ATI DISASTER RECOVERY SERVICES

3D PROPERTY SCANNING: CASE STUDY & RESULTS



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3D Property Scanning | Bottom Line Up Front

This document will provide specific details on ATI's efforts to create and maintain 3D property scanning, combined with centralized estimating and data-associated efficiencies based on investigative techniques.

With 3D Scanning using Matterport's TruePlan service, a hard cost savings of (or around) $123,191.41 ($110,000.70 + $13,190.71) per individual and a soft cost savings of 163 days of sketching time can be achieved.

Research into Field Investigation Activities

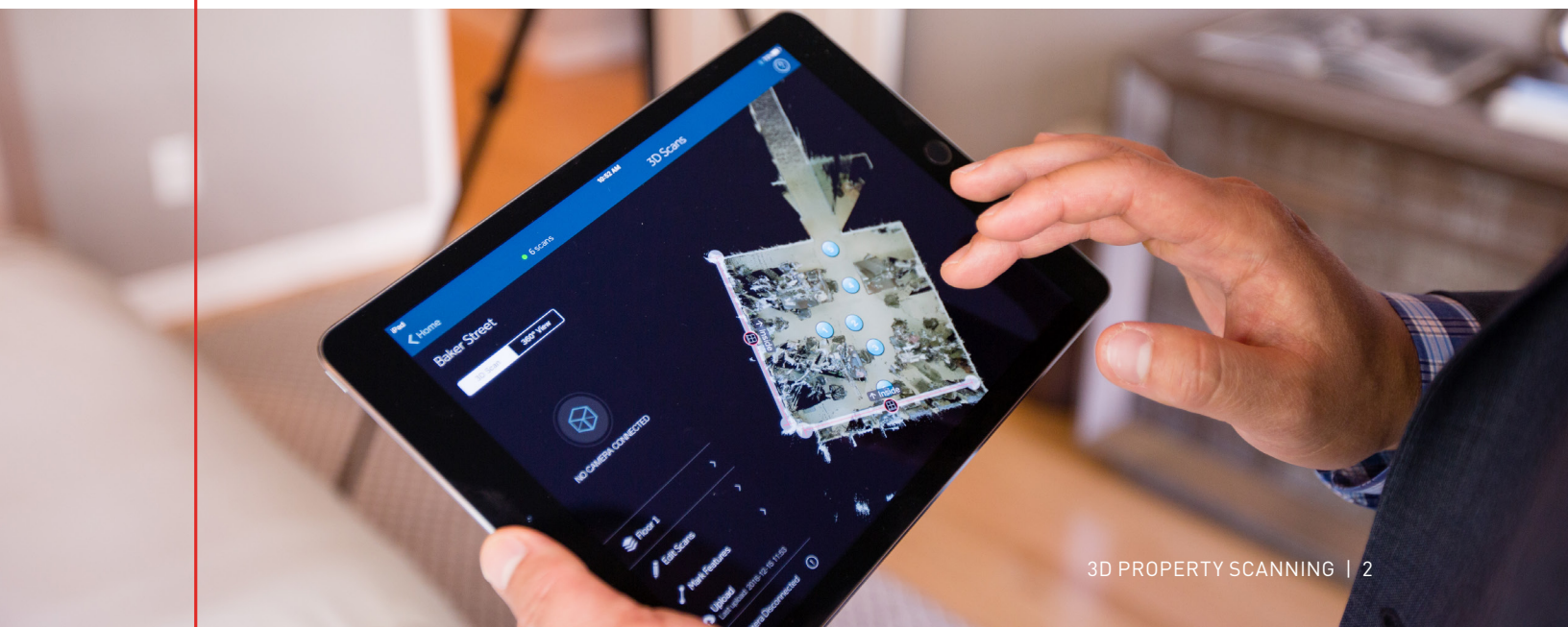
The below are typical field investigation techniques utilized by a Project Director (PD), Project Manager (PM), or a Project Estimator:

- Sketching: Tape Measure, Laser Measure, 3D Scanning
- Photographing
- Scoping

FIELD ESTIMATING ACTIVITIES STUDY

To measure the gain/loss in productivity within estimating, a study was done to examine the estimating process within Xactimate. The most common estimating scenario is that an individual will obtain measurements, create a diagram on paper or within Xactimate Sketch, create a scope sheet or write the scope onsite, or travel back to an office environment to complete one or all of the activities mentioned above.

A typical water loss in the US is a two-room and a bathroom loss. This model accounts for 373.95 SF, or the average SF for a water loss in the United States. The standard process for an estimator is to sketch the affected area first then to create the scope. There are usually two estimates for a water loss; the loss/mitigation and the rebuild estimates. This process could lead to multiple trips by different individuals. As part of the study, the impact of both hard and soft costs was evaluated for the typical water loss. Hard costs are costs directly related to construction including material and labor costs. Soft costs are additional costs not directly related to the construction budget. Modeled on the typical water loss, a room was sketched and scoped, and all estimating activities were recorded, including investment of time.



MEASUREMENT TIME STUDY

To measure the proficiency and time allocation for obtaining measurements for the "sketch" in Xactimate, the methods used to measure were studied. Measuring methods evaluated includes using a tape measure, a blue tooth laser measure, a combination of both vs. obtaining a 3D scan.

With the unique ability to obtain data from the actual scanning process, obtaining measurements is not required. Using the 3D scanning techniques methods will save an estimated 17 minutes, 31 seconds on the average loss (373 SF). This is just for the sketch estimating process, and time does not include adding line items. The study did not evaluate the change in productivity using Matterport technology to add scope items.

Based on research from Xactware, ATI averages 1,115 "assignments" per month or 13,380 Xactimate estimates per year. Although there may be multiple estimates per "assignment," this would create a time impact of:

- **163 days (Rounded from 162 days, 18 hours, 13 minutes) per year efficiency gained from not having to sketch**
- **3,930 hours per year efficiency gained from not having to sketch**
- **234,720 minutes per year efficiency gained from not having to sketch**

Let's examine these results against a field adjuster's average annual salary of $64,492 per year, based on 2020 ZipRecruiter data ($31.00 per hour). The following are the hard cost of wages potentially lost on obtaining measurements and sketching of a 373.95 SF area for an organization of field adjusters:

- **3,930 hours x $31.00 (hourly wage of field adjuster): $121,830**
- **$121,830 would account for two more field adjusters salaries**







	TAPE MEASURE	LASER MEASURE	3D SCAN
TIME TO OBTAIN MEASUREMENTS	14 Min, 1 Sec	10 Min, 32 Sec	5 Min, 7 Sec
TIME TO TRANSFER MEASUREMENTS TO SKETCH	10 Min, 43 Sec	10 Min, 43 Sec	N/A (TruePlan)
OVERALL TIME	24 Min, 44 Sec	21 Min, 35 Sec	5 Min, 7 Sec

The chart below shows the two rooms and bathroom economic value and severity of the 373.95 SF loss to help put the lost wages in perspective. Again, there is no impact from an efficiency standpoint at this time using 3D Scanning to add line items (only sketching time).

TYPE OF ESTIMATE	REPLACEMENT COST VALUE (RCV) TOTAL	LINE ITEMS	TIME TO ESTIMATE SCOPE
Mitigation	$3,993.68	31	23 Min, 02 Sec
Reconstruction	$9,810.36	36	17 Min, 53 Sec

SKETCH ACCURACY RESEARCH

A private third party reviewed several completed sketches performed manually and the others by the 3D scanning process. A review of the data from this research showed that the Matterport scan was 99% accurate (with 1% +/- accuracy) and that the manual sketch was only 66% accurate. Irrelevant to the fact if this is an insurance settlement or a contractor's estimate, both have misrepresented the material owner's interest in the repair process.

It should be noted that the target or optimal RCV line item total of the study was $3,632.84. The inaccurate sketch estimate RCV was $2,241.84 and accounts for a delta difference of $1,391.00 (or 38.3%). The scope and line item(s) were identical. What created the discrepancy was the room sizes based on inaccurate measurements/sketches.

Note: This estimate was different than the two bedrooms and bathroom loss with different scope.

IMPACT OF DRIVE TIME

One of the most significant strains on productivity in the restoration ecosystem is time spent traveling to and from loss locations. "Drive Time" or "Windshield Time," impacts both Claim and Restoration professionals alike. With advances in 3D Scanning, it is now possible to conduct inspections, scope creation and revisions, and reinspections without the need for drive time. The average roundtrip drive time per day for industry professionals is about 52 minutes per inspection. On average, 2.5 inspections are performed per day, which would be 130 minutes or two hours and ten minutes per day. Take the time driving per day and multiply it across a five day work week; that would account for 10 hours and 50 minutes per week. Throughout a month, the individual would spend over a full week (43 hours and 20 minutes) driving to and from projects or 21 days, 16 hours per year.

If an associate makes $25.00 per hour (not including benefits), that will account for a hard cost of $1,014.67 per month in salary. Compounded over a year, this would total $13,190.71.

One of the most significant challenges that impact both insurance adjusters and restoration estimators is the loss of productivity as a result of drive time. If an insurance/restoration estimator is provided a 3D scan, they can eliminate drive time inefficiencies. Data reveals that the elimination of drive time would allow two more estimates to be completed in a day. 3D scans ultimately help customers get back to the pre-damage state faster without the need for a physical inspection.

EVOLUTION OF TECHNOLOGY – PROVEN ACCURACY AND CYCLE TIME

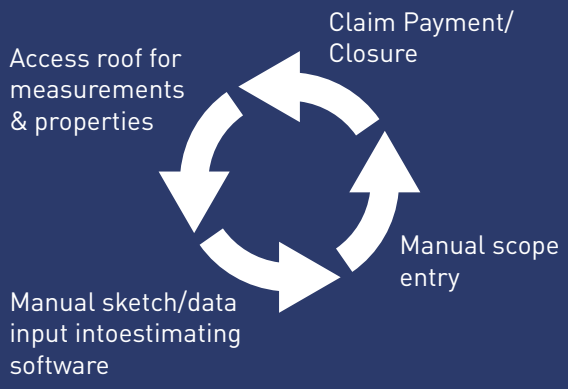
One of the most significant time and accuracy tools to evolve in property restoration is aerial imagery. Aerial imagery began to surface in the property insurance ecosystem in 2008. When first introduced, this product was met with uncertainty and the industry was hesitant to adopt it. As this tool evolved, it was proven to expedite the claim and damage repair process by drastically cutting inspection time and activities that involved obtaining and documenting measurements and roof characteristics. In addition to being quicker, it was also proven to be more accurate than many roof diagrams because of the input process' complexity (i.e., sketching a roof and accurately inputting correct properties of the roof).

During the initial use of aerial imagery, many carriers or restoration professionals would reserve the right to order a "roofing report" on complex, steep, or commercial roofing. As Standard Operating Procedures began to evolve, roof estimating matured with technology. This evolved from a manual input process of the roof characteristics and measurements to automation. Roofing reports are now expected at the onset of damage occurring. The insurance ecosystem has matured to the point where ordering a roofing report is part of the claim investigation process because of the benefits attained.

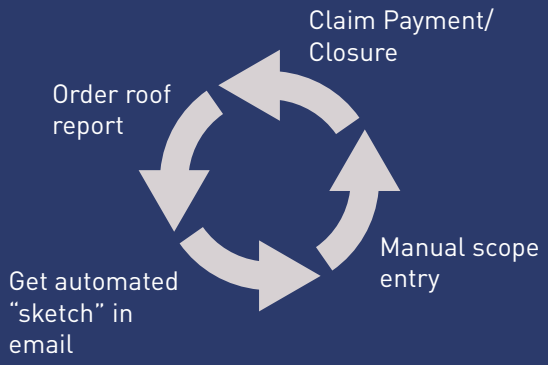
This author believes the same adaptation of 3D Scanning is the future of interior estimating. Inspections will not need to be performed by experienced individuals with technical skill sets. The new "inspection" will focus on obtaining data (such as scans, measurements, etc.) and estimating from remote or centralized locations. 3D Scanning will also eliminate drive time. The benefits of 3D Scanning include, but are not limited to, accurate measurements, time saved on potential reinspections, faster field inspections, and, most importantly, faster claim closure/property repairs.

IN A RECENT SURVEY OF ESTIMATORS, 98% OF THEM REPORTED NOT HAVING COMPLETED A MANUAL ROOF SKETCH IN THE PAST FIVE YEARS, PROVING THAT THE INDUSTRY HAS CHANGED.

INITIAL ROOF INSPECTIONS



REFINEMENT OF INSPECTIONS



CURRENT/FUTURE STATE OF INSPECTIONS





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