



WIRELESS APPLICATION SHOWCASE **September 2007**

These applications are in various stages – planning, pilot project implementation, and deployment.

AMR - Automated Metering Reading is a five-year initiative to fully automate 147,554 water and gas meters. The new wireless system provides real-time data, with correct readings transmitted twice daily, and data analytics for leak detection and system management. The system is anticipated to be completed citywide by 2010. Hardware requirements include meter transmitting units (MTU's), data collecting units (DCU's), system servers, and handheld programming units. Cost savings from AMR are projected to be \$1.6 million over a 20-year life, with break-even at 14 years.

MOBILE DATA COMPUTERS - All City of Corpus Christi Police, Fire and Emergency Management front line service vehicles are equipped with mobile data computers (MDC). The computers allow public safety personnel to access sensitive key information at a moment's notice allowing them to do their jobs better and faster. The City's wireless network has provided the bandwidth needed to run high bandwidth applications, such as car-to-car messaging, accessing network resources, sex offender databases, automated vehicle location, crime analysis capabilities, CAD-dispatching, websites, mugshots, records management, wireless field reporting, viewing satellite imagery and pictometry. Mobile data computers currently are deployed in many police and fire department/EMS vehicles and are used 24/7 by public safety personnel.

AVL – AUTOMATED VEHICLE LOCATOR - The City currently uses Automated Vehicle Location (AVL) in all front line public safety service vehicles. AVL uses global positioning satellites (GPS) to pin point location, elevation, and velocity. Using this technology for public safety greatly enhances job performance, personnel safety, situational awareness, and can aid in time-critical scenarios. MetroCom uses AVL to track the position of all public safety vehicles on a map located at each dispatching station. The Fire Department uses it to dynamically recommend Fire and EMS vehicles based on their location to be dispatched to an event because seconds can save life and property. With the advent of WiFi and new GPS technologies, the City plans to expand its AVL services to all departments. AVL can be used to analyze routes, save on rising fuel costs, make road construction more efficient, and track the speed of city vehicles.

WEBEOC - A breakthrough application of web-based technology from Emergency Services Integrators (ESI) puts integrated information management in the arsenal of the emergency operations center. This technology was developed for the federal government and has been redefined for cities, enabling real-time access to state and national weather trends; satellite images; mapping information; details of operations in other jurisdictions; local, regional and even national resource status; and other data vital to the efficient management of any contingency (even if the jurisdiction hasn't invested in any of the sources of these data). WebEOC allows for a secure transfer of information and orders among agencies. WebEOC also provides communication in the event of traditional communication outages. A satellite Internet connection can be activated within three hours, in the event that traditional communication is lost.

EMS/SAFETYPAD - This application supports emergency medics with information at the moment of treatment delivery, providing medication lists and suggested alternatives. The patient's treatment report is created at the treatment scene and can be transmitted to the hospital emergency department during transport at the touch of a pen through a seamless wireless connection. Safetypad also allows for a more accurate billing process, as well as statistical information and reports.

EMS/EKG – CARDIAC ALERT – Using the mobile computers in the ambulance, as with SafetyPad, medics have the convenience of connecting a patient to a ZOLL portable defibrillator/monitor. This allows the medics to print and/or fax an EKG report from the field to the receiving Emergency Departments prior to the delivery of the patient. The Emergency Departments and their respective cardiac diagnostic labs can therefore be better prepared for incoming cardiac arrest patients. This will reduce the time needed from onset of emergency treatment in the receiving acute care facilities.

PICTOMETRY - ELECTRONIC FIELD STUDY - City departments utilize maps and pictures to complete tasks associated with police, fire, engineering, etc. Police need photos and maps to work on crime scenes and drug control, and determine building and home access points, distances and area measurements at crime scenes. The Fire Department currently familiarizes itself with buildings and homes by utilizing maps. Pictometry's Electronic Field Study (EFS) software is used to view and work with aerial high resolution digital images that are located in a Pictometry Image Library. The EFS software works with oblique images from four different directions and ortho images from two different heights. EFS has the ability to measure heights, distances, areas and has the ability to search for specific locations via an address search or coordinates search.

MOBILE MAXIMO - The MAXIMO Enterprise System (MXES) is a work order and asset management system used by the Water, Wastewater, Storm Water, Gas, Streets, and Parks departments as well as the Customer Call Center and GIS Technicians. Street signal technicians and Gas field technicians are using laptop computers to retrieve and input MXES data from their service vehicles. Through the use of wirelessly-enabled portable devices and Mobile MAXIMO work management application, City field crews can manage, enter data and close work orders in the field for real-time data, time savings and possible gas usage savings. This system provides projected improvements in operational efficiencies, including a 10-20 percent increase in volume of customers with service requests/problems reached per day (possibly one to three more customers per crew per shift). Other benefits include more accurate reporting data, better resource allocation, and a decrease in fuel and time spent in the office, providing a savings of two hours per day at a rate of one staff position.

BUILDING INSPECTIONS - City of Corpus Christi building inspectors are using wirelessly enabled tablets to conduct and result inspections in the field. Contractors have the option of using either a web-based or telephone Interactive Voice Response (IVR) application to schedule and to obtain inspection results, enabling them to access data on-site. This system has improved timeliness of scheduling & obtaining results of inspection, which are important economic factors. Projected savings include the equivalent cost of two full-time employees for a total of approximately \$85,000 annually.

CODE ENFORCEMENT – Code Enforcement inspectors on a daily basis now initiate and result inspections in the field using wirelessly-enabled notebooks. This is allowing officers to generate work orders as violations are identified and result existing cases. Entering data on-site decreases fuel consumption and time spent in the office. Cost savings are approximately \$45,000 annually (hourly wage x 1 hour daily savings).

IMMUNIZATIONS - Wireless technology enhances the City Health Department's immunizations program as it allows staff to remotely access the state immunization database, which contains records of most childhood immunizations that are given. This enables the Health Department to check records while working at events, such as health fairs and school immunizations, to determine what immunizations the client needs, as well as what immunizations he or she already has received. Copies of immunization records can be printed remotely, and the client then can use the records to verify immunization status for schools or other medical providers.