

Municipal Housing Department

Motion F5 Tablet PCs Help Organization Improve Productivity and Go Green

Overview: Housing Department Deploys Technology to Improve Award-Winning Inspection Program

A large Municipal Housing Department's Systematic Code Enforcement Program (SCEP) is a Harvard award-winning multi-family residential rental housing inspection program that is helping to improve rental housing inventories while remaining sensitive to budget concerns.

The goal of SCEP is to achieve code compliance, to ensure that state health and safety codes are enforced, that all residents, including the City's poorest, live in safe housing, and prevent the City's housing stock from sliding into irreversible disrepair. After several program changes and technology enhancements, the Housing Department has transformed its SCEP program to more efficiently meet these goals, and the program is now receiving recognition across the country.

Most recently, the Housing Department adopted the F5 Tablet PC from Motion Computing. The F5s, in combination with the organization's software application, have enabled the program to adopt more environmentally friendly processes – reducing drive times and the use of paper, as well as conserving energy by eliminating the need to provide office space for its 150 field inspectors.

The Systematic Code Enforcement Program: A Resource Intensive Program that Requires Mobility

The SCEP has changed the way multi-family property owners conduct business within the City. After initiating the SCEP program in 2000, the City completed Cycle One by inspecting all 750,000 multi-family rental units, for the first time in history. A significant reduction in building deficiencies identified during Cycle Two follow up inspections is testament to the overall effectiveness of SCEP's first inspection cycle.

The SCEP program inspects approximately 187,000 units per year. The Housing Department has moved from traditional code enforcement that focuses solely on individual violations to a housing preservation program by inspecting the entire building and property, which has helped stabilize the habitability of the City's multi-family properties and prevented the majority of the City's rental stock from decline.

The Housing Department has also integrated their complaint-based inspection component with SCEP and has substantially increased inbound complaints, which is evidence of outreach efforts, growing public awareness and acceptance of the complaint-reporting system. The Housing Department strives to provide a high level of service, and is committed to responding to 90 percent of inbound complaints within 72 hours.

Technology Drives Improved Productivity, Efficiencies and helps the Housing Department Reduce its Carbon Footprint

In order to manage this resource intensive program, the Housing Department worked to build its own software application, the Code Compliance Rent Information System (CCRIS), to help manage inspection cycles and view case status throughout the inspection, enforcement and legal processes. Through the CCRIS system employees can schedule inspections through Microsoft Outlook, collect field data through a wireless device, link the photos to the Orders to Comply, capture electronic signatures, track cases for both staff and customers, as well as generate reports and invoices.

However, the program is only as good as its usability by field inspectors, and the Housing Department has remained committed to seeking out new technologies to help support its mobility needs. But, until recently, they were unable to find a device that would fully support the documentation needs of its field inspectors, while also freeing them to spend more time away from the office, reduce paper use or fully utilize all the capabilities of their software program from the field.

Mobility: The Right Devices Enable Inspectors to Spend More Time in the Field, Less Time Commuting

The CCRIS provides a cellular interface that allows field staff to transfer inspection schedules, violations and photographs via a wireless connection. And, during an emergency, the system can upload and download important property information from ownership through inspection activity.

However, it was important for the Housing Department to find a computing device that would equip their field personnel with all of the information they would need to conduct inspections throughout the day, without having to return to the office which decreases the number of daily inspections that can be completed. With the high volume of rental units needing inspections, having data accessible in the field and the ability to leverage the software remotely is a critical component of the program's success.

Over the years, the Housing Department has kept up with available technology advancements, progressing from a paper-based process in 1998, to a variety of mobile handheld devices. However, the handheld devices, while an improvement over the paper-based process, were not the perfect solution. The most recent PDA with camera had several limitations.

- The devices were lightweight and mobile, but didn't have the capacity to support all of the documentation required by field workers throughout a full workday.
- The devices were highly portable, but the screen size was too small, making it difficult for inspectors to navigate the software solution.
- Inspectors could gather and access data in the field, but the devices could not be used as a desktop replacement, so inspectors had to return to the office to finalize required paperwork.
- The screens were not equipped with outdoor display capabilities making them difficult to use in direct sunlight.

The super users in the Code Enforcement Division researched and tested numerous devices. Under the leadership of its Chief Inspector they selected the Motion F5 Tablet PC. Based on its integrated handle, semi-rugged design, light weight of 3.3 lbs, integrated camera and 10.4 inch screen with View Anywhere Display®, the Chief Inspector thought it would be an ideal solution to improve the efficiency and productivity of field inspectors. Additionally, by eliminating many paper-based processes, the device supports the Division's Code Green initiative, a program designed to help the Housing Department reduce its carbon footprint. The F5s are now in use by 150 field inspectors.

While providing many mobility benefits, the F5 is a tablet PC capable of running Windows like any desktop or laptop PC solution. This enables field inspectors to spend more time in the field, documenting while onsite and immediately uploading reports to the host system after an inspection is complete. Additionally, since the F5 is serving as a desktop replacement, the field inspectors are much more mobile. They no longer have to visit the office to download or document important information. They simply leverage the integrated wireless broadband connection to download necessary information from the F5 docking station at home in the mornings, and spend an entire workday in the field.

The F5 has become the cornerstone of the Housing Department's Code Green program. Increasing mobility of the field inspectors has eliminated the need for office space for the 150 inspectors, saving energy and money on parking and necessary office-based IT resources.

Additionally, the Housing Department is taking further environmental protection steps by altering the inspectors' work week. No longer required to travel back and forth to the office, inspectors can spend more time in the field, making a new 4 day/40 hour work week possible, as compared to the previous 5 day/40 hour week. The Chief Inspector estimates that they are reducing drive time by 20 percent, doing their part to reduce congestion and pollution by taking the cars off the road one day a week.

Currently, the 150 inspectors drive private cars to conduct inspections. The private fleet consists of cars and trucks that average 19 miles per gallon of gasoline. With the money that is saved by the elimination of leased office and parking spaces, along with the elimination of desk telephones and desk top computers the Division is planning on incorporating a Green Fleet of Hybrid vehicles for field inspections. According to the Chief Inspector full implementation of the Code Green plan will enable the Housing Department to reduce its polluting emissions by 72 percent, and its carbon footprint by 70 percent. Additionally, the Chief Inspector also expects the number of inspections completed per day to rise by 10 percent.