



AUTOMATE YOUR DEPOT WITH **SMARTYARD**

Advanced Depot Management Solution

IMPROVE DEPOT OPERATIONS WITH SMARTYARD

The efficiency of your entire operation begins and ends in the depot. If your operations are dependent upon manual processes or your communications aren't coordinated, it's more than likely that time is being wasted and mistakes are being made. Your schedule may be compromised if your drivers are late pulling out because they can't find the vehicle assigned to them. If your maintenance crews aren't communicating with your dispatchers and vehicles with known maintenance issues are accidentally assigned to work, it could lead to increased road calls. Even the most well defined manual process is subject to human error that ultimately costs your agency time and money.

With SmartYard® you can easily visualize and manage the workflow of vehicles throughout the depot, increasing efficiency from pull-in to pull-out. And, because your entire process is automated and everyone from dispatchers to maintenance crews to operators can see the location of vehicle in the yard, on time pull-out performance is preserved and your operation runs more efficiently.

SmartYard provides enhanced depot collaboration and communication, real-time vehicle location, accurate vehicle health information (when paired with AVM) and historical reporting tools that help you track and monitor depot operations. SmartYard facilitates communication between dispatchers, maintenance crews and operators by providing the visibility and information each needs to get their jobs done effectively.



Enhanced Depot Collaboration

When your processes are manual, information inevitably falls through the cracks. For instance, if a vehicle has a maintenance issue that dispatch isn't aware of, they could mistakenly assign that vehicle for work leading to a service disrupting road call. Or, if maintenance takes a vehicle for repair but it isn't properly taken out of service, an operator may be assigned to that vehicle and will waste time looking for it in the yard compromising on-time pull-out.

SmartYard® ensures that dispatchers, operators and maintenance crews have the real-time information they need to do their jobs efficiently.

Reduced Road Call

With SmartYard every vehicle is accounted for. An intuitive, friendly display shows the location and health of all vehicles making vehicle assignment easier and more efficient.

SmartYard ensures that vehicles in need of maintenance are properly identified. Vehicles with minor maintenance issues can be assigned for limited services with a Tripper icon - allowing it to be scheduled for work that ends earlier, while major maintenance issues can be marked with a hold icon ensuring it doesn't leave the yard before necessary repairs are made.

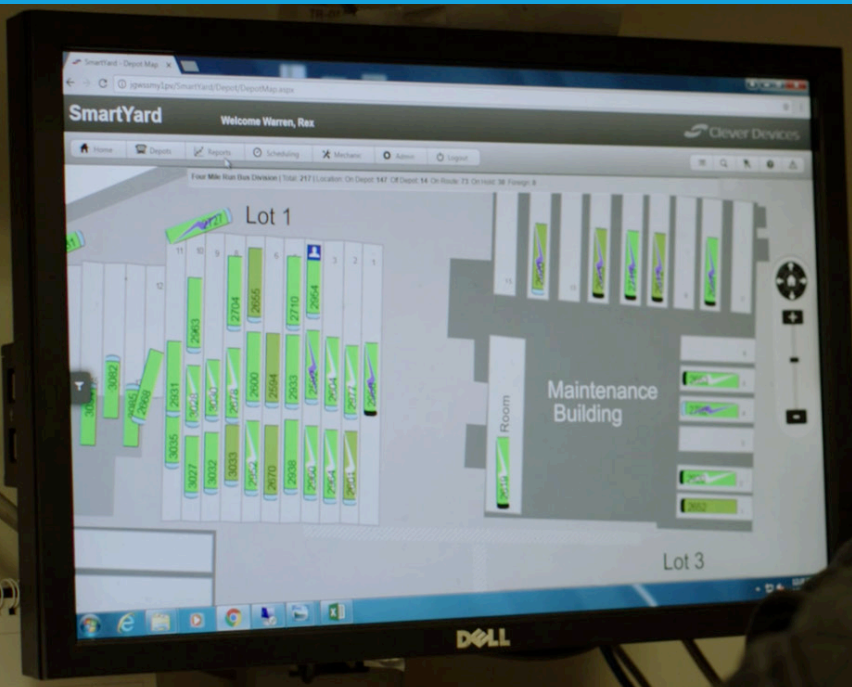
Automated Yard Mapping

Automated yard mapping eliminates one of the persistent and disruptive activities in a garage: searching for a vehicle. Usually, the search for a vehicle is triggered by the need to use the vehicle for pull-out to deliver a scheduled service or when the vehicle is needed by a mechanic to complete a maintenance work order. In these cases, the search disrupts the efficiency of other activities in the garage while one or more staff members are recruited to search for the vehicle.

SmartYard provides real-time location, presence, and status of each vehicle in the garage, which may include indoor and outdoor parking areas, service lanes, and fueling bays. This eliminates the need for employees to manually map the yard providing real-time accuracy and reduced labor costs.

More Efficient Pull-Out Management

SmartYard uses vehicle locations, configuration types, service schedules (blocks) and a simple drag and drop process to make efficient assignments of vehicles to scheduled blocks. An operator departure board gives drivers the information they need to efficiently locate their assigned vehicle. Optionally, SmartYard can be configured to automatically assign vehicles to work.



A dispatcher views the location of vehicles in the depot, simplifying the scheduling of vehicles for work and ensuring those with known maintenance issues are not assigned to work.

How WMATA Used SmartYard to Automate their Depot Operations

The Washington Metropolitan Area Transit Authority (WMATA) serves a population of approximately 4 million people in a 1500 square mile area in our nation's capital. WMATA's buses operate 7 days a week with a fleet of 1500 buses.


WMATA is an early adopter of the SmartYard solution to automate its depot operations to manage buses as they pull in and out of the depot every day. SmartYard, gives WMATA deeper visibility into its operations to easily see where each vehicle in the fleet is located while in the

depot. Pull out is automated, on-time performance is preserved and the likelihood that vehicles with known maintenance issues are put into services is dramatically reduced.

SmartYard provides WMATA with enhanced collaboration that keeps dispatchers, maintenance crews and operators informed. Reporting tools provide visibility into the depot operations leading to enhanced accountability and enabling management to quickly address issues that might impact performance.



The departure board gives operators precise details about their assigned vehicle's location.



The image shows a hand pointing at a digital departure board. The board displays a list of vehicles with their IDs, operator names, lot numbers, and assigned destinations. The text 'SOLUTION BRIEF DEPOT AUTOMATION WITH SMARTYARD' is visible in the top right corner of the board's display area.

Vehicle ID	Operator	Lot	Time	Destination
340514	Fonworth, William	2711 Lot 3-6	12:58 PM	DC-DULLES 5A
340283		2639 Lot 3-2	01:05 PM	PERSHING DR-ARL BLVD 4A 4B
340518	James	2941 Lot 4 - 50	01:07 PM	LINC-N. FAIRLINGTON 7A 7F 7Y
	Stephen	2615 Lot 3-4	01:07 PM	MCLEAN-CRYSTAL CITY 23A-B-T
340517	Blakemore, Benita	2617 Lot 3-5	01:10 PM	HUNTING POINT-BALLSTON 10B
340289	Wanzer, Teyuani	2611 Lot 4 - 4	01:15 PM	COLUMBIA PIKE 16A-B-E-J-P
340518	Jordan, Darlene	2631 Fence Line	01:15 PM	BARCRFT-S. FAIRLNGTN 22A-B-C-F
340519	Johnson, Richard	2724 Lot 4 - 10	01:15 PM	ALEXANDRIA-PENTAGON 10A-F

Pull-In Module

When a vehicle returns to the depot, SmartYard's optional Pull-In module tells operators where they should park, optimizing vehicle availability for upcoming work. If your vehicles have an onboard IVN, instructions are provided on the TCH or via audio instructions using text to speech.

Vehicles can be sent to be fueled and washed or, if there is a known maintenance issue, the vehicle can be sent directly to a user defined maintenance bay. The Pull-In module improves the efficiency of depot operations and streamlines pull-out.

Increase Accountability with Reporting Tools

When everything is being tracked in your depot, you have a complete picture of your operation. With SmartYard reporting you can leverage historical data to create reports you can use to optimize efficiencies and keep dispatchers, maintenance crews and operators on every shift accountable. SmartYard collects, logs, and reports information for assessing yard performance, highlighting issues and providing visibility that can further improve operational

performance and efficiency within the garage.

For instance, when paired with the pull-out module, you can easily create a report showing the pull-out times of each operator and quickly identify those who repeatedly pull out late. Other types of useful reports include inventory listings, vehicle movement within the depot and historical maps.

Armed with this data you can determine the root cause of issues and apply swift corrective action. And, because the system is cloud-based, management has 24/7 visibility into depot operations and can pull reports at any time to check on operations.

Standalone or Integrate with AVM

SmartYard has been designed to be used as a fully functioning "off-the-shelf" standalone solution with an open and expandable architecture or as a compliment to CAD/AVL showing additional details for vehicles within the depot. And, when used with our Automatic Vehicle Monitoring (AVM) solution, SmartYard® can maximize the value of AVM data to accurately schedule maintenance events.

SMARTYARD

HOW IT WORKS

SmartYard real-time location is accomplished wirelessly by installing SmartYard tags on all vehicles and POE-powered sensors (gateways and anchors) throughout the desired coverage area.

Clever Devices engineers work to understand vehicle activities in your depots and utilize your existing depot infrastructure. Our SmartYard sensors and servers easily integrate with existing local area and enterprise networks, any new networking equipment installed as part of an overall system deployment requires no additional network equipment other than that needed to extend coverage to sensor infrastructure.

SmartYard's user interface is web-based and accessible from existing workstations, wireless laptops, and tablets.

