ISR Transit

Bus Depot Management

Easing the flow of traffic

As bus depot management becomes highly modern and technical, complexity rises to new heights, with the assignment, placement, localization and scheduling of vehicles becoming more intrinsically demanding and brings numerous challenges to bear.

Bus management in a depot is becoming increasingly intricate as buses and routes are moved, added and changed. Maintaining and regulating bus management manually can become untenable as fleets become larger and supervising their flow more critical to success. Errors could lead to late deployments, slow reaction speeds for route or bus changes and ultimately, lower ridership and low customer satisfaction. Improving depot processes can realize a higher quality of service and tap into the potential for long term savings through greater efficiency of daily operations.

ISR TRANSIT DEPOT MANAGEMENT AUTOMATES THE DETECTION, IDENTIFICATION, LOCALIZATION AND ASSIGNMENT OF VEHICLES WITHIN A BUS DEPOT

Core Capabilities

- Realtime interactive depot map displaying vehicle locations and movements in real-time within the garage.
- Allows the assignment of vehicles to drivers by considering pre-determined parameters.
- Complete view and layout of the vehicles in the garages according to the needs of maintenance and operation.
- Automated allocation of parking spaces directed through overhead displays.

Central to ISR Transit Depot's core functions is an intelligent algorithm and Real Time Location System (RTLS) that determines the ideal parking location for vehicles in order to best meet the next scheduled deployments. The RTLS provides detailed real-time information on the identity, location and movements of vehicles while the algorithm dynamically adapts to changes in the deployment schedule and available buses, parking spaces and drivers.

Vehicle Localization

Tracking vehicles within the depot is essential to depot management. Modern technologies like ultra-wideband and RFID allow the system to locate vehicles with high precision from the time the vehicle enters the depot until the vehicle exits the depot.

Interfaces

ISR Depot interfaces with scheduling systems, maintenance systems, human resource systems, ERP systems, card readers and Active Directory through the use of standardized interfaces where possible.

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Features

- Vehicle assignment management
- Alley and location allotment management
- Detect, identify and locate the vehicles stationed inside the garages
- Central database providing up-to-date:
  Localization of each vehicle by position or zone
  Equipment and vehicle management by garage
- Vehicle inventory including on-board equipment by operational center and garage
- Report module
- Improve reaction times due to rationalization of depot operations
- Depot wide graphical view of vehicle locations
- Access to historical data in order to optimize operations through process feedback

Benefits and added-value

- Improve efficiency
- Reduce operational cost
- Paperless solution
- Optimize fleet availability
- Eliminate line-up at garage entry points
- Reduce fleet standstill
- Reduce need for spare vehicles

EXIT Flow

- Drivers identify themselves using the distribution console
- System assigns vehicles to drivers
- Console indicates to the driver which vehicles to use and their parked position
- Driver and vehicle parking position is posted on overhead display across the garage
- Criteria used for a bus driver assignment:
  - ✓ Types of vehicles
  - ✓ Types of on-board equipment
  - ✓ Maintenance schedule
  - ✓ Bus change request
  - ✓ Bus or personnel shortages

ENTRY Flow

- Upon return to the garage, the parking display indicates the alley and location allotted to the vehicle
- Criteria used for a parking bay assignment:
  - ✓ Reserved vehicles
  - ✓ Reserved alleys
  - ✓ Types of vehicles
  - ✓ Types of on-board equipment
  - ✓ Maintenance schedule
  - ✓ Vehicles series
  - ✓ Alleys access constraints