

What is a 5S project?

5S is a simple, structured, repeatable method of removing obstacles and keeping workspaces clean, organized, and safe. 5S is a form of visual management. When applied correctly, the 5S methodology can help you see problems in a workspace at a glance. 5S removes obstacles by arranging and organizing tools or information in an efficient way. The methodology includes five elements: sort, shine, set in order, sustain, and standardize. 5S is sometimes called “6S” because some practitioners add “Safety” as the 6th “S.”



Sort: sifting through items and keeping only what you need and disposing of what you don't.

Set in Order: creating permanent locations for each part or tool in the order of how much it is needed.

Shine: cleaning the workspace.

Standardize: creating visual cues and standard work to ensure consistent application of a process or each item's use/storage.

Sustain: forming habits to maintain the first four S's.

When should a department use it?

- When employees spend too much time searching for items at work
- When employees want to easily keep track of important items
- To reduce movement and create efficient flow within a workspace
- To eliminate unneeded materials from a work area
- To reduce redundant supply orders for materials that are lost

How do I facilitate or create it?

Before starting the project:

1. **Create a detailed plan.** A 5S project needs to be planned thoroughly to be successful. You will need complete buy-in from your supervisor and team to make the process worthwhile. Start by developing an A3 that includes:
 - a. Defining the problem. Why does the current state need to be changed?
 - b. Defining the boundaries of your 5S project. How large is the area in which you'd like to implement a 5S system?
 - c. Selecting the project team and determine the timeline for the 5S project.
 - d. Deciding which metrics you want to improve via the 5S project.
2. **Train staff on 5S methodology.** City Performance trains staff on the 5S approach in its intensive Lean Leaders Training. To find the slides that pertain to 5S, navigate to the San Francisco Data Academy's website and find the Lean Leaders course page.

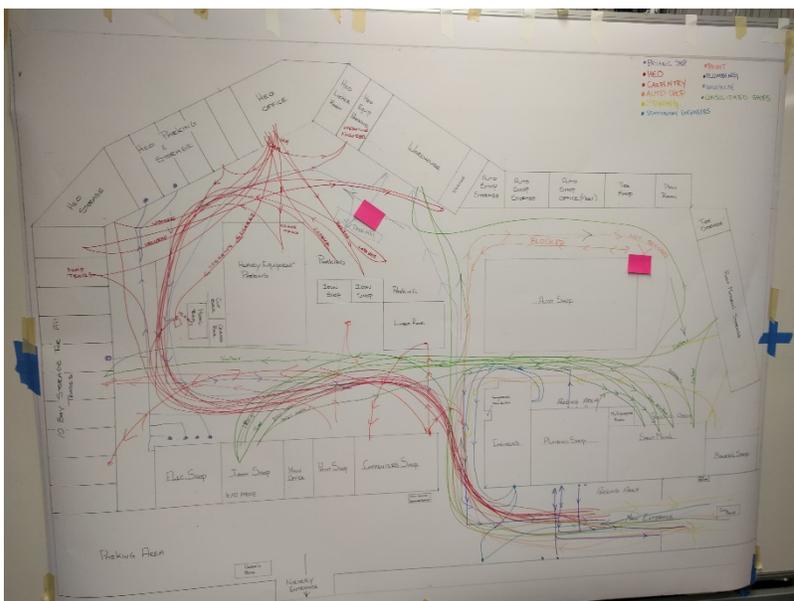
3. **Discuss issues with the current workspace with the project team.** It may be helpful to facilitate the team through a fishbone diagram exercise to get a better idea of the root causes associated with the issues the team surfaces.
4. **Take “before” photos.**



The Recreation and Parks Structural Maintenance Yard (SMY) took this “before” photo of their wire room to document the current state of the space.

During the first meeting with project team:

5. **Conduct gemba walks with staff to get a better understanding of the obstacles associated with workflow in the workspace.** Make sure to take pictures, document steps, track the step times, and take notes on which of the seven Lean obstacles you see. Is there excess movement in the workspace? Are people doing extra work by looking for tools? Are employees making mistakes due to spatial or organizational issues in the workspace? Are the tools that employees use most located close to them? Encourage staff to conduct gemba walks of the process themselves – this practice will allow them to start seeing obstacles in their own workspace. On your gemba walk feel free to create a [Spaghetti Diagram](#) of the movement of people or things in your workspace. If you conduct gemba walks, be sure to highlight that gemba walks are not an opportunity to pass judgement or offer solutions. If you or your colleagues are being



observed, a gemba walk is not an opportunity to feel ashamed of the way you conduct your work. Remember: gemba walks are about having big eyes, big ears, and a small mouth, and Lean is about having respect for your coworkers and the workspace. For more information on Gemba Walks, see the [Gemba Walk Resource Guide](#).

The Recreation and Parks Structural Maintenance Yard developed this Spaghetti Diagram (left) of the flow of people through their yard at morning deployment.

- 6. Lead a brainstorming session with your project team to document improvement ideas and develop future state metrics.** What do project team members like about the current workspace orientation? What do project team members want to change? Document these ideas in a visible space in the workspace for future reference. How much do you want to improve on the current state metrics?



The Recreation and Parks Structural Maintenance Yard used an Impact/Effort matrix to categorize the problems and challenges their team saw in the electrical shop.

- 7. Identify a smaller space within your larger project scope that you want to work on first.** If you have identified multiple areas in need of the 5S methodology, pick one area to start with that will have a high impact, but is low in effort. Starting with a smaller, high-impact space will foster buy-in with the project team.
- 8. Develop criteria for disposing of not-needed items with project team and post the criteria in a place that is visible to the entire project team in your workspace.** Should the project team dispose of items that are 5 years and older? What about items that only get used once a year? Work with the project team to develop criteria for sorting, and make sure that all team members agree on the criteria. The more specific and detailed the sorting criteria, the better. People have strong emotional connections to their belongings – setting expectations about what will be tossed will mitigate resistance to the project later.
- 9. Develop timeline for sorting process, and stick to it!** It can help to identify all of the sorting tasks that need to be completed and list them on a visual management board so the project team can cross off sorting tasks as they are completed. For example, “sort through shed tools.”

To begin the 5S project:

- 1. SORT:** During the Sort phase, the team should go through each item in the work area and identify whether or not it is needed. Develop a step-by-step sorting process and post a list of the steps in a visible place in the workspace. Once project team members decide they want to toss out an item, what should they do with it? Lean tells us that the best method is to develop a “red tagging” system:
 - Project team member picks up an item and asks him/herself:
 - Does this item meet the criteria we defined as a project team?
 - Is this item needed?
 - If it is needed, is it needed in this quantity?
 - If it is needed, how frequently is it used?
 - If it is needed, should it be located here?

- Who is ultimately responsible for the item? (Verify with that person.)
- Are there any other not-needed items cluttering the workplace?
- If the item meets the criteria for tossing, place the item in the “red tag” area and label it by:
 - Frequency of use (Monthly? Weekly? Annually?)
 - Person responsible for item

**Items in the red tag area should be held there for at least two weeks so that other team members have a chance to determine whether it should be tossed. A shift in mindset is necessary for successful sorting. Instead of assuming that all items are staying except for a few obsolete things, assume instead that all items are going except for the things that are really needed for work. Avoid the trap of the “perfectly good”: “Why should I get rid of this bag of rubber bands? They are perfectly good”... even though the office has ten bags of them that would take 20 years to use up.

- a. **Develop a formal process for disposing of items, and communicate this process to project team.** Work with project team to determine which items can be recycled, and connect the project team with recycling and reusing resources across the city. Assign a person responsible for disposing of items.
 - [City and County of San Francisco Virtual Warehouse](#): Check out the Virtual Warehouse Guidelines for 5S Projects at the end of this guide (below). Virtual Warehouse is an online items reuse system for surplus goods submitted by San Francisco City Departments for reuse. **The Virtual Warehouse is open to** City and County of San Francisco City Departments, all non-profits with 501(c) status, and all schools. **The Virtual Warehouse helps** prevent valuable items from going to the landfill, save money on purchasing and disposal costs, and meet San Francisco’s [zero waste](#) goals. It is most appropriate for office supplies, rather than construction materials.

2. **SHINE: During the Shine phase, the team should conduct a comprehensive cleaning of the workspace.** Remove all dust and dirt from workspace. Clean all tools. As Jeffrey Liker notes in “The Toyota Way,” “When Americans were making pilgrimages to Japanese in the 1970s and ‘80s, the first reaction was invariably, ‘the factories were so clean you could eat off of the floor.’” Aim to make your workspace so clean that you could eat off the floor! In a workspace that has been successfully shined:
 - a. All dirt, filth and dust has been removed from the workspace
 - b. All parts and materials have been inspected for abnormalities or potential for repairs. If a structure or item needs repairing, repair item.

To successfully shine a workspace:

- a. Divide workspace into sections and assign project team to clean specific areas.
- b. Decide on what needs cleaning, order of cleaning, type of cleaning conducted, and any assistance needed to conduct cleaning.
- c. Develop a shining schedule with project team and post in a visible area in the workspace.



Once the Electrical Shop Team had methodically sorted through their supplies, they discovered they had tons of extra space in the shop. Then, they started the “shine” process, pictured left.

3. **SET IN ORDER:** During the Set In Order phase, the team should determine where each item should be positioned based on the item’s frequency of use, workspace efficiency, and workflow. Meet with team to develop a plan for setting items in order. Locate items so they can be retrieved in less than a minute (or faster for frequently used items). It may be helpful to use a Five Whys exercise to determine where something should go.

If the item is used...	It should be located
Multiple times per hour	Visible and within arm’s reach
Several times a day	At the workstation
Weekly	Within a short walk
Rarely	Stored somewhere it can be easily found when needed

- a. **Write this plan down and post it in a visually accessible area of the workspace.**
- b. **Create a visual workspace by labeling tools and specific areas of the workspace.** Label all storage areas, add tape to the floor to define holding areas for tools, add shadow decals to indicate where an item should be stored, and add tiger marks to demonstrate that something is a safety hazard. Add arrows to help individuals navigate the workspace. One valuable question to ask: “Would I know where this item should be placed even when it’s not there?”
- c. **Place items in their new homes.** Ensure that there is “a place for everything, and everything is in its place.”



After the team had finished “shining” the space, they set their wires in order. Notice how each wire is labeled so that each team member can see what they need in a few seconds. The labels are also a great example of the “Standardize” practice, discussed below.

4. **STANDARDIZE:** During the Standardize phase, the project team should define routines and practices that will ensure that the first three S's (sort, shine, set in order) are a constant routine. Whenever cleanliness, organization, and orderliness are achieved, develop standards to ensure that they are maintained. A workspace that is successfully standardized has:

- a. A work structure that will support your new practices and turn them into habits.
- b. Everyone in your workspace follows the same exact procedure for acquiring tools, parts, or documents every time they need them.
- c. Everyone in your workspace uses the same names for the same items.
- d. All areas of the workspace use the same signals, signs, or indicators.

To successfully standardize your 5S practice:

- e. Document procedures for sorting, shining and setting in order.
- f. Develop a schedule for maintenance of the work area.
- g. Develop checklists for cleaning and maintenance of specific areas.
- h. Develop standard practices for re-ordering supplies. How will you and your team know when it's time to reorder supplies? How low should the supply get before you reorder? What visual indicators will you put in place to indicate it's time to reorder?
- i. Create visual aids for proper storage of goods. Use photos, instructions, and checklists to provide visual guidelines for how to store goods correctly.



To standardize the practices a team develops during their 5S project, teams can use visual management to turn initial 5S practices into habits. The SMY uses the bathroom cleaning checklist (pictured left) to manage weekly bathroom cleanup.

5. **SUSTAIN:** Ensure that the work space is continually maintained and that standards are adhered to.

- a. Celebrate the achievement of a completed 5S project! Publicize the new system by sharing it with colleagues and recognizing standout employees who have adopted the 5S methodology.



The SMY Shop Supervisors celebrate their hard work conducting 5S projects at the Structural maintenance Yard. Each supervisor was awarded a "5S Award" for their work on Lean initiatives.

- b. Use 5S checklist to conduct regular audits of the workspace to ensure that the space maintains its organization and flow. If checklist audit reveals that the 5S practice is not being followed, determine why. Solve the problem.
- c. Ensure that staff are trained in 5S principles and incorporate them in their individual workspaces.

Hints

- **The 5 S's are not one-and-done steps.** Rather, they are the five essential elements of an efficient workspace. The team will need to return iteratively to sorting, cleaning, and so on many times during the course of a thorough 5S project.
- **Use visual management tools to keep the project team motivated.** Create to do lists and post them in a visually-accessible area of the workspace. When team members complete tasks, they should note their completion on their visual management boards. As Chris McChesney, author of the 4 Disciplines of Execution says, "people play differently when they are keeping score...when they can see at a glance whether or not they are winning they become profoundly engaged." Profoundly engage your team by making your 5S practice visual. See our [Visual Management reference guide](#) for more details.
- **Shrink the change.** If the project team is feeling overwhelmed by how much they decided to take on at the start, try focusing the 5S efforts on a smaller, more achievable area.
- **For further reading:** *The Life-Changing Magic of Tidying Up*, by Marie Kondo.

Lessons Learned

- **Spend a significant amount of time building consensus with your team and utilizing their respective strengths throughout the project.** Understanding the strengths of the folks on the project team will allow you to ensure that the team members are working to their full potential on the 5S project.
- **Work with the team to define criteria for sorting.** People have a deep attachment to their belongings. If folks aren't on the same page, resentment will build as team members start throwing away their tools or belongings. Make sure that decisions about what to throw out and what to keep come from the team members, rather than from you as the facilitator. You can encourage and challenge, but pushing people to get rid of items they are attached to can backfire and stoke resentment.
- **Clearly define how the team will dispose of items.** Being clear with the team about how unneeded items will be appropriately disposed of will reduce resistance.

Instructions for Recycling and Disposing Materials

For 5S Projects

Background

Per the [Surplus Disposal Ordinance](#) and the [Resource Conservation Ordinance](#), City Departments are required to submit all City property to the Virtual Warehouse.

The Department of the Environment manages the Virtual Warehouse and follows this hierarchy when determining what to do with the surplus items:

- 1. Reuse by City Departments**
Surplus materials are made available online to City departments.
- 2. Public Auction**
Surplus materials that are no longer appropriate for the City's continued use, such as old or high mileage vehicles, are auctioned off. These items are available to the public through [Bar None Auction](#).
- 3. Donations**
Surplus materials such as excess office furniture are donated to schools and non-profit organizations. These organizations must be certified 501C's.
- 4. Recycle Surplus for Salvage Value**
Materials such as scrap metal,¹ are recycled for salvage value.

How to submit items to the Virtual Warehouse

- 1. Get approval** from your supervisor to turn in reusable, broken, or obsolete surplus items from your department.
- 2. Go to** <http://warehouse.sfenvironment.org/>
- 3. Click on "Turn in Items"** in the blue box on the left side of the screen.
The page tab is right below "About the Virtual Warehouse" tab.
- 4. Are you submitting less than 5 items?** Fill out the form on the appropriate page: [Electronics & Computers](#), [Scrap Metal](#), or [Everything Else](#).

¹ Any broken or non-reusable item containing 70% or more metal must be recycled as scrap metal

5. *If you have more than 5 items, please complete the [VW Multiple Items Form](#).*
 - a. *Fill out every row in the Contact Information tab of the spreadsheet.*
 - b. *Then, click on the “Item Descriptions” tab at the bottom of the spreadsheet.*
 - c. *Start listing your items by clicking on row 2 of the “Category” column. You will see a drop-down list of possible categories. Choose the right category for your item from that list.*
 - d. *Then, move to the “Condition” column and choose a condition. Then, list the quantity. Then, provide a detailed item description.*

If you have questions, email the Virtual Warehouse (VW) Administrator at sfgovrecycling@sfenvironment.org.

6. Submit a clear photo of each **reusable item** to the VW Administrator at sfgovrecycling@sfenvironment.org. Items will be posted to the “[Available Items List](#).” **Reusable items must be held at your facility for a minimum of 30 days.**
7. Once you submit your full list of items and your photos of reusable items, you will receive an email 2-3 days after submission from the VW Administrator that includes an inventory number.
8. If items are **broken or obsolete**,² the VW Administrator will provide instructions for proper recycling. Electronic items will be picked up for free at your location by a local e-waste hauler.
9. VW Administrator will notify you if an interested City Department, school, or non-profit organization would like to pick up your items. The submitting party is then responsible for coordinating the pickup of materials with the interested party. If the item(s) you submitted is/are reused within your department, please notify the VW Administrator immediately so the item can be removed from the Virtual Warehouse.
10. **Once 30 days has passed since your department submitted the items to the Virtual Warehouse, send an email to the VW Administrator notifying her that you are planning on disposing, recycling, or donating the materials in question.** The VW Administrator will provide you with instructions for disposing, recycling or donating the materials in question. Once you have received these instructions, you are allowed to dispose, recycle, or donate the items.

Coordinating with Other Departments to Reuse Materials

If you would like to coordinate directly with a department to donate your materials, you can do this. However, you must notify sfgovrecycling@sfenvironment.org before you begin the donation coordination process.

² Obsolete means any item that is no longer produced or used.

