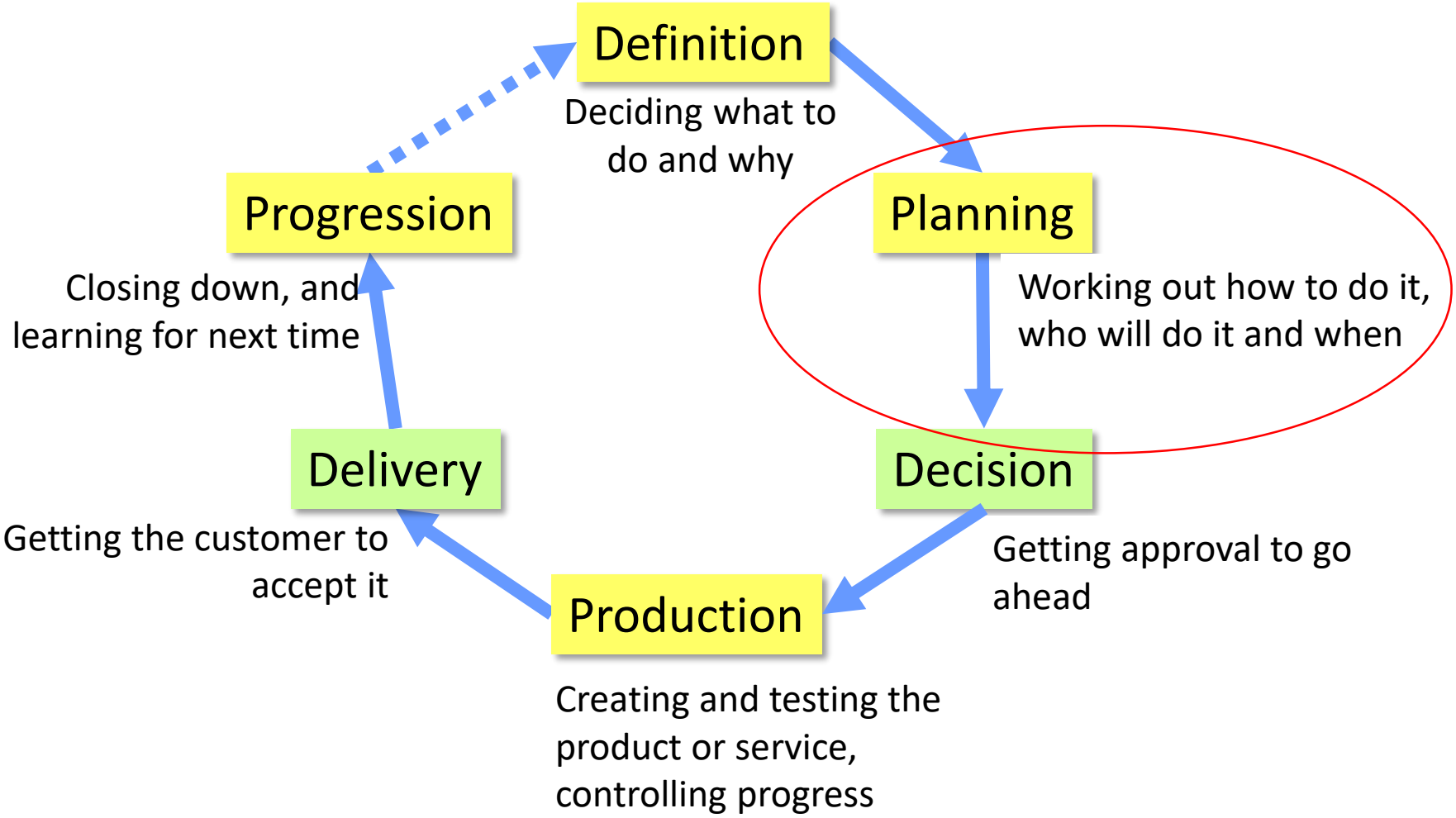
PM101: Lecture 11

Planning

The typical project life cycle



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Why a project needs a plan

The planning process forces us to think hard about what we are doing

The plan shows how we will reach our goal

It accurately defines the time, cost and resources required

It enables us to allocate and organise resources

It gives us a way to measure progress

It convinces stakeholders we are competent for the job

It creates a common understanding of what we are doing

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Goal, objective and requirements

The **goal** is the change the project is intended to help bring about, i.e. the **outcome**.

The **objective** defines what the project will produce in terms of output, learning, time and cost parameters, etc.

Requirements

- SPECIFICATION: the definition of the project output and what it will do
- SCOPE: the way the project will deliver the output.

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Project planning

Project brief – Defines the goal and requirements of the project, the outline business case, and customer's quality expectations

Business case – justifying the project as the best way to attain the strategic goals

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The business case

The business case evaluates whether the forecast effort and time will be worth the expense; and whether the desired benefits are worth the risks to achieve them.

Business case – justifying the project as the best way to attain the strategic goals

- Reasons for the project
- Stakeholder interests
- Options analysis – including do nothing
- Benefits expected – measurable
- Project outline
- Key risks
- Costs
- Time scale
- Investment appraisal
- Evaluation

- If the business case **cannot be made**, the project must not be allowed to start.
- If the business case **changes**, the project must be reviewed and modified.
- If the business case **ceases to exist**, the project must be stopped.

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Project planning

Project brief – Defines the goal and requirements of the project, the outline business case, and customer's quality expectations

Business case – justifying the project as the best way to attain the strategic goals

Project activity plan – specification, scope, tasks, time scales, costs, resources, risks, etc.

Project management plan – how the project will be designed, conducted and overseen

Project plan

Contracts – arrangements with suppliers for project work, assigning risks

Time, cost and resource estimates

Risk management plan

Stakeholder engagement plan

Communications plan

Environmental management plan

Project organisation

Project governance

Monitoring and reporting

Quality assurance arrangements

Change control procedures

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A project plan needs to be:

Explicit

Able to identify task logic, activity durations, milestones and resource requirements.

Intelligible

Easily viewed and understood, using language the relevant audiences will understand.

Able to be monitored

Able to be examined to see what current or future action is planned. Input of progress information should be straightforward.

Able to accept change

Able to be modified to cope with changes and issues that arise at the project proceeds.

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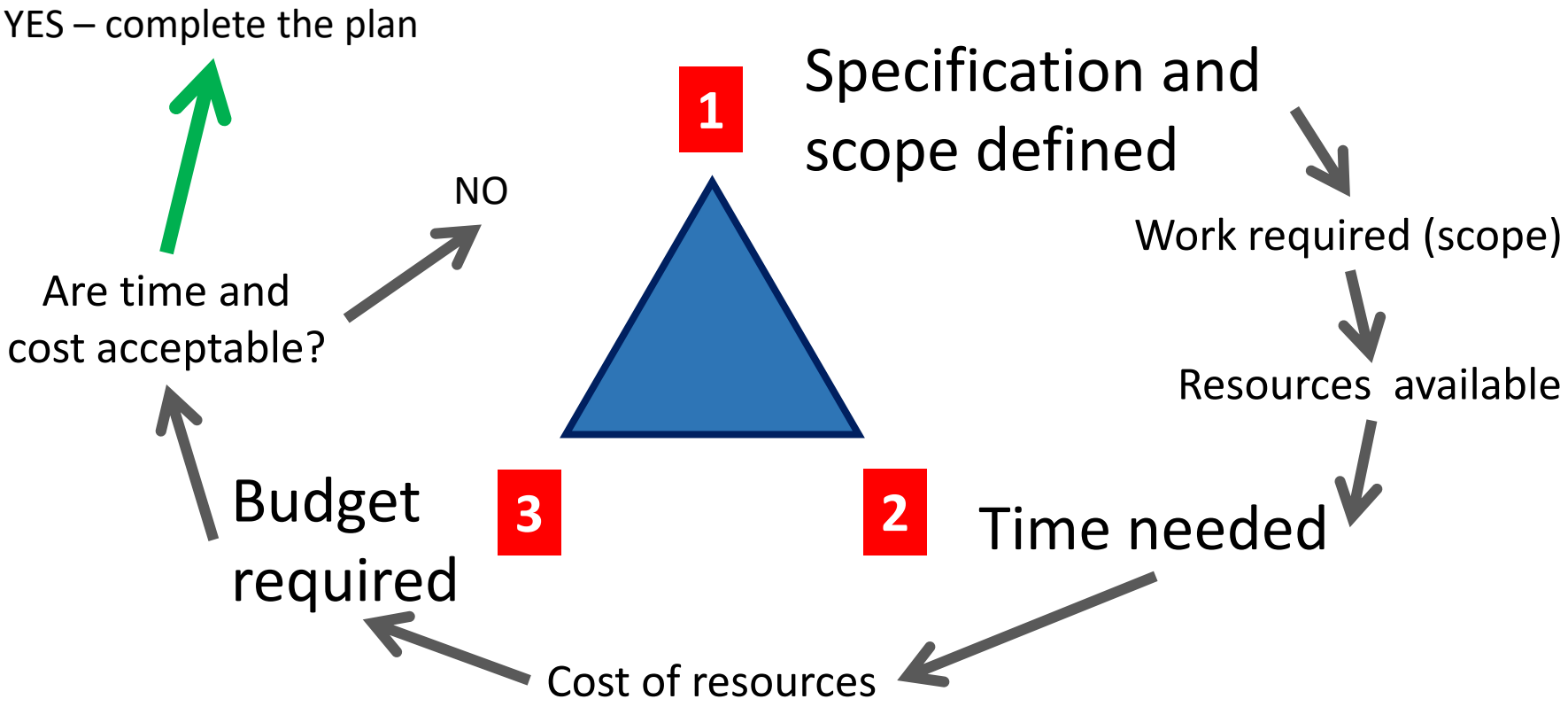
The planning sequence



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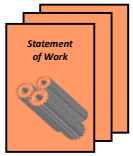
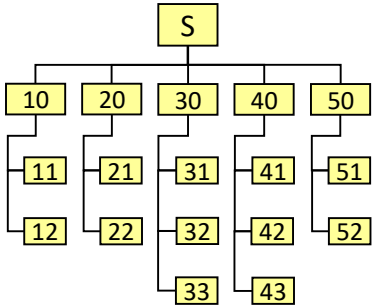
The project planning process

Business case, project brief, specifications etc.



WHAT?



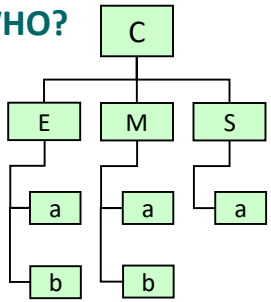
Work breakdown structure

WHO DOES WHAT?

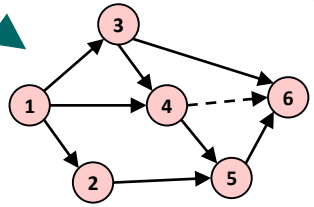
Matrix			C					
			E		M		S	
			a	b	a	b	a	b
Σ	10	11		P	S		S	
		12	S			P		P
	20	21			P		S	
		22	S			S		
	30	31	P			S		
		32			P		P	
		33				P		
	40	41	P		S			S
		42		P				
		43	S			S		
		51			S			S

Responsibility matrix

WHO?



Organisation



Task network

WHEN?

SCHEDULE							
Week	1	2	3	4	5	6	7
Task 1							
Task 2							
Task 3							
Task 4							

Work schedule

Cost database

HOW MUCH?

Staffing and cost estimates

Project plan

Morris, P. (1997) *The management of projects* London: Thomas Telford, p262

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- **Second time college team has entered**
- Car back axle broke after 17 hours last time
- **No means to fix it**
- College expects a better result this time
- **This year's race takes place in 120 days time**

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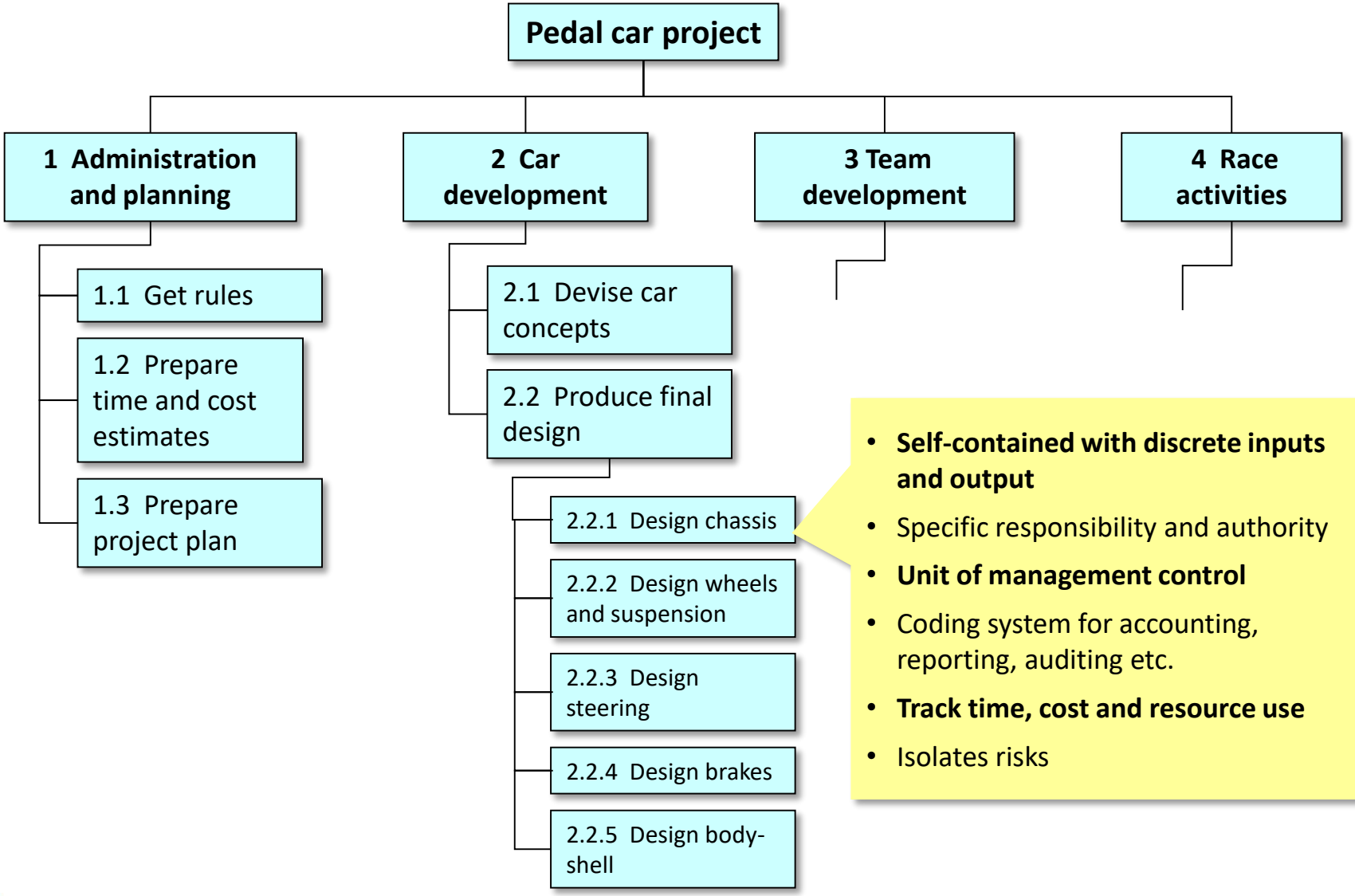
Work breakdown structure



- **Self-contained with discrete inputs and output**
- Specific responsibility and authority
- **Unit of management control**
- Coding system for accounting, reporting, auditing etc.
- **Track time, cost and resource use**
- Isolates risks

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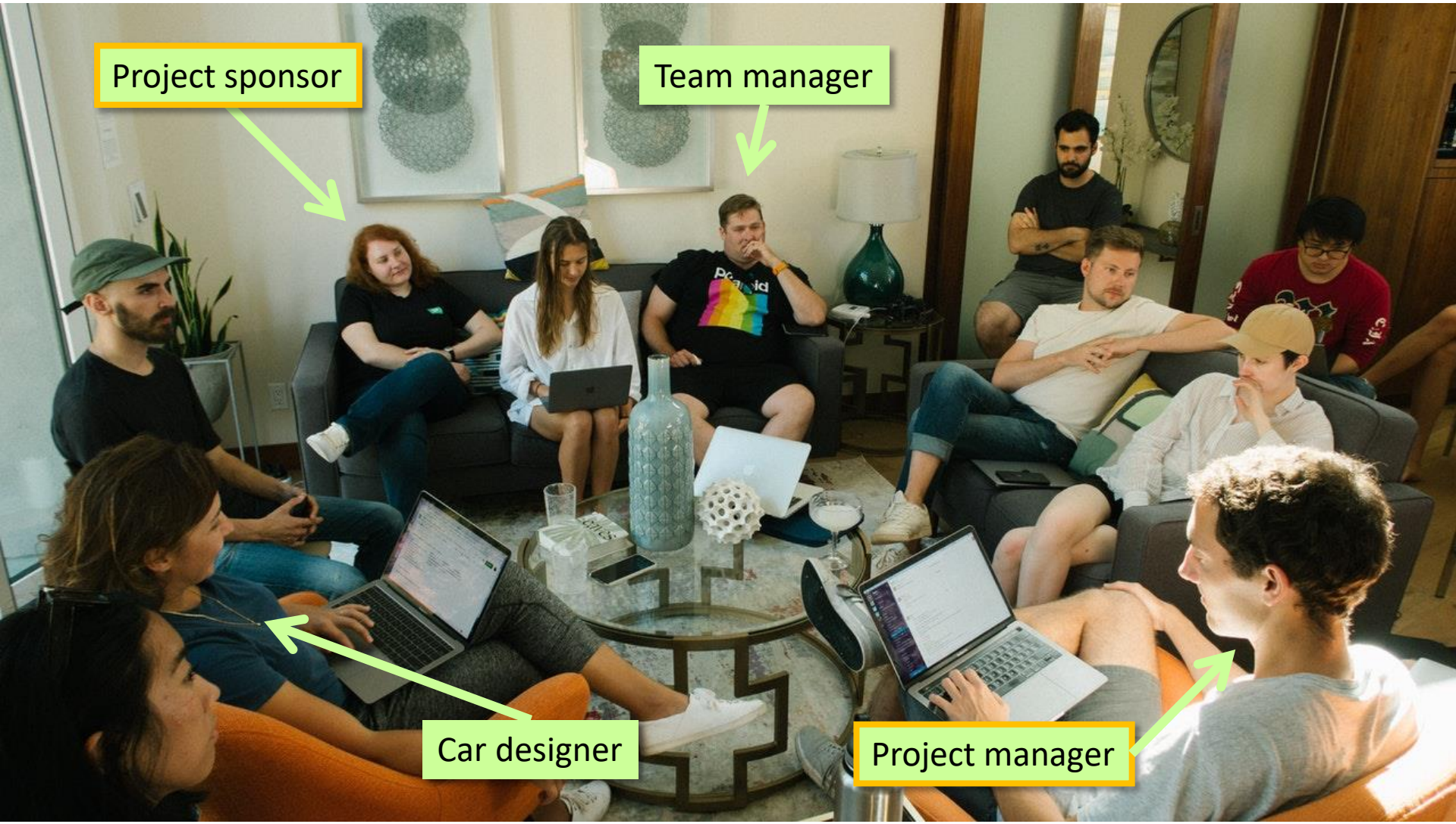
Project actors



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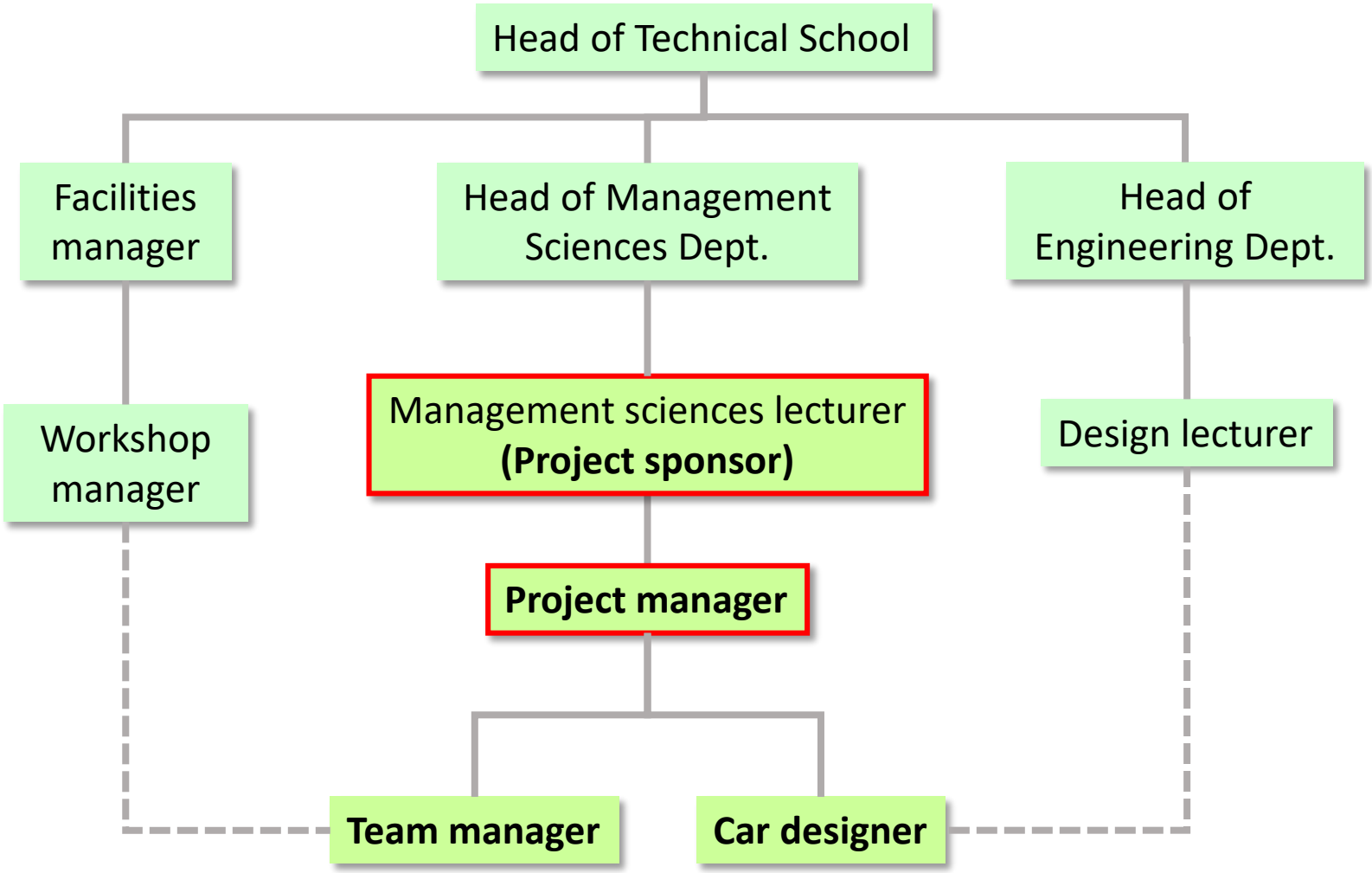
Organisation breakdown structure



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Responsibility matrix

	Project sponsor	Project manager	Team manager	Car designer	Workshop manager	Design lecturer
Produce project plan and budget	C	**X** P	C			
Confirm entry	D	**X** P	d			
Design car			C	**X** P	C	T
Build car		P		I	**X**	T
Select team	C	P d	**X**			
Train team	D	**X** P	d			

X = Executes the work
D = Takes decisions solely or ultimately
d = Takes decisions jointly or partly
P = Manages work and controls progress

T = Provides tuition on the job
C = Must be consulted
I = Must be informed
A = Available to advise

Adapted from Andersen, E, et al (2009) *Goal Directed Project Management* , London: Kogan Page, p100

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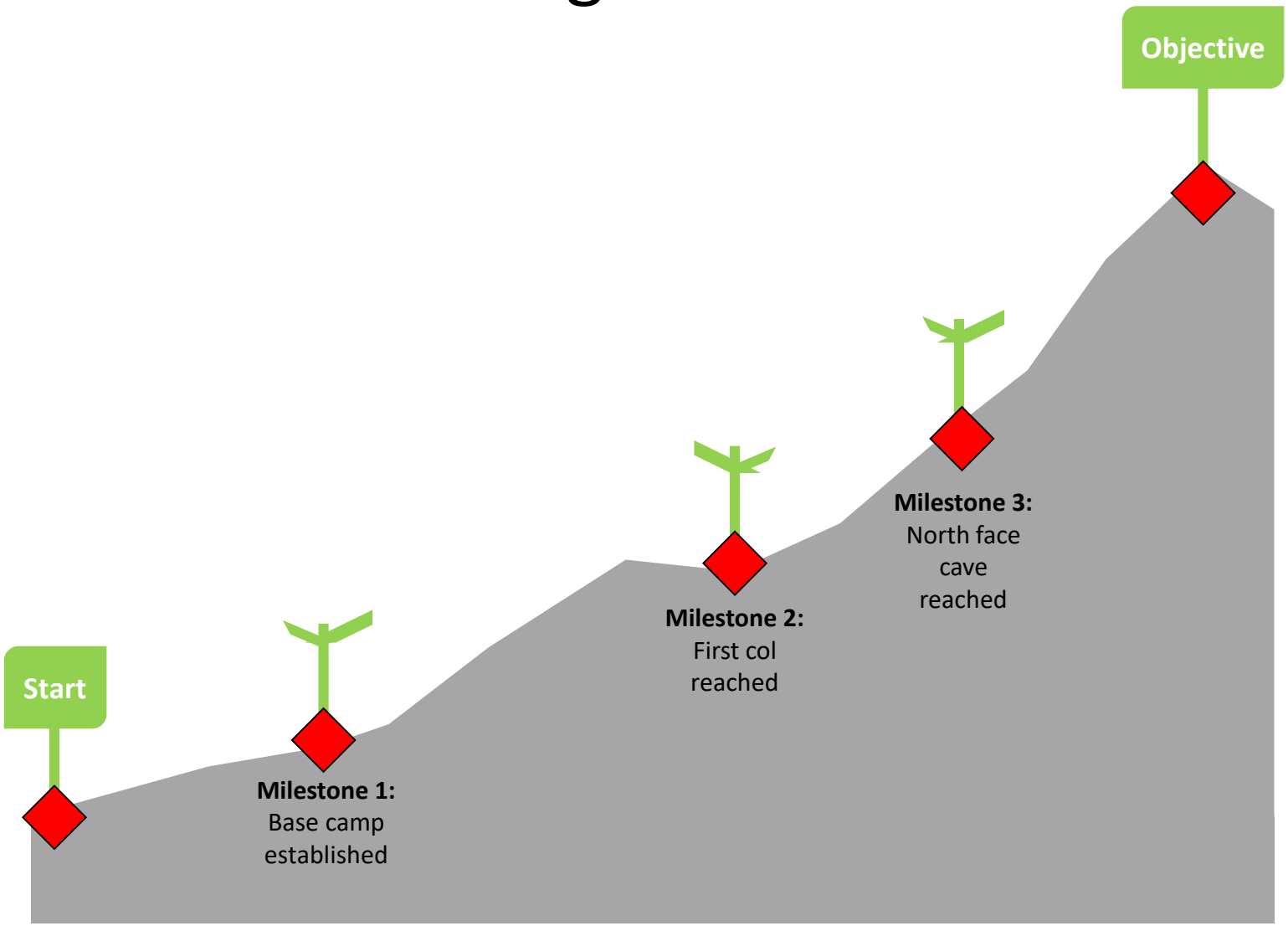
Plotting milestones



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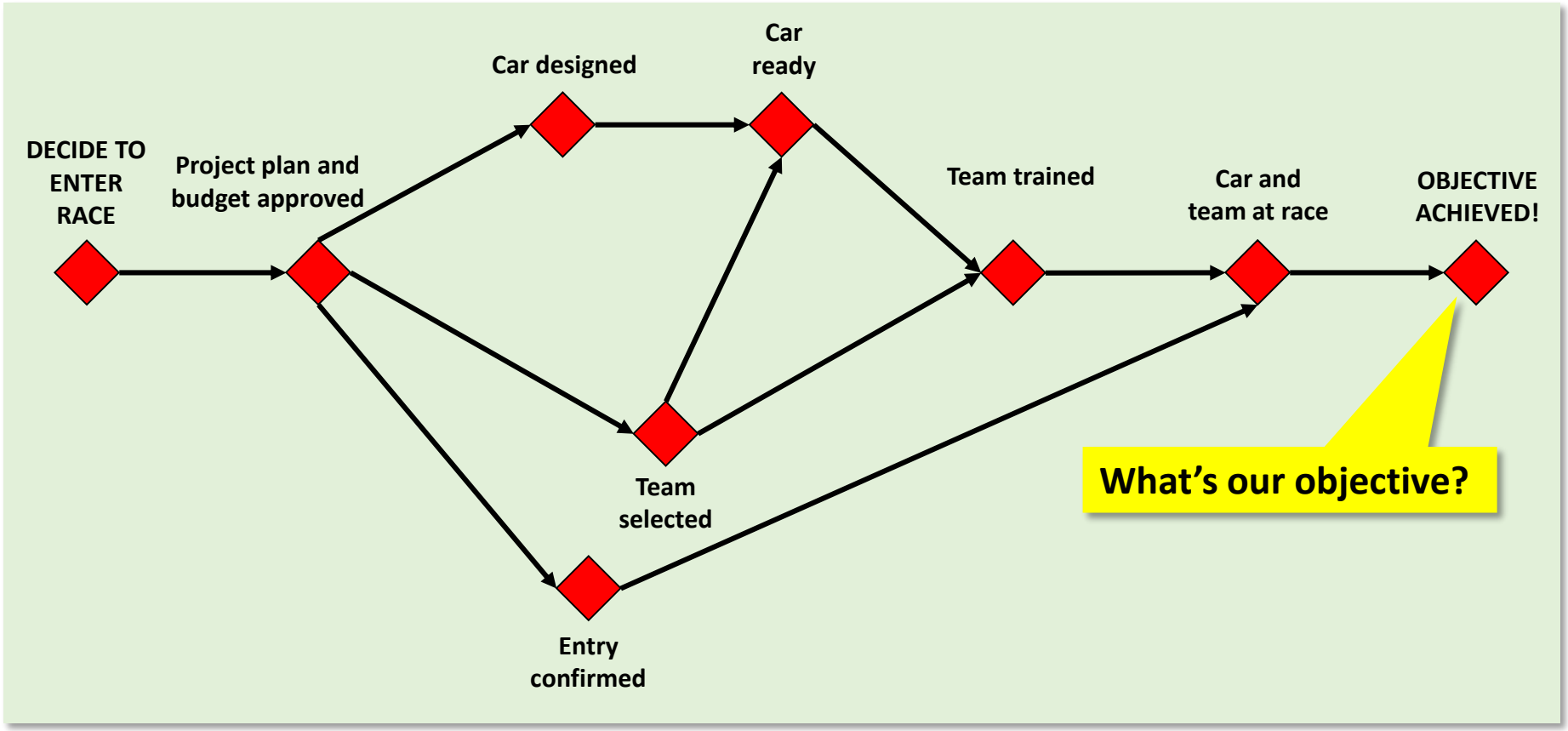
Simple milestone plan
- 24 hour pedal car race



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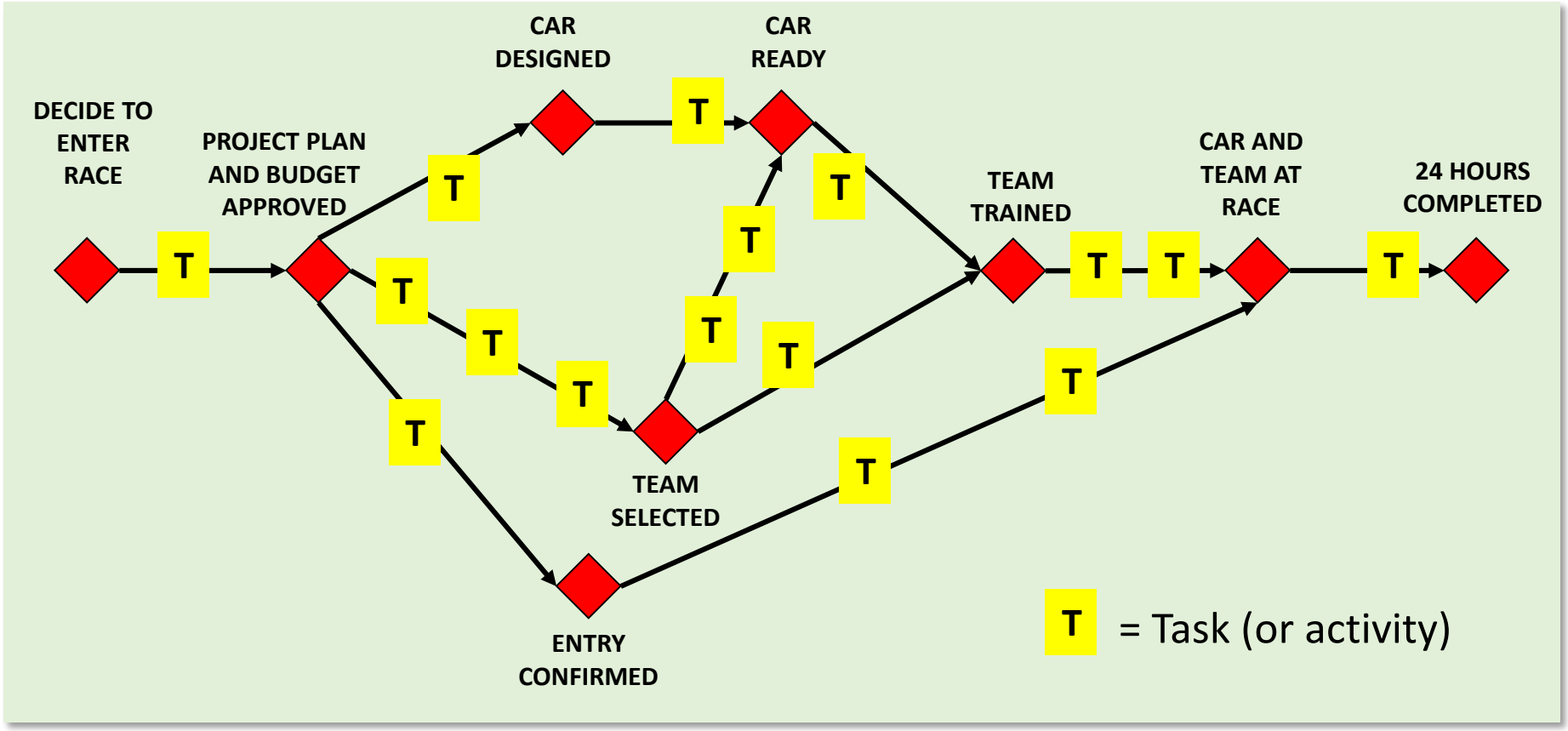
Task network



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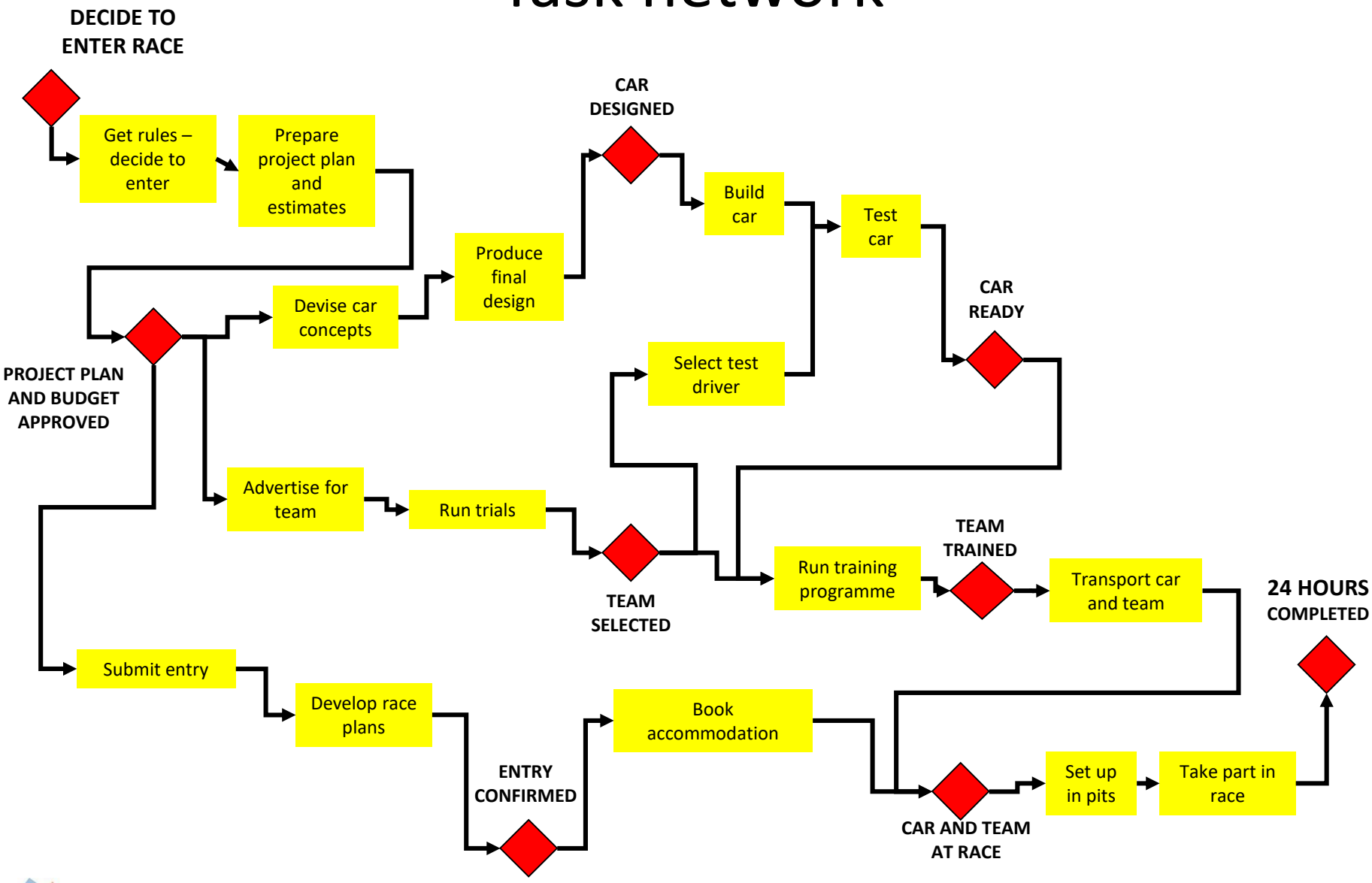
Task network



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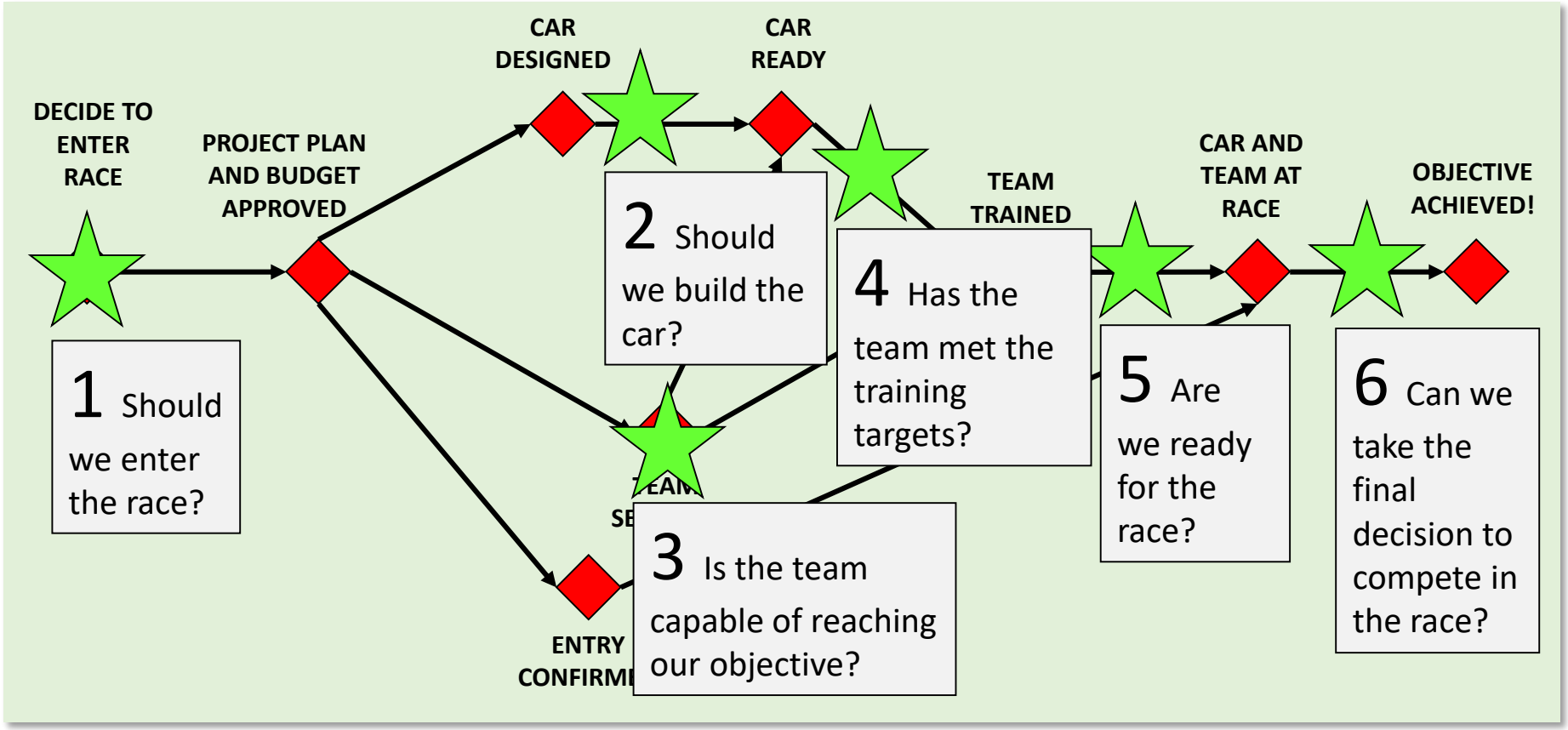
Gateways: key approval points



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Gateways

Gateway	Key question	Inputs to the decision
1	**Should we enter the race?**	Race rules, college team proposal, outline project plan, outline budget, organisation chart
2	**Should we build the car?**	Race rules, car designs, budget
3	**Is the team capable of achieving our objective?**	Team details, performance results from trials
4	**Has the team met the training targets?**	Performance results
5	**Are we all set for the race?**	Car status, team status, arrangements for being at the race, college support confirmed
6	**Can we take the final decision to compete in the race?**	Car ready, pit crew ready, drivers ready

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Planning: core ideas

Careful planning is essential, partly because if events force the project to be revised there is a firm basis for re-planning.

The business case evaluates whether the benefits the project promises are worth the time, cost, effort and risks to achieve them.

Planning is iterative, going round the cycle of specification and scope, time needed and budget required until an acceptable balance is achieved.

The work breakdown structure identifies all the tasks involved, and a responsibility matrix shows who will be responsible for each task.

Milestones define important achievement points through the project as it proceeds towards the objective. The milestones form a logical network.

Tasks from the WBS can be inserted into the paths from milestone to milestone, creating a task network.

Gateways identify major decisions points in the project where progress is evaluated.

See Zavanak pages *Definition* and *Planning*.

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