CHAPTER 13   PROJECT TRACKING

INFOCUS

WPL_J412

Once you have entered your tasks and resources and created a project schedule you are ready to start tracking the progress of your project.

As a project manager you will need to monitor expenditure to see if you are exceeding the limits, and monitor the tasks to see whether they are in front of or behind your plan. Microsoft Project can help with these activities.

Once the project has been scheduled you are ready to commit it to a *baseline* or *plan*.

The *baseline* becomes a yardstick against which *actual* performance can be measured and will provide the foundation for updating the *current* schedule relying on progress to date.

Once the project has been committed to a plan, Microsoft Project will actually provide you with three sets of data to work with: a *baseline*, *actual* data and *current* data.

In this session you will:

✓ learn how to create a baseline
✓ learn how to have **Microsoft Project** update actual progress for you
✓ learn how to manually update project progress
✓ learn how to enter delayed tasks
✓ learn how to track actuals on the **Gantt Chart**
✓ learn how to track actuals using the **Tracking Box**
✓ learn how to view task slippage.

CREATING A BASELINE

Once you are happy with the task *allocation* and *resource levelling* of your project you can commit it to a *baseline* plan. Creating a baseline 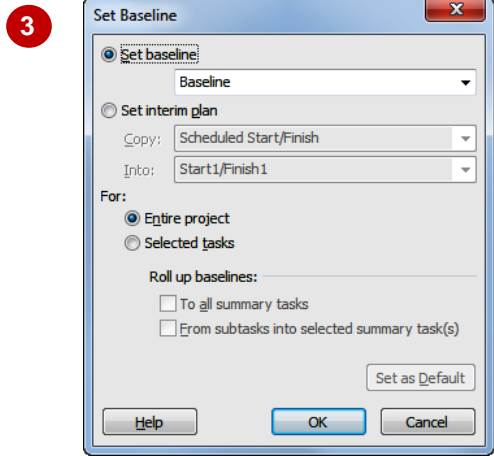is simply a matter of transferring information from the current schedule fields to special baseline fields where the data will not change. This then provides you with a fixed set of data that can be used to measure the performance of the project schedule.
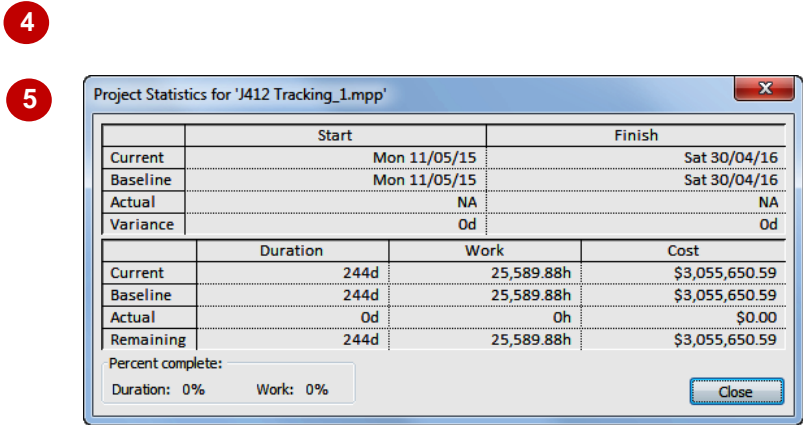
Try This Yourself:

Open File

Before starting this exercise you MUST open the file J412 Tracking_1.mpp...

1 Click on the *View* tab on the *Ribbon*, click on *Other Views* in the *Task Views* group and click on *Task Sheet*

2 Click on *Tables* in the *Data* group and click on *Variance*

3 Click on the *Project* tab on the *Ribbon*, click on *Set Baseline* in the *Schedule* group and click on *Set Baseline* to display the *Set Baseline* dialog box

4 Click on [OK] to copy the data from the schedule columns to the baseline columns

5 Click on *Project Information* (on the *Ribbon*) to display the *Project Information* dialog box and click on [Statistics]

The current and baseline dates are identical – for now…

6 Click on [Close]

3

Set Baseline	
⦿ Set baseline	
	Baseline ▾
○ Set interim plan	
Copy:	Scheduled Start/Finish ▾
Into:	Start1/Finish1 ▾
For:	
⦿ Entire project	
○ Selected tasks	
Roll up baselines:	
☐ To all summary tasks	
☐ From subtasks into selected summary task(s)	
	Set as Default
Help	OK	Cancel

	Task	Task Name	Start	Finish	Baseline Start	Baseline Finish	Sta
1		⊟ **Planning**	**Mon 11/05/15**	**Wed 8/07/15**	**Mon 11/05/15**	**Wed 8/07/15**	
2		Create architectu	Mon 11/05/15	Fri 29/05/15	Mon 11/05/15	Fri 29/05/15	
3		Submit plans for a	Mon 1/06/15	Fri 26/06/15	Mon 1/06/15	Fri 26/06/15	
4		Order materials	Mon 29/06/15	Wed 8/07/15	Mon 29/06/15	Wed 8/07/15	
5		Planning Complet	Wed 8/07/15	Wed 8/07/15	Wed 8/07/15	Wed 8/07/15	
6		⊟ Site Works	Thu 9/07/15	Fri 14/08/15	Thu 9/07/15	Fri 14/08/15	
7		Erect fencing	Thu 9/07/15	Mon 13/07/15	Thu 9/07/15	Mon 13/07/15	
8		Erect site building	Tue 14/07/15	Fri 17/07/15	Tue 14/07/15	Fri 17/07/15	

4

5

Project Statistics for 'J412 Tracking_1.mpp'		
	Start	Finish
Current	Mon 11/05/15	Sat 30/04/16
Baseline	Mon 11/05/15	Sat 30/04/16
Actual	NA	NA
Variance	0d	0d

	Duration	Work	Cost
Current	244d	25,589.88h	$3,055,650.59
Baseline	244d	25,589.88h	$3,055,650.59
Actual	0d	0h	$0.00
Remaining	244d	25,589.88h	$3,055,650.59

Percent complete:

Duration: 0%   Work: 0%

[Close]

For Your Reference…

To *set a baseline*:

1. Click on the *Project* tab on the *Ribbon*, click on *Set Baseline* in the *Schedule* group and click on *Set Baseline*
2. Click on [OK]

Handy to Know…

- The *Variance* table will highlight differences (variances) between the baseline and actuals when they are entered. It is quite a handy little table to have.

UPDATING THE PROJECT ACTUALS

Once the baseline has been created you are ready to start entering *actual information*. There are a variety of ways of doing this. In some situations your tasks will have performed exactly as planned and you can get Microsoft Project to convert the *scheduled* data into the *actual* data. This is by far the easiest way to update the tracking of a project.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_2.mpp...

1   Click on the *View* tab on the *Ribbon*, click on *Tables* in the *Data* group and click on *Tracking* to display the *Tracking* table

2   Click on *Create architectural plans*, hold down the [Shift] key and click on *Planning Completed* to select the *Planning* tasks

3   Click on the *Project* tab and click on *Update Project* in the *Status* group to display the *Update Project* dialog box

4   Click on the date, type **30/6/15** and click on *Selected Tasks*

5   Click on **[OK]**

    Notice that only the first 2 tasks are 100% completed…

6   Click on *Project Information* on the *Ribbon* and click on **[Statistics]** to see how much of the project is marked as completed

7   Click on **[Close]**

2

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. %	Act. Dur.	Rem. Dur.
1	⊟ Planning	NA	NA	0%	0%	0 days	43 days
2	Create architectu	NA	NA	0%	0%	0 wks	3 wks
3	Submit plans for a	NA	NA	0%	0%	0 mons	1 mon
4	Order materials	NA	NA	0%	0%	0 days	8 days
5	Planning Complet	NA	NA	0%	0%	0 days	0 days
6	⊟ Site Works	NA	NA	0%	0%	0 days	27 days
7	Erect fencing	NA	NA	0%	0%	0 days	3 days

4

Update Project

- ◉ Update work as complete through: 30/6/15
  - ◉ Set 0% - 100% complete
  - ○ Set 0% or 100% complete only
- ○ Reschedule uncompleted work to start after: Thu 12/05/11

For: ○ Entire project ◉ Selected tasks

Help   OK   Cancel

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. %	Act. Dur.	Rem. Dur.
1	⊟ Planning	Mon 11/05/15	NA	84%	0%	36.07 days	6.93 days
2	Create architectu	Mon 11/05/15	Fri 29/05/15	100%	0%	3 wks	0 wks
3	Submit plans for a	Mon 1/06/15	Fri 26/06/15	100%	0%	1 mon	0 mons
4	Order materials	Mon 29/06/15	NA	13%	0%	1.07 days	6.93 days
5	Planning Complet	NA	NA	0%	0%	0 days	0 days
6	⊟ Site Works	NA	NA	0%	0%	0 days	27 days
7	Erect fencing	NA	NA	0%	0%	0 days	3 days

5   *Order materials is only 13% complete as it is scheduled to end on 8/7/2015. Since we updated the schedule to 30/6/2015 Microsoft Project has marked this task as only 13% complete.*

6

Project Statistics for 'J412 Tracking_2.mpp'

	Start	Finish
Current	Mon 11/05/15	Sat 30/04/16
Baseline	Mon 11/05/15	Sat 30/04/16
Actual	Mon 11/05/15	NA
Variance	0d	0d

	Duration	Work	Cost
Current	244d	25,589.88h	$3,055,650.59
Baseline	244d	25,589.88h	$3,055,650.59
Actual	28.72d	269.13h	$25,171.92
Remaining	215.28d	25,320.75h	$3,030,478.67

Percent complete:

Duration: 12%   Work: 1%

Close

For Your Reference…

To *automatically update actuals*:

1. Select the tasks to update
2. Click on the *Project* tab and click on *Update Project* in the *Status* group
3. Enter a date, specify selected tasks only, and click on **[OK]**

Handy to Know…

- In a real application you wouldn't be setting a date. You'd only begin tracking the project as it commenced and in real time.

MANUALLY UPDATING TASKS

To update the tracking of a task you can enter a value into one of a number of fields such as *Start Date*, *End Date*, *% Comp*, *Act Dur*, *Rem Dur*, and Microsoft Project will then calculate the amount of work done. This provides you with a great deal of flexibility in how you track the progress of tasks.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_3.mpp...

1 Click in *% Comp* for *Order materials*, type **100** and press Enter

2 Type **100** in *% Comp* for *Planning Completed* and press Enter

3 Type **100** in *% Comp* for *Site Works* and press Enter

Notice how all of the sub-ordinate tasks are also marked as completed…

4 Click in *% Comp* for *Building Construction*, type **40** and press Enter to see how the update is applied

Calculations also work in reverse where the Summary is updated as a sub-ordinate is changed…

5 Click in *% Comp* for *Erect steelwork*, type **100** and press Enter

Notice how the % Comp for Building Construction updates…

6 Type **100** in *% Comp* for *Erect wall* and press Enter

1

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.
1	⊟ Planning	Mon 11/05/15	NA	99%	0%	43 da
2	Create architectur	Mon 11/05/15	Fri 29/05/15	100%	0%	3 w
3	Submit plans for a	Mon 1/06/15	Fri 26/06/15	100%	0%	1 m
4	Order materials	Mon 29/06/15	Wed 8/07/15	100%	0%	8 da
5	Planning Complet	NA	NA	0%	0%	0 da
6	⊟ Site Works	NA	NA	0%	0%	0 da

3

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.
6	⊟ Site Works	Thu 9/07/15	Fri 14/08/15	100%	0%	27 da
7	Erect fencing	Thu 9/07/15	Mon 13/07/15	100%	0%	3 da
8	Erect site building	Tue 14/07/15	Fri 17/07/15	100%	0%	4 da
9	Clear and level sit	Mon 20/07/15	Fri 7/08/15	100%	0%	3 w
10	Prepare drainage	Mon 10/08/15	Fri 14/08/15	100%	0%	1 v
11	Prepare cabling in	Mon 10/08/15	Fri 14/08/15	100%	0%	1 v
12	Site Works Compl	Fri 14/08/15	Fri 14/08/15	100%	0%	0 da

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.
13	⊟ Building Constructio	Mon 17/08/15	NA	40%	0%	52.4 days	78.6 days
14	Pour foundations	Mon 17/08/15	Thu 20/08/15	100%	0%	4 days	0 days
15	Erect steelwork	Tue 25/08/15	NA	83%	0%	2.48 mons	0.52 mons
16	Erect wall	NA	NA	0%	0%	0 mons	2 mons
17	Install roofing sup	NA	NA	0%	0%	0 wks	2 wks
18	Install roof retrac	NA	NA	0%	0%	0 wks	1 wk
19	Erect seating tiers	NA	NA	0%	0%	0 wks	3 wks
20	Building Construc	NA	NA	0%	0%	0 days	0 days
21	⊟ Fit Out	NA	NA	0%	0%	0 days	33 days

4

6

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.	Rem. Dur.
13	⊟ Building Constructio	Mon 17/08/15	NA	78%	0%	01.67 days	29.33 days
14	Pour foundations	Mon 17/08/15	Thu 20/08/15	100%	0%	4 days	0 days
15	Erect steelwork	Tue 25/08/15	Mon 16/11/15	100%	0%	3 mons	0 mons
16	Erect wall	Tue 17/11/15	Tue 26/01/16	100%	0%	2 mons	0 mons
17	Install roofing sup	NA	NA	0%	0%	0 wks	2 wks
18	Install roof retrac	NA	NA	0%	0%	0 wks	1 wk
19	Erect seating tiers	NA	NA	0%	0%	0 wks	3 wks
20	Building Construc	NA	NA	0%	0%	0 days	0 days

For Your Reference…

To **manually update actuals**:

1. Change the view to the **Tracking** table
2. Click in **% Comp** of the desired task and enter a value

Handy to Know…

- If you enter a value in a summary task **% Comp** field Microsoft Project will apply a percentage to the dependent sub-tasks. Alternatively, if you enter a value in the **% Comp** field of the sub-tasks Microsoft Project will apply a percentage to the summary task.

ENTERING DELAYED TASKS

Unfortunately project life ain't necessarily as easy as we've seen. You'll find that many of your tasks aren't started or completed according to plan. You can type actual dates into the project.

Project will take this detail and update the current status to provide you with an up-to-date schedule. Sometimes, however, you may find diabolical consequences as a result of slippage in tasks.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_4.mpp...

1 Click on **NA** in **Act. Start** for **Install roofing superstructure**

This task was scheduled to commence Wed 27/1, but has been delayed to Mon 1/2...

2 Type **1/2/16** and press Enter

The Planning Wizard will appear to indicate that a scheduling conflict will occur if you proceed with this data entry. This has arisen because the opening ceremony is constrained so that it must take place on April 30. The delays to the start of the roofing superstructure mean that we can't meet the constraint date...

3 Click on **[OK]**

4 Click in **% Comp** for **Install roofing superstructure**, type **100** and press Enter

5 Click on the **View** tab on the **Ribbon**, click on **Tables** in **Data** and click on **Variance** to see where the tasks are slipping behind the schedule

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Dur.
13	Building Constructio	Mon 17/08/15	NA	78%	0%	01.67 da
14	Pour foundations	Mon 17/08/15	Thu 20/08/15	100%	0%	4 da
15	Erect steelwork	Tue 25/08/15	Mon 16/11/15	100%	0%	3 mo
16	Erect wall	Tue 17/11/15	Tue 26/01/16	100%	0%	2 mo
17	Install roofing sup	NA	NA	0%	0%	0 w
18	Install roof retrac	NA	NA	0%	0%	0 w
19	Erect seating tiers	NA	NA	0%	0%	0 w
20	Building Constructio	NA	NA	0%	0%	0 d

	Task Name	Act. Start	Act. Finish	% Comp.	Phys. % Comp.	Act. Du
13	Building Constructio	Mon 17/08/15	NA	85%	0%	114
14	Pour foundations	Mon 17/08/15	Thu 20/08/15	100%	0%	4
15	Erect steelwork	Tue 25/08/15	Mon 16/11/15	100%	0%	3 m
16	Erect wall	Tue 17/11/15	Tue 26/01/16	100%	0%	2 m
17	Install roofing sup	Mon 1/02/16	Fri 12/02/16	100%	0%	2
18	Install roof retrac	NA	NA	0%	0%	0
19	Erect seating tiers	NA	NA	0%	0%	0

Task Name	Start	Finish	Baseline Start	Baseline Finish	Start Var.
Building Construction	Mon 17/08/15	Fri 4/03/16	Mon 17/08/15	Tue 1/03/16	0 days
Pour foundations	Mon 17/08/15	Thu 20/08/15	Mon 17/08/15	Thu 20/08/15	0 days
Erect steelwork	Tue 25/08/15	Mon 16/11/15	Tue 25/08/15	Mon 16/11/15	0 days
Erect wall	Tue 17/11/15	Tue 26/01/16	Tue 17/11/15	Tue 26/01/16	0 days
Install roofing sup	Mon 1/02/16	Fri 12/02/16	Wed 27/01/16	Tue 9/02/16	3 days
Install roof retrac	Mon 15/02/16	Fri 19/02/16	Wed 10/02/16	Tue 16/02/16	3 days
Erect seating tiers	Mon 15/02/16	Fri 4/03/16	Wed 10/02/16	Tue 1/03/16	3 days
Building Construc	Fri 4/03/16	Fri 4/03/16	Tue 1/03/16	Tue 1/03/16	3 days
Fit Out	Mon 7/03/16	Wed 20/04/16	Wed 2/03/16	Fri 15/04/16	3 days
Fit all windows ar	Mon 7/03/16	Fri 18/03/16	Wed 2/03/16	Tue 15/03/16	3 days

For Your Reference…

To enter **delayed actuals**:

1. Display the **Tracking** table
2. Type the delayed start into the **Act. Start** column of the task

Handy to Know…

- The **Variance** table will compare the actual start and finish to those recorded in the baseline of the project. The variance will then be reported as days in the variance columns.

TRACKING ACTUALS ON A GANTT CHART

Project allows you to enter actual data on a *Gantt Chart* or other graphic view as well as in a sheet view. You can do this in a couple of ways. Microsoft Project has special *Tracking* tools that allow you to quickly update the progress of a task. Alternatively you can enter actual data in the *Gantt Chart* by dragging the mouse along the task bar you wish to update.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_5.mpp...

1. Click on the *View* tab on the *Ribbon* and click on *Gantt Chart*

2. Click on *Install roof retracting mechanism*, click on the *Task* tab on the *Ribbon* and click on *Scroll to Task*

3. Click on *100% Complete* in the *Schedule* group on the *Ribbon* to mark the task as completed

4. Click on *Erect seating tiers* and click on *25% Complete* in the *Schedule* group

5. Click on *50% Complete*, and then on *75% Complete*

   Who said Project was boring?...

6. Click on the *Project* tab on the *Ribbon*, click on *Project Information* and click on *[Statistics]* to see how much is complete now

7. Click on *[Close]*
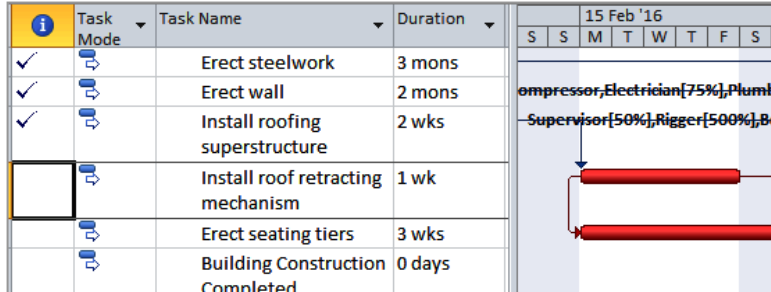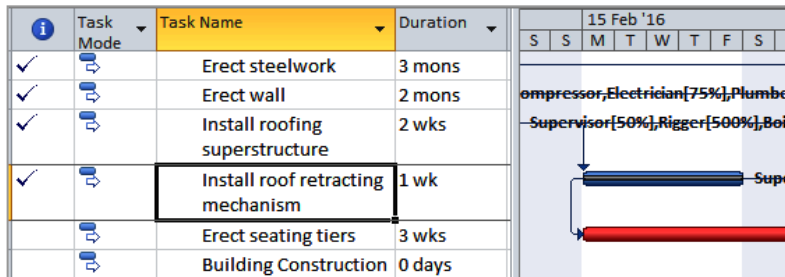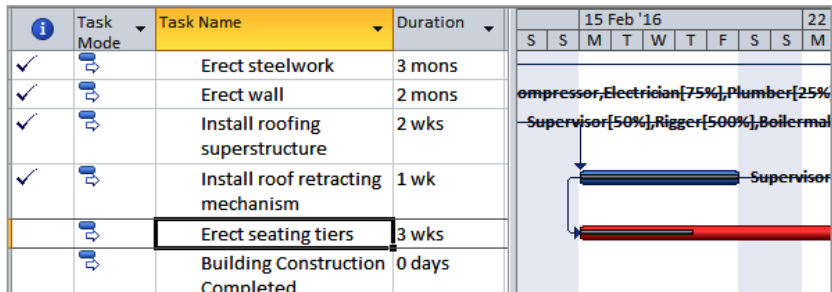
For Your Reference…

To enter actuals on a *Gantt Chart*:

1. Display a *Gantt Chart* and click on the *Task* tab on the *Ribbon*
2. Click on any of the percentage completed commands in the *Schedule* group on the *Ribbon*

Handy to Know…

- As a task is being tracked the *Gantt Chart* timeline will display a bar within the timeline bar to show how much of the task is completed. Also, tasks that are *100%* completed are no longer critical and are therefore no longer on the critical path.

USING THE TRACKING BOX

One interesting aspect of Project is its knack for having a dialog box available for the job at hand. For example, when working with tasks you can double-click to display the *Task Information*

dialog box. The *Update Tasks* dialog box provides a convenient way of updating the progress of a specific task when tracking your project.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_6.mpp...

1   Click on *Erect seating tiers*

2   Click on the *Tasks* tab on the *Ribbon*, click on the small arrow to the right of *Mark on Track* in the *Schedule* group

3   Click on *Update Tasks* to display the *Update Tasks* dialog box

4   Click on *NA* in *Finish*, type **2/3/16** and click on **[OK]**

This task actually finished a couple of days ahead of schedule which helped the scheduling problem created by a task that started later than scheduled
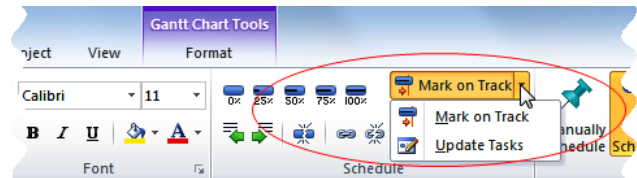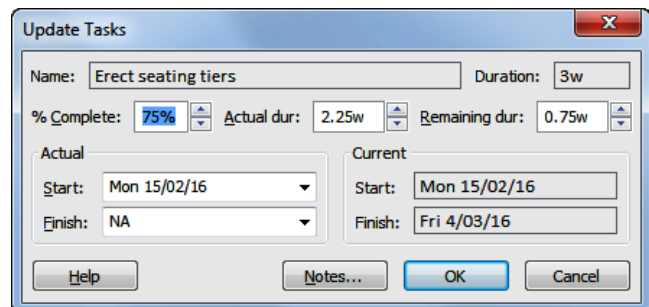
For Your Reference…

To update actuals using the *Tracking Box*:

1. Click on the task that you want to update
2. Click on the *Tasks* tab, click on the small arrow to the right of *Mark on Track* and click on *Update Tasks*
3. Type a finish date and click on **[OK]**

Handy to Know…

- The *Update Tasks* dialog box is handy for entering a variety of information for tracking a task. You can use it to enter dates, percent completed, and actual durations.

VIEWING TASK SLIPPAGE

The plan in a project is the baseline that was originally defined. There are a number of ways of seeing how the project is progressing according to the original *baseline*. You can see the comparison to baseline through the *Tracking Gantt* view. This chart shows two bars for each task. One bar represents the original baseline while the other represents the revised schedule.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file J412 Tracking_7.mpp...

1 Click on the *View* tab on the *Ribbon* and click on the drop arrow below *Gantt Chart*

2 Click on *Tracking Gantt* to see a variation on the *Gantt Chart* showing slippage timelines

3 Scroll to and click on *Fit Out*, click on the *Task* tab on the *Ribbon* and click on *Scroll To Task*

4 Click on the *View* tab on the *Ribbon*, click on *Other Views* in the *Task Views* group and click on *Task Sheet*

5 Click on *Tables* in the *Data* group and click on *Variance*

6 Click on the drop arrow for *Gantt Chart* and click on *Gantt Chart* to see the normal chart again

For Your Reference…

To view *task slippage*:

1. Click on the *View* tab, click on the drop arrow below *Gantt Chart* and click on *Tracking Gantt*
2. Change the view to a *Task Sheet*, and change the table to a *Variance* table

Handy to Know…

- You can display the original start and end dates for tasks and compare them to the revised schedule in a *Variance* table. This table also shows the number of days that each task has slipped from its original baseline dates.