

# How to Plan Projects with WBS and PERT Charts

Create your projects using:

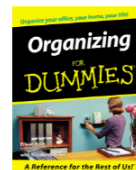
Work Breakdown Structures (WBS)  
and  
Program Evaluation and Review Techniques (PERT Charts)



**Everything in its Place<sup>®</sup>**



Eileen Roth



Author

[EverythingInItsPlace.net](http://EverythingInItsPlace.net)



# Everything in its Place®



**Eileen Roth**

*Your Tour Guide for Success*



## Mini bio

As the author of *Organizing For Dummies*®, Eileen Roth demonstrates how to be more productive, reduce your stress, and save time and money.

She named her company Everything in its Place® because she truly believes that you can find a place for everything.

Eileen is a national speaker, trainer and productivity expert in the areas of:  
Office Organization, Time Management, and Home Organization.

She has appeared on the:

*Today Show, Oprah, Fast Company, ASTD's Training & Development (now ATD), Successful Meetings, Office Pro, Self, Real Simple, Woman's Day, Men's Health, Chicago Tribune, LA Times, Washington Post, etc.*

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# How to Plan Projects with WBS and PERT Charts

When you have a project,

- ❖ Do you put it off because you know it involves a lot of time?
- ❖ Do you have trouble finding time in your schedule?
- ❖ Do projects overwhelm you?

Many people look at a project like they were going to the dentist. They don't want to do it because they think it isn't simple, and it's time consuming. It does take time, but you can make it simpler by following some simple project planning.

If it's your own project, or you are the project manager/coordinator, the first decision is to decide if it is worth it. To do that, ask yourself these questions:

- ❖ Will the project save time?
- ❖ Will the project save or make money?
- ❖ Will it save space?
- ❖ Will it reduce your stress?
- ❖ Will it add to your business or your life?

Here's an example of answers to a project most people do not think is worth the time to do --spend time cleaning out your files.

## **Will it save you time?**

It will save you time searching for more important information.

## **Will it save you money?**

It will save you money if you are paying for file storage or buying file cabinets or boxes to store old files.

## **Will it save you space?**

It will save you space when you toss files you no longer need.

**Will it reduce your stress?**

Yes, you will have less files so you will be more efficient and find information faster.

**Will it add to your business or your life?**

You will be happier if you can find things faster at work.

Many personal projects are for pleasure or relaxation, so they will add to your life. Others will save you time to spend more time to enjoy your life.

Once you determine that the project is worthwhile, there are steps to take.

We will begin with an easy personal project, making dinner, and then look at a business project, creating a membership directory.

## Step 1: What is your Desired Outcome or Result?

Projects involve more than a single task and need Project Planning. The first step is to determine the outcome you want. Here are some questions to help you decide:

What do you want to accomplish?

Have you created a specific goal?

What results do you expect?

The goal for the personal project is to make dinner for four, and the dinner consists of salad, meat loaf, two sides, and drinks.

The goal for the business project is to send a complete membership directory out to the members of an association, ACG, in January.

For either of these projects, start on the Project Planner-Action Steps and think about what elements you need to accomplish the project. Brainstorm the elements and list them as Action Steps as you think of them.

## Step 2: Develop a Work Breakdown Structure (WBS)

The next step is to develop a Work Breakdown Structure (WBS). It breaks down all the items needed to be done for the project. The WBS does not necessarily show any order, just the parts or elements of the project.

Start at the end and work backwards:

What will the end result look like?

Can you break it down by Subtopics?

What pieces/elements do you need for each Subtopic?

At this point you are just determining what the puzzle pieces are. Don't be concerned with who is going to do it or what it will cost.

There are several ways to create a Work Breakdown Structure (WBS).

1. Move pieces from the Project Planner-Action Steps into related groups or Subtopics on the Project Planner-Subtopics form if simple.
2. Draw your own Work Breakdown Structure (WBS).
3. Use a spreadsheet like Excel or Google Sheets.
4. Make a mind map – with or without software
5. Use project management software

For a dinner project, there are 4 key steps:

Prepare dinner.

Set the table.

Serve dinner.

Clean up the dishes.

## Dinner Work Breakdown Structure (WBS)

### **Appetizer: Salad**

Lettuce  
Mushrooms  
Mini Tomatoes  
Cucumbers  
Peppers  
Dressings

### **Entrée: Meat Loaf**

Hamburger Meat  
Egg  
Bread crumbs/cut toast  
Seasoning  
Tomato Sauce/Paste

### **Side Dishes**

Corn on the Cob  
Butter  
Salt  
Water  
  
Baked Potato  
Butter  
Chives  
Sour Cream

### **Drinks**

Water  
Pop/Soda  
Coffee/tea

The four key items: Appetizer, Entrée, Side Dishes, and Drinks are like Subtopics to Dinner. You can't plan the dinner without knowing all the elements needed to create those four items. Thinking about each Subtopic separately helps you realize what elements you are going to need.

Do you know what's missing from this list?

Besides the food elements, you are going to need pots and pans as well as utility knives, kitchen utensils like mixing spoons, and a cutting board. Technically you will also need serving dishes, but we will just do the meal preparation part to keep this example simpler.

### **Business Project**

This is the same for a work project –

What are all the specific elements needed?  
Can they be grouped under Subtopics?

Shown below is the WBS for the Association for Corporate Growth (ACG) Membership Directory. It's a great example of a huge project broken down into Subtopics, including due dates just like the Project Planner-Subtopics form.

# ACG Membership Directory Work Breakdown Structure (WBS)



**Association for  
Corporate  
Growth®**

August, 1990

Tentative

ACG  
MEMBERSHIP DIRECTORY SCHEDULE  
1990 - 1991

Step 1: Member Lists

- Jul 5 Letter to Chapter-membership directory contact & contact for chapter cover page (meeting schedule)
- Jul 2 Mail directory verification forms, Skills, & list to each chapter's designated person with letter re directions & dues
- Aug 15 Memo to chapter designates - progress & reminder to send dues with printout by due dates (Sept. 3 & Oct. 15)
- Sep 1 Begin to choose typesetter/printer - confirm time needed

Step 2: Chapter Cover Pages

- Sep 6 Send letter re cover page - officers/directors & meeting dates w/form due Sept. 24
- Sep 24 Proof chapter cover pages against data base info (1 week)
- Oct 1 All front pages sent to typesetter (2 weeks)
- Oct 15 Front pages returned to ACG to proof typesetting (1 week)
- Oct 22 Front pages returned to typesetter for corrections
- Oct 29 Final pages returned to ACG = camera-ready

Step 3: Data Entry

- Sep 13 1st batch of renewals due in  
Enter data (3 weeks)
- Oct 15 All data due in
- Nov 5 proof (2 weeks)
- Nov 19 Data entry proofed; Request printout by company  
proof for identical company names (1 week)
- Nov 28 Company names completed;  
2nd company printout; 2nd proof (2 days)  
Check printout by individual names (1 day)
- Dec 1 All computer data ready  
Final printout ready for printer

Step 4: Printers--5 weeks

- Dec 1 Transfer data to printer (3+ weeks-holidays)
- Dec 22 Data returned for proofing pages (titles, etc)
- Dec 26 Corrections made; directories to be printed (2 weeks)

Jan 15 Directories mailed  
International Headquarters 104 Wilmet Road, Suite 201

Deerfield, IL 60015-5195

(312) 940-7215

FAX (312) 940-7218

### 3. Budget

It's impossible to create a budget without knowing what elements are going to be involved whether it's a dinner menu or a business project.

List each item in a table or spreadsheet and put down an approximate cost for each element/item. If you can't research an approximate cost, estimate. Always plan for more than less. 1.5 times of what you think it will cost will probably be a safe estimate.

If you are outsourcing any parts of the project, get an estimate for both costs and time.

i.e. When I created the ACG Membership Directory, I called several printers and got estimates for both time and cost for their end of the project. The WBS was worked backwards to realize the project had to start in July in order to mail in January.

### 4. Independent / Dependent Elements – PERT Chart

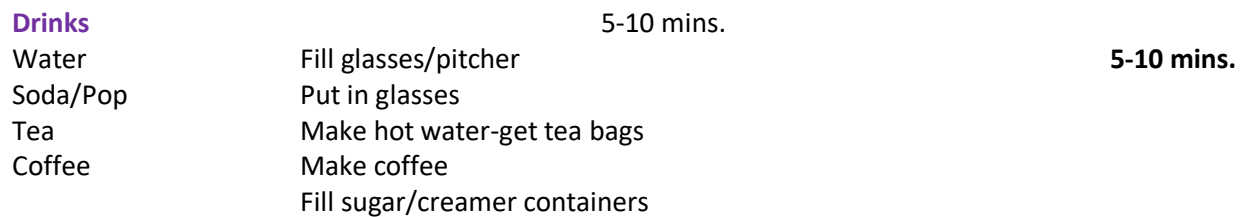
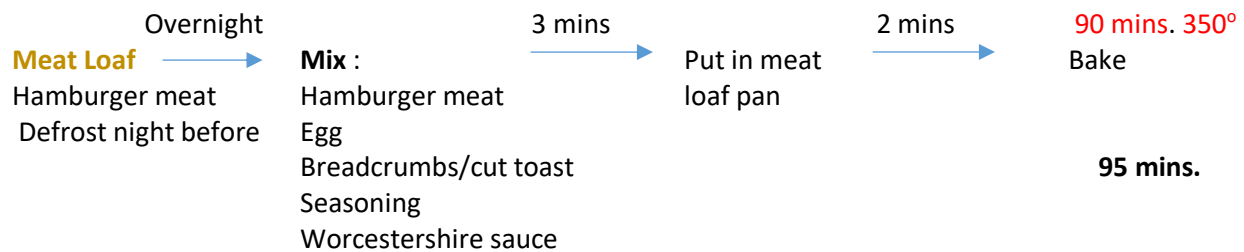
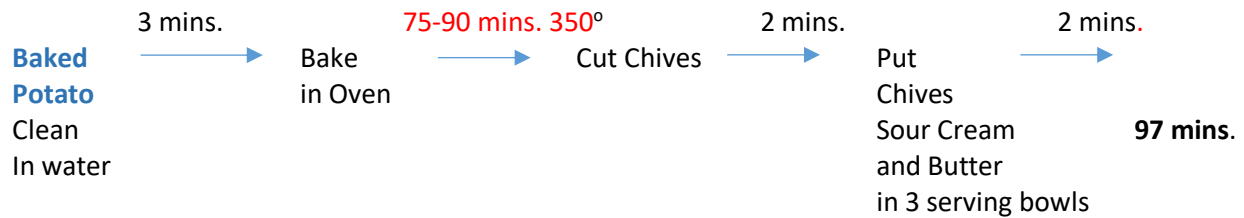
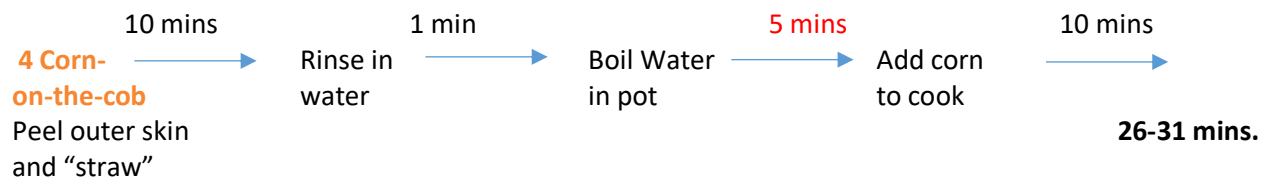
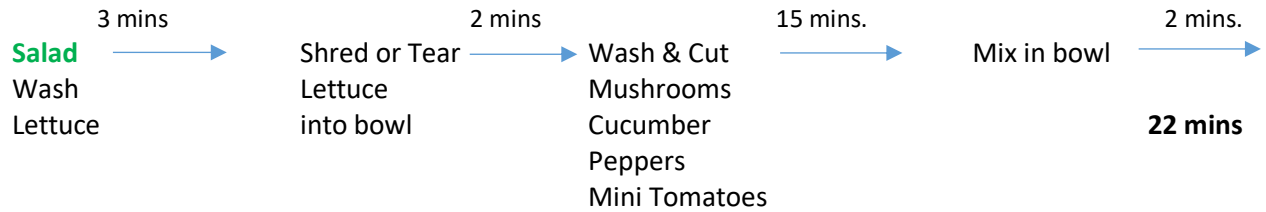
While listing the items is a good way to recognize all the elements that will be needed, creating a PERT chart will help you see what items are dependent on other items being completed in a sequence. It will also show you what items can be done simultaneously.

PERT chart stands for Program Evaluation & Review Technique. You could draw it, use a spreadsheet, a mind map, or project software for more involved business projects.

Also include time elements here because they will have a bearing on when an element should be started to be on time – especially if it needs to be done before another part of the project.



## Dinner - PERT Chart (Program Evaluation and Review Technique)



**Red** = something could be done at the same time.  
**Bold black** = Total Times on the right side under each Subtopic

## Sequence

Some items are dependent on something being done first. A sequence usually has a specific order, but not always. When you mix the breadcrumbs, egg and seasonings into the meat, there is no specific order of which goes first.

- i.e. The hamburger meat has to be defrosted before it can be mixed up with the breadcrumbs, egg, and seasonings. And the items need to be mixed before they can be shaped into a meat loaf pan to cook.

The oven has to pre-heat to the temperature before the meat loaf can be cooked.

## Simultaneous

Other items can be done simultaneously. While one item is being done, something else could be prepared:

- i.e. Water could be boiling while peeling the corn-on-the-cob.

There are long cooking times for the baked potato and meat loaf (90 minutes) during which you could prepare the salad and drinks *(and take out serving pieces and set the table.)*

## Delegating

Some of these items could be delegated to “team members” = family members:

- i.e. One person could cut veggies while someone else makes the corn-on-the-cob, and someone else could prepare the meat loaf.  
There could even be several people cutting veggies simultaneously.

## Timing

Having arrows and prep time helps you plan what time you need to start each item so dinner is completed on time.

In this dinner example, look at the longest prep and cook time and subtract that time from the time you want to have dinner. That gives you the start time for preparing dinner -- providing you defrosted the hamburger meat the night before.

Then look at the other items and sequence them in order by the next longest time on the list.

To save time, prepare as much as you can ahead of time –

- i.e. Vegetables could be cut in the early afternoon or morning and be ready to be added to the lettuce later.

It works the same way with work projects. There are parts that that need to be in sequence, and there are parts that can be done simultaneously.

### Who

This is when you can also add to the chart **Who** is responsible for each element being done. By delegating parts to others, you can work faster and more efficiently than if you tackle it all yourself, especially if things can be done simultaneously.

### Color Coding

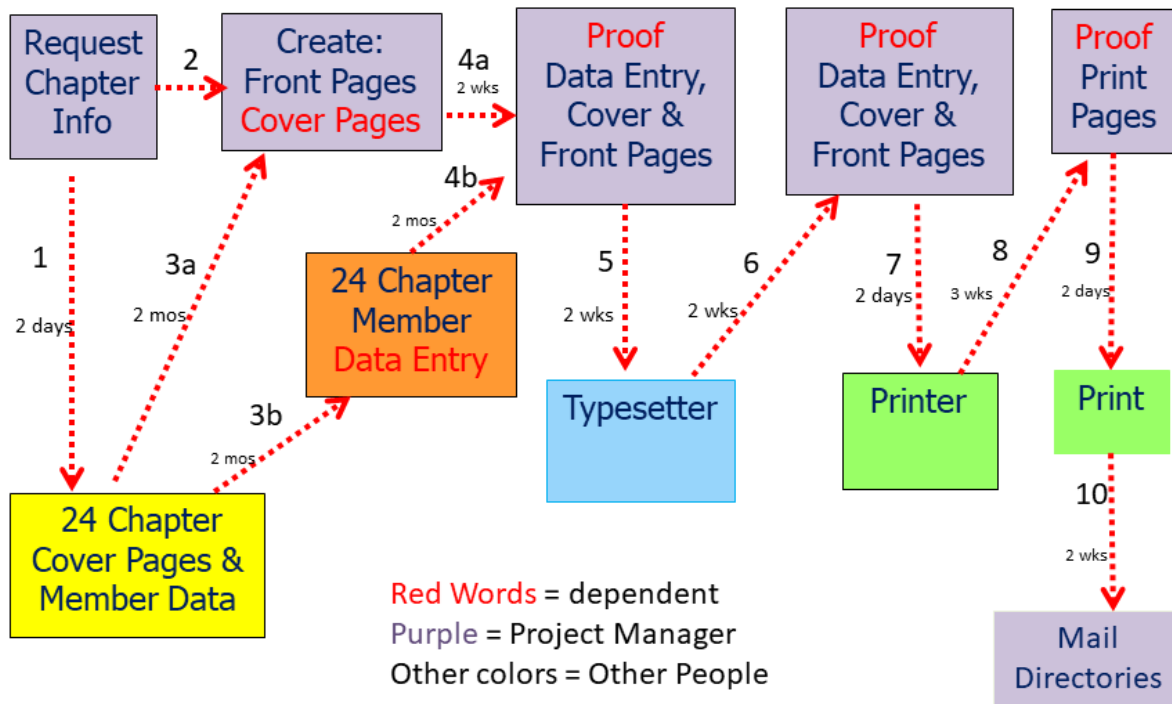
Notice in both the dinner example and the business example below that color coding can be very helpful if a project is complicated or there are literally “too many cooks in the kitchen!”

### Business Example

A business example of when things need to be done is shown on the ACG Membership Directory PERT chart. This is a little more complicated where elements were sent from 24 chapters to me as the Project Manager.

I never would have believed it would take six months with 24 chapters to do an international directory if I hadn't planned out the project, including outsourcing printing.

### ACG Membership Directory - PERT Chart (Program Evaluation & Review Technique)



While I waited for various chapters to send their member information (3b), I was able to work on the front and chapter cover pages (2 and 3a), and then do data entry on the chapter member information already received.

### Step 5. Milestone Reports

At this point you are implementing the project and monitoring the progress. Create milestones and send reports to team members and/or supervisors to keep everyone informed of the project progress.

If there are stakeholders in the organization that will be affected by the project either to create an element/tool or to use the project after it is completed, be sure to add them to the report list.

## Problems

If the project is running behind, take corrective action to get the project back on track. Note both the problems and the corrections in reports in case this situation occurs again.

If a problem doesn't have an answer yet, hold meetings to brainstorm alternatives. Sometimes it's the collective group that creates the answer together when a solution doesn't seem apparent.

You don't want to hold meetings just to report progress, as it takes time away from the project and it's more efficient for team members to read an email report on their own time than sit in a meeting.

## Step 6: Completion and Analysis

Consider a post meeting to discuss:

- ❖ What went well and what could be improved?
- ❖ Were there any time delays in any step? Why?
- ❖ Was it an implementation problem or a resource problem?
- ❖ Could any of the steps have been done simultaneously but were not?
- ❖ How else could the project be improved?

Create a final report for the project including a history of the work done, time estimates and real times, and any resources used. Include problems and solutions.

In case the project might be repeated, create final forms including Checklists, WBS, and PERT charts.

Thank the people involved in the project for their time and effort.

## Conclusion

Use the 3 Project Planners to plan your project. Add the Work Breakdown Structure and the PERT Chart and you will have a much better project.