

# Optimizing Bandwidth with DAS and Small Cell Technology



The widespread adoption of smart phones and the resultant increase in macro network bandwidth utilization has caused a significant spike in bandwidth use along the macro network nationwide. The problem will only become more pronounced in the future as users expand their use of voice, video and data services. In fact, peak period mobile bandwidth consumption per user is expected to increase fivefold over the next three years according to a “Mobile Broadband Bandwidth Demand” study, conducted by ACG Research.

## Optimizing high-density locations

To help handle the increased load, one of the largest wireless service providers in the world was challenged with optimizing their existing macro network. Targets included high-density corporate and public locations, and large public venues where thousands of simultaneous users caused traffic spikes during specific time periods and events, such as football games.

Cell Sites on Wheels (COWs) and Cell Sites on Light Trucks (COLTS) served as temporary solutions to partially optimize the macro network during these major sporting events, trade conventions and concerts. But a more permanent, less costly solution was needed to augment cell tower coverage during these events.



## Distributed Antenna Systems (DAS) and Small Cell Technology

In most cases, building additional macro network infrastructure was not feasible due to zoning, right of way, and infrastructure cost issues related to adding cell towers. The widescale adoption of technology that had been used on a limited scale in the past, Distributed Antenna Systems (DAS) and Small Cell technology proved to be the answer for these high-density situations. DAS has proven to be effective technology, closer to the users and less expensive to deploy.

## Talent hard to find

The service provider's immediate challenge was to rapidly build a national team of Program Managers, Project Managers, Construction Managers and Project Coordinators to drive growth in the DAS/Small Cell infrastructure. The challenge was compounded by the fact that there was limited DAS and Small Cell expertise in the marketplace. This is a relatively new technology and deployed in a limited use, so individuals with expertise in telecom technology as well as program management for its implementation, were few and far between.

MATRIX was turned to for support based on its large database of telecom and IT specialists, and had the required talent at hand.

In collaboration with the service provider's senior leadership, MATRIX built a team of highly experienced transport/backhaul specialists to help establish standards and best practices for national transport delivery at both the program and market level, and to reduce delivery cycle times for in-franchise and out-of-franchise transport, which had historically been the "long pole in the tent" for delivering projects.

## Program Management, Project Management and National Reporting

Specifically, MATRIX delivered the following:

- A team to drive end-to-end milestone delivery and room-ready milestone delivery across the service provider teams dedicated to DAS and to Small Cell infrastructure builds.
- A team of Excel and project reporting experts to pull data from disparate management and reporting systems and present the data as usable and valuable information to client leadership at a regional and national level.
- Program level oversight of national programs including carrier adds and vendor management.
- Assembly and custom development of training classes and documentation provided to both MATRIX and client team members.
- Geographically distributed team leads at the functional and market level to help establish standards, best practices and provide ongoing training.

MATRIX's efforts in collaboration with client senior leadership helped establish national tracker templates, national and regional reporting standards, shorter project delivery cycles, and most importantly, helped the client establish a solid leadership position in building DAS and Small Cell infrastructure to optimize macro network infrastructure.

**"MATRIX consultants contribute to this effort monthly and have done a lot of the heavy lifting to support our efforts to consolidate the data, develop scorecard structures, and publish these documents." Senior Manager – National Wireless Carrier**

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### About MATRIX

MATRIX is a technology solutions provider that blends staffing, consulting and professional services to help companies solve tough IT and business challenges in an increasingly complex and competitive world. Over the last 10 years, we've delivered more than 1,000 IT projects and filled nearly 25,000 jobs with talented IT professionals for clients across the U.S.