



EBOOK

Going Green at your agency with help from Vontas

www.vontas.com

INTRODUCTION

At Vontas, we believe the future of transit is green. We are developing, integrating, and innovating solutions that will help bus and rail agencies go green with support for low-no emission vehicles of all types. We're committed to easing the transition away from fossil fuels in transit and making sure all your systems support you along the way.

Reducing carbon emissions and having a greener footprint is top of mind for everyone. Transit agencies are in a unique position today, as federal governments in the U.S. and Canada have allocated historic levels of funding for public transit—with a large portion of that money being earmarked for low-no emission vehicles and other green initiatives. Through grants and direct funding, transit agencies can begin to make the switch to greener transit solutions. But to get there, they need to plan for the myriad changes needed to their workforce, infrastructure, schedules, and backend systems.

Vontas is at the forefront of working with agencies to smooth this transition and provide guidance based on our experience with agencies across North America—and around the world.

Public transit is in a uniquely green position

Public transit has long been promoted as a green solution over private cars. However, taking a bus or train to work isn't entirely green or carbon neutral. Fossil-fuel diesel is still used for most buses and trains around the world. While electrically powered vehicles don't have diesel emissions per se, how is that electricity generated? The transition to zero emissions isn't going to be fast, easy, or cheap.

For transit agencies to go green, there are more issues on the table, and more things at stake, than just deploying new vehicles. Regardless of if you're transitioning to electric, hybrid, fuel cell, or CNG buses to reduce carbon emissions, the systems that run and manage your fleet must be able to support the unique requirements of low-no emission vehicles, which are only getting even more technologically complex.

Your systems need to account for how long it takes to re-charge a bus and new maintenance regimes—and not all transit agency technology providers are stepping up to the challenge of going green.



Pressure to go green

From environmental regulations to public pressure, monetary savings to health benefits, agencies want to go green. Public transit has always been touted as greener than driving your car, but today agencies need to go the extra mile. To get there they need technologies to support their willingness to improve the world around them. Technology has been revolutionizing the world around us for decades, which is why it's time for people transportation and transit to make the leap into a new technology era.

This pressure is exciting and challenging. Green technology, especially in transit, is still an emerging field. While battery and fuel-cell technology has vastly improved in the past five years, we still have a long way to go. As agencies feel the pressure to do something, it's important to recognize there is a lot that agencies can do to help the environment while they transition to low-no emission fleets.

At Vontas we're helping agencies go green in several ways:



Reducing fuel consumption by optimizing routes, enforcing maintenance routines, and reducing idling inside and outside the depot.



Supporting the needs of new low-no emission vehicles in scheduling, planning, maintenance, yard management, and Intelligent Transportation Systems.



Integrating front-end systems to backend systems for smooth data exchange and collaboration.



Helping your workforce transition to new systems and routines.

Most of all, Vontas, alongside our key partners such as our sister company Trapeze, creates fully integrated solutions agencies can use to make better decisions to see how small changes can have a large impact on the transition to green transit solutions.



Vontas Vision, Roadmap, and Green Vision

One of the most important things that drives everyone at Vontas is a spirit of innovation. We see the tremendous opportunity public transit has right now to make even more of a difference in people's lives. But to fully leverage this opportunity for a new public transit renaissance, we need newer and more advanced management technologies than we've had before.

Today's fossil fuel-powered buses are more advanced than those built only a few years ago. Onboard telematics, Wi-Fi, and passenger information solutions need to be integrated with Intelligent Transportation Systems and with yard management solutions. In turn, these solutions must also be integrated with asset management and workforce management systems. You can't do this without deep expertise and a vision for the future.



Supporting Low-emissions and No-emissions Vehicles:

Today's low-no emission vehicles are advanced pieces of technology. They can't be treated like any other bus; they have their own unique needs. Electric buses need to be recharged; they can't just roll up and refill a tank in a few minutes—recharging an electric bus can take hours. This requires up-to-the-minute view into range and charge capacity, to ensure that buses aren't stranded on the road and need to be towed in.

Other vehicles like compressed natural gas or hydrogen fuel cell might be able to be refilled faster, but they also have unique requirements for safety and efficiency. Leak detectors and other equipment required for gaseous fuel vehicles need to be monitored and maintained—both on vehicles and in the yard.

Integrating systems and data

Intelligent Transportation Systems and yard management needs are just two pieces of an agency's technology puzzle.

You can't run an agency effectively with these two systems alone, nor can these systems run in isolation from the rest of operations. That is why these solutions must integrate with asset management, workforce management, and even traveler experience solutions to ensure that everyone has the same connected, real-time view of transit operations.

With integrations into asset and workforce management solutions, agencies can ensure that a bus is not lined up to pull out if it is not road-ready. These integrations also provide dispatchers and operators exact details for where their bus is and, once they get behind the wheel, how it's doing.

These systems work together help your agency meet its environmental goals. Knowing and seeing the big picture gives your agency the information to make data-driven decisions that help the community, passengers, and the larger world by ensuring that service is reliably provided in the most efficient way.

Device and systems management

Keeping these systems up to date is no small feat. Vehicles and the systems that monitor them need constant attention. Vontas Device Management solutions are designed for public transit operations, and they provide real-time data on the current state of vehicles and their connected devices to proactively identify problems and minimize service or data disruptions.

As you add more advanced vehicles to your fleet, we will help ensure you can support more systems, more efficiently, with less hands-on support from IT. This happens before vehicles ever arrive at an agency, we work with OEMs at every stage of the bus building process to ensure your systems seamlessly integrate with each other. But Vontas isn't just thinking about today's technology; we're also fully invested in creating transit technologies for the future.

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Looking to the future with ITxPT

The IT for Public Transit (ITxPT) revolution is here. Vontas is part of the international working group establishing the standard for plug-and-play interoperability and communication between systems. Low-no emission vehicles are technological marvels, which means they have more embedded systems than fossil-fuel vehicles to manage.



As technology and communications needs increase on each vehicle, the space inside a vehicle becomes a hub of technology.

Through ITxPT, agencies can consolidate many functions within a vehicle to reduce power requirements—essential for battery-electric buses—consolidate communications, and reduce the number of antennas needed on the roof of a vehicle by leveraging standard integration protocols to share data and communication seamlessly. Putting more systems together under one communications umbrella improves network performance and makes it easier to integrate data across systems—a major win for transit agencies looking to move transition to the next future of in-vehicle technology.

READ THE WHITEPAPER

ITxPT The Transit Plug and Play Revolution

As part of ITxPT working groups, Vontas is there advocating for you to make sure systems are vendor and technology agnostic so everyone can benefit from new solutions without committing to a single path early in the game.

“With several successful international pilots underway, ITxPT is poised to become a reality in North America.”

Scan to Learn More.

<https://www.vontas.com/blog-entry/new-vontas-itxpt-whitepaper>



Training and workforce development

A key part in transitioning to a greener future is training new and existing employees on how green technologies work, how they are managed and maintained. As an OEM provider of key components for bus operators, we're dedicated to supporting you with programs to bring everyone up to speed and build a solid workforce for the future.

Not only will our ITS, YM, and CAD/AVL systems continue to support the low-no emission revolution, they will sync with Workforce Management solutions for more efficient planning and 360 views of training and development.

Vontas designers and developers work closely with our agency partners to create functional solutions that are easy to learn and operate. We also know bus operators are asked to look at more and more systems—and keep an eye on the road. As ITS and driver displays evolve, we're working on projects to consolidate displays and develop ways to provide the right information to operators when they need it and not distract them from the job at hand.

Vontas brings integrated systems together with Trapeze for a complete management package

As part of Modaxo, Vontas is in a unique position to help transit agencies across departments and systems. Vontas ITS and YM solutions integrate with Trapeze EAM, WM, MPS, and MOD solutions to give your agency the 360 degree view you need of your entire operation. With innovative solutions from Vontas in the yard and on the street combined with Trapeze solutions inside the office to organize and maintain the operations, your agency is well positioned to adapt and transition to the new zero emissions transportation world ahead of us.





ABOUT THE AUTHOR

Zac Herness is the Vice President of Product Management at Vontas, where he focuses on reimagining and delivering intelligent transportation systems. He has 23 years of product management and development experience across multiple industries. He previously served as Navegate's Chief Product and Technology Officer where he helped to enable a successful strategic acquisition of the company by Radiant Logistics to serve customers around the world with their software. Mr. Herness received his MBA from Carlson School of Management at the University of Minnesota, and his Bachelor's in Business Administration from North Dakota State University. His depth of experience and perspective informs his ability to guide agencies to meeting their zero-emission goals.

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