Chapter 1

Overview of Microsoft Project Supporting Project Management

Overview

Upon completion of this chapter, the participant will be able to:

- Discuss where MS Project & Scheduling Technologies are needed to support project management maturity and business intelligence
- Understand concepts of demand planning, resource capacity planning and strategic capabilities planning with MS Project
- Learn how MS Project supports project management lifecycle management
- Discuss project management goals and required competencies for successfully using MS Project in support of project management
- Explain how the process groups and knowledge areas are used in the Project Management Body of Knowledge (PMBOK)
- Discuss the benefits of Microsoft Project 2013 to support project, program and portfolio management
- Describe the purpose of the Practice Standard for Scheduling

Project Management as a Discipline

Project management is the discipline of blending time-tested best practices, defined processes, soft skills, and the use of tools and templates, then applying these to initiatives resulting in proactive efficiency. Stakeholder satisfaction is better realized when utilizing a consistent and methodical approach to the management of projects. Also, this systematic approach paves the way for easier measurement and progress tracking of a project.

One of the most used tools is technology to assist project managers in developing schedules capturing scope, progress and project reporting. One of the most popular technology tools is Microsoft Project (hereafter known as Project or MS Project).

This course will focus on use of the desktop versions of Project.

The authors of this book have been using a wide range of scheduling technologies since the early 1990's. MS Project has been an evolving project scheduling and planning tool and has recently in the last few years seen some significant changes all with dramatic impact in supporting Project, Program and Portfolio management.

The Project Management Goal

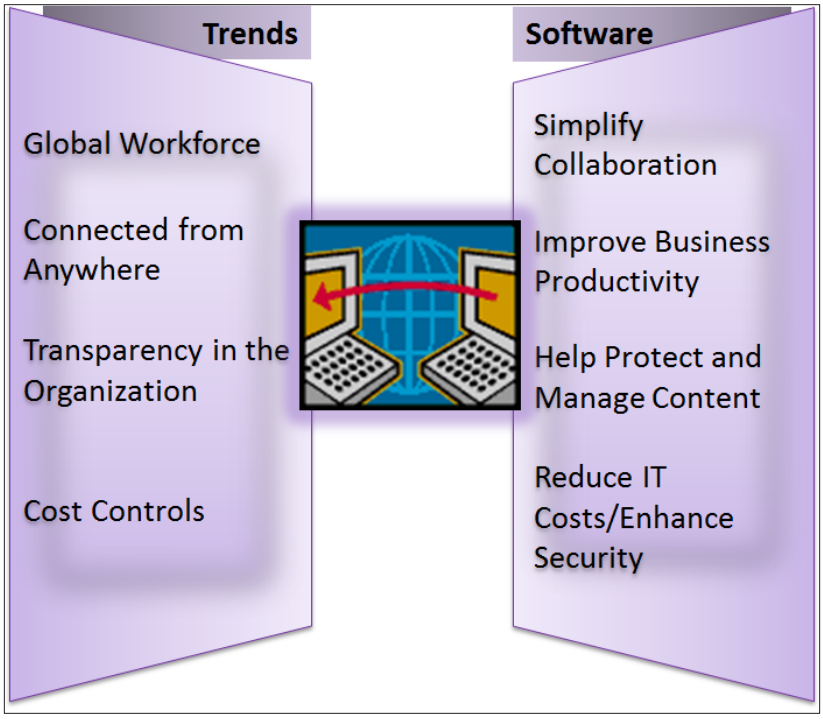

Figure 1-1 Trends and Software

It is often said that tools do not manage projects – people manage projects. In that light, it is important to remember that technology is only a tool.

The use of Project is not the “Silver Bullet” answer to:

Microsoft Project Won’t Solve

- Resolving project management deficiencies

- Improper change control processes
- Risk analysis and change impact assessment

Microsoft Project is a Great Tool For

- Tracking of task and schedule progress
- Forecasting and value management
- Resource management (allocation details)
- Demand Planning
- Resource Capacity Planning
- Strategic Forecast Planning

The ability to satisfy the project requirements is the ultimate goal of project management. Satisfy the requirements and undoubtedly you will satisfy the customer. This does not mean that the deliverables will not change, but through managing customer expectations and clear communication revised requirements can be met.

A properly managed project allows a diverse team of customers, sponsors, experts and stakeholders to:

- Agree on the deliverables
- Work efficiently to deliver the project on time and on budget
- Agree at the end that all requirements and specifications have been met

Microsoft Project and Core Competencies

To achieve these goals a project team needs more than their technical skills. High performance project teams excel at these core competencies:

- Planning: Build schedules with sufficient detail to enable management of activities and resources.
- Milestone management: Use milestones to clarify deliverables and accountability.
- Scope control: Use systems to reduce rework and manage scope controls.
- Risk management: Continuously assess risks so that they are prioritized, mitigated, and communicated.
- Issues management: Capture relevant issues so that they are properly prioritized and efficiently managed.
- Communications: Keep sponsors, team members, customers, cross-project contacts, management, and other stakeholders informed and engaged.

Projects Most Likely to Fail

Many times projects have significant hurdles to overcome. As a project manager or a member of a project team, you can look for the tell-tale warning signs of a project process that is not working.

Major Risk Factors Leading to Project Failure

- The user's requirements are not accurately understood, clarified, or reconciled. The project delivers a product the customer does not like or does not use.
- Failure to control scope creep and added feature enhancements. Estimates show that over half of the effort expended on many projects is outside the original project scope and plan. Much of the new work is poorly documented and un-budgeted.
- Technical/feature specifications change too often along the way. The project wastes time and resources doing rework.
- Loss of management support. When corporate priorities shift projects may become casualties.
- Team is not aligned on the same outcomes. The team fails to clearly understand what outcomes the customer is expecting and, therefore, internal confusion jeopardizes project success.
- Lukewarm support from key people. Stakeholders say "yes," but resources are not allocated and work is not properly prioritized.
- Failure to have a plan with adequate details and controls. Too much time is lost coordinating details which often results in inadequate or late deliverables.
- Failure to agree on how decisions are made. Decisions made by the wrong people or at the wrong time result in suboptimization, staff frustration, and rework.

- Inadequate coordination between teams and between organizational/departmental silos. Results in duplications, incompatibilities and rework.
- Lack of an adequate adoption and learning plan. The best product in the world fails when people are not motivated to use it, are not organizationally structured to use it, or lack the skills and know-how to use it effectively.

It is up to the project team, and ultimately the project manager, to watch for these common hindrances to projects and put efforts in place to counteract ill effects that can damage project success.

Overview of Project Program and Portfolio Management

Project Portfolio Management (PPM) is the integration of projects, programs and portfolios that incorporate individual initiatives and alignment of strategic business goals and objectives across the enterprise.

Project Management

Project management focuses on delivering requirements to a customer. As has been said: project management is about doing projects right. In this area, Project is a powerful tool for helping project managers and Project Management Offices (PMOs) plan, track and manage projects consistently and effectively.

Project helps centralize project data, helping to ensure that there is just “one version of the truth” about any project or group of projects at any given time. It also provides a historical record of each project that can provide a solid basis for billing, financial analysis, performance evaluations, and future process improvements.

Program Management

Program management is the discipline of managing a group of related projects and activities, such as a group of projects related to a particular product line (e.g., the Mars Space Program, which is all of the projects focusing on the different Mars Space missions, launch vehicles, and scientific projects related to them). There may be many programs within an organization.

The goal of program management is to coordinate, align and optimize projects to achieve the overall business objectives of a particular service or product area. Program management is often concerned with managing all of the resources of an organization more efficiently. A common objective of program management is the coordination of timelines to achieve larger production criteria such as deadlines, product interoperability, and economies of scale

Portfolio Management

Portfolio management is about doing the right projects, aligning project selection across an entire organization or company with the organization's global strategy. The focus is on identifying the metrics that should guide the decisions about which projects should and should not be pursued:

- Organizational priorities
- Business objectives
- Strategic values

In some organizations, the PMO focuses on more tactical project management process definition and controlling activities. These are critical elements in achieving project management maturity. Beyond managing projects effectively – doing projects right – how can an organization ensure

they are selecting the right projects to deliver the strategic business values their company is pursuing? How do they consistently choose the right projects to carry out?

Organizations sometimes create both a tactical PMO for projects and a strategic PMO which focuses on portfolio management priorities. This is becoming more common in organizations that have multiple tactical PMOs working on different programs in order to align all of their PMOs and programs with the overall company strategy.

Rolling Up Metrics for Project-to-Portfolio Management

Project can provide critical value in a program management process by serving as the central repository for all of the projects in a program, with centrally administered planning, SharePoint Project Sites facilitate active and centrally administered document sharing and collaboration. Program and portfolio managers can use Project to create custom fields, tables, views, reports, SharePoint sites and project workspaces and templates that support and standardize their projects to support their program and portfolio criteria.

Project is designed to roll up the values of all the data into summaries at the project, group, organizational, resource, and other levels. The power of Project Professional/Project Pro for Office 365 combined with Project Server/Project Online to aggregate data from multiple projects is very valuable to any organization trying to gain visibility to the full range of their project activities.

Supporting Fact-Based Decision-Making

Organizational culture tends to reinforce history and usually reflects the leadership. Organizations tend to make the same decisions the same way they always have. With some organizations this means the process is very personalistic: individual opinions and personalities are the dominant factors in project selection and management. In more mature organizations, there may be a clear, rational process for project selection, but the vision is narrow and focused on the objectives of each organization's silo.

The goal of portfolio management is to evaluate all projects across an organization using a standardized set of criteria which is applied to all projects, activities, and programs. These criteria, or metrics, are derived from the organizational priorities.

For example, these might include profitability, new market development, revenue generation, quality, safety, employee development or retention, efficiency, compliance with industry or legal standards, and so on.

Project provides a powerful set of integrated tools to support an organization's efforts to plan, track, and analyze all of their activities. The ability to plan and track all the way down to the detailed task level and roll up all of the data to the highest organizational level gives a company lots of options for gathering business intelligence, which can then be used to make decisions based on facts and move away from the dependence on anecdotal evidence, personalities and untested opinions.

Project Lifecycle Management

Complex project management processes require tools to manage them. People tend to use what they have available, are already familiar with, and already use. This is why Microsoft Office Excel is often used in smaller project management initiatives. For many projects, Excel is sufficient.

However, it does not take very much complexity – higher number of tasks, multiple interrelated schedules, resources, requirements, deliverables, and departments – to exceed Excel's project management capabilities. Advanced software applications have been developed to support and facilitate many levels and styles of project management – from simple, high-level schedules to complex, integrated enterprise solutions.

Project management processes can become very multifaceted. One of the risks of complex processes is that they tend to be ignored in practice, resulting in inconsistent results, idiosyncratic management, and frustration.

Strategic project management methods and consistent project management processes need tools designed specifically to support them to be truly efficient and effective. The leading application on the market specifically designed to support project management is Project.

Project is a powerful relational database program that can be configured for use on a single client PC in any of the desktop versions. But its capabilities to facilitate and automate enterprise-wide project management processes within a networked system are limited. For organizations that are seeking an integrated, enterprise-wide project and portfolio management solution, Microsoft has developed Project Professional or Project Pro for Office 365 to integrate with Project Server or Project Online.

As defined by the *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Fourth Edition*, a project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates a definite beginning and end. The end is reached when the project's objectives have been achieved.

Project management, then, is the application of knowledge, skills, tools

and techniques to project activities to meet the project requirements.

The PMBOK breaks projects into 5 Process Groups and 9 Knowledge Areas for management of a project. The 5 Process Groups are:

- Initiating
- Planning
- Executing
- Monitoring & Controlling
- Closing

The relationship of the 5 Process Groups are outlined in *Figure 1-2*.

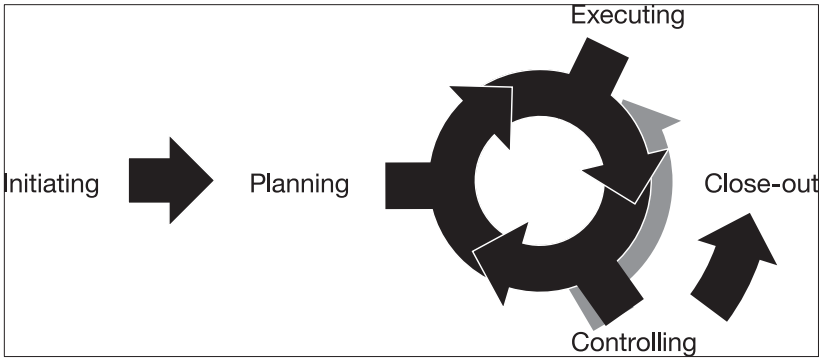

Figure 1-2 Project Lifecycle Management

The 9 Knowledge Areas span the 5 Process Groups to provide the basis for managing a project. The Knowledge Areas are:

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management

Each intersection of Group and Knowledge Area may have deliverables.

Each deliverable is broken out into the following format:

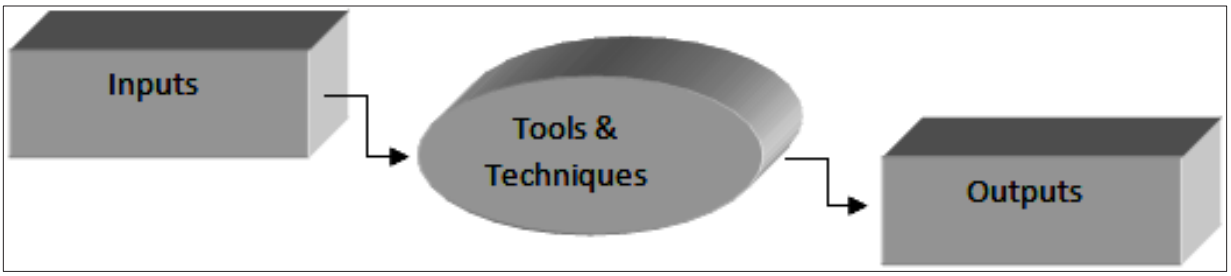

Figure 1-3 Project Inputs, Tools, and Outputs.

Leveraging Technology for Project Management

Why use Project?

Projects have become a strategic vehicle for leading change. Utilizing technology to support higher success rates of projects is integral for supporting this change and driving continuous improvement.

Some examples of organizational projects are:

- New product and service development projects
- Process improvement projects
- Policy and organizational development projects
- Technology development and implementation projects
- Focused activities to deliver specific outcomes for clients

Organizations are pursuing more and more different kinds of projects every day.

For some organizations, projects are a small, but an important part of their business. Many organizations are projectizing their strategic work – so they can more effectively focus on key initiatives.

For others, projects are their business. From architects, builders, engineers and construction companies to marketing teams, IT organizations, and software developers… projects define their work.

The demand for effective, consistent project management has grown rapidly over the last decade. Project management has rapidly become a core area of management knowledge and practice. The role of a project manager has become very common in organizations.

The question project management focuses on answering is: what are the processes that lead to successful projects?

Leveraging Technology for Project Lifecycle Management

As companies further integrate collaboration processes and culture into their organizational structure, it is necessary to consider how to utilize technological tools to ensure the stability and financial well-being of the organization. MS Project integrated with other applications such as SharePoint can assist in regulating and optimizing the duration, cost, use of human and capital resources, and affect the quality of the product or system being produced.

Most corporate objectives and initiatives are highly complex undertakings. They require a neutral system of reporting and evaluation that presents data to teams, management, and stakeholders and that allows them to react pro-actively and adjust to the inevitable changes (both positive and negative) that will occur. Recognizing MS Project is a tool that increases visibility, accountability, communication, collaboration, and as an optimi-

zation tool that will assist in better decision making by management and team members will certainly have a positive impact on the various "bottom-line" objectives and, to a greater extent, the overall organization.

Different Project Lifecycle Approaches

The project management discipline has developed into a core area of organizational management. Different industries have developed project management methodologies that address their specific workflows and issues. Architects, construction companies and property developers have developed a set of project lifecycles that reflect certain standard processes from land planning and acquisition, to permitting and design requirements. Other industries, such as software development, have developed different methodology and processes to accommodate their environment.

The rapid growth of the project management field has spawned a number of professional associations. The Project Management Institute (PMI) is the largest global project management professional association in the world today and it is continuing to grow rapidly. The most widely used standard for project management has been developed by the PMI.

PMI (Waterfall)

PMI has developed a very extensive library of project management standards, references and tools. PMI has collected the most comprehensive reference on project management standards in a book called *The Project*

Management Body of Knowledge – affectionately called "The PMBOK." The PMBOK defines a certain standard for project management practices, which many industries follow.

Project has been developed to support a range of PMBOK-aligned project management approaches. It can be configured to support other approaches, such as Scrum and Agile, but organizations employing these methodologies need to adjust their use and expectations of Project as a scheduling and management vehicle.

Technical Lifecycles (Agile Methodologies)

There are other approaches to project management that have been developed by and for project managers in different fields and industries. Two approaches used fairly widely in the technology sector are called Scrum and Agile.

The software development and technology industries have developed approaches to project management that reflect the need of short design-build iterations to facilitate integrating emerging requirements into new product development processes. These tend to focus on shorter iterations and progressive requirements definition.

It might be said that where the PMBOK methodology focuses on thorough planning before project execution, Scrum and Agile focus on minimizing the time between project initiation and execution, and repeated cycles of design, build, test, redesign, rebuild, and test.

Industry-Specific Lifecycles

Some industries and fields that have developed their own project management methodologies and lifecycles include:

- Construction
- Manufacturing
- Information Technology
- Software development
- Property development

MS Project is able to be configured and utilized to support many different project management processes, and is especially applicable to projects with longer life cycles.

Strategic Capability Planning

When you create a dynamic schedule (where the tasks have dependencies and changes to tasks (duration, work, and relationships) have a ripple effect to the schedule's date range), due to the connected and non-constrained tasks, you are able to see the impact of what if planning.

Since MS Project has the ability to have multi-level undo as well as tracing its predecessors and successors visually on the screen, you can apply changes to single or multiple schedules and review the impact of key deliverables, milestones or resource capacity to deliver the new and adjusted work.

A common point is brought by many who haven't used MS Project very deeply that "there is no way to create a snapshot". This is clearly a lack of understanding as MS Project allows you to create a baseline plan which can be used to compare against the actual plan and provide variances against a point in time.

Project even allows you to capture versions of your schedule and compare them for variances.

These features give the project scheduler the ability to broad sweeping analysis of snapshots, scenarios to review the strategic ability / capabilities of the organization to deliver.

Microsoft's Project Management Solution

Microsoft offers a variety of software solutions that can be used to map with organizational maturity levels and desired levels of collaboration. The following graphic illustrates recommended mappings. This book focuses on the desktop versions of Microsoft Project which provide features for both basic and advanced project management.

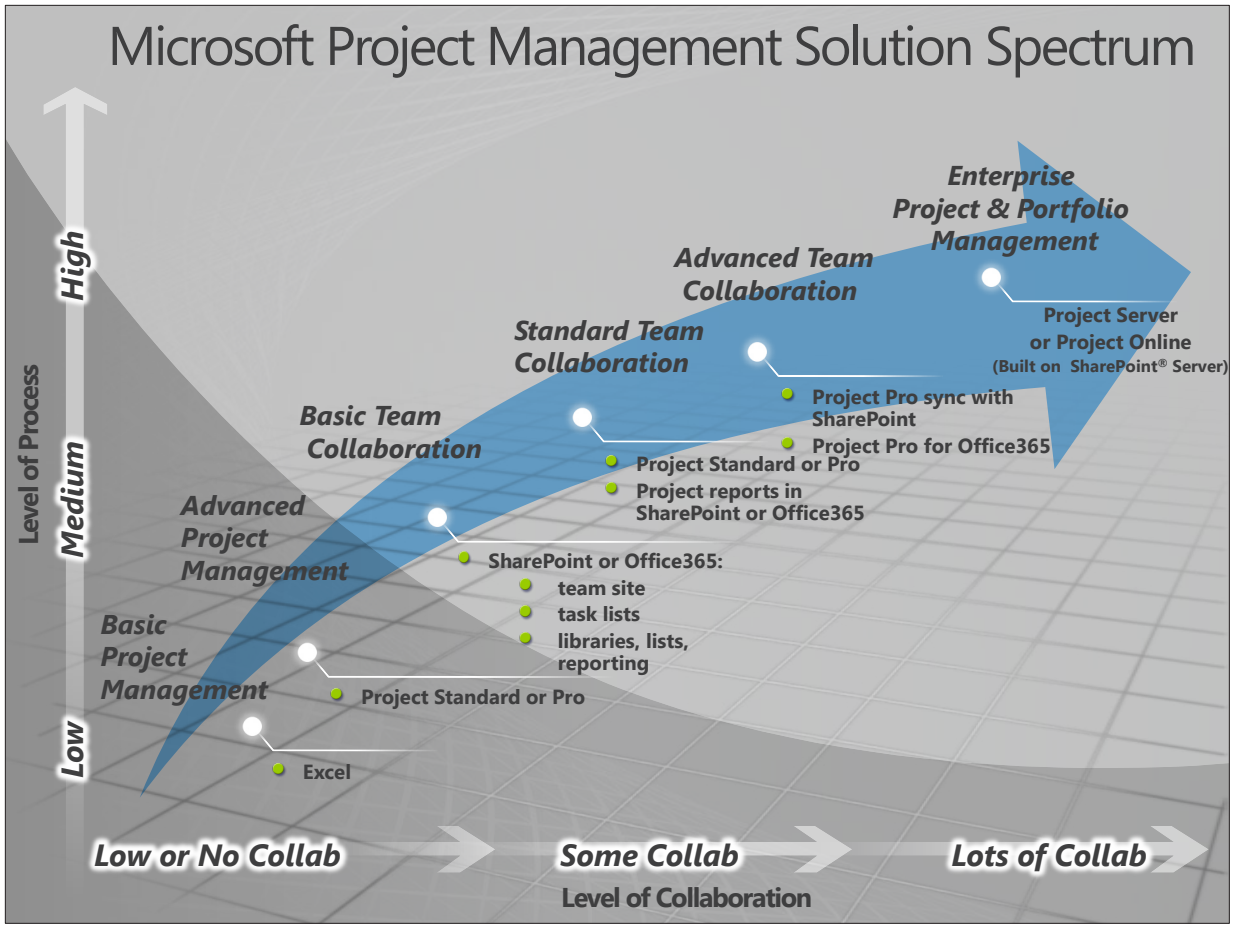

Figure 1-4 The Microsoft Project Management Solution Spectrum.

What is Project Server?

Some organizations will not only use the desktop version of MS Project, but they will centralize those schedules and resource pools in a web-based, SQL based environment that is embedded as an application in SharePoint. This is called Project Server and it provides a significant stabilization of project and resource information, while simultaneously enabling web based viewing, tracking, progressing and reporting (in SharePoint). It also has significant Business Intelligence Reporting and can be accessed via most web browsers by different stakeholders, without needing MS Project installed and without locking out the file.

For further information on this, take our Managing Projects with Microsoft Project course. Public and private classes are available.

PMI's Practice Standard for Scheduling

Due to requests by the project management community, PMI created extensions to its most popular book, the PMBOK. One of these extensions is the Practice Standard for Scheduling. This particular extension was created out of the need to provide guidelines on something that most project managers do every day – schedule. While not specific to any scheduling tool, you will be happy to know that Project does conform as a schedule model according to their Conformance Assessment Process, which means Project has all the required software components needed to function as a valid schedule tool.

The purpose of this extension is to provide best practices for the creation of a schedule model. It is not to recommend particular software, but instead provides components that should be considered as required in your selected scheduling software. A good schedule must have both a strong scheduling framework and a baseline schedule. Each of these two areas are discussed in detail in the standard. A large portion of the standard contains a components list that you can use to help communicate with others about elements in a schedule. In terms of Project, many of these components are called fields.

Some of the important definitions made in the standard:

- Scheduling is all about the "roadmap" of how you plan to deliver the project.
- **Schedule Method** – how you want your information calculated to generate a schedule (e.g., critical path method).
- **Scheduling Tool** – software that is capable of applying your schedule method.
- **Schedule Model** – a scheduling tool that implements a scheduling method generates a schedule model.
    - In our instance, Project uses the information you provide against the critical path method of scheduling and generates a schedule

model. The schedule model is a dynamic representation of how project activities will be executed by the resources.

- **Project Schedule** – this is one output of the schedule model which could include a bar chart.

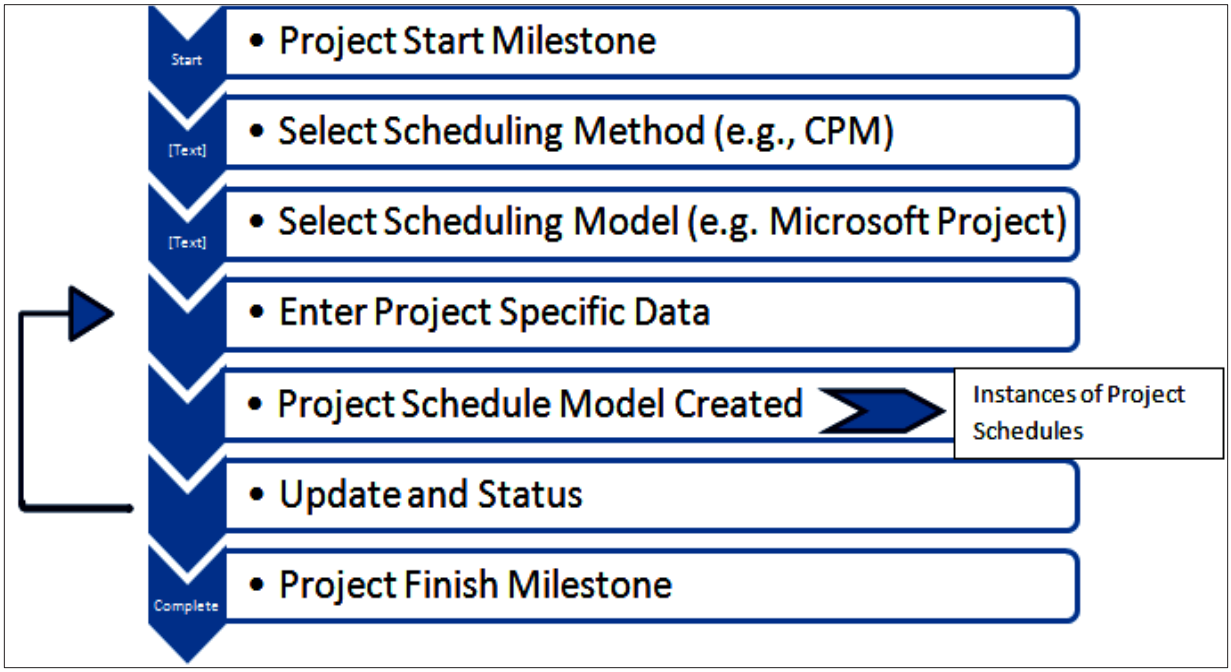

Figure 1-5 The Schedule Development Process.

Some differences between the Practice Standard for Scheduling and this book:

- Our book discusses estimating tasks with duration or work values before adding resources, while the Practice Standard adds resources before estimating tasks. You can do these items in either order in Project and still have a valid schedule.
- Our book discusses task relationships/linking before assigning resources while the Practice Standard does the reverse. You can do these items in either order in Project and still have a valid schedule.
- Project uses the term Status Date, while the Practice Standard uses Data Date.
- The Practice Standard states that a valid schedule model must include both a start and finish milestone which all activities must connect to.

We consider this a personal choice and schedules can still be valid even if these two milestones are not present.

- The Practice Standard recommends limiting the use of lags and negative lags (leads) and instead adding extra tasks or modifying relationships. In our experience, it is your personal preference to use lags/leads or not.

The Practice Standard for Scheduling is available at no charge online to PMI members or available in the PMI bookstore for non-members.

Key Points to Remember

- Project management can become more disciplined by applying a technology such as Project.
- Your plan should be to satisfy your goals and the goals of your customer.
- Use technology to support high rates of project success.
- Choose the lifecycle approach that fits your industry or type of project.
- Follow the Practice Standard for Scheduling where appropriate.

Chapter 2

Overview of Microsoft Project

Benefits of Scheduling Software

Project is a scheduling software used to manage projects. The software is flexible to allow for a variety of uses for different industries and different project management processes, or methodologies. The concept of scheduling is the coordination of activities, resources, money, time, and other variables that factor into completing a list of tasks containing task and resource relationships. Often scheduling involves working with limitations and date goals that are driven by the organization.

Throughout this book, you will become familiar with features available in Microsoft Project 2013. Below is a list of some of those features:

1. The ability to plan and manage a project using Work Breakdown Structure (outline) format
2. Work, duration and cost planning, forecasting and tracking
3. Flexible reporting capabilities and customization
4. Ability to integrate with Project Server/Project
5. Manual and automatic project scheduling
6. Resource management planning and forecasting
7. Budget forecasting and tracking
8. Baseline and variance reporting
9. Schedule predictability and what-if scenarios
10. Dynamic schedule management

Scheduling software has a flow of activities which compliments an overall project management process in an organization. Refer to the following steps as an example of how this might be applied.

1. The project are defined and the decision is made to perform the project
2. More in-depth planning is conducted to elaborate the tasks, resources and work required to complete the project
3. The Project work will be initiated
4. Information of how the work is getting accomplished is feed back to the project manager and updated into the schedule
5. Stakeholders request a change to the project
6. Reports are produced to reflect project status and schedule

7. Steps 4-6 are repeated until the project is completed
8. When the project is completed a transition will be made to move the results of the project into ongoing business operations or business processes
9. Time is set aside to reflect on how the project was executed and opportunities for process improvement are collected.

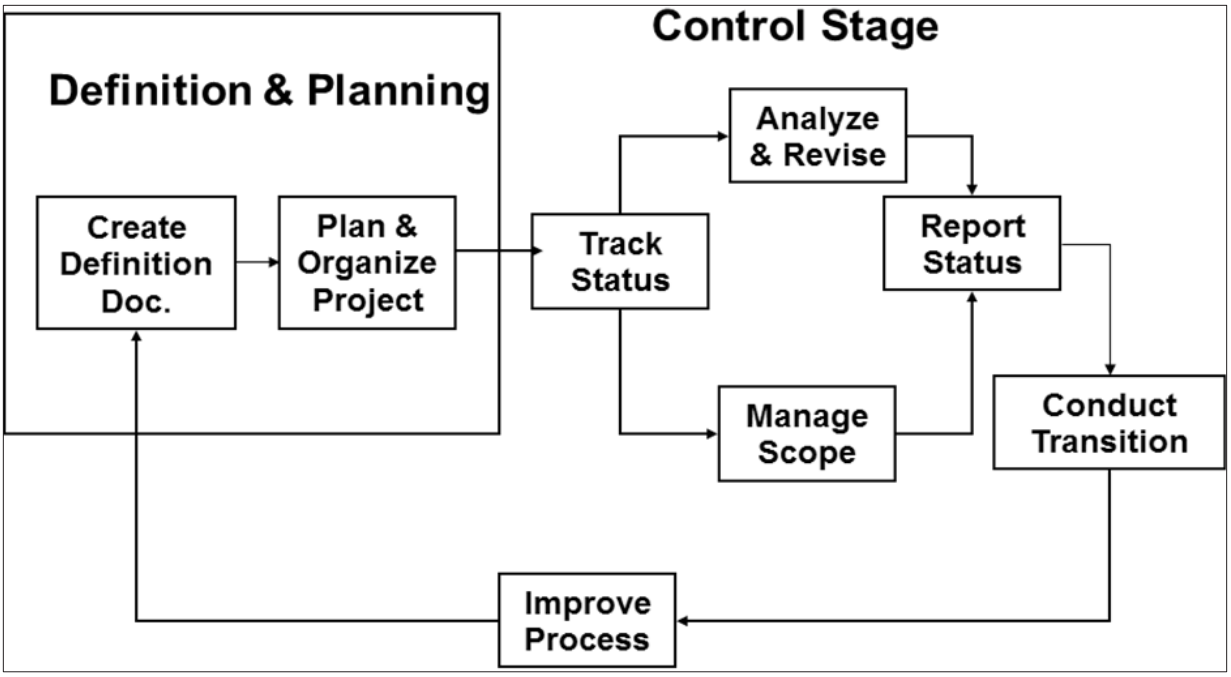

Figure 2-1 Scheduling software flow of activities.

Overview of Project as a Database

Although Project may in some ways looks like Excel, it is actually a very complex database. Below are some reasons to use a database:

- Eliminates the need to have information duplicated in multiple locations
- Creates a structure of information that can be organized by subject
- Creates the ability to have information related to each other
- Simplifies the ability the report on related information crossing multiple subjects

If Project was set up like a single file is in Excel, each time you assigned a resource to a task, you would have to duplicate all the details about the resource on every single task. This would create a lot of unnecessary information. In addition, every time a resource detail was changed, this would have to be duplicated on every single task. Duplicate information is a good reason to use a database structure.

By using a database structure within Project, the resource is instead connected to a task but all the details about the resource are stored in another location. This way when a report is needed, details can be pulled from multiple locations. This book is not designed to teach everything that you need to know about databases but please refer to the following chart for an example of how all of this information works together.

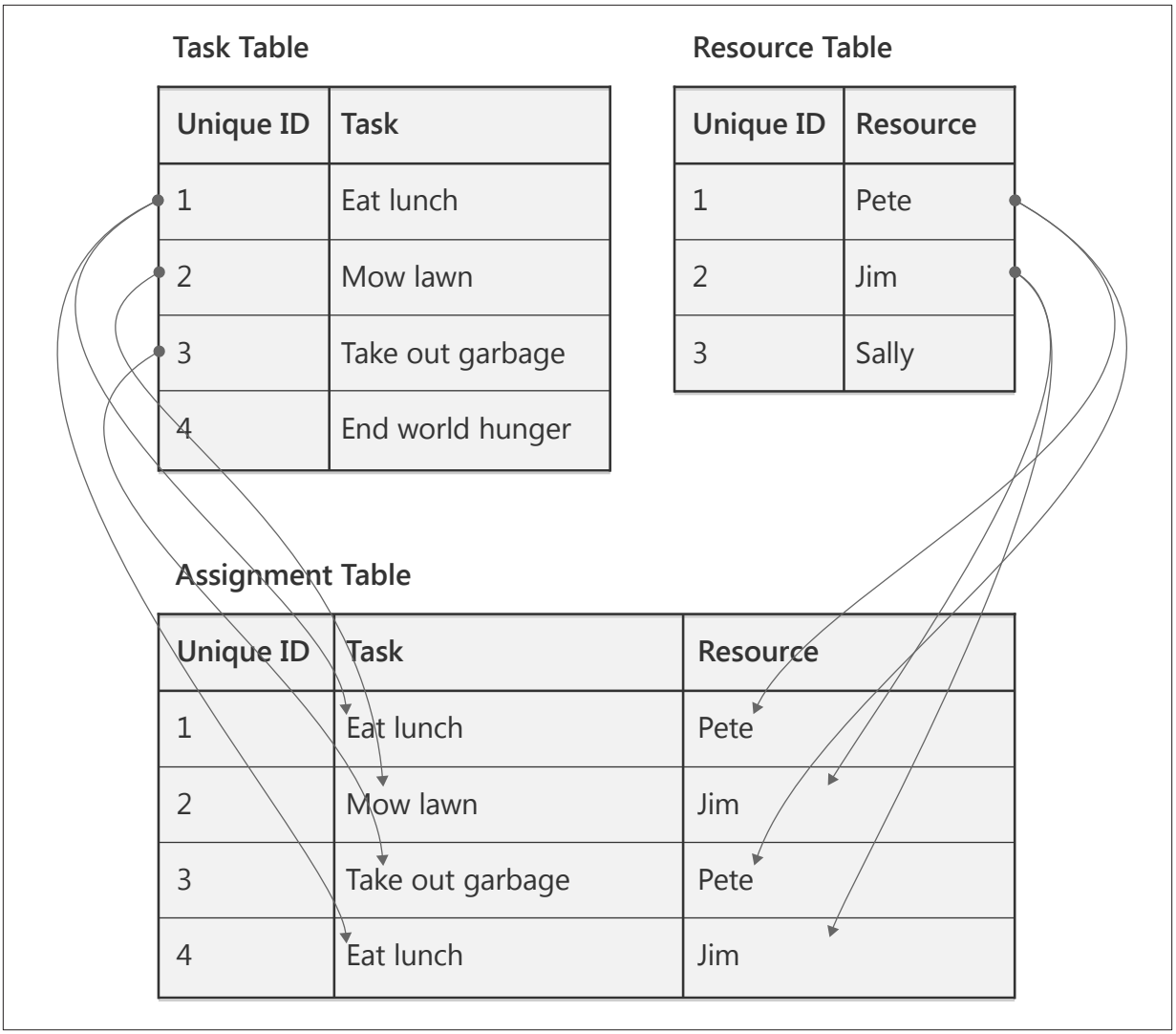

Figure 2-2 Illustration of Project Tables.

Notice that Project has three main tables of information – Task, Resource and Assignment. When a resource is assigned to a task, Project draws a connection/link between a unique resource field with a unique task field. Normally the unique field is not displayed in views, but can be added if desired.

Additional information about this database approach in Project:

- All the fields or columns of information are pre-defined when you create a project plan. Creating a plan is simply editing the information in fields/columns.
- Hiding a column in Project does not delete the information, it simply removes it from the current view
- Inserting a column is simply adding the information to a particular view
- Changing a field of information in one view is changing the information in the database and any other view that uses that field will display the change
- Some views are designed for a specific purpose and may display task information only, resource information only or some combination of task, resource, and assignment information. For example, the Resource Sheet view does not allow you to display task names in it. That is because it is a specific view to show resource details. If you want to see how those resources are assigned, you should consider another view such as Task Usage, Resource Usage, or Gantt Chart.

This brief discussion should start you on your way to learning more about Project and how its database structure work well when managing schedules.

Project Usage

When working with information in Project, you can view data at a high-level or drill down to a detail level. Project offers timescaled views ranging from yearly all the way down to each minute. Schedulers, project managers, and other professionals using this tool will need to determine what level of information is needed to produce the desired output of information. You also need to determine how granular you want to be in maintaining that information.

For example, some organizations manage resource assignments by looking at the week as a whole and ensuring resources have 40 hours of work assigned to them. These organizations do not care if one day shows 6 hours and another day shows 12, they simply look at the total weekly hours. Other organizations drill into the daily view and ensure resources have 8 hours a day.

As you might realize, working with information drilled into the daily view will require you to manage tasks on a daily basis, while working with information on a weekly view only requires you to manage tasks on a weekly basis. This also drives the accuracy of your reports. Management of work on a daily basis gives you accurate reports for each day while management of work on a weekly basis only gives you accurate reports on a weekly basis.

When deciding your usage of project, keep in mind the following:

More Detail = More Work = More Results

Less Detail = Less Work = Less Results

Create a strategy for managing to a specific level of detail and stick with it to be most efficient in Project. For example – do not manage one task on a daily basis and another task on a weekly basis.

Formulate a Strategy

Before a project schedule is created, define what information you are hoping your schedule will return for the work and time you devote to the using the schedule. .

Set your goals for the project schedule:

1. Define the type of information your project schedule should return?
    a. When performing home remodeling you might be interested in when to schedule the contractors.
    b. When developing a software module you might be interested in estimating work hours of resources and costing.
    c. When performing annual maintenance of machinery you might be interested in the timeline and the number of resources needed to accomplish the project.
2. Different projects, by nature, require different levels of detail and tracking. Decide what is right for the project you need to accomplish. The more detail the more complex the schedule will become.
3. What type of metrics (field values i.e.: work, cost, duration, earned value, etc) will your project management and post-project reporting require?
4. How will you track your project?
5. What are your Stakeholders status reporting expectations? Define at the column level.
6. How much work are you as a project manager willing to do to achieve desired results?

If Project Managers preplan the requirements and the outputs of the project schedule, the schedule will be more productive and result in more valid data.

Project Managers have a tendency to make the project schedule become the project. Preplanning will help project managers avoid this pitfall.

Success Checklist

Checklist to help plan a schedule more effectively:

1. **Goals**: Set the output goals of the schedule. Ask yourself: Management of the schedule is useful when I get what type of information from the schedule?
2. **Schedule**: Is the schedule a checklist of activities or is it tasks that will be managed? If it is a checklist, should it be an Excel list? If one task is late, should it change the dates for future related tasks?
3. **Reporting**: Request details of the content of status reporting required for the project from management. This will help in knowing which pieces of information you will need to focus on during schedule creation and management. It will also help set expectations for stakeholders.
4. **Data**: Gather requirements for data reports: by week? by department? by variance to baseline? etc. Some of this information will be standard in Project 2013 and some will be created using customization features.
5. **Tracking**: Are tasks required to be tracked by the number of hours worked per task or is tracking by percent complete sufficient? Defining the tracking of the project will be tied to the type of metrics that the project schedule will produce.
6. **Earned Value (EV)**: if measuring EV is a requirement, more task details, estimating, baseline and tracking details will be required. This will likely result in more work for the project manager. Is help available for managing the project schedule?
7. **Resources**: What kind of reporting requirements will resources be responsible for during the project and how will the data be used. Will resource availability be updated collected and updated to the project schedule?

Defining output requirements of the schedule will in turn define the benefits of creating and maintaining the schedule. Establishing these goals will help the project manager focus on the benefits of the schedule for each specific project.

Project Desktop 2013 Overview of Versions

Microsoft offers three different versions of Project

Project Standard – This is the base scheduling software product which provides functionality that supports a majority of individuals needing a robust schedule tool. Project Standard also provides the following:

- Integration with the Office Store so you can purchase Apps for Project 2013
- Integration with SkyDrive for cloud storage of your project plan

Project Professional – The version offers the same features as Project Standard but provides these additional functions:

- Ability to inactivate tasks for various business scenarios and to support agile project management
- Lync integration (2013 or later) to support team collaboration within Project
- Visual resource management using Team Planner view
- Ability to integrate with SharePoint 2013/SharePoint Online for storing of project plans and task syncing
- Ability to connect to Project Server 2013/Project Online to support an enterprise project and portfolio management system

Project Pro for Office 365 – The version offers the same features as Project Professional but provides these additional functions:

- Delivers the software as a subscription service so it is always up to date with updates to the software being applied on a regular basis through Office 365
- Provides the ability to stream software to up to 5 devices (e.g. home PC, work PC, and tablet) using a connected Office 365 account

Internet access will be required to have access to all of the functions listed above.

For current pricing and a comparison chart of features, visit www.microsoft.com/project.

Review of the Ribbon, Back Stage View, Quick Launch

Can you do a find and replace? Quick Launch is actually called Quick Access toolbar in Project.

To take advantage of Project's many features, you need to be proficient in accessing schedule commands and file commands. In this section, we will review the organization of the Ribbon, the benefits of the Quick Access toolbar, and when to access commands in Backstage view.

Exploring the Ribbon

The Ribbon is the user interface which you will find across Microsoft products. Features are easy to find and there are new features available right at your fingertips. The series of tabs located at the top of the Ribbon represent the different sectors of work, such as resource management or task management. Starting with the Task tab, you will see it is divided into logical sections called groups. The group names are listed just below a collection of buttons. Buttons that are larger indicate a feature that is frequently used. Some of the important advantages to the Ribbon include:

- Everything is organized on tabs by subject area.
- Information on the Format tab automatically responds to the current working environment and provides "view" relevant buttons. Notice the view-specific heading above the Format tab.
- The size of the buttons adjust based on your available window or screen size so you don't lose any capabilities, while maintaining maximum work area screen real estate.
- Features are available in a quick one- or two-click fashion.

- You can tailor the Ribbon by adding and/or removing features or by adding a new tab.

The File tab is unique and will be addressed in the next section.

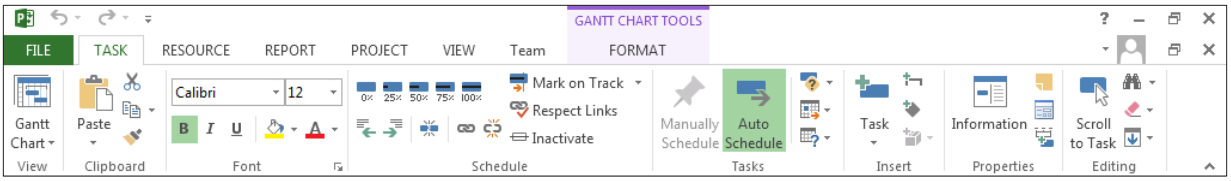

Figure 2-3 Microsoft Project 2013 Ribbon.

The Ribbon can be configured to auto-hide or auto-display giving you valuable screen space as you work on your schedule. To set this, click the “minimize the Ribbon” symbol in the upper right-hand corner of the screen.

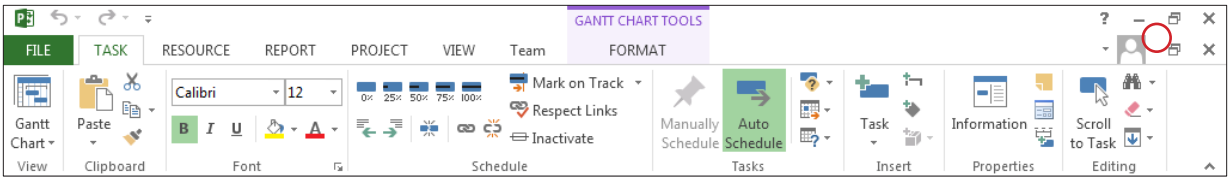

Figure 2-4 Project Ribbon – Expanded.

To disable this feature, click the “Expand the Ribbon” symbol in the upper right-hand corner of the screen.

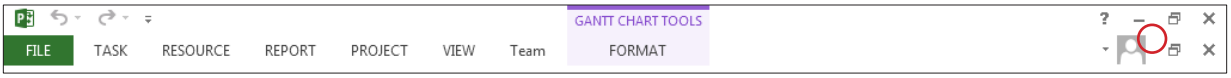

Figure 2-5 Project Ribbon – Minimized.

Backstage View (File Tab)

To centrally locate file management activities, they are located on the File tab. Think of what you "do to the entire file" when you enter this area. This area is now known as the Backstage View. Some of the features available include:

- New, open, save, print, share and export.
- Connect with SharePoint , Skydrive, Office 365, and Project Server/ Project Online..
- Project Options – aligning options to all new projects or only specific projects.

Figure 2-6 Backstage View (File Tab).

To exit Backstage View click the return arrow pointing left at the top of Backstage View.

Overview of Common Views

Project organizes views into two major categories: Task views and Resource views. A task view has a primary focus on showing task information while a resource view has a primary focus on showing resource information. Within those categories may be integrated views that showcase both task and resource information through resource assignments. This section is going to give you an introduction to common views that you should become familiar with to be successful in managing projects.

Task Views

Task views are accessed in a number of ways including through various tabs on the ribbon, through right-click short-cuts and through the view bar. You should find the option that you prefer.

Project lists 11 popular task views: Calendar, Detail Gantt, Gantt Chart, Gantt with Timeline, Milestone Rollup, Network Diagram, Task Form, Task Sheet, Task Usage, Timeline, Timeline, and Tracking Gantt. Some of these will be illustrated below.

To display a task view:

1. Click **Task** tab.
2. Click the drop-down arrow on **Gantt Chart** in the View group.
3. Click the desired view.

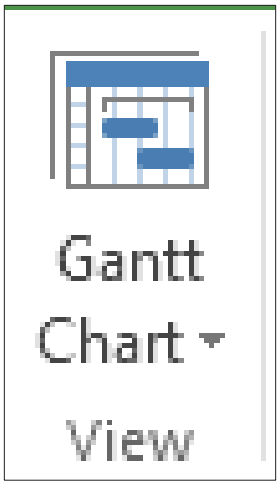

Figure 2-7 Changing Views Icon.

Gantt Chart – the Gantt Chart is a graphic representation of the start and finish dates for a task. In addition to graphic bars, relationship arrows are also displayed. The advantage of the Gantt chart is it includes an Entry table on the left for easy data entry and it shows a graphical model on the right of the proposed plan for your project. This is the most popular view in Project.

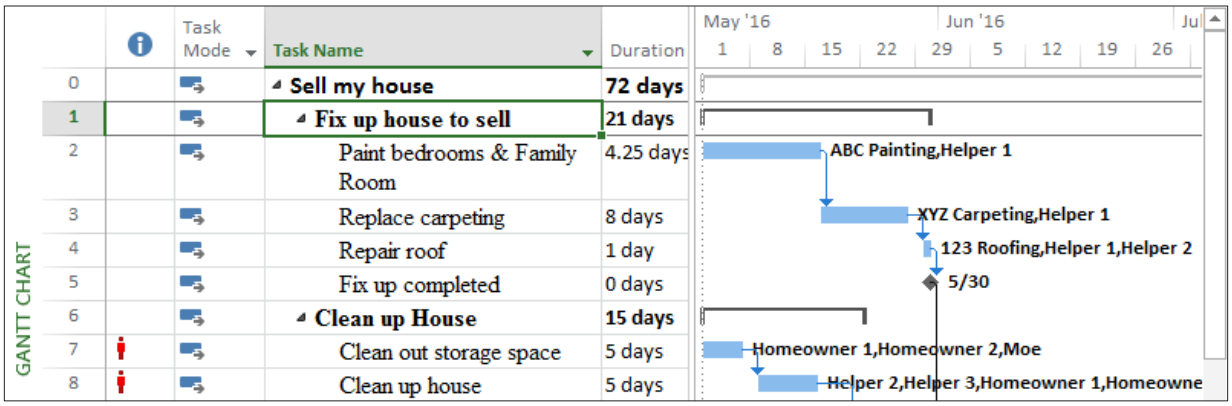

Figure 2-8 Gantt Chart View.

Tracking Gantt – this view will graphically represent the start and finish dates of a task like the Gantt Chart but is designed to help during the tracking phase of the project schedule. The advantage of this view is the

variance between the baseline plan and the current plan are show visually.

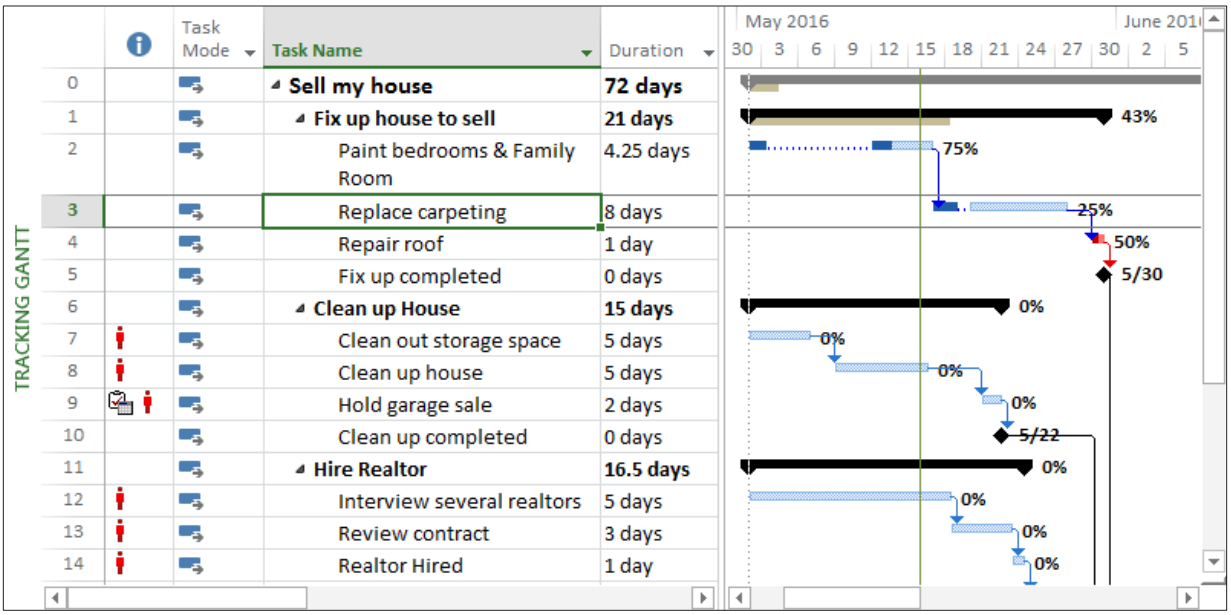

Figure 2-9 Tracking Gantt View.

Network Diagram – The Network diagram is designed as a precedence diagram. It shows the predecessors and successors of tasks without regard to timeframe. This view is useful to see the layout of your schedule to and easily follow links.

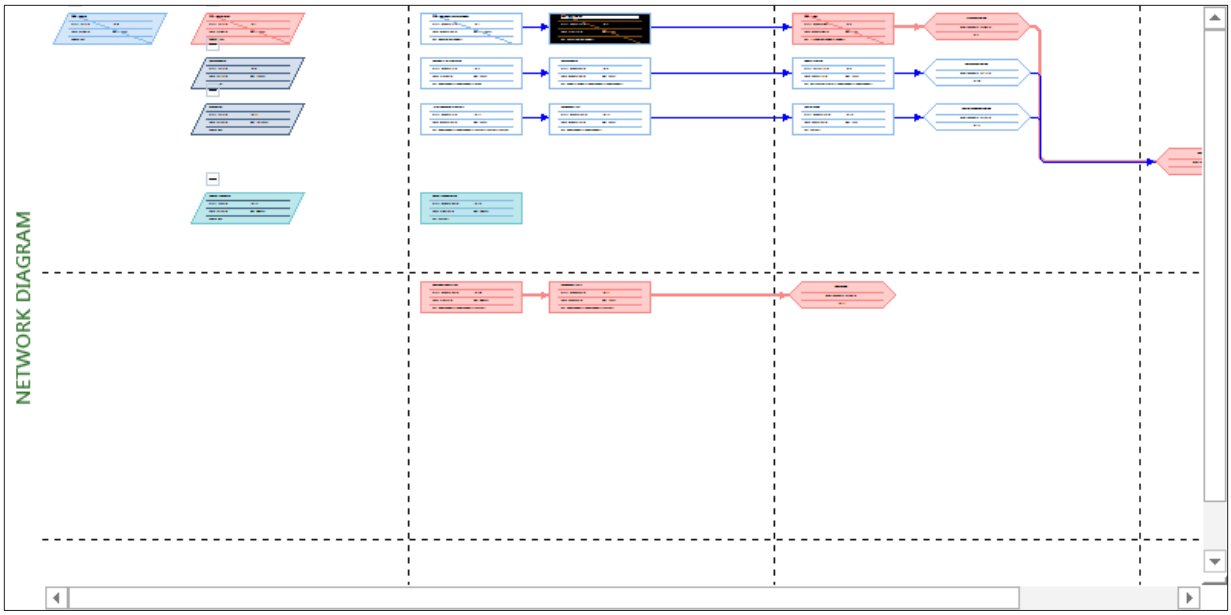

Figure 2-10 Network Diagram View.

Calendar view – The calendar view shows the project schedule in a calendar layout. This format is useful when presenting to individuals not familiar with how to read a Gantt Chart view.

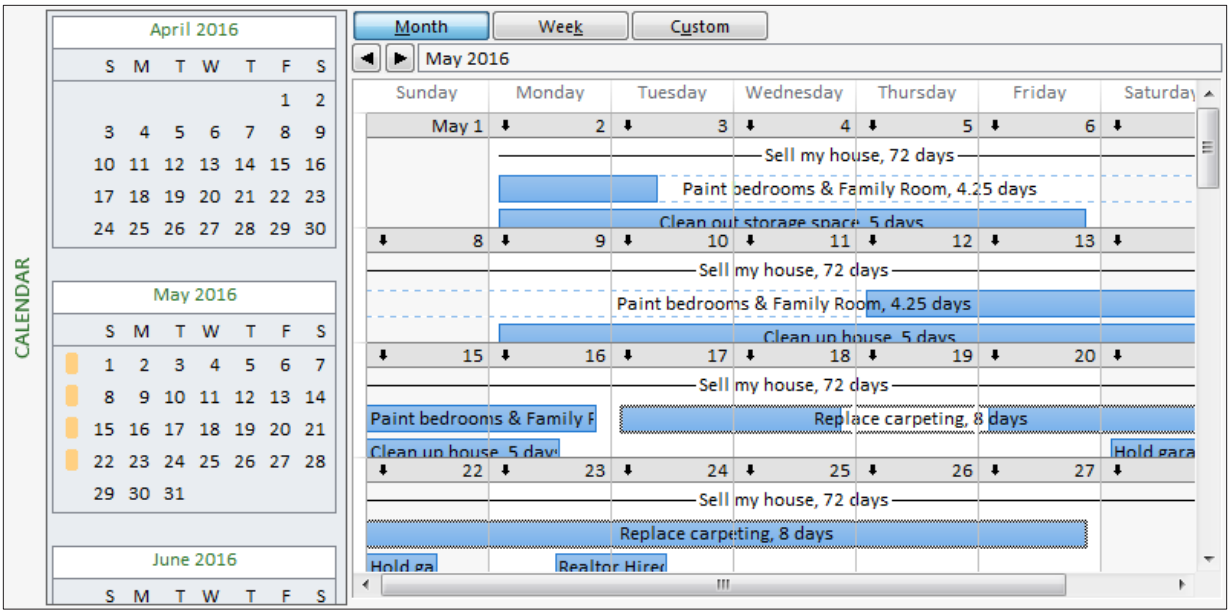

Figure 2-11 Calendar View.

Timeline View – The Timeline View is a very flexible and customizable view. Tasks may be selected to appear on the timeline to give high level reporting capability. In addition, the timeline has the ability to highlight the timeframe it is representing. The Timeline view will be discussed in Chapter 11, *Printing and Reporting*.

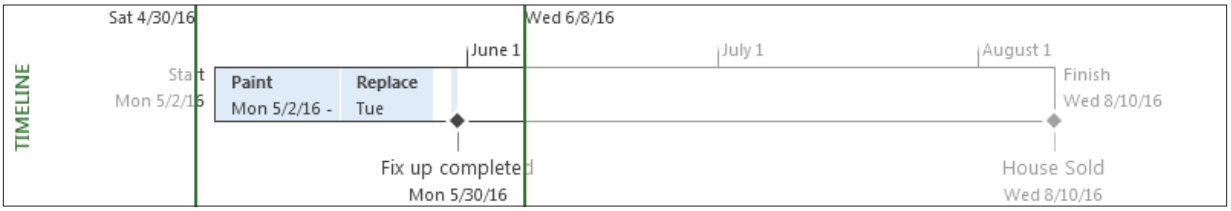

Figure 2-12 Timeline View.

Task Usage – The Task Usage view shows tasks and the resources assigned to the task. The advantage of this view is it includes resource assignments and shows numerically the resource needs to complete each task. Tailoring of this view provides cost or other fields of information.

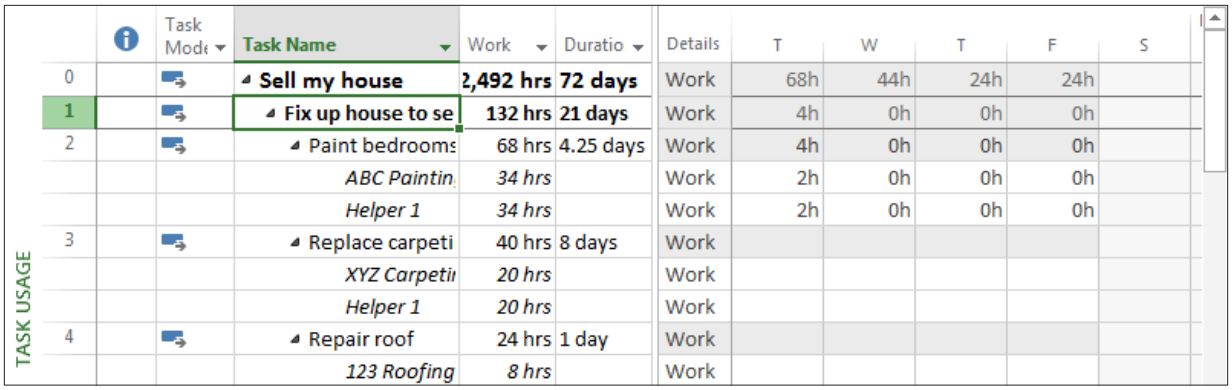

Figure 2-13 Task Usage View.

Resource Views

Resource views are accessed in a number of ways including through various tabs on the ribbon, through right-click short-cuts and through the view bar. You should find the option that you prefer.

Project lists 5 popular resource views: Resource Form, Resource Graph, Resource Sheet, Resource Usage, and Tam Planner Some of these will be illustrated below.

To display a resource view:

1. Click **Task** tab.
2. Click the drop-down arrow on **Gantt Chart** in the View group.
3. Click the desired view.

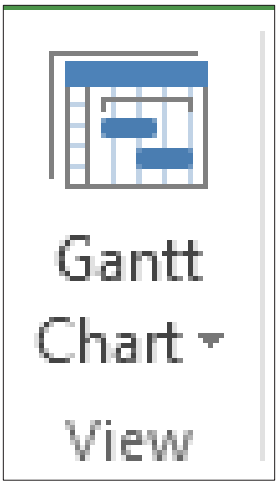

Figure 2-14 Changing Views Icon.

Resource Sheet – The resource sheet provides the table where resources are added into Project. The advantage of this view is the most popular fields needed to describe a resource are located here.

RESOURCE SHEET

		Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rat
1		ABC Painting	Work		A		100%	$30.00/hr	$0.(
2	⚠	Garage Sales Express	Work		G		100%	$40.00/hr	$0.(
3		XYZ Carpeting	Work		X		100%	$50.00/hr	$0.(
4		123 Roofing	Work		1		100%	$50.00/hr	$0.(
5	⚠	Realtor 1	Work		R		100%	$0.00/hr	$0.(
6		Realtor 2	Work		R		100%	$0.00/hr	$0.(
7		Realtor 3	Work		R		100%	$0.00/hr	$0.(
8	⚠	Homeowner 1	Work		H		100%	$0.00/hr	$0.(
9	⚠	This resource is overallocated.			H		100%	$0.00/hr	$0.(
10		Helper 1	Work		H		100%	$0.00/hr	$0.(

Figure 2-15 Resource Sheet View.

Resource Graph – The Resource Graph graphically displays information about each resource. The advantage of this view is it can easily identify visually where a resource might be overallocated and by how much based on the length of the bar above the units available line.

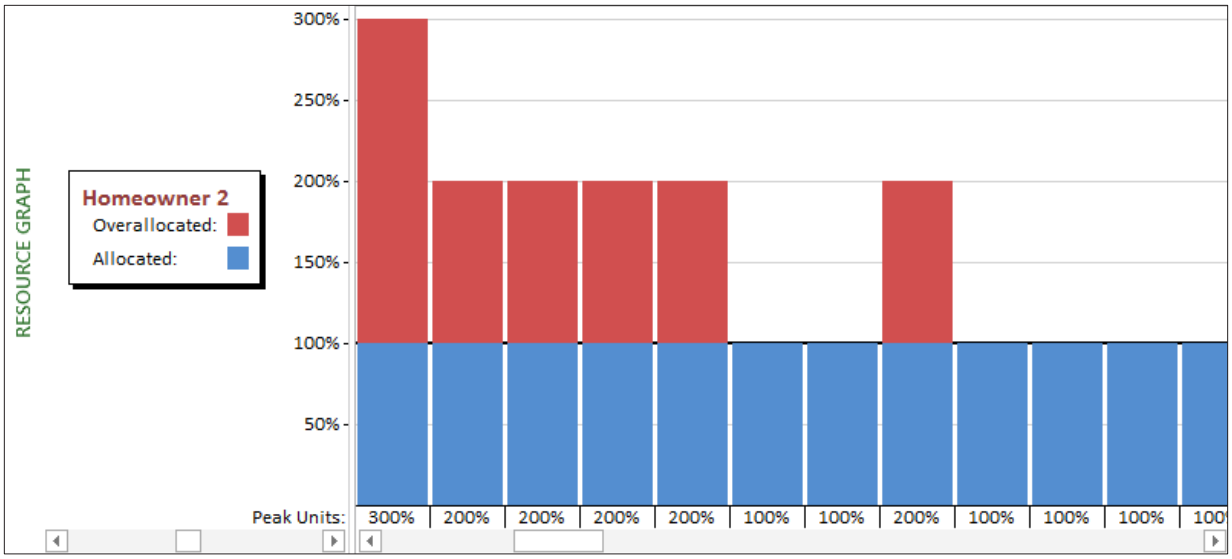

Figure 2-16 Resource Graph View.

Team Planner – the Team Planner view is a resource focused view that showcases work assignments in a graphical timeline format. The advantage of this view is the focus is on the resource and graphically what work is scheduled at what time.

This feature is only available in Project Professional or Project Pro for Office 365.

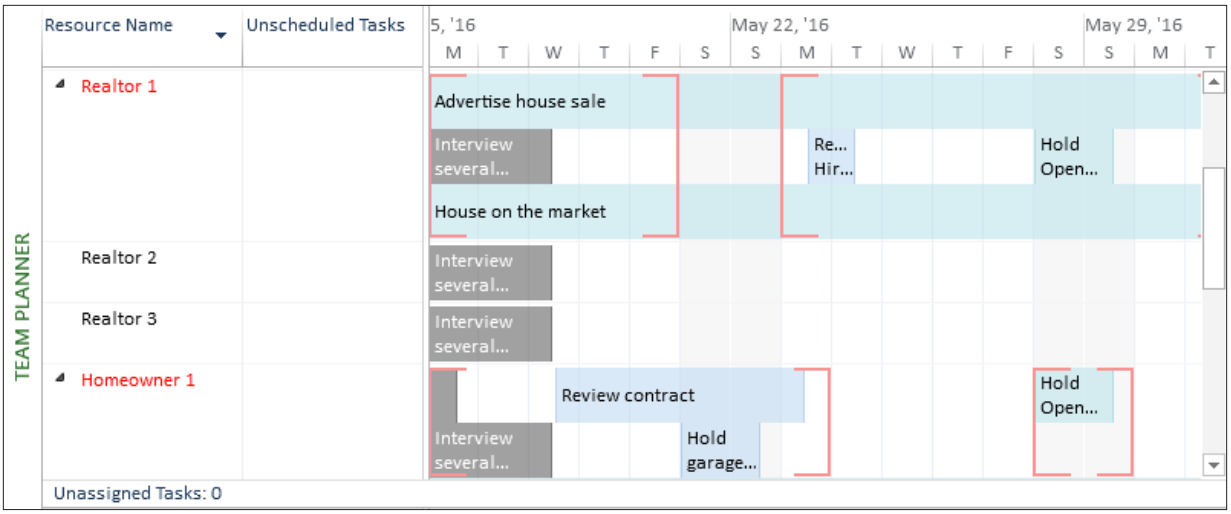

Figure 2-17 Team Planner View.

Resource Usage– The Resource Usage view shows every resource on the project and what tasks they have been assigned. The advantage of this view is it shows hours scheduled to accomplish each task. This view is a reversal of Task Usage view. Both of these views are useful in team meetings.

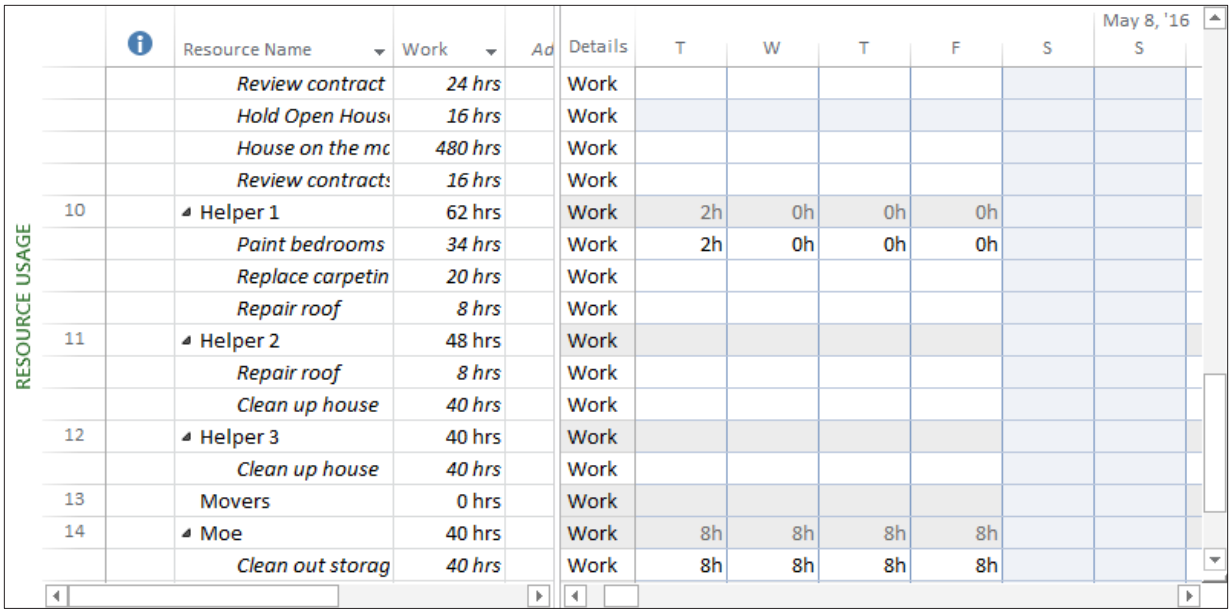

Figure 2-18 Resource Usage View.

Popular View Adjustments and Navigation

The most proficient schedulers and project managers jump through schedules very quickly to access the information they need. In this section, we will explore shortcuts to change the level of detail, display additional fields of information, jump quickly throughout Gantt chart view and shortcuts to locate a task.

Zooming In and Out

Zooming in or out is the way to adjust the bar chart or time scale portion of a view to show more or less detail. For example, you can display Gantt bars across a daily time scale or across a quarterly time scale.

Two popular methods for zooming in and out are using the Zoom Slider and the Zoom options on the View tab. The Zoom Slider is recommended since that option is always displayed even when you navigate to another view.

- You can click the minus and plus buttons to zoom out and zoom in.
- You can drag the zoom indicator in between the zoom out and zoom in buttons.

Figure 2-19 Zoom Slider.

Hide or Insert a Column

When you hide a column in Project 2013, the column is only removed from view, not deleted from your plan. Keep in mind that hiding a column doesn't remove any information from your plan.

Hide a Column

To hide a column from a sheet view:

1. In a sheet view, select the column you want to hide by clicking its title.
2. This displays the **Gantt Chart Tools** tab with the **Format** tab underneath in the Ribbon.
3. Click the **Format** tab.
4. Click the drop-down arrow on **Column Settings** in the Columns group.
5. Click **Hide Column**.

You can also press the **`delete`** key on your keyboard.

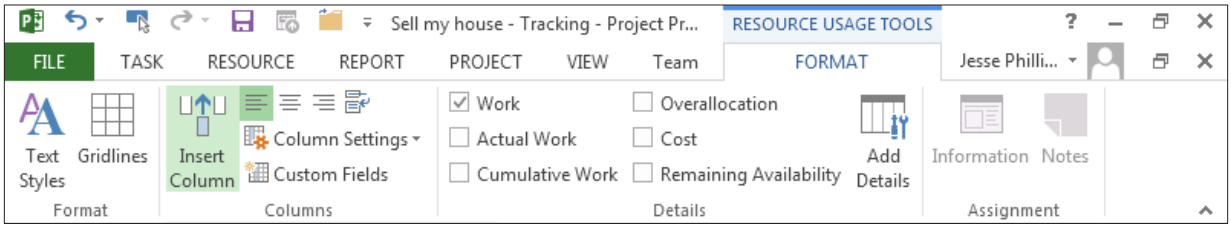

Figure 2-20 Column Adjustment Icons.

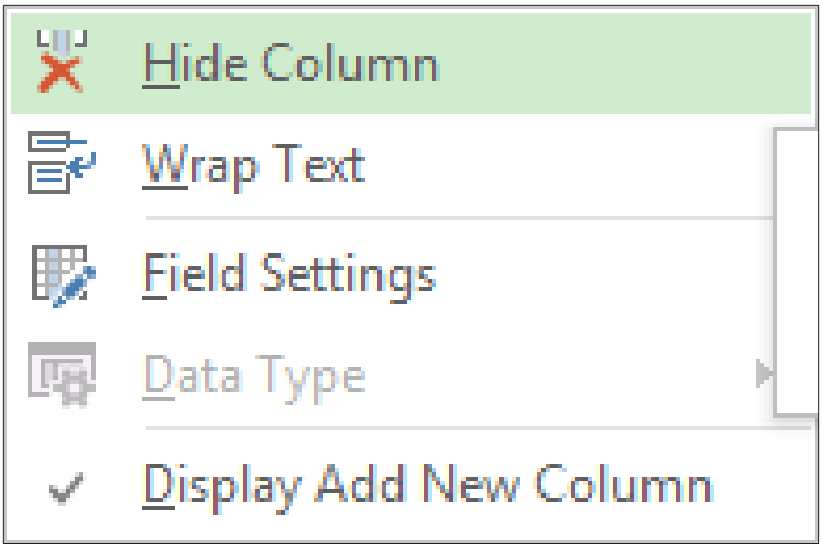

Figure 2-21 Column Settings Drop-down Menu.

Insert a Column

To insert or add a column:

1. In a sheet view, select the column to the right of where you want to insert the column.
2. This displays the **Gantt Chart Tools** tab with the **Format** tab underneath in the Ribbon.
3. Click the **Format** tab.
4. Click **Insert Column** in the Columns group.
5. A new blank column is displayed to the left of the column that you had selected. Click the drop-down arrow in the title box to specify the type of information from the list of possible column types (or fields) that the column will contain.

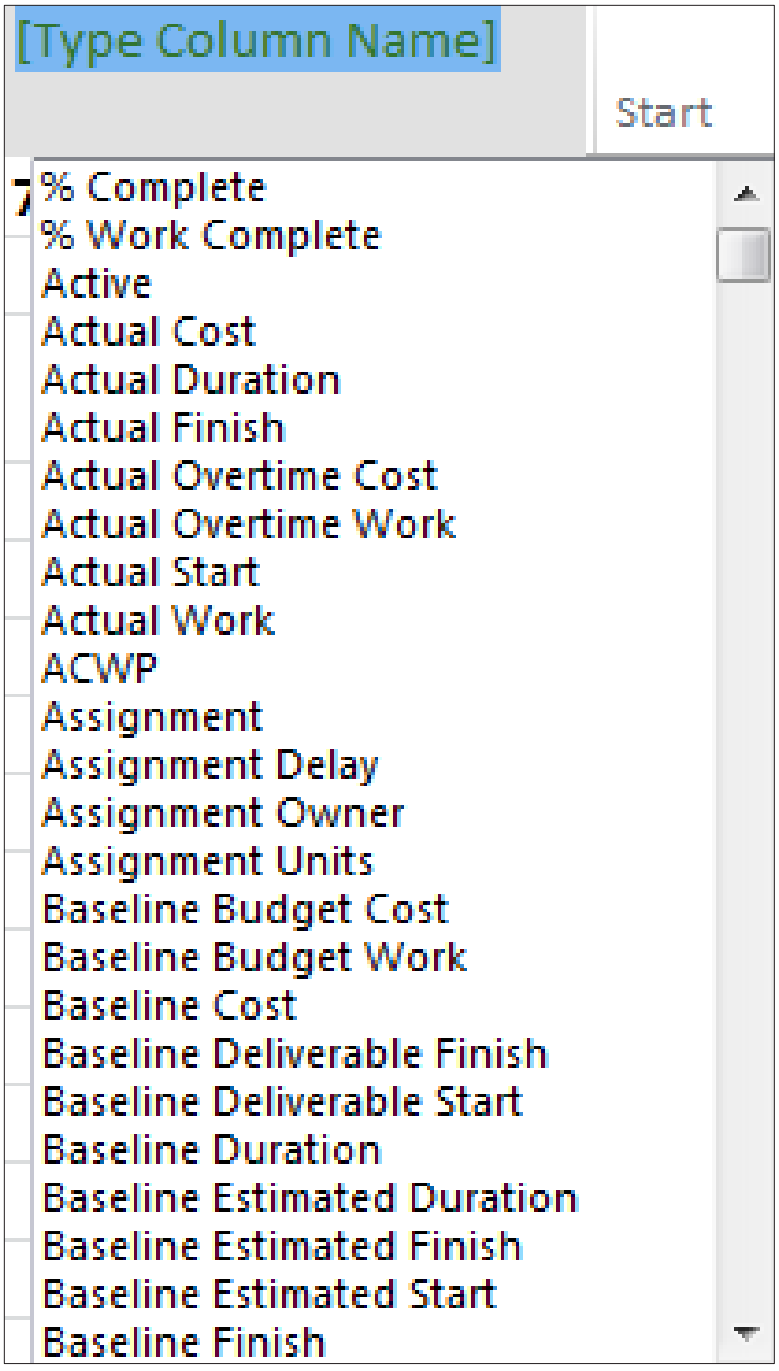

Figure 2-22 Add New Column.

Also at the end of every table in a Sheet view (the far right) there is an **Add New Column** option available.

	Duration	Start	Finish	Predecessors	Resource Names	Add New Column
0	**72 days**	**Mon 5/2/16**	**Wed 8/10/16**			
1	**21 days**	**Mon 5/2/16**	**Mon 5/30/16**			
2	4.25 days	Mon 5/2/16	Mon 5/16/16		ABC Painting, Helper 1	
3	8 days	Tue 5/17/16	Fri 5/27/16	2	XYZ Carpeting,Help	
4	1 day	Mon 5/30/16	Mon 5/30/16	3	123 Roofing,Helper	
5	0 days	Mon 5/30/16	Mon 5/30/16	4		
6	**15 days**	**Mon 5/2/16**	**Sun 5/22/16**			
7	5 days	Mon 5/2/16	Fri 5/6/16		Homeowner 1,Hom	
8	5 days	Mon 5/9/16	Mon 5/16/16	7	Helper 2,Helper 3,H	
9	2 days	Sat 5/21/16	Sun 5/22/16	8	Garage Sales Expre	
10	0 days	Sun 5/22/16	Sun 5/22/16	9		
11	**16.5 days**	**Mon 5/2/16**	**Tue 5/24/16**			
12	5 days	Mon 5/2/16	Wed 5/18/16		Homeowner 1,Hom	
13	3 days	Wed 5/18/16	Mon 5/23/16	12	Homeowner 1,Hom	
14	1 day	Mon 5/23/16	Tue 5/24/16	13	Realtor 1	

Figure 2-23 Add New Column in View.

To unhide a previously hidden column, insert the column as you would with any new column.

Using the Scroll to Task Button

The Scroll to Task is a shortcut feature to bring information to you quickly. It is useful in views like Gantt Chart, Task Usage, and Resource Usage where there is a table of information on the left and an associated timescale of information on the right. The main advantage of this feature is to reduce time spent scrolling or looking for information.

To use Scroll to Task:

1. Click the task name or row ID number.
2. Click the **Task** tab.
3. Click **Scroll to Task** in the Editing group.

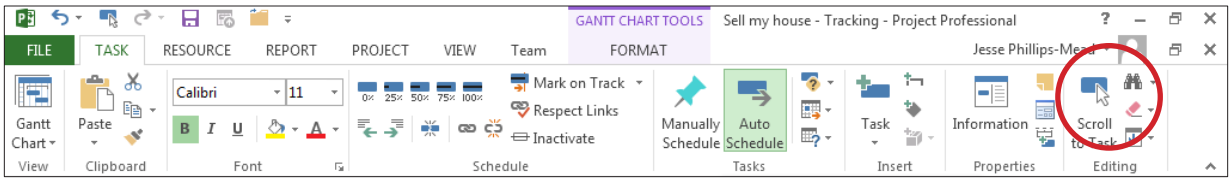

Figure 2-24 Scroll to Task Icon.

Project displays the date or dates where the selected task occurs on the timeline.

Go To and Find

As schedules begin to get larger, it is useful to have shortcuts to navigate through the information. In this topic, we will illustrate the advantages of Go To and Find within Gantt Chart view.

To Go To information:

1. Press the **F5** key or **Ctrl+G**.
2. In the Go To dialog box, enter a row ID number or choose or enter the date and click **OK**.

To Find information:

1. Click the **Task** tab.
2. Click **Find** in the Editing group.
3. In the **Find** dialog box, enter or set the desired options and click **Find Next**.

Keyboard Shortcuts

Key Tips allow you to use your keyboard to navigate through the Quick Access Toolbar and the Ribbon. To turn on Key Tips, simply tap the `Alt` key. You can also press `F10` twice. Follow the letters and numbers that are displayed to use the function you desire.

You can also use keyboard shortcuts to navigate through your project. The following table lists keys that are useful when navigating within views and windows.

Table 2.1 Key Tips and Keyboard Shortcuts

Key Tips & Shortcut	Outcome
`Tab`	Move right one field in an Entry table or dialog box.
`Shift+Tab`	Moves left one field in an Entry table or dialog box.
`Home`	Moves to the beginning of a row or field of information.
`End`	Moves to the end of a row or field of information.
`Page Up`	Moves up one screen.
`Page Down`	Moves down one screen.
`Alt + Page Up /` **`Alt + Page Down`**	Moves left or right one screen on the time scale.

Table 2.1 Key Tips and Keyboard Shortcuts

Key Tips & Shortcut	Outcome
Alt + ⇦ / **Alt** + ⇨	Moves the time scale one unit left or right (as defined by the bottom time scale tier).
Alt + **Home**	Moves to the project start date in the bar chart.
Alt + **End**	Moves to the project finish date in the bar chart.
Ctrl + **Home**	Moves to the first field in the first row of the Entry table or the same location in any other sheet view.
Ctrl + **End**, **Home**	Moves to the first field in the last row of the Entry table or the same location in any other sheet view.
Ctrl + ⇧	Moves to the First Row.
Ctrl + ⇩	Moves to the Last Row.
F1	Turns on Project Help.
F2	Activates in-cell editing for the selected field.
F3	Displays all tasks or resources when a prior filter was applied.
F5	Goes to a specific row ID number or a date on the time scale.
F6	Activates the other pane in a combination or dual-pane view.

Table 2.1 Key Tips and Keyboard Shortcuts

Key Tips & Shortcut	Outcome
F10	Press twice to turns on Key Tips. You can also tap the Alt key.
Ctrl + Shift + F5	Displays the Gantt bar for the selected task.
Ctrl + F4	Closes the Project window.
Ctrl + F5	Changes the Gantt Chart view from maximized to previous size (i.e., view window is separated from Project window).
Ctrl + F10	Maximizes the Gantt Chart view and combines it with the Project window.
Ctrl + F9	Allows you to turn on and off Auto Calculate.
Ctrl + F6	Displays the next open Project window.
Ctrl + Shift + F6	Displays the previous open Project window.
Alt + Spacebar / Alt + Hyphen	Displays the application control menu.
Insert	When the Task ID is selected, a new blank row is added in the Entry table.
Delete	When the Task ID is selected, a row is deleted from the Entry table.
Alt + F3	Displays the Field Settings dialog box for the active column.

Table 2.1 Key Tips and Keyboard Shortcuts

Key Tips & Shortcut	Outcome
Alt + F4	Closes Project.
Shift + F2	Displays Task Information in Gantt Chart view. Displays Resource Information in Resource Sheet view.
Shift + F3	Sorts by ID number.
Shift + F6	Enables the horizontal and vertical split bars in Gantt Chart view.
Shift + F11 / Alt + Shift + F1	Creates a new version of your schedule (e.g., Project: 2).

Help

Within Project, there are easy options to get help on features and functions. The default setting of the Ribbon provides detailed feature descriptions when you pause on a button. Should you need more assistance, a detailed help search is recommended.

The detailed help feature automatically assumes you are connected online, but you have the option to switch it to search on your computer only.

Navigation through help is just like a website and you will notice the home button, back button, and hyperlinks as being familiar to you.

To access Help

1. Press the **F1** key or click the help icon in the top right-corner (question mark).
2. Click the drop-down arrow on **Project Help** and choose the desired help option (online or not).
3. Enter the terms you want to search on in the text box and press the **Enter** key or magnifier icon