Making the Switch to Mobile Appraisal Technology

Overview

Increasing appraisal capacity without adding additional staff requires the effective utilization of productivity-enhancing technologies. Implementing field-optimized, mobile appraisal tools has proven to be an extremely efficient way to increase productivity. Focusing on examples from jurisdictions including Augusta, Ga.; Hall County, Ga.; Lucas County, Ohio; Salem, Va.; Travis Central Appraisal District, Texas; and Yamhill County, Ore.; this paper will discuss:

- Inefficiencies inherent in current appraisal processes
- Benefits of a fully integrated and mobile-optimized field solution
- Challenges and risks of mobile appraisal solutions
- Return on investment (ROI) potential

The Downside of Status Quo

Jurisdictions across North America have implemented mobile appraisal tools for a variety of reasons, many of which boil down to a single word: efficiency. Existing appraisal processes leave much to be desired in terms of efficiency, especially in the following tasks:

Field Work

Before the first appraiser ever steps foot on a property, jurisdictions spend weeks printing and assembling paper document packets. This time-consuming and costly process delays the start of seasonal field work. Once appraisals begin, even more time is wasted collecting and organizing forms, reports and other documents to keep up with demand.

Data Entry

Duplicate data entry is problematic no matter if the appraisal process is paper-based or uses annotated digital PDFs. Workloads are compounded when the process requires capturing data in the field and returning to the office to manually populate the CAMA system with data and sketches. This duplicate data entry process has a high propensity for human error.

Photo Association

Manually associating photos to parcels is one of the most time-consuming and labor-intensive processes involved in appraisals. After photos are taken in the field, the appraiser must manually log the parcel and photo numbers, download the images to the network drive at the office, open the parcel in the CAMA system and attach the images to the correlated extension.

Why Mobile?

Mobile appraisal solutions can mitigate many appraisal inefficiencies, leading to productivity gains and increased appraisal capacity.

Time Savings

Removing paper preparation tasks moves appraisers into the field earlier, both at the beginning of the field work season and on a daily basis. Additionally, field-optimized solutions provide appraisers with on-the-fly routing capabilities that minimize driving time and accelerate data collection.

Enhanced Accuracy

Fully integrated mobile solutions eliminate duplicate data entry for field-collected property attributes, sketches and associated photos. Not only do these tools save time, but they also reduce data entry errors and lead to more consistent, predictable values and fewer appeals.

Improved Employee Satisfaction

The increased efficiency associated with mobile appraisal solutions has a positive effect on employee morale. Appraisers report improved confidence in data collection and assessments, reduced stress levels and higher job satisfaction.

Considering Mobile

Challenges

There are various challenges to plan for when considering mobile technologies. Jurisdictions may face three primary challenges when evaluating mobile appraisal solutions: funding, change and integration. All three require strong leadership to overcome.

Funding

Obtaining management and/or commissioner buy-in and funding for a mobile appraisal solution often requires the development of a realistic business case with a sizeable ROI.

Change

Change is never easy, especially when it comes to technology. Accustomed to specific tools and processes, often people will resist change—even if that change will increase efficiency. To overcome this reluctance, strong leadership must transform resistance and hesitation into excitement and anticipation. Successful change management often includes staff early in the decision-making process. Staff members who attend demonstrations, review benefits and evaluate ROI information often have less trepidation and buy in faster, resulting in a smoother transition.

Integration

It is highly advisable to work with vendors who adopt open data platforms for integrating data and systems. Every year, jurisdictions spend considerable sums to maintain their public records data and various appraisal, GIS and sketching systems. The largest hurdle regarding integrating the data and systems for the betterment of the office and the public often is not a technical one; rather, it can be private vendors locking away what most would consider to be public data. Vendors should not be permitted to block the integration of data with multiple systems.

Risks

Not all mobile appraisal solutions are created equally; some may result in productivity losses, open the door for data loss or errors or even shift workload burdens.

Reduced Access

One such solution type is the check-in/check-out system, which requires that the mobile device be taken to the office at least twice per day: once to load the parcels onto the device (check-out) and once to transfer the data from the device to the CAMA system (check-in). In many check-in/check-out systems, once parcels are checked out, they are then locked in the office so no one can access or make changes to them. Just like in a paper-based system, the appraiser only has access to the data for the checked-out parcels and cannot address issues at parcels not on the current worklist. In order to respond to such issues, appraisers would need to return to the office to check out the additional parcel data before traveling back to the parcel(s) in question.

Data Loss

Another major problem with a check-in/check-out system is the high risk of data loss. If a device is lost, stolen, broken or malfunctioning before changes are uploaded to the CAMA system, those changes are lost forever.

"What is substantial is the other benefits we are now realizing. This has allowed us to make other process changes and significantly shift our calendar which has had a compounding effect - rather than having field work data entry continuing until June and overlapping valuation and equalization seasons, we are now able to complete all field work before February 1st which allows us to start earlier and devote all appraisers to valuation efforts, and has provided us time for additional research and quality control projects that we have not been able to address in the past- which gives us a better data quality, more accurate appraisals and makes the valuation phases go quicker. With a quicker valuation phase we are able to send our notices earlier and start our equalization phase sooner and are able to process taxpayer appeals much more rapidly (it also makes the traditionally adversarial equalization phase less stressful for the staff which helps manage staff burnout and retention)."

Marya D. Crigler, RPA Chief Appraiser
Travis Central Appraisal District

Data Errors

"Paperless" systems that employ a PDF mark-up approach still require manual data entry, wasting valuable time and increasing the chance for data errors and even data loss.

Shifting of Workload Burdens

Mobile solutions that aren't field-optimized and seamlessly integrated with office systems usually shift the workload burden to others. For example, eliminating paper by marking up PDFs often requires a larger time investment from IT or appraisal supervisors than a traditional paper-based workflow. It also typically takes more time for data entry staff to manage the new processes. Check-in/check-out systems often shift to IT staff to manage the burden of complicated work assignment processes or workflow bottlenecks created by database access restrictions. In the end, the time saved in the field is often more than reclaimed by additional time spent in the office, sometimes by higher-paid staff or departments without available bandwidth.

It is crucial to measure ROI based upon the time and resources saved across all departments, not just one activity or business unit. Implementing a cloud-based solution that is fully integrated with all other property database systems will mitigate these risks, eliminating duplicate data entry, minimizing the risk of data loss and enabling efficient remote work with a high ROI.

ROI Examples

Most jurisdictions implementing MobileAssessor by Data Cloud Solutions, a Woolpert Company, as their mobile appraisal solution will experience a 100% ROI within the first 12-18 months of use due to a nearly 300-600% increase in productivity (less overtime, lower fuel and repair costs due to optimized routing, minimal paper cost, minimal duplicate manual data entry). The following real-world examples demonstrate the high ROI of field-optimized mobile appraisal solutions having seamless integrations.
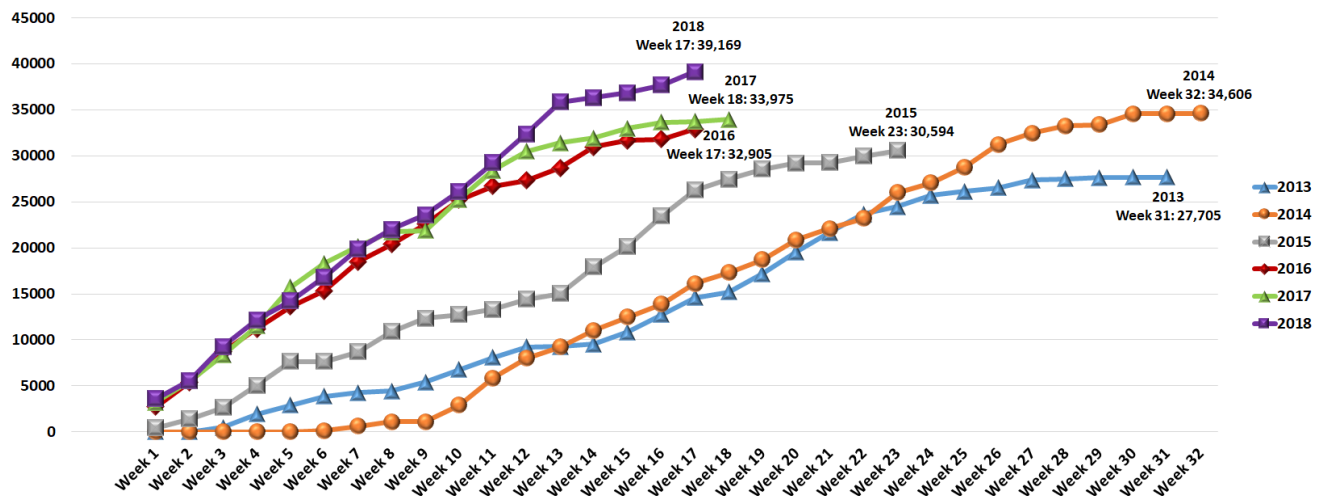

Figure 1: Productivity increases

Figure 1 shows the year-over-year increase in the productivity of permit checks (e.g., ground-up new construction, % complete checks, new sketching, etc.). The 2013 trend line reflects paper processes commenced in the first two weeks of 2013 and completed in June 2013 (27,705 permit checks/field visits). The very first cycle using MobileAssessor was started in week 7, five weeks later than normal. By June, appraisers had completed 34,606 permit field visits, 6,901 more than during the corresponding period in 2013—and with five fewer weeks of work. Additionally, 100% of all the data entered and sketched was synchronized directly to CAMA from MobileAssessor. Year-over-year, the process improvements and adaptations led to calendar shifts and increased efficiencies across the department.

32 Weeks
Before MobileAssessor
Time needed to conduct 34,000 field inspections **before** mobile assessment implementation

16 Weeks
After MobileAssessor
Time needed to conduct 34,000 field inspections **after** mobile assessment implementation

60 Minutes
Before MobileAssessor
Average time taken to measure, sketch, and complete data entry of residential improvement **with paper, tape and graph paper**

15 Minutes
After MobileAssessor
Average time taken to measure, sketch, and complete data entry of residential improvement **with mobile assessment, laser measuring and sketching**
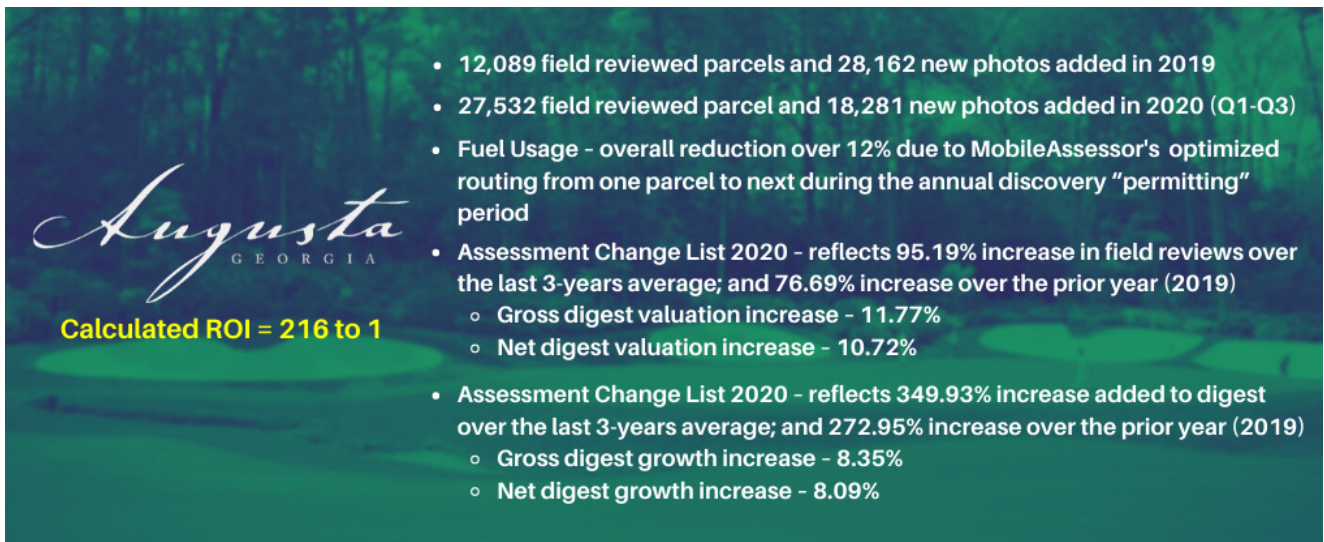
Figure 2: Augusta-Richmond County statistics

Figure 2 details ROI statistics provided by Augusta-Richmond County, Ga.

Average Cost in Ohio Counties for Mass Appraisal Per Parcel	$15-$25
Anticipated/Budgeted Cost for Lucas County Per Parcel	$11.90
Additional $$ Savings in Project to Date Per Parcel	$3.50 +/-
Time Savings in Project to Date (over 200,000 parcels)	~ 3 minutes per parcel (over 10,000 personnel hours)

Figure 3: Lucas County cost savings

Figure 3 breaks down the cost saving realized by Lucas County, Ohio, during the first reappraisal cycle using MobileAssessor.

Testimonials

"With growing property portfolios that were notably out pacing the approved additional labor allocation for our team, our office has been in search of a solution that would allow us to streamline the appraisal process to do more with the staff we had. We needed to streamline everything from permit gathering, appraisal assignments, tracking, field work, data entry and quality control review. Three years ago we partnered with Data Cloud Solutions to implement MobileAssessor. With this new technology we were able to complete these appraisal cycle tasks more efficiently and accurately. It is exciting to see that we have increased our annual appraisal capacity by more than 125% without adding additional staff.

Our appraisal team members have embraced the change from a paper based, duplicate data entry and static platform environment to now being paperless in the field, completing data entry once while in the field, and having a live connection to our appraisal platform wherever they are. Everything they may need to do their job is at their fingertips. No more double data entry or saving, renaming and indexing photos and sketches. It's all done automatically through this platform. MobileAssessor has set the bar for the future of mass appraisal programs."

- Derrick Wharff, Assessor & Tax Collector, Yamhill County Oregon

"With MobileAssessor we have been able to completely eliminate duplicate data resulting in more accurate appraisals. The increase in accuracy lead to more predictable values year over year and greatly reduced our appeals. The productivity gains from using MobileAssessor have been equivalent to hiring 5 additional appraisers."

- Steve Watson, Chief Appraiser, Hall County GA

"We really love how user-friendly MobileAssessor is and can tell that the workflow and design of the interface was built by people that understand our jobs and tasks as appraisers. The support that DCS provides is excellent and we are excited about the efficiency and accuracy at which MobileAssessor allows us to collect data. A major improvement all around."

- Derek Dubbé, RES, Appraiser Supervisor, Arlington County Virginia

"MobileAssessor allowed us to re-photograph all our properties in less than 3 months last year. It has also streamlined our sale inspection and building permit processes with its routing capabilities and by removing paper property record cards and the need to re-enter field data directly into our CAMA system. We are just scratching the surface of what this tool can do for our office but we believe it's the future of property data collection and it's allowing the appraisers who are their own data collectors to do more than ever."

- Justin Kuzmich, Real Estate Director, City of Salem, VA