



MnDOT Project Management
Office Presents:

Views and Layouts for Program Management

Presenter: Jonathan McNatty
Senior Schedule Consultant
DRMcNatty & Associates, Inc.

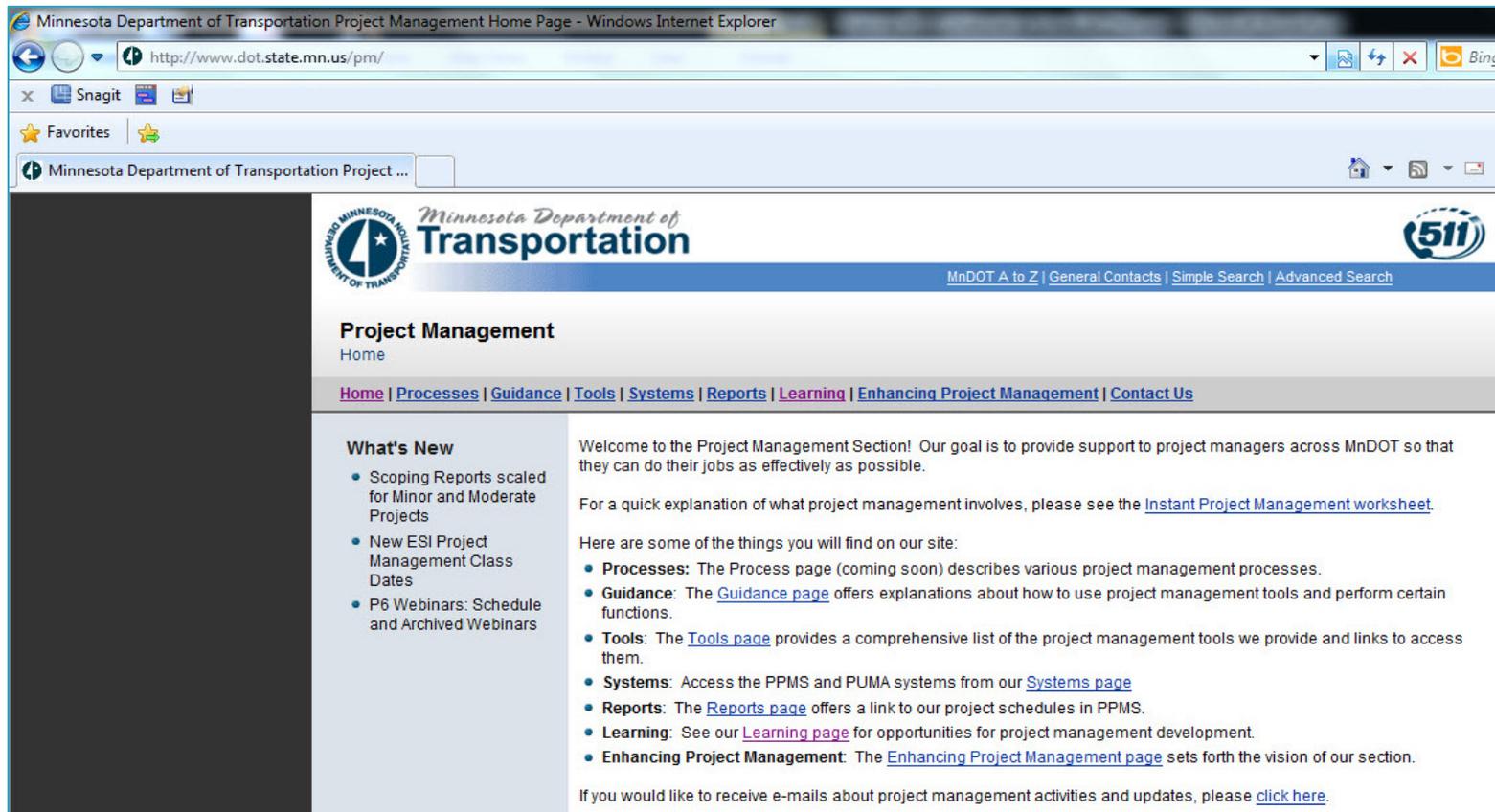
Housekeeping Items

- ❖ Lines will be muted during the webinar
- ❖ Questions can be submitted thru the GoToWebinar Questions box on right of your screen and posted on website within 5 days
- ❖ Questions will be made available “Live” for this webinar, can download pdf on how to submit live questions for next weeks webinar on the MnDOT Website
- ❖ Webinar slides available in pdf on MnDOT website within 5 days
- ❖ Webinar is being recorded and will be available on the MnDOT website within 5 days
- ❖ <http://www.dot.state.mn.us/pm/>



MnDOT Webinars

❖ <http://www.dot.state.mn.us/pm/>



The screenshot shows a Windows Internet Explorer browser window displaying the Minnesota Department of Transportation Project Management Home Page. The address bar shows the URL <http://www.dot.state.mn.us/pm/>. The page features the MnDOT logo and navigation links for "MnDOT A to Z", "General Contacts", "Simple Search", and "Advanced Search". The main content area is titled "Project Management Home" and includes a "What's New" section with three bullet points: "Scoping Reports scaled for Minor and Moderate Projects", "New ESI Project Management Class Dates", and "P6 Webinars: Schedule and Archived Webinars". A welcome message follows, stating the goal is to provide support to project managers. Below this, a link to the "Instant Project Management worksheet" is provided. A list of resources is then presented, including "Processes", "Guidance", "Tools", "Systems", "Reports", "Learning", and "Enhancing Project Management", each with a brief description and a link to the relevant page. At the bottom, a link is provided for users who want to receive e-mails about project management activities and updates.

Minnesota Department of Transportation

MnDOT A to Z | General Contacts | Simple Search | Advanced Search

Project Management

Home

[Home](#) | [Processes](#) | [Guidance](#) | [Tools](#) | [Systems](#) | [Reports](#) | [Learning](#) | [Enhancing Project Management](#) | [Contact Us](#)

What's New

- Scoping Reports scaled for Minor and Moderate Projects
- New ESI Project Management Class Dates
- P6 Webinars: Schedule and Archived Webinars

Welcome to the Project Management Section! Our goal is to provide support to project managers across MnDOT so that they can do their jobs as effectively as possible.

For a quick explanation of what project management involves, please see the [Instant Project Management worksheet](#).

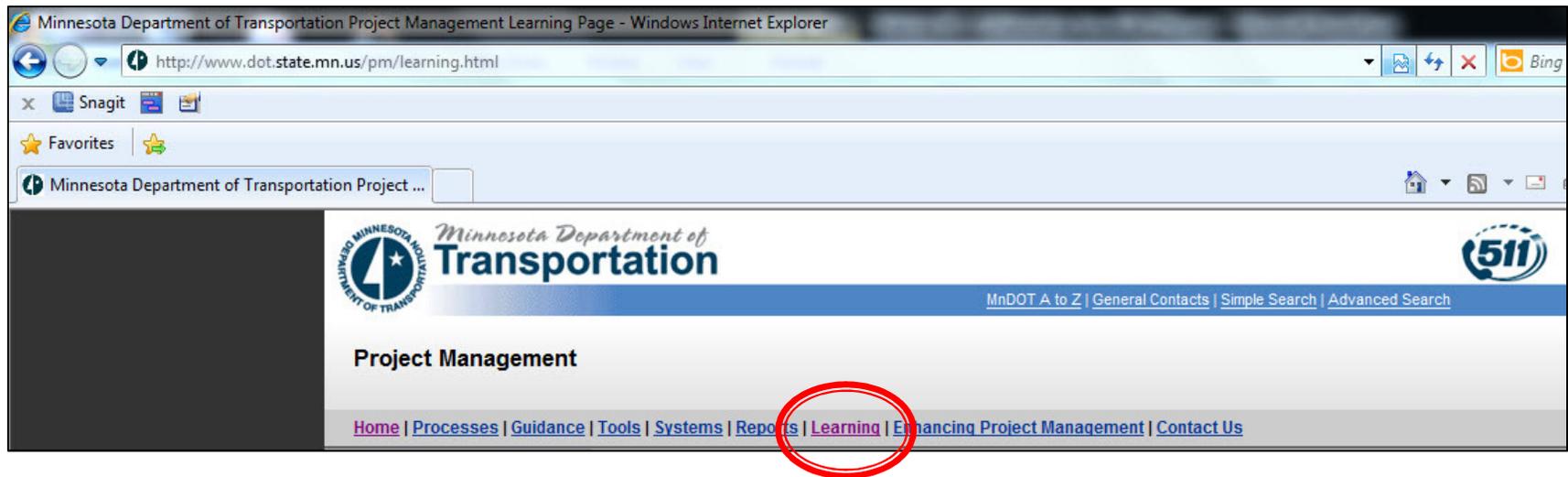
Here are some of the things you will find on our site:

- **Processes:** The Process page (coming soon) describes various project management processes.
- **Guidance:** The [Guidance page](#) offers explanations about how to use project management tools and perform certain functions.
- **Tools:** The [Tools page](#) provides a comprehensive list of the project management tools we provide and links to access them.
- **Systems:** Access the PPMS and PUMA systems from our [Systems page](#)
- **Reports:** The [Reports page](#) offers a link to our project schedules in PPMS.
- **Learning:** See our [Learning page](#) for opportunities for project management development.
- **Enhancing Project Management:** The [Enhancing Project Management page](#) sets forth the vision of our section.

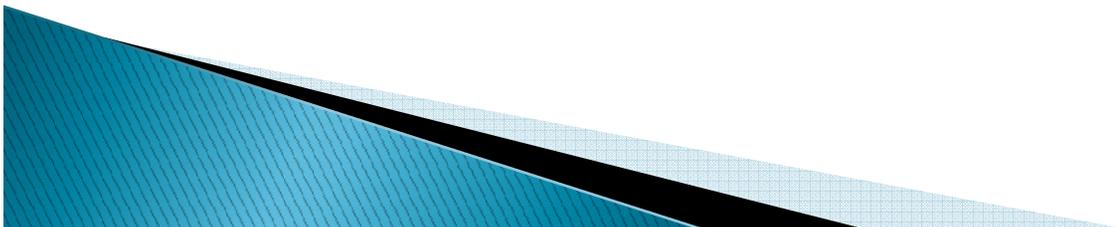
If you would like to receive e-mails about project management activities and updates, please [click here](#).

MnDOT Webinars

❖ <http://www.dot.state.mn.us/pm/learning.html>



❖ Click on the “Learning” link



MnDOT Webinars

Primavera P6 Webinars: Each webinar will start at 1:00 p.m. and last 1/2 hour. Click the links below to register for a session. After each webinar, a recording will be made available from this page. [Live questions](#) (PDF 2MB) can also be submitted by attendees during each webinar.

To request ASL or a foreign language interpreter or other reasonable accommodations for the live webinars, call Janet Miller at 651-336-4720 or 1-800-657-3774 (Greater Minnesota). You may send an email to janet.rae.miller@state.mn.us (please request at least one week in advance).

Role and Resource Loading in P6

- [View Presentation](#) (33:12, WMV 110 MB)
- [View Slides](#) (PDF 9MB)

Roles and Resource Management

May 22, 2013

- [View Presentation](#) (26:18, WMV 22 MB)
- [View Slides](#) (PDF 10 MB)

Risk Management

May 29, 2013

- [View Presentation](#) (30:46, WMV 27 MB)
- [View Slides](#) (PDF 8 MB)

Views and Layouts for Program Management

June 5, 2013

[Reserve your Webinar seat now](#)

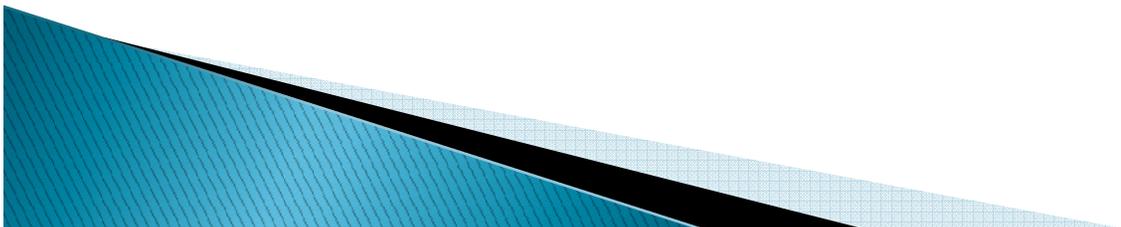
Dashboards and Reporting for Program Management

June 12, 2013

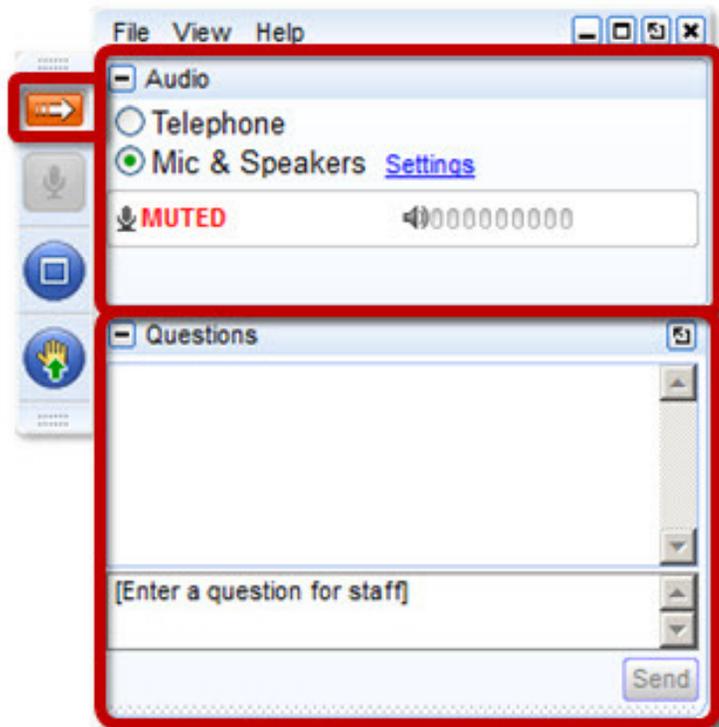
[Reserve your Webinar seat now](#)

Webinar “Live” Questions

- ❖ Live questions will now be available for MnDOT weekly webinars
- ❖ Live questions can be submitted during the webinar and will be answered in the final 10 minutes of the webinar
- ❖ Use the “Questions” box in the GoToMeeting dialog box during the webinar
- ❖ Use the “Raise Hands” to ask a “Live” questions during the questions and answer session, the lines will be un-muted



MnDOT Webinars



Your Participation

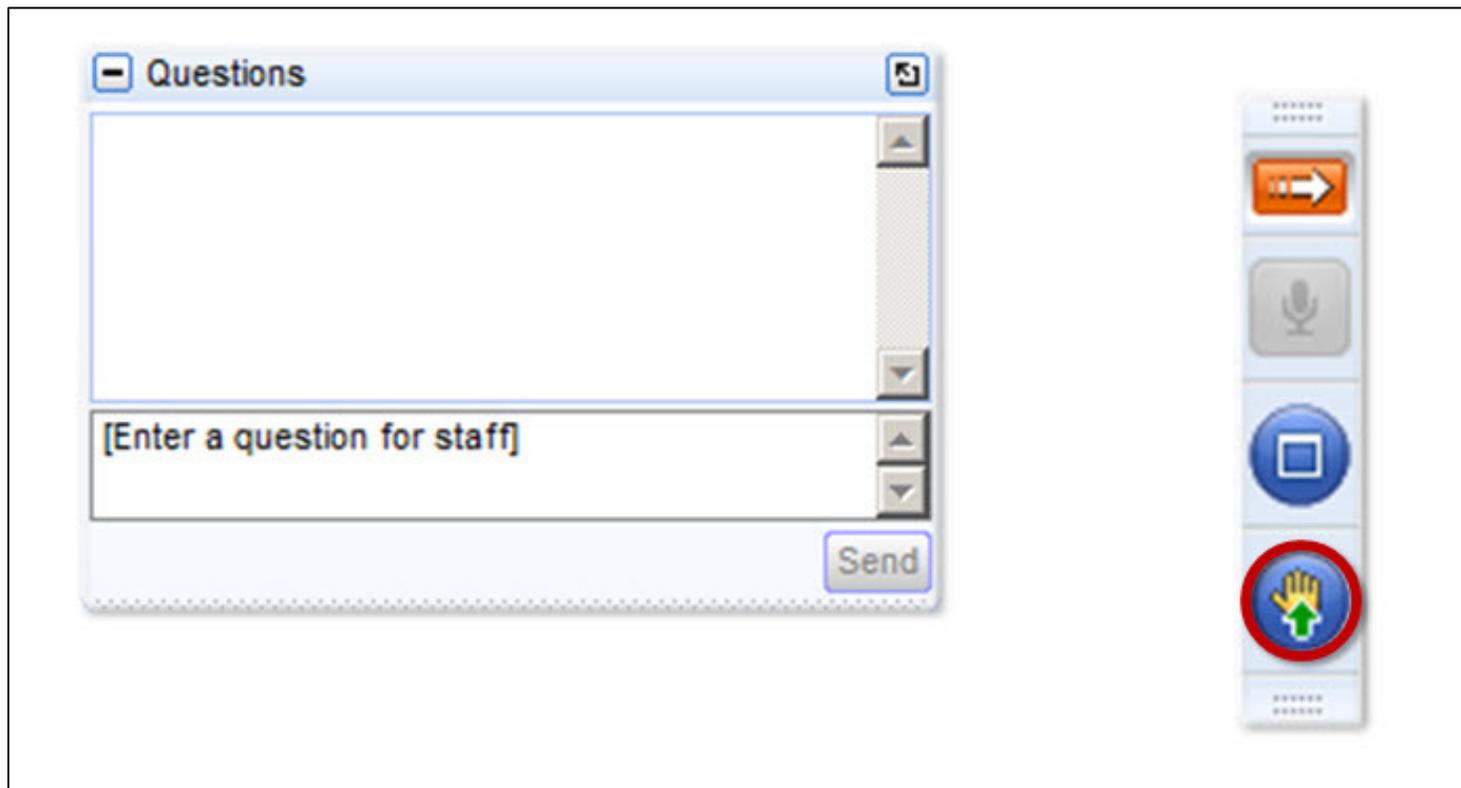
Open and hide your control panel

Join audio:

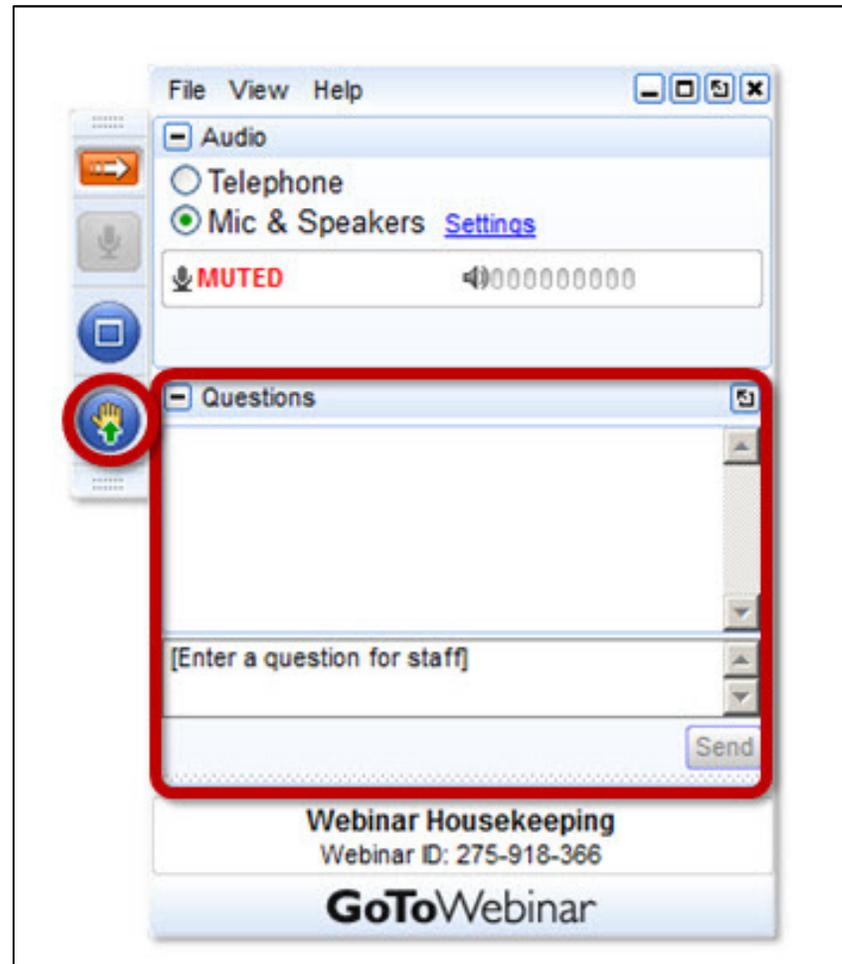
- Choose "Mic & Speakers" to use VoIP
- Choose "Telephone" and dial using the information provided

Submit questions and comments via the Questions panel

Submit Webinar Questions

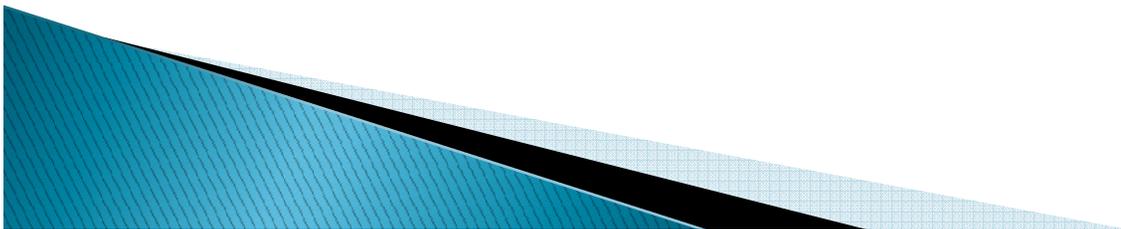


Raise Hand for Question



Webinar Abstract

Learn how to use features such as filtering and grouping to customize the format and level of information you want to include in a creating & displaying a Layout.



What is a “Layout” in P6

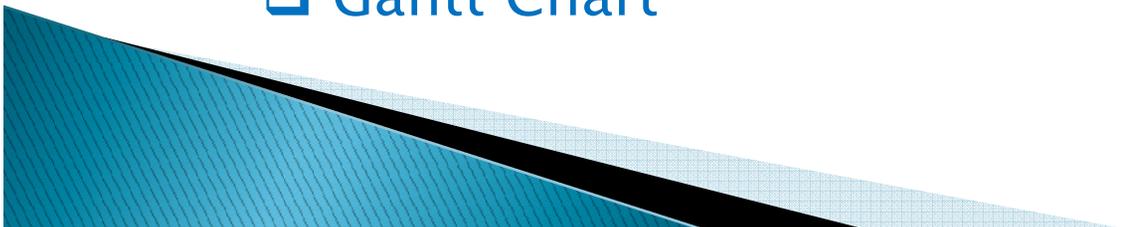
- ❖ Primavera P6 provides the ability to display project schedule information using “Layouts”.
- ❖ Layouts are customizable (not Global) views of project information and are the primary method for viewing Gantt Charts, Profiles, Spreadsheets, and Printing the schedule.
- ❖ Schedules can be tough to read and all members of the project team can benefit from an easier way to interpret their schedules and the schedule data.
- ❖ Standard MnDOT “Layouts” have been created



What is a “Layout” in P6

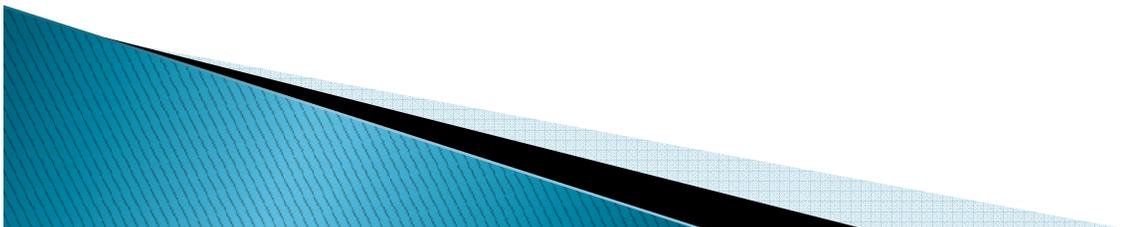
❖ Layouts incorporate/contain the following:

- Bars
- Columns
- Table Font & Rows
- Group & Sort
- Filter
- Gantt Chart



Grouping Data

- ❖ Grouping is a flexible way to organize data into categories that share a common attribute.
- ❖ Activities can be grouped by hierarchical fields such as WBS, Activity codes, Project Codes, and Functional Groups.
- ❖ Example: WBS – Work Breakdown Structure
- ❖ Organized by Grouping Bands.
- ❖ Can be used to Summarize Data.



Grouping Data

❖ Group by Functional Group “Environmental Document”

#	Activity ID	Activity Name	Original Duration	Remaining Duration	Physical % Complete	Start	Finish
1		SP 7480-113 Control Schedule	2390	295		Jan/05/05 A	May/19/14
2		Milestones	2403	303		Jan/05/05 A	May/19/14
3		Project Management (PM)	77	45		Jan/31/13 A	May/20/13
4		Scoping	437	98		Jul/25/11 A	Aug/01/13
5		Utilities	162	38		Sep/28/12 A	May/13/13
6		Railroad (RR) Agreement	40	40		Jan/30/14	Mar/26/14
7		Survey	0	0			
8		Environmental Document	100	45		Jan/17/13 A	Jun/05/13

Can be used to Summarize Data

Filtering Data

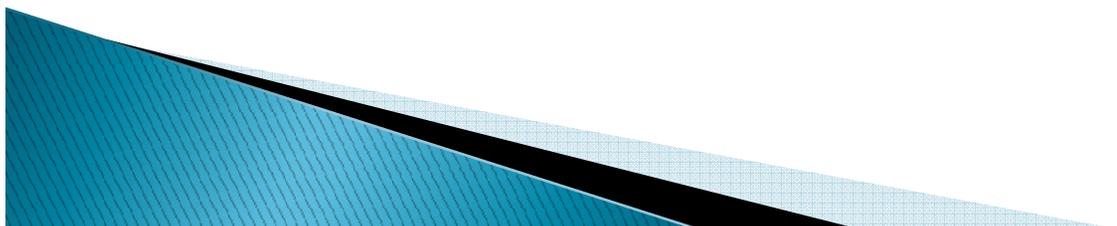
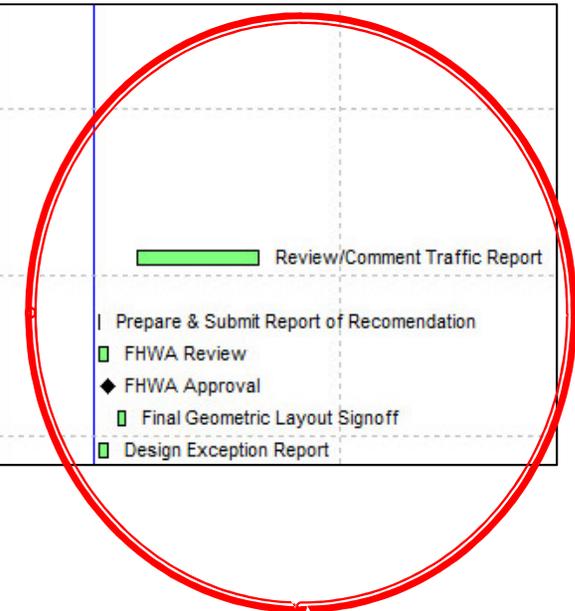
- ❖ Filtering is a quick and easy way to determine which activities are displayed in a layout.
- ❖ Limit the number of activities displayed.
- ❖ Helps focus on a particular group of activities (i.e. 2 Week Lookahead).
- ❖ Default Filters
 - ❑ Standard Filters (can't modify)
- ❖ Global Filters
 - ❑ MnDOT Global Filters (can't modify)



Filtering Data

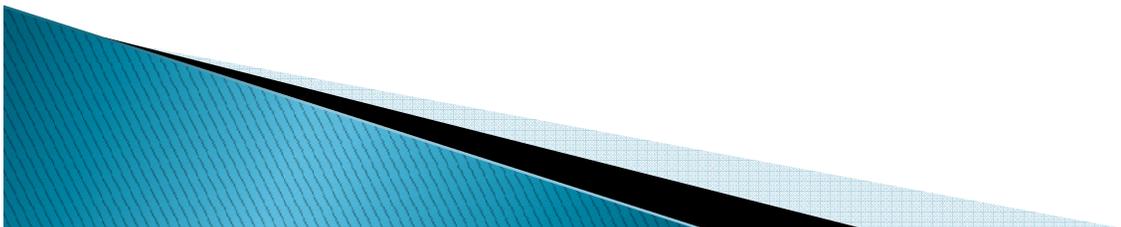
❖ Filter by “2 Week Lookahead” in Gantt Chart

8	[-] Environmental Document		0	0			
9	[-] CATEX (Long Form)		0	0			
10	Noise		0	0			
11	[-] Final Geometric & Construction Limits		7	7		Mar/19/13	Mar/27/13
12	Alternate A (Maintain Configuration)		0	0			
13	Alternate B (Tight Diamond)		0	0			
14	[-] Traffic Study		5	5		Mar/21/13	Mar/27/13
15	A1040	Review/Comment Traffic Report	5	5	0%	Mar/21/13	Mar/27/13
16	[-] Interstate Modification Request (IMR)		2	2		Mar/19/13	Mar/20/13
17	A1060	Prepare & Submit Report of Recommendation	0	0	0%	Mar/19/13	Mar/19/13
18	A1140	FHWA Review	1	1	0%	Mar/19/13	Mar/19/13
19	A1160	FHWA Approval	0	0	0%		Mar/19/13
20	A2220	Final Geometric Layout Signoff	1	1	0%	Mar/20/13	Mar/20/13
21	A2440	Design Exception Report	1	1	0%	Mar/19/13	Mar/19/13



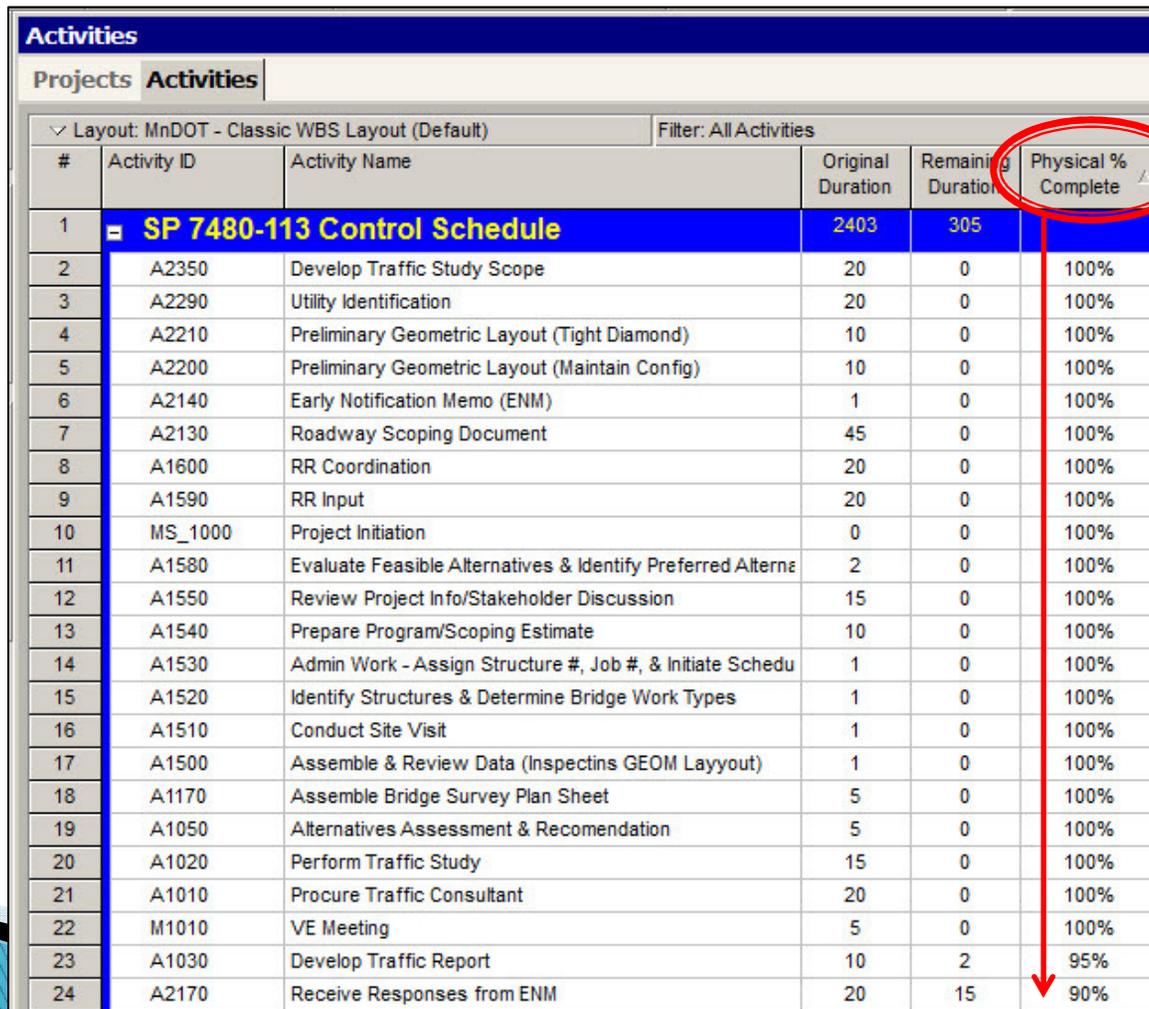
Sorting Data

- ❖ Sorting determines the sequence in which activities are listed within each grouping band.
- ❖ Based on the data item you choose, you can sort: Alphabetically, numerically, or chronologically.
- ❖ Click on the column header to sort ascending and descending.
- ❖ Choose which Columns to display.



Sorting Data

- ❖ Sort by Clicking on a Column Header

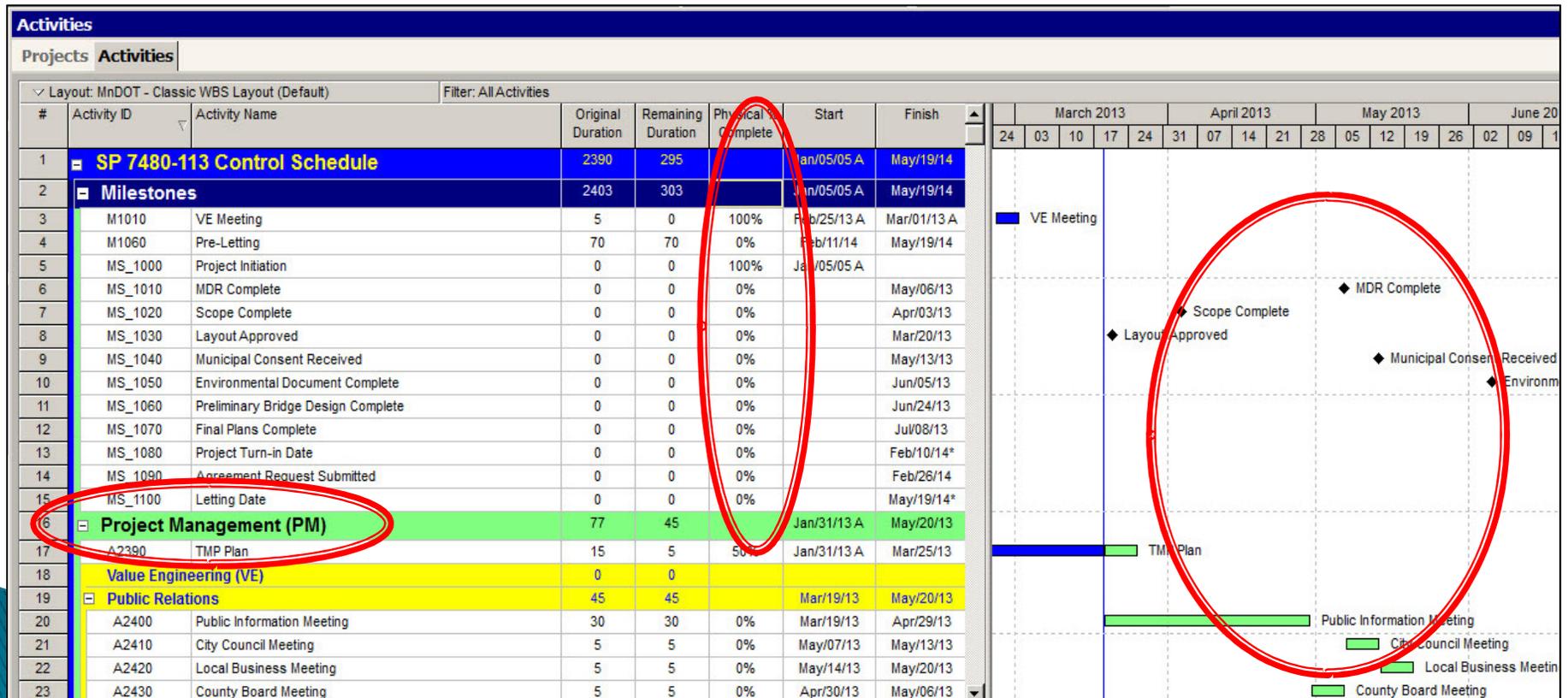


The screenshot displays a software interface for managing activities. The main window is titled "Activities" and has tabs for "Projects" and "Activities". Below the tabs, there is a layout selector "Layout: MnDOT - Classic WBS Layout (Default)" and a filter "Filter: All Activities". The table below lists activities with columns for "#", "Activity ID", "Activity Name", "Original Duration", "Remaining Duration", and "Physical % Complete". The "Physical % Complete" column header is circled in red, and a red arrow points downwards from it, indicating a descending sort.

#	Activity ID	Activity Name	Original Duration	Remaining Duration	Physical % Complete
1	SP 7480-113 Control Schedule		2403	305	
2	A2350	Develop Traffic Study Scope	20	0	100%
3	A2290	Utility Identification	20	0	100%
4	A2210	Preliminary Geometric Layout (Tight Diamond)	10	0	100%
5	A2200	Preliminary Geometric Layout (Maintain Config)	10	0	100%
6	A2140	Early Notification Memo (ENM)	1	0	100%
7	A2130	Roadway Scoping Document	45	0	100%
8	A1600	RR Coordination	20	0	100%
9	A1590	RR Input	20	0	100%
10	MS_1000	Project Initiation	0	0	100%
11	A1580	Evaluate Feasible Alternatives & Identify Preferred Alternatives	2	0	100%
12	A1550	Review Project Info/Stakeholder Discussion	15	0	100%
13	A1540	Prepare Program/Scoping Estimate	10	0	100%
14	A1530	Admin Work - Assign Structure #, Job #, & Initiate Schedule	1	0	100%
15	A1520	Identify Structures & Determine Bridge Work Types	1	0	100%
16	A1510	Conduct Site Visit	1	0	100%
17	A1500	Assemble & Review Data (Inspecting GEOM Layout)	1	0	100%
18	A1170	Assemble Bridge Survey Plan Sheet	5	0	100%
19	A1050	Alternatives Assessment & Recommendation	5	0	100%
20	A1020	Perform Traffic Study	15	0	100%
21	A1010	Procure Traffic Consultant	20	0	100%
22	M1010	VE Meeting	5	0	100%
23	A1030	Develop Traffic Report	10	2	95%
24	A2170	Receive Responses from ENM	20	15	90%

Viewing a Layout

- ❖ Grouping – Bands visible for Summarization
- ❖ Sorting – Selected Columns visible in Columns
- ❖ Filter – Activities visible in Columns & Gantt Chart



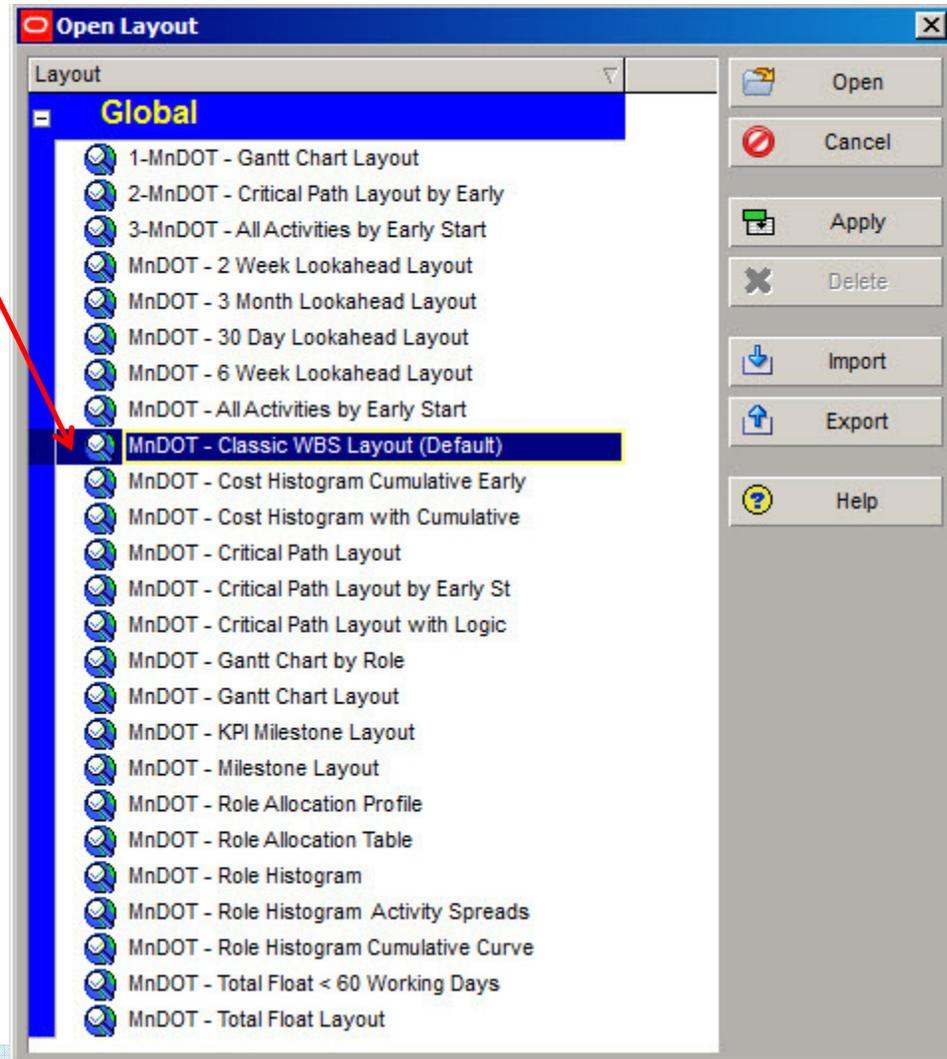
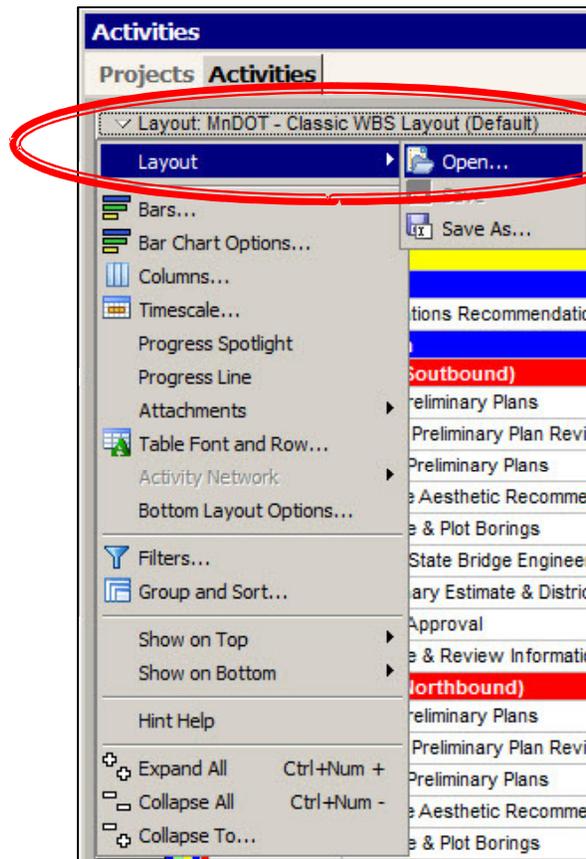
Choosing a MnDOT Layout

❖ Click on the “Layout Bar”

The screenshot shows the Primavera P6 'Activities' window. At the top, there are tabs for 'Projects' and 'Activities'. Below the tabs is a 'Layout Bar' containing the text 'Layout: MnDOT - Classic WBS Layout (Default)', which is circled in red. To the right of the layout bar is a 'Filter All: Critical' dropdown. The main area of the window is a Gantt chart. The left side is a tree view showing a hierarchy of activities: 'Plans & Specs' (222 days), 'Bridge(s)' (219 days), 'Foundations' (5 days), 'Preliminary Design' (77 days), 'Bridge 74815 (RR Southbound)' (77 days), and 'Bridge 74816 (RR Northbound)' (77 days). Each activity is expanded to show its sub-activities. The right side of the window is a Gantt chart grid with columns for months (M, April 2013, May 2013, June 2013, July 2013) and days of the week (A, S, O). Red bars represent the duration of each activity on the grid. A legend on the right side of the grid lists the activities and their corresponding bar colors.

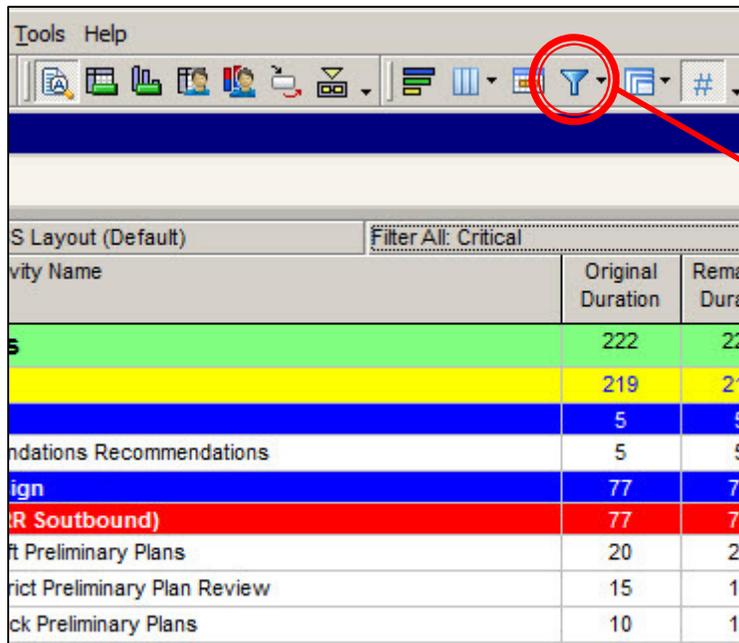
#	Activity ID	Activity Name	Original Duration	Remaining Duration	Physical % Complete	Start	Finish
18		Plans & Specs	222	222		Apr/05/13	Feb/10/14
19		Bridge(s)	219	219		Apr/05/13	Feb/05/14
20		Foundations	5	5		May/31/13	Jun/06/13
21	A1280	Foundations Recommendations	5	5	0%	May/31/13	Jun/06/13
22		Preliminary Design	77	77		Apr/05/13	Jul/22/13
23		Bridge 74815 (RR Southbound)	77	77		Apr/05/13	Jul/22/13
24	A1180	Draft Preliminary Plans	20	20	0%	May/03/13	May/30/13
25	A1220	District Preliminary Plan Review	15	15	0%	May/31/13	Jun/20/13
26	A1230	Check Preliminary Plans	10	10	0%	May/31/13	Jun/13/13
27	A1240	Prepare Aesthetic Recommendation	10	10	0%	May/31/13	Jun/13/13
28	A1250	Receive & Plot Borings	2	2	0%	Jun/07/13	Jun/10/13
29	A1260	Obtain State Bridge Engineers Signature	2	2	0%	Jun/21/13	Jun/24/13
30	A1270	Preliminary Estimate & District Letter	10	10	0%	Jun/25/13	Jul/08/13
31	A2250	FHWA Approval	10	10	0%	Jul/09/13	Jul/22/13
32	A2480	Receive & Review Information	20	20	0%	Apr/05/13	May/02/13
33		Bridge 74816 (RR Northbound)	77	77		Apr/05/13	Jul/22/13
34	A1290	Draft Preliminary Plans	20	20	0%	May/03/13	May/30/13
35	A1300	District Preliminary Plan Review	15	15	0%	May/31/13	Jun/20/13
36	A1310	Check Preliminary Plans	10	10	0%	May/31/13	Jun/13/13
37	A1320	Prepare Aesthetic Recommendation	10	10	0%	May/31/13	Jun/13/13
38	A1330	Receive & Plot Borings	2	2	0%	Jun/07/13	Jun/10/13
39	A1340	Obtain State Bridge Engineers Signature	2	2	0%	Jun/21/13	Jun/24/13
40	A1350	Preliminary Estimate & District Letter	10	10	0%	Jun/25/13	Jul/08/13
41	A2450	FHWA Approval	10	10	0%	Jul/09/13	Jul/22/13

Choosing a MnDOT Layout



Choosing a Filter

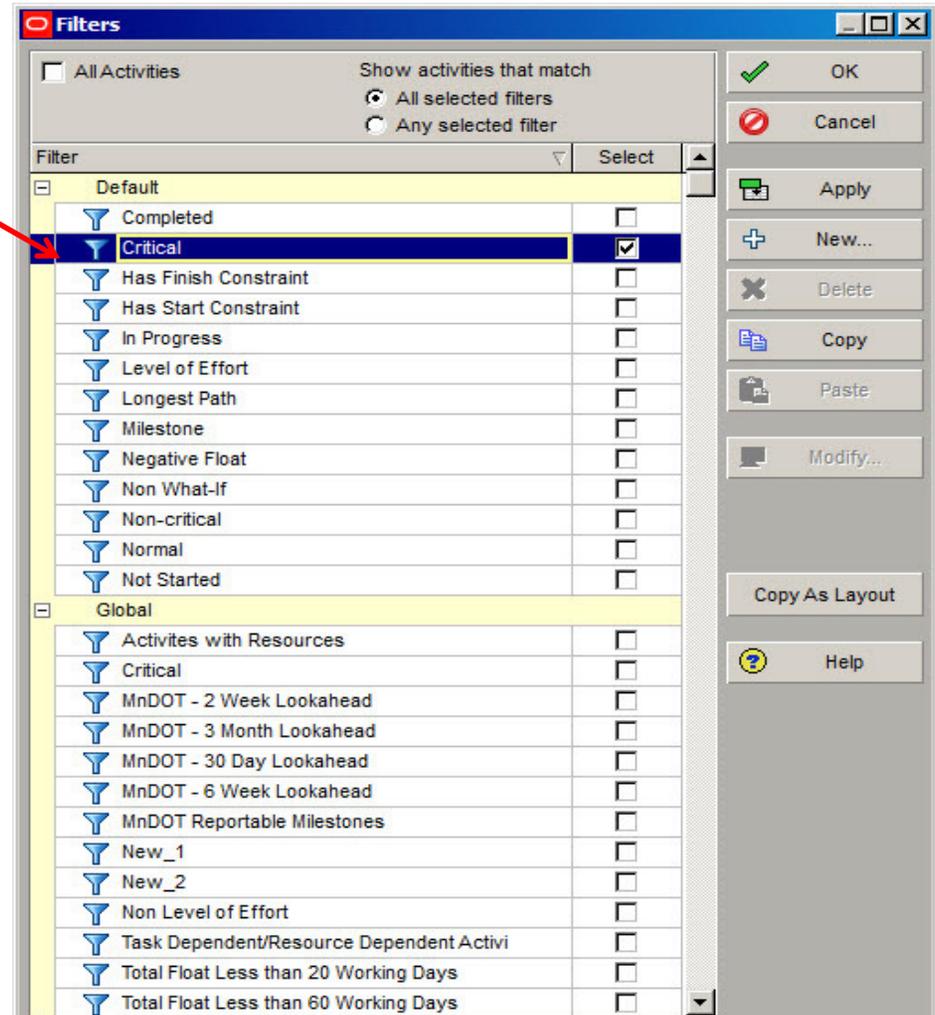
❖ Click on the “Filter Icon” form the Task Bar



Tools Help

Filter All: Critical

Activity Name	Original Duration	Rema Dura
S	222	22
	219	21
	5	5
ndations Recommendations	5	5
ign	77	77
IR Southbound)	77	77
ft Preliminary Plans	20	20
strict Preliminary Plan Review	15	15
ck Preliminary Plans	10	10



Filters

Show activities that match

All selected filters
 Any selected filter

Filter: [v] Select [^]

Default

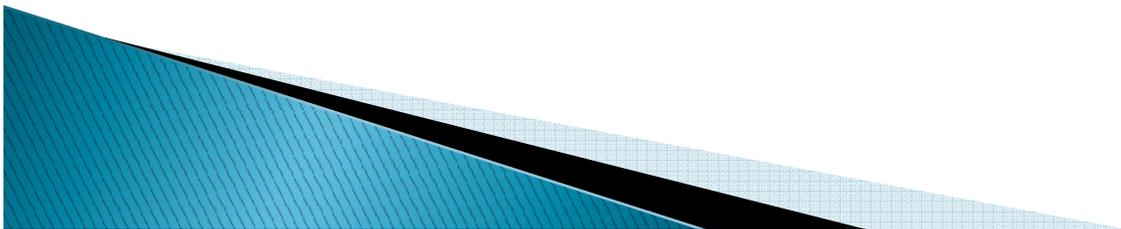
- Completed
- Critical
- Has Finish Constraint
- Has Start Constraint
- In Progress
- Level of Effort
- Longest Path
- Milestone
- Negative Float
- Non What-If
- Non-critical
- Normal
- Not Started

Global

- Activites with Resources
- Critical
- MnDOT - 2 Week Lookahead
- MnDOT - 3 Month Lookahead
- MnDOT - 30 Day Lookahead
- MnDOT - 6 Week Lookahead
- MnDOT Reportable Milestones
- New_1
- New_2
- Non Level of Effort
- Task Dependent/Resource Dependent Activi
- Total Float Less than 20 Working Days
- Total Float Less than 60 Working Days

OK
Cancel
Apply
New...
Delete
Copy
Paste
Modify...
Copy As Layout
Help

Software Demonstration



Shared Service Center Support

Jacob Rezac is in supports of North Region

jacob.rezac@state.mn.us

Region – 1

Region – 2

Region – 3

Region – 4

Matthew Rottermond is in supports Central Region

matthew.rottermond@state.mn.us

Region – 6

Region – 7

Region – 8

Nicole Peterson is in supports of Metro (5&9) South Region

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Questions or Comments

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thomas.wiener@state.mn.us

MnDOT Project Management Office

651-366-4239

Peter Harff

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MnDOT Project Management Office

507-514-1095

<http://www.dot.state.mn.us/pm>

Next Webinar: Wednesday, June 12, 2013

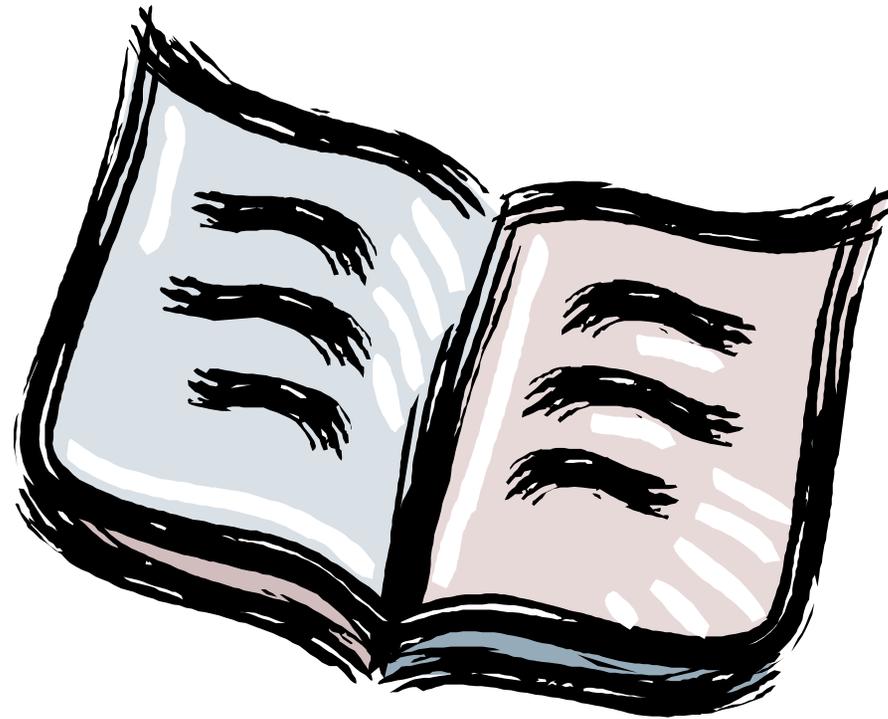
Time: 1:00 p.m.

Topic: Dashboards and Reporting for Program Management

Presenter: Jonathan McNatty

DRMcNatty & Associates, Inc.

Glossary of CPM Terms



Glossary of CPM Terms

Activity - An individual work task that is the basic component of a project.

Activity Codes - Values assigned to project activities to organize them into manageable groups for updating, analyzing, reporting, plotting, and summarizing.

Actual Cost - The cost incurred to date for a resource or activity.

Actual Dates - Start (AS) and Finish (AF) dates that you record for an activity that has progress or is complete.

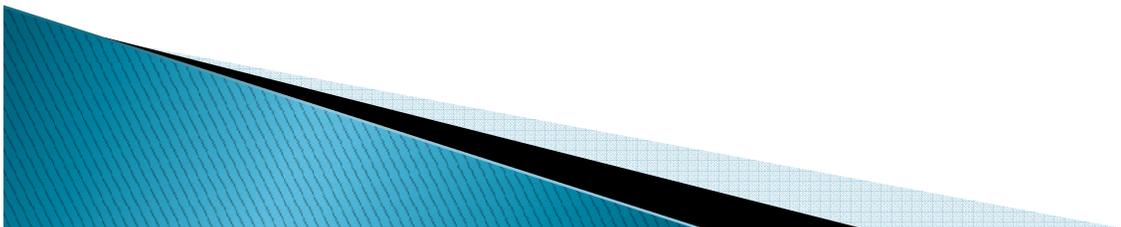
Actual Quantity - The amount of a resource used to date.

Backward Pass - The calculation of a network's late dates.

Bar Chart - The graphical display of activities according to time. Relationships between activities are not shown. A bar chart is also called a Gantt Chart.

Baseline Schedule - The original planned schedule for a project.

Budget - The estimate of the total units or costs required by a resource or cost account for an activity.



Glossary of CPM Terms

Calendar - The workdays and holidays defined for a project that determine when an activity can be scheduled.

Completion - The date on which a project is to be finished.

Constraint - A restriction imposed on the start or finish of an activity.

Critical Activity - An activity that has the least amount of total float.

Critical Path - The series of activities in a project that will take the longest to complete.

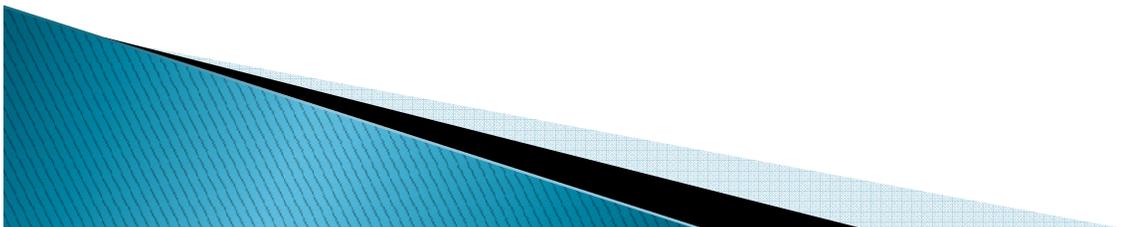
Critical Path Method (CPM) - The calculation of the earliest and latest start and finish dates of activities based on their duration and relationships to other activities.

Data Date - The date used as the starting point for schedule calculations.

Driving - A predecessor/successor relationship in which the predecessor

Relationship - Determines the successor's early dates.

Duration - The amount of time (in workdays) needed to complete an activity.



Glossary of CPM Terms

Early Start (ES) - The earliest date when an activity can begin after its predecessors have been completed.

Earned Value - The value of work performed rather than actual work performed.

Exception - A day when work must occur that was originally designated as a nonworkday.

Finish to Finish - A type of relationship in which a successor activity finish depends on its **(FF)** predecessor activity's finish.

Finish-to Start - A type of relationship in which a successor activity can begin only when its **(FS)** predecessor activity finishes.

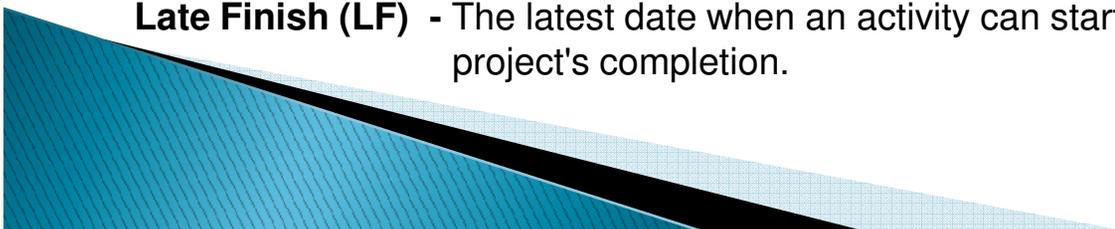
Float - The amount of time that the start or finish of an activity can be delayed without affecting the project finish date.

Forward Pass - The calculation of the network's early dates.

Free Float - The amount of time that an activity's early start can be delayed without delaying the early start of a successor activity.

Lag - An offset or delay from an activity to its successor.

Late Finish (LF) - The latest date when an activity can start without delaying the project's completion.



Glossary of CPM Terms

Late Start (LS) - The latest date when an activity can start without delaying the project's completion.

Loop - Circular logic within a network.

Milestone - An activity that represents a significant point in time, that has no duration.

Negative Float - The total number of days that the start or finish of an activity exceeds the time allowed. Negative float indicates a delay in the schedule.

Negative Lag - An offset or lead time from an activity to its successor in which the successor's start date is earlier than the predecessor's start date.

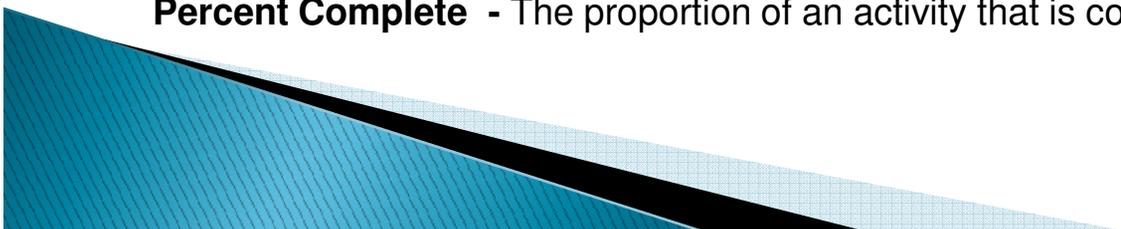
Network - The series of activities required to complete a project.

Nonworkperiod - A period of time when work may not occur.

Open End - An activity that has no successor or predecessor relationships to other activities in the network.

Out-of-Sequence Progress - Work completed for an activity before it is logically scheduled to occur.

Percent Complete - The proportion of an activity that is complete.



Glossary of CPM Terms

Performance Measurement - The comparison of the current plan to a target plan to assess whether it is progressing as intended.

Planning Unit - The increment of time used to schedule a project. The planning unit can be in hours, days, weeks, or months.

Predecessor - An activity that must logically occur before another activity.

Progress - The completion of work.

Resources - The people, materials, equipment or services required to complete a project.

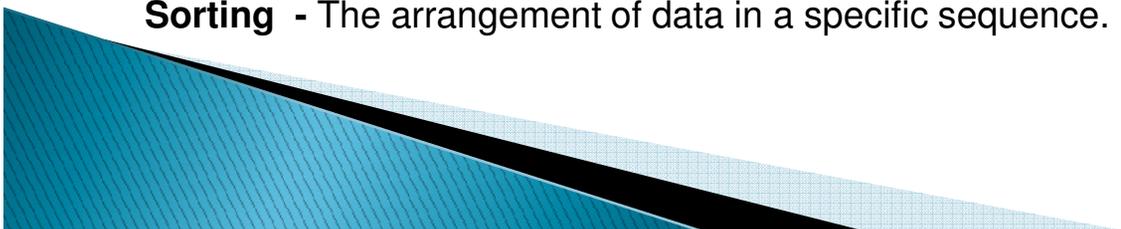
Schedule - A list of the activities needed to complete a project, along with their start and finish dates.

Schedule Calculation - The calculation of early and late dates for each activity in the project.

Slack - See Float.

Slippage - Lateness determined by measuring the target finish of an activity from its actual or current early finish.

Sorting - The arrangement of data in a specific sequence.



Glossary of CPM Terms

Start-to Start - A type of relationship in which a successor's start depends on the start of **(SS)** its predecessor.

Status - The process of updating a project by indicating progress at regular intervals.

Successor - An activity that must logically occur after another activity.

Target - A project plan that can be compared to the current schedule to measure progress.

Task - A unit of work. Also called an activity.

Total Float (TF) - The total number of days that the start or finish of an activity can be delayed without affecting the project finish date. Float can be negative, zero, or positive.

Updating - The process of recording progress in a project at regular intervals.

Variance - The difference between the current and target schedule dates.

Work Breakdown Structure (WBS) - The graphical depiction of the hierarchy of work needed to complete a project.

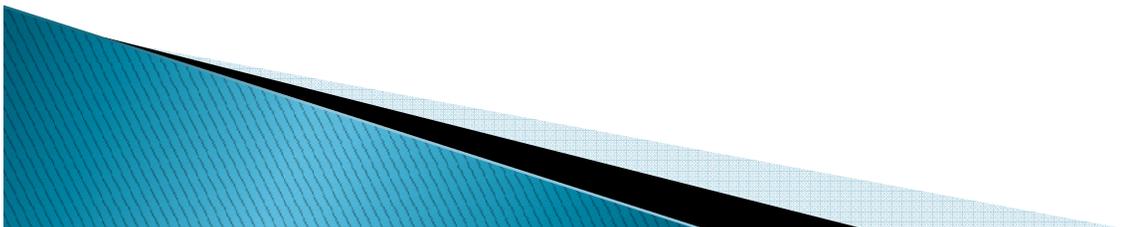
Workday - Any day of the week when work can be scheduled.



MnDOT Goals Going Forward

Projects in Construction Phase

- ❖ Contractor's Build Their Schedule in our Network 1/1/13
- ❖ Piloting Providing BIM Models and CTD Schedules to Contractors 3/1/13
- ❖ Select "Unit Rate" project– Resource and Cost Loaded 3/1/13
- ❖ Role and Resource Loaded of CE&I staff 6/1/14



MnDOT Goals Going Forward

Projects in Scoping and Design Phase

- ❖ “Active Projects” Role and Resource Loaded 6/30/13
- ❖ All planned projects Role loaded by June 30, 2014
- ❖ Taxpayer Transportation Accountability Act

