# Cost Effective Use of Occupancy Sensors

http://OccupancySensorSwitch.com

Occupancy sensor switches are one of the most economical automated lighting components available. They are available in a variety of forms for many different applications. Taking the time to choose the right occupancy sensors to fit your spaces is very important. And, if you are designing an energy efficient lighting plan on a budget, choosing which spaces to implement occupancy sensor switches is equally important. Understanding each of these aspects will help you to create the most cost effective automated lighting setup.

Energy savings provided by occupancy sensors can vary depending on which area of a building they are used in. Studying the occupancy levels of each room will help an owner understand how much savings occupancy sensors can offer in certain areas. An effective control scheme will understand occupancy patterns of the specific building and place occupancy sensors accordingly. The U.S. Environmental Protection Agency (EPA) has gathered typical energy savings for general areas of a building.

| Occupancy Area | Energy Savings (%) |
|---|---|
| Private Office | 13-50 |
| Conference Room | 22-65 |
| Restroom | 30-90 |
| Classroom | 40-46 |
| Storage Areas | 45-80 |
| Corridors | 30-80 |

When looking at the upper limits of these savings it is easy for one to validate the use of occupancy sensors in and automated lighting system. However when closely examined, the range of percentage of savings presents uncertainty and lack of confidence

in the statistic. Rather, the amount of savings greatly varies based on the varying occupancy levels that these spaces have in different buildings or areas. For example, a corridor in a basement of an office building that leads to storage rooms may not see as much traffic or occupancy as a corridor on a main level that leads to offices. This assessment results in the variance of savings ranging from 30%-50% for corridors in general. This chart should be used to realize the opportunity of savings in such areas but not to indicate expected savings.

Simply designing a system with occupancy sensors in every room and around every turn of a corridor is certainly not a cost effective design. For cost efficient design this chart of energy savings can be broken down to make general assumptions of where occupancy sensors should be placed and should not be. Storage areas are very appropriate rooms to install occupancy sensors in. While many different spaces can be classified by storage areas a typical file room can greatly reduce energy consumption with occupancy sensor switches. Occupants often enter and exit these rooms with their hands full, making it difficult or inconvenient to operate traditional light switches. Also these rooms are not occupied as often as private offices but have lights on just as often throughout the day.

A residential space seeing comparable traffic would be a garage or basement. Many times we find ourselves carrying items into and out of these spaces; and they are often not well lit with natural light. This makes these highly probable areas for leaving the lights on. You go to the garage to grab your tool box or groceries, usually making several trips, and in the end you forget to go back and turn the lights off because you're occupied doing something else and your hands were full when you last left the space. Basements and other storage areas are the same way, making them very cost effective areas to install occupancy sensor switches.