

1.04 PROJECT CREATION AND FINANCES

SAP Steps for new projects (click on link to go to work instructions).

ZJ08 – Initiate Project Creation – PM

([ZJ08 Initiate Project Creation](#))

(<http://vupweb.dot.state.co.us/gm/folder-1.11.29385?mode=EU&originalContext=1.11.30034>)

SBWP – Complete Project Manager Tab – PM

([SBWP Complete CJ20N](#)) (<http://vupweb.dot.state.co.us/gm/folder-1.11.32630?mode=EU&originalContext=1.11.30034>)

CJ20N – Enter GIS details in SAP Project Manager – PM

([GIS Project Limits](#)) (<http://vupweb.dot.state.co.us/gm/folder-1.11.29337?mode=EU&originalContext=1.11.30034>)

CJ20N – Create Project Structure from Standard Template –

([Add Template](#)) (<http://vupweb.dot.state.co.us/gm/folder-1.11.29381?mode=EU&originalContext=1.11.30034>)

FMMEASURE – Maintain Funded Program for Project

([FMMEASURE](#)) (<http://vupweb.dot.state.co.us/gm/folder-1.11.28338?mode=EU&originalContext=1.11.30034>)

CJ20N Release Project (CJ20N) -

[Release project](#) (<http://vupweb.dot.state.co.us/gm/folder-1.11.29333?mode=EU>)

Use the link to SAP Training for SAP checklists for full list of transactions and workflow steps. [SAP checklists for project processes](#) (<http://vupweb.dot.state.co.us/gm/folder-1.11.33901?mode=EU>).

1.04.01 Description

After a project has been scoped and is part of the current STIP, a project is ready to be created in SAP. Although one project usually covers all phases, sometimes it necessary to create multiple projects under one STIP number. For example, the Resident Engineer may create a project for design and a separate project for construction. The

Resident Engineer should confer with the Business Office to ascertain if there will be any benefits or deterrents to fragmenting the STIP line item into more than one project.

The Resident Engineer begins the process in SAP with Transaction Code ZJ08. ZJ08 starts a workflow that is routed to OFMB, the person who initiates ZJ08, and the Region Business office. See the online SAP work instructions for more details on project creation steps and information required. SAP Checklists provided in SAP training website show the participants and order for the SAP workflow.

KEY ITEMS TO KNOW FOR PROJECT CREATION - These fields combined, are the project information sent to FHWA via the Financial Management Information System (FMIS) and so it is key to have it as accurate as possible.

PROJECT DESCRIPTION (NAME) – ZJ08

The project name will be based on the information supplied with the request for the project using SAP transaction code – ZJ08. The information should be as descriptive as possible using state roads or federal highways and cities or counties.

PROJECT DESIGNATORS (General Location) – ZJ08

The Project Designators is the general location of the project which is used to generate the project number. If you choose a highway segment, then the system will then generate a number after that highway segment in sequential order. Example project number 0504-055 is on Highway 50 segment 4 (between La Junta and Kansas) and is the 55th project on this segment.

PROJECT PRE-FIX

The business manager will designate the Project Pre-fix to be used on the project during this process. It will depend on the primary scope, location and funding for the project. For example, IM is Interstate Maintenance, FBR is Faster Bridge project, NH is National Highway.

OTHER PROJECT CREATION INFORMATION (fields with a check mark are required)

1. Region Code – Select the Region overseeing the project. For projects not created in the Region, select Statewide (ST). Do not select HQ.
2. Federal System Code:
 - I – Interstate
 - N – NHS non interstate
 - O – Other federal-aid highway
 - X – For conversion purposes (do not use)

- Z – Not on any federal-aid highway (local agency off system projects for example)
3. Advertised By:
- None – The project is design only or a study and will not go to Ad
 - State – This is a project advertised by CDOT and will go to ad. If you choose this option, the business manager must enter an ad date into SAP.
 - Local – This is a project that is advertised by a Local Agency (not CDOT).
If None is chosen above, a reason must be given from the pull down menu.
4. Federal Improvement Code
- Choose an option that best corresponds with the majority of funding or work. For example, if the project is mainly bridge funds then select “bridge replacement (either added capacity or no added capacity).” FHWA will review the code to make sure the work is in line with the funding.
5. State Improvement Code
- The selection here should be similar to the Federal Improvement code based on the funding available.
6. Oversight Designator
- A – CDOT administered – This is the majority of the projects.
 - N – Full FHWA (NHS) The Resident Engineer is responsible for determining whether the project is under CDOT or FHWA oversight. The oversight responsibilities are outlined in the Stewardship Agreement between the FHWA Colorado Division and CDOT. Unless the STA/FHWA agreement differs, full FHWA involvement projects will tend to be new construction or reconstruction projects on Interstate routes with an estimated value greater than \$1 million. The Resident Engineer can contact the FHWA for further guidance.
 - O- Other – This is almost never used. FHWA will indicated if it is needed.
 - X- Full FHWA (Non-NHS) – This is rarely used. FHWA will indicate if it is needed.
7. Construction Engineering by:
- C- Cons/Contr – This is a unique situation. Only use if told to do so.
 - L- Local – Construction oversight by Local Agency.
 - O- Other – Only use if instructed to use for special reasons.
 - S- State - This is standard for CDOT projects.
 - X- For conversion purposes – Do not select
8. Geographic Location, Terrain Type, Proposal of Work.
- a. For the Geographic Location be as precise as possible (similar to, if not exactly the name of the project) by naming the Federal or State road and the city or county (i.e. – CR 520/CR 616 on SH 69 in Huerfano County).
 - b. For terrain type the options are: Level, Mountainous, Plains, Rolling or Urban.

- c. For Proposal of Work list the major activity to be completed (e.g. – Intersection Design, Drainage improvements, Surface Treatment or Safety improvements).
9. % construction complete – this is usually zero
10. Remark or Comments – Add more information here if needed.
11. PROJECT PERSONNEL
- a. This information is key if someone needs to contact appropriate party during any of the project development process.
 - b. The people entered are tied to their organization code and are what is used when SAP sends workflows for key processes in the project development.
 - c. The organization codes associated with the project personnel need to be correct and if there are more than one organization involved in the project there is an alternate Org code.
 - d. The business office also enters in Cost Center codes for the project which should correspond to the Residency in-charge of the project.
12. On System or Off System –
- If it is on a state highway then it is ON SYSTEM. If it is on a City or County road or not on a highway, then OFF SYSTEM.
13. CONTRACT DELIVERY METHOD
- a. Design-bid-build is our traditional method for projects.
 - b. Other options – Refer to Innovating contracting manual.
14. PLANNED LENGTH AND PLANNED UNIT:
- are not tied to the information given in OTIS at this time. Make sure the Planned Length entered matches the mileposts in OTIS. This information goes into Form 463.
15. INNOVATIVE CONTRACTING METHODS
- Check all that may apply to your project. Update as needed as project develops. Refer to Innovative Contracting manual as needed.
16. LOCATION DETAILS
- a. Exit SAP and go into OTIS to enter this information
 - b. Route, beginning and ending reference points, lane quantity, facility type, functional type, and population. DTD has this information for highways on CDOT's Intranet in Data Access – Transportation Data Set and OTIS.
 - c. SAP will carry the project location information to other forms such as Form 463, FMIS, ProjectWise project description, and ZJ40 Project Tracker.
17. RAILROAD DESIGNATOR CODE –
- If there are railroads near the project, use the pull-down menus to select which ones may be involved.
18. County Details, Congressional Districts, Structure ID Details, MPO's, TRP;s, and Commission Districts, and TIP information –

Must press the Calculate County Percentages and Calculate Cong Dist Percentage buttons. This information is calculated automatically based on the project limits entered in OTIS.

19. Other fields such as “Completed construction date” are not required at project creation and can be ignored.

ADVERTISEMENT DATES

The Advertisement Date is the milestone where construction funds are authorized and obligated for the project. This date also serves as the commencement of the period when a project is open for job showings and acceptance of bid proposals. CDOT recognizes three types of Advertisement or “Ad” dates, for use in project schedules. These “Ad” dates are recognized in CDOT’s business application system (SAP):

1. Initial Planned Ad date – Ideally this is the Ad date that each region puts forth prior to July 1st of every year for the upcoming fiscal year’s projects going to bid or when the project is created. This date is entered into SAP by the Region Business Manager.
2. Current Planned Ad date - This is the Ad date which is current and officially agreed to by the RTD. The Current Planned Ad date will match the Initial Planned Ad date until such time during the course of the fiscal year that the RTD has concurred with the necessity to change. Changes to the Current Planned Ad date are entered into SAP by the Region Business Manager.
3. Scheduled Ad date.

This is the date that goes into the Go Sheet.

This is a working Ad date generated by the Resident Engineer based on the most current scheduling information. This Ad date primarily serves as a barometer of progress in the total project. When indicated by a Scheduled Ad date which exceeds the Current Planned Ad date, the Resident Engineer will conduct a further assessment of the project and give consideration to a revision to the Current Planned Ad date (including consulting with the appropriate Region and project personnel).

The Resident Engineer should review CJ20N in SAP after the project is created to be sure all the data is accurate and inform the Business Office of any revisions.

After the project is created in SAP, an email message will be sent to key Region personnel involved indicating the process is complete and show the project information including the 5 digit project code.

The Resident Engineer needs to add a Template to the project before funds can be added to the project in SAP. See the SAP training internal website for work instructions

on adding a template to a project. A project cannot be seen in ZJ40 until the template is added. Once a template is added to the project in SAP, the Resident Engineer can notify the business office that the project is ready to be budgeted. See [Section 1.02](#) for estimations for the Preconstruction Phases for a project.

1.04.02 Federal Authorization and Budgeting

Federal-aid highway funds are authorized by Congress to assist States with the construction, reconstruction, and improvement of highways and bridges on eligible routes and for other special purpose programs and projects. To be eligible for federal funds, projects must meet program requirements as outlined in Section 1.04.03. CDOT requires all highway projects to conform to these federal standards to ensure consistency and to allow for the possibility of adding federal funds to a project that initially is funded without any federal funds. Routine highway maintenance activities such as snow removal or repairing pot holes do not qualify for federal aid.

1.04.02.01 Background:

Federal funding to state transportation projects must be authorized by FHWA prior to initiating any work on a project. Requests for federal aid must be supported by a documented Project Cost Estimate as described in Title 23CFR 630.106. The process of developing an early Project Cost Estimate also provides a foundation for a sound project management plan. These requirements are described in the guidance document: "Controlling Our Critical Path: A CDOT Guide to Better Project Management Practices," and can be found on CDOT's website at:

http://www.coloradodot.info/business/designsupport/design-docs/Controlling_Our_Critical_Path.pdf/

1.04.02.02 Definitions:

Assumptions – An important component of the Project Cost Estimate process is documenting assumptions relative to the project tasks, i.e. definitions, resource needs, durations, etc.

Project Cost Estimate – The estimated total cost (in dollars) to complete the scope of work for a design and/or construction project. The Project Cost Estimate should include separate sections for the various project phases including ROW, Utilities, Design, Environmental, and Construction phases. The estimate should include all project costs (i.e., materials, equipment, labor, engineering, construction, and indirect charges).

Scope of Work – A detailed listing of criteria and objectives required for a project.

Work-Hour Estimate – An estimate of labor hours to complete project tasks in accordance with the established scope of work for a design and/or construction project. Work-hour estimates including both internal and external personnel are required for all projects.

1.04.02.03 Process:

The Resident Engineer must develop a Project Cost Estimate, based on the Scope of Work and assumptions, to request FHWA authorization of federal funds. The Project Cost Estimate should indicate whether work-hours are for internal or external personnel, and should include the labor rates and costs associated with each.

Note: If a consultant is to serve as the Project Engineer on a FHWA Oversight Construction Project (See Construction Bulletin CB 2010-9, "[Guidance for When the Project Engineer is a Consultant](#)"), the Regional Engineer/Project Manager shall submit a separate request for approval from their respective FHWA Operations Engineer prior to contracting such services.

A Project Cost Estimate Worksheet is provided below:



Requirements for the authorization request to FHWA depend on whether projects are staffed with internal (CDOT/Local Agency) resources only, or if they include external (Consultant) resources, as noted below.

- A) For projects staffed EXCLUSIVELY with CDOT and Local Agency Resources, the FHWA submittal only needs to include the Project Cost Estimate. Design costs may be represented as a percentage of the total construction cost estimate, based on historical and inflationary data.
- B) For projects staffed INCLUSIVE of Consultant Resources, the FHWA submittal will include:
 - 1) Scope of Work – Sections of the Scope of Work ONLY where consultant resources are identified.
 - 2) Project Cost Estimate – The Project Cost Estimate shall separately list CDOT and Consultant labor-hours and costs for each phase of the project.

After Region Management personnel including the Program Engineer and Specialty Unit managers concur with the Scope of Work and Project Cost Estimate, the Resident Engineer shall e-mail the authorization request to the respective FHWA Operations Engineer. The e-mail subject line should provide a brief description of the project (i.e., Preliminary Design, Final Design, etc.).

Any increases to previously authorized budgets require FHWA re-authorization. Only those increases greater than \$100,000 require a revised Project Cost Estimate to be included in the re-authorization request to the FHWA Operations Engineer.

1.04.03 Obligation:

After a project has been authorized, FHWA obligates the federal funds, making them available for CDOT to spend for the approved project. Charges cannot be made against any phase of the project until the funds are obligated. It is further important to note that if federal aid has been requested, state authorization is not granted until the federal authorization is received. Work performed on unauthorized projects is not legitimate and could become the personal liability of the individual initiating such work.

1.04.03.01 Definitions:

NCAT: NCAT prevents time/labor charges from hitting the phase, at time sheet entry. The Region Business Office will need to unset NCAT to allow labor charges after Federal authorization is given. The Region Business Office should be notified if the Resident Engineer wants to allow payroll charges. Some projects do not want payroll charges to a particular phase.

NOPT: NOPT (No postings) stops all financial postings to the project. Nothing can be charged to this phase including Purchase Requisitions or direct charges.

ENCUMBRANCE: An encumbrance is a binding obligation to pay.

Pre-Construction Phase encumbrances are generally for ROW acquisition, Utility agreements, and Consultant Task Orders.

Construction phase encumbrances are for the contract with the contractor, Construction Engineering (CE) and Indirects costs calculated for the project.

Intergovernmental agreements (IGA) encumber funds for all phases for the Local Agency on Local Agency projects.

Procedure to Budget Funds: The initiating region must ensure that the project is properly listed in the Statewide Transportation Improvement Plan (STIP) and within the fiscal constraints imposed by the STIP. Each project budget action is individually

processed and verified against its approved STIP line item. Each project is budgeted by phase (ROW, Utility, Design, Environmental, Construction, Miscellaneous, etc.) and provider (i.e. Federal, State, or Other (Local)).

Identify the sources of funding for the project.

For Federal Funds there are subcategories that have to match the characteristics of the project such as Interstate Maintenance and Bridge-On System. OFMB reviews the annual federal appropriation bill by category, comparing the appropriations with the authorizations calculating the percentage obligation limits for Colorado by program. Based upon these calculations, CDOT Regions and the Metropolitan Planning Organizations (MPOs) are allotted funds to spend on actual projects by sub-category. It is from these allotted funds or additional funding provided by a local government that a project receives obligated funding.

The regional business offices must ensure that the project funds from the various federal categories, as well as state and/or local highway funds, are applied in a suitable mix based on estimates from the Resident Engineer.

Funds to be budgeted must be in the current year's STIP. It should be noted that moving funds currently budgeted into a project that are from the same fiscal year is considerably easier than moving funds from a prior fiscal year. For example, if the project needs funds moved from Design to Construction, it will be much easier if the Design funds are in the current fiscal year STIP. If the funds are from a prior fiscal year, they will have to be de-budgeted, rolled forward in the TIP and in the STIP, and re-budgeted into the construction phase.

Determine whether or not the project's budget requires Transportation Commission action. Budget items requiring Commission approval are:

1. Initial Project Budget Actions from certain programs not already approved by Commission as a whole. (i.e., RPP, BRS, FBR)
2. Projects involving Earmarks or Discretionary Funding
3. Local Overmatch not already projected or 100% locally funded projects
4. Strategic Projects (7th Pot)
5. Additional Funding above 15% of prior TC approved Budget

All Budget Actions are processed daily and, if Commission action is required immediately scheduled for the next supplement. The cutoff for Budget Actions inclusion in a Supplement is the 25th of the month preceding the T.C. Scheduled Meeting. These Budget Actions will remain in a "Pre-posted" status until the commission's approval of the Budget Supplement.

After verifying the overall project description, including location and work type with the requested funding and ensures each budget action is linked to a viable STIP number, OFMB applies first and second level approvals to the budget action and determines the Budget Document Type.

OFMB enters the approved budget request into the SAP system which automatically generates the corresponding requests for phase authorization/obligation.

Non-federal-aid phases are authorized and obligated immediately upon Budget Action approval in SAP.

Federal-aid phase fund authorizations and obligations requests are submitted daily for review and approval by FHWA Colorado Division via the outbound FHWA Fiscal Management Information System (FMIS). The approved federal authorization/obligation is received from FHWA via the inbound FMIS interface.

The process of requesting federal-aid **fund authorization/obligation** is differentiated by non-construction and construction phases of work.:

1. Pre-Construction

For the pre-construction phases of a Federal-aid project OFMB's final approval of a budget action in SAP prompts a request to FHWA for federal authorization/obligation via the outbound FMIS interface. Once authorization is granted by FHWA and recorded in FMIS, the FHWA phase authorization date(s) is auto populated in SAP PS via the inbound FMIS interface.

The Right of Way phase requires no further budgetary action by the Region. Actual acquisition, however, must be authorized by Staff ROW upon completion and approval of the ROW plans. Staff ROW notifies the Region, via Form 462A Right of Way Plan Approval, that ROW acquisition may occur.

The Utility phase requires no further budgetary action by the Region, but the region must also submit utility agreements to the utility engineer for processing.

The Design, Environmental and Miscellaneous phase requires no further budgetary action by the Region.

Note: Project Phases are automatically set to NCAT or NOPT (see definitions above) when created. Resident Engineer will notify the business office if they want payroll charges or other charges to be allowed to the Preconstruction phases after budgeting and obligation are complete.

2. For the construction phase Obligation of a Federal-aid construction project (See [Section 2.30](#)):

3. Budgeting Timing before obligation:

Budgeting construction funds is usually in advance of the authorization/obligation process.

Budgeting construction funds can occur when the current STIP year begins for construction phase designated or when the funds are completed in the STIP process.

If additional funds for Construction are required, the budgeting request may initiate the change in the STIP process.

4. Obligation – See [Section 2.30 Form 1180 section](#) for construction funds obligation process.

1.04.04 After Award of Low Bidder

At the time of award, the construction phase budget will be adjusted so it matches Form 65 exactly. The preconstruction phases have to be closed shortly thereafter (approximately 30 days) or a request with justification has to be made to keep the funds open.

The Approved Commission Budget level is significant in determining the number of authorized actions over the life of a project. Use SAP transaction ZJ20 to access Form 65 which will indicate the Approve Commission Budget. It is from this dollar amount that the 10 percent will be computed for determining if Chief Engineer approval is required for project award during the project bid process. It is also from this amount that the 15 percent will be calculated to establish if Transportation Commission Action is required to increase the project budget or for award of a project at bid.

Any request for additional budget greater than 15 percent of the approved Transportation Commission budget will be processed through a budget supplement action, which occurs on a monthly basis.

If the budget request is less than 15 percent of the Transportation Commission approved budget, OFMB may approve the request as an “allotment advice.” Allotment advices include transfers to projects from pools or other projects. Allotment advices are usually processed within a few days.

Any surplus or deficit amounts will be corrected by the Regional Business Managers with a Budget Action submitted to OFMB for approval to de-budget or supplement the amount. If the Regional Business Office wishes to retain this surplus amount, the

business office must request an approval to retain the surplus funds from the Chief Engineer. The request must be submitted to the Bids and Awards section by Monday, NOON, following the Letting Day. See [Section 2.36](#) for additional information on retaining surplus bids.

1.04.05 Supplementing the Budget

There are many reasons that project phase budgets need to be supplemented, including additional work or overruns. In those instances, the Resident Engineer will work with the Region Program Engineer and the Business Office to find sources.

Many requests to add funds to a project do not require Transportation Commission approval. However, in those cases that do require Transportation Commission approval, the Resident Engineer needs to be aware that supplementing a project can take months. See [Section 1.01](#) requirements on STIP/TIP, and Transportation Commission Action (PD 707.1).

The Region should make as few presentations to the Transportation Commission as possible on any given project. If there is any likelihood that several phases such as utilities and right of way are going to run over budget, both requests should be calculated and communicated to the Region Program Engineer as soon as the Resident Engineer has solid figures.

1.04.06 Day-to-Day Financial Management

The Resident Engineer should check their projects in either ZJ40 or ZF70 in SAP to determine the current status of the project funding, expenditures, and encumbrances. It is recommended to use the timesheet report available through the Portal and run the report as needed to see which CDOT employee charges to their project(s) and the indirects that hit the project(s) budget.

If any phase of a project goes into deficit, payment for any phase of the project to a third party will not be processed. For example, if the design phase goes into deficit after the project is awarded in construction, the contractor cannot be paid. The Resident Engineer needs to be aware of CDOT purchasing requirements, rules, and directives. State Procurement, CDOT Procurement, and the Center for Accounting offer training applicable to the financial aspects of running a project. There is an On-line budgeting class available through the Transportation Engineering Training Program (TETP).

Additional References:

1. OFMB Policy and Procedures Manual -
<http://intranet.dot.state.co.us/business/ofmb/other/current/ofmb-policy-manual-4-11/view>
2. PD 707.1 – Annual Budget Process
3. FHWA A Guide to Federal-Aid Programs and Projects
<http://www.fhwa.dot.gov/federalaid/projects.pdf>
4. Title 23, United States Code (23 U.S.C.) Title 23, Highways, of the Code of Federal Regulations (23 CFR) – 630.106 (Project Authorizations (FMIS) Preconstruction)
5. The FHWA/CDOT Stewardship Agreement)
<http://www.coloradodot.info/business/permits/accesspermits/references/stewardship-agreement.pdf>
6. TETP On-line budget training
7. SAP Training website

