Washington State
Department of Transportation

Project Management & Reporting System (PMRS)

Desktop Procedures for Primavera Scheduler

3.0

February 17, 2009

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Revision History

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Tier 2 and 3	Aug 12, 2008	Initial Draft	1.0d
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1. Project Creation

This procedure outlines the initial steps of setting up a new Project in Primavera Scheduler. This desktop instruction assumes the project has already been entered into Primavera by your Regional PMRS Tools Administrator.

Setting up projects in Primavera Scheduler is very similar to how project are currently set up in PDIS. Primavera Scheduler, however, provides more options. This document will walk you through the various ways to create a schedule, as well as how to set up the basic schedule components necessary to produce state reports.

Additional Resources

- Appendix 1: PDIS vs. Primavera
- Primavera Scheduler Training Manual, Lessons 3–7
- Primavera Scheduler Training Manual, Appendix 3

Methods to Start a Project in Primavera Scheduler

There are many ways to start a new project:

1. Build a WBS from scratch
2. Use the WSDOT 2009 MDL template
3. Use the Highway Widening & Paving Template
4. Select from an available Regional Template
5. Copy an existing Primavera Schedule

The table below lists each method with its various benefits and uses:

Method	***When to Use***	***Pros***	***Things to Remember***
WBS from Scratch	When the job is unique and the WBS from existing templates or projects does not make sense.	Flexible	Primavera Schedule requires a WBS be built as the first step of building your schedule. *Do not change WBS Code PE/RW/CN*.
Template MDL	When your project WBS matches your MDL breakdown.	A complete MDL activity list, similar to the PDIS template.	Includes a WBS that mirrors the WSDOT MDL. Confirm logic and durations, and ensure that it is appropriate for the current project.
Template Highway Widening & Paving	Your project is a paver, or you can easily add activities/deliverables to reflect the scope of your current project.	Initial Schedule with Work Breakdown Structure (WBS), MDL code values, logic and durations included.	Adjust the WBS to fit your unique project.
Regional Template	When your project scope matches one of the regional templates.	Customized to fit your region's business needs and historical durations.	Includes WBS, MDL code Values, logic and durations.
Copy an Existing Schedule	You have already done a similar job.	Schedule already pre-built	Clear out any old historical data from the previous project (including Notebook topics, Financial data/CPMS data including old WO#)

Basic Requirements for Reporting

The following are standard statewide reports:

- Regional Confidence Report
- Construction Status Report
- Project Accomplishment Report
- PS&E Review Report
- Milestone Comparison Report

In order to create the above-mentioned reports, the following components must be added to your schedule during project creation:

Project Notebook Topics

Topic	Topic Description
WIN Description	WIN Description as specified in CPMS. The WIN description will be populated nightly.
Project Scope	This topic shall be updated when a change in scope has occurred. Historical records are stored in the project baselines.
Assumption and Basis	Configured to record the current detailed project assumption and basis. This topic shall be updated when a change in the assumption and basis has occurred. The historical record is stored in project baselines.
Project Narrative	Configured to record the narrative of current project status. Updates are required periodically with project progress. The historical record is stored in project baseline.
Project Highlights	Configured to record major achievements and important events. The historical record is stored in project baselines.
Accomplishments	Configured to record the major accomplishments within an update/reporting period. The historical record is stored in project baselines
Current & Upcoming Activities	Configured to record the current and upcoming activities within an update/reporting period. The historical record is stored in project baselines.
Risks	Records the Risks associated with the Project.

Performance Reporting Milestones

Milestone	Added by
Project Definition Complete	Project Office
Begin Preliminary Engineering	Project Office
Environmental Review Documentation Complete	Project Office
Right of Way Certified	Project Office
Advertisement Date	Project Office
Operationally Complete	Project Office

These performance reporting milestones may already be added into your schedule if you used a template or copied another project's schedule. However, it is your responsibility to check that these milestones are present. *See "Mandatory Milestones" in Primavera Scheduler Desktop Procedures for milestone descriptions and how to designate milestones in your schedule*.

Required Configured Global Project Codes

WSDOT uses the Global Codes in Primavera Scheduler to indicate and identify activity status and/or categories. These codes are configured to fulfill control, management and reporting requirements.

The following Project Codes are required. Those not identified as required at project setup (*asterisk), may be populated as information becomes available or changes.

Project Code	Secure Code
Biennium *	Yes
Contractor Rdwy Surveying Notification	No
Delivery Method *	No
ESA / EFH Consultation Required?	No
Federal Fund *	Yes
Funding Approval *	No
Hydraulic Report Type	No
Local Agreement	No
Management Area *	No
Management Region *	Yes
NEPA Process	No
NHPA Section 106 Exempt	No
Nickel Fund *	Yes
Owner Region *	Yes
Project Type *	Yes
Proprietary Item / Sole Source Approval	No
RW Certification Type	No
RW Involvement	No
RW Relocation	No
SEPA Process Type	No
State Forces Approval	No
State Route *	Yes
State Supplied Materials Approval	No
State Transportation Improvement Program (STIP) *	No
TPA Fund *	Yes
Transportation Improvement Board (TIB) Ad	No
Transportation Improvement Board (TIB) Award	No
WSDOT Status *	No

Required Configured Global Activity Codes

The following Activity Codes are required. Activity Codes are assigned at the activity level. A maximum of 50 activity codes can be assigned to any activity in the schedule.

Activity Code	Description
Quarterly Schedule Report Activity	Quarterly schedule activities, milestones, level of efforts, and WBS activity summary.
Regional Confidence Report Activity*	Regional confidence activities, milestones, level of efforts, and WBS activity summary.
Construction Status Report Activity*	Construction status activities, milestones, level of efforts, and WBS activity summary.

**Regional Confidence Report Activity Code and Construction Status Report Activity Code are referenced by web reporting. Activities tagged with above referenced codes will be reported in the Regional Confidence Report and the Construction Status Report.*

Activity Code	Description
Master Deliverable List (MDL)	Assigns activities, milestones, level of efforts and WBS summary activities to the associated MDL item.
Constraints Indicator	Identifies whether there is a constraint applied to an activity.
Actual Cost**	Identifies activities integrated with the TRAINS interface (automatically assigned).

***Actual Cost Activity Code is configured for the TRAINS interface. TRAINS interface imports actuals into "Actual Activities" (different from the activities created by users) which are created by the interface. TRAINS download does not update activities created by users. Cost information (actuals, budget and ETC) is joined at control account levels. No effort is required from end users. Users may use this activity code to filter out integration activities.*

Recommended Project Settings

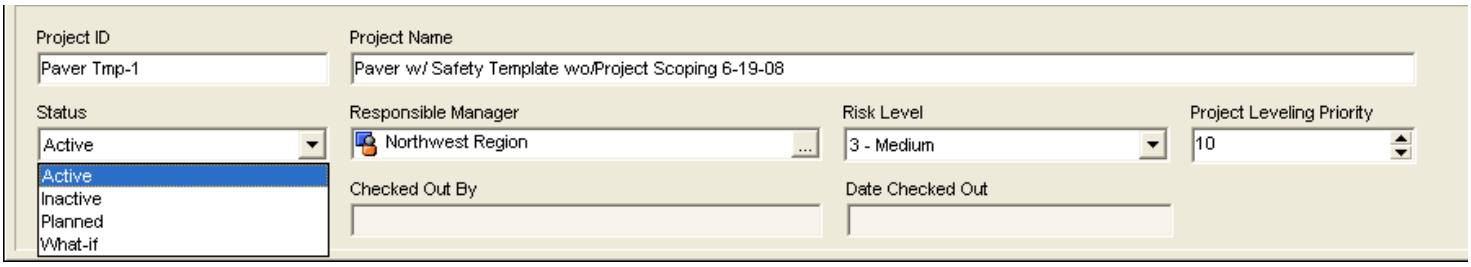
The following are statewide settings established for the configuration of Primavera Scheduler. Deviations to these standards should not occur without a good business need. Check with your PMRS Regional Tools Administrator for further guidance.

Project View Tabs

General | Notebook | Planning Resources | Budget Log | Spending Plan | Budget Summary | Dates | Funding | Codes | Defaults | Resources | Settings | Calculations | Contract Manager

General

- The Project ID is the WIN
- Project Name is the WIN Description – these are updated nightly from CPMS
- Select Status Type
- Select Responsible Manager



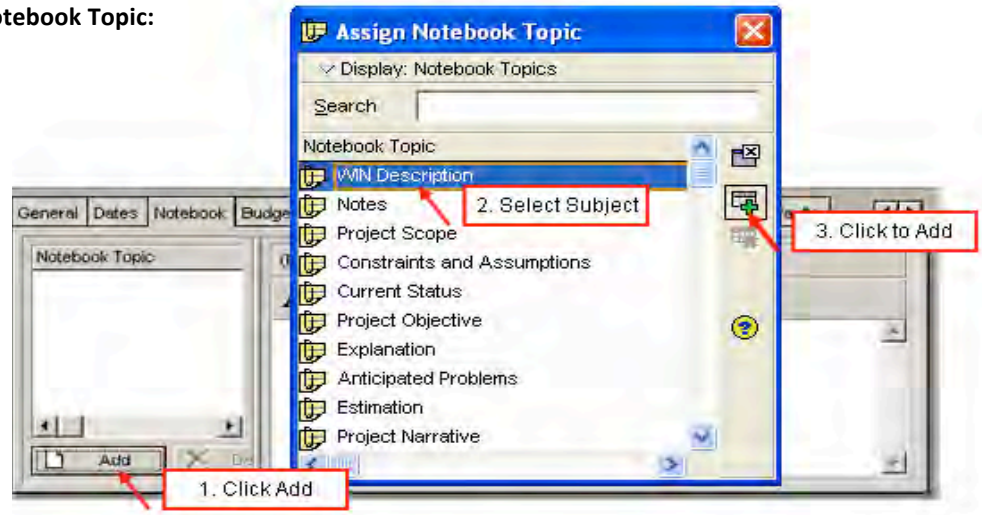
Notebook

The chart below indicates the minimum required Project Notebook topics to ensure WSDOT Standard reports are fully supported:

Topic	Topic Description
WIN Description	WIN Description as specified in CPMS. The WIN description will be populated nightly.
Project Scope	This topic shall be updated when a change in scope has occurred. Historical records are stored in the project baselines.
Assumption and Basis	Configured to record the current detailed project assumption and basis. This topic shall be updated when a change in the assumption and basis has occurred. The historical record is stored in project baselines.

Topic	Topic Description
Project Narrative	Configured to record the narrative of current project status. Updates are required periodically with project progress. The historical record is stored in project baseline.
Project Highlights	Configured to record major achievements and important events. The historical record is stored in project baselines.
Accomplishments	Configured to record the major accomplishments within an update/reporting period. The historical record is stored in project baselines
Current & Upcoming Activities	Configured to record the current and upcoming activities within an update/reporting period. The historical record is stored in project baselines.
Risks	Records the Risks associated with the Project.

- **To assign a Notebook Topic:**



Planning Resources

- Used for resource management.
- Not part of the WSDOT configuration

Budget Log

- Used to track budget changes
- Not part of the WSDOT configuration

Spending Plan

- Used to track how the budget will be spent overtime
- Not part of the WSDOT configuration

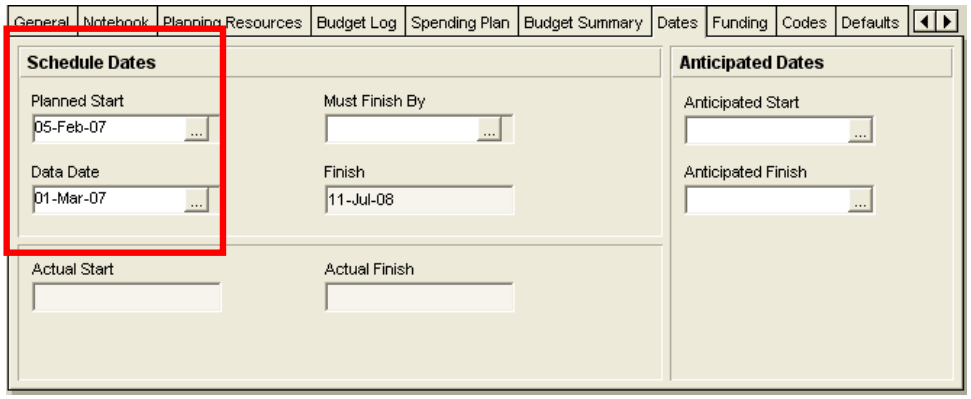
Budget Summary

- Summarizes values from the Spending Plan Tab
- Not part of the WSDOT configuration

Dates

- **Schedule Dates**
  - Set the "Planned Start Date" as the Start Date of the Project
  - Set the Data date to the first of the Month. This must be updated monthly.

- **Do Not** set the "Must Finish by Date" unless establishing this Project constraint is deemed necessary by your region.
- Finish Date, Actual Start and Actual finish dates populate automatically.
- Anticipated Dates – Used in top-down planning/forecasting. Not utilized by WSDOT configuration.



Funding

- Funding source is used to reference where the funds are coming from for the budget
- Not part of the WSDOT configuration

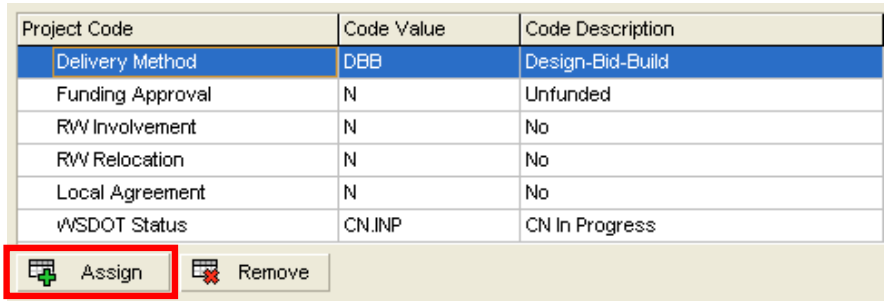
Codes

- WSDOT has 30 specific project codes that must be assigned to a project; some when the project is created and others as information becomes available. Some project codes are secure, which can be accessed or modified by specific users. When copying from either a template or existing project, secure project codes will not copy to new project.
- Use project codes to group projects, consolidate large amounts of information, and to distinguish one project from another. All projects assigned a value for a code are grouped by their corresponding values when you group and sort by project code.
- Below are the minimum required codes that must be set at project creation (*asterisk) or when the information becomes available:

Project Code	Secure Code
Biennium *	Yes
Contractor Rdwy Surveying Notification	No
Delivery Method *	No
ESA / EFH Consultation Required?	No
Federal Fund *	Yes
Funding Approval *	No
Hydraulic Report Type	No
Local Agreement	No
Management Area *	No
Management Region *	Yes
NEPA Process	No
NHPA Section 106 Exempt	No
Nickel Fund *	Yes
Owner Region *	Yes
Project Type *	Yes
Proprietary Item / Sole Source Approval	No

Project Code	Secure Code
RW Certification Type	No
RW Involvement	No
RW Relocation	No
SEPA Process Type	No
State Forces Approval	No
State Route *	Yes
State Supplied Materials Approval	No
State Transportation Improvement Program (STIP) *	No
TPA Fund *	Yes
Transportation Improvement Board (TIB) Ad	No
Transportation Improvement Board (TIB) Award	No
WSDOT Status *	No

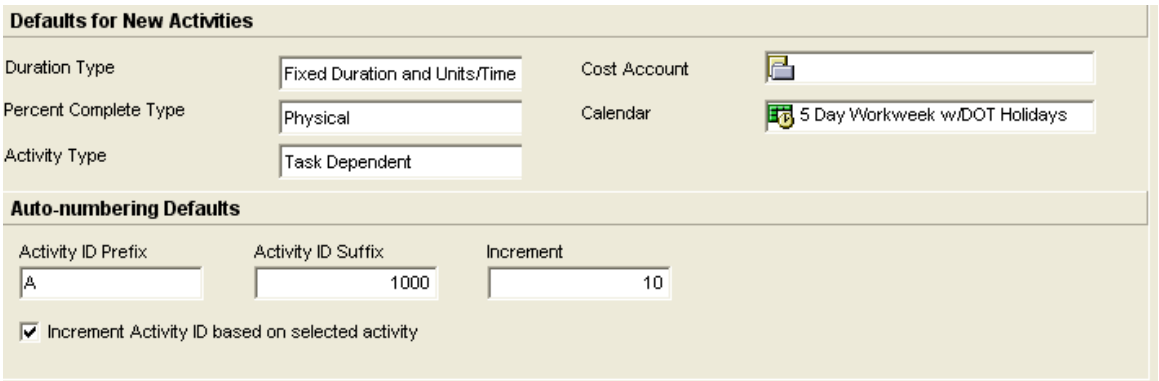
- Note secure codes can only be modified by users with the appropriate permissions.
- Click Assign to select Project Codes from the available menu list.



Defaults

Verify Settings

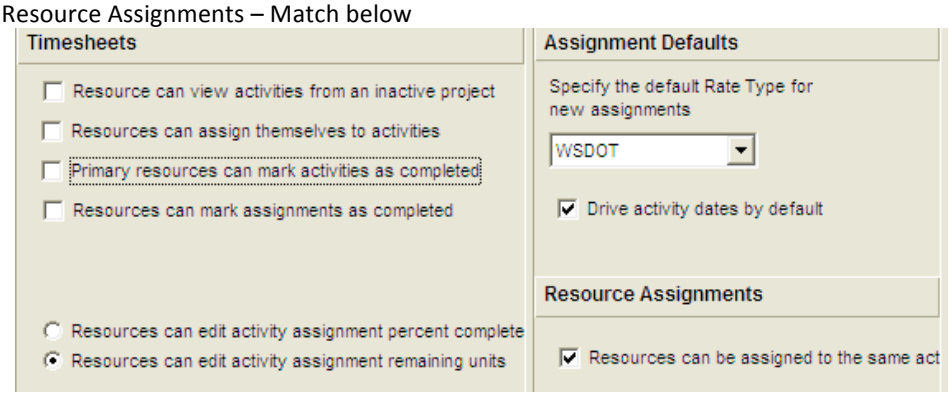
- Update Defaults for New Activities – Match below
- Auto-numbering Defaults - Check Increment Activity ID based on selected activity



Resources

Verify Settings

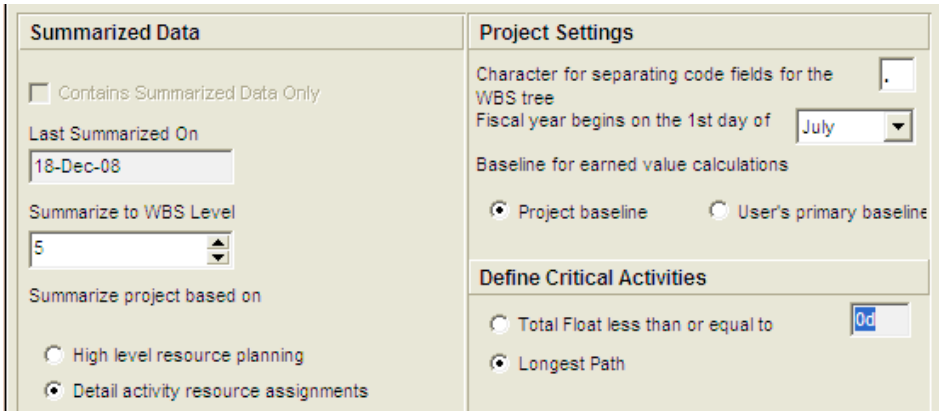
- Timesheets – Not part of WSDOT Configuration, leave defaults
- Assignment Defaults – Match below
- Resource Assignments – Match below



Settings

Verify Settings

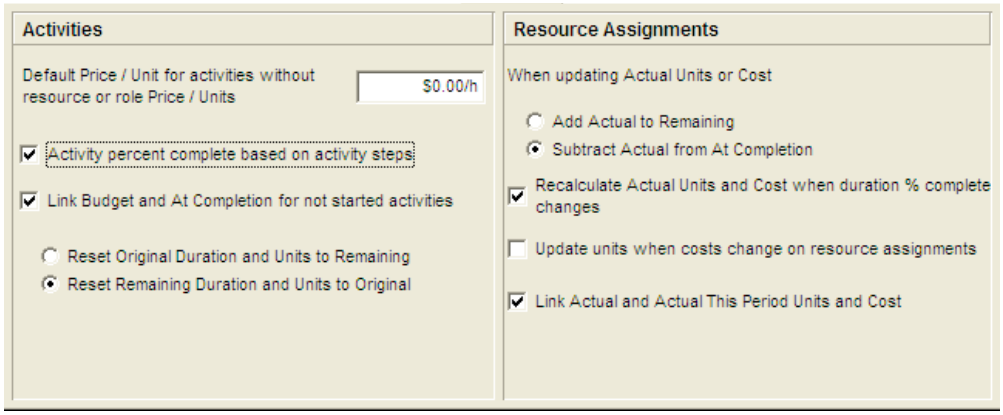
- Summarized Data – Match below
- ***Note: Summarizing to WBS level 5 is the minimum requirement***
- Project Settings – Match below
- Define Critical Path – Match below



Calculations

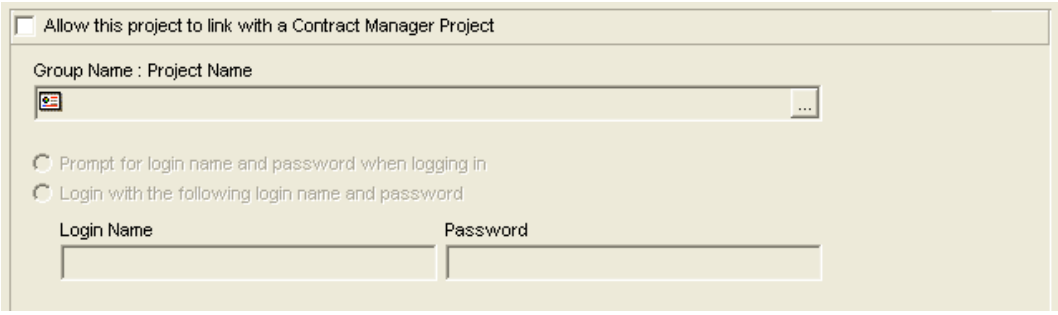
Verify Settings

- Activities – Match below
- Resource Assignment – Match below



Contract Manager

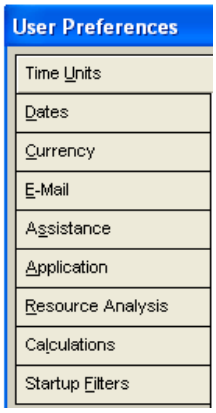
- This setting will be established during the CN Phase.
- This Desktop Procedure to be updated once Contract Manager development and Integration with Primavera Scheduler completes.



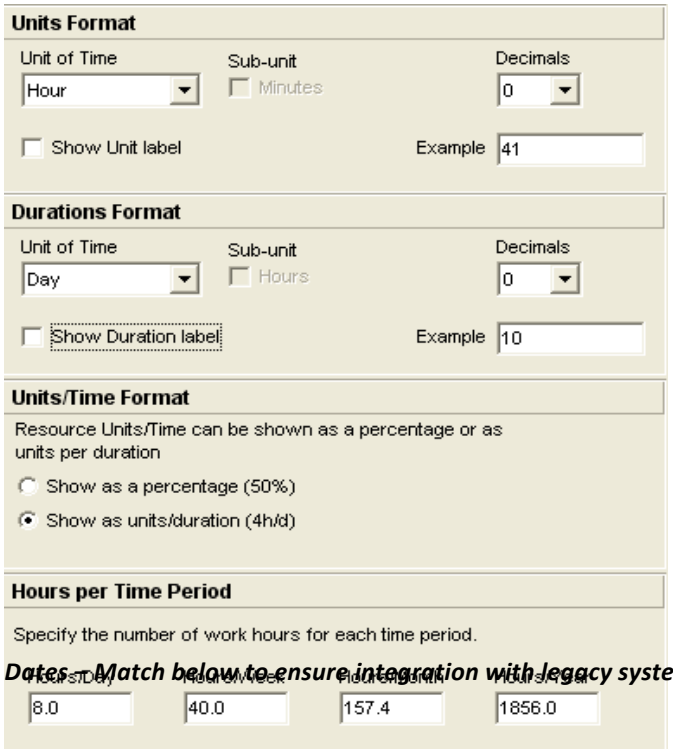
Recommended User Settings

Use the User Preferences dialog box to specify your settings and preferences which include how to display time, date, and currency information.

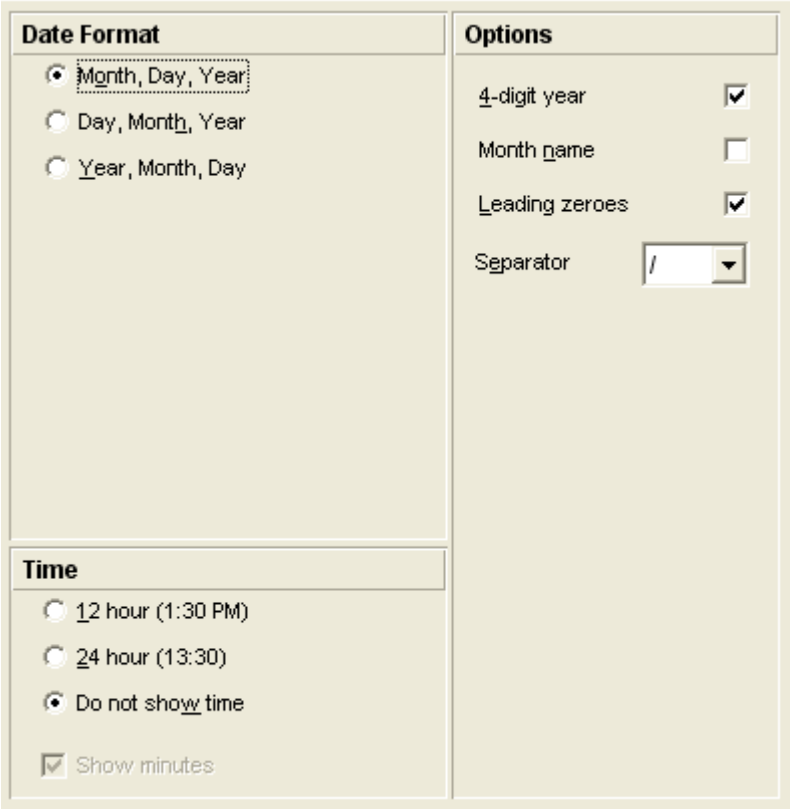
Go to Edit, then select "User Preferences"



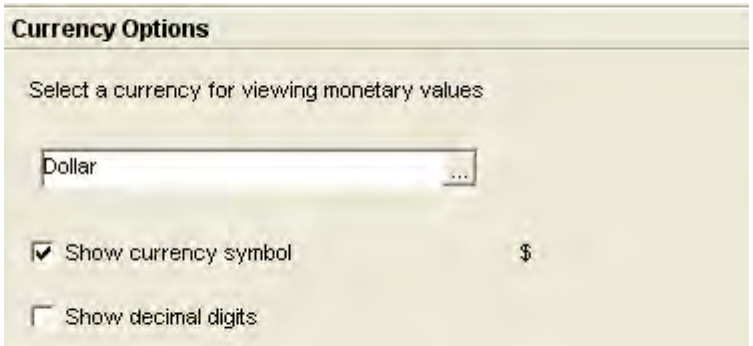
Time Units – Match below



Dates – Match below to ensure integration with legacy systems



Currency – Match Below



E-mail (not part of WSDOT Configuration)

Assistance

- Use New Resource Wizard: Not Checked
- Use New Activity Wizard: Not Checked

Application

Startup Window

Application Startup Window

Projects

☐ Show the Issue Navigator dialog at startup

☐ Show the Welcome dialog at startup

Application Log File

☐ Write trace of internal functions to log file

Group and Sorting

Labels on grouping bands

☐ Show ID / Code

☑ Show Name / Description

☐ Reorganize Automatically

Columns

Select financial periods to view in columns

2007-07-01 ... to 2009-06-01 ...

Resource Analysis

All Projects

When All Projects are shown in the Resource Usage Profile and Spreadsheet, all opened projects are included as well as the closed projects specified below.

◉ All closed projects (except what-if projects)

○ All closed projects with a leveling priority

equal/higher than 1

○ Opened projects only

Time-Distributed Data

In the Resource Usage Profile and Spreadsheet, display time-distributed Remaining Early data using

◉ Remaining Early dates

○ Forecast dates

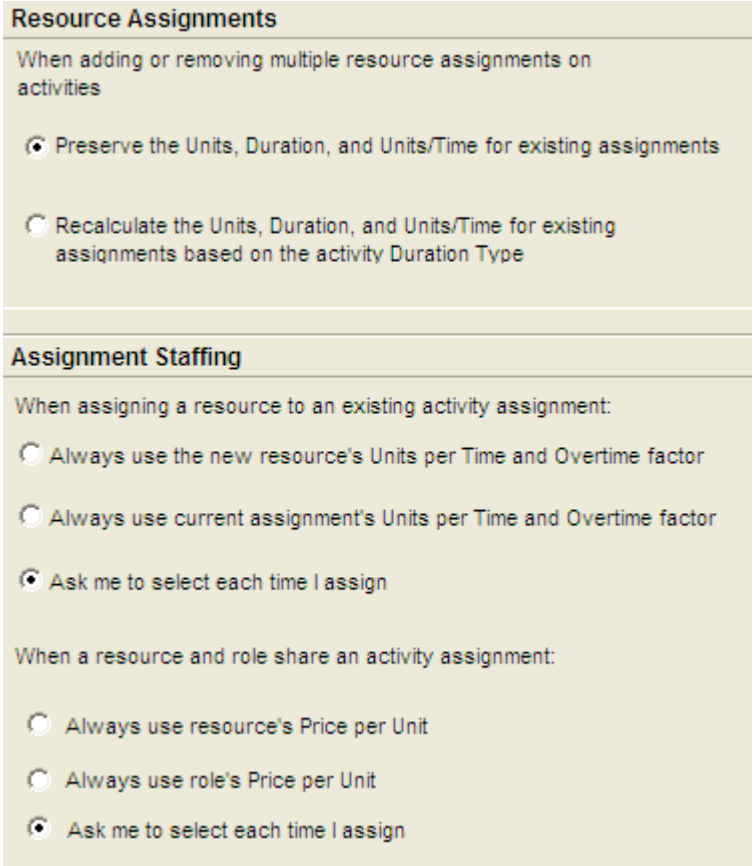
Interval for time-distributed resource calculations: Day

Display the Role Limit based on

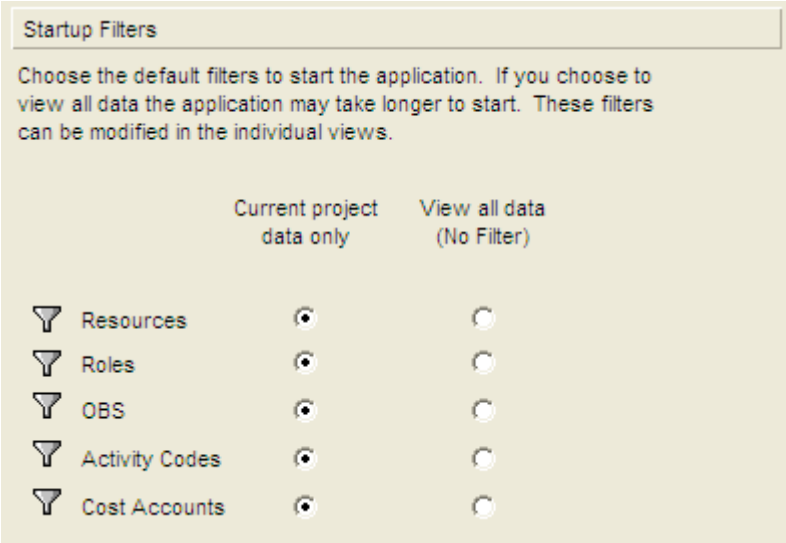
◉ Custom role limit

○ Calculated primary resources' limit

Calculations



Startup Filters



2. TRAINS Interface

WSDOT uses the TRAINS interface to bring actual cost for both labor and non-labor charges and actual hours for labor charges into Primavera Scheduler from TRAINS. Actual costs and actual hours will be automatically loaded into the schedule on a monthly basis after accounting period closed in TRAINS. Actual cost and actual hours will come into the schedule as new activities at the phase levels. Users have to move the "actual cost" activities to the proper WBS (Control Account, which is the lowest level of WBS which you will track) to fit the project control and project management needs. Users may leave the costs at the phase level, or move them further down to the WBS hierarchy if they want to track costs at a lower level. The effort to move each newly imported "actual activities" is only required ***once*** in the project life cycle. Actual costs are designed to track at control account levels not activity levels.

Additional Resources

- Appendix 2: PMRS Primavera Scheduler Cost Loading
- Primavera Scheduler Training Manual, Lesson 16

How TRAINS Interfaces with Primavera Scheduler

In order to receive data from the TRAINS interface, projects status should be **active**. Also, the CPMS interface must be running successfully. The TRAINS interface imports the actual cost and actual hours into Primavera Scheduler. The cost and hours are carried by activity resource assignments in the added "Actual Activities". Each resource assignment has a unique cost account with the combination of Work Order Number, Work Order Group, PIN, Finance Code, Work Op, and Org Code/Agreement Number/Contract Number/Parcel Number/IR (i.e. XL3233.71.809936A.AZ.0119.412007). The following logic is applied to assign the last appended field values:

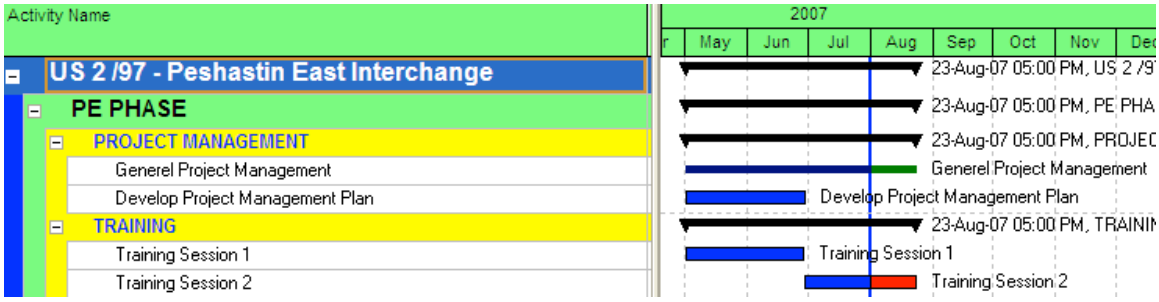
If Work Ops Code is A716, A717, A718 or B718, IR will be assigned
Else
    If Parcel Number exists, parcel number will be assigned
    Else
        If Agreement Number exists, agreement number will be assigned
        Else
            If Group Category is "01", contract number will be assigned
            Else the Org Code will be assigned

The cost code is the key field for the TRAINS interface updating the actual cost and actual hour during the project life cycle. Each cost code segment is populated in the pre-defined user defined fields (UDFs). These UDFs facilitate grouping and sorting actual cost and actual hours.

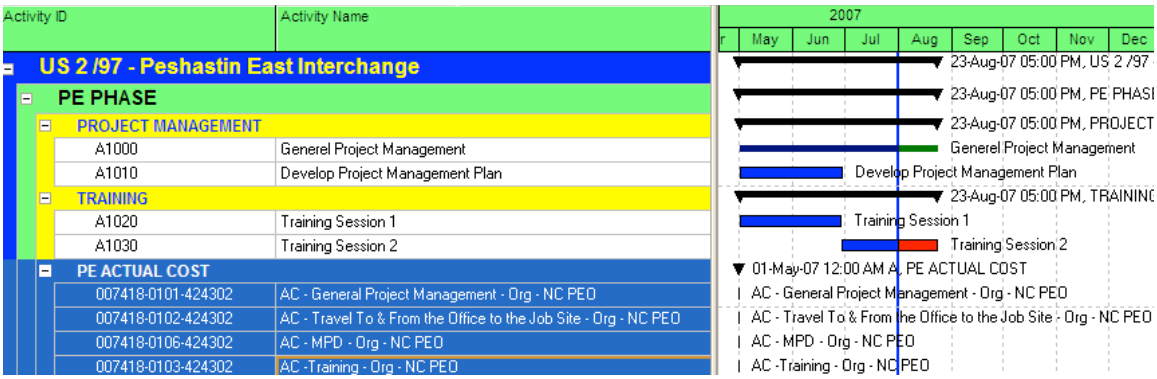
All Actual Activities have zero (0) day duration. The start and finish dates will be the start date of the financial period when the first charge occurs in TRAINS. The Actual Activity ID (i.e. XL2072-0101-303010) contains three segments of the cost code: Work Order Number, Work Ops and the last appended field (Org Code/Agreement Number/Contract Number/Parcel Number/IR). Each actual activity will be automatically assigned the value "Y" of "Actual_Cost" activity code. This activity code may help users to filter out the actual activities for reporting purposes.

Re-Assigning "Actual Activities" to Control Accounts

1. This is a sample project schedule prior to the interface running:

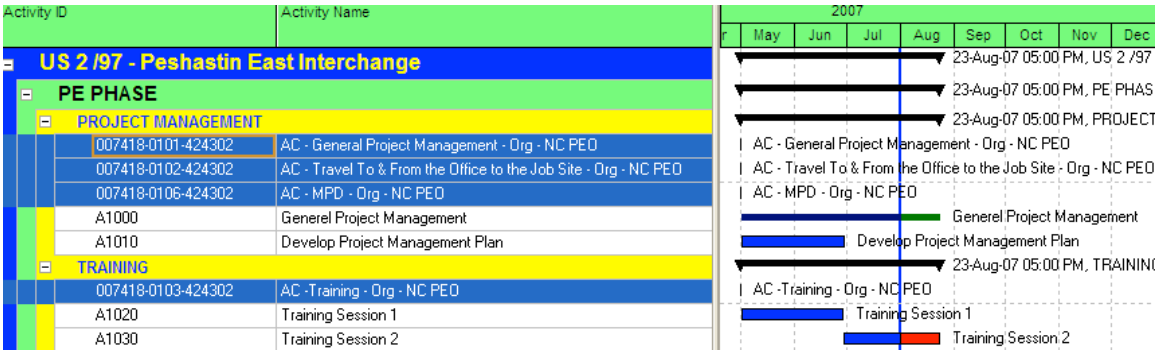


2. The interface adds a WBS under the Phase levels and new actual activities under the added WBS



3. Select the Actual Activities

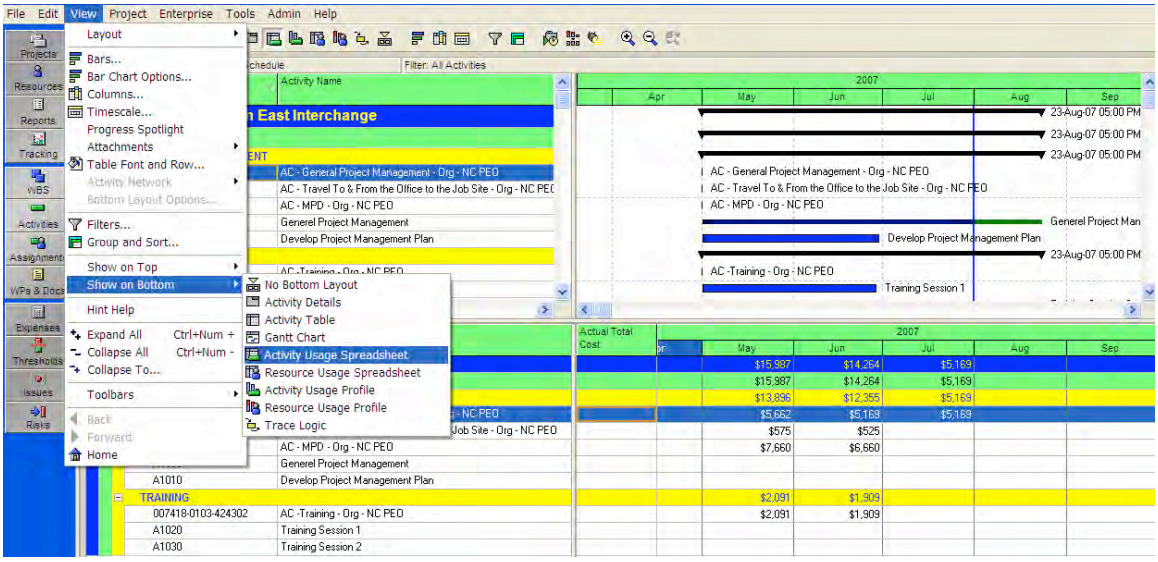
4. Use the "***Cut and Paste***" function to reassign Actual Activities to control Accounts (the lowest level of WBS at which you will track). Do not use the "***Copy and Paste***" function.



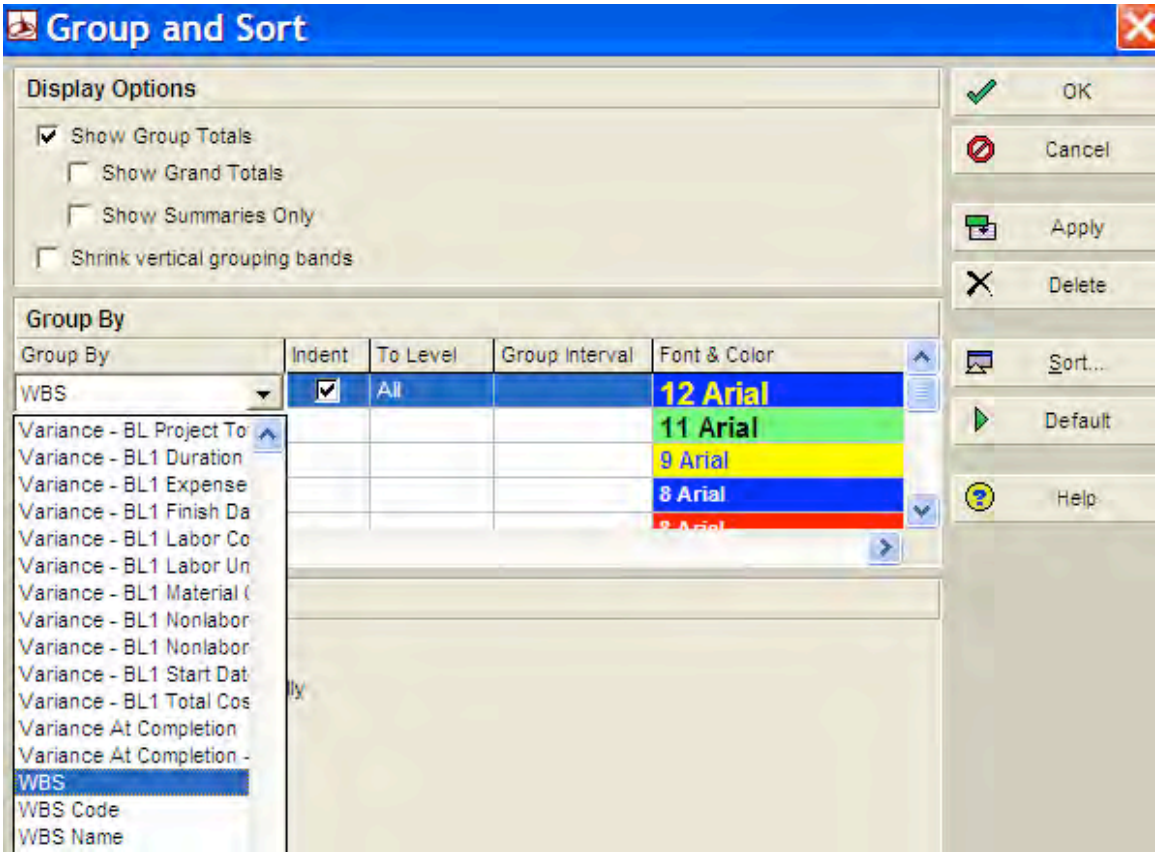
The actual activities are assigned to control accounts.

Displaying Actual Cost Information by WBS

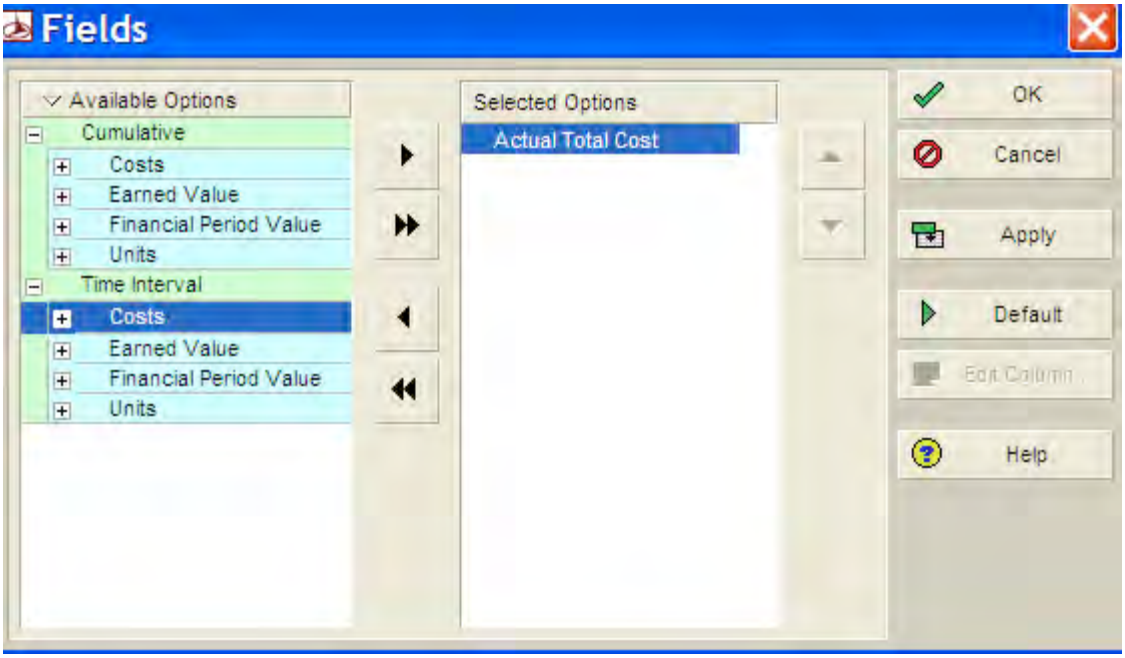
1. Select View >> Show on Bottom >> Activity Usage Spreadsheet on the command bar.

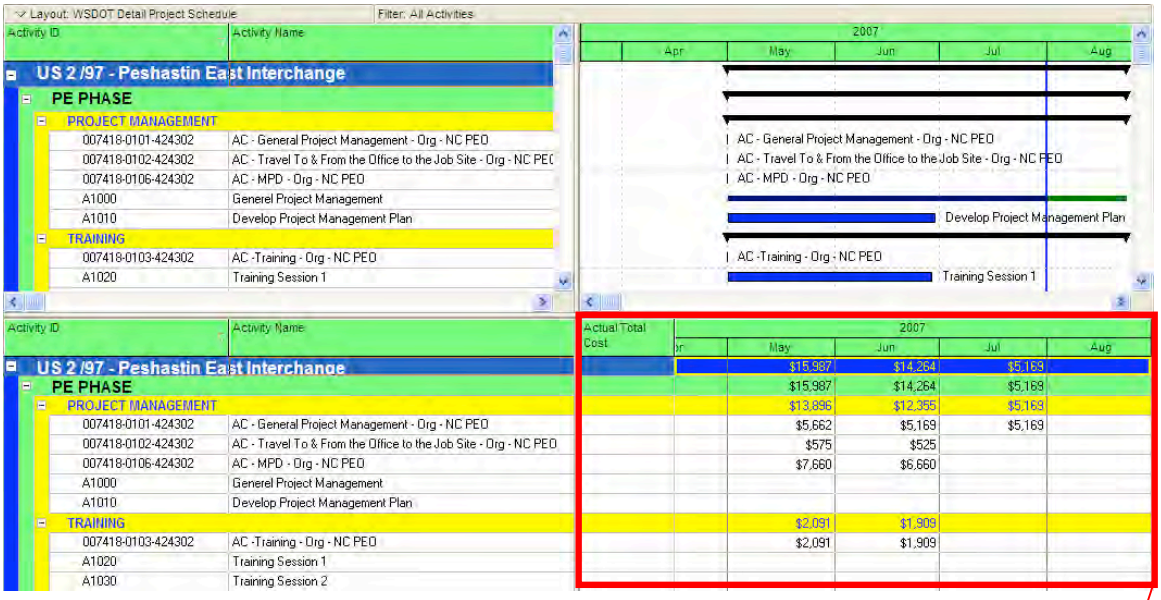


2. Use the "Group and Sort" function to group data by WBS on the bottom left of the screen.



3. Use the "Select Spreadsheet Field" function to select "Actual Total Cost" field on the right bottom of the screen.





The actual cost information is shown on the bottom of the screen.

HELPFUL TIP
In the lower right corner:
1. Click once in any cell
2. Right click and select Spreadsheet Fields
3. Select Customize to choose field options

3. Baselines

A baseline is a snapshot of a project's scope, schedule, and budget at a point in time. Baselines are used as references to measure and analyze performance against plan, establish trends, and compare forecasts of final cost and schedule against plan.

Additional Resources

- Primavera Scheduler Training Manual, Lesson 15

Baseline Management

WSDOT has established two classifications of baselines, *Official Baselines* and *Reference Baselines*.

Always attach *Official Baselines* as the *Project Baseline*. The Project Baseline is automatically used by the system to display information for any user opening the project. This baseline must carry spending plans, total budgets, and major targets as recorded in LegFin, +/- approved PCRFs. *Reference Baselines* are never attached to the schedule as the Project Baseline; they are attached as *User Baselines* on an ad-hoc basis to analyze performance against unofficial targets. These baselines are applied to a schedule by individual users for internal purposes and do not automatically display information for any other user viewing the schedule. Examples of Reference Baselines include trend analysis, month-to-month, and performance to CEVP/CRA estimates.

Project Offices will establish and maintain schedule baselines that match Legislative Expectations for each Project assigned to them. Baselined, time-phased spending plans (BAC over time) will not exceed Biennial Funding levels and baselined dates of the six established Major Milestones will match the latest LegFin dates +/- approved PCRF's.

It is recommended that Baseline names always include a modifier.

Baseline Naming Convention

When a baseline is added a default name is created during the process. The following is the recommended naming convention:

<BL-### of> <DEFAULT NAME> <as of DD-MMM-YY>

Official Baselines

There will be one and only one official baseline at any given time for a project. This baseline will be attached as the Project Baseline and automatically used to display information for any user viewing the schedule or extracting information for reporting purposes. The official baseline will be updated periodically for reasons such as further schedule development or incorporation of approved changes in scope, schedule, or cost.

The first official baseline (*Initial Legislative Approved*) is recorded at the end of capital planning, when a project is assigned to a project team for implementation. This is the original Legislative expectation of project delivery. Thereafter, official baselines are created or updated:

1. When further detail is defined and added to the schedule and
2. When a project change has been approved (internal or external) and the schedule is revised to incorporate that change.

Be sure to only incorporate the new information into the baseline; do not overwrite existing baseline information with "current schedule" information. In order to meet this requirement, you may want to keep a copy of the baseline, or you can use the Baseline Update Utility.

Reference Baselines

Only one type of Reference Baselines is required, the *Monthly Update.* The monthly update baselines will be used for trend analysis. Information from the monthly update will be attached to the schedule as a *User Baseline* for anyone who wishes to view this information.

Prior to each schedule update cycle, Project Teams will create a *Monthly Update b*aseline to capture the current plan for trend analysis. This will allow users to view performance and to analyze month-to-month slips or gains by assigning consecutive monthly baselines as Primary, Secondary, and Tertiary user baselines.

Other referential baselines may be created by the Project Team for internal purposes as they see fit. These baselines should never be attached to the schedule as the Project Baseline – as with any reference baseline, they should be viewed as User Baselines. These baselines should hold a baseline type of "Copy of Project." Use proper naming conventions for internal coordination and identification of baselines.

Baseline Types

All baselines recorded in the system must be assigned a *Baseline Type*, consistent with the following types:

- Initial Legislative Approved
- Legislative Last Approved
- Monthly Performance Update
- Current Approved
- Risk

Updating an Established Baseline

Each planning session should result in a team-accepted plan describing project delivery, in whole or in part. That plan should be captured into a schedule and a Baseline should be created or updated reflecting that plan and schedule. For new projects, it is acceptable to create a Baseline from the existing schedule. For those projects underway, teams must add the output of the planning session to the established Baseline without disturbing the rest of the baseline information.

There are two options available to update an established baseline:

1. Maintain a 'baseline' schedule, or *Restore* the project baseline and modify as needed. Attach to project schedule after both are modified.
2. Use Primavera's Baseline Update Utility to add or change limited information in an attached baseline
   - NOTE: You will not be able to use this utility if you use discrete resource loading procedures. See *Resource Application* Appendix for more information on discrete resource loading.

Rebaselining of a schedule:

Use the following definition of "rebaseline" to determine its necessity.

"An approved change in the project scope, schedule, or budget. The baseline is changed and project performance is measured against the new baseline."

To maintain independent baseline schedules or to *Restore* a project baseline:

1. Develop modifications
2. Restore or access your baseline schedule
3. Copy modifications into 'baseline' schedule
4. Copy modifications into Project schedule
5. Add 'new' baseline to Production schedule (Project > Maintain Baselines)
   - Select the option to 'convert another project…' and select your baseline schedule to be attached
6. Attach the new baseline as the Project Baseline (Project > Assign Baselines)

To update an established baseline using the Baseline Update utility:

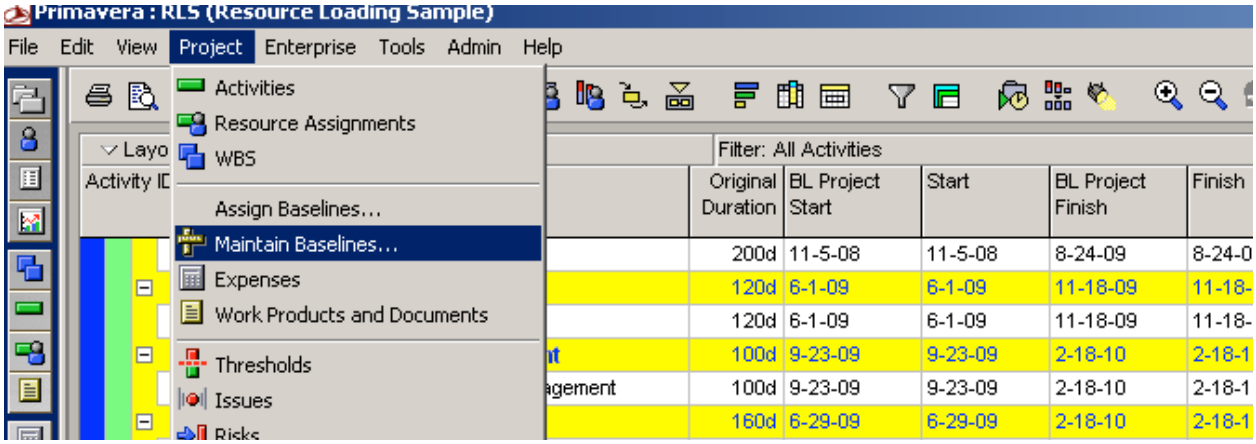
<u>*Before you begin*</u>:

There are many options available to update an attached baseline. It is a good idea to use activity codes in your schedule to identify the activities that will be added to or updated in your Baseline. By using activity codes, you will avoid non-approved changes to established baseline information. Apply this code to ONLY those activities whose baseline information you want to modify. This process will assume you used activity codes as described above.

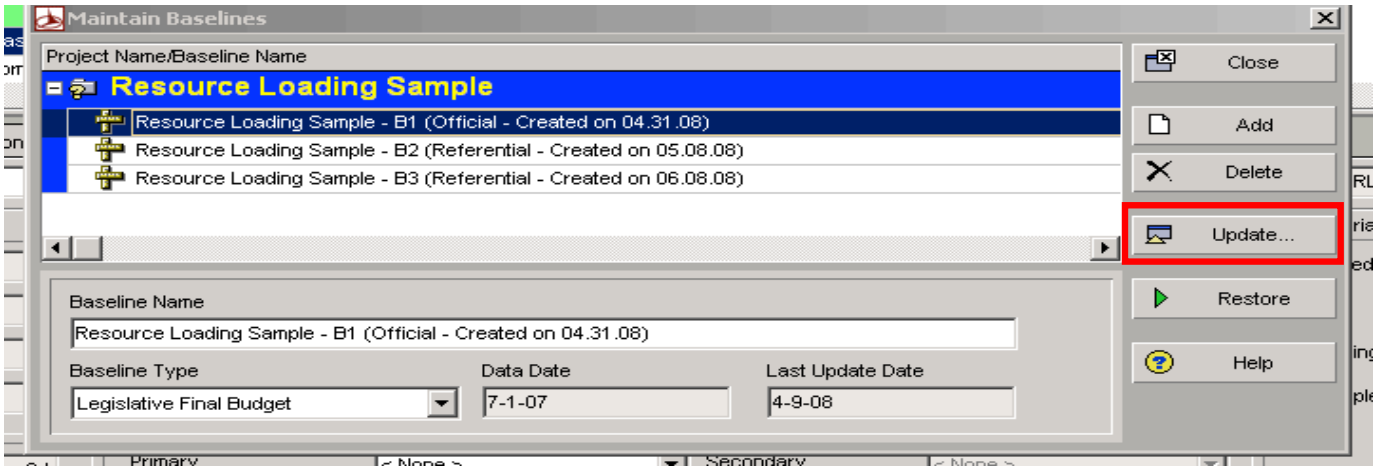
- <u>Add new information to the existing Baseline</u>

1. Open the schedule; be sure you have applied the established baseline update activity code ONLY to those activities that will be adjusted in the baseline.

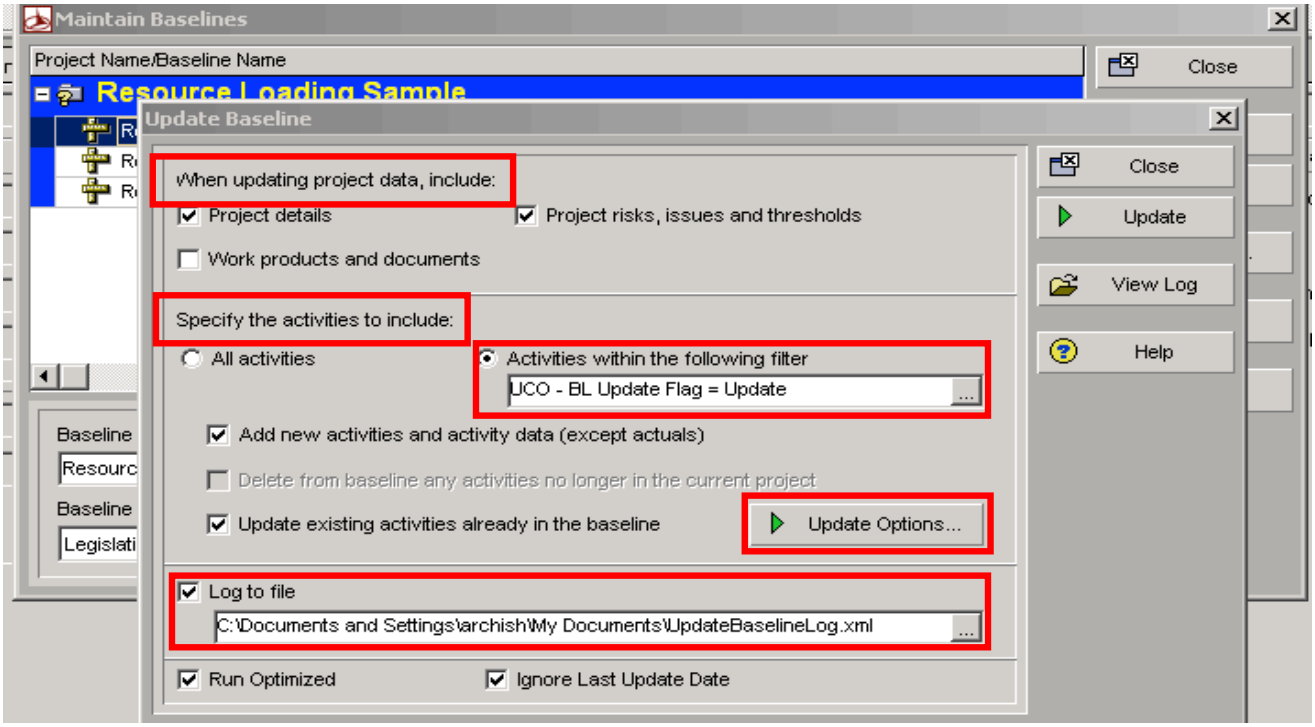
2. Click “Project>Maintain Baselines”



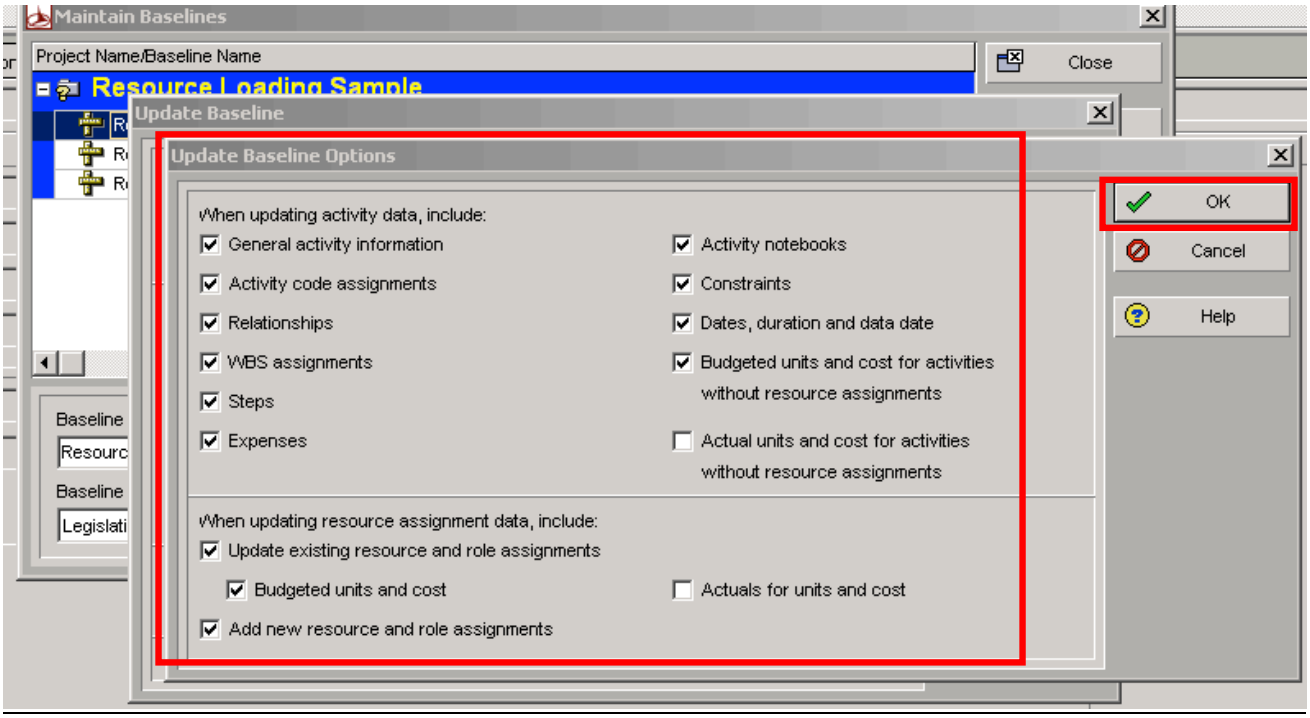
3. Select (single-click) the baseline to be updated and click “Update”



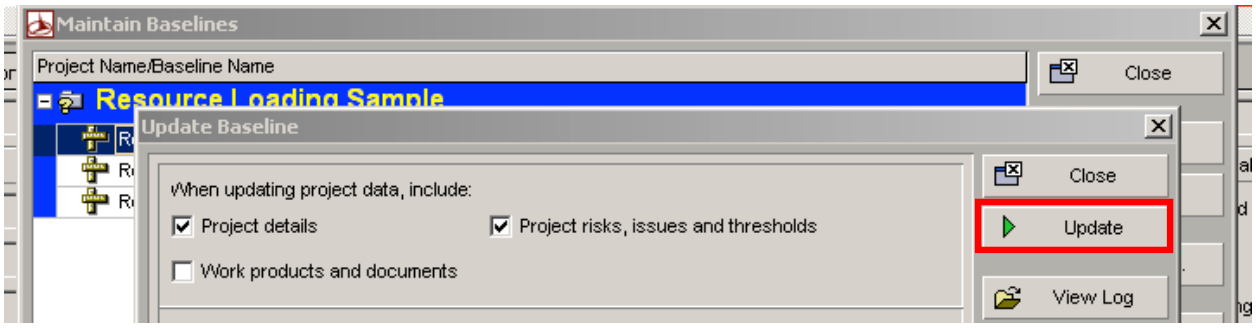
4. Select Project Data and the type of Activities to be updated
5. Select Radio Button for "Activities within the following filter" and select global filter for the established baseline update activity code ("UCO – BL Update Flag = Update" *in this example*)



6. Select a location for the log file and Click "Update Options"
7. Select appropriate options and click "Ok"



8. Click "Update"



When the process completes, your Baseline will contain the new information and remains attached to the schedule.

NOTES:

- All LegFinal Baselines should be retained for the life of the project – do not delete or modify a LegFinal Baseline
- Flag your "parent" activity to be included in the baseline update process; e.g. if you have finished development of Planning Packages (PP) for an element and adjusted your schedule accordingly (added PP activities and budget, removed budgeted values from the element activity, and changed the element activity to a WBS summary), then add the PP information to your baseline and adjust the existing element activity budget figures
    - This will remove budget and Planned Value from the element activity held in the baseline
- Do not add CEVP or CRA information to an existing Official Baseline
    - If the Project Team decides to adopt CEVP or CRA estimates as the official baseline, follow the process to create a new baseline and attach it as the Project Baseline. Append the name with (Official – CEVP – Created on *date*)

4. Control Accounts

A Control Account is used to identify a smaller, definable scope of work with which cost and schedule are associated, and is usually organized by the group performing the work.

Control accounts are required for every project in the PMRS schedule and there must be at least one control account per phase. The Control Account Guidelines located on the Project Management Web Portal provides recommendations/options for determining the appropriate level for control accounts based on the needs of the project.

Additional Resources

- Primavera Scheduler Training Manual, Lesson 16

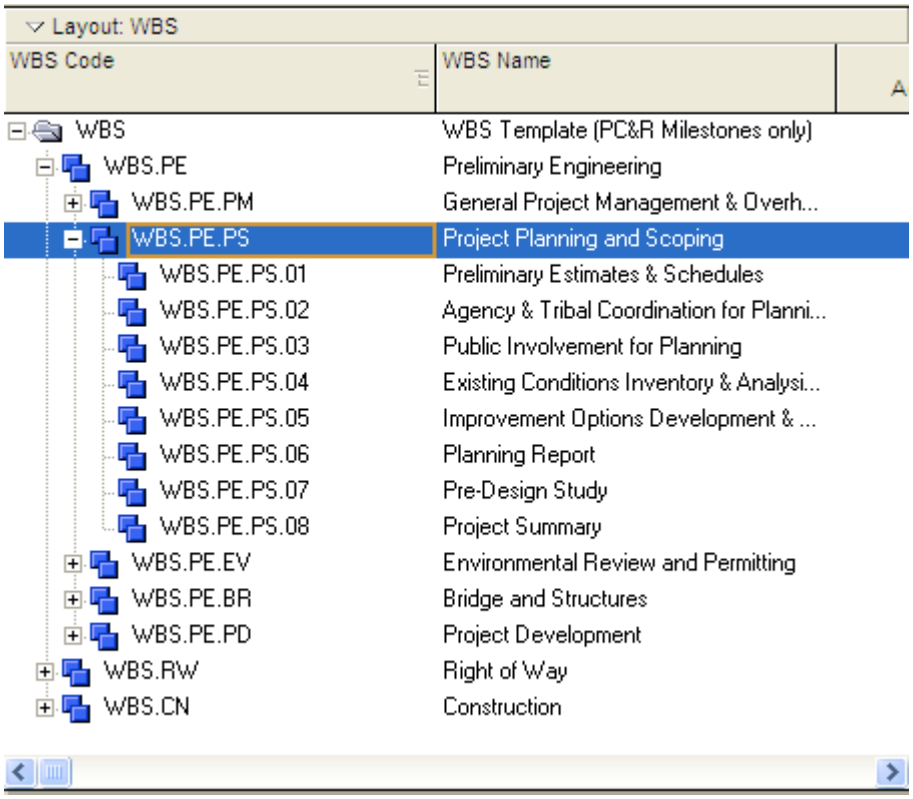
Application of Control Accounts to Project Schedules

1. Generally, there will be at least one control account for each internal agreement established on the project.

2. Ensure that the project schedule has at least one control account per phase

3. A WBS element may be designated a control account.

4. A WBS element may contain multiple control accounts.



Layout: WBS

WBS Code	WBS Name
WBS	WBS Template (PC&R Milestones only)
WBS.PE	Preliminary Engineering
WBS.PE.PM	General Project Management & Overh...
WBS.PE.PS	Project Planning and Scoping
WBS.PE.PS.01	Preliminary Estimates & Schedules
WBS.PE.PS.02	Agency & Tribal Coordination for Planni...
WBS.PE.PS.03	Public Involvement for Planning
WBS.PE.PS.04	Existing Conditions Inventory & Analysi...
WBS.PE.PS.05	Improvement Options Development & ...
WBS.PE.PS.06	Planning Report
WBS.PE.PS.07	Pre-Design Study
WBS.PE.PS.08	Project Summary
WBS.PE.EV	Environmental Review and Permitting
WBS.PE.BR	Bridge and Structures
WBS.PE.PD	Project Development
WBS.RW	Right of Way
WBS.CN	Construction

5. Layouts

There are four Primavera Scheduler layout types, which are distinguished by who can access them. Global layouts can be accessed by all users, user layouts are specific to user, and project layouts are available to anyone who has access to that project.

Global layouts are part of the PMRS configuration and can only be changed by approval of the Configuration Management Team (CMT). Global layouts are typically meant to assist users with specific scheduling or reviewing processes and help WSDOT communicate project information consistently across the state.

Additional Resources

- Primavera Scheduler Training Manual, Lesson 2

Configured Global Layouts

The following configured global layouts are available in Project View, WBS View, Activity View, and Assignment View.

Project View		
Layout Name	***Purpose***	***Grouped by***
EPS Layout	General Project Info: Cost, Schedule and Responsible Party	EPS
Owner Region Layout	Project List by Owner Region	Owner Region
State Route Layout	Project List by SR	State Route
WSDOT Status Layout	Projects by stage of development	WSDOT Status

WBS View		
Layout Name	***Purpose***	***Grouped by***
WSDOT WBS Layout	Schedule, Cost and percent complete per WBS level	WBS

Activity View		
Layout Name	***Purpose***	***Grouped by***
_WSDOT 30-Day Lookahead Project Schedule	Upcoming tasks	WBS
_WSDOT 60-Day Lookahead Project Schedule	Upcoming tasks	WBS
_WSDOT 90-Day Lookahead Project Schedule	Upcoming tasks	WBS
_WSDOT Assign Activity Code Layout	For assigning common activity codes	WBS
_WSDOT Assign Roles Layout	For assigning roles to activities	WBS
_WSDOT CPMS Milestone Report	Shows the reportable six milestones and their dates	EPS/WBS
_WSDOT Detail Project Schedule	Review durations and performance % complete	WBS
_WSDOT MDL Gantt Chart View (Like PDIS)	Replicate PDIS view	Task Manager
_WSDOT MDL Schedule	Show activities by deliverable	MDL
_WSDOT MDL Task List View (Like PDIS)	Replicate PDIS view	MDL
_WSDOT Monthly Schedule Report	Layout used as the Monthly Schedule report, must assign activity codes to selected tasks	WBS
_WSDOT Quarterly Schedule Report	Layout used as the Monthly Schedule report, must assign activity codes to selected tasks	WBS
_WSDOT Summary Schedule Report	Layout used as the Summary Schedule report, must assign activity codes to selected tasks	WBS

Primavera Default Layouts		
Activity Network – by Longest Path	Network layout	None
Classic Schedule Layout	Simple task list	N/A
Classic WBS Layout	Task duration and dates	WBS/Start
Current vs, Baseline Schedule Analysis	Bar Chart comparison between baseline and current plan – can be used for multiple projects	Project/Start
Multiple Float Paths	Float analysis	Float Path
Predecessor/Successor Analysis	Relationship analysis	Start
Six-Month Lookahead with Negative Float	Late activities in next 6 months	Start
Standard Activity Status	Do not use	
Timescale Logic View	View timescale logic	WBS
WBS – Detailed Activity Network Analysis	Network diagram and task list together	WBS
WBS Summary Activities	WBS Summary information	WBS
Work Load Analysis	Bar chart labor plan	WBS

Assignment View		
Layout Name	***Purpose***	***Grouped by***
_WSDOT Budgeted Role Assignments by MDL	Estimate labor needs by month per deliverable	MDL
_WSDOT Budgeted Role Assignments by WBS	Estimate labor needs by month per WBS level	WBS
_WSDOT Remaining Role Assignments by MDL	Estimate labor needs for open activities	MDL
_WSDOT Remaining Role Assignment by WBS	Estimate labor needs for open activities	WBS
_WSDOT Role Assignments Summary	Sort assignments by role	Role, WBS & Activity

Primavera Default Layouts		
Activity Resource Assignments	"To Do" list for staff	Resource (need to change this to Role for most regions before using)
Assignment Status Grouped by Resource	Activity work planned and remaining	Resource (need to change this to Role for most regions before using)
Quarterly Resource Cost View	Aging by month and quarter	Resource (need to change this to Role for most regions before using)
Quarterly Resource Units View	Labor needs by month and quarter	Resource (need to change this to Role for most regions before using)

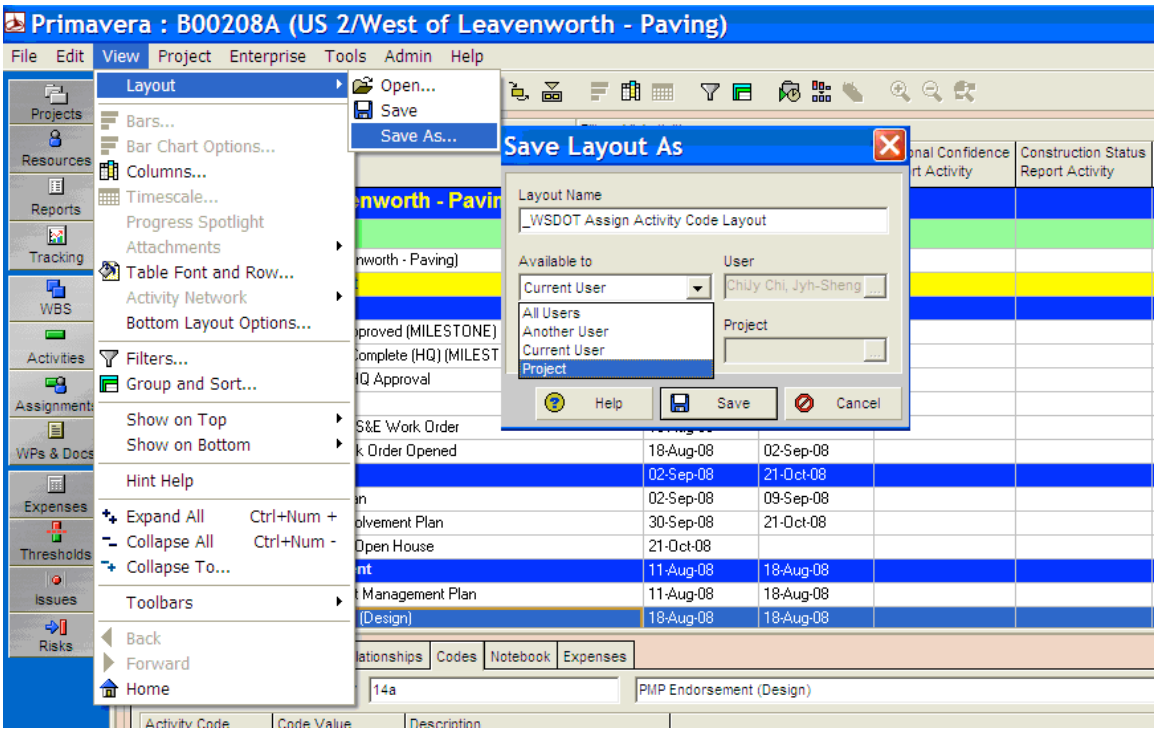
How to Share Layouts

Except for Project view layouts, users can share layouts with others with the "save-as" function.

1. Click View >> Layout >> Save As on the menu

2. Choose "Available to" to "Another User" or "Project". The "Another User" option is used to share layouts with individual Primavera Scheduler users. The "Project" option makes the layout available to anyone accessing that project. The "Project" option is only available for the WBS, Activity and Assignment views.

Users may also share layouts by saving a "User layout" as a "Project layout", or by exporting a layout to a shared drive for others to access and import.



6. Mandatory Milestones

There are six milestones WSDOT is required to report to the Legislature; accomplishment is measured against the milestone commitment date in the legislative budget that is active at the time the milestone occurs. Other milestones are also important for a sound schedule, such as start and finish milestones for important deliverables and phases.

Additional Resources

- Primavera Scheduler Training Manual, Lessons 5 and 16

Performance Reporting Major Milestones - Mandatory

Each project schedule in Primavera Scheduler shall include these CPMS milestones, except when there is no Right of Way involved on the project. Refer to the list of MDL codes in Primavera's Global Activity Codes list to find MDL numbers for each of these major milestones. The MDL list is also posted on the PMRS Web Portal.

1. **Project Definition Complete**: The official document that states the purpose and need for the project and the solution of the deficiency is a formal document called Project Summary. For reporting purposes, the Project Definition Milestone is considered complete on the date the Regional Administrator (RA)/designee signs the Project Summary document.

2. **Begin Preliminary Engineering (PE)**: This milestone marks the start of the project design process. It is usually the first capital spending activity in the project delivery process and is considered accomplished on the date the PE Work Order is authorized.

3. **Environmental Review Documentation Complete**: For reporting purposes, the environmental documentation is considered complete on the date that all necessary National and State Environmental Policy Act (NEPA/SEPA) documentation has been submitted by WSDOT to the appropriate regulatory agency for approval after being processed through WSDOT Headquarters.

4. **Right of Way Certified**: This marks the point in time that the right of way acquisition requirements are met to the point where the project can be approved for advertisement. The milestone has been met on the date the Right of Way Certification is signed by the region Real Estate Services Manager.

5. **Advertisement Date**: This is the date that WSDOT publicly solicits bids from contractors to construct the project. When a project is advertised, it has a completed set of plans and specifications, along with a construction cost estimate. The milestone is met on the date of the advertisement.

6. **Operationally Complete Date**: This is the date when the public has free and unobstructed use of the facility. In some cases, the facility will be open, but minor work items may remain to be completed. A formal ribbon cutting celebration may also be construed as completion of this milestone.

7. Role and Cost Loading

Cost loaded schedules are required by Executive Order. Cost loading can be achieved with either role or expense assignments in the schedule, to provide budget and Estimate to Complete (ETC) values (hours and costs).

Additional Resources

- Appendix 2: PMRS Primavera Scheduler Cost Loading
- Primavera Scheduler Training Manual, Lesson 12

Roles

Roles are generic resources, typically job titles, such as WSF TE Marine Project Engineer or SC Utilities TE2. A role represents a type of resource with a certain level of proficiency rather than a specific individual. Roles can also be used to identify needed agency / specialty group involvement.

PMRS calculates costs by multiplying the labor rate of the role times the number of hours it is assigned in the project. The "Roles Dictionary" stores role labor rates and is maintained by the Regional PMRS Tools Administrators. The default hourly rate is determined by Region, but is typically the highest step in the WSDOT DOP rate table for that role, plus approximately 50%. Zero-rates also are available for all roles.

Each role can also be assigned limits. A limit indicates the maximum availability of the role at any given time. For example, if you have 1 TE2, the availability would be 8 h/d (beginning on January 1, 2008 as a default). If you hire another on September 1, 2008, the availability needs to be increased to 16 h/d as of that date. This permission is granted to Senior Schedulers and the Region Tools Administrator. As the roles are assigned to various activities and WBS levels, these limits determine when the role is over allocated.

Expenses

PMRS also supports cost loading by expense. Expenses can be assigned to an activity or to a WBS level. Expenses can represent traditional expenses, such as travel, hardware, equipment, etc., or be used to represent a lump sum labor cost, such as an agreed upon amount from an internal agreement with a specialty group.

If using expenses to load labor costs, you will typically avoid also assigning roles to those same activities. However, if you do need to mix these cost loading techniques, be aware of the rates associated with any roles that you assign so that they are not duplicating the expense costs.

The benefit of using expenses to cost load is its simplicity. The con is that the cost information is not available at the Assignment view, and all costs cannot be tracked in the same place, neither can spending curves be applied.

Role-based Cost Calculations

PMRS calculates Budgeted Units by multiplying the Original Duration by the Budgeted Units/Time, which is by default 8 hours per day. Change either the budgeted units or the budgeted units/time to achieve the desired number of labor hours for a role assignment.

Remaining Units and At Completion Units equal the Budgeted Units until the activity is updated. Actual Units should always remain zero because WSDOT uses a custom TRAINS Interface to download actual costs and actual labor units. These actuals come in as separate activities, so actual costs and labor units remain zero in the original activities and comparisons between planned and actual are done at the WBS level instead. Because of this, At Completion Cost and Units will equal Remaining Cost and Units. See Section 2 "TRAINS Interface" for more information about how actual labor units and actual costs are treated.

LOE and WBS Summary Activity Types

Level of Effort (LOE) and WBS Summary activity types offer unique ways to cost load. The duration for a LOE activity relies on its predecessor and successor. The cost depends on the units per time, and increases as the task is stretched by its dependency on the other tasks. LOE activities are typically used for ongoing tasks that continue for as long as the project or WBS continues. Examples include administrative support, project management or monthly reporting.

The WBS Summary activity sums up all activities within a common WBS. Its start is the earliest start date of the activities in the WBS and its finish is the latest finish date of these activities. If loading costs onto the activities within the WBS is difficult or unnecessary, for example, when early conceptual development of the schedule has not progressed sufficiently, costs can be assigned to the WBS Summary activity instead. Cost loading can be made

simpler by assigning costs here instead of on each individual activity within the WBS. However, the costs will be aged consistently across the duration of the WBS, so this is not a good method for large abrupt expenditures like real estate acquisition.

When multiple activities in a sequence will be staffed by the same role, and/or numerous small tasks will be completed within one update cycle, cost loading with a role at the WBS Summary activity is preferred. When multiple activities require different roles, activity durations are longer than one update cycle, and/or the control account covers several update cycles, loading roles at the activity is a better solution.

Regardless of where the budgeted costs are assigned, be it the activities or the WBS level, actual costs can only be seen at the WBS level. Budgeted amounts are also rolled up to the WBS level, so that is where comparisons and variances are measured. This scenario embodies the concept of Control Accounts used by WSDOT.

8. Schedule Constraints

Constraints are imposed restrictions used to reflect project requirements that cannot be built into the schedule logic. Constraints are the exception rather than the rule; they can be applied to an activity's start or finish dates.

Additional Resources

- Primavera Scheduler Training Manual, Lesson 11

Global Rules for Schedule Constraints

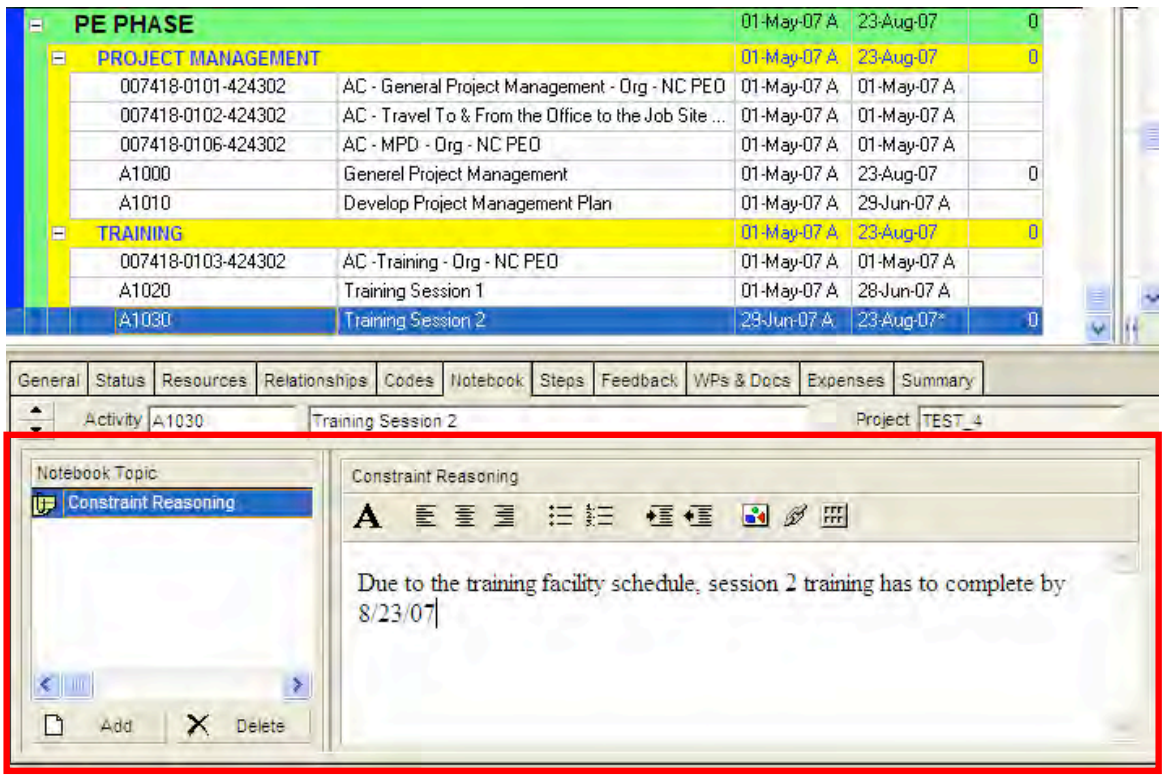
1. Use constraints to set restrictions based on factors outside the project:
    a. Regulatory requirements
    b. Interfaces with other non-WSDOT projects
    c. Other instances as defined by the region

2. Do not use Mandatory Start or Mandatory Finish constrains since they will violate schedule logic.

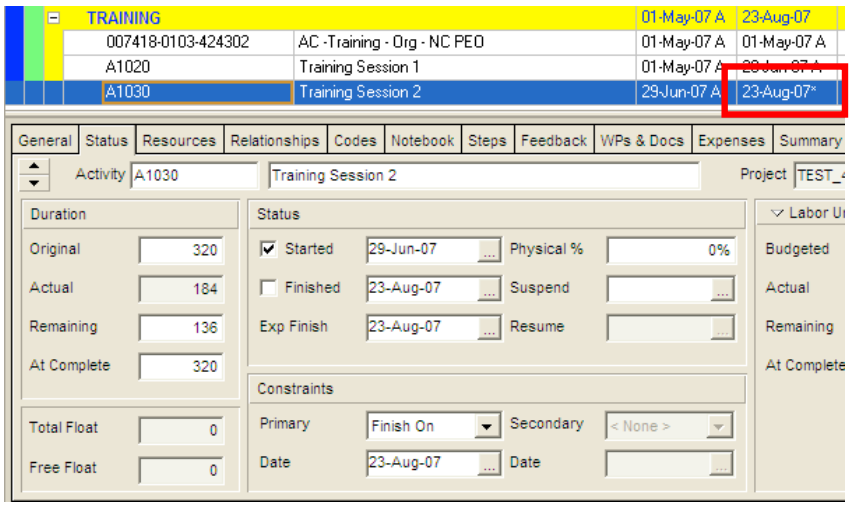
3. If constraints are used:
    a. The purpose of the constraint must be documented in the Constraints Notebook Topic section and the activity code "Constraints Indicator" with the code value "Y" added to the appropriate activity

    b. The start/finish columns must be applied to all layouts (including Gantt charts) and reports so the automatic indicator (asterisk*) will show which activities have been constrained

    c. Create a user defined filter for the activity code "Constraints Indicator" with the code value "Y" to see only those activities that have a constraint applied



d. All layouts (including Gantt charts) and reports will automatically include an indicator (asterisk*) showing which activities have been constrained.



The asterisk will only show for “Start” and “Finish” – “Early Start” etc. will not show the asterisk.

When using Constraints, you must add the activity code “Constraint” with a value of “Yes.” This allows future use of the Constraints filter to find those activities that are constrained.

Optimize the schedule. Once constraints have been applied, the schedule must be calculated to determine the effect that the constraint has on the project, if any.

9. Scheduling the Project (F9)

"F9" is the most important keystroke in Primavera. Updating the schedule is how you track progress.

Additional Resources

- Primavera Scheduler Training Manual, Lesson 16
- Primavera Scheduler Training Manual, Appendix 4
- Primavera Scheduler Training Manual, Appendix 5

Monthly Update

Users have 10 days after the end of the month to complete schedule updates. WSDOT policy requires the data date be set as the first day of the following month. These two dates are not equivalent. Schedule progress can and should be assessed immediately following the end of the month, not delayed until the 10th. Updates must be complete by the 10th when actual costs are loaded into the schedule.

When you press F9, progress is recorded through the end of the day prior to the data date, and all future work is set to start on or after the data date (this is the same as the "As of Date" used in PDIS).

Example: You have completed all of your schedule updates for December and are ready to "Schedule" the project on January 10th (WSDOT's deadline). You achieved 100% completion for an activity as of today, but as of December 31st, it was only 50% complete. Therefore, progress should be recorded as 50% for the January 1st Data Date schedule update.

When using the F9 key, check "Log to File" to create a log of the schedule calculation that can be reviewed after the calculation to check for schedule issues. Use a standard naming convention for the log file and save to the project file. Recommended naming convention is "**MM/DD/YY - Project Name**". Make sure to go back and check important schedule data, such as major milestone dates and negative float, and compare against expectations. If the scheduled dates do not meet legislative requirements for the six major milestones, re-work the logic, sequencing or resources to try to meet the required dates. If this is still not possible, you must request a change to these delivery dates via the Project Change Request Form (PCRF).

Project Settings

Project settings must be correct for F9 schedule calculations to be successful. It is important to understand how selections elsewhere in the tool effect these calculations. If your schedule update is not reflecting the examples shown in this section, please see the PMRS Configuration document and verify that your settings match the PMRS defaults.

WSDOT's default duration type is "Fixed Duration and Units per Time."

Unless there is a clear reason to change this field for a specific activity, the default is recommended for all activities in order to simplify updates and analysis.

When units change, units per time changes.

Activity Duration Type	When you change Units, what Changes?	When you Change Duration, what Changes?	When you change Units/Time, what changes?	When you add or remove a resource, what changes?
Fixed Duration and Units/Time	Units/Time	Units	Units	Units

WSDOT's default percent complete type is "Physical % Complete". This type is work-product driven, not tied to either resource assignments or passing time. It does not auto calculate units, so can be safely used with the monthly TRAINS actuals download.

When using Physical % Complete, you must update the following fields:

- Started Checkbox
- Actual Start Date
- Physical % Complete
- Remaining Duration or Expected Finish Date (See below for guidance on which to use)
- If applicable, Finish Checkbox and Actual Finish Date

These fields are automatically calculated upon hitting F9:

- Activity % complete, duration % complete and performance % complete
- Actual duration
- Remaining labor units (confirm these match expectations)
- Remaining total cost

These fields need to remain zero due to the TRAINS download:

- Units % complete (this will remain 0 throughout life of project)
- Actual labor
- Actual total cost

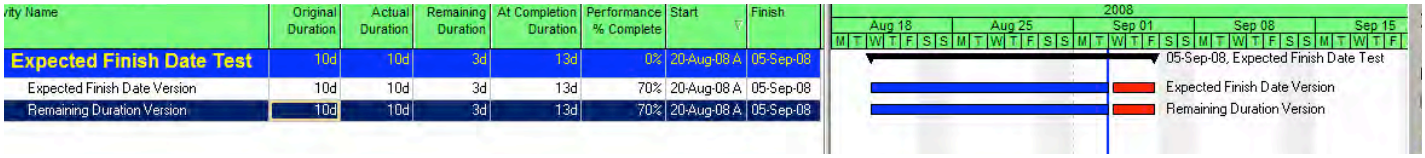
Remaining Duration vs. Expected Finish Date

Either Remaining Duration or Expected Finish Date can be used when updating an activity. Below is a test project with two identical tasks. One will be updated using the Remaining Duration and the other using the Expected Finish Date. Updating with Expected Finish is the exception rather than the rule. Ideally, each active activity should be reviewed monthly.

Here is the project without any progress:

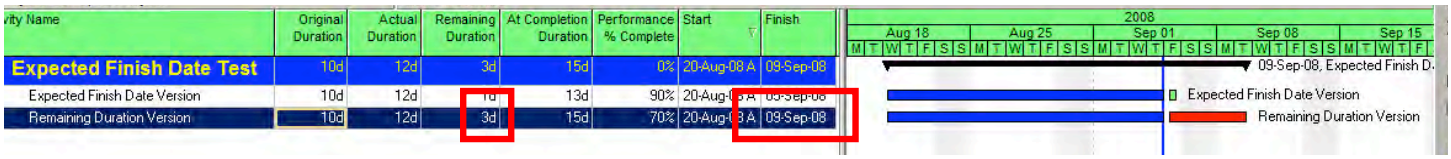
Activity Name	Original Duration	Actual Duration	Remaining Duration	Schedule % Complete	Start	Finish
Expected Finish Date Test	10d	0d	10d	0%	20-Aug-08	02-Sep-08
Expected Finish Date Version	10d	0d	10d	0%	20-Aug-08	02-Sep-08
Remaining Duration Version	10d	0d	10d	0%	20-Aug-08	02-Sep-08

When progress is updated using the two methods (3 days remaining duration for the Remaining Duration type task and a Sept 5 Expected Finish Date for the Expected Finish Date task), the following graphic shows the same results:



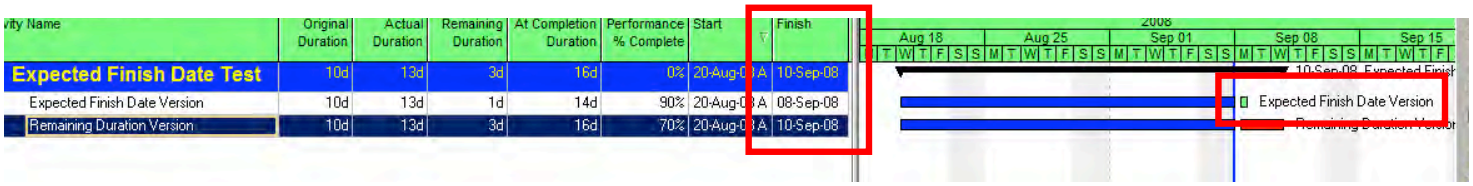
Activity Name	Original Duration	Actual Duration	Remaining Duration	At Completion Duration	Performance % Complete	Start	Finish
Expected Finish Date Test	10d	10d	3d	13d	0%	20-Aug-08 A	05-Sep-08
Expected Finish Date Version	10d	10d	3d	13d	70%	20-Aug-08 A	05-Sep-08
Remaining Duration Version	10d	10d	3d	13d	70%	20-Aug-08 A	05-Sep-08

When the data date is moved again, but neither task is changed, the following graphic shows the differing results: the Remaining Duration type still has 3 remaining days, while the Expected Finish Date version still has the Sept 5 Expected Finish date.



Activity Name	Original Duration	Actual Duration	Remaining Duration	At Completion Duration	Performance % Complete	Start	Finish
Expected Finish Date Test	10d	12d	3d	15d	0%	20-Aug-08 A	09-Sep-08
Expected Finish Date Version	10d	12d	1d	13d	90%	20-Aug-08 A	08-Sep-08
Remaining Duration Version	10d	12d	3d	15d	70%	20-Aug-08 A	09-Sep-08

If the tasks remain unchanged and the Data Date surpasses the Expected Finish Date, the user must remember to check the finished checkbox and enter the actual finish, or else the task will remain unfinished and continue to accrue duration, as shown below (notice there is no "A" after the finish date for the Expected Finish Date task and the bar shows there is more work to be done):



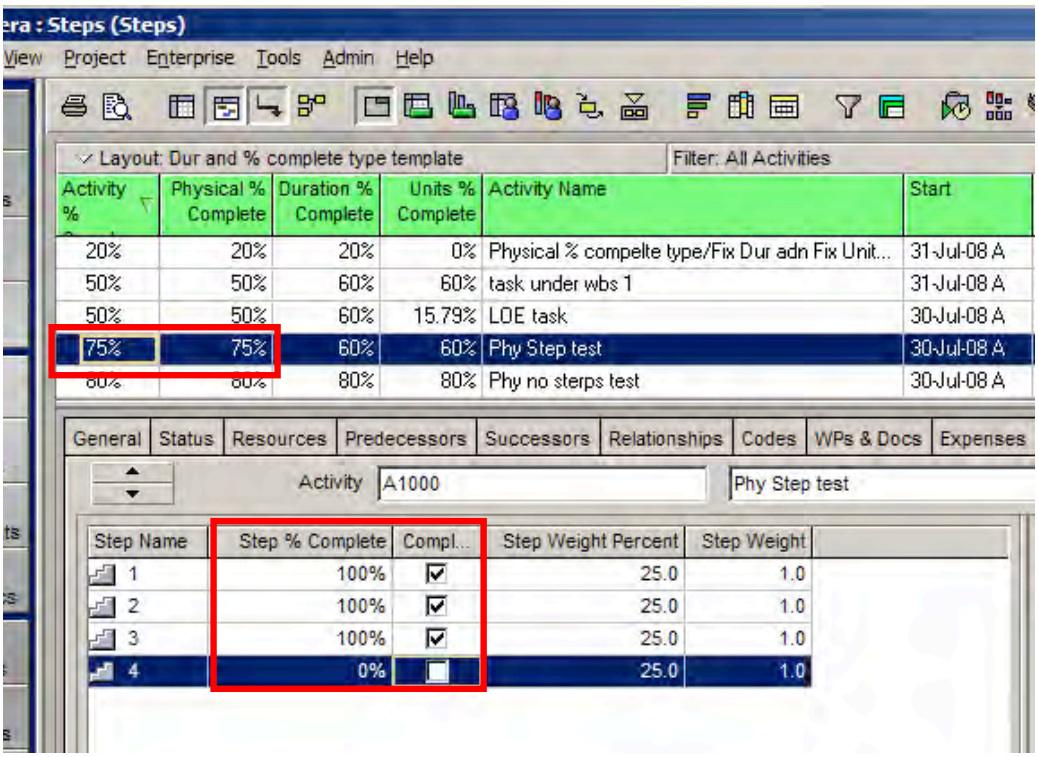
Activity Name	Original Duration	Actual Duration	Remaining Duration	At Completion Duration	Performance % Complete	Start	Finish
Expected Finish Date Test	10d	13d	3d	16d	0%	20-Aug-08 A	10-Sep-08
Expected Finish Date Version	10d	13d	1d	14d	90%	20-Aug-08 A	08-Sep-08
Remaining Duration Version	10d	13d	3d	16d	70%	20-Aug-08 A	10-Sep-08

Also note that when using Remaining Duration, the user needs to know the calendar for each task, as it effects the completion date. The Remaining Duration needs to be updated each time the schedule is progressed. When using Expected Finish Date, future updates do not need to be revised unless the Expected Finish Date changes, and calendar guesswork is eliminated.

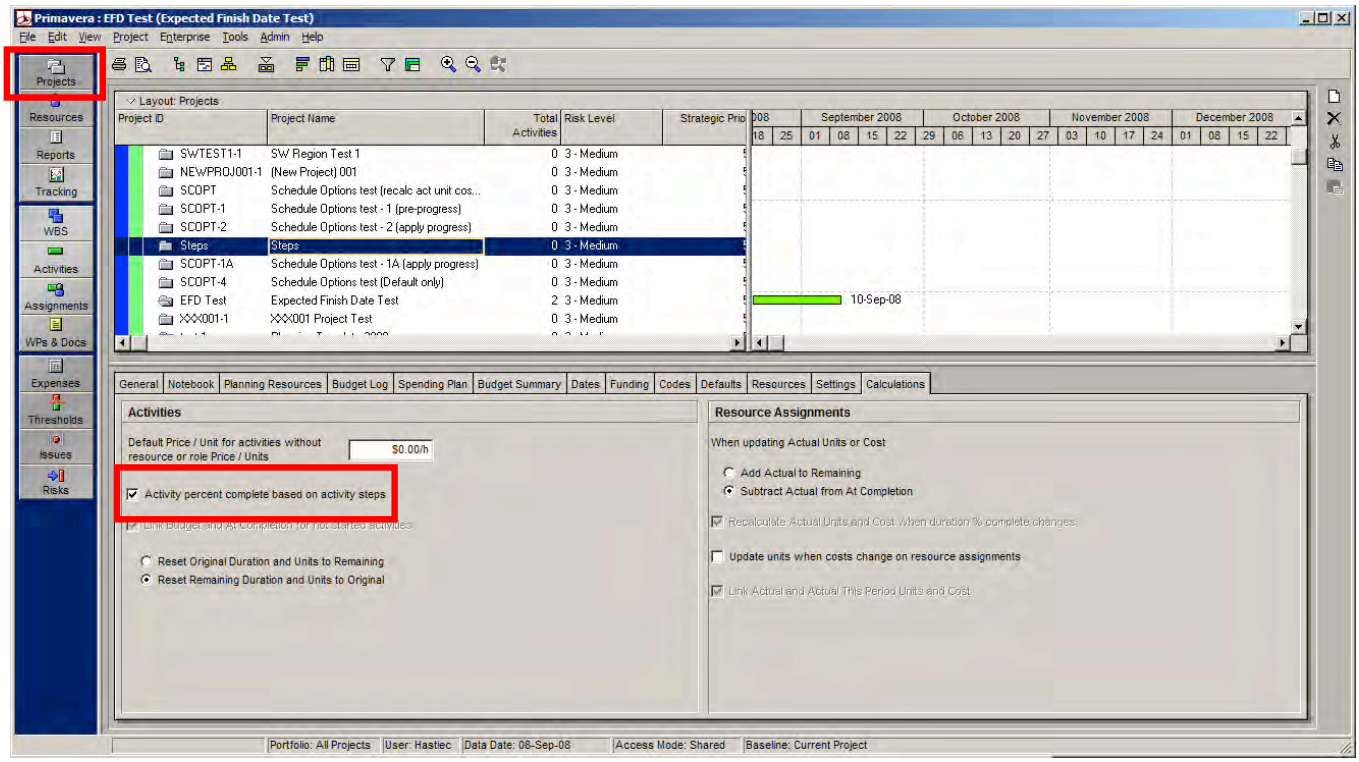
Steps

The Physical % Complete type allows the use of Activity Steps to compute percent complete, if you check the box in the project view/calculations tab that states "Activity percent complete based on activity steps" (the default is unchecked).

Activity completion will be calculated based on the completion of weighted steps (similar to a checklist). "Physical % Complete" becomes a calculated field with this option (you cannot manually enter data in the field).



<u>Important Note</u>: You MUST check the "Activity Percent Computed Based on Activity Steps" box BEFORE you progress any activity in the schedule. If you check the box after progress has been recorded on a task, even if it not a Physical % complete task with steps, the task will be de-progressed back to zero.



You can also use Steps without checking this box. Steps do not affect % complete using this option, and are just informational.

Helpful Hints

- For the relationships between units per time and duration to hold true, the default under "Edit/User Preferences/Calculations tab – Resource Assignments" should be marked "Preserve Existing Assignments".

- The option "Auto Compute Actuals" found under individual Resource and Calendar assignments (not available for Roles) should be unchecked. Units will be updated via the automatic WSDOT download process instead.

- Because of the automated actual cost and unit loading process WSDOT has implemented, do not use the tool "Apply Actuals" (found under Tools/Apply Actuals), which calculates actual units based on the other two parts of the equation.

- Keep the "Calculate Cost from Units" checkbox checked under individual role and, resource assignments so remaining units and costs will be calculated at F9.

- For remaining units and costs to calculate, but actuals to remain blank as required for the TRAINS download process, make sure that in the Project view, on the Calculation tab, that the checkbox "Recalculate actual units and cost when duration % complete changes" is unchecked.

10. User Defined Fields (UDFs)

User Defined Fields (UDFs) are additional fields in Primavera Scheduler used to perform calculation functions. UDFs are defined by application administrators and include the following data types:

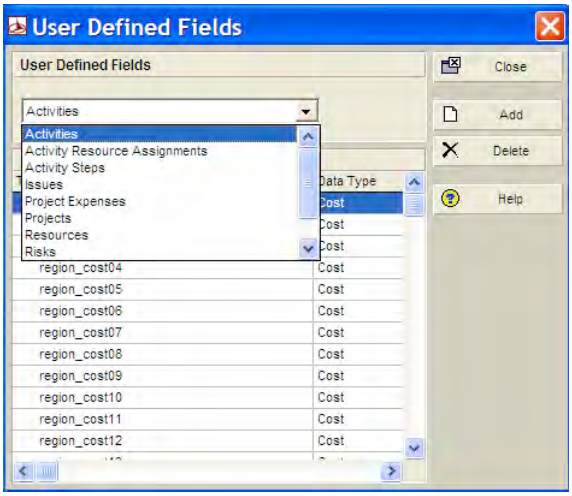
- Cost
- Finish Date
- Indicator
- Integer
- Number
- Start Date
- Text

PMRS UDFs are primarily used to support the integration between Primavera Scheduler and WSDOT legacy systems to provide fields for holding project information.

UDFs are also available for end users. The PMRS configuration includes UDFs for regions and end users in all available functions. End users cannot change the UDF titles, but the column titles can be changed in the layouts to satisfy regional reporting and analysis. Proposed modifications to UDFs must be approved by the PMRS Configuration Management Team (CMT).

Configured UDFs

UDFs are configured in the following functions: Activity, Activity Resource Assignments, Activity Steps, Issues, Project Expenses, Projects, Resources, Risks, WBS, Work Products and Documents.



PMRS has the following configured UDFs at "Project", "WBS" and "Activity Resource Assignments". Only the "Parcel_Counts" will require users' input. All the other UDFs are integrated with legacy systems. The above referenced configured UDF is to facilitate the "Group and Sort" function to meet the project management and schedule analysis needs.

Project UDF Title	UDF Data Type	Data Source
01_CPMS_Current_PROJ_DEF_COMPL_Date	Finish Date	CPMS
01_CPMS_Original_PROJ_DEF_COMPL_Date	Finish Date	CPMS
02_CPMS_Current_PE_PHASE_START_Date	Finish Date	CPMS
02_CPMS_Original_PE_PHASE_START_Date	Finish Date	CPMS
06_CPMS_Current_ENVIR_DOC_COMPL_Date	Finish Date	CPMS
06_CPMS_Original_ENVIR_DOC_COMPL_Date	Finish Date	CPMS
16_CPMS_Current_RW_CERT_Date	Finish Date	CPMS
16_CPMS_Original_RW_CERT_Date	Finish Date	CPMS
17_CPMS_Current_CONTRACT_AD_Date	Finish Date	CPMS
17_CPMS_Original_CONTRACT_AD_Date	Finish Date	CPMS
21_CPMS_Current_OPER_COMPLETE_Date	Finish Date	CPMS
21_CPMS_Original_OPER_COMPLETE_Date	Finish Date	CPMS
CN_CPMS_WIN/Phase_Current_$	Cost	CPMS
CN_CPMS_WIN/Phase_Original_$	Cost	CPMS
CN_Responsible_Org._Manager	Text	CPMS
CN__Responsible_Org.	Text	CPMS
CN_TRAINS_Auth_$	Cost	TRAINS
CN_Work_Order_Number	Text	CPMS
Parcel_Counts	Integer	Users' Input
PE_CPMS_WIN/Phase_Current_$	Cost	CPMS
PE_CPMS_WIN/Phase_Original_$	Cost	CPMS
PE_Responsible_Org._Manager	Text	CPMS
PE__Responsible_Org.	Text	CPMS
PE_TRAINS_Auth_$	Cost	TRAINS
PE_Work_Order_Number	Text	CPMS

Project UDF Title	UDF Data Type	Data Source
RW_CPMS_WIN/Phase_Current_$	Cost	CPMS
RW_CPMS_WIN/Phase_Original_$	Cost	CPMS
RW_Responsible_Org._Manager	Text	CPMS
RW__Responsible_Org.	Text	CPMS
RW_TRAINS_Auth_$	Cost	TRAINS
RW_Work_Order_Number	Text	CPMS
TRAINS_Auth_$	Cost	TRAINS

WBS UDF Title	UDF Data Type	Data Source
Phase_Code_Number	Number	CPMS
Responsible_Org	Text	CPMS
Responsible_Org_Manager	Text	CPMS
TRAINS_Auth_$	Cost	TRAINS
Work_Order_Number	Text	CPMS

Resource Assignments UDF Title	UDF Data Type	Data Source
Contract_Number	Text	TRAINS
Finance_Code	Text	TRAINS
Organization_Code	Text	TRAINS
Payable_Agreement_Number	Text	TRAINS
Parcel_Number	Text	TRAINS
PIN	Text	TRAINS
Work_Order_Group	Text	TRAINS
Work_Operation_Code	Text	TRAINS
Work_Order	Text	TRAINS

PMRS reserves 30 fields of each type of Region UDF (from region_TYPE1 to region_TYPE30). Users shall maintain the UDF's name as "region_TYPE#". Regions can customize column titles to satisfy their reporting and analyzing needs instead of changing the title of UDFs. The following are examples for each type of UDF:

UDF Title	UDF Data Type
region_cost1	Cost
region_end_date1	Finish Date
region_indicator1	Indicator
region_integer1	Integer
region_number1	Number
region_start_date1	Start Date
region_text1	Text

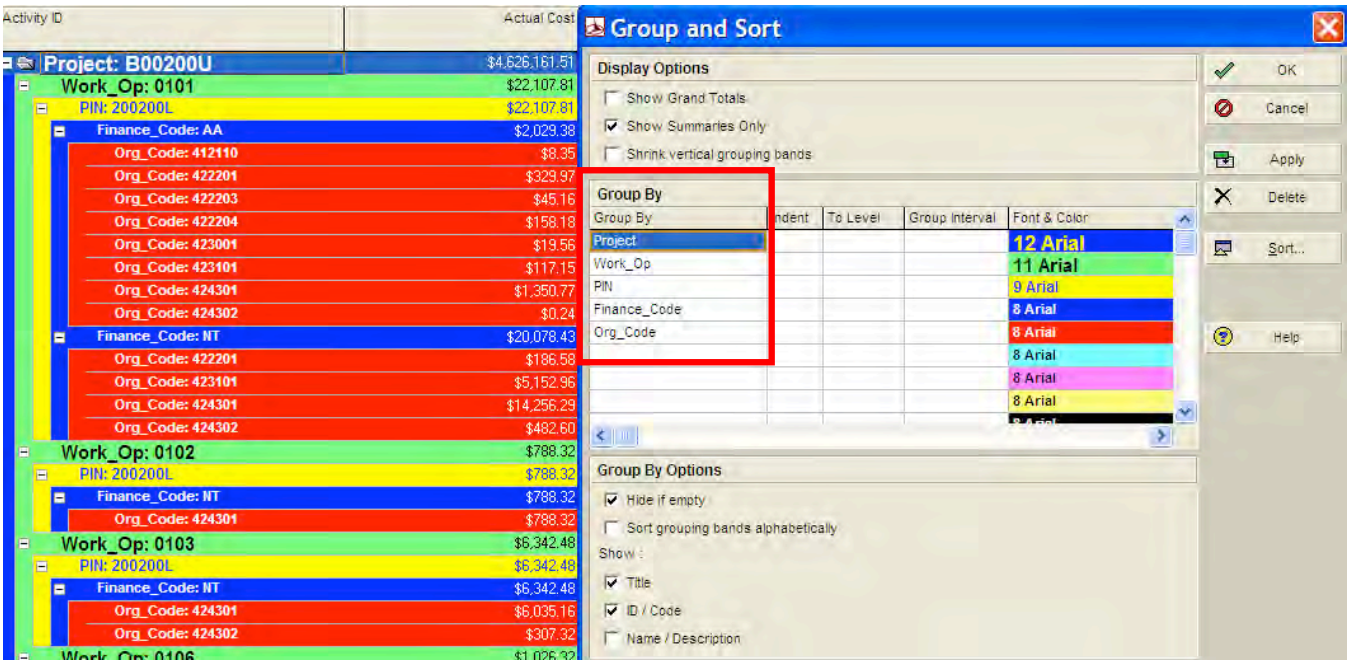
PMRS also reserves 30 fields of each type of User UDF (from user_TYPE1 to user_TYPE30). Users shall maintain the UDF's name as "user_TYPE#". Users may customize column titles to satisfy their reporting and analyzing needs instead of changing the title of UDFs. The following are examples for each type of UDF:

UDF Title	Data Type
user_cost1	Cost
user_end_date1	Finish Date
user_indicator1	Indicator
user_integer1	Integer
user_number1	Number

UDF Title	Data Type
user_start_date1	Start Date
user_text1	Text

How to Use Configured UDFs

1. The user can choose the UDFs as the "Group By" options in the "Group and Sort" function. Following screen shows a sample "Group and Sort" in the Assignment view.



11. Work Breakdown Structure (WBS) vs. Master Deliverable List (MDL)

This procedure addresses the differences between the Work Breakdown Structure (WBS) and the Master Deliverables List (MDL) as they are used in the PMRS Primavera Scheduler configuration. This comparison documents the details in definition, data type, ownerships, functionality, change management, and purposes and uses.

Additional Resources

- Appendix 3: Using the MDL in Primavera Scheduler

WBS vs. MDL Table

	Work Breakdown Structure (WBS)	Master Deliverable List (MDL)
Definition	A deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create required deliverables. It organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of the project work. The WBS is decomposed into work packages. The deliverable orientation of the hierarchy includes both internal and external deliverables. (PMI PMBOK Guide 3rd Edition)	The Master Deliverables List (MDL) is a comprehensive listing of project elements that is agreed to by all regions. The MDL is organized in project phases and listed down to the deliverables level. It provides consistently applied names of the deliverables. The categories and deliverables are consistently named across the state, providing efficiency for the staff and accountability to the public.
Data Type	The WBS is project specific data in Primavera Scheduler. The WBS can vary by project. There is no programmatic restriction to the structure of the WBS in Primavera Scheduler.	MDL is one of the statewide standard activity attributes which are called "Global Activity Code" in Primavera Scheduler. This activity code is required on all schedule activities.
Ownership	PE/RW/CN Phase - WSDOT All other WBS elements - Project	WSDOT
Functionality	WBS is the main grouping and sorting structure of the project schedule information.	The MDL enables users to group and sort project schedule information by deliverable in Primavera Scheduler.
Change Management	Project managers may modify the WBS to fit the project's need, and communicate the changes with project staff. The revised WBS should be reflected in the latest project management plan (PMP).	The MDL will evolve over time. Users may contact region representatives with their comments and suggestions. Configuration Management Team (CMT) will consider comments and suggestions, and will make necessary changes on a periodic basis.
Purposes & Uses	The structure of the WBS is created to meet the control and management requirements. Primavera Scheduler provides users the flexibility to create a project WBS. Users may tailor the WBS from templates or historical projects, use the MDL structure as a starting point to develop a project WBS, or create a unique WBS for project control and management requirements.	MDL provides a state wide standard structure to report project progress and project performance. The MDL activity code facilitates the development of state wide reports. Grouping activities by MDL enables users to report the status of each deliverable, such start dates, finish dates, resource assignments and costs.