

KSU Housing: Maintenance Standardization and Cost Analysis



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Introduction

At Kennesaw State University on the Marietta Campus, the Department of Housing and Residence Life was entering maintenance work data into a data base but had not utilized this data in an effective way. They needed their data analyzed to optimize time to complete jobs and to optimize the cost of jobs.

After reviewing initial data regarding maintenance procedures, the team discovered that room turnover is about 55.73% of all maintenance procedures which is shown in Figure 1. Therefore, the team tackled room turnover. As the problem was explored, the team found that the department was not using the standard operating procedure associated with room turn. The SOP that the department was using did not include enough detail for it to be effective. There was no standard on how to conduct a room turn which led to high variability and a large amount of rework needed.

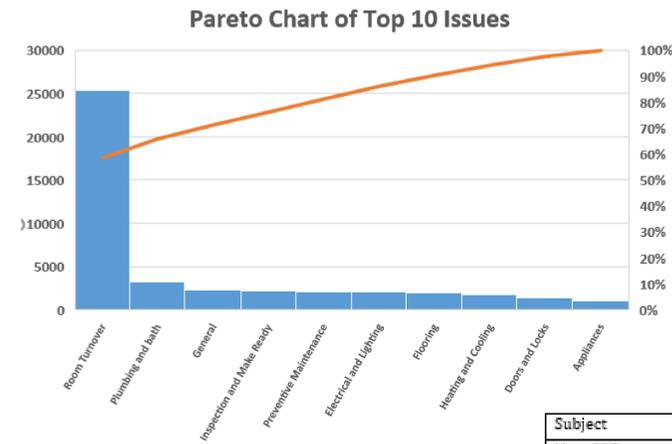


Figure 1 : Pareto Chart

Figure 2 : Action Plan

Subject	How	Who	When	Status
New SOP	Create new standard operating procedure.	Six Sigma Project team	Spring 2020	Complete
	Approve new standard operating procedure.	CL/CG/ZP	Determined by department	Pending
Train the trainer	Lead technician train Resident Directors and other personnel.	SC/ZP/CG	Determined by department	Pending
Train the Resident Assistants	Resident life pro-staff train resident and student assistants.	HRL personnel (RD's/ACs/SRA's)	Determined by department	Pending
Trial run with new SOP	Pilot test the new SOP.	SA's/RA's/SRA's	Determined by department	Pending
Using new SOP	SA's, RA's, SRA's, and new techs will read SOP to ensure consistent inspections	SA's/RA's/SRA's New Technicians	Determined by department	Pending

Root-Cause Analysis

The team studied the way each technician performed room turnovers using time studies. The time studies were analyzed to create a time standard for each process needed to complete a room turn. The team then created a flow chart of how the room turns were being performed and used the standard time to create a simulation of the room turn in Arena. The first process, the inspection process, was where most of the variation was suspected of taking place. The team focused on improving the inspection process with a standard operating procedure.

In the past, resident assistants and student assistants have done preliminary inspections as part of the move out process. If utilized correctly, this preliminary inspection could potentially save the technicians from the extra inspections that they are dealing with. The team decided to create a standard operating procedure for the resident assistants and student assistants to follow in order to eliminate the inspection step during room turns. The team also decided to look at the training process to ensure that all resident assistants and student assistants were proficient in the inspection process to reduce variability during the room turns.

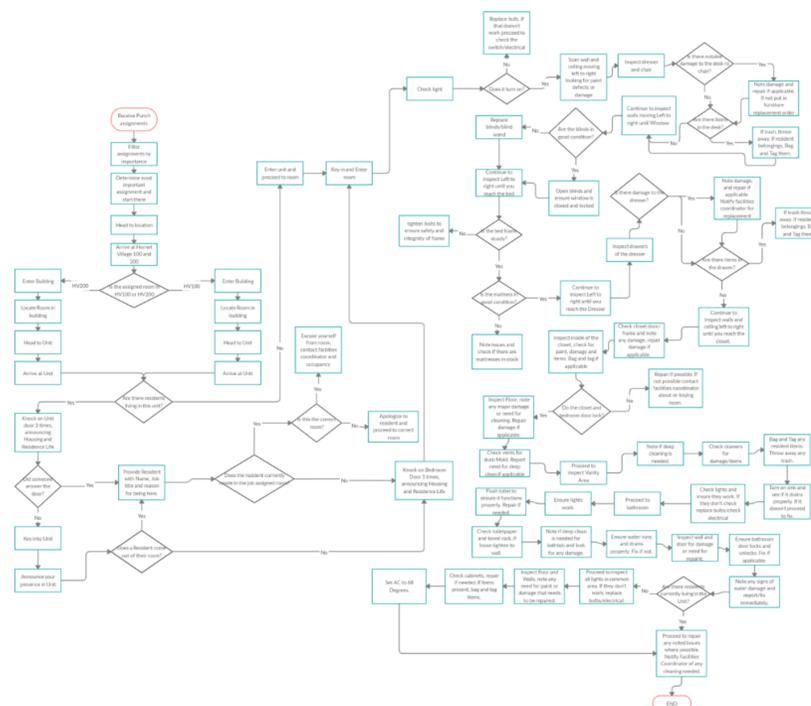


Figure 3 : Single Suite Flow Chart

Standard Operating Procedure

The standard operating procedure was created using the information gathered from shadowing the technicians as well as information provided by the department. The team made it a priority to be as detailed as possible while also being clear and concise. It needed to be detailed so as not to miss steps in the process, and it needed to be clear to ensure that reinspection would not be necessary. The department then looked over the standard operating procedure and approved its use in room turns.

Training

Training resident directors and resident assistants boils down to management making sure that they read the new standard operating procedure. Each resident assistant should be given the new standard operating procedure and be trained in the new quality standards. Resident assistants, student assistants, and new technicians should have the new standard operating procedures provided to them whenever completing inspections. This was done to ensure that steps in the inspection process were not overlooked while simultaneously decreasing variation in the overall process. Because of time restrictions, the team could not implement a full training program, but one is recommended in the control stage. Instead, individual employees were trained to do the pilot tests.

CONCLUSION

The team's findings from the project was that the Department of Housing and Residence Life did not have a standard operating procedure that reflected the standards they held themselves to. The team was able to work with the department to provide the following: the standard time to complete the inspection process, the data collection method to record the standard time, and a standard operating procedure that reflects the quality standards that the department wanted to uphold.