

Project Time Management

Prepared by Dr. Nael Zabel

Lecture 9

جامعة الجميع الذكية

تسعى لتكون الكيان الأول الذي يتبنى مبدأ المجتمع التعليمي
التعاوني ويقدم العلم مقابل العمل لتنمية وبناء المجتمعات.

PMG 212

Acceleration and Schedule
Compression



جامعة الجميع الذكية
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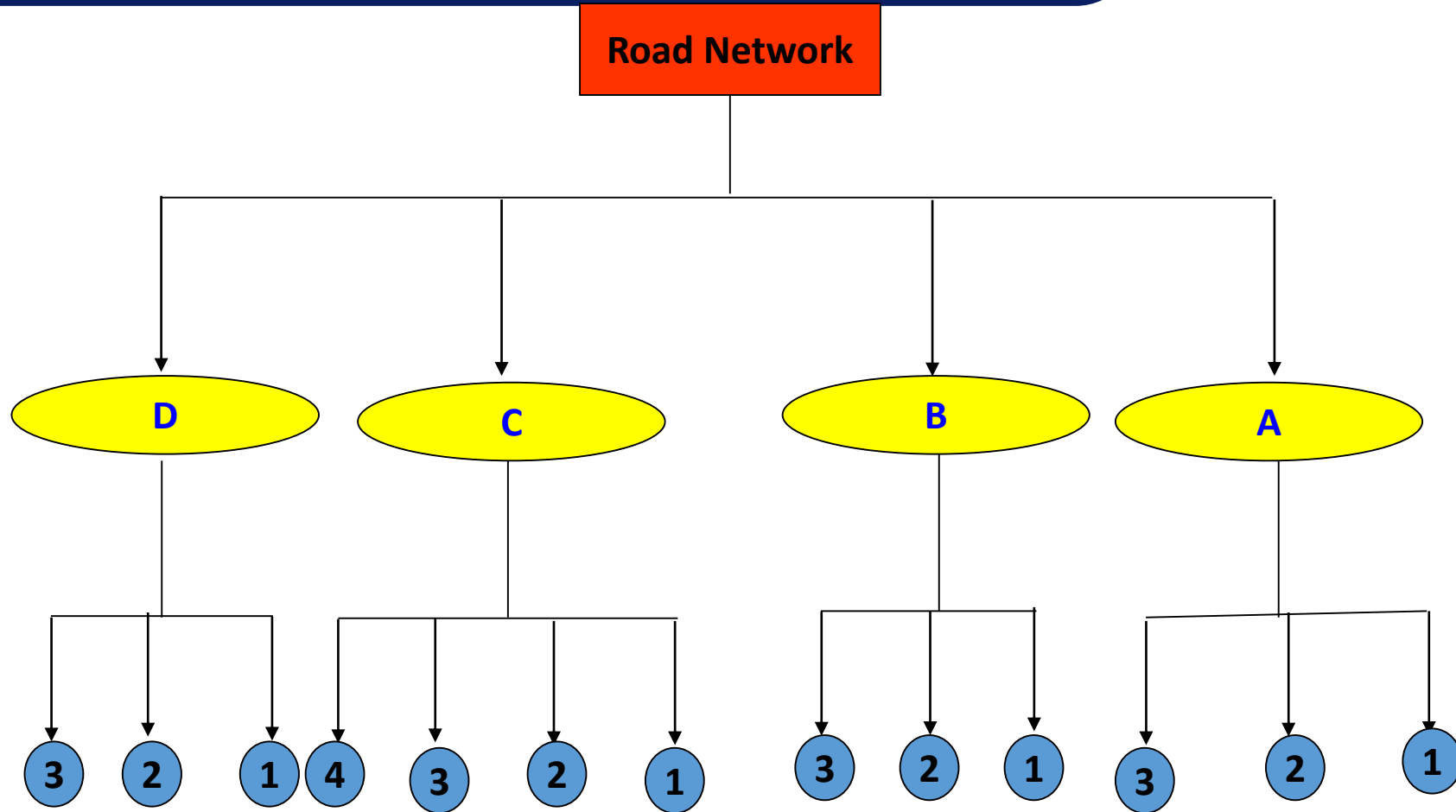
Agenda

- Case study
- Case study – Create WBS
- Case study – Create activity
- Case study – Scheduling
- Project duration versus cost
- Acceleration and Schedule Compression



- **Case study**
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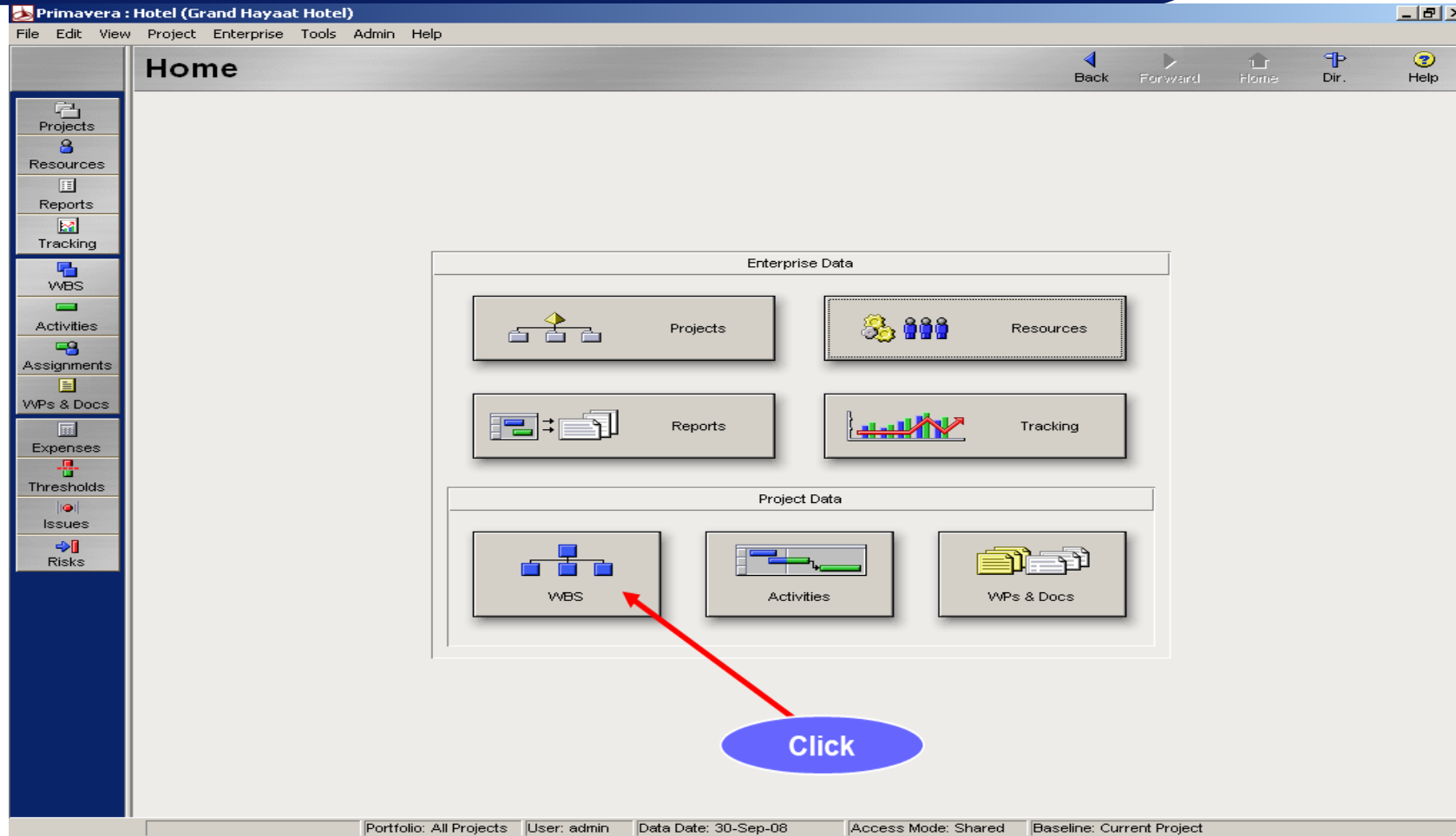


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Lecture 9 Case study – Create WBS



Lecture 9

Case study – Create WBS

Primavera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

File Edit View Project Enterprise Tools Admin Help

Work Breakdown Structure

Layout: Project Status

WBS Code	WBS Name	Project ID	Project Status
Hotel	Grand Hayaat Hotel	Hotel	Active
Road	Road Network in Badr City	Road	Active

Click

General Notebook Budget Log Spending Plan Budget Summary WBS Milestones WPs & Docs Earned Value

General

WBS Code: Road WBS Name: Road Network in Badr City

Status: Active Responsible Manager: Hosni

Anticipated Dates

Anticipated Start: ...

Anticipated Finish: ...

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project



Lecture9

Case study – Create WBS

Primavera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

File Edit View Project Enterprise Tools Admin Help

Work Breakdown Structure

Layout: Project Status

WBS Code	WBS Name	Project ID	Project Status
Hotel	Grand Hayaat Hotel	Hotel	Active
Road	Road Network in Badr City	Road	Active
Road.A	Road Type (A)	Road	Active
Road.A.1	Road No. 1	Road	Active
Road.A.2	Road No. 2	Road	Active
Road.A.3	Road No. 3	Road	Active
Road.B	Road Type (B)	Road	Active
Road.B.1	Road No. 1	Road	Active
Road.B.2	Road No. 2	Road	Active
Road.B.3	Road No. 3	Road	Active

Buttons: Add, Delete, Cut, Copy, Paste

Buttons: Edit (pointing to Road.B), Edit (pointing to Road.B.1)

General | Notebook | Budget Log | Spending Plan | Budget Summary | WBS Milestones | WPs & Docs | Earned Value

General

WBS Code: B WBS Name: Road Type (B)

Status: Active Responsible Manager: Hosni

Anticipated Dates

Anticipated Start: ...

Anticipated Finish: ...

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project



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Case study – Create activity code

Activity	Code
Excavation	EX
Replacement	RE
Ferma Layer	FR
Base Layer	BA
Prime Coat	PR
Layer Bond	LB
Tack Coat	TA
Asphalt Layer	AS
Curbs	CU
Sign Traffic	ST
Draw Axis	DR
Pavement Layer	PV

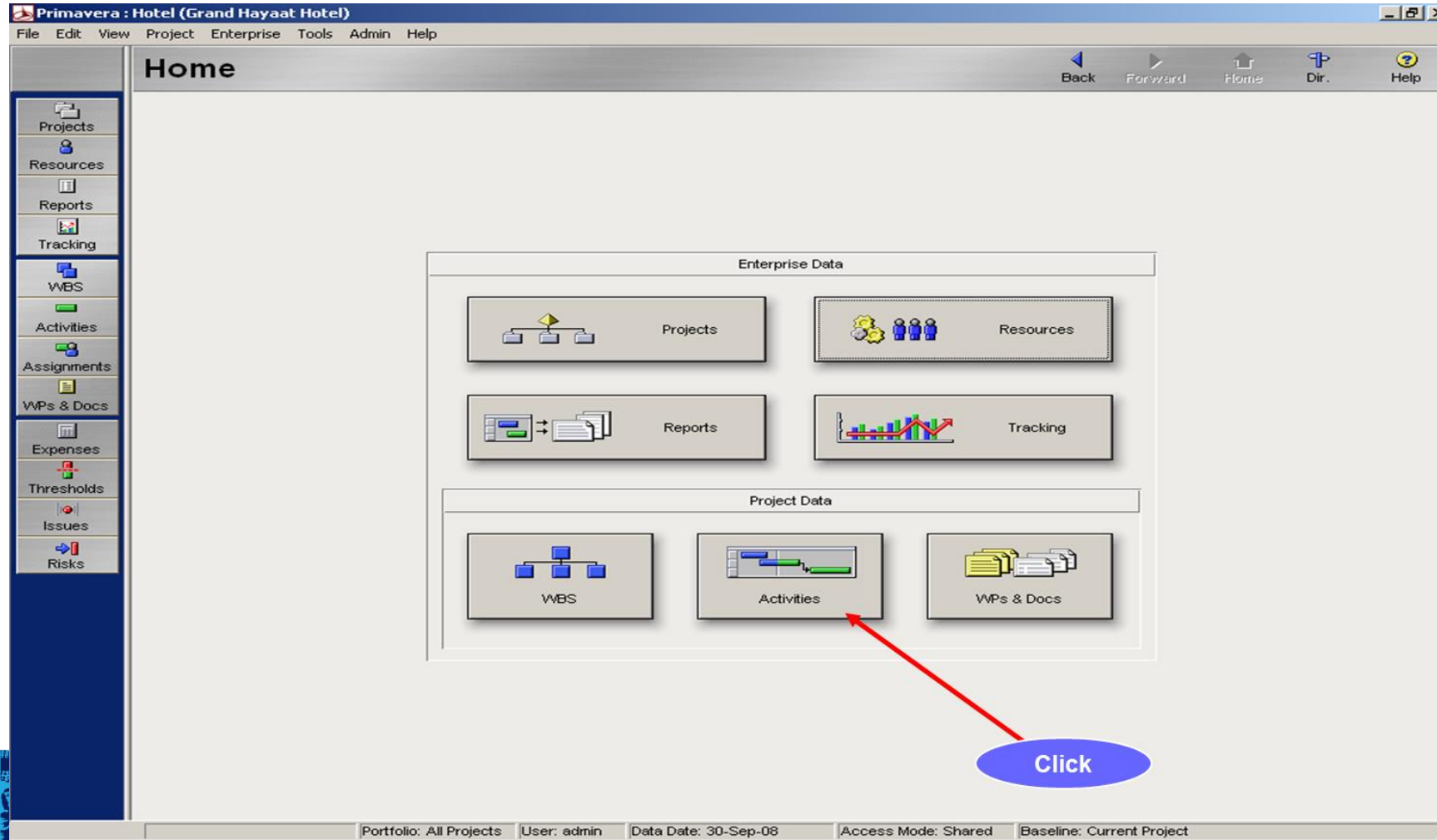


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Case study – Create activity



Case study – Create activity

Primavera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

File Edit View Project Enterprise Tools Admin Help

Activities

Layout: Classic WBS Layout Filter: All Activities

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start
Grand Hayaat Hotel					
Road Network in Badr City					
Road Type (A)					
	Road No. 1	0	0	0%	
	Road No. 2	0	0	0%	
	Road No. 3	0	0	0%	
Road Type (B)					
	Road No. 1	0	0	0%	
	Road No. 2	0	0	0%	
	Road No. 3	0	0	0%	
Road Type (C)					
	Road No. 1	0	0	0%	
	Road No. 2	0	0	0%	
	Road No. 3	0	0	0%	
	Road No. 4	0	0	0%	
Road Type (D)					

Calendar: 2009 April 2009 May 2009

Buttons: Add, Delete, Cut, Copy, Paste, Resources, Rsrc by Role, Roles, Activity Codes, Predecessors, Successors, Steps

Click (on Road No. 1 under Road Type (A))

Click (on the Add button)

General Status Resources Relationships Codes Notebook Steps Feedback WPs & Docs Expenses Summary

Activity: Project

Duration: Original, Actual, Remaining, At Complete

Status: ☒ Started, ☒ Finished, Exp Finish

Duration %: Suspend, Resume

Constraints: Primary < None >, Secondary < None >

Labor Units: Budgeted, Actual, Remaining, At Complete

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project



Case study – Create activity

Activities

Layout: Classic WBS Layout Filter: All Activities

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start
Grand Hayaat Hotel		318	318	0%	30-Sep-08
Road Network in Badr City		1	1	0%	02-Oct-08
Road Type (A)					
Road No. 1					
Road No. 2					
Road No. 3					
Road Type (B)					
Road No. 1					
Road No. 2					
Road No. 3					
Road Type (C)					
Road No. 1					
Road No. 2					
Road No. 3					
Road No. 4					

New Activity

Activity Name
Enter an Activity ID and Activity Name. The Activity ID uniquely identifies the activity.

Activity ID
A1000

Activity Name
Excavation Road (A1)

☐ Do not show this wizard again.

General Status Resources R

Activity A1000

Duration

Original	1	☐ Started	02-Oct-08	Duration %	0%	Budgeted	0
Actual	0	☐ Finished	02-Oct-08			Actual	0
Remaining	1	Exp Finish				Remaining	0
At Complete	1					At Complete	0

Total Float

Constraints

Primary < None > Secondary < None >

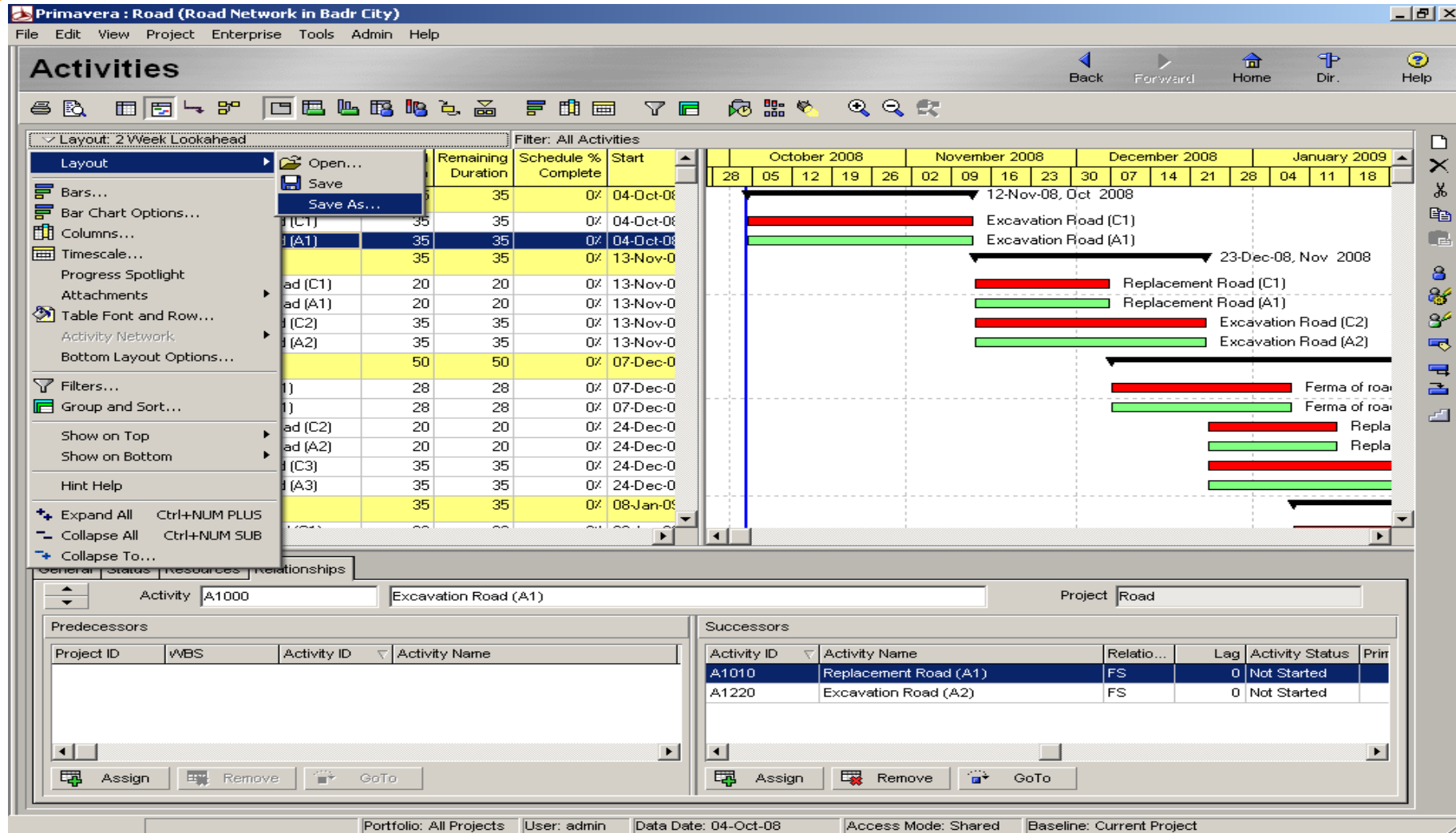
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Case study – Scheduling



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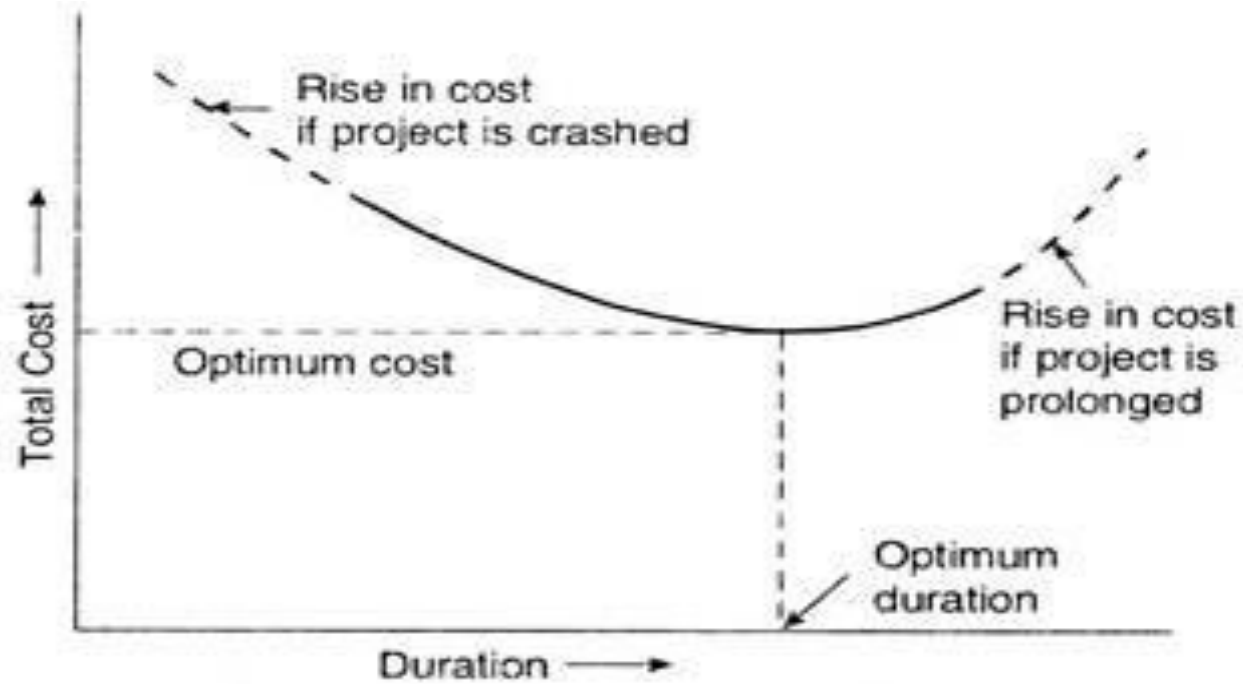


Fig. 29.4. Variation in total project cost due to change in duration.

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- Construction projects always have delivery dates. Some are dictated by the owner, and some are dictated by the contractor.
- Most delivery dates are contractual.
- There are a multitude of reasons, but the most prominent one is that a project needs a delivery date for control.
- Without a delivery date, there is no goal and human nature's proclivity toward procrastination takes over.



Delivering on time or ahead of schedule is important for all parties, from subcontractors all the way up to the owner.

Finishing within or under budget is another important goal.

The real achievement, however, is doing both simultaneously. Unfortunately, this may not always be possible.

At the point where an accelerated pace of the work is diagnosed as the cure for delay, the project manager may have to make the decision to spend money.

Acceleration is defined as the addition of resources or work hours to a task or project.

Acceleration results in schedule compression or reducing the duration of the task or shortening the entire project without diminishing the scope of the project.

The acceleration must be applied to the critical path or a critical task. To accelerate a noncritical task rarely benefits the schedule.

There are three different types of acceleration that the average project may potentially encounter.

Acceleration is issued in the form of written direction from the owner to the contractor and can be classified in three categories: actual, constructive, and forced.



Actual Acceleration

Actual acceleration is the directive to complete the project ahead of the accepted or contractual schedule.

This directive comes from the owner to the contractor through the architect, and is then passed on to the subcontractors.



Constructive Acceleration

Constructive acceleration occurs when the contractor requests an extension of time and is denied.

If the delay that resulted in the request for an extension of time is an excusable delay, the extension should be granted.

Constructive acceleration exists when the following conditions occur:

- There is an excusable delay to the project.
- The contractor requests a justifiable extension of time for the excusable delay.
- The request for an extension is denied.

Constructive acceleration exists when the following conditions occur:

- The contractor is directed to achieve the original completion date.
- The contractor actually accelerates the work to meet the original date.
- The contractor incurs additional costs for acceleration.

There is also a need for acceleration when delay occurs as a result of nonperformance.

This type of acceleration is sometimes referred to as forced acceleration. This occurs frequently when a subcontractor on the critical path is falling behind.

While this is not acceleration in the truest sense of the definition, it does require an increase in production.

Schedule Compression

The decision to accelerate work and incur costs must have a tangible benefit to the project.

Schedule compression is not always about the shortest duration of the task. It is more about the balance of getting the shortest duration for the least cost.

Schedule Compression

Schedule compression is generally defined as modifying the plan and/or schedule to complete critical tasks or the project early.

Schedule compression is the resequencing or rescheduling of tasks with minimal or no cost impact.



Thank You

