



MnDOT Project Management
Office Presents:

Roles & Resource Management

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

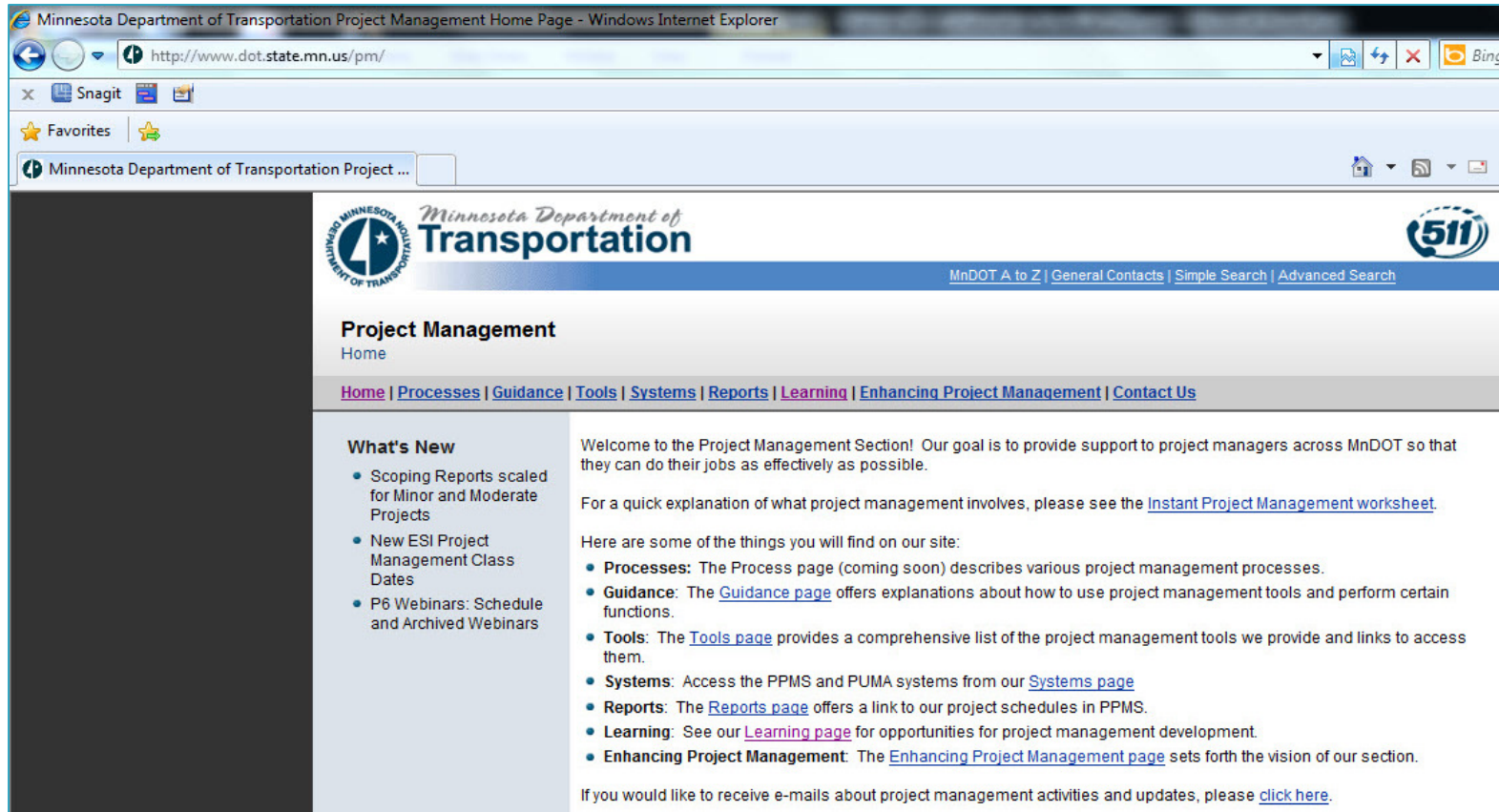
Housekeeping Items

- ❖ 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". The main text welcomes visitors to the Project Management Section and provides a list of resources: "Processes", "Guidance", "Tools", "Systems", "Reports", "Learning", and "Enhancing Project Management". A link to "click here" is provided for e-mail subscriptions.

Minnesota Department of Transportation Project Management Home Page - Windows Internet Explorer

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

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](#).

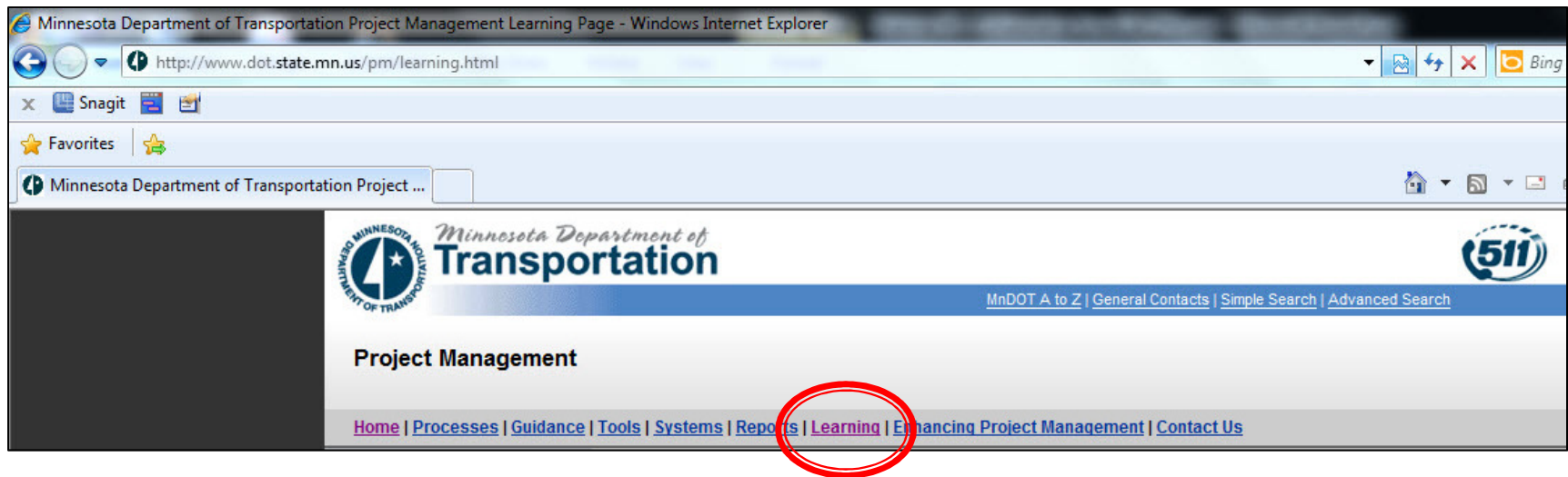
Here are some of the things you will find on our site:

- **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.

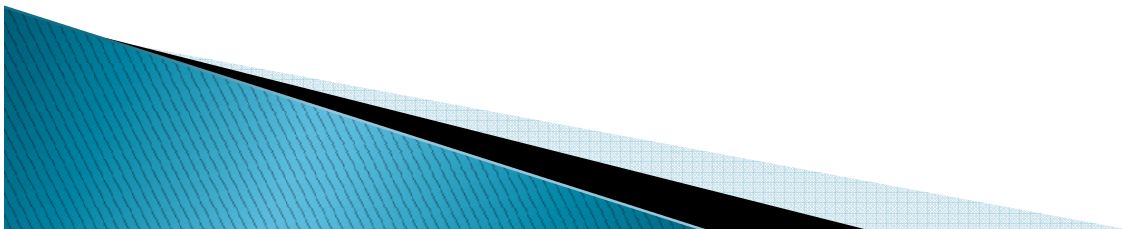
If you would like to receive e-mails about project management activities and updates, please [click here](#).

MnDOT Webinars

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



❖ Click on the “Learning” link



MnDOT Webinars

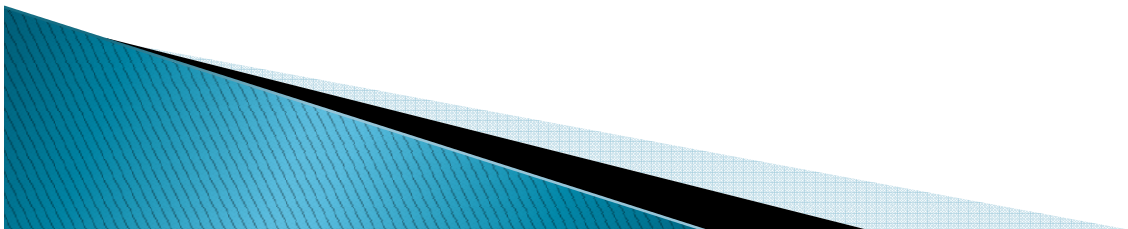
Primavera P6 Webinars: Each webinar will start at 1:00 p.m. and last 1/2 hour. Click the links below to register for a session. After each webinar, a recording will be made available from this page. [Live questions](#) (PDF 2MB) can also be submitted by attendees during each webinar.

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).

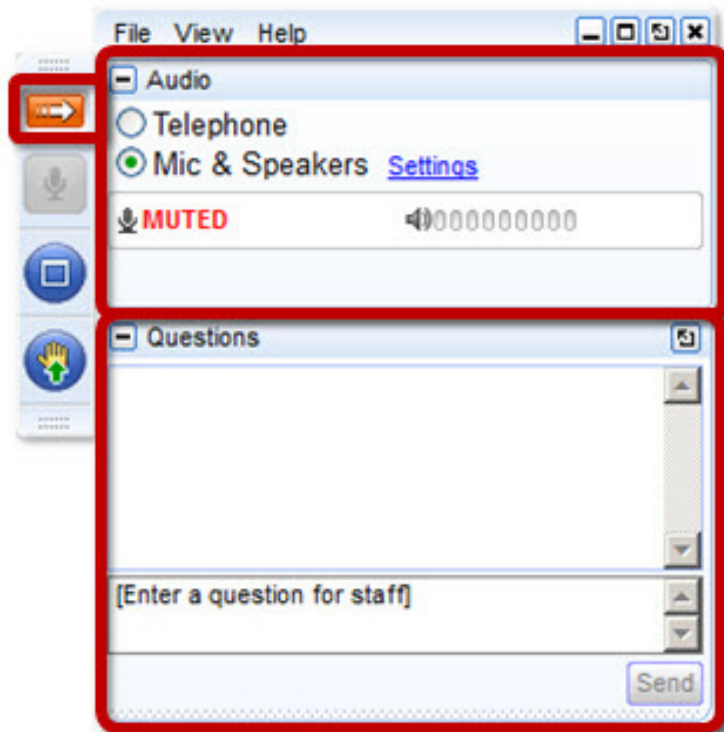
Schedule Baselines	April 17, 2013	
<ul style="list-style-type: none">• View this Presentation (24:37, WMV 24MB)• View Slides (PDF 11MB)• View Script (Word 19KB)		
Schedule Updates	April 24, 2013	
<ul style="list-style-type: none">• View this Presentation (33:30, WMV 41MB)• View Slides (PDF 3 MB)• View Script (Word 23KB)		
Project Reporting	May 1, 2013	
<ul style="list-style-type: none">• View this Presentation (32:48, WMV 53 MB)• View Slides (PDF 7 MB)• View Script (Word 26KB)		
Impact Schedules	May 8, 2013	
<ul style="list-style-type: none">• View this Presentation (28:18, WMV 23MB)• View Slides (PDF 3MB)		
MnDOT use of Calendars in Primavera P6	May 15, 2013	Reserve your Webinar seat now
Roles and Resource Management	May 22, 2013	Reserve your Webinar seat now
Risk Management	May 29, 2013	Reserve your Webinar seat now
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

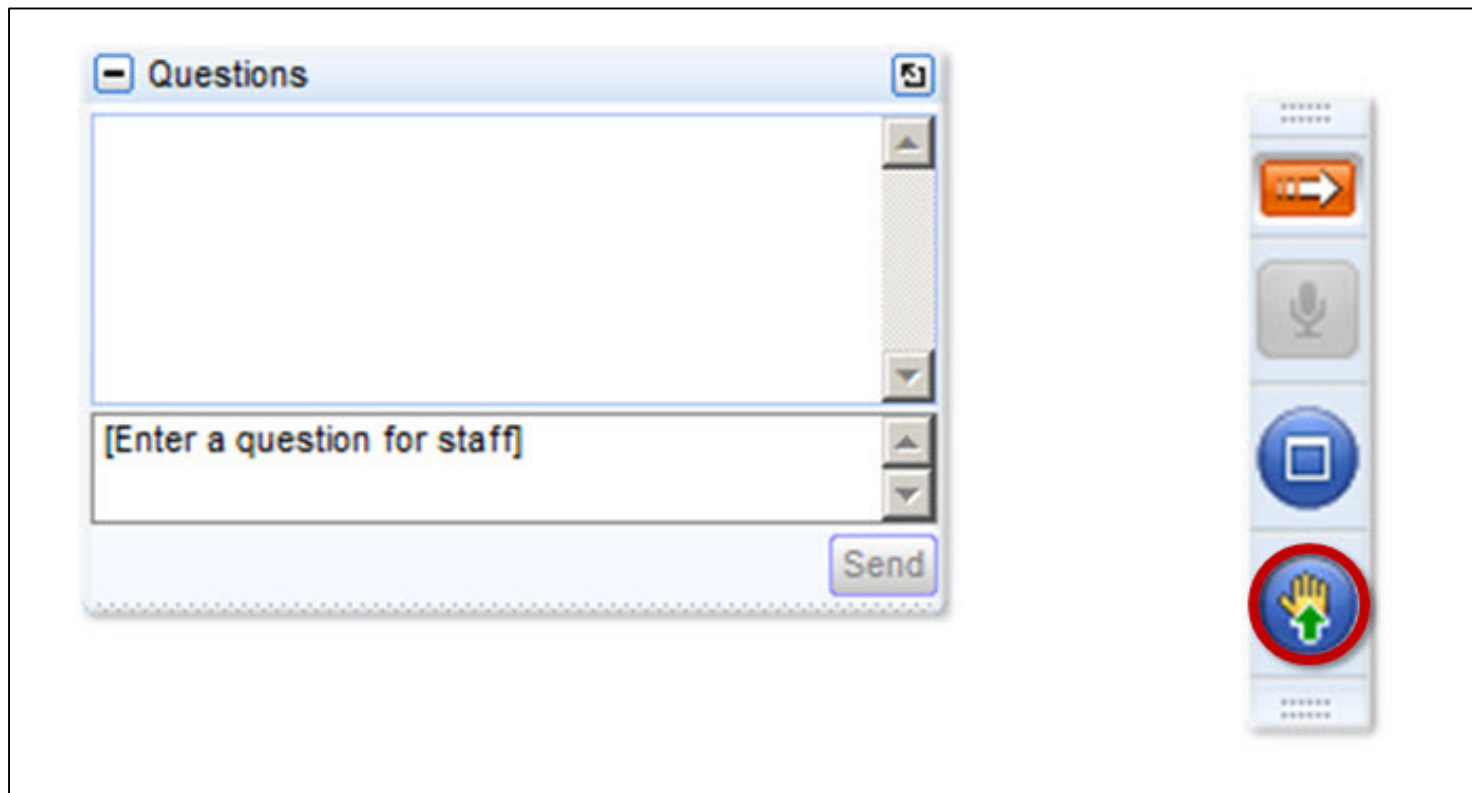
Open and hide your control panel

Join audio:

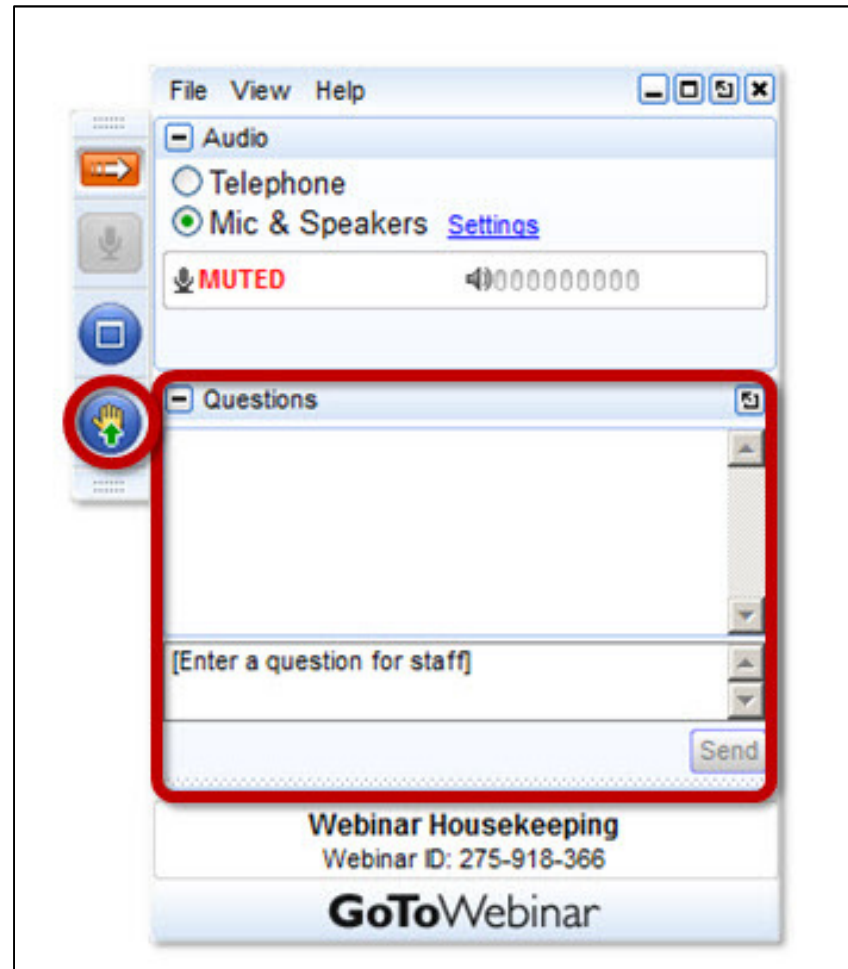
- Choose "Mic & Speakers" to use VoIP
- Choose "Telephone" and dial using the information provided

Submit questions and comments via the Questions panel

Submit Webinar Questions

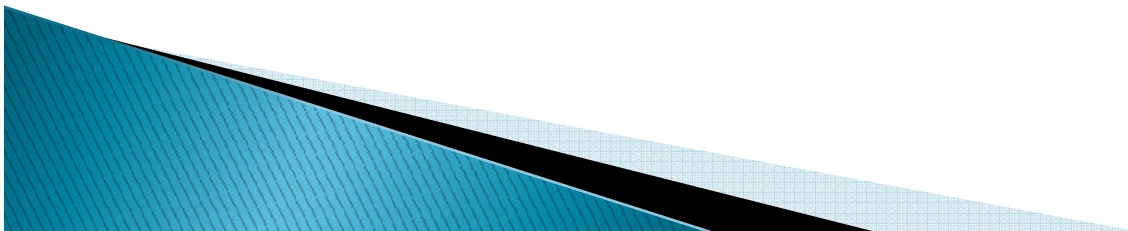


Raise Hand for Question



Roles & Resource Management

- ▶ Effective resource management is one of the main reasons why projects are not completed on time or within budget. See how MnDOT is using Roles and Resource Management to manage schedules.



Roles and Resources

Role: A job title or skill needed to complete and activity.

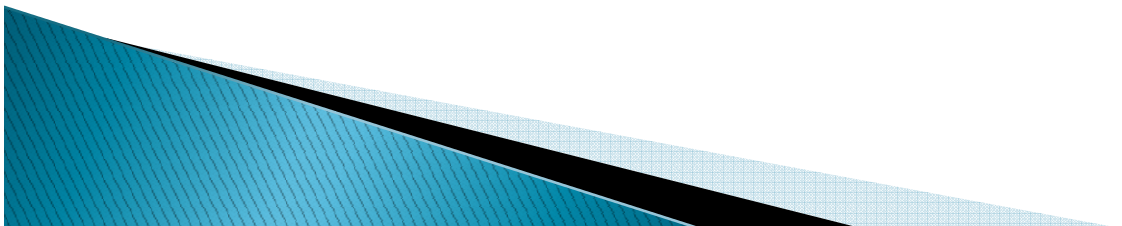


Project Manager

Resource: The specific individual used to complete the activity















Tim Harris



Relationship Between Roles and Resources

Roles Dictionary

	Civil Engineer	Cost Engineer	Database Administrator	Mechanical Engineer	Project Manager	System Analyst
Ben Diamond						
Bob Patterson						
Charles North						
Oliver Rock						
Paul Kim						
Sue White						
Tim Harris						
Wendy Resner						

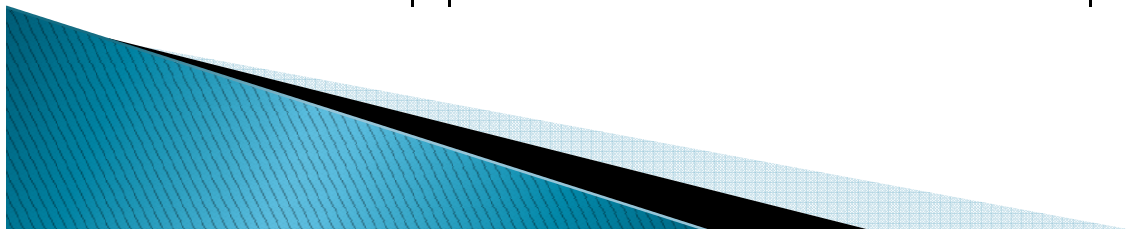
Resource Pool



Resource's primary role in the organization

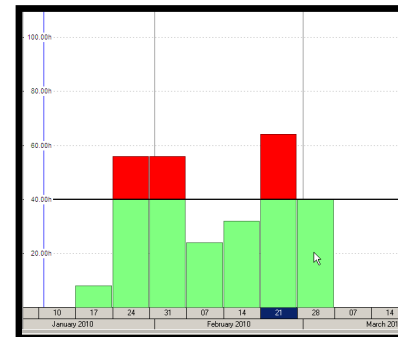
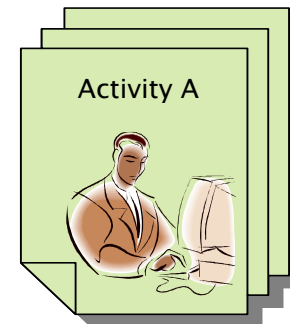
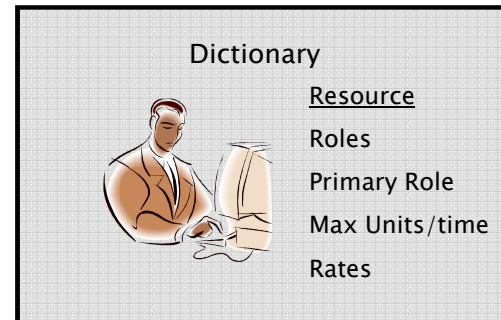


Resource's role in the organization



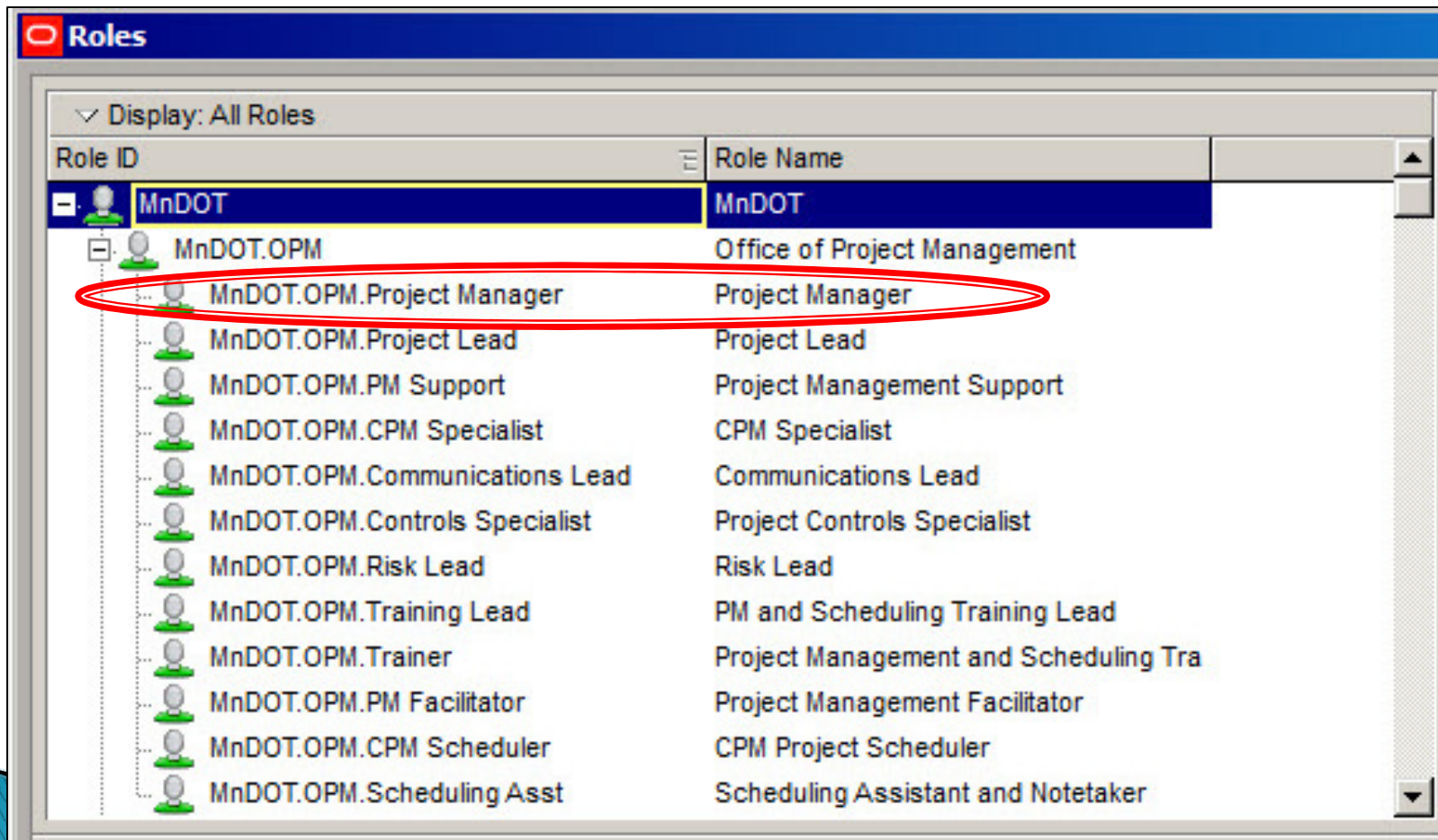
Roles and Resources

1. Define resource name, description, cost, roles, and attributes in the resource dictionary.
2. Assign the Resource to activities.
3. Use the Resource Usage Spreadsheet or Resource Usage Profile to analyze resource allocation.



Role Dictionary in P6

- ❖ Roles have been added to the P6 Role Dictionary in P6

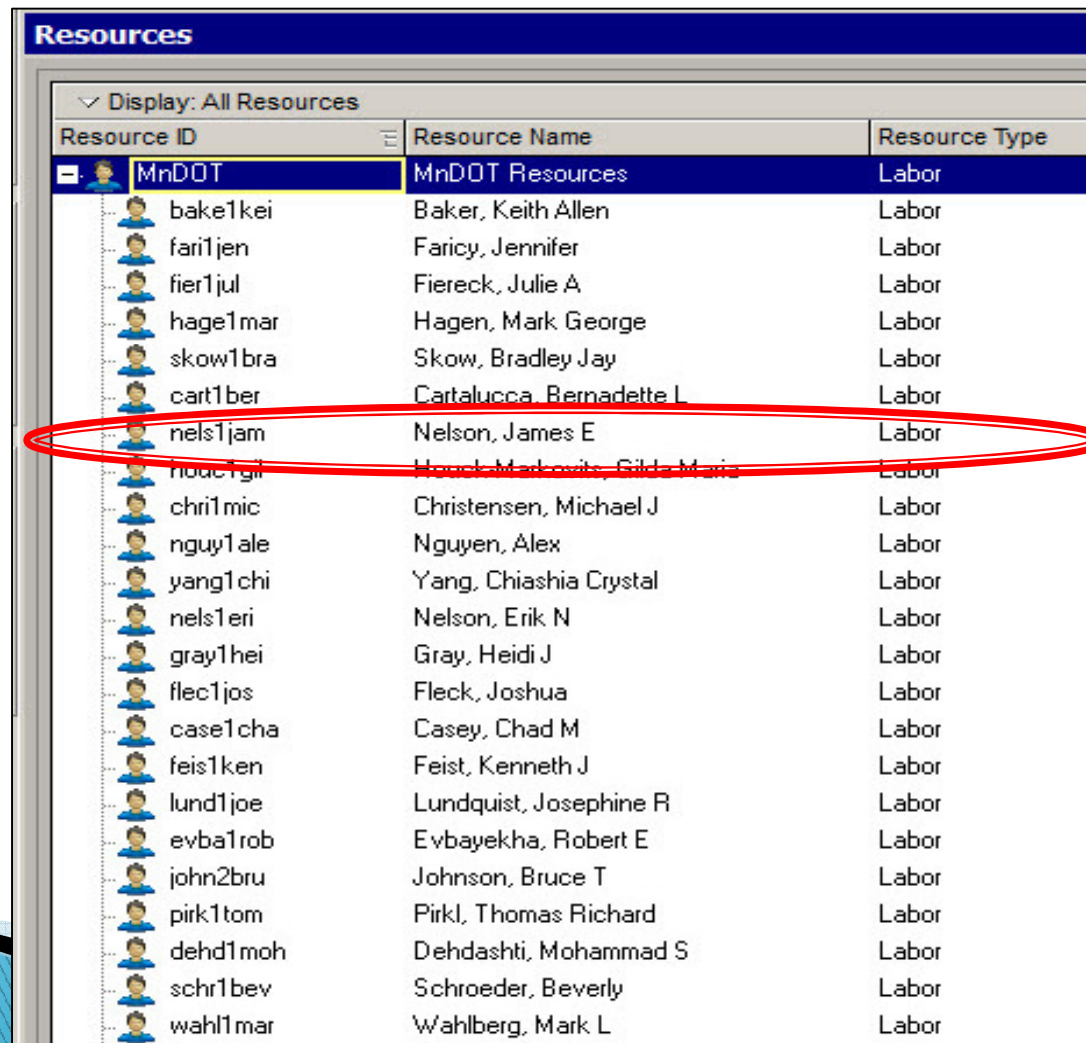


The screenshot shows the 'Roles' window in P6, displaying a hierarchical list of roles. The 'MnDOT.OPM.Project Manager' role is circled in red. The table below represents the data shown in the screenshot.

Role ID	Role Name
MnDOT	MnDOT
MnDOT.OPM	Office of Project Management
MnDOT.OPM.Project Manager	Project Manager
MnDOT.OPM.Project Lead	Project Lead
MnDOT.OPM.PM Support	Project Management Support
MnDOT.OPM.CPM Specialist	CPM Specialist
MnDOT.OPM.Communications Lead	Communications Lead
MnDOT.OPM.Controls Specialist	Project Controls Specialist
MnDOT.OPM.Risk Lead	Risk Lead
MnDOT.OPM.Training Lead	PM and Scheduling Training Lead
MnDOT.OPM.Trainer	Project Management and Scheduling Tra
MnDOT.OPM.PM Facilitator	Project Management Facilitator
MnDOT.OPM.CPM Scheduler	CPM Project Scheduler
MnDOT.OPM.Scheduling Asst	Scheduling Assistant and Notetaker

Resource Loading Schedules in P6

- ❖ Resources have been added to the P6 Resource Dictionary in P6



The screenshot shows the 'Resources' window in Primavera P6. The window title is 'Resources' and it has a dropdown menu set to 'Display: All Resources'. Below the title bar is a table with three columns: 'Resource ID', 'Resource Name', and 'Resource Type'. The table lists various resources, with 'nels1jam' circled in red. The resource 'nels1jam' is listed as 'Nelson, James E' with a 'Labor' type. Other resources include 'bake1kei' (Baker, Keith Allen), 'fari1jen' (Faricy, Jennifer), 'fier1jul' (Fiereck, Julie A), 'hage1mar' (Hagen, Mark George), 'skow1bra' (Skow, Bradley Jay), 'cart1ber' (Cartalucca, Bernadette L), 'hoo1gil' (Hooch, Madhuvi, Gilda Maria), 'chri1mic' (Christensen, Michael J), 'nguy1ale' (Nguyen, Alex), 'yang1chi' (Yang, Chiashia Crystal), 'nels1eri' (Nelson, Erik N), 'gray1hei' (Gray, Heidi J), 'flec1jos' (Fleck, Joshua), 'case1cha' (Casey, Chad M), 'feis1ken' (Feist, Kenneth J), 'lund1joe' (Lundquist, Josephine R), 'evba1rob' (Evbayekha, Robert E), 'john2bru' (Johnson, Bruce T), 'pirk1tom' (PirkI, Thomas Richard), 'dehd1moh' (Dehdashti, Mohammad S), 'schr1bev' (Schroeder, Beverly), and 'wahl1mar' (Wahlberg, Mark L).

Resource ID	Resource Name	Resource Type
MnDOT	MnDOT Resources	Labor
bake1kei	Baker, Keith Allen	Labor
fari1jen	Faricy, Jennifer	Labor
fier1jul	Fiereck, Julie A	Labor
hage1mar	Hagen, Mark George	Labor
skow1bra	Skow, Bradley Jay	Labor
cart1ber	Cartalucca, Bernadette L	Labor
nels1jam	Nelson, James E	Labor
hoo1gil	Hooch, Madhuvi, Gilda Maria	Labor
chri1mic	Christensen, Michael J	Labor
nguy1ale	Nguyen, Alex	Labor
yang1chi	Yang, Chiashia Crystal	Labor
nels1eri	Nelson, Erik N	Labor
gray1hei	Gray, Heidi J	Labor
flec1jos	Fleck, Joshua	Labor
case1cha	Casey, Chad M	Labor
feis1ken	Feist, Kenneth J	Labor
lund1joe	Lundquist, Josephine R	Labor
evba1rob	Evbayekha, Robert E	Labor
john2bru	Johnson, Bruce T	Labor
pirk1tom	PirkI, Thomas Richard	Labor
dehd1moh	Dehdashti, Mohammad S	Labor
schr1bev	Schroeder, Beverly	Labor
wahl1mar	Wahlberg, Mark L	Labor

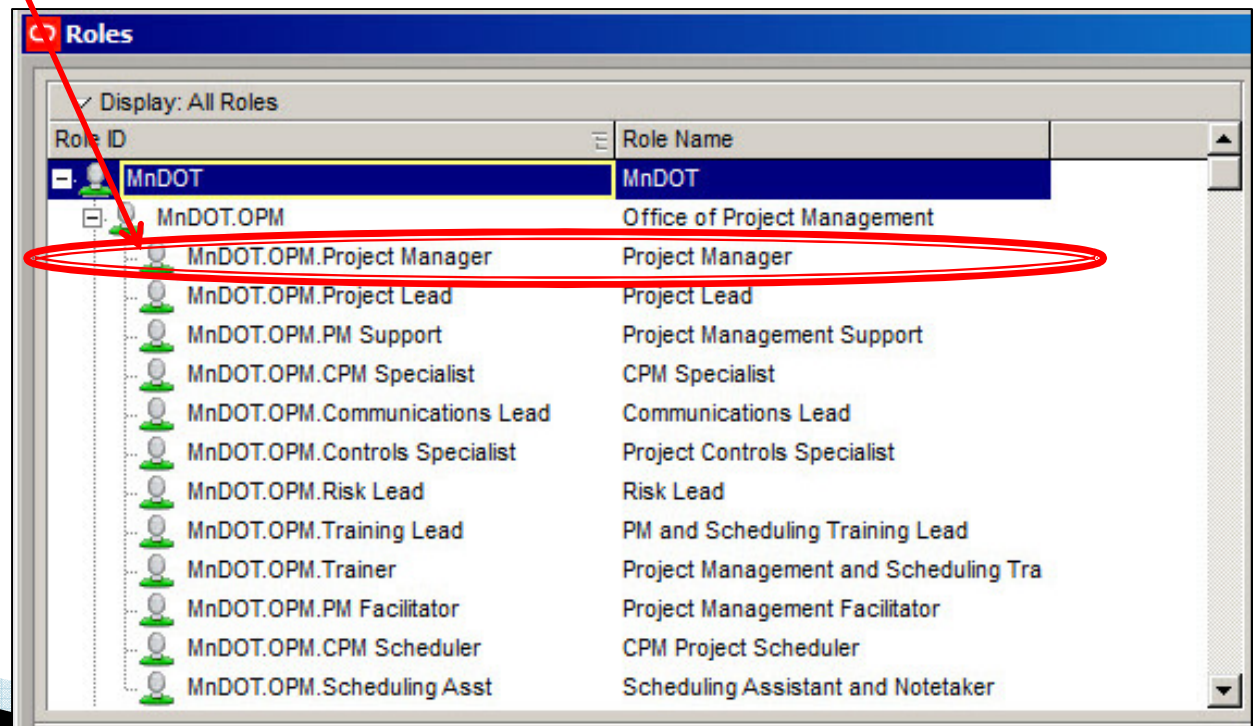
Role Loading Activities

- ❖ Roles are assigned to activities in the schedule.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

1003

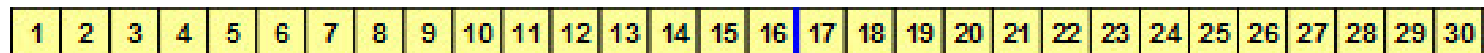
Project Scoping (30 Day Duration)



Role ID	Role Name
MnDOT	MnDOT
MnDOT.OPM	Office of Project Management
MnDOT.OPM.Project Manager	Project Manager
MnDOT.OPM.Project Lead	Project Lead
MnDOT.OPM.PM Support	Project Management Support
MnDOT.OPM.CPM Specialist	CPM Specialist
MnDOT.OPM.Communications Lead	Communications Lead
MnDOT.OPM.Controls Specialist	Project Controls Specialist
MnDOT.OPM.Risk Lead	Risk Lead
MnDOT.OPM.Training Lead	PM and Scheduling Training Lead
MnDOT.OPM.Trainer	Project Management and Scheduling Tra
MnDOT.OPM.PM Facilitator	Project Management Facilitator
MnDOT.OPM.CPM Scheduler	CPM Project Scheduler
MnDOT.OPM.Scheduling Asst	Scheduling Assistant and Notetaker

Resource Loading Activities

- ❖ Resources are assigned to activities in the schedule.

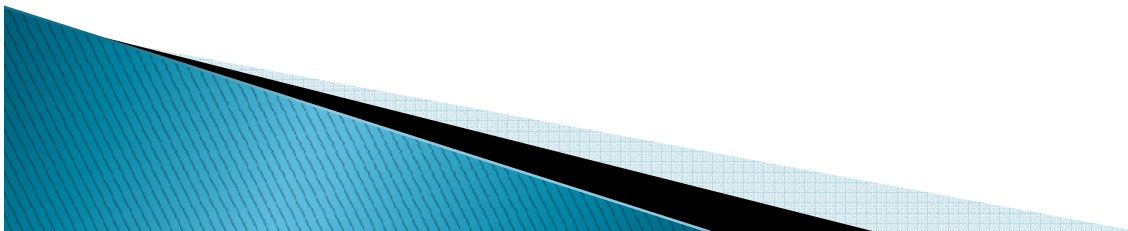


1003



Resources		
Display: All Resources		
Resource ID	Resource Name	Resource Type
MnDOT	MnDOT Resources	Labor
bake1kei	Baker, Keith Allen	Labor
fari1jen	Faricy, Jennifer	Labor
fiere1jul	Fiereck, Julie A	Labor
hage1mar	Hagen, Mark George	Labor
skow1bra	Skow, Bradley Jay	Labor
cart1ber	Cartalucca, Bernadette L	Labor
nels1jam	Nelson, James E	Labor
houc1gil	Houck-Markovits, Gilda Maria	Labor
chri1mic	Christensen, Michael J	Labor
nguy1ale	Nguyen, Alex	Labor
yang1chi	Yang, Chiashia Crystal	Labor
nels1eri	Nelson, Erik N	Labor
gray1hei	Gray, Heidi J	Labor
flec1jos	Fleck, Joshua	Labor
case1cha	Casey, Chad M	Labor
feis1ken	Feist, Kenneth J	Labor

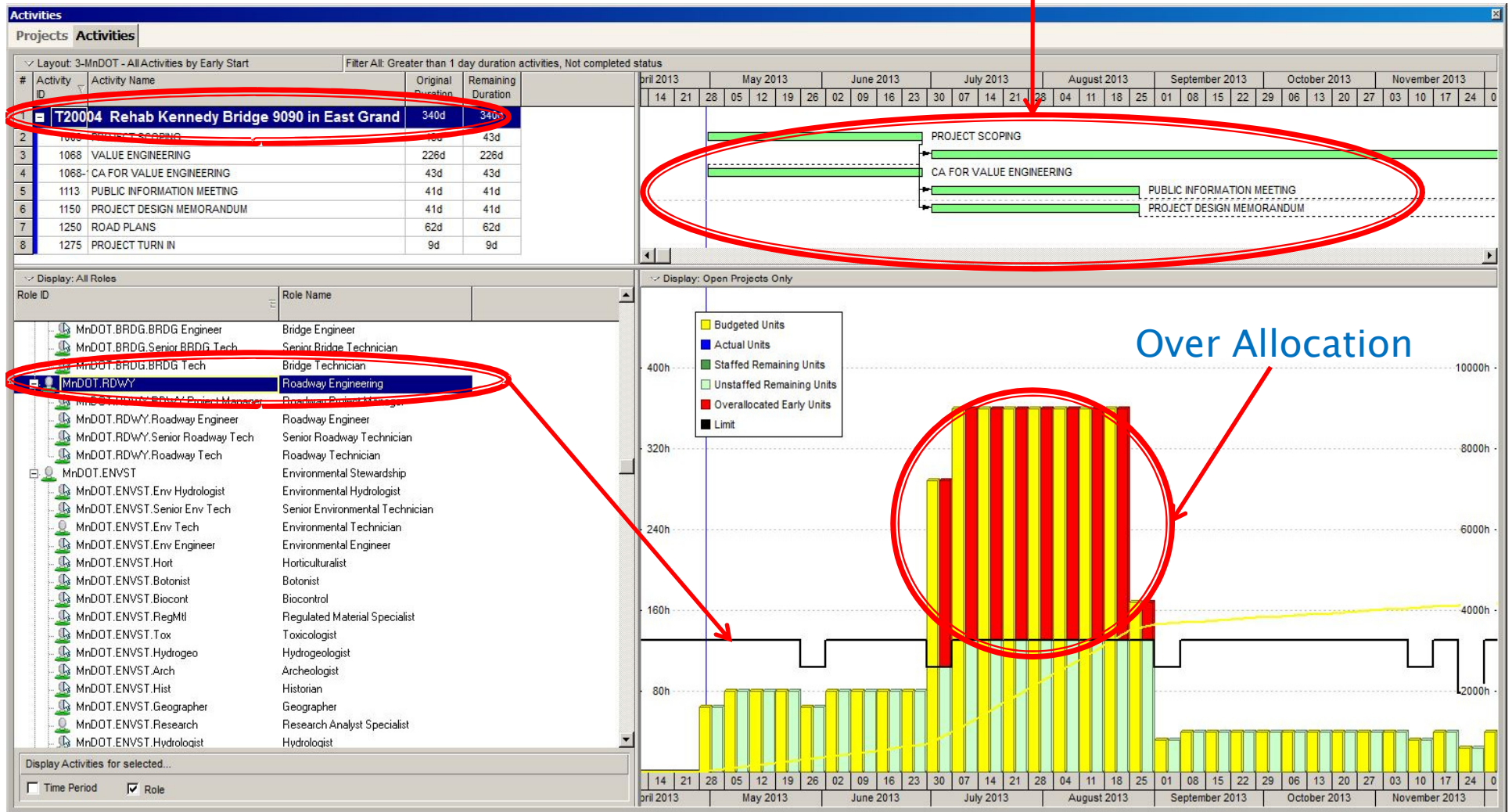
MnDOT Role Loading in P6



Role by Functional Group

- ❖ Specific Project
- ❖ Roadway Engineering
- ❖ Limit Line

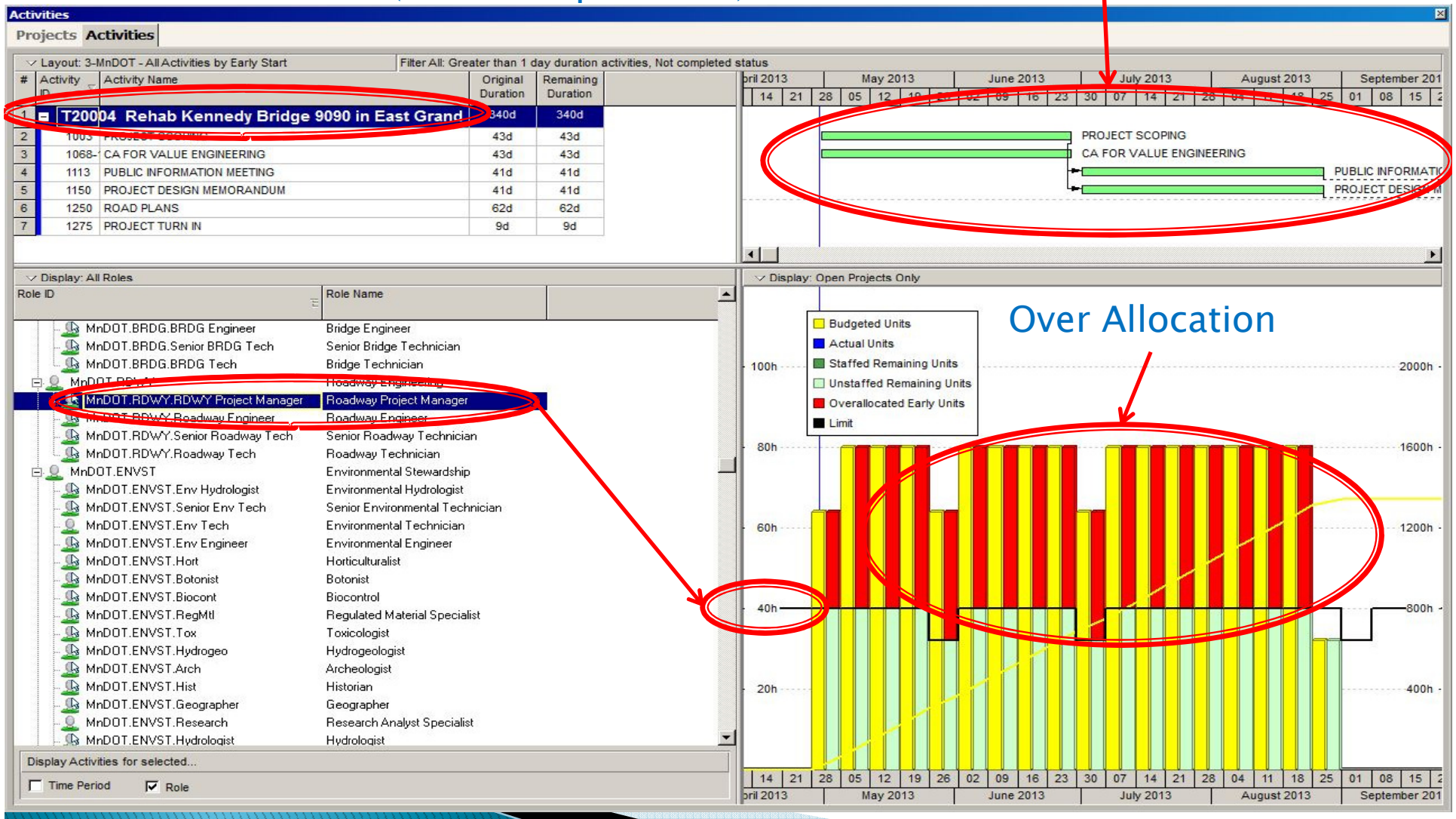
Assigned Activities Only



Specific Role – Roadway Project Manager

- ❖ Specific Project
- ❖ Roadway Project Manager
- ❖ Limit Line (40 Hours per Week)

Assigned Activities Only



Roadway Project Manager Spreadsheet

- ❖ Specific Project
- ❖ Roadway Project Manager

Assigned Activities Only

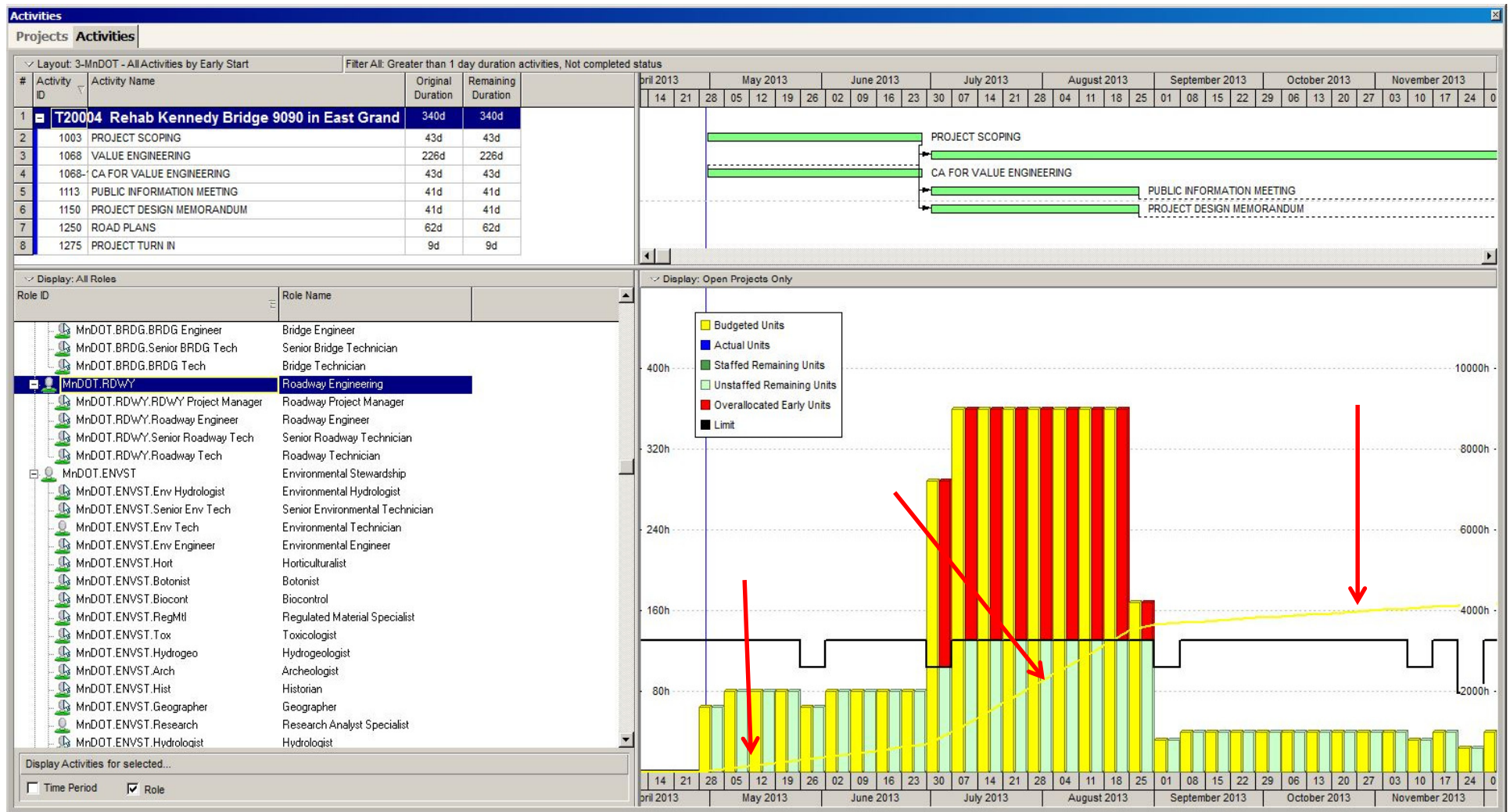
The screenshot displays a project management interface with several key sections:

- Activities Table:** Lists project activities with their IDs and names. The first activity, 'T20004 Rehab Kennedy Bridge 9090 in East Grand', is circled in red.
- Gantt Chart:** Visualizes the project schedule from April to August 2013. The first three activities are highlighted with green bars and circled in red.
- Roles List:** A tree view of roles. The 'MnDOT.RDwY.RDwY Project Manager' role is circled in red.
- Resource Assignments Table:** Shows unit assignments for various roles across months. The 'Roadway Project Manager' row is circled in red, with a red arrow pointing to the value '80' in the May 12th column.

Need another Roadway Project Manager to be assigned the activities to remove Over Allocation

Role by Functional Group

❖ P6 Produces a “Curve” for the Roles



Shared Service Center Support

Jacob Rezac is in charge of District

jacob.rezac@state.mn.us

Region – 1

Region – 2

Region – 3

Region – 4

Matthew Rottermond is in charge of Districts

matthew.rottermond@state.mn.us

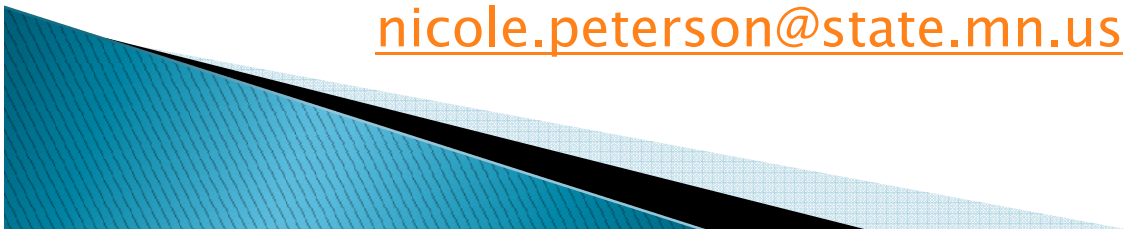
Region – 6

Region – 7

Region – 8

Nicole Peterson is in charge of Metro (5&9)

nicole.peterson@state.mn.us





Questions or Comments

Tom Wiener

thomas.wiener@state.mn.us

MnDOT Project Management Office

651-366-4239

Peter Harff

peter.harff@state.mn.us

MnDOT Project Management Office

507-514-1095

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

Next Webinar: Wednesday, May 22, 2013

Time: 1:00 p.m.

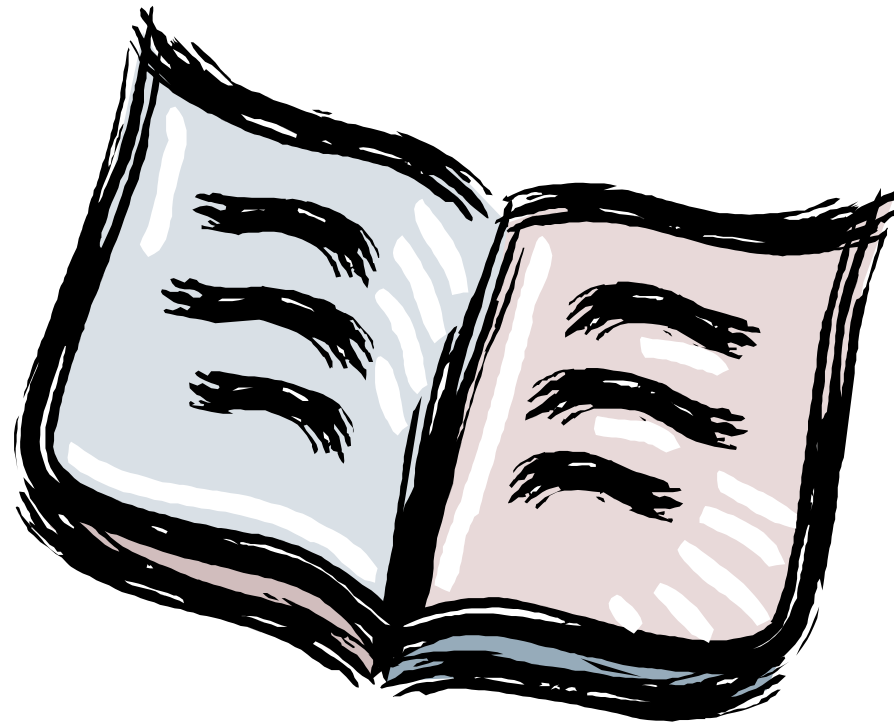
Topic:

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.

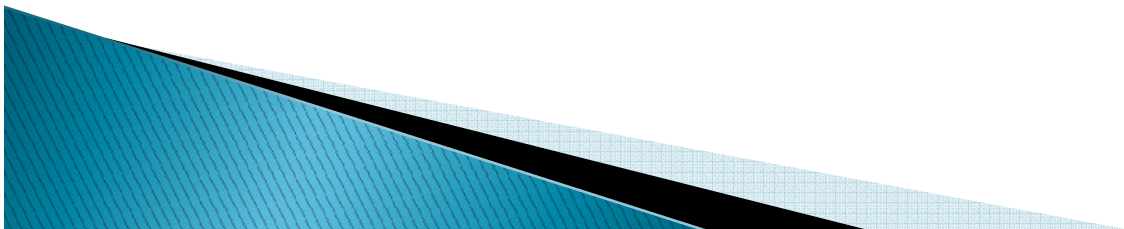
Actual Quantity - The amount of a resource used to date.

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.

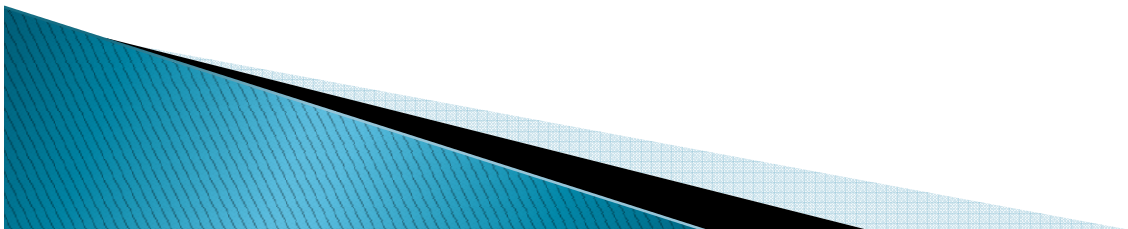
Critical Path Method (CPM) - The calculation of the earliest and latest start and finish dates of activities based on their duration and relationships to other activities.

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.

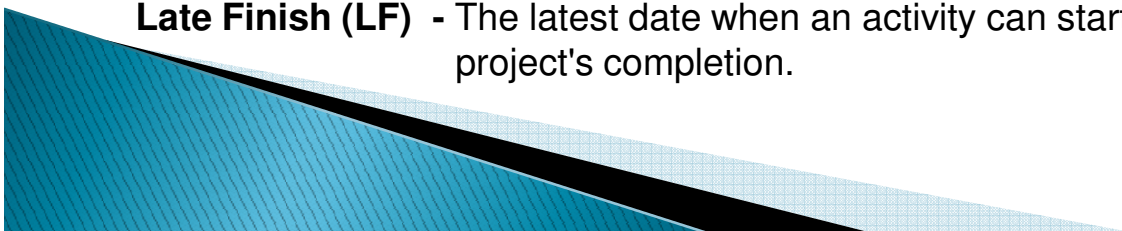
Float - The amount of time that the start or finish of an activity can be delayed without affecting the project finish date.

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.

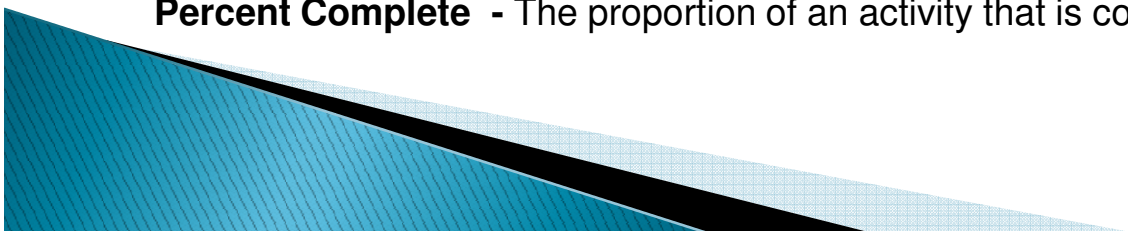
Network - The series of activities required to complete a project.

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.

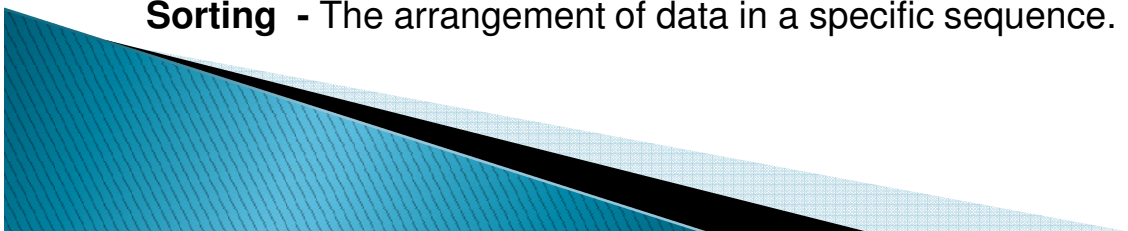
Schedule - A list of the activities needed to complete a project, along with their start and finish dates.

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.

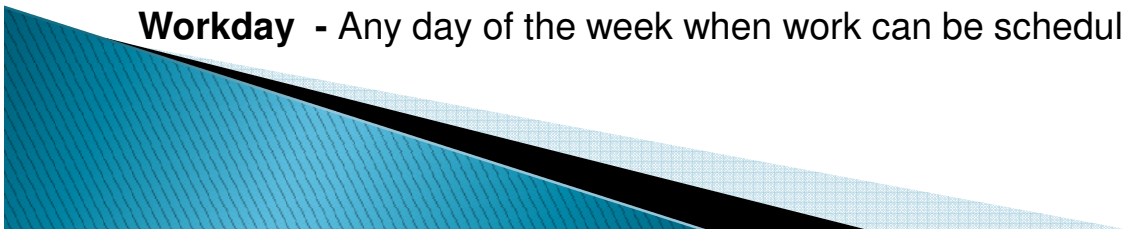
Total Float (TF) - The total number of days that the start or finish of an activity can be delayed without affecting the project finish date. Float can be negative, zero, or positive.

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.

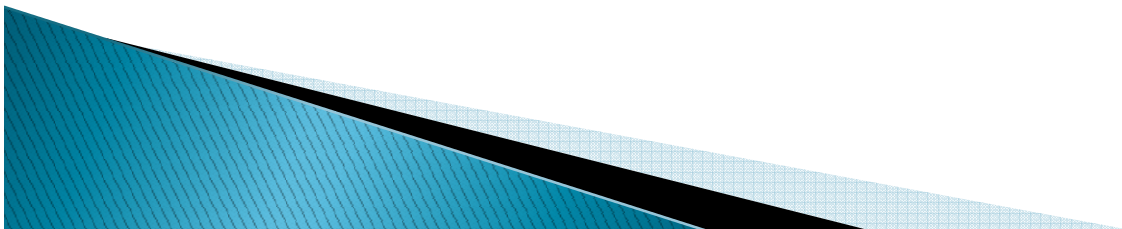
Workday - Any day of the week when work can be scheduled.



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

