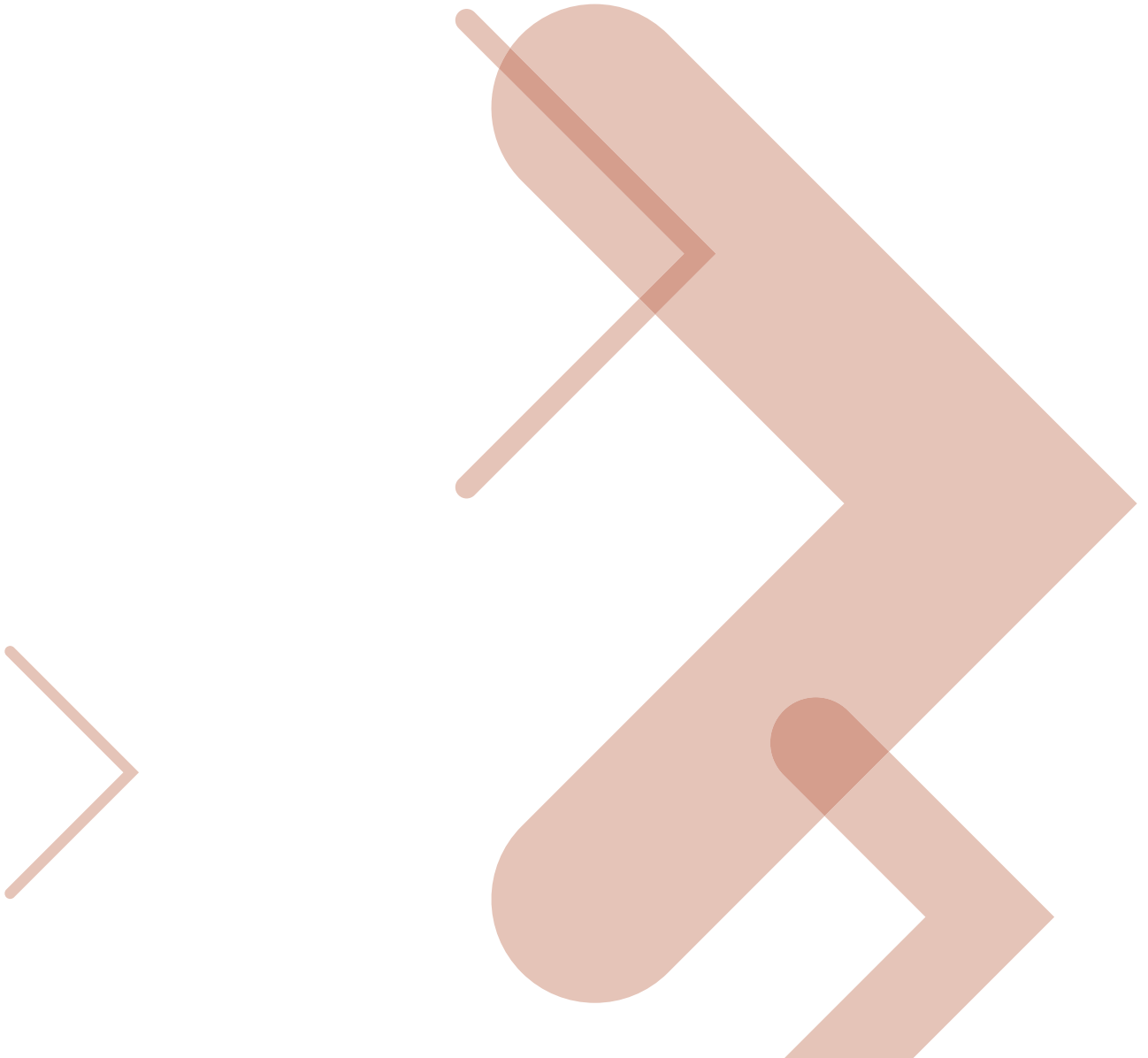


The Mobility Advantage:

Reduce cost, generate revenue and increase operational efficiency
for state and local agencies



Executive summary

Today's economic pressures are rippling into budget reductions and rising costs, forcing state and local governments to search for a means to better contain costs and increase revenues—without impacting the quality of services. To reduce costs, agencies must determine how to do more with less—how to enable fewer workers to not only better manage the existing workload—but to also handle an increase in workload. And to protect revenues, agencies must prevent the occurrence of errors that can increase risk and liability as well as impact the validity of citations.

This white paper will explore how mobility can help agencies address both of these issues by eliminating the hidden inefficiencies and opportunities for error in today's business processes, enabling dramatic increases in productivity, data accuracy and revenues.



Identify opportunities to reduce inefficiencies in your day-to-day processes

Every day, law enforcement officers, first responders, social workers, inspection and repair crews and more are charged with protecting the health and safety of citizens, maintaining community infrastructure and delivering community services. These state and local government workers spend their day out in the field—unable to directly access the tools on the desk, back in the office—from back-end business applications and personal productivity applications such as email to the rich voice functionality of the desk phone.

The separation from business applications forces additional steps into the many everyday processes. Workers must manually collect information out in the field with paper and pen—information that must then be entered into the appropriate computer application back at the office, either by the field worker or an administrator who is responsible for data entry. The result is 'double processing'—a very expensive practice that inserts time and cost into your processes and impacts constituency satisfaction:

- Information must be handled twice before it is finally entered into the right back-end system
- The opportunity for data errors is greatly increased due to illegible handwriting and keying mistakes

Mobility: The cost-effective extension of the right set of business tools... delivered directly to the point of activity

Mobility allows agencies to provide workers with a single handheld mobile device that provides anytime anywhere wireless access to applications that reside on the desktop computer back at the office, as well as the desk phone extension and complete desk phone feature set. With mobile voice and data in-hand, workers have the tools they need to streamline and automate processes, access real-time information to support better decision-making and reduce errors.

Streamline and automate processes

With a handheld mobile computer, workers out in the field can enter information directly into the appropriate computer system, completely eliminating 'double processing'. Paper is replaced with an electronic form. Drop down menus, checkboxes and the ability to auto-fill fields dramatically reduce data entry requirements. Additional features such as bar code scanning, RFID and a high resolution digital camera automate the capture of a wealth of data. The information is instantly and automatically transmitted to your back-end application the moment the electronic form is completed. And the resulting reduction in administrative work improves employee productivity, accountability and staff utilization, helping agencies contain costs.

“We live in a 72 hour world, from decision to evacuation. By 36 hours, we want departure hubs set up, personnel trained, links made, equipment ready, and transportation deployed. With TX SNETS [Texas Special Needs Evacuation Tracking System], we control the event, the event does not control us.”

– Chief Jack Colley
Governor’s Division of Emergency
Management, State of Texas



Real-time information access

Since information collected in the field is now instantly visible in your business systems, the lag time between when information is collected and when it is available is eliminated. And with a wireless connection to your back-end systems, state and government workers out in the field can access that information as needed with the press of a few buttons, providing the most up-to-date intelligence to support the best decision making.

Reduce errors

The automation of data collection and the elimination of paper forms reduce the errors associated with legibility and manual data entry. As a result, data accuracy is increased, reducing risk as well as the high cost of errors. For example, citation accuracy protects revenues; more accurate social services data helps better protect citizens; and accurate work orders ensure the right field service team with the right tools is dispatched to the right location, preventing the high cost of repeat service calls to repair city infrastructure.

The result is more cost-effective delivery of better services to your community and increased revenues—without adding human resources.

Applications: Mobility at work in state and local government agencies

While there are as many mobility applications as there are agencies, following is a look at how some of the primary mobility solutions can transform major processes in state and local governments—and the benefits that can be easily achieved.

Law Enforcement

eCitation

Handwritten citations pose issues for law enforcement officers as well as law enforcement agencies. In order to complete a paper-based citation, officers must capture detailed data, including driver’s license and license plate numbers, and must populate the form with the right code violation number, court district and fine amount. The paper citations are given to clerks, who then may need to enter the citation into as many as three reporting systems—the police records system, the court case management system and the state’s citation tracking system.

A mobile computer dramatically reduces the time it takes an officer to complete a citation. A real-time link to the Department of Motor Vehicles (DMV) allows officers to simply scan the bar code or swipe the magnetic stripe on a driver’s license to instantly auto-populate the citation with the person’s name and address. If identification is not available, mobile computers that are outfitted with a mobile fingerprint reader can capture a fingerprint—and wireless access to a wide range of local or national databases to verify identity. A drop down box allows officers to select from a list of vehicles that are registered to the offender, automatically completing vehicle information—including make, model and license plate number. A lookup function can enable officers to quickly locate the right vehicle code. Signature capture allows officers to file complete citations that include the violator’s proof of receipt. And once the electronic citation (known as an eCitation) is complete, the press of a button can transmit the citation in real time to all appropriate back-end systems.



The benefits are dramatic:

- **Major increase in data accuracy** – Automated data capture and the elimination of data entry into multiple systems eliminates citation errors. One major metropolitan police department reduced the error rate from 30 to one percent.
- **Increase in revenue** – The number of citations that are dismissed due to data errors is substantially reduced, increasing citation revenue. One major city recaptured several million dollars in revenue the year an eCitation system was launched.
- **Major reduction in cost:**
 - While the average paper-based citation takes an average of 12 days to process,¹ an electronic citation takes seconds, practically eliminating internal processing costs.
 - Citation data entry staff can be re-deployed, helping to control staffing costs.
- **Increased productivity** – Officers can spend more time on patrol instead of paperwork, improving on-the-job satisfaction and morale.
- **Better community service levels** – The reduction in administration time allows officers to spend less time at the desk and more time out on the streets, protecting their communities.

Disaster Management

For police, emergency medical personnel, firefighters and other first responders arriving at a disaster site, time is of the essence. These workers need access to all the available information about the incident to develop the best response plan. Site managers must track each and every asset—from the first response personnel to victims, evacuees and all equipment utilized on site. And incident scene commanders must be able to validate first responder credentials as well as track the location of all first responders.

A mobile computer with integrated voice and data provides first responders with the critical real-time link required to access and collect needed information with maximum speed and accuracy. First responders can view photos and real-time video of an incident scene as well as blueprints of buildings and detailed area map, all while in transit to the incident site. A quick scan of the bar code labels or RFID tags on assets at the incident site enables the split second capture of an accurate inventory, providing rapid access to vehicles, rescue gear, equipment and other critical assets as needed. With a mobile printer, site managers can print bar coded

or RFID-enabled badges and wristbands at the incident site to track and trace first responders as well as victims and evacuees.

Benefits include:

- **Better decision-making** – Mobile access to up-to-the-minute rich intelligence enables the creation of better action plans
- **Improved accountability and resource deployment** – Real-time inventory visibility allows the deployment of the right personnel and the right equipment at the right time, every time.
- **Improved security** – The incident site is better secured: authorized personnel wearing incident specific badges or wristbands are easily identified.
- **Better quality of care** – Critical patient data can be transmitted to the hospital while victims are in transit, enabling healthcare workers to be ready and waiting with an action plan upon arrival. And since the location of all victims and evacuees is visible in real time, families are re-united faster.
- **Improved safety** – The ability to track first responders as they move in, through and out of the site enables identification of any missing and potentially injured workers—and a swift life-protecting response.

Government Administration

Inspections/Code Enforcement

Whether your workers are inspecting buildings, restaurants or infrastructure, they need access to inspection orders, code violation and asset maintenance history, the proper forms to issue on-the-spot citations and warnings as well as the ability to schedule return inspections to ensure violations have been addressed.

Mobility provides all the tools inspectors need to get the job done faster—and more accurately. With a convenient handheld mobile computer, inspectors can receive prioritized electronic work orders out in the field. Electronic forms can be completed in a fraction of the time required for paper. Any support information in back-end business systems can be accessed in seconds—including code violation numbers and the history of a particular violator.

¹ Florida State University, College of Engineering; Computerization and Automation of Affordable Traffic Data Collection System for the State of Florida, Sitaramaraju Mantena, 2004, Page 15

“This is truly a win-win for everyone: the traveler, the airport, the TSA and the airline. This new process [an RFID solution that enabled the real-time automatic tracking of all baggage] enables travelers to be safer, while reducing the incidence of lost baggage and ensuring that screened bags are delivered to the right location at the right time. We couldn’t be happier.”

– **Randall Walker**
Director of Aviation, McCarran International Airport
Las Vegas, Nevada



Other features enrich available data. For example, an integrated high resolution camera enables the capture of proof of violation, discouraging disputes and the potential loss of citation revenue. Electronic signature capture provides proof positive that the offender received the citation. A wireless mobile printer lets you print and sign citation paperwork on the spot—eliminating error-prone handwritten forms and the administrative effort required to process and mail completed paperwork to the offender. With a snap-on credit or debit card reader, inspectors can immediately process and collect fees. And since the information on electronic forms can be sent to all appropriate business systems, the press of a button can file a new citation, update accounting systems with payment information, and schedule and required return visits.

Benefits include:

- **Increased productivity** – The same number of inspectors can now handle more inspection orders, improving workforce utilization and controlling staffing costs
- **Improved cash flow** – The ability to process payments increases the velocity of the payment cycle.
- **Increased citation revenue** – Drop down menus, check boxes, auto-fill fields and more help ensure the accuracy of citations, preventing disputes and the potential lost income.

Maintenance

Every day, your workers are out in the field, involved in repairing or maintaining a wide variety of public assets—from streets and bridges to city buses and park benches. While the complexity of the maintenance routines may vary, the business processes are the same. Workers need to collect work orders. Forms must be completed to document the services that were performed and the completion of the work. And manuals as well as maintenance history may be required to help determine and execute the appropriate actions.

Now, electronic work orders are sent in real time to workers out in the field—effectively eliminating paper from business processes. Real time communication allows work orders to be properly prioritized and workers dynamically dispatched to where they are needed most. Workers no longer need to spend time in the office picking up paper work orders, increasing time ‘on task’. Real-time access to electronic manuals, step-by-step maintenance procedures and maintenance history provide the rich business intelligence required to better troubleshoot issues, determine appropriate action and execute maintenance and repair routines—without the need to search for and load manuals in the truck or phone a co-worker to check a file. And with GPS, you always know where your crews are located and what tools and parts are onboard the trucks, enabling the dispatch of the closest crew with the right equipment to the next job site.

Benefits include:

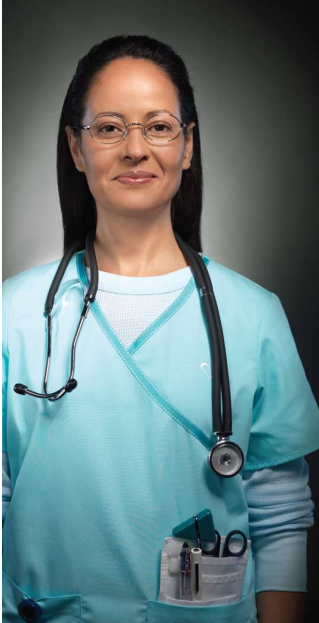
- **Increased productivity** – The same workforce can now handle more maintenance and repair orders, improving workforce utilization.
- **Improved citizen satisfaction** – Faster response times ensure prompt attention to emergencies and timely maintenance, keeping communities running safely and smoothly.
- **Reduced vehicle costs** – Improved routing efficiency reduces mileage and the associated fuel costs, as well as vehicle wear and tear, increasing the lifecycle of these high dollar assets.

Asset Management

Just as there are many different types of state and local government agencies, each of those agencies owns and is responsible for tracking many different types of assets—from office supplies, computers and fleets of vehicles to street signs, roadways and more. Accounting for these assets is a challenge, requiring workers to travel to the location of each asset, collect and complete paperwork at the asset location and then enter that information into the computer upon return to the office.

“Not only is the Motorola P460 bar code scanning solution [ensuring that each voter receives the right ballot] extremely easy to use, it also saves the State the millions of dollars it would cost to re-run an election due to ballot distribution errors.”

– **Marc Burris**
IT Director
North Carolina State Board of Elections



A mobile computer enables end-to-end automation and streamlining of this process. Agencies can automatically schedule and distribute tasks based on timing as well as the physical proximity of a group of assets to improve efficiency. Paper is replaced with an electronic form. A quick scan of a bar code or RFID tag automatically pre-fills the form with available data. GPS and a high resolution color camera allow workers to snap a picture of the asset, complete with a geo-stamp to verify the time and the geographic location of the asset, providing a new level of asset information. And the ability to send the data to all appropriate business systems provides incremental value: scanning the assets on the shelves of supply rooms can instantly update an inventory database, triggering the automatic release of an order for needed items; and inspections and maintenance can be scheduled on time.

- **Cost-effective compliance** – Agencies can ensure compliance with government regulations such as Government Accounting Standards Board (GASB) 34.
- **Improved productivity** – The same workforce can now take asset inventory in record time.
- **Reduced costs** – The decrease in labor requirements reduces the cost of inventorying assets; real-time asset visibility ensures proper tax reporting, preventing inadvertent overpayment of taxes.
- **Reduced asset total cost of ownership (TCO)** – Real time visibility into assets ensures proper and timely maintenance, extending asset lifecycle.

Case Management

Health and Human Services workers are crucial links to the most at risk citizens in the community, responsible for providing a wide range of health and safety services to individuals and families. This extraordinarily data-intensive function requires the heavy collection and dissemination of a vast amount of information. Workers are responsible for capturing detailed documentation for each and every action performed in each and every case—every phone call,

every action and every client visit—translating into volumes of handwritten information that must then be entered into the appropriate computer system.

An integrated voice and data mobile computer can completely overhaul the case management process, transforming the delivery of services. A single centralized electronic record replaces the paper form and duplicate records that may exist for citizens who are receiving multiple services from different agencies. The ability to collect and transmit sensitive data in real time helps ensure the swift delivery of services, better protecting the health and well being of clients. And a fully featured mobile computer provides case workers with their choice of data entry mechanisms for text intensive entries—Bluetooth® can provide a convenient wireless connection to a full-size keyboard and speech-to-text can enable users to record narrative that can then be automatically converted to text.

Other features include a high resolution camera, which can capture:

- **Physical evidence** – from the condition of a foster home to the condition of a child
- **Documents** that are difficult to capture, such as birth certificates and driver’s licenses
- **Proof of visitation** to verify that services were rendered

Integrated GPS enables a wide range of location based applications that reduce administrative load and provide additional case documentation. For example, photographs can be appended with a geo-stamp, providing proof that the caseworker was inside the right house at the right time. Real-time directions ensure prompt arrival for client visits—in spite of the development of a new traffic jam. Mileage can be automatically tracked, eliminating the need for caseworkers to prepare tedious weekly mileage reports. Tracking caseworker location in the field helps improve security—supervisors can determine if a worker has been in a location too long and may have encountered trouble. And since mobile voice is crucial for these workers, mobility simplifies life in the field by enabling agencies to provide caseworkers with a single device for both voice and data.

Benefits include:

- **Improved productivity and accuracy** – The same number of caseworkers can handle more clients, and can better serve existing clients minimizing errors.
- **Increased citizen satisfaction** – The speed and quality of services within an agency is improved, along with the ability to coordinate with additional agencies.
- **Reduced risk** – The lag time between when information was collected and when it was visible in back-end systems is eliminated, providing the instant visibility required to act more promptly when citizen health or safety is threatened. And the ability to monitor location in real time helps increase caseworker safety.
- **Reduced costs** – The ability to provide caseworkers with a single device for voice and data reduces the capital and operational expenditures associated with the purchase and maintenance of two or more devices per person.
- **Reduced capital expenditures** – Chances are today's workers have a notebook computer and a mobile phone—some may also have a personal digital assistant (PDA) as well as a digital camera. The ability to replace multiple devices with one substantially reduces device purchasing budgets—and the related capital expenditures.
- **Reduced management costs** – Fewer devices translates into less management time. But in addition, centralized and remote management solutions are available for handheld computers, enabling IT to initially configure, update, monitor and troubleshoot devices regardless of where they are—something that is not possible with PDAs, cameras and even many cell phones. The result is a substantial increase in functionality for workers and device uptime—and a substantial decrease in IT management time.
- **Improved protection against loss of data** – The elimination of paper also eliminates the opportunity for paper forms to be misplaced, lost or inadvertently damaged—a high risk event that could potentially threaten human lives.

A solid and quantifiable return-on-investment (ROI)

While you may be sold on the benefits that you can achieve with mobility, in the face of ever-tightening budget constraints, you need to be able to cost-justify the investment. In combination with the business benefits discussed above, the technology itself offers a number of other distinct advantages that provide an extremely rapid return on investment:

- **Low total cost of ownership (TCO)** – Workers in the field today likely carry consumer-class devices, such as cell phones and cameras. Today's rugged business class handheld computers offer the rugged design and specifications required to ensure dependable operation despite exposure to the elements, beverage spills and everyday drops and bumps. As a result, rugged business devices offer a five to seven year lifecycle—two to three times that of the average consumer grade PDA. In fact, VDC reports that the total cost of ownership of a consumer-grade PDAs is nearly double that of a rugged device.²). And the ability to resolve most device issues remotely combines with business-class support services that can include overnight replacement of devices as well as coverage for accidental breakage to further improve uptime and reduce the TCO of your mobile computers.

Advantage: Mobility

Agencies that deploy mobility solutions will enjoy a distinct advantage—the ability to improve community services, employee productivity and revenues despite budget constraints. With a fully featured mobile computer in hand, you can empower your workers with the real-time knowledge they need to make the best on-the-job decisions and the ability to automate processes, providing more time to focus on the delivery of services—instead of administrative paperwork. The ability to automate data collection will increase the accuracy of your data, protecting citation revenues and eliminating the high cost of errors—as well as the associated liabilities. And the increase in employee productivity enables better utilization of staff and the associated vehicle fleet, driving employee and vehicle costs down.

For more information on how your agency can benefit from the power of mobility, please visit us on the web at www.motorola.com/mobilecomputers or call 800-526-8637.

² *Government TCO Analysis, Total Cost of Ownership Models for Mobile Computing and Communications Platforms*, pp. 278-279, VDC Research Group, 2007

About Motorola Mobility Solutions

Every day, organizations of all sizes all over the world count on Motorola mobility solutions to maximize personnel effectiveness, improve services, and increase revenue potential. When you choose Motorola for your mobility solution, you get the peace of mind that comes with choosing an industry leader as your technology partner. Motorola offers the proven expertise and technology you need to achieve maximum value and a fast return on investment—as well as first hand experience in virtually every size organization in nearly every major industry. And our end-to-end solutions offer the simplicity of a single accountable source—regardless of the number of vendors involved.

Our comprehensive product offering includes: rugged and enterprise class mobile computers with extensive advanced data capture and wireless communications options; rugged two-way radios for always on voice communications; private wide area and local area wireless and outside the four walls—and to network multiple locations; comprehensive RFID infrastructure, including fixed, mobile and handheld RFID readers; a partner channel delivering best-in class applications; software solutions that enable centralized and remote management of every aspect of your mobility solution; and a complete range of pre-and post-deployment services to help get and keep your mobility solution up and running at peak performance every day of the year.



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