEHICLE REGISTRATION.

You must pay or contest this citation by the due date noted below. If you appear in court, the maximum amount you may be fined is a $500.00 fine plus court costs.

Recorded images are evidence of a violation of the Maryland law requiring that when a school vehicle has stopped on a roadway and is operating the alternately flashing red lights, the driver of any other vehicle meeting or overtaking the school vehicle shall stop and remain stopped at least 20 feet from the school vehicle until the school vehicle resumes motion or the alternately flashing red lights are deactivated.

DATE AND TIME OF VIOLATION	LOCATION OF VIOLATION	VEHICLE TAG
04/16/2021 At 3:47 PM	9300 block of Adelphi Rd	MD 977M573
VIOLATION NUMBER	AMOUNT DUE	DUE DATE
PG-745431	$250.00	05/23/2021

CERTIFICATE

I am a duly authorized technician employed by Prince George's County, Maryland. Based on inspection of the recorded images shown above, the motor vehicle was operated in violation of Title 21, Subtitle 7 of the Transportation Article, as evidenced by the above images.

Sworn to or Affirmed By:

Signature: _____ ID#: 1003

A Public Safety Program of Prince George's County, Maryland
1-877-504-7080

(Rev. 08/2020)

Detach here and return

CITATION NUMBER: PG-745431

Due Date:	Fine Amount Due:
05/23/2021	$250.00

You may view full color images/video (if available) at: www.alertbus.com

Citation Number: PG-745431
License Plate Number: 977M573

NAME & ADDRESS OF REGISTERED OWNER

BISHOW BIKRAM ADHIKARI
1504 RIDGEWOOD DR
ROCKVILLE, MD 20851

☐ IF YOU WANT TO PAY THIS CITATION: (Do not send cash.)
1. Place your check or money order for $250.00 (made payable to Prince George's County, Maryland) along with this form to:
Prince George's County, Maryland
Automated Enforcement Program
P.O. Box 1310, Newington, VA 22122
2. Pay online at: www.alertbus.com
3. Pay by phone: 1-877-504-7080

Payment is considered an ADMISSION OF LIABILITY and waives your right to a hearing. Payment must be received on or before the due date.

☐ IF YOU WANT TO REQUEST A COURT HEARING:
Follow the instructions on the back of this form.

School Bus Monitoring Citation Notice

A vehicle, registered or leased to you, was recorded by a school bus monitoring camera. Vehicles failing to stop and remain stopped for a school vehicle that has stopped on a roadway and is operating alternatively flashing red lights, are detected automatically and recorded. Superimposed on each image is the date, time, and location of the vehicle when the violation occurred. An example of the data bar appears below:

This citation is not considered a "moving violation". It is a civil citation holding the registered owner or lessee responsible for the violation (similar to a parking ticket). NO POINTS CAN BE ASSESSED FOR THIS VIOLATION AND IT WILL NOT INCREASE YOUR INSURANCE RATES!

If you fail to request a trial or pay the citation within the time allowed, this jurisdiction will notify the Motor Vehicle Administration (MVA) to place a flag against your vehicle record to prevent your registration from being renewed or transferred to another vehicle. The flagging fee is assessed for each flag imposed and must be paid to the MVA.

PAYMENT OPTIONS:

PAY BY WEB: Go to http://www.alertbus.com and click on "Pay Online" to pay via credit card (VISA/MC/AMEX)

PAY BY PHONE: Call 1-877-504-7080 and follow the automated prompts.
Please have your citation number and credit card ready (Visa/MC/Amex).

PAY BY MAIL: Check or money order must be made payable to Prince George's County, Maryland and mailed to: Prince George's County, Maryland Automated Enforcement Program, PO Box 1310, Newington, VA 22122. Include the citation number and vehicle tag number on your check or money order TO ENSURE PROPER CREDIT. DO NOT SEND CASH

TO REQUEST A COURT DATE: You may request to appear in District Court by returning the completed form below, at least five (5) days prior to the "Due Date" shown on the front of this notice and return it to Prince George's County, Maryland Automated Enforcement Program, PO Box 1310, Newington, VA 22122. If you appear in Court, the maximum amount you will be charged is a $500.00 fine plus court costs. Follow the instructions below to request a court date. You will be notified by mail of the court date. If you don't receive a notice within 30 days, call Prince George's County Automated Enforcement Customer Service at 1-877-504-7080.

TRANSFER OF LIABILITY: If you, as the registered owner, were not operating the vehicle at the time of this infraction and you choose to identify the person who was, you shall provide to the District Court a sworn to and affirmed statement and mail by certified mail, return receipt requested. Your statement must indicate you swear or affirm that the person named in this citation was not operating the vehicle and include the operator's name, address, and any corroborating evidence. Send your request in an envelope marked "Transfer of Liability" to: Prince George's County, Maryland Automated Enforcement Program, PO Box 1310, Newington, VA 22122.

STOLEN VEHICLE OR REGISTRATION PLATE: The owner MUST provide a copy of the police report for the stolen vehicle or registration plate detailing that the vehicle or tag was stolen prior to the violation; to Prince George's County, Maryland Automated Enforcement Program, PO Box 1310, Newington, VA 22122.

REQUESTS FOR ACCOMMODATION: Both the District Court and the Prince George's County, Maryland Automated Enforcement Program will make any reasonable accommodation for persons with disabilities. Requests should be directed to the appropriate agency prior to visiting the facility: Prince George's County, Maryland Customer Service, 1-877-504-7080 TTY- MD Relay: 711
District Court at 301-298-4200 TTY- MD Relay: 711

FOR ALL OTHER QUESTIONS: Prince George's County, Maryland Automated Enforcement Program, PO Box 1310, Newington, VA 22122, 1-877-504-7080, District Court, 301-298-4200 TTY- MD Relay: 711

Time:	Date:	Location of Violation:	Violation Number:
3:47 PM	04/16/2021	9300 block of Adelphi Rd	PG-745431

DATA BAR

Detach here and return

USE THIS FORM TO PAY

1. Note any corrections to your name and address as they appear on the reverse side of this form.
2. Daytime telephone number (optional): _____
3. Place your check or money order for $350.00 (made payable to Prince George's County, Maryland) along with this form, in the enclosed payment envelope to:
Prince George's County, Maryland
Automated Enforcement Program
PO Box 1310
Newington, VA 22122

USE THIS FORM TO REQUEST A COURT DATE

1. Note any corrections to your name and address as they appear on the reverse side of this form.
2. Daytime telephone number (optional): _____
3. Return this signed form (DO NOT USE THE PAYMENT ENVELOPE) at least 5 days prior to the "Due Date" on the reverse side of this form. Mail this request for a court date to:
Prince George's County, Maryland Automated Enforcement Program PO Box 1310, Newington, VA 22122
4. Do not send payment with your request for court date.
5. You will be notified by mail of the court date, time, and location.

☐ My vehicle or tag was stolen at the time of the violation.
☐ I was not operating the vehicle at the time of the violation.

I hereby request a hearing date to appear in District Court to contest the liability assigned to me by this citation.

SIGNATURE OF REGISTERED OWNER OR LESSEE _____ DATE _____

BUSPATROL
Safer Buses, Safer Kids.

Equitable Access to Technology for Partners

Safety-first methodology means **every bus**, **every kid, every route & every neighborhood** are safeguarded.

A CHILD'S LEVEL OF SAFETY SHOULD NOT BE DETERMINED BY THEIR ZIP CODE.

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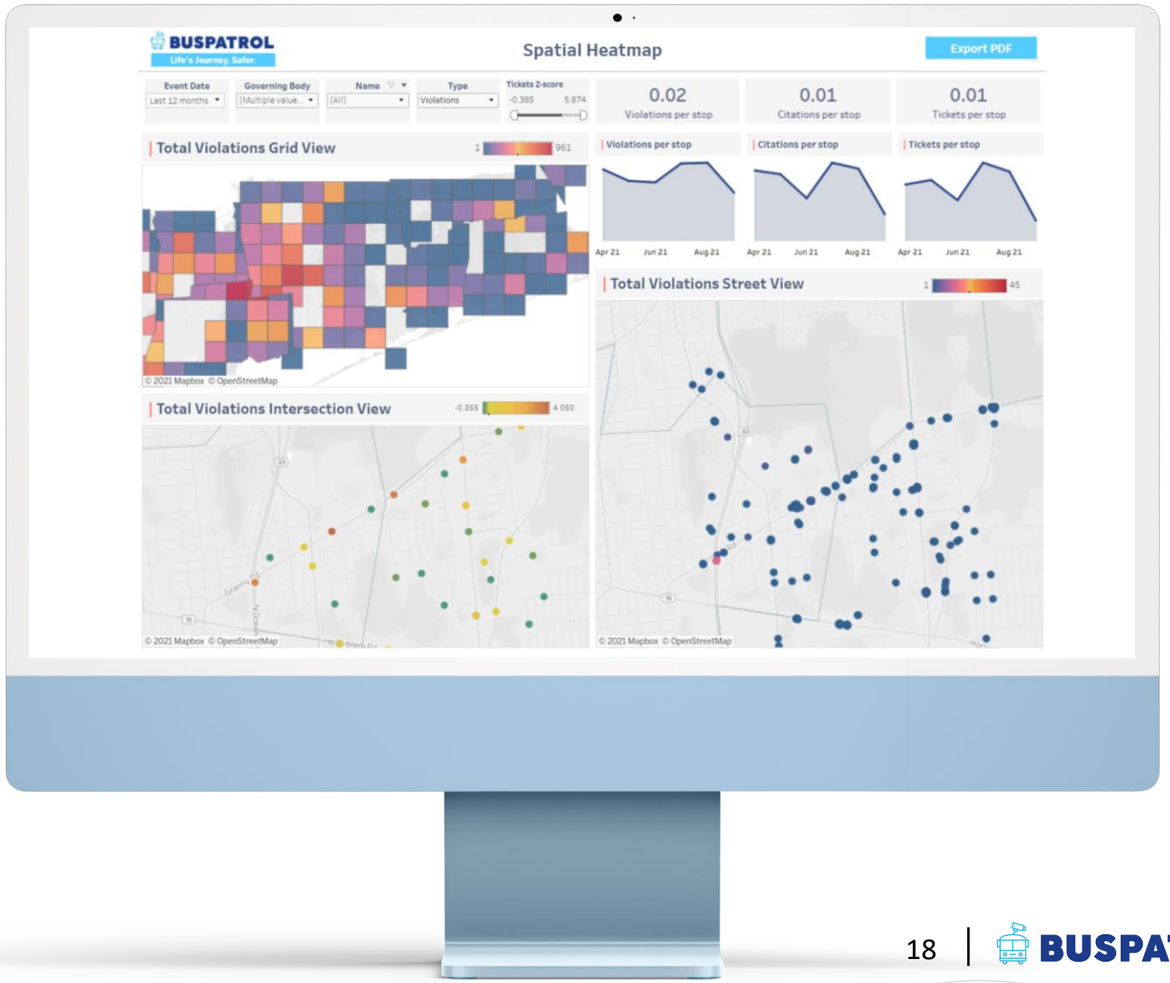
Performance Tracking | Program Management

Leveraging Data to Improve Safety and Pupil Transportation

At one recent partner, we were able to identify 70+ hotspots – outlier locations with significantly higher violation rates.



Proactively installed road signs at each hotspot over the summer. Continuous monitoring for safety improvements.

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SUFFOLK COUNTY SCHOOL BUS SAFETY PROGRAM

5000
School Buses

71
School Districts

12
Enforcement Jurisdictions

150 Day
Deployment During Pandemic

FULL-FLEET COMMUNITY PARTNERSHIPS

PROGRAMS & PILOTS IN 11+ STATES/PROVINCES

Educating Communities Through PR and PSAs

BusPatrol School Bus Safety Programs educate drivers and school children so that communities can improve safety.

Robust community education programs to improve safety

- We aim to correct motorist behavior **even before the 1st ticket is ever issued.**
- A dedicated advocacy team that has **educated millions of drivers across North America**.

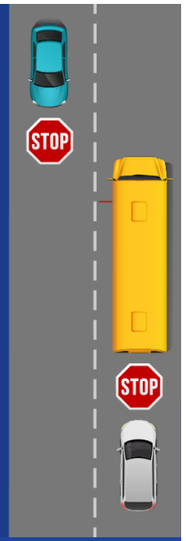
Educating Motorists Through Targeted Digital Campaigns

STOP-ARM VIDEO ENFORCEMENT IS COMING TO SUFFOLK COUNTY

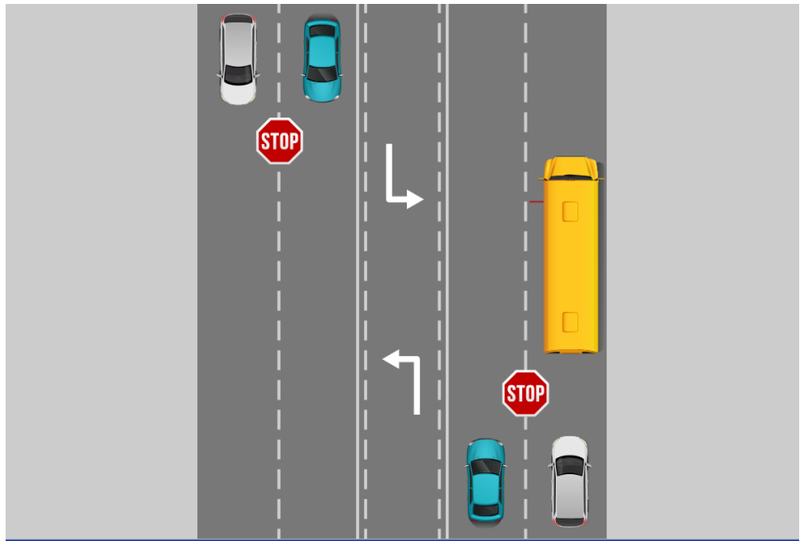
BUSPATROL

SUFFOLK COUNTY SEAT NEW YORK

REMIND YOURSELF OF THE SCHOOL BUS STOPPING LAW TO PROTECT OUR KIDS!

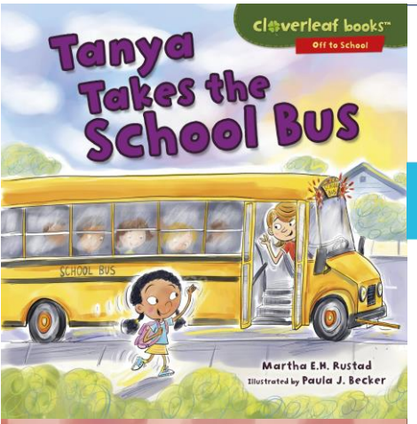


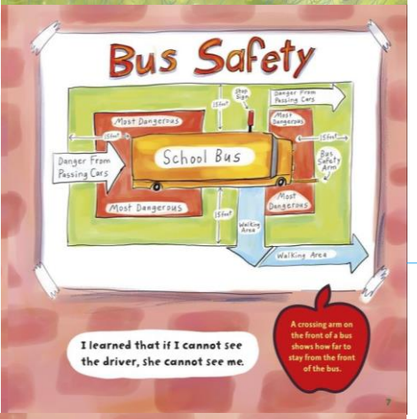
TWO-LANE:
Vehicles traveling in both directions **MUST** stop.

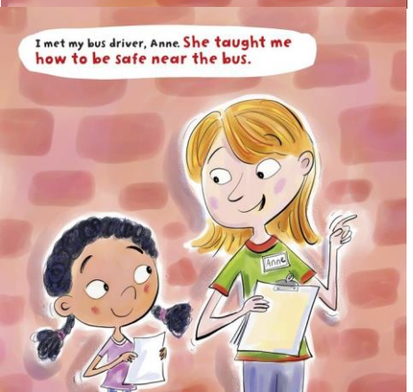


MULTI-LANE PAVED ACROSS:
Vehicles traveling in both directions **MUST** stop.

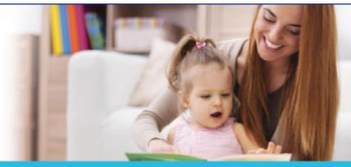
Optimized for FB, Instagram and other social media channels.







Teaching Students About the Danger Zone



Audience	Channels	PSA Material Produced
Parents with Preschoolers (2-5 Years)	• YouTube and online video and audio platforms • Social media targeting young parents with children • Digital media platforms	• 3D animated children's music video addressing the "danger zone" with catchy standalone song for audio platforms. • Exercise and coloring book (printable) to highlight the risks associated with the "danger zone" and how to cross safely.
Parents with Early School-Age Children (6-8), Preteens (9-12), Teenagers (13-17)	• Social media platforms • Schools as a distribution channel • Drivers Ed and DMV (for student drivers)	• Material for school districts to educate: - Presentations, videos, exercise handouts for teachers to use in classrooms. - Handouts for parents and PTAs. - Email and social content for schools to share • Social media video campaigns to educate • Website with additional info and downloads

STOP
STOP

SAAS | Safety as a Service

End-to-end program management and services

Supply & Installation of all Hardware

Issuance of Citations

Secure Cloud Software

Payment Processing

Requests for Court Hearings

Evidence Packages

Expert Testimony

Call Center

Media Campaign

Training

Monthly Reporting

Ongoing Support & Maintenance

98% OF THE VIOLATORS WHO GET A TICKET

VIA STOP-ARM SAFETY PROGRAMS

DON’T ILLEGALLY PASS A SCHOOL BUS A SECOND TIME.

ONCE THEY KNOW THE LAW IS BEING ENFORCED, THEY STOP.

BUSPATROL

FOLLOW OUR SAFETY MISSION

SAFER BUSES, SAFER KIDS.

We make the journey to and from school safer for children.

BUSPATROL.COM