CASE STUDY

ctc technology & energy
engineering & business consulting

Building trust through partnership

How CTC helped create a model for collaborative wireless infrastructure management

For nearly three decades, CTC has partnered with a metro-area county of one million residents to create and refine a large-scale best-practice model for wireless facility siting.

As the county's wireless siting coordinator, CTC has transformed a complex regulatory challenge into a streamlined, collaborative process that balances robust wireless service delivery with community interests. CTC processed more than 4,000 wireless siting applications in an average of 11.5 days per application while maintaining 100% compliance with federal shot clock requirements.



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The challenge: Managing technology evolution while building community trust

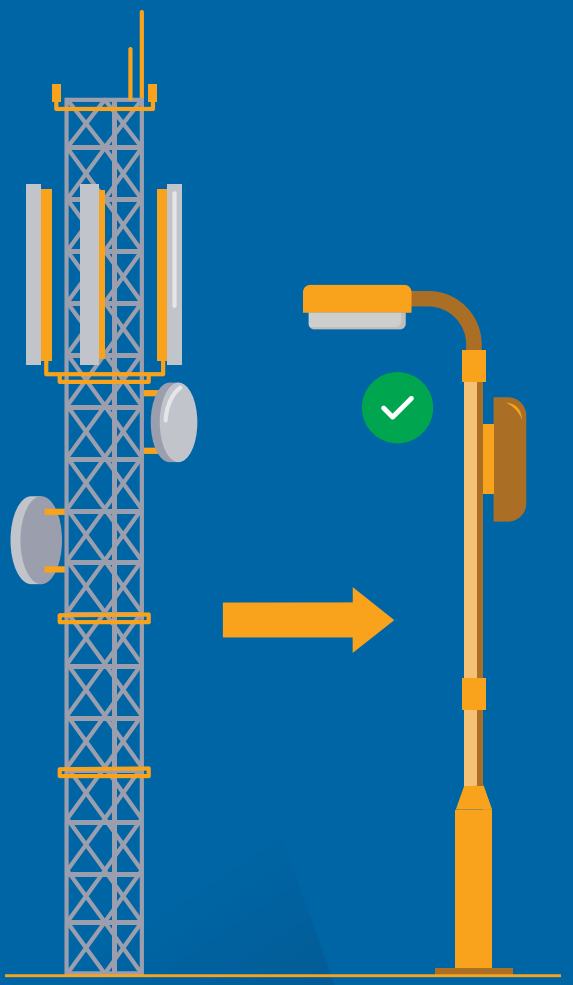
The county faced a challenge that every municipality encounters: How to enable critical wireless infrastructure deployment while protecting community interests and maintaining public trust. With the explosive growth of wireless communications, the county needed a sophisticated, scalable approach that could adapt to technological change while addressing legitimate community concerns.

The challenges intensified as wireless technology evolved—from traditional cell towers in the 90s to today's 5G small cells on light poles just feet from homes and sidewalks. When carriers began requesting to place antennas on light poles and other street furniture, bringing equipment much closer to residents than ever before, public concern escalated. The county needed a partner who could navigate these sensitive conversations, translating technical requirements for the public while helping carriers understand community perspectives.

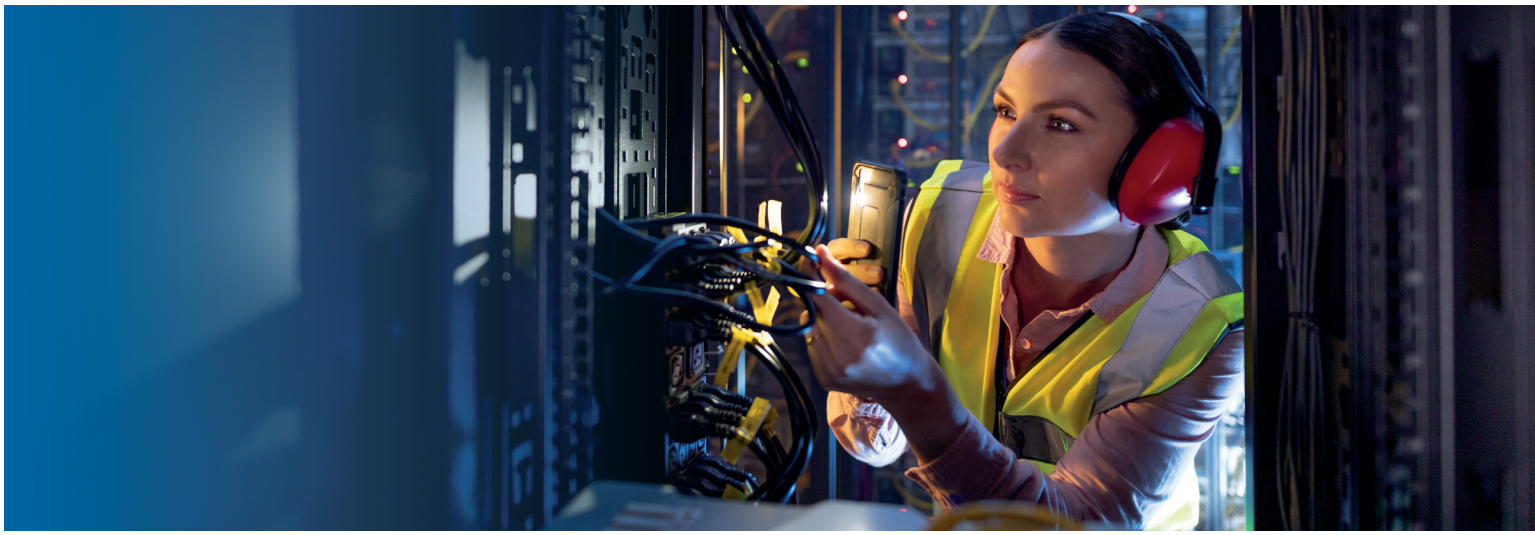
The stakes were considerable. The county's residents depend on robust wireless service for everything from emergency communications to remote work and education. Yet the county also needed to protect the character of its diverse communities, ensure public safety, and maintain local oversight in an increasingly preempted regulatory environment.

The solution: A partnership model built on trust and innovation

In the mid-1990s, the county established an interdepartmental coordinating committee and selected CTC as its independent wireless siting coordinator. This pioneering partnership created a collaborative framework that brings together carriers, county agencies, and the public in a transparent, consistent process.



Through partnership, collaboration, and thoughtful process engineering we've helped the county achieve 100% FCC shot clock compliance while maintaining thorough community review



CTC's partnership approach centers on three pillars

1. Technical excellence through collaboration

As wireless siting coordinator, CTC serves as the trusted technical partner to all stakeholders, including industry, residents, and local government. We work hand-in-hand with county departments, from permitting services to the public schools, ensuring seamless coordination. Our collaborative review process includes evaluating radio frequency (RF) engineering elements, conducting site inspections, and verifying applicants' compliance with local and FCC regulations—all while maintaining open dialogue with applicants and the community.

2. Digital innovation for transparency

Recognizing that transparency builds trust, CTC partnered with the county to pioneer digital innovations in the application process. We developed an online database that provides real-time public access to all applications, enabling residents to track proposals in their neighborhoods. We created streamlined online application systems that reduce the burden on applicants while improving processing time and accuracy. These innovations greatly improved transparency in response to public interest.

3. Multi-stakeholder partnership management

CTC's wireless siting model brings together diverse stakeholders with often competing interests. When antenna-on-light-pole deployments raised resident concerns, we coordinated extensive dialogue between the county, wireless providers, and community groups. We translated complex RF engineering concepts into understandable terms for public forums. We helped carriers understand the county's aesthetic and safety requirements and assisted in developing aesthetic guidelines that protect neighborhoods while complying with federal requirements. We delivered technical expertise to help government, industry, and residents understand FCC and other requirements.

On a day-to-day basis, CTC works with the county administration, public works staff, and county property owners to track the status of each application, ensure that reviews remain on schedule, and continuously improve the process. This collaborative approach has turned potential conflicts into constructive solutions.

The results: A replicable model for municipal success

The county's collaborative approach has delivered measurable results:

4,000+

applications processed through collaborative review since program inception

100%

FCC shot clock compliance while maintaining comprehensive 132-point reviews

11.5

average days for application review—well under federal requirements

- **Daily public database updates** through innovative online systems
- **Zero shot clock violations** despite thorough stakeholder engagement

Beyond these quantifiable achievements, the county's model has delivered real benefits to residents, businesses, and industry.

For example, the online application database we developed provides unprecedented public access, allowing residents to track every application in real-time. The streamlined online application system reduced processing time by 40% while improving accuracy.

One of the program's greatest achievements may be maintaining community trust through technological transitions.



When carriers began deploying antennas on light poles—bringing equipment within feet of homes and sidewalks—resident concerns understandably intensified.

Unlike traditional towers, these installations brought wireless equipment into intimate contact with daily life. CTC coordinated a multi-pronged response:

- **Technical workshops** for residents explaining RF emissions and safety standards
- **Aesthetic guidelines** developed collaboratively with the county and carriers
- **Streamlined review processes** ensuring rapid deployment without sacrificing oversight
- **Online tracking tools** allowing residents to monitor installations in their neighborhoods

Our online innovations haven't just streamlined processes—they've built public trust through transparency

Key success factors for municipal programs

Based on the county's experience, municipalities considering similar programs should focus on:

- **Building partnership:** Success requires more than technical expertise—it demands relationship building. CTC's commitment to the county enables daily interaction with county staff, rapid response to community concerns, and deep understanding of local dynamics.
- **Investing in transparency:** The online innovations we developed with the county have built trust among industry and the community. Our online application database and tracking systems give residents unprecedented visibility into the siting process. Municipalities should view digital tools not as optional enhancements but as essential infrastructure for public trust.
- **Creating collaborative frameworks:** The county's committee structure brings all stakeholders to the table monthly. This regular collaboration prevents conflicts from escalating and ensures all voices can be heard. Municipalities should closely examine all the tasks and stakeholders that need to take part in the review, and engineer processes that keep reviews on schedule, maintain high quality, and continuously improve. Municipalities should establish formal structures for ongoing dialogue between carriers, agencies, and the public.

Looking forward: A partnership platform for municipal innovation

As wireless technology continues evolving—with 5G densification, private networks, and new spectrum deployments—the county's collaborative model provides a robust platform for adaptation. The established partnerships, digital infrastructure, and community trust position the county to navigate whatever comes next, together.

The program serves as a replicable model for municipalities nationwide. While each jurisdiction has unique needs, the core principles—partnership, transparency, and collaboration—can be adapted anywhere.

CTC has successfully implemented similar programs for other jurisdictions, each building on the collaborative lessons learned in this county.

Partnership as the path forward

The county's wireless siting program demonstrates that municipalities need not choose between wireless deployment and community interests. Through genuine partnership, digital innovation, and commitment to transparency, jurisdictions can achieve both robust wireless infrastructure and community trust.

After nearly 30 years, our work with the county proves that through efficient processes, digital innovation, and strong partnerships, municipalities can meet federal deadlines while conducting thorough reviews that protect community interests

As CTC's Shawn Thompson, Vice President of Analytics and program lead, reflects: "What we've built with the county over nearly 30 years isn't just an antenna coordination program—it's a partnership model that transforms a regulatory requirement into a community asset. When municipalities invest in collaboration and transparency, everyone wins: Carriers get predictable processes, residents get both coverage and protection, and communities maintain local control where it matters most."

For municipalities ready to transform their wireless siting challenges into opportunities for innovation and community engagement, the county and CTC have spent nearly three decades perfecting the blueprint. The question isn't whether to facilitate wireless deployment, but how to do it collaboratively, transparently, and successfully.