PGCS PROJECT AND PROGRAM MANAGEMENT SYMPOSIUM
Better Management • Better Projects

PULL PLANNING
using Project Flow Diagrams

Wayne Greenwood & Alan Uren – Endfirst plans

Thought

"20 years ago we planned projects on walls. Today we plan them in small electronic boxes… and we can't see them anymore!"

Power, Utilities and renewables Leader – KPMG Canada

Retrospective

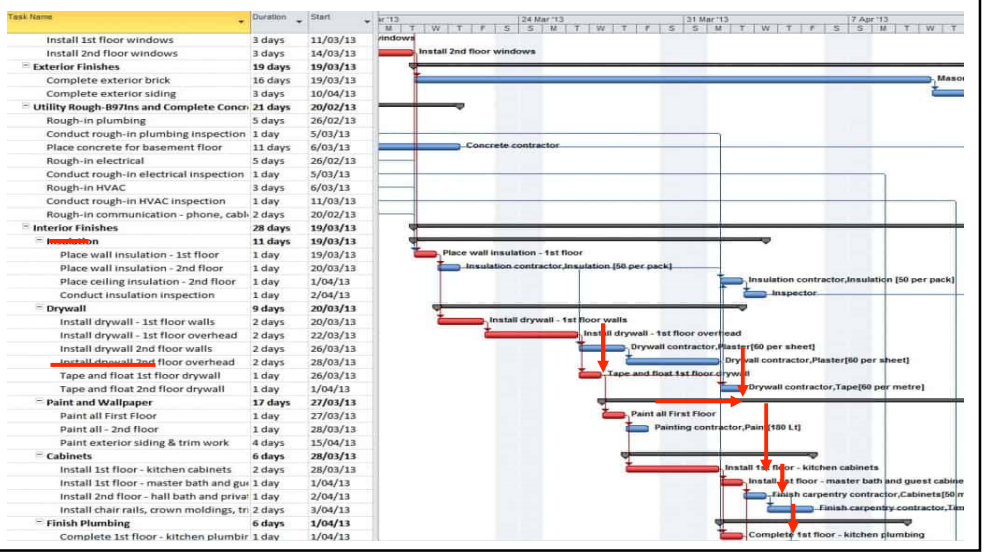
Gantt, Storyboard and Network Diagrams and Critical Path Workflows

- A condensed history of project scheduling

Gantt chart

- Bar length = duration
- Thin line = float
- 'Head first' planning
- Bias > sequential work
- Weakness > parallel work

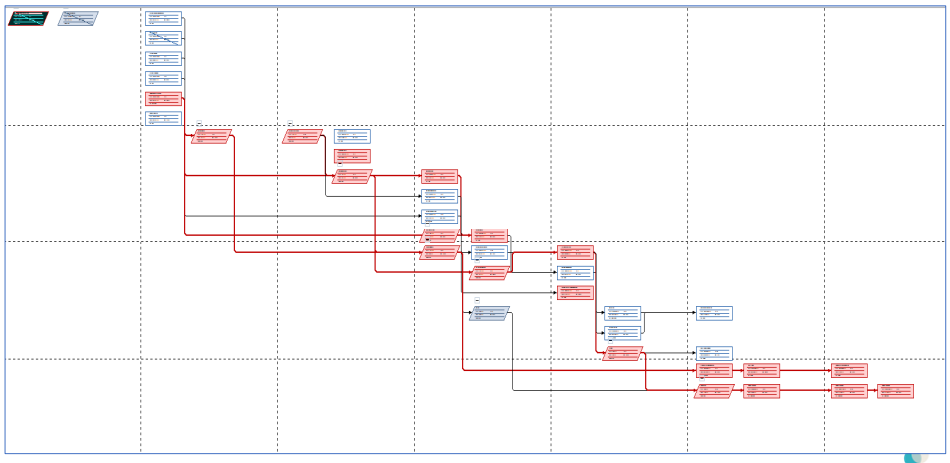
The most common error in projects EO-R



Task Name	Duration	Start
Install 1st floor windows	3 days	11/03/13
Install 2nd floor windows	3 days	14/03/13
Exterior Finishes	**19 days**	**19/03/13**
Complete exterior brick	16 days	19/03/13
Complete exterior siding	3 days	10/04/13
Utility Rough-B97Ins and Complete Concr	**21 days**	**20/02/13**
Rough-in plumbing	5 days	26/02/13
Conduct rough-in plumbing inspection	1 day	5/03/13
Place concrete for basement floor	11 days	6/03/13
Rough-in electrical	5 days	26/02/13
Conduct rough-in electrical inspection	1 day	5/03/13
Rough-in HVAC	3 days	6/03/13
Conduct rough-in HVAC inspection	1 day	11/03/13
Rough-in communication - phone, cabl	2 days	20/02/13
Interior Finishes	**28 days**	**19/03/13**
Insulation	**11 days**	**19/03/13**
Place wall insulation - 1st floor	1 day	19/03/13
Place wall insulation - 2nd floor	1 day	20/03/13
Place ceiling insulation - 2nd floor	1 day	1/04/13
Conduct insulation inspection	1 day	2/04/13
Drywall	**9 days**	**20/03/13**
Install drywall - 1st floor walls	2 days	20/03/13
Install drywall - 1st floor overhead	2 days	22/03/13
Install drywall 2nd floor walls	2 days	26/03/13
Install drywall 2nd floor overhead	2 days	28/03/13
Tape and float 1st floor drywall	1 day	26/03/13
Tape and float 2nd floor drywall	1 day	1/04/13
Paint and Wallpaper	**17 days**	**27/03/13**
Paint all First Floor	1 day	27/03/13
Paint all - 2nd floor	1 day	28/03/13
Paint exterior siding & trim work	4 days	15/04/13
Cabinets	**6 days**	**28/03/13**
Install 1st floor - kitchen cabinets	2 days	28/03/13
Install 1st floor - master bath and gu	1 day	1/04/13
Install 2nd floor - hall bath and priva	1 day	2/04/13
Install chair rails, crown moldings, tr	2 days	3/04/13
Finish Plumbing	**6 days**	**1/04/13**
Complete 1st floor - kitchen plumbir	1 day	1/04/13

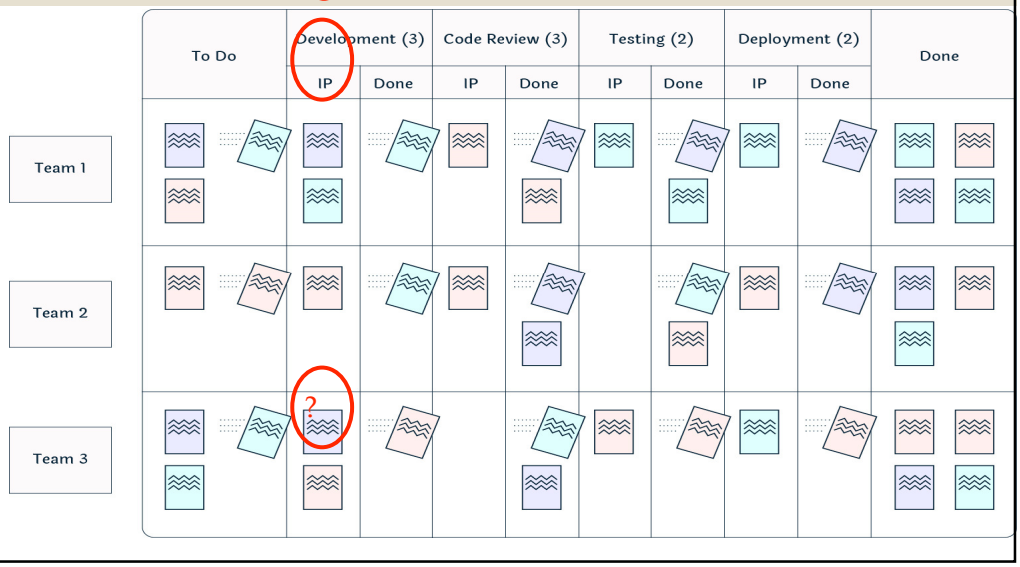
Network Diagram derived from a Gantt Chart

- Bar length = does not mean duration
- Thin line = dependency
- 'Push ' planning
- Bias > sequential work
- Weakness > parallel work



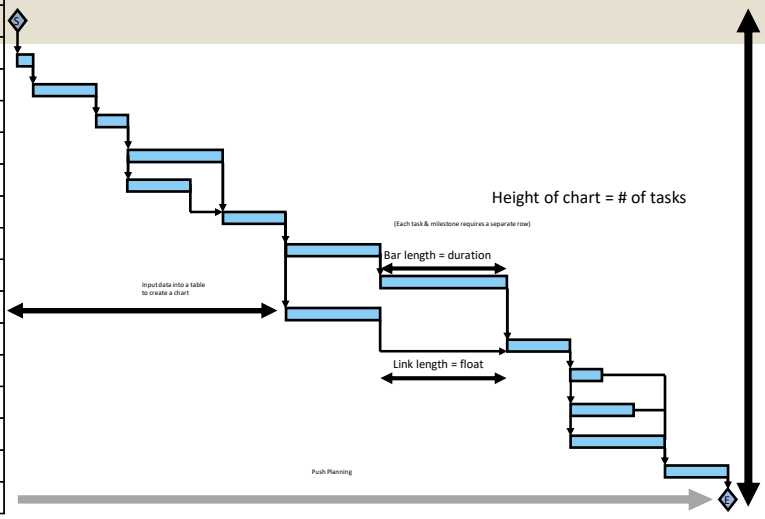
Agile / Kanban

- Vertical swim lanes
- Head first planning
- Bias > parallel work
- Weak > sequential work and scheduling

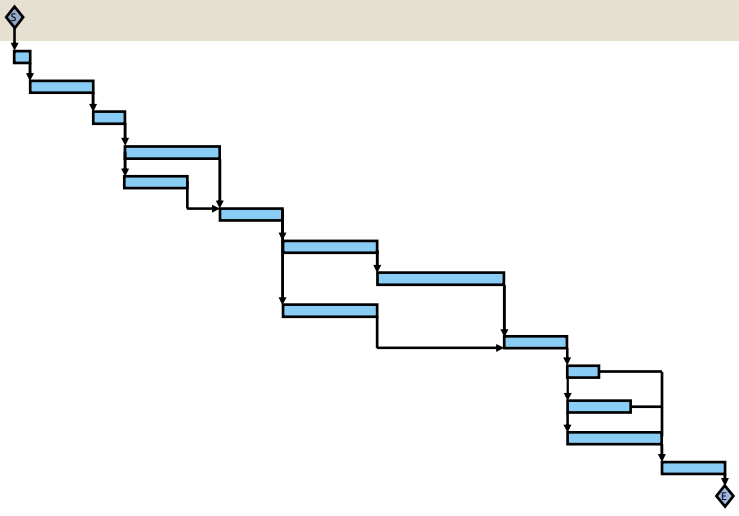


Gantt Chart (Waterfall)

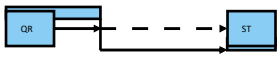
ID#	Desc.	Dur	Pred.
1	START	0	
2	AB	3d	1
3	CD	2w	2
4	EF	1w	3
5	GH	3w	4
6	IJ	2w	4
7	KL	2w	5,6
8	MN	3w	7
9	OP	4w	8
10	QR	3w	7
11	ST	2w	9,10
12	UV	1w	11
13	WX	2w	11
14	YZ	3w	11
15	YZZ	2w	12,13,14
16	END	0	15



Gantt chart to Dependency Diagram

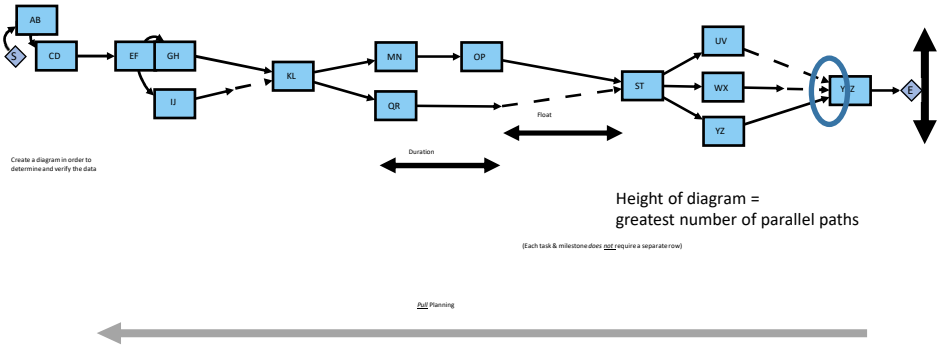


Gantt chart to Dependency Diagram



Dependency or Network Diagram (workflow)

Blended Agile

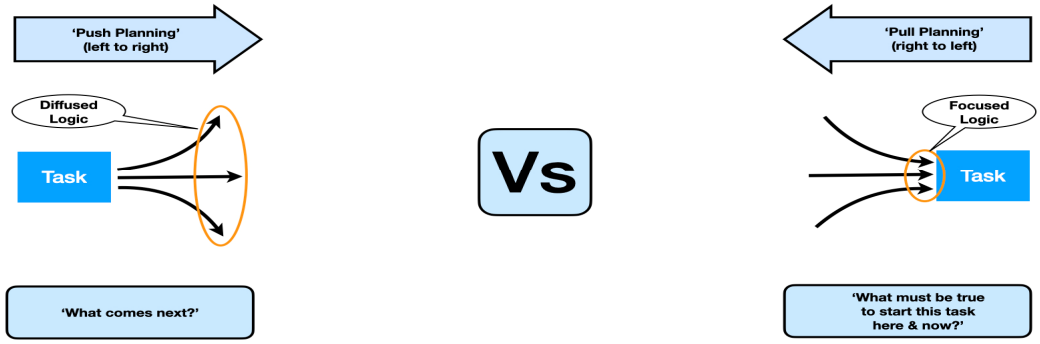


Height of diagram =
greatest number of parallel paths

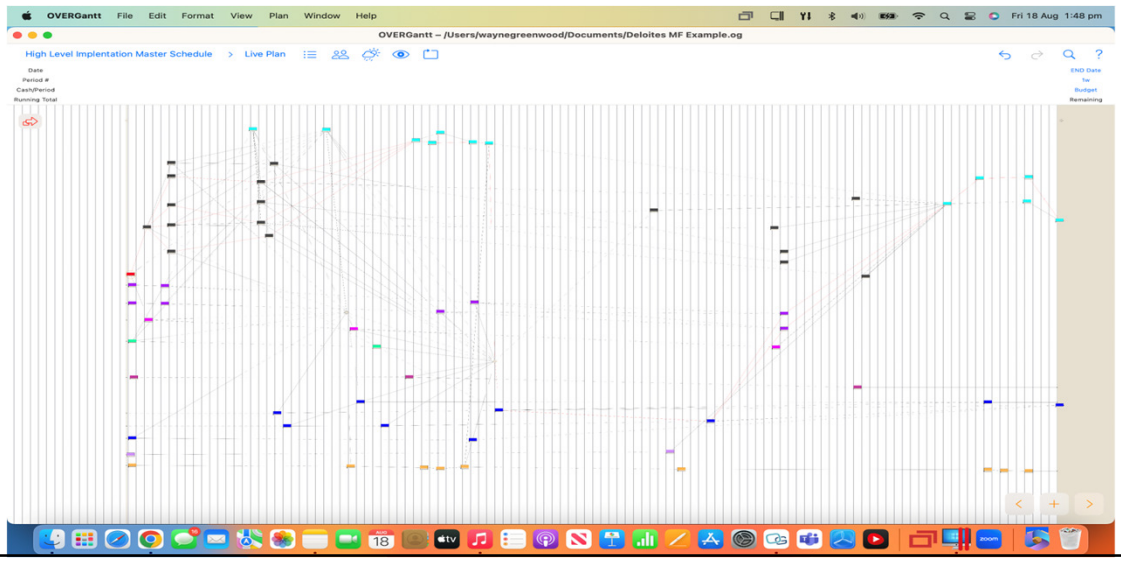
(Each task & milestone *does not* require a separate row)

Pull Planning

Push Planning V Pull Planning



Typical High Level Project Flow Diagram



Want more information?