

City of Manor: Redefining Government Communication

A quick review of the City of Manor Web site, www.cityofmanor.org, leaves the visitor with the distinct impression that the city has embraced technology wholeheartedly and creatively. Not only can you pay your court ticket and utility bill online, you can also read the city's blog, find a link to the city's Facebook page, sign up to follow the city on Twitter, and find a link to the city's Wikipedia page. The home page also has a link for more information about taking a "smart" tour of the city.

The City of Manor is located in Travis County about 12 miles east of Austin. With a population of 1,204 in 2000, the city is now home to an estimated 5,800 residents. The city is also home to leadership and staff who see the benefit of using low- or no-cost technology in innovative ways to engage citizens, businesses, and tourists. At the center of this effort is what the city has dubbed "smart" tours, digitally coded signage placed around town at various historic sites and city facilities. And what is this low-cost "smart" tours technology? The answer may be a little surprising: barcodes.

Why Barcodes?

The barcode idea actually sprung from a document management effort. Faced with a very limited budget and the task of organizing hundreds of boxes of documents, Dustin Haisler—who serves as the city's chief information officer as well as municipal judge, city secretary, and finance director—began researching the idea of using barcodes to organize the boxes. After extensive research on barcode standards, the city decided to use QR-codes, which are two-dimensional barcodes, for document management because the

barcodes can be decoded with a mobile phone with a camera feature.

As the document management program advanced, staff soon realized that QR-codes could be used as a new method of communicating with residents by providing on-demand transparency to government services. The barcodes could also be used as an economic development and tourism tool allowing for "smart" tours of city facilities and landmarks.

How Does It Work?

Each barcode is configured to pull up a hyperlink to Web content. This allows the city to change content without having to change the barcode itself. The barcodes were acquired using a free, online QR-code generator (two examples of free online QR-code generators are Google ZXing [<http://zxing.appspot.com/generator/>] and 3GVision's I-Nigma [www.i-nigma.com]).

An individual can scan barcodes with a camera phone after installing free decoding software (three examples of free mobile QR-readers are Google ZXing [www.zxing.org/w/], 3BVision's I-Nigma [www.i-nigma.mobi], and Block5 [www.block5.com/iphone]). Once scanned, the user is taken directly to the linked Web site. Here are a couple of examples of what a user would discover on a "smart" tour:

- If you scan the barcode at the city's old water tower, it brings up information about the water tower's history: The water tower appeared in a prominent scene in the 1993 movie *What's Eating Gilbert Grape*, starring Johnny Depp and Leonardo DiCaprio.
- If you scan the barcode at the city's sewer lift station, it takes the

user to a Wikipedia page detailing a step-by-step process of how the system works.

The Roll Out

The City of Manor QR-code campaign was implemented in multiple phases so that staff could gauge the effectiveness of the program and make the necessary adjustments. The first step centered on advertising the system. Ads encouraged users to "learn a new language" and gave detailed instructions on how to install the QR-code reader on a mobile phone.

In March 2008, eight fixed-mounted signs were placed throughout the city as a pilot project. During this stage, it was discovered that some of the URLs were too long, causing pixilation of the barcode, rendering the barcodes useless. To solve this setback, the city turned to URL suppression technology, such as Tiny URL, to shorten them.

When the pilot period concluded, the city launched a total of 24 fixed-mounted QR-code signs in September 2008. In addition to the fixed-mounted signs, the City of Manor also placed barcodes on most city vehicles using laminated car magnets. City vehicles provide a highly visible and unique branding opportunity for the "smart" tour barcode campaign.

For example, if an employee is pumping gas into a city vehicle at a local gas station, the user can scan the barcode on the vehicle and receive information on how the vehicle is used on a day-to-day basis. Eventually, the city will tie the QR-codes on city vehicles into a real time work order update, thus increasing the transparency in government operations.

The Good and the Challenging

Overall, the benefits of using barcodes for government communications far outweigh any challenges.

- **Great Way to Communicate with Residents and Visitors:** The barcodes are being used by residents and tourists. The codes have sparked interest from visitors from as far away as Australia, Europe, and South America. Since the first deployment in March 2008, barcode scans have steadily increased. Over the past six months, there have been more than 900 scans.

- **Builds Citizen Engagement:** Users are empowered to interact with others in the city through the use of mobile technology. Instead of inundating users with costly newsletters and printed materials that can be easily discarded, users scan and receive electronically only the content they request.

- **It's Affordable:** The City of Manor is known for innovating solutions on a shoestring budget, and this program is no different. The only direct cost that is associated with a barcode program is the cost of the material the barcode is printed on. To date, the city has spent less than \$2,000 on the program.

- **Spurs Economic Development:** QR-codes can spur economic development by equipping small businesses with resources and knowledge to market themselves more broadly at a fraction of the cost of traditional means. For example, a local developer uses barcodes on real estate signage to provide detailed information about properties.

- **Requires a Data Connection:** As a result of embedding URLs in each QR-code, a user must have a data connection on a mobile phone to receive content. The city plans to increase coverage on its existing wireless mesh to provide free access to all residents and tourists who wish to scan barcodes.

- **Users Must Download a Reader:** Currently, users are unable to scan QR-codes without manually installing the proper reader for their phone. Staff continues to educate residents about the system, including frequent presentations to students at local schools. Students are encouraged to download the software on their phones and their families' phones. City staff is also working with manufacturers and wireless providers to have QR-code readers pre-installed on U.S. phones.

What's Next?

The city continues to develop its barcode system and, in the process, has received attention and accolades. In 2008, the city received a Best of Texas award for most innovative use of technology from the Center for Digital Government, a national information technology group. Dustin Haisler, the city employee who was at the center

of developing the barcode campaign phenomenon, was named one of the 2009 Doers, Dreamers, and Drivers by *Government Technology Magazine*.

And the innovation hasn't stopped at barcodes. The city recently captured the national spotlight for Manor Labs, www.manorlabs.org, an online innovation forum. Residents and non-residents alike are encouraged to submit ideas to improve the city, as well as comment on and build upon ideas submitted by others. What's in it for a participant, other than helping to make the city a better place to live? You are awarded with "innobucks," which can be cashed in for various privileges, including a ride with the police chief, a proclamation declaring it your week, or a digital key to the city.

For more information about any of the programs listed above, contact the City of Manor Chief Information Officer Dustin Haisler at 512-272-8636 or dhaisler@cityofmanor.org. ★

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