WZC | CASE STUDY



SMART Bus - Wireless Refresh

Full Wireless Refresh For SMART Bus

Project Scope

Coordinate and provide the management, pre-site survey, design, installation, commissioning, and post-site survey of a full wireless refresh. Project encompassed an estimated 472,449 square ft, 34 new indoor AP's, 39 outdoor AP's, over 200 estimated labor hours, and had a total budget of over \$200,000.



Project Results

Prior to the start of the project, WZC scheduled a kickoff meeting to confirm the project scope, timing, equipment, confirmation of team members to be included in communication updates, and source of written communication (excel, share point, etc.)regarding updates to the project and final documentation. Project management is key throughout any project.

Once the equipment was ordered and received, WZC technicians checked inventory, staged, and preconfigured all equipment for the project.

Pre-Site Surveys were scheduled next to assess the current wireless environment. Pre-Site surveys analyze/determine where access points will need to be placed for proper coverage/data throughput requirements. The current wi-fi design is avoided and a new design is generated. Existing 2.4GHz & 5GHz wireless RSSI readings were recorded. Pre-site survey documentation included heat maps, AP details section, BOM, and Spectrum Analysis sections.

WZC provided and installed 15 new runs of CAT6 plenum-rated cabling for 15 new access points. Existing cable paths and supports were used where possible. Cable support was added where needed, and patch cords for both ends of the cable were provided. All cables were tested.

Our technicians installed and terminated 6-strand multimode fiber for the new outdoor access points and installed and terminated additional fiber runs for indoor access points. Existing cable paths and supports were used where possible.



Single mode fiber for outdoor access points were installed and terminated as well as additional fiber runs for indoor access points as needed.

All new AP's were then staged and labeled.

All existing internal and external access points were uninstalled via ladder or lift, encompassing 34 external access points and 32 internal access points.

WZC technicians physically installed the estimated 39 new internal access points below the drop ceiling using standard AP brackets, based on approved design from the Pre-Site survey. Likewise, the estimated 41 external access points were physically installed via lift or ladder.

After installation, WZC patched into the existing network at each of the AP locations and noted the AP MAC addresses on excel spreadsheet.

Configuration was next for the WLAN SSID's of the new network along with configuration of the access point names (hostnames) on each access point at each site. Firewall installations were included in this configuration stage.

The final step was walking the building once more to conduct a Post-Site Survey. Post SiteSurveys provide validation and review of the new and current design. Existing 2.4GHz & 5GHz wireless RSSI readings were recorded in all internal and external areas. Post Site Survey documentation was then created, including, heat maps of the readings and a recommendations text section.

Additionally, WZC offers training to the customer's IT staff on the newly installed network/wireless environment as part of the hand-off. This includes up to 2 four-hour training sessions on the features, interface, and basic use of the system.

Customer Bio

SMART, (Suburban Mobility Authority for Regional Transportation), is a regional bus system in Southeast Michigan. Their mission is to provide the southeast Michigan region with high-quality, safe, and cost-effective public transit that meets the needs of all its citizens, including seniors, people with disabilities, choice riders and those that are dependent upon public transit. Locations include the Buhl building, Macomb Terminal, Oakland Terminal, Royal OakTerminal, and Wayne Terminal.

