



MnDOT Project Management
Office Presents:

Risk Management

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

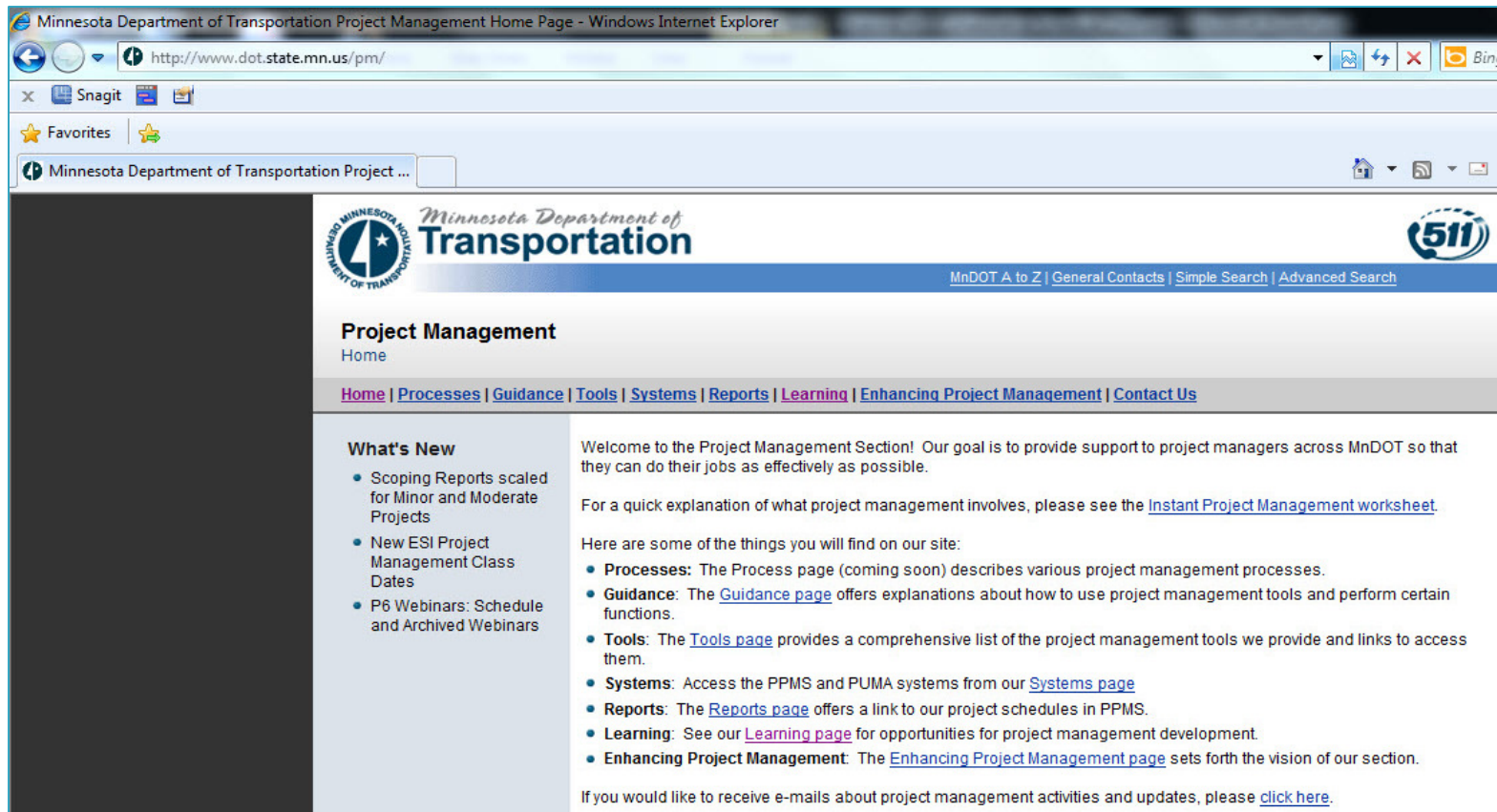
Housekeeping Items

- ❖ 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](#).

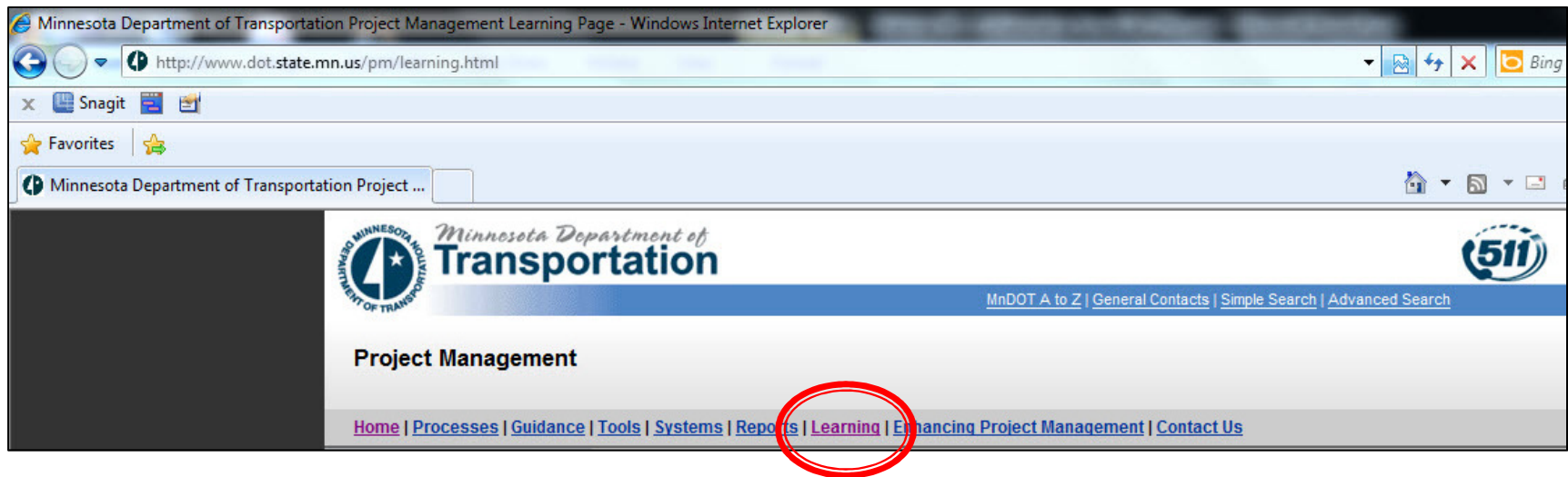
Here are some of the things you will find on our site:

- **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.

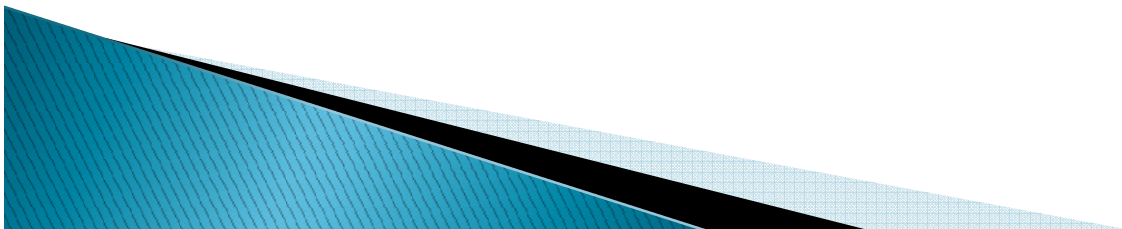
If you would like to receive e-mails about project management activities and updates, please [click here](#).

MnDOT Webinars

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



❖ Click on the “Learning” link



MnDOT Webinars

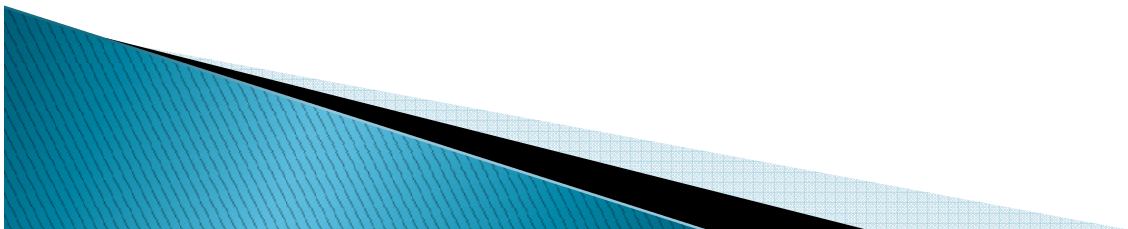
Primavera P6 Webinars: Each webinar will start at 1:00 p.m. and last 1/2 hour. Click the links below to register for a session. After each webinar, a recording will be made available from this page. [Live questions](#) (PDF 2MB) can also be submitted by attendees during each webinar.

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).

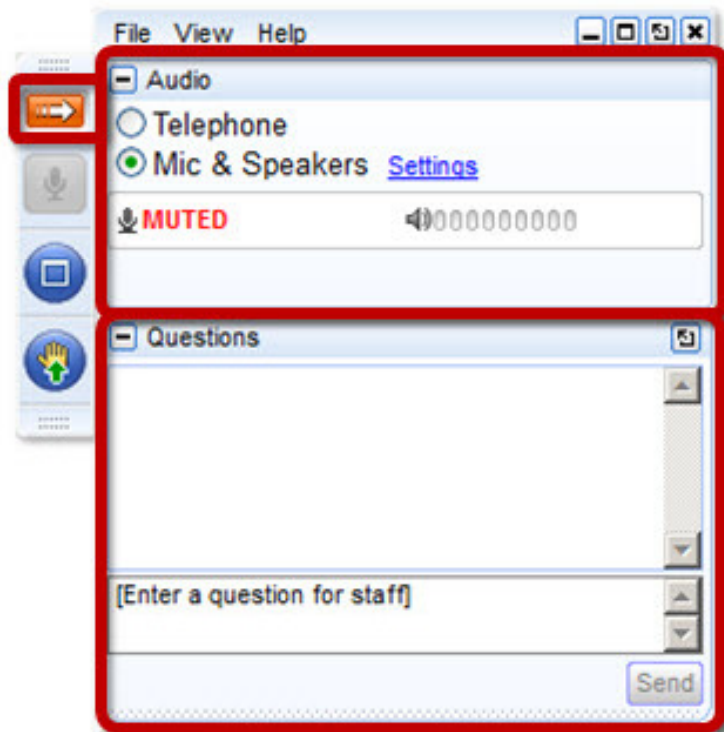
Project Reporting	May 1, 2013	
<ul style="list-style-type: none">• View this Presentation (32:48, WMV 53 MB)• View Slides (PDF 7 MB)• View Script (Word 26KB)		
Impact Schedules	May 8, 2013	
<ul style="list-style-type: none">• View this Presentation (28:18, WMV 23MB)• View Slides (PDF 3MB)• View Script (Word 25KB)		
MnDOT use of Calendars in Primavera P6	May 15, 2013	
<ul style="list-style-type: none">• View Presentation (32:09, 109 MB)• View Slides (PDF 8MB)		
Role and Resource Loading in P6		
<ul style="list-style-type: none">• View Presentation (33:12, 110 MB)• View Slides (PDF 9MB)		
Roles and Resource Management	May 22, 2013	
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

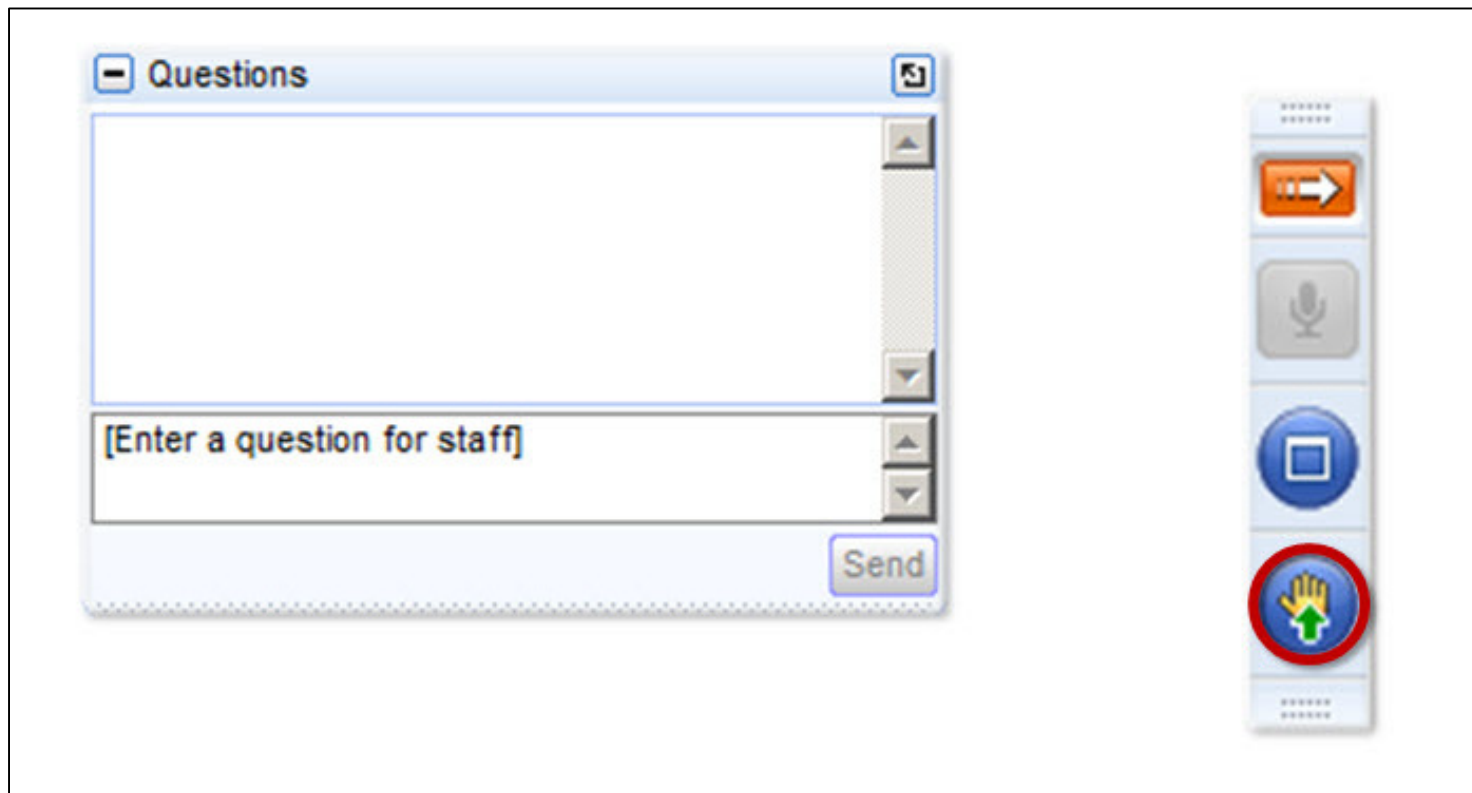
Open and hide your control panel

Join audio:

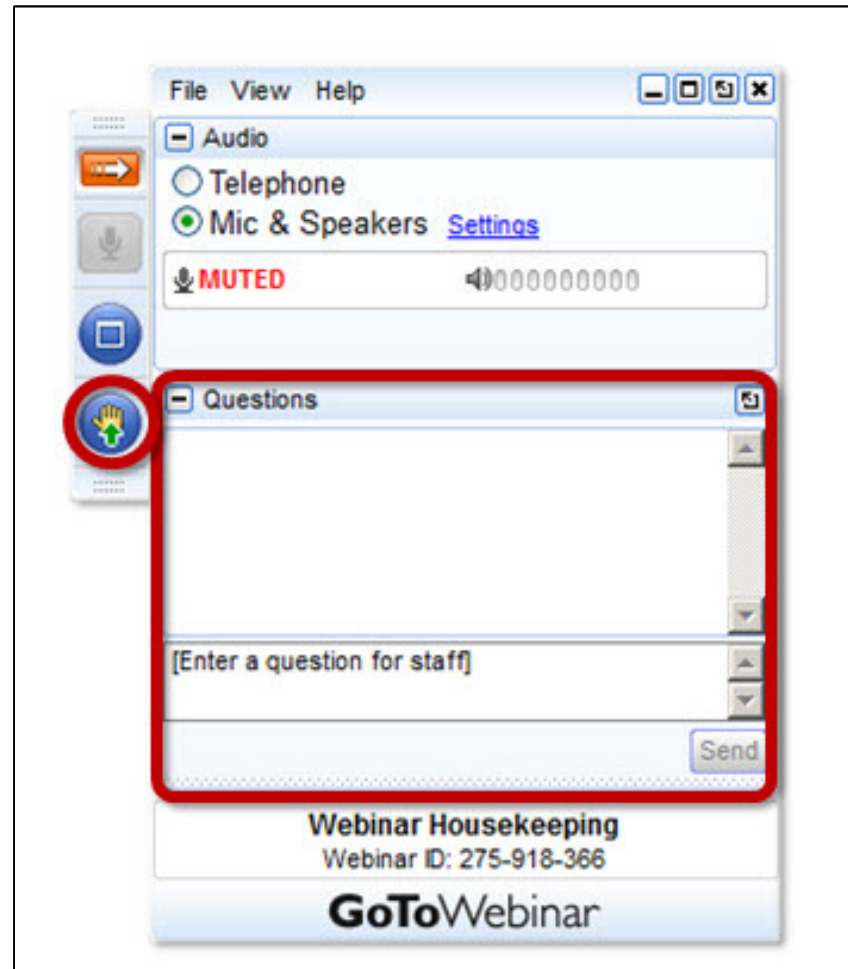
- Choose "Mic & Speakers" to use VoIP
- Choose "Telephone" and dial using the information provided

Submit questions and comments via the Questions panel

Submit Webinar Questions

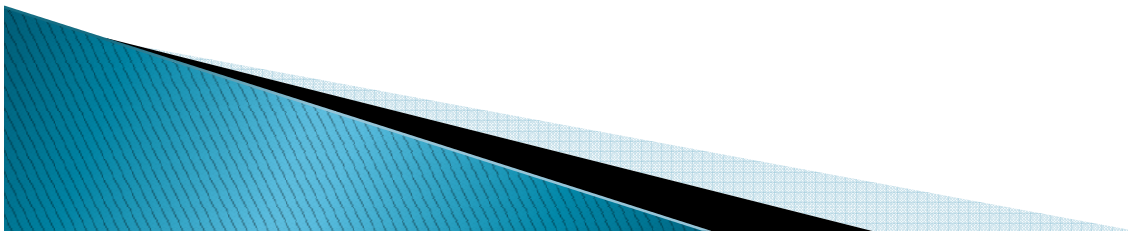


Raise Hand for Question



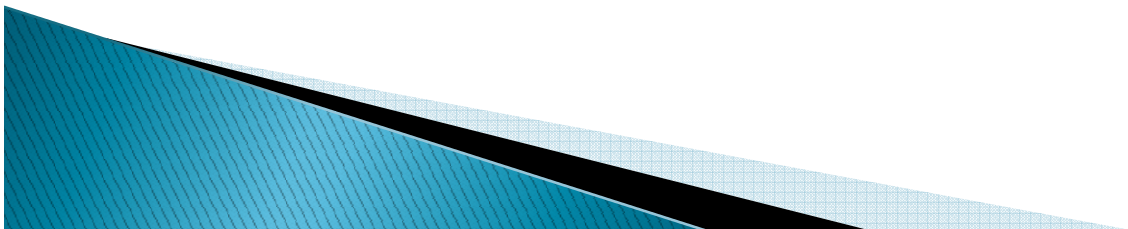
Webinar Abstract

See how Risk Management is being applied to schedules to accurately capture risk scores and uncertainty ranges on project schedules.



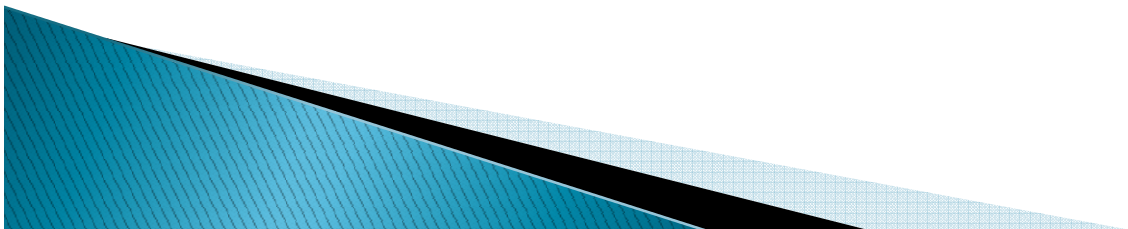
What is “Risk Management”

- ❖ Every project has risks. The organizations that succeed are the ones that plan for those risks—anticipating, mitigating, and providing response and contingency plans for negative events that may or may not occur.



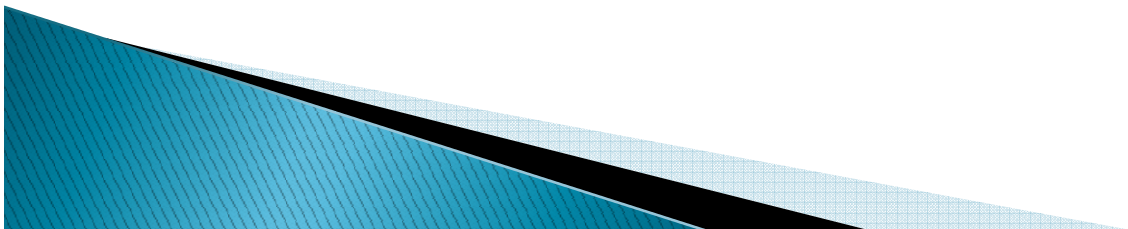
What is “Risk Management”

- ❖ Risks are uncertain events/conditions that have the potential to negatively (or positively) impact project objectives.
- ❖ MnDOT is using an integrated Risk Management feature that enables Project Managers to identify, categorize and prioritize risks, assign a responsible person for managing the risk, assign risks to one or more activities that may be impacted by the risk, and conduct qualitative analysis on each risk.
- ❖ A “Risk Score” based on information that is entered for each risk. The “Risk Score” can then be used to help you evaluate the significance of the risk



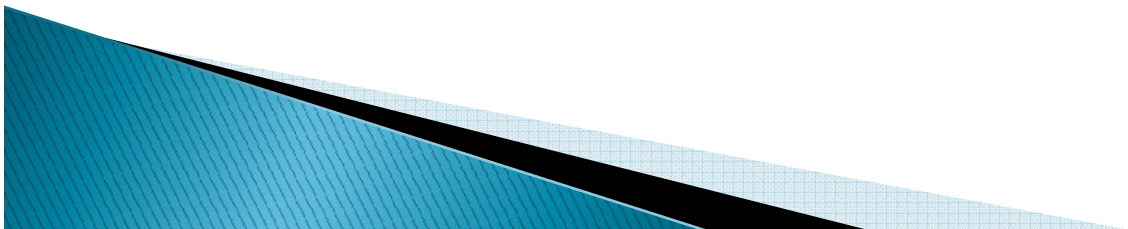
Levels of “Risk Management”

- ❖ Different project types and their associated type of Risk.
 - ❖ Minor Projects – identify risks.
 - ❖ Moderate Projects – risk register, risk responses, adding cost and schedule contingencies.
 - ❖ Major Projects – risk workshops, monte carlo simulations on cost and schedule and use results for contingencies.



Approaches to Schedule Contingency

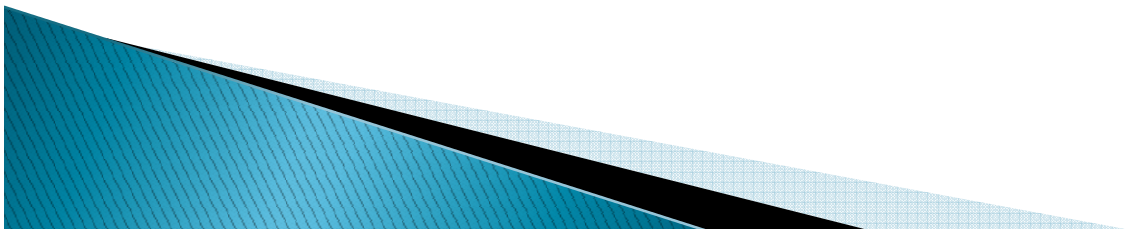
- ❖ Different approach types and Contingency for projects
 - ❖ Contingent activities (e.g. eminent domain, Phase 2 Environmental Site Assessment)
 - ❖ Durations that allow for maximum legal response times (e.g. FHWA reviews, Corps of Engineers Permits)
 - ❖ Buffer activities (e.g. at end of pre-design, at end of final design)



Project Risk Information

❖ Risk Register

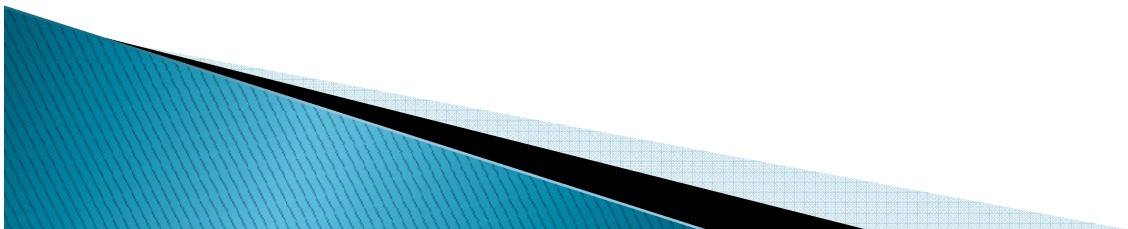
- ❖ Risk Identification – Identify the Risk and give description
- ❖ Risk Assessment – What is the impact/exposure of Risk
- ❖ Risk Response – Response type and who is responsible
- ❖ Risk Monitoring – Comments and Dates



Project Risk Information

❖ Issue List

- ❖ Issue Identification – Name/Dates/Status
- ❖ Assessment & Response – Planned Response and owner
- ❖ Monitoring – Comments and dates



Risk Register – Probability

Probability

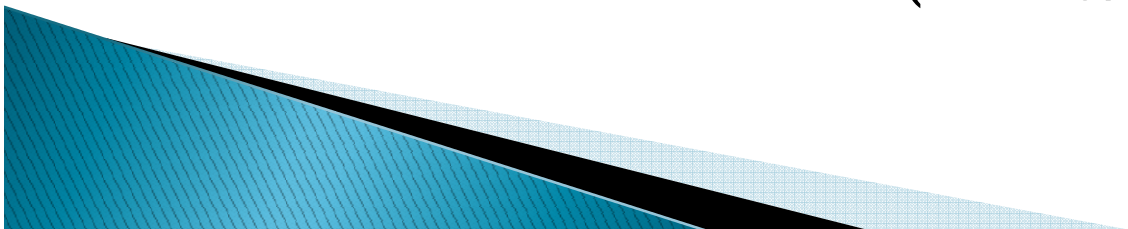
5 – H (>60%)

4 – M (>40%)

3 – L (>20%)

2 – VL (>10%)

1 – EL ($\leq 10\%$)



Risk Register – Cost

Cost

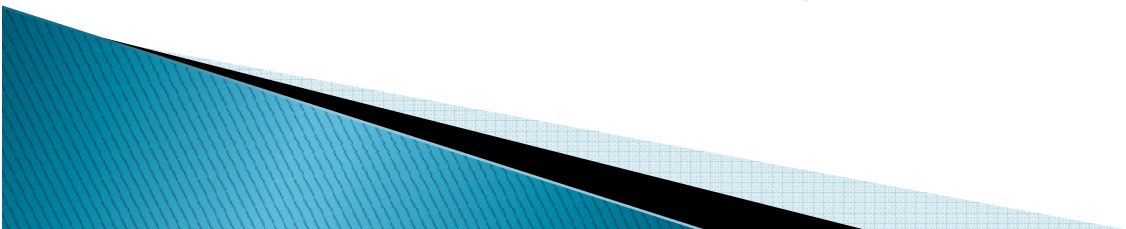
5 – H ($> \$5000000$)

4 – M ($> \$2000000$)

3 – L ($> \$500000$)

2 – VL ($> \$250000$)

1 – EL ($\leq \$250000$)



Risk Register – Schedule

Schedule

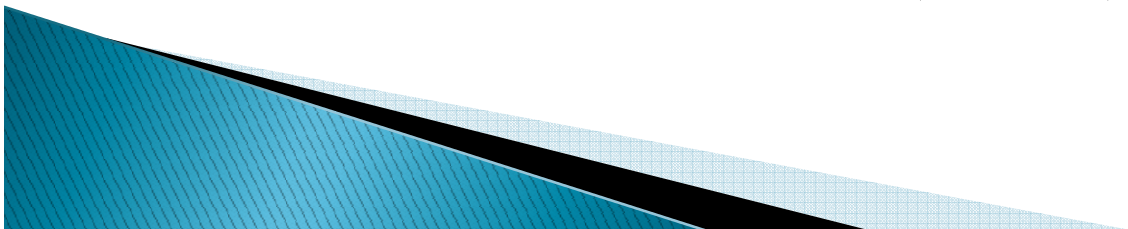
5 – H (>40d)

4 – M (>20d)

3 – L (>10d)

2 – VL (>5d)

1 – EL (\leq 5d)

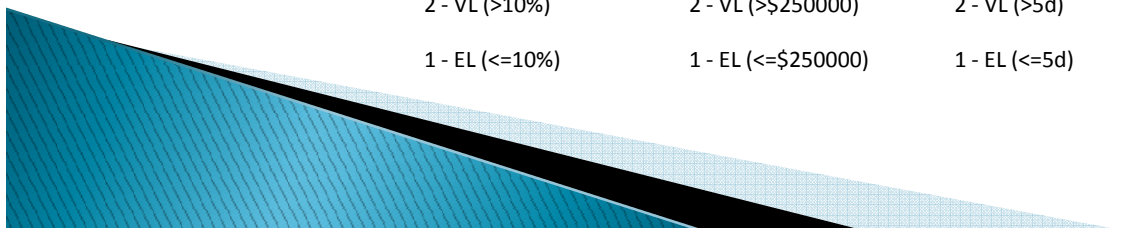


Project Risk Information

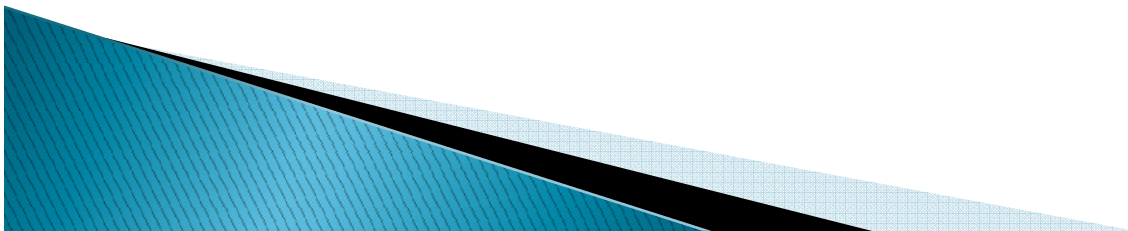
❖ Status – Active or Resolved

Score	1	2	3	4	5
Probability	0	10	20	40	60
Schedule Impact	0	5	10	20	40
Cost Impact	0	250000	500000	2000000	5000000
Public Response Impact	individual concerns	group concerned	Significant local opposition	Significant high-level opposition	Project likely to be terminated

5 - H (>60%)	5 - H (>\$5000000)	5 - H (>40d)
4 - M (>40%)	4 - M (>\$2000000)	4 - M (>20d)
3 - L (>20%)	3 - L (>\$500000)	3 - L (>10d)
2 - VL (>10%)	2 - VL (>\$250000)	2 - VL (>5d)
1 - EL (<=10%)	1 - EL (<=\$250000)	1 - EL (<=5d)



MnDOT Project Risk Excel Sheet



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

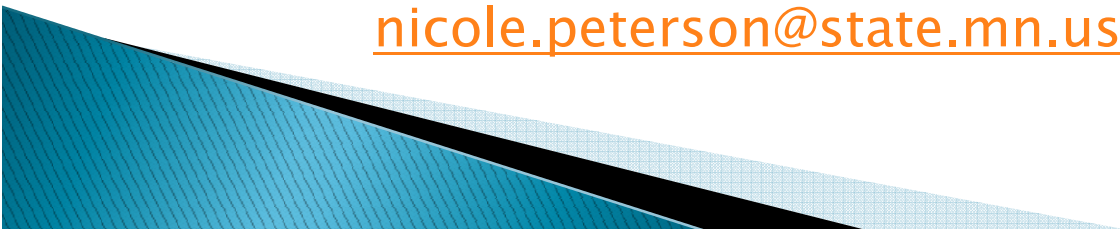
Region – 6

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 05, 2013

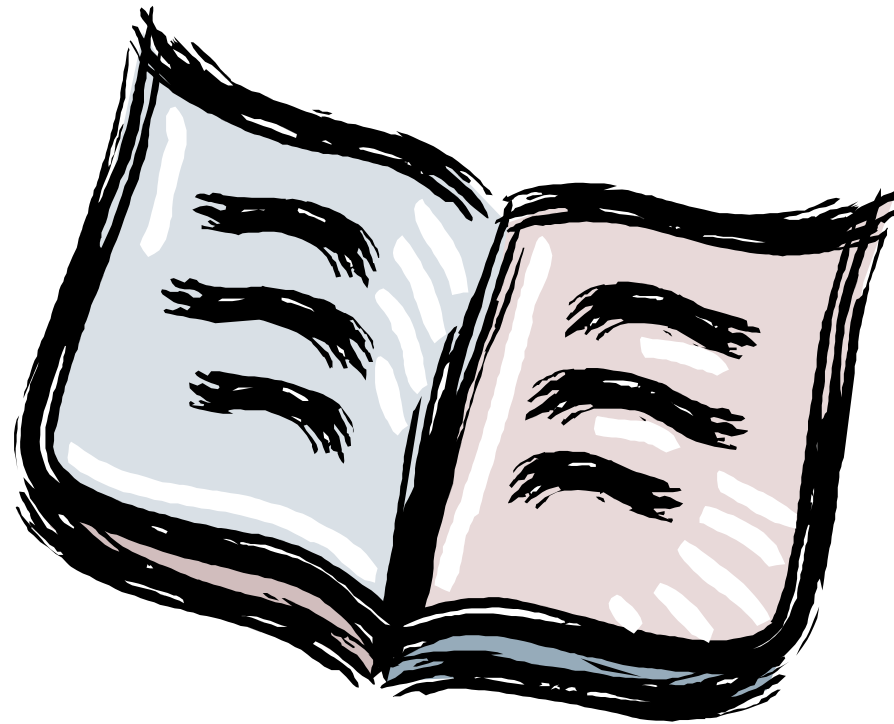
Time: 1:00 p.m.

Topic: Views and Layouts 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.

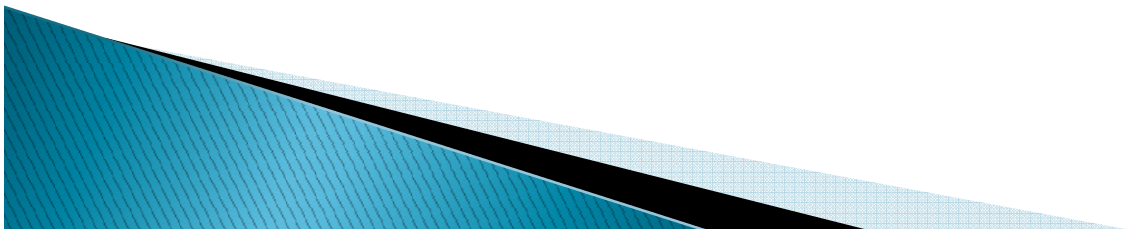
Actual Quantity - The amount of a resource used to date.

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.

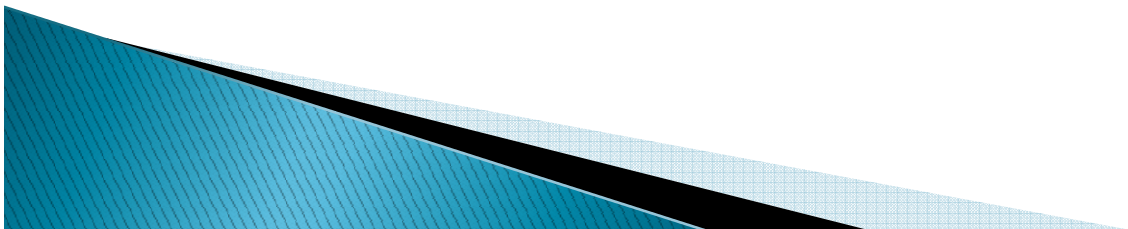
Critical Path Method (CPM) - The calculation of the earliest and latest start and finish dates of activities based on their duration and relationships to other activities.

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.

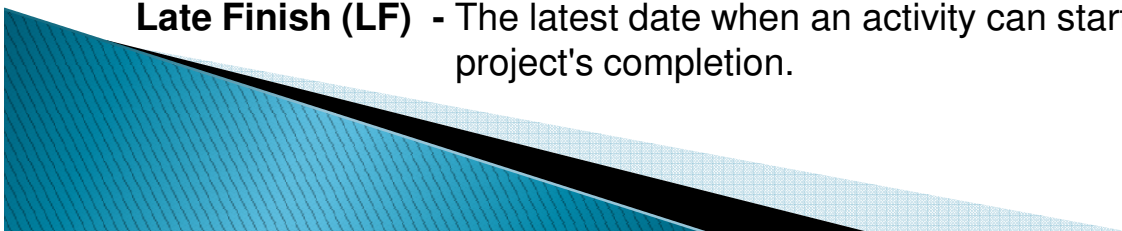
Float - The amount of time that the start or finish of an activity can be delayed without affecting the project finish date.

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.

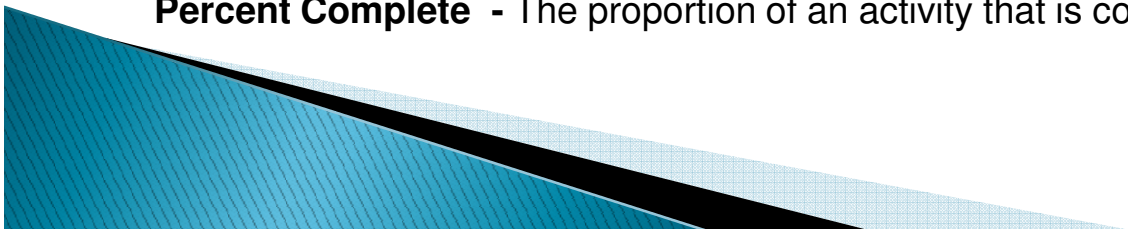
Network - The series of activities required to complete a project.

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.

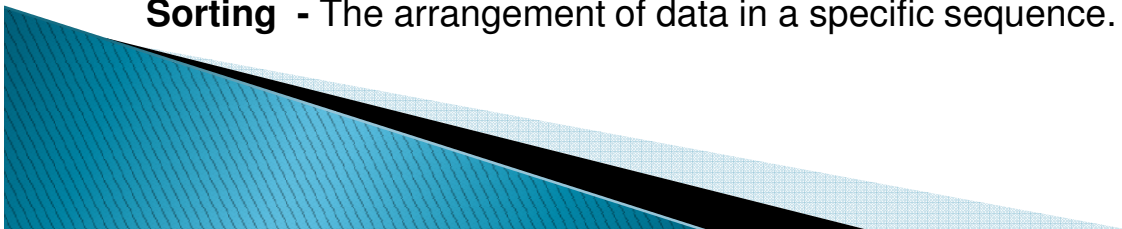
Schedule - A list of the activities needed to complete a project, along with their start and finish dates.

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.

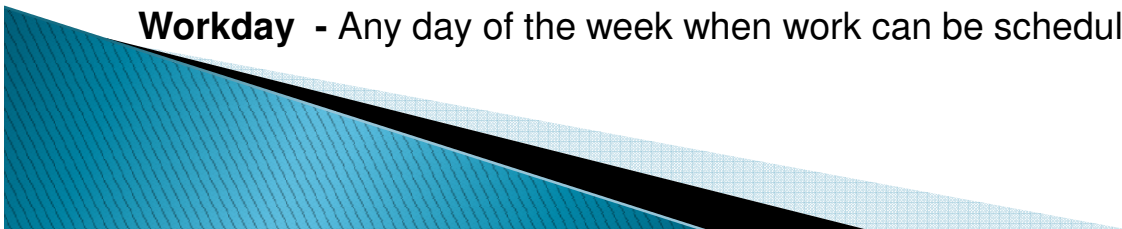
Total Float (TF) - The total number of days that the start or finish of an activity can be delayed without affecting the project finish date. Float can be negative, zero, or positive.

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.

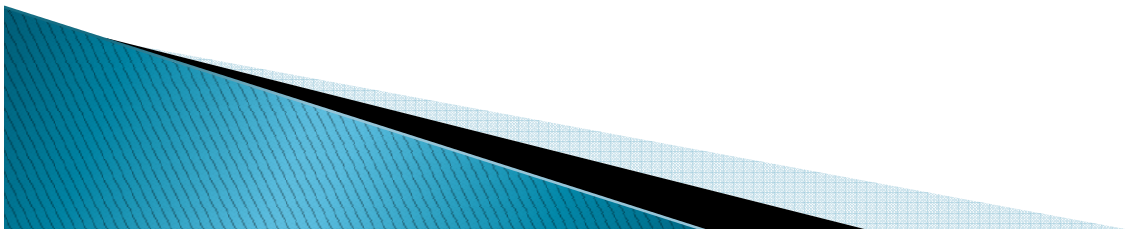
Workday - Any day of the week when work can be scheduled.



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

