

Interim Schedule and Budget Guideline

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Purpose

The purpose of this document is to provide interim guidance on the development and updating of Primavera project schedules and financial budgets for NJDOT Capital Projects. This interim guidance is in accordance with the NJDOT Project Delivery Process and was produced by the Office of Schedule and Budget Management. This guide is intended for use by the Division of Capital Investment Planning and Development, Division of Project Management and other NJDOT service areas involved in developing and utilizing schedules and budgets for NJDOT Capital Projects.

Introduction

Primavera project schedules and financial budgets are required for the Concept Development (CD), Preliminary Engineering (PE) and Final Design (FD) phases of the NJDOT Project Delivery Process. Project scheduling and budgeting are integral elements of an effective project control system. Project schedules are produced utilizing Primavera (P3e) software.

Project Scheduling Overview

The Division of Project Management (DPM) Project Manager should establish a project schedule at the earliest feasible time and monitor and update the schedule throughout the life of the project. The project schedule must be realistic and show the activities required to complete the design. The Project Manager must impose tight control and communicate frequently with all members of the project team to meet the planned schedule.

While the Project Manager is directly responsible for establishing schedule milestones and maintaining overall schedule control, the implementation of the planning and scheduling system is the duty of the Project Scheduler assigned to the project team. However, for the system to perform its functions effectively, the support of all project personnel involved in the scheduling process is required.

The following are the scheduling system's major functions:

- Provide time-scaled network schedules that define when work tasks are due
- Provide tools for evaluating schedule performance to date
- Provide tools for forecasting final schedule performance
- Produce reports that provide the Project Manager with information necessary to monitor schedule status and to initiate corrective action if required
- Assist in implementing corrective action when required - this may include authorizing overtime, increasing manpower, or intensifying expected activity. If this does not solve the slippage problem, it is desirable to revise the schedule and re-plan (re-baseline) the project

All NJDOT Capital Projects require a schedule and formal approval. There will be no exceptions.

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Developing a Draft Project Schedule

The Project Scheduler, with guidance from the Project Manager, develops a schedule based on the Scope Statement and historic data. The Project Manager will use the schedule to develop an engineering man-hour estimate and, therefore, it is imperative to develop an accurate schedule first. The Project Scheduler prepares a draft schedule upon finalization of a project's Scope Statement. The following are the steps to develop a draft project schedule:

- The Project Scheduler will complete a Primavera Action form and email it to the Office of Schedule and Budget Management. The Project Scheduler will request that a draft schedule be created in the what-if area in Primavera for a particular phase of work.
- After the request is received, the Office of Schedule and Budget Management P3e Administrator will create the project schedule and send an email to the Project Scheduler indicating that the project schedule has been created.
- The Project Scheduler will then complete the project schedule input (activities and associated durations), calculate the schedule and run the Scheduling/Leveling Report to identify any scheduling problems, such as a logic loop or open-ended activities. If schedule errors are identified, the Project Scheduler will need to correct the errors. Finally, the Project Scheduler will review the draft schedule with the Project Manager and verify that the project's significant dates are correct and produces the bar chart.
- After the Project Manager is satisfied with significant dates, the Project Scheduler emails the Office of Schedule and Budget Management and requests that the draft schedule be moved to the active area.
- The Project Manager is responsible for monthly updates.

Developing Project Schedule Baselines and Approvals

- The Project Manager accesses the Project Reporting System (PRS) to create a ***Project Baseline Schedule Action*** form by going to the "Baseline" tab in PRS and clicking on "Establish Schedule" to create it.
- Once the form has been added, the Project Manager should click on the "Refresh Dates" button to pull in the required dates from Primavera as well as the current "Data Date" for the schedule.
- Once all of the requested information has been completed, including adding Justification/Effects of Request, it should be printed and attached to the schedule which should include the current Data Date and then circulated for approval.
- If this is an approval for a new schedule, it only requires the approval of the Project Manager and Executive Regional Manager.
- Once the Manager approves the new schedule, it should be hand delivered or mailed to the P3eAdministrator to baseline approve the schedule.

Note:

If the Schedule Impacts dates and Data Date are not automatically populated after clicking on "Refresh Dates", please send an email to the Office of Schedule and Budget Management so that it can be corrected prior to printing. If dates are missing and/or incorrect, the schedule will be rejected.

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- After printing and circulating the ***Project Baseline Schedule Action*** form and project schedule to the P3eAdministrator, the Project Scheduler should hold all updates until the project is approved or send an email to the Office of Schedule and Budget Management requesting that a copy of the schedule be copied to the baseline area.
- Once the schedule baseline is approved and finalized, the Project Scheduler should perform all updates immediately. If seeking approval during an update cycle, send an email to the P3eAdministrator to make a copy of the schedule you are circulating for approval, with a request to copy the schedule to the Baseline area so that you can continue the required updates.
- Once the Project Manager signs the form, it should be forwarded to their Executive Regional Manager for approval. Each person on the approval list is responsible for passing it on to the next person. If there's a need for this process to move quicker, the Project Manager can hand carry the form to obtain the necessary signatures. The project baseline cannot be processed without the required signature(s).
- Once the baseline schedule has been processed, the P3eAdministrator will return the original to the Project Manager and retain a copy for the Office of Schedule and Budget Management files.

Baseline Schedule Revisions

Once the baseline schedule has been created and approved, the actual schedule progress is compared against the baseline schedule for every update and report. The actual schedule will either show that an activity is on, ahead or behind schedule as compared with the baseline. The baseline can only change with an approved Project Baseline Schedule Action form revision.

When project events have changed significantly and the schedule baseline needs to be changed, the Project Manager initiates this change with the Project Scheduler. Baseline schedules should be re-baselined only when the scope of the project changes, or when significant issues (funding, local issues, etc) occur. A project's baseline schedule should not be re-baselined to remove large amounts of negative float (e.g., if there is excess slippage, all remaining dates are expected to be met).

The Project Manager fills out a Project Baseline Schedule Action form and follows the same procedure outlined above; however, the approval now requires concurrence by the Division Director.

The Project Scheduler should attach a bar chart of the new schedule to the form which includes the current printed **Data Date**.

Project Schedule Updates

Active project schedules need to be updated to be useful. The Project Scheduler will update the actual project schedule on a monthly basis. The Project Manager is responsible to ensure that all schedules are updated monthly. The Office of Schedule and Budget Management will monitor the monthly updates and report to NJDOT Senior Management if any schedules are not updated.

If, because of the update, the project's award date slips more than five days (or to a new calendar month or fiscal year), the Project Scheduler should notify the Project Manager immediately and suggest that they meet to discuss the situation. The slippage could be a result of some logic condition that the Project

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Manager is not aware of. All issues should be addressed immediately to remedy the situation, if necessary, before publishing the next monthly status report. Both the Project Manager and the Project Scheduler should be aware of the risk for such a slippage if a final date is near the end of a calendar month or fiscal year. Both the Project Manager and Project Scheduler should be aware of activities on the schedule's critical path.

The following is the schedule update process:

- The Project Scheduler will produce and distribute a schedule update form to the Project Designer at least one week before the due date for schedule updates. The update form lists all activities scheduled to start, finish or progress during the next sixty days. The Project Scheduler should use the data date supplied by the Systems Operations Unit for the current month.
- The Project Designer will mark up the update form with the actual start, finish dates and/or remaining durations of each listed activity.
- When the Project Scheduler receives the completed update forms from the Project Designer, the scheduler should first review it to ensure the form is complete and there are no questions about the supplied information.
- If acceptable, the Project Scheduler should provide it to the Project Manager for concurrence. Once concurred with, the schedule update form is returned to the Project Scheduler for processing.
- The Project Scheduler will mark any actual dates in Primavera P3e and move the data date to the new date reflected on the current year's Report Cycle chart, which is provided annually by the Office of Schedule and Budget Management. There will be NO exceptions. If there is no progress on a project, advance the Data Date.
- The Project Scheduler will fill in any new remaining durations or projected finish dates.
- Once the schedule update is completed, the Project Scheduler will print a copy of the schedule and provide it to the Project Manager for review.

Activity Schedule Guidance

If an activity started:

- If an activity started on the date in the Early Start column, write an "A" for actual next to the early date or on the update line, and update the forecast finish.
- If an activity started on a date other than the date in the Early Start column, write the actual start date on the update line and an "A" next to it, and update the forecast finish.
- If an activity is not listed as started, write the activity number and the actual start date on the form. This may be a logic change and requires revisions to the schedule. The Project Manager should write down the logic change (if any) and be available to revise the schedule with the Project Scheduler and update the forecast finish.

If an activity completed/finished:

- If an activity finished on the Early Finish date, write an "A" actual next to the early date or on the update line.

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- If an activity finished on a date other than the Early Finish date, write the actual finish date on the update line and an “A” next to it.
- If an activity that is not listed finished, write the activity number and the actual finish date on the form. This may be a logic change and requires revisions to the schedule. The Project Manager should write down the logic change (if any) and be available to revise the schedule with the Project Scheduler.

If an activity has an actual start date:

- If an activity has an actual start date then the only way the activity can be progressed is by revising the remaining duration. The forecast finish date is based on the remaining duration relative to the new data date.
- To change the expected finish date, either change the remaining duration or enter that date (**without marking the actual box**).

If an activity did not start:

- If an activity was scheduled to start, but did not, leave the update line blank and let the logic and original duration (change if necessary) dictate the new forecast date.

Update Timeframes:

Complete all updates within 24 hours of receipt. Once the update is complete, the Project Scheduler will print a new copy and submit to the Project Manager for record.

Budget Process Overview

The Office of Schedule and Budget Management is responsible for developing the engineering man-hour cost estimate for in-house support of a Consultant-designed project that is advancing into Preliminary Engineering and Final Design. The budget developed by the Office of Schedule and Budget Management is used to obtain the funding authorization for a Capital Project. All budgets require an active schedule in Primavera P3e in order to process the budget request. A detailed Scope Statement is also required. Budget requests that are not accompanied by a Scope Statement and active schedule will be rejected.

Requesting a Budget

- The Project Manager will email a request to the Office of Schedule and Budget Management requesting a budget and attach the required Scope Statement and appropriate narrative.
- The Office of Schedule and Budget Management Budget Supervisor will review the budget request package for completeness. This will include a review of the Scope Statement and narrative and the schedule to assure it is in the “active” area in P3e.
- If the budget request and backup information is not acceptable, the Budget Supervisor will return the budget request to the Project Manager for corrective action.
- If the budget request is acceptable, the Office of Schedule and Budget Management Budget Supervisor forwards the budget package to a Budget Analyst for processing.

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Developing a Budget

- The Budget Analyst will develop the draft budget using the Budget Interface System in PRS. The Budget Analyst will verify project classification in PRS, project estimates, verify the status of the previous budget and check for any un-budgeted Contract Agreement Modifications (CAMs).
- The Budget Analyst will create a budget version (i.e. PE, FD, or PE/FD Revision). The Analyst will also associate the appropriate activities to the budget, associate the appropriate units involved and assign a due date (consultant-designed projects, budget is circulated for support hours for five working days; in-house-designed projects, budgets are circulated for ten working days).
- The Budget Analyst will circulate the budget request with due date to appropriate in-house units via email for their design/support hours.
- After the due date, the Budget Analyst will lock the budget and send the draft report to the Project Manager to review.
- The Project Manager must reach out to the units that did not respond to enter their hours and request the Budget Analyst to unlock the budget and negotiate any design/support hour changes with SME units. The Budget Analyst will re-lock the budget after all in-house units make changes.
- The Budget Analyst will send the draft budget to the Project Manager to review and concur or provide changes.

Finalizing a Budget

- The Project Manager will send a request to finalize the draft budget. If the project is a consultant design project, the Project Manager will supply the negotiated consultant design dollar amount to the Office of Schedule and Budget Management Budget Analyst.
- After finalizing the budget, the Budget Analyst will create a baseline form in PRS and notify the Project Manager that the budget is finalized and request that the Project Manager enter the budget justification in the baseline form.
- The Project Manager will enter justification on the baseline form, attach Project Budget Reports, sign, and circulate for approval and forward the completed Budget Action Request Form to the Executive Regional Manager.
- The Executive Regional Manager will review and approve the Project Baseline Budget Action form and forward to the Office of Schedule and Budget Management.

Approving an Original Budget

- The Office of Schedule and Budget Management will log the package into the Budget Database and approve the budget in PRS.
- The P3eAdministrator will process the baseline and approve the budget in PRS and P3e. A copy of the approved Project Baseline Budget Action form will be sent to the Project Manager and the original is retained in the Office of Schedule and Budget Management.

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Budget Revisions

The above procedure should be followed to develop and finalize budget revisions and CAMs.

- The Executive Regional Manager will review and approve the Project Baseline Budget Action form and forward the form to the Office of Schedule and Budget Management.
- The Office of Schedule and Budget Management Budget Supervisor will review and approve the baseline revision form and forward to the DPM Director for approval.
- The Office of Schedule and Budget Management will log the package into the Budget Database and approve the budget in PRS and the P3e Administrator will process the baseline approval in PRS and P3e. A copy of the approved Project Baseline Budget Action form will be sent to the Project Manager and the original will be retained in the Office of Schedule and Budget Management.

Independent Cost Estimate (ICE) Overview

An ICE is developed for consultant design services for projects advancing into the Preliminary Engineering or Final Design Phases. The ICE is in conformance with FHWA's requirements as outlined in 23 CFR, Chapter 1, and Part 172 – Administration of Engineering [CITE: 23CFR172]. If a new consultant selection is necessary, follow the standard consultant selection process covered in Preliminary Engineering.

Requesting an ICE

- The Project Manager will email a request to the Office of Schedule and Budget Management requesting an ICE and attach the Phase Scope Statement, Consultant Technical proposal without hours or dollar amounts, if available, and a phase activity Schedule.
- The ICE Supervisor will review the Scope Statement, schedule and any other information provided by the Project Manager. ICE requests that do not contain a detailed Scope Statement will be rejected. If the ICE request is acceptable, the ICE Supervisor will send the ICE package to ICE staff for processing.

Developing an ICE

- The ICE Unit will review and concur with the Project Classification. If necessary, consult with SMEs for their assistance in developing man-hour estimates on unique or major tasks outlined in the proposal. Submit Preliminary ICE Report to the Project Manager.
- The ICE Unit will develop a draft ICE using the ICE Administration in PRS to create the ICE Summary and ICE Estimate Detail reports.
- The ICE Unit submits draft ICE Report to the Project Manager for review and/or concurrence.
- The Project Manager concurs with the draft ICE Report or provides comments to the ICE Unit.
- The ICE Unit coordinates with Project Manager to resolve any discrepancies and/or to incorporate changes.

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Finalizing an ICE

- The ICE Unit incorporates changes into the ICE and sends a Final ICE report via email to the Project Manager and finalizes the ICE in PRS.
- The Project Manager sends the final negotiated consultant proposal including the cost and man-hours via email to the Office of Schedule and Budget Management.

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