

Finding Parking In Redwood City, California

Customer Highlights

Challenges

- Maintain adequate curbside parking for downtown businesses
- Make it easier for visitors to pay for parking from various locations in downtown

Solution

- Variable-rate parking system with centralized meter management
- Wi-Fi network infrastructure that can be used for centralized parking meter management as well as other municipal applications
- Lower operating costs than GSM technology

Results

- Business activity is up, due to increased availability of curbside parking spaces
- ROI less than one year
- Remote, real-time detection of meter status reducing downtime
- Detection of expired meters so violators can be quickly tagged
- Police officers can access information or file reports, allowing them to spend more time in the field

Systems and Services

- Tropos Networks MetroMesh 5320 routers
- Digital Payment Technologies - Wi-Fi enabled parking meters
- Coastside Net - System integration

Just a few miles down the peninsula from San Francisco, the community of Redwood City features sidewalk cafes, libraries, parks, a deep-water port and diverse neighborhoods. The city serves as home to 75,000 residents, and is the San Mateo County seat. The thriving downtown area hosts government buildings, a regional hospital, and a newly redeveloped retail district. Broadway Street anchors one end of downtown - the shops and restaurants draw in business from local neighborhoods and surrounding communities.

THE CHALLENGE

Too much business is not always a good thing, especially when it comes to parking. Recent studies have shown that if all the curbside parking spaces are full, business suffers. Redwood City has plenty of parking spaces, but the prime, on-street areas were chronically congested. Downtown Broadway developed a reputation - "there's no place to park" - even though within a few blocks there were always plenty of spaces in parking lots and garages. Urban planning studies¹ showed that setting parking meter prices higher in premium locations at peak times encourages some shoppers to park further away, leaving 15 percent of spaces open at any given moment and maximizing storefront activity. But how could the city implement free-market parking, with dynamically adjustable meters that enable different rates depending on day and time?

RESULTS

Redwood City implemented a plan to price downtown curbside parking by street, with different rates for weekdays, nights, and weekends. There are 42 digital parking meters from Digital Payment Technologies, each covering multiple curbside parking spots, connected by Tropos Networks' MetroMesh 5320 wireless routers. The solution enabled Redwood City to achieve its goals.

Eight months after the program started, Broadway parking conditions have changed significantly. Shoppers can now find a spot at most times of day and in prime areas. Many people, especially long-term parkers and bargain hunters, have shifted to cheaper parking on the edges of downtown where parking lots and garages are available, providing spaces for those who want to park closer to shops and are willing to pay a higher parking fee. The Downtown Business Group supports the program and is excited

about the benefits it brings to downtown.

"We were originally going to use GSM technology to connect each meter to the network," said Dan Zack, Downtown Development Coordinator. "While less expensive to install, at \$50 per month per meter it was expensive to

operate. After evaluating network options from Tropos, we saw that the return on investment would be less than one year compared to GSM. Tropos made financial sense in a big way."



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Downtown Development Coordinator

The new parking meter application is making Redwood City's parking extremely flexible and convenient. Redwood City sets the top rate at 75 cents per hour; side streets are 50 cents per hour; and rates for lots and garages range from 50 cents per hour to free, depending on their desirability. Zack can easily adjust parking rates to meet changing conditions from his desktop PC, taking only a few minutes to set rates throughout the downtown Broadway corridor. From his desk, Zack can monitor vacancy rates and change the hourly price for downtown spaces.

For customers, the new parking system is easy to use. They simply enter their parking space number and pay using cash or other payment methods. Because the city's 42 parking meters are connected over a wireless broadband network, credit card authorization is in real-time. The meters are all connected and share information with each other, so if a shopper wants to spend more time on the east side of downtown and their car is on the west side, they can add time to the original parking permit from any pay station in the network without having to go back to their car. Parking enforcement is more efficient, too. The police department can download an up-to-the-minute report on which parking meters have expired, enabling them to ticket violators quickly.

The network also provides mobile database access so that officers on the beat have immediate access to finger print information and DMV records right from laptops in their vehicles allowing them to quickly identify stolen cars or potentially dangerous suspects. They can also file police reports using the network which allows them to spend more time in the community.

TROPOS SOLUTION

Redwood City is using Tropos Network 5320 MetroMesh routers. The wireless network is managed by the city's IT department. “Now that they are in place, we see that meter transactions over the network perform well. The Tropos network is quicker and more reliable than cellular, and the cost savings is huge,” said Zack.

The network was installed by Coastside Net, a Tropos System Integration Partner located in nearby Half Moon Bay. They were able to deploy the Tropos routers quickly on existing city-owned assets such as streetlights.

The multispace digital parking meters were supplied by Digital Payment Technologies, a Tropos MetroMesh Solution Partner. This Burnaby, British Columbia company is a leading provider of automated payment solutions to the North American parking industry. Some of the digital parking meters supplied in Redwood City are completely wireless - photovoltaic panels supply all required power.

LOOKING FORWARD

Redwood City selected a Tropos Networks MetroMesh wireless broadband solution because they saved significantly on operating costs versus the GSM-based alternative that was considered. In addition, the metro wireless network serves as a foundation for future applications under evaluation, including:

- **Public access** - The city is considering creating a hot spot for Courthouse Square, near government offices and where redevelopment was recently completed.
- **Video surveillance** - Video surveillance cameras to monitor parking availability, assisting in efficient management of parking meters.
- **Expanding parking program to other areas**

