MnDOT Project Management Office Presents:

Roles & Resource Management

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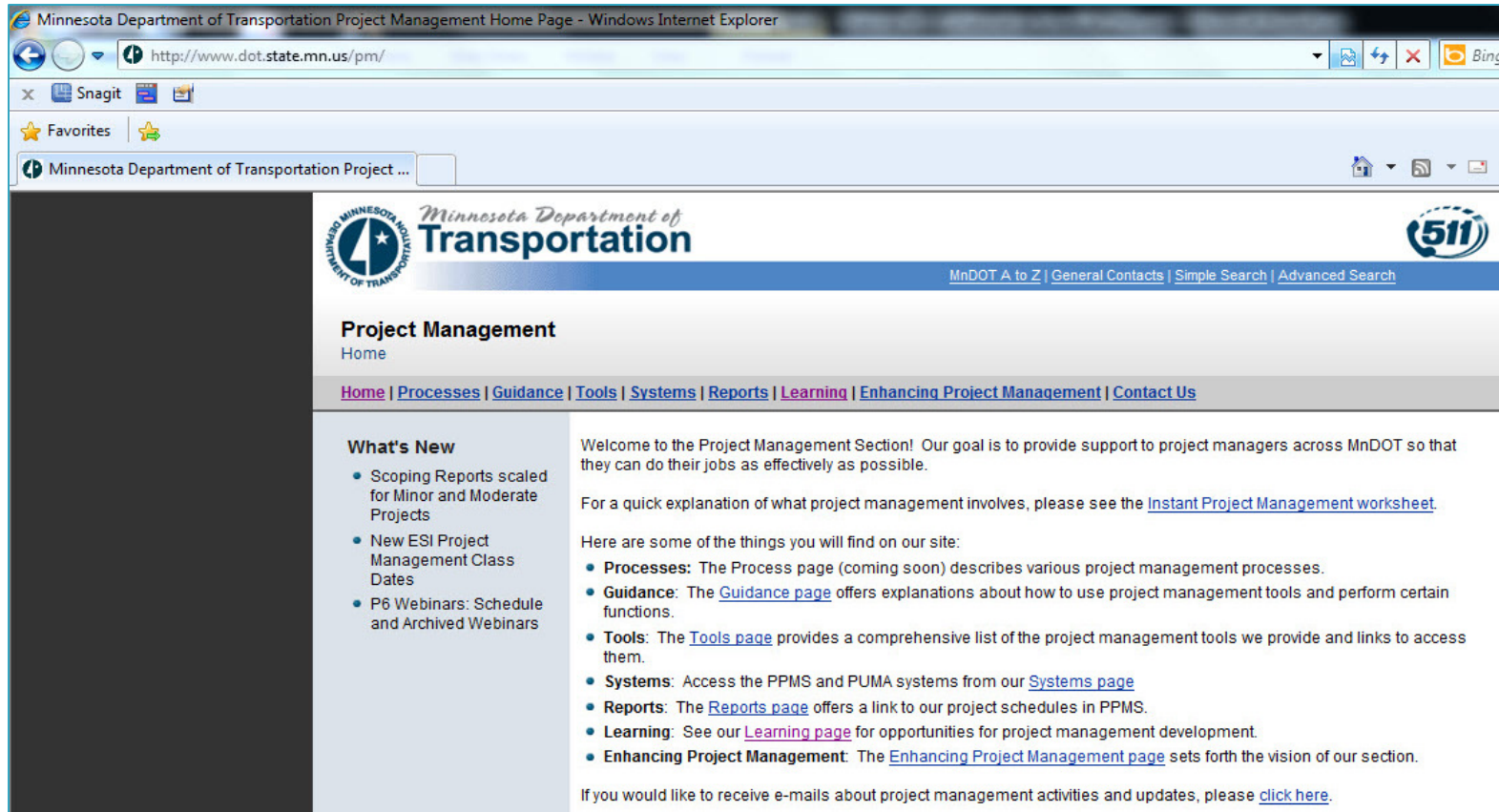
Housekeeping Items

❖ Lines will be muted during the webinar

❖ Questions can be submitted thru the GoToWebinar Questions box on right of your screen and posted on webiste 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 webiste 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

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

❖ Click on the "Learning" link
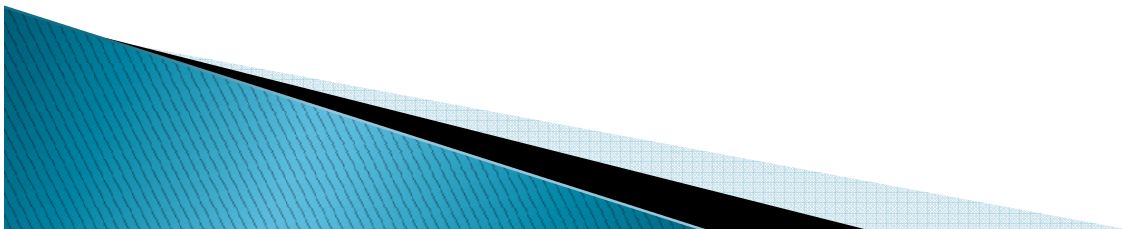
MnDOT Webinars

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 resonable accomodations 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
- View this Presentation (24:37, WMV 24MB)
- View Slides (PDF 11MB)
- View Script (Word 19KB)

Schedule Updates   April 24, 2013
- View this Presentation (33:30, WMV 41MB)
- View Slides (PDF 3 MB)
- View Script (Word 23KB)

Project Reporting   May 1, 2013
- View this Presentation (32:48, WMV 53 MB)
- View Slides (PDF 7 MB)
- View Script (Word 26KB)

Impact Schedules   May 8, 2013
- 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
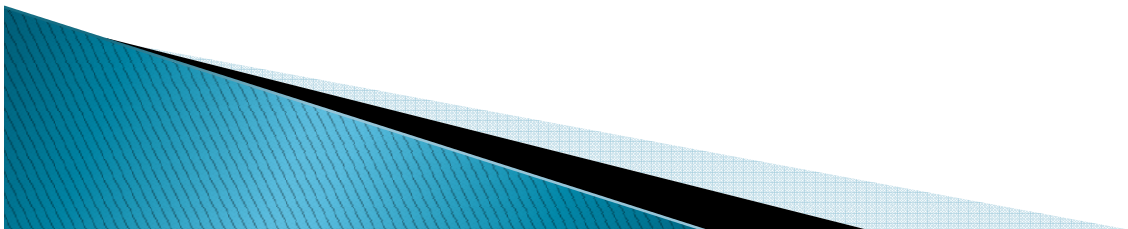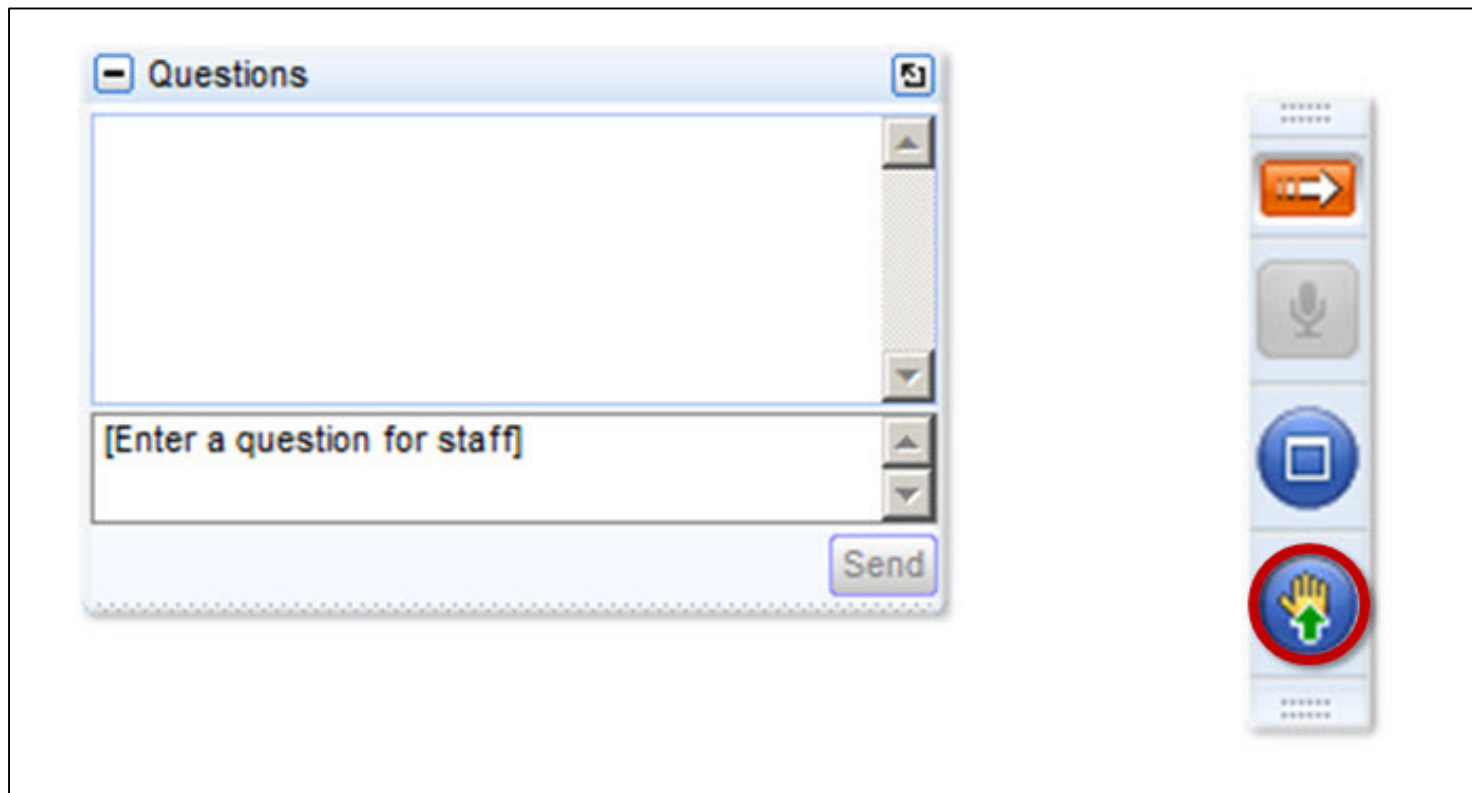
MnDOT Webinars
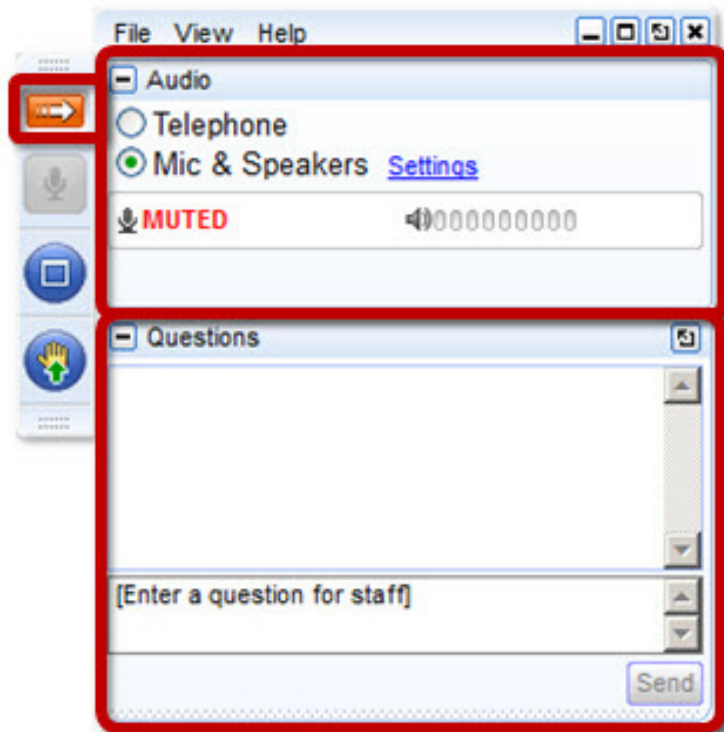
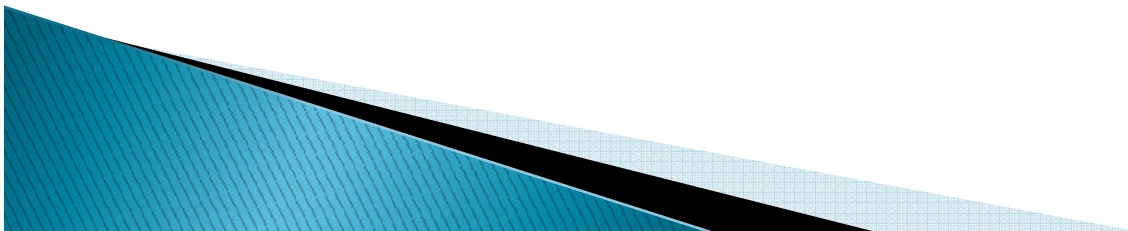# Submit Webinar Questions

Raise Hand for Question
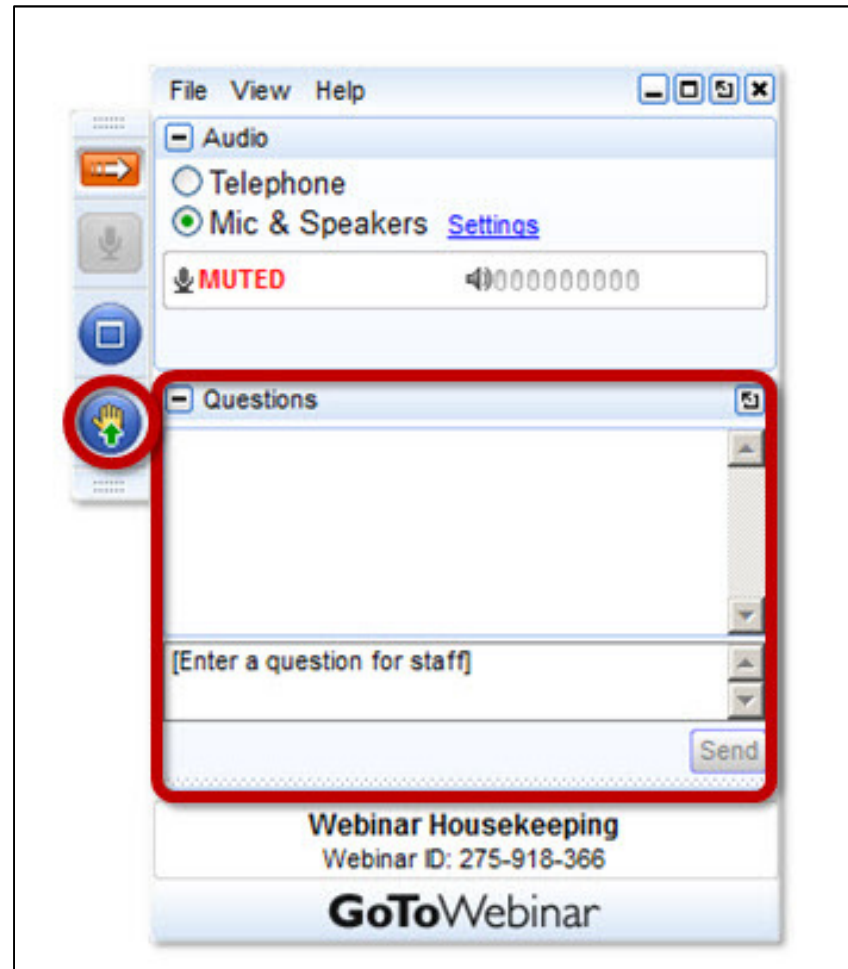
Roles & Resource Management

> ▸ 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

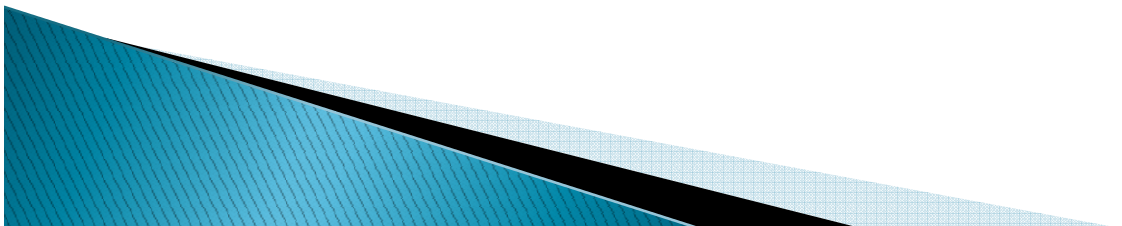Role: A job title or skill needed to complete and activity.

Resource: The specific individual used to complete the activity

Project Manager

Tim Harris

Relationship Between Roles and Resources

<u>Roles Dictionary</u>

	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
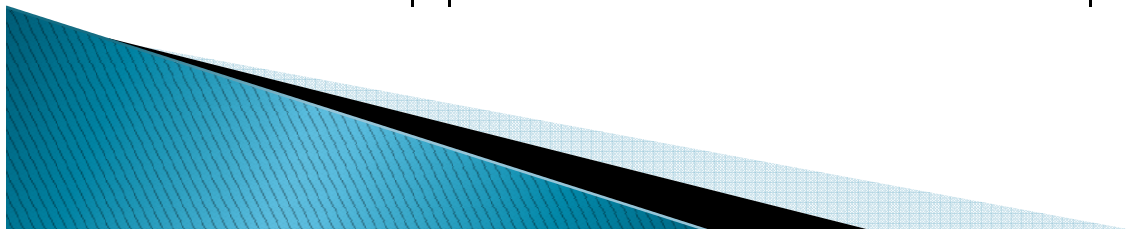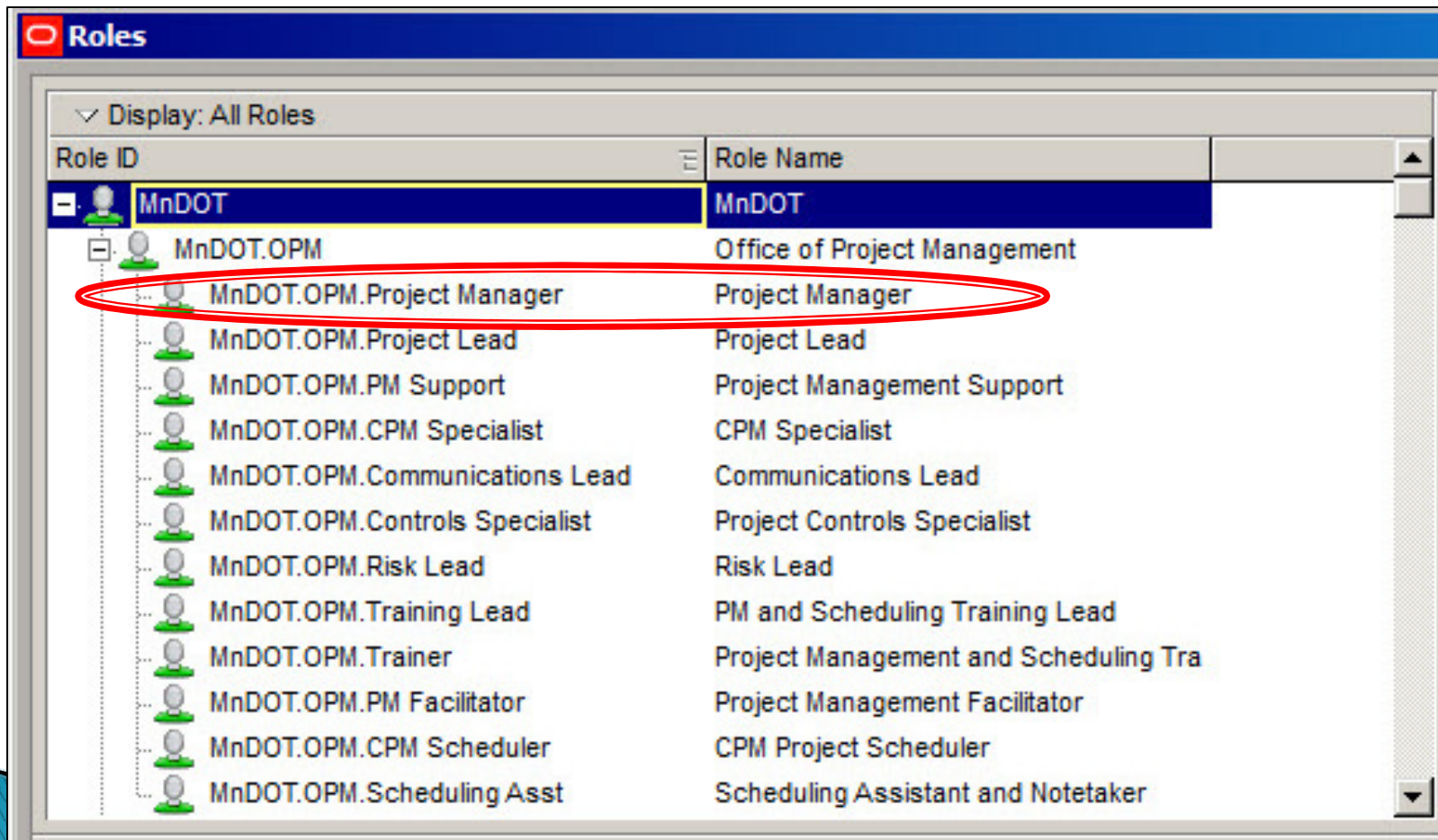
Roles and Resources

1. Define resource name, description, cost, roles, and attributes in the resource dictionary.

Dictionary
Resource
Roles
Primary Role
Max Units/time
Rates

2. Assign the Resource to activities.

Activity A

3. Use the Resource Usage Spreadsheet or Resource Usage Profile to analyze resource allocation.
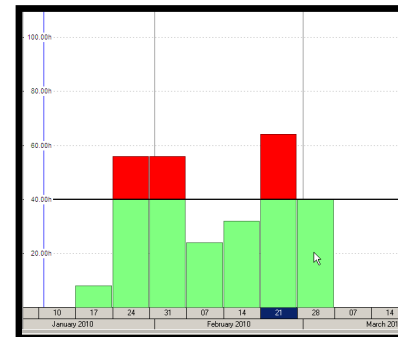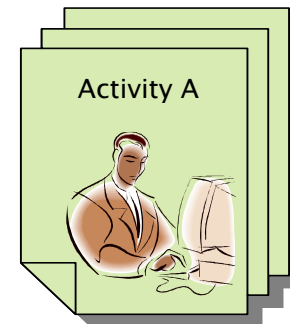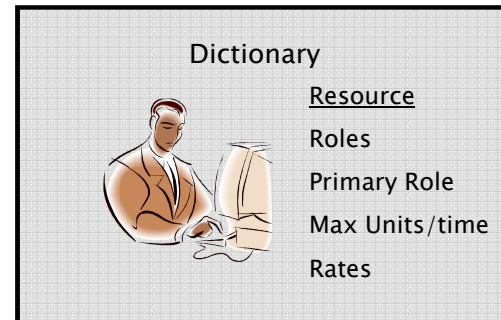
Role Dictionary in P6

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

Resource Loading Schedules in P6

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

Role Loading Activities

❖ Roles are assigned to activities in the schedule.

Resource Loading Activities

❖ Resources are assigned to activities in the schedule.

MnDOT Role Loading in P6

Role by Functional Group

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

Assigned Activities Only

Over Allocation
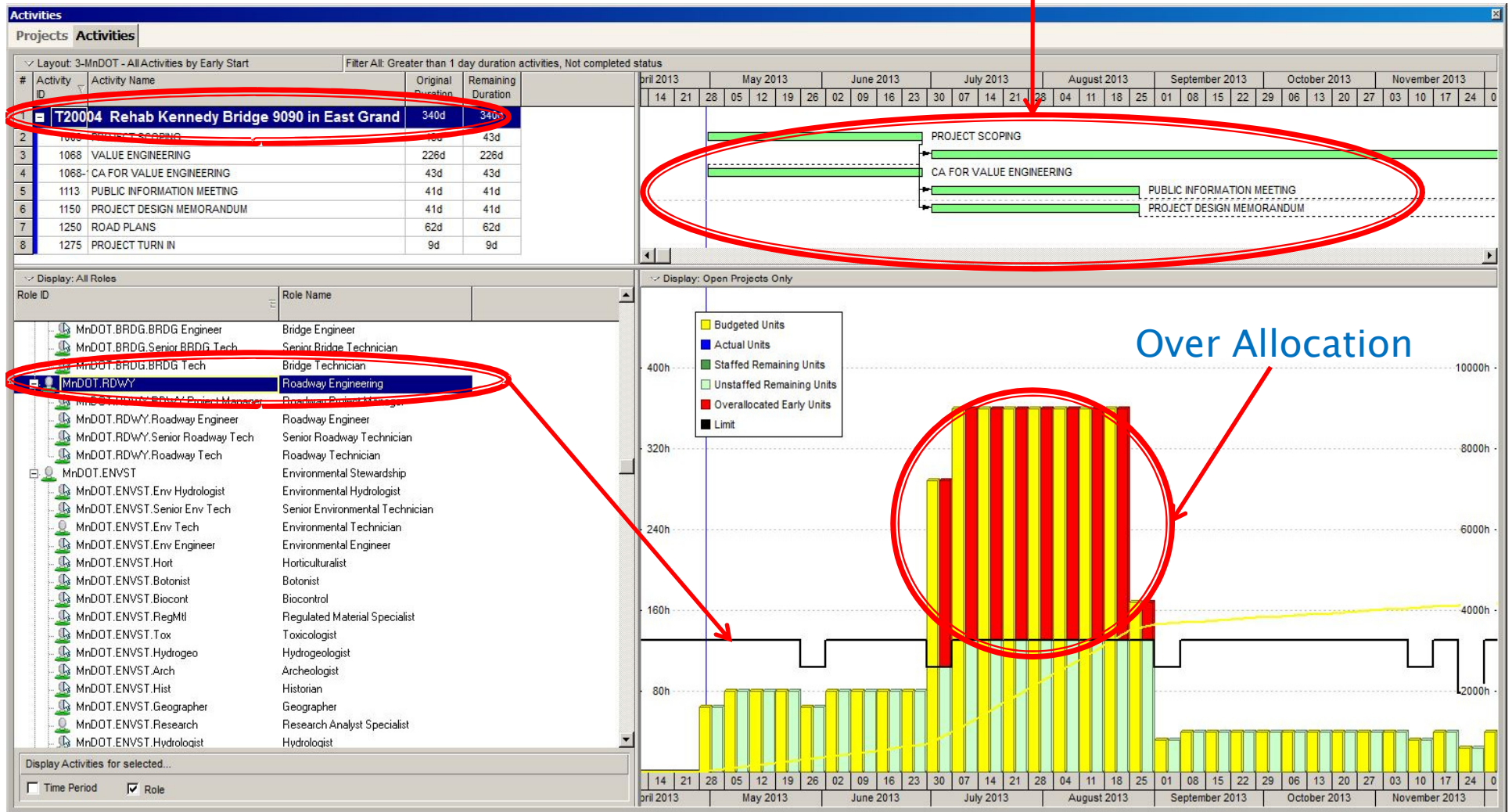
Specific Role – Roadway Project Manager

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

Assigned Activities Only

Over Allocation
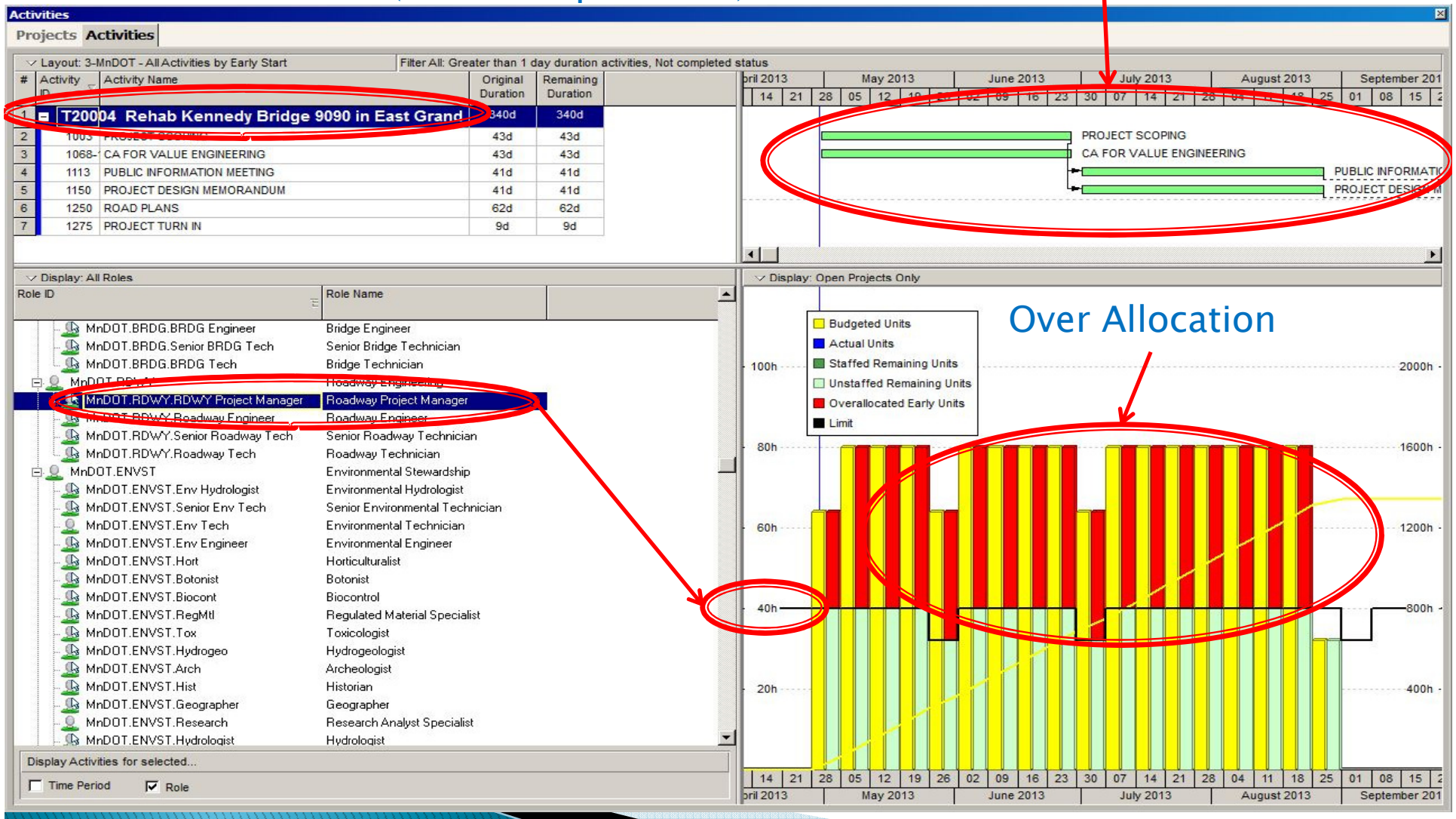
Roadway Project Manager Spreadsheet

- ❖ Specific Project
- ❖ Roadway Project Manager

Assigned Activities Only

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
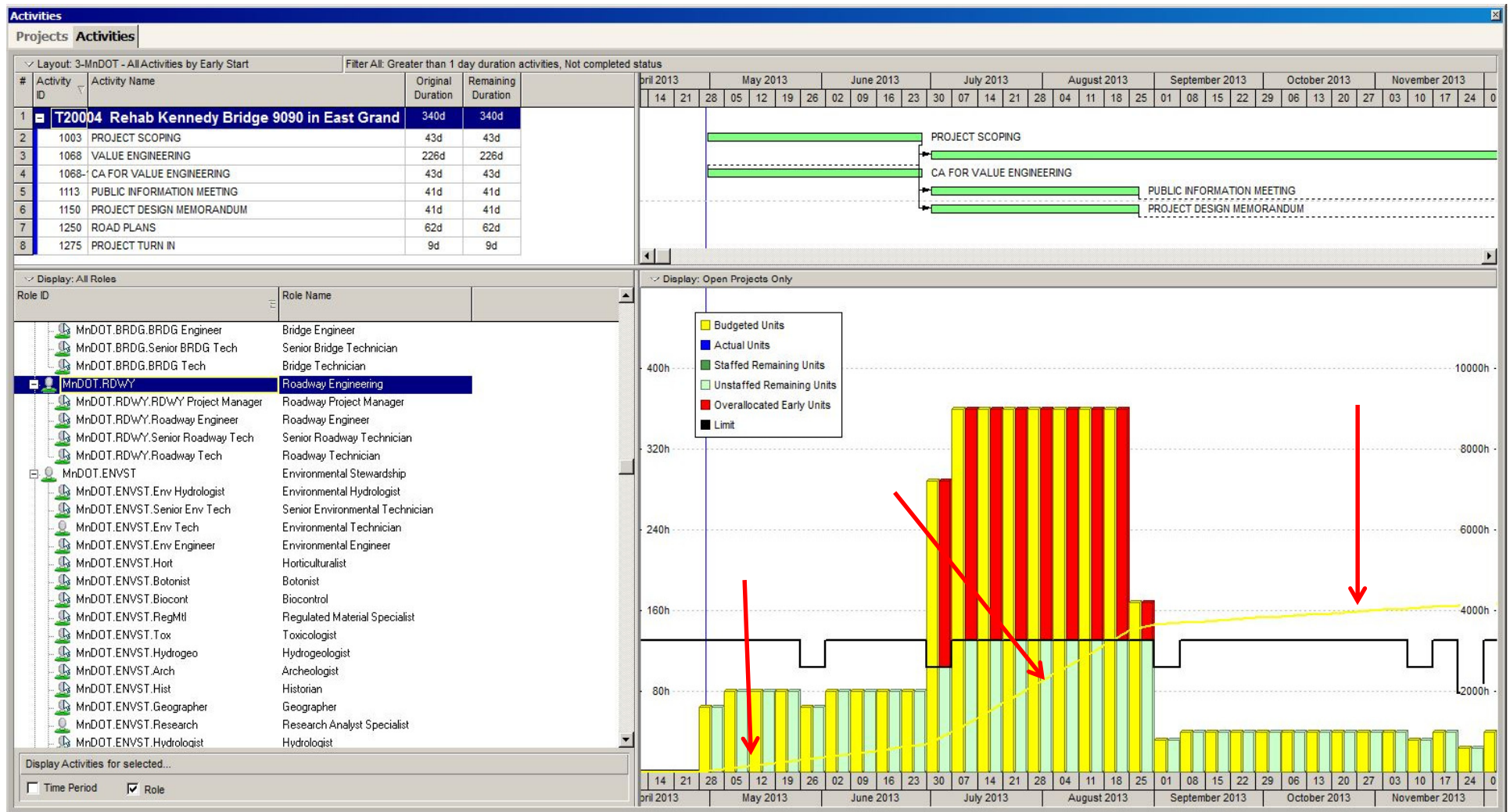
Shared Service Center Support

Jacob Rezac is in charge of District
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 Region – 2
 Region – 3
 Region – 4

Matthew Rottermond is in charge of Districts
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 Region – 6
 Region – 7
 Region – 8

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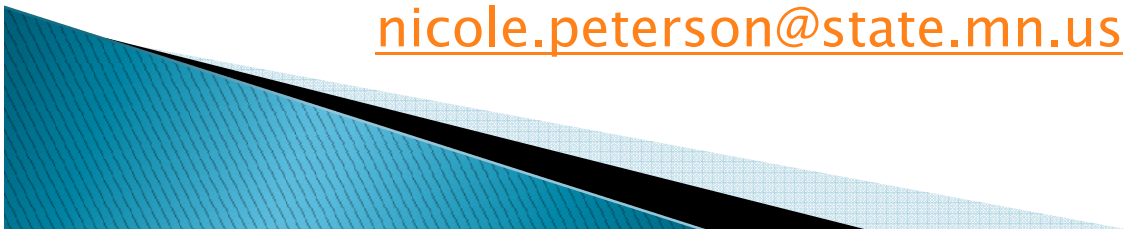
Questions or Comments

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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
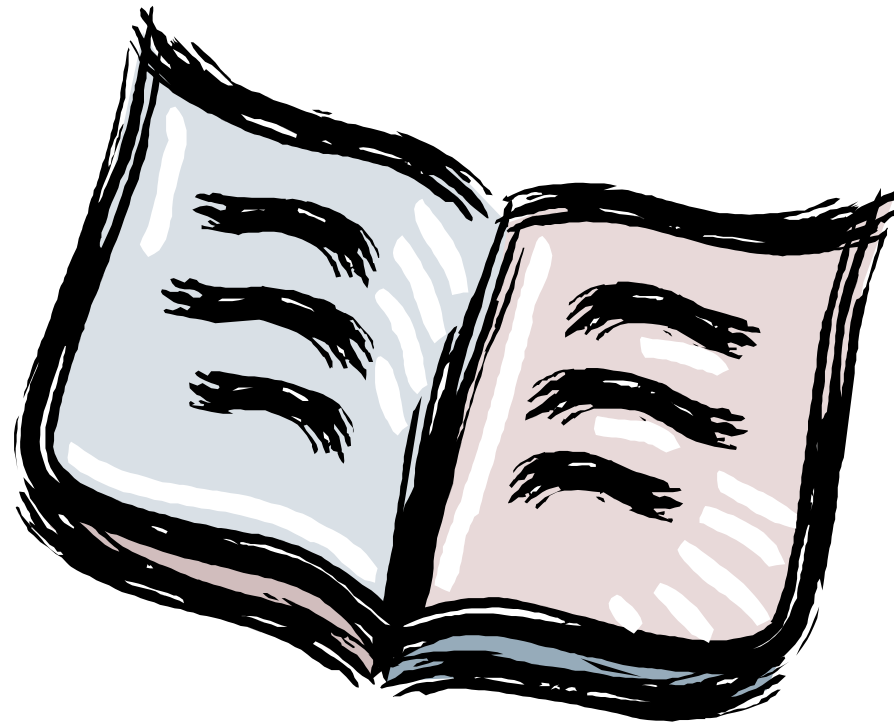
Glossary of CPM Terms

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

Activity Codes - Values assigned to project activities to organize then 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.
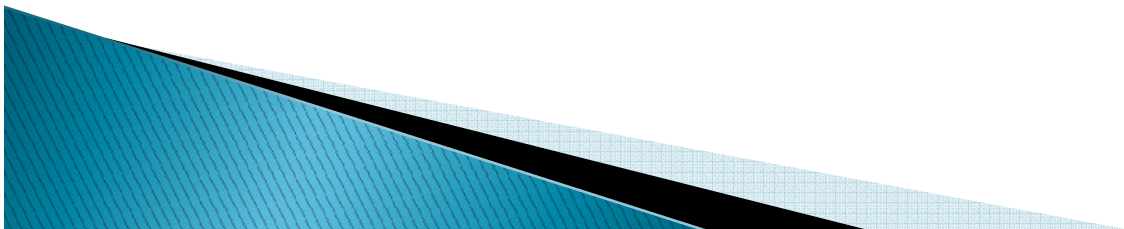
Glossary of CPM Terms

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.
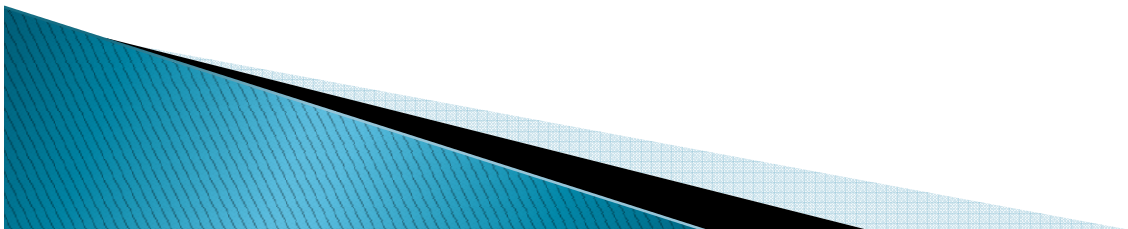
Glossary of CPM Terms

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.
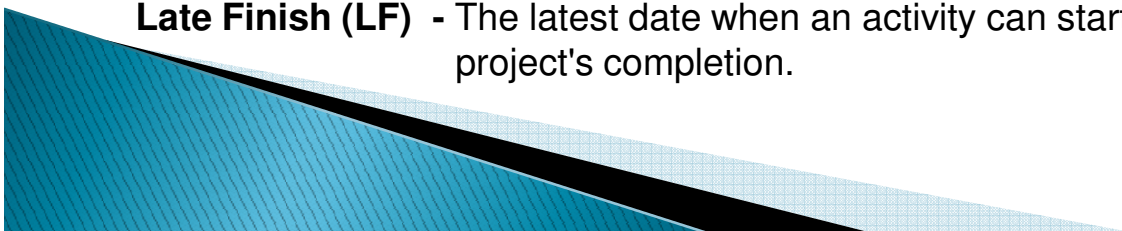
Glossary of CPM Terms

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.

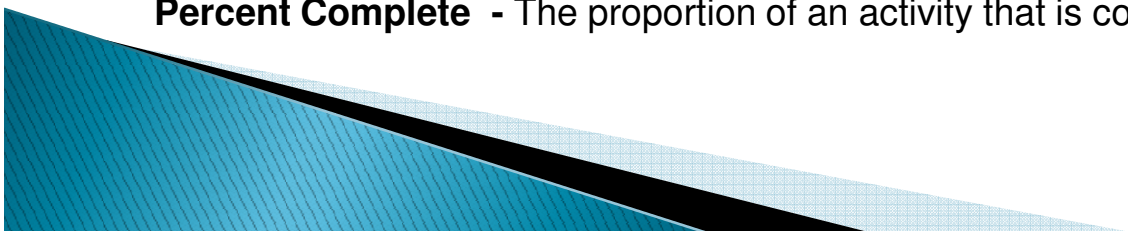**Predecessor -** An activity that must logically occur before another activity.

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.
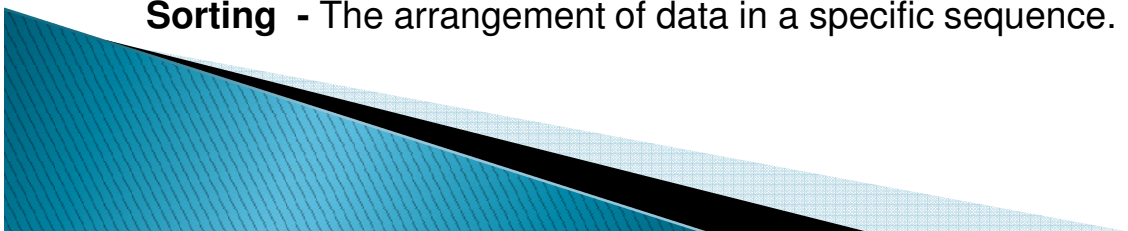
Glossary of CPM Terms

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.
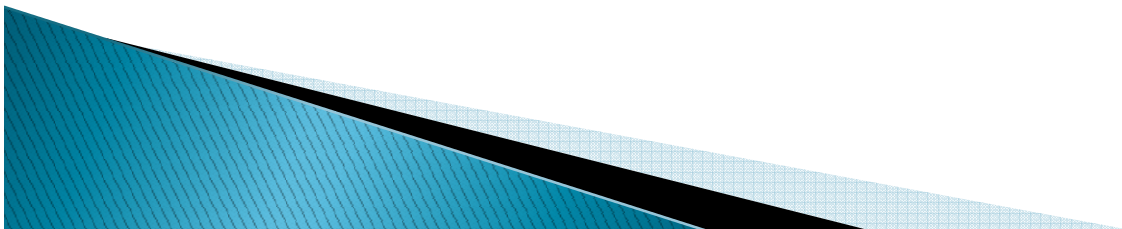
Workday - Any day of the week when work can be scheduled.
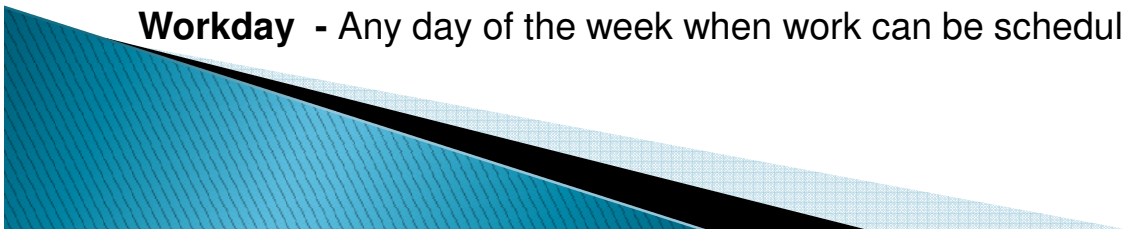
MnDOT Goals Going Forward

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