

Section 5 Off-System Bridge Program

5.1 Objective

The Off-System Bridge Program primary objective is to inventory, inspect, evaluate, replace and rehabilitate major structures (i.e. major bridges and major culverts) on the public roads owned by Colorado counties and municipalities. The secondary objective is to inventory, inspect and evaluate the tunnels on public roads owned by Colorado counties and municipalities.

5.2 Funding

The Off-System Bridge Program (BRO) is funded by the Bridge Off-System line in the annual Colorado Department of Transportation (CDOT) Budget. The CDOT Budget Bridge-Off System line is funded partially through a mandated federal program and partially through Transportation Commission-directed funds (i.e. other federal/state funds).

The total Off-System Bridge Program minus the Off-System Inspection Program Allocation equals the funds available for major structure replacement or major rehabilitation. A Special Highway Committee (SHC) selected replacement or major rehabilitation project requires a minimum 20% match from the successful Colorado county or municipal applicant.

The inspection program managed by CDOT Staff Bridge ensures that the Colorado county and municipality owned structures are in compliance with National Bridge Inspection Standards (NBIS) and the National Tunnel Inspection Standards (NTIS). This includes the annual National Bridge Inventory (NBI) and National Tunnel Inventory (NTI) update submittals to FHWA.

Off-System Bridge Program funding is managed within CDOT by utilizing the statewide BRO pool and the regional BRO pools. The statewide BRO pool is used as a clearing house for Off-System Bridge Program funds before the inspection projects are created and before the SHC approves project funding. Funds are transferred from the statewide BRO pool to the appropriate regional BRO pool once a project is approved by the SHC. The regional BRO pools are used to fund specific projects within that region that are approved by the SHC. Unused funds in the regional BRO pools are transferred back to the statewide BRO pool so that the Off-System Bridge Program funds remain in the program until used by SHC authorized projects.

CDOT Commentary -

- Other terms used for the Off-System Bridge Program are:
 - BRO - an internal CDOT funding center code used to set up projects
 - Bridge Off System - A term used in annual budget documents
 - Bridge Pass Through - A term used in the CDOT Budget and by local agencies

5.3 Eligible Major Structures

Effective January 2018, CDOT adopted new Poor, Fair, Good and Structurally Deficient major structure definitions that are consistent with updated FHWA national performance management measures for assessing bridge condition (i.e. 23 CFR 490.409 & 23 CFR 490.411). CDOT Staff Bridge worked with the Special Highway Committee (SHC) to adopt the same measures for the Off-System Bridge Program in order to be consistent across the state.

The current eligibility criteria are:

- Major structure (i.e. major bridge or major culvert)
 - Bridge or culvert with a combined clear span(s) along roadway center line greater than 20ft
- Owned by a Colorado county or municipality
- Located on a public road
- The structure is in Poor or Fair condition.
- A structure in Poor condition is eligible for replacement
 - A Poor Major Bridge has a condition rating of 4 or less for: NBI Item 58 - Deck; or NBI Item 59 - Superstructures; or NBI Item 60 - Substructures.
 - A Poor Major Culvert has a condition rating of 4 or less for: NBI Item 62 - Culverts.
- A structure in Fair condition is eligible for major rehabilitation unless it can be shown that replacement is more economical or feasible (e.g. replacement is easier than a major rehabilitation, replacement is faster than a major rehabilitation, replacement has a longer life than a major rehabilitation, etc.)
 - A Fair Major Bridge has a condition rating of 5 or 6 for: NBI Item 58 - Deck; or NBI Item 59 - Superstructures; or NBI Item 60 - Substructures.
 - A Fair Major Culvert has a condition rating of 5 or 6 for: NBI Item 62 - Culverts.

The eligible Off-System major structures will be provided in a report titled the Colorado Off-System Structure Eligibility List.

Any request to use Off-System Bridge Program Funds for a major structure not on the most current Colorado Off-System Structure Eligibility List must be documented and justified to indicate that additional deficiencies have developed since the most recent inspection through some natural or unforeseen phenomenon (e.g. flood, fire, etc.)

5.3.1 Colorado Off-System Structure Eligibility List

The minimum data items for the Colorado Off-System Structure Eligibility List are summarized in the following table.

Table 5-1 Colorado Off-System Structure Eligibility List Data Items

Data Item	Description
Bridge	Structure Key / Structure Number
Region	The CDOT Engineering Region where the bridge is located
County	The County where the bridge is located
City/Town	The City or Town where the Bridge is located
Owner	Identifies whether the owner is a county or a municipality
Functional Classification	Identifies the highest inventory route functional classification for the route over or under the major structure. (e.g. 09 Rural Local)
Facility Carried	Identifies what roadway facility is on the bridge (e.g. 88 th Avenue)
Feature Intersected	Identifies what the bridge crosses over. (e.g. Wolf Creek)
Bridge Type	A five-digit alpha code that is used to generally identify the bridge construction type (e.g. CSG - Concrete Slab and Girder) See Colorado Item 120A for more details
Year Built	The year the bridge was built

Data Item	Description
Deck Area (SF)	The deck area of the bridge
Inspection Date	The date of the last bridge inspection
Condition	Fair or Poor condition. See subsection 2.4.1.1 for more details
Scour Critical Rating	Scour Critical Bridge Code. See NBI Item 113 for more details
Notes	Any additional comments that are relevant to the bridge that might aid the Off-System Bridge Program stakeholders

5.4 Prioritization

Priority should be given to those eligible major structures that meet the following criteria:

- Shovel-Ready poor major structures
 - Project design is complete and ready for construction. In addition, all clearances must have been received through the CDOT Local Agency Unit following the federal project process defined in the CDOT Local Agency Manual to be considered Shovel-Ready. This includes:
 - Railroad (RR) is cleared
 - Utilities clearance issued by the CDOT Region Utilities Engineer
 - Right of Way (ROW) is cleared in accordance with the Uniform Act
 - All environmental clearances are approved
- Poor major structures on the National Highway System (NHS)
- Poor major structures
- Major structures that have more structure elements in poor condition (e.g. deck, superstructure, substructure, culvert).

5.5 Application

5.5.1 Original Application

Prior to submitting an application to the Special Highway Committee (SHC), the Colorado county or municipality shall coordinate with the assigned CDOT Local Agency Coordinator to make sure preliminary scoping, environmental impacts, right-of-way (ROW) requirements, utility requirements, railroad requirements, and conceptual cost estimate requirements are understood and appropriately addressed within the application. See CDOT Local Agency Manual Chapter 1 - Project Application for more details.

In addition to the above, an application submitted to the SHC must address at least the following items:

- A narrative describing why the funds are being requested
 - Why is the work needed?
 - Is the structure eligible?
- A project scope narrative
 - Replacement or major rehabilitation?
 - Why replacement?
 - Why major rehabilitation?

- If replacement is more economical or feasible than major rehabilitation, then consider replacement.
 - Consider the life expectancy of any proposed major rehabilitation in the project scope narrative.
 - Will the major rehabilitation improve the structure condition to good?
 - Will the major rehabilitation address scour?
- Is the project Shovel-Ready?
 - See subsection 5.4 Prioritization for a Shovel-Ready definition.
 - Provide required clearances with the application
 - Provide the structure design phase submittals defined in subsection 5.7.1.1 Deliverables with the application.
- What is the anticipated project schedule, if the SHC selects the project for funding (i.e. identify fiscal years when funding will be required)?
- Will the project be completed within the four full calendar years after the original SHC award year?
- A cost estimate for the project
- The amount requested from the SHC for the project
- The Colorado county or municipality match for the project
 - Is the local match at least 20% of project cost?
 - Provide evidence of local match commitment for all project phases (i.e. design and construction).
- Provide Colorado county or municipality commitment to see the project through to completion.
- The most recent inspection report
- Pertinent structure photographs

5.5.2 Budget Supplement Application

A budget supplement application sent to the SHC and copied to the Staff Bridge Off-System Bridge Program Manager Responsibilities and the Local Agency Coordinator must address at least the following items:

- A narrative justifying why the additional funds are being requested
 - Why is a budget supplement needed?
 - What could not have been reasonably foreseen that requires the requested budget supplement?
- A cost estimate for the budget supplement
- The budget supplement amount requested from the SHC
- The Colorado county or municipality match for the budget supplement
 - Is the total local match at least 20% of the total project cost?
- A copy of the current executed IGA

5.5.3 Cost Estimate

The best available cost estimate is to be provided.

Any costs incurred by the Colorado county or municipality prior to a successful SHC Application, execution of an Inter-Governmental Agreement (IGA), authorization by FHWA, and CDOT Notice to Proceed are not reimbursable with Off-System Bridge Program funds.

Any cost overruns that exceed the amount in the executed IGA are the responsibility of the Colorado county or municipality. This requirement does preclude applying for a budget supplement. See the CDOT Local Agency Manual Chapter 3 - Inter-Governmental Agreements. Funds expended beyond the federal regulation assigned project end date are not eligible for reimbursement and are the responsibility of the Colorado county or municipality.

If a Colorado county or municipality uses Off-System Bridge Program funds they must complete construction of the project within the contract term stated in the IGA.

CDOT will seek reimbursement from the local agency for expended funds on projects where the project is cancelled before the construction is complete.

The cost estimate should consider anticipated construction costs at the time the project is expected to be advertised when preparing the application.

The following subsections define what cost estimate level is required based on the project stage at the time of the application.

5.5.3.1 Shovel-Ready Project

A detailed engineering estimate is required when the SHC Application is for a Shovel-Ready project. See subsection 5.4 Prioritization for a Shovel-Ready definition.

5.5.3.2 Project Budget Supplement

A detailed engineering estimate is required when the SHC Application is for a budget supplement on a previously approved project.

5.5.3.3 Major Structure Rehabilitation

A detailed engineering estimate is required when the SHC Application is for a major structure rehabilitation because major rehabilitations vary widely in scope.

Consider replacement if it is more economical or feasible than a major rehabilitation.

5.5.3.4 Major Structure Replacement Prior to any Engineering

A planning level total project cost estimate is required when the SHC Application is prior to doing any engineering on a major structure replacement. However, detailed engineering cost estimates will still be needed before starting either the design or construction phases using Off-System Bridge Program funds.

5.5.3.5 Estimating a Major Bridge Replacement Cost

The method described below may be used to estimate the major bridge replacement total project cost prior to any engineering if a more rigorous estimate is not available. The method does not apply to a major culvert, structure widening, or minor structure.

Replacement Major Bridge Structure Deck Area

If the replacement major bridge deck area is not known, then the existing major bridge deck area multiplied by the Replacement Deck Area Growth Factor may be used.

Table 5-2 Estimating Replacement Major Bridge Deck Area

Data Item		Value	Units
Structure Length (NBI Item 49):			Ft.
Deck Width (NBI Item 52):	X		Ft.
Existing Deck Area	=		Sq. Ft.
Replacement Deck Area Growth Factor (GF)	X	2.2	Unitless
Estimated Replacement Deck Area (ERDA)	=		Sq. Ft.

Total Project Cost

Table 5-3 Estimating Major Bridge Replacement Total Project Cost

Data Item		Value	Units
Estimated Replacement Deck Area (ERDA)			Sq. Ft.
Bridge Only Replacement Cost (SI_N)		\$174	\$/Sq. Ft.
Colorado Cost Factor ($COCF_{BR}$)		2.74	Unitless
Design Engineering Cost Factor (DECF)		1.15	Unitless
Construction Engineering Cost Factor (CECF)		1.17	Unitless
Estimated total project cost (TPCO) = $ERDA \times SI_N \times COCF_{BR} \times (DECF + CECF - 1)$	=	\$	

Definitions

Bridge Only Replacement Cost (SI_N) - Bridge replacement cost, structural items only, per square foot, of the new bridge projected using Colorado Construction Cost Index from bridge replacement projects between 2000 and 2011.

Colorado Cost Factor ($COCF_{BR}$) - A factor used to account for all Project costs other than the Bridge Only Replacement Cost and the Design and Construction Engineering costs calculated from bridge replacement projects between 2000 and 2011.

Construction Engineering Cost Factor (CECF) - A factor used to account for Construction Engineering (CE) costs calculated from bridge replacement projects between 2000 and 2011.

Design Engineering Cost Factor (DECF) - A factor used to account for Design Engineering (DE) costs calculated from bridge replacement projects between 2000 and 2011.

Replacement Deck Area Growth Factor (GF) - A calculated ratio of replacement major structure deck area to replaced major structure deck area based on a population of bridge replacements between 2000 and 2011.

5.6 Special Highway Committee

The Special Highway Committee (SHC) is typically composed of eight representatives. Four county representatives and four municipal representatives. Administrative support to the SHC is provided by the Colorado Municipal League (CML) and Colorado Counties Incorporated (CCI).

Colorado Counties Incorporated - <http://ccionline.org/>

Colorado Municipal League - <https://www.cml.org/>

5.6.1 SHC Responsibilities

The Special Highway Committee (SHC):

Annual Call for Applications and Annual Meeting

- Annually calls for the submission of new project applications from Colorado counties and municipalities for eligible major structures
- Receives new project applications and sends copies of the applications to the Staff Bridge Off-System Bridge Program Manager for review
- Selects projects to be awarded funds
 - The selection criteria are at the SHC's discretion. However, structure eligibility, application completeness, CDOT Staff Bridge recommendations, available budget, and Colorado county or municipality commitment level should be considered.
- Only awards new project funding at the annual meeting
- Produces the formal SHC Award Memorandum that lists the new projects that are awarded funding
 - The minimum information required on the SHC Award memo is:
 - County/Municipality
 - Structure Key / Structure Number
 - Structure geolocation
 - Award Year
 - Award Amount
 - The SHC Award Memorandum is to be sent to the local agencies and copied to the CDOT Staff Bridge Off-System Program Manager within 14 days of the annual meeting
 - The SHC Award Memorandum is distributed to CDOT OFMB, CDOT Regional Planners, CDOT Local Agency Staff, CDOT Local Agency Coordinators and CDOT Regional Business Managers by the CDOT Staff Bridge Off-System Program Manager. See subsection 5.8.1.2 Staff Bridge Off-System Bridge Program Manager Responsibilities

Budget Supplement Applications

- May receive Budget Supplement Applications at any time during the year and sends a copy to Staff Bridge Off-System Bridge Program Manager for review
- May review and approve or deny Budget Supplement Applications on previously approved projects between the annual meetings, upon verification of available funding from the CDOT Staff Bridge Off-System Program Manager

- The budget supplement approval criteria are at the SHC's discretion. However, application reasonableness, CDOT Staff Bridge recommendations, and available budget should be considered.
- Produces written approval or denial on Budget Supplement Applications within 14 days of the decision
 - The minimum information required on the SHC budget supplement decision is:
 - County/Municipality
 - Structure Key / Structure Number
 - Structure geolocation
 - Original Award Year
 - Budget Supplement Award Year
 - Budget Supplement Amount

Annual Local Communication

- Annually reviews the list of previous Design and Construction authorized projects in order to update project status as part of the Annual Local Communication. See subsection 5.13

5.7 Colorado Counties and Municipalities

Only Colorado cities or Colorado counties are eligible for the Off-System Bridge Program.

5.7.1 Colorado County and Municipality Responsibilities

- Performs all project work in accordance with State and Federal laws, rules and regulations
- Coordinate with the assigned CDOT Local Agency Coordinator to make sure all State and Federal laws, rules and regulations are followed
- Submits applications to the SHC for their eligible major structures that the Colorado county or municipality is committed to address
- Submits budget supplement applications as early as possible during the project development phase when the need becomes known.
- Provides project status updates to CDOT anytime the project status changes
- Provides project status updates to CDOT when requested during the Annual Local Communication
- Provides the local match funds for the project
- Provides the local overmatch funds for the project, if necessary
- Provides for construction administration
- Provides for construction inspection
- Provides for construction materials testing
- Provides for quality assurance (QA) level fabrication inspection
- Delivers the project meeting CDOT requirements
- All Off-System major structure replacement or major rehabilitation projects that include State or Federal funding shall meet the CDOT Bridge Design Manual requirements. Failure to meet the requirements will result in project rejection.
 - The Staff Bridge Engineer will consider variances from the policies presented in the Bridge Design Manual when warranted.
 - The Staff Bridge Engineer must authorize any variances to the Bridge Design Manual policies before the project can proceed.

- Submit variance requests as early as possible to avoid project delays.

5.7.1.1 Deliverables

The deliverables listed below are required unless otherwise determined during project development.

General Submittals

- Applications submitted to the SHC for eligible bridges
- Final Maintenance and Ownership Inter-Governmental Agreement (IGA)

Structure Design Phase Submittals

- Final Geotechnical Report
- Final Hydraulic Report
- Scour Evaluation
- Final Structure Selection Report
 - A Structure Selection Report is required when any project phase includes Federal or state funds
- Final Construction Plans in PDF and native file format
- Project Specifications in PDF and native file format
- Design Calculations
- Independent Design Check Calculations
- Load Rating Package per the CDOT Bridge Rating Manual
- Field Information Package
- Inspection Sketch in PDF and native file format
- Certification by the Engineer of Record that the structure plans and specifications have been prepared in accordance with CDOT's current design standards.
 - See CDOT Bridge Design Manual Policies and Procedures E.4.f.

Construction Phase Submittals

- All Structure Construction documents (e.g. as-built drawings, working drawings, shop drawings, material certifications, test reports, etc.)
- The final bid documents if not advertised by CDOT
- Bid Cost Results
- Design Engineer of Record to attend the final walk through and provide signed documentation that all structures on the project were inspected and determined to be in reasonably close conformance with the plans and specifications
 - See CDOT Bridge Design Manual subsection 36.7

All deliverables are required to be in PDF format with native file format required where noted.

Additional deliverables not listed will be as determined by the Local Agency Coordinator during project development.

See Subsection 5.14 Project Requirements for manual references where additional deliverable details are defined.

5.8 CDOT Staff Roles and Responsibilities

5.8.1 CDOT Staff Bridge Branch Responsibilities

CDOT Staff Bridge does not provide construction inspection, construction materials testing, or fabrication quality assurance (QA) inspection for local agency projects.

5.8.1.1 *CDOT Staff Bridge Branch Manager / Colorado State Bridge Engineer Responsibilities*

- Appoints the Staff Bridge Off-System Bridge Program Manager
- Consulted by the CDOT Office of Financial Management and Budget (OFMB) when the annual Off-System Bridge Program budget setting is done.
- Authority to approve all requests for transferring program funds from the statewide pool

5.8.1.2 *Staff Bridge Off-System Bridge Program Manager Responsibilities*

- CDOT's liaison with the SHC
- Provides the following information from the Department needed by the SHC to make their decisions prior to the annual SHC meeting:
 - The current Colorado Off-System Structure Eligibility List
 - Total Off-System Bridge Program available budget
 - The available budget includes an assumed 20% Colorado county or municipality match. Confirm with OFMB so that the SHC has accurate information.
 - Divide the available Off-System Bridge Program available budget between municipalities and counties using the municipality and county poor deck area percentages. See subsection 9.4.8.1
 - A current Annual Local Communication Project List
- Provides support to the SHC
 - Reviews Colorado county and municipality applications to confirm eligibility of the Major Structures
 - Makes recommendations to the SHC related to the BRO program
 - Reviews Budget Supplement Applications
 - Makes budget supplement recommendations to the SHC based on available BRO budget and the budget supplement application review
 - Responds to SHC information requests
- Ensures that all the major bridges recommended to the SHC for funding are eligible for Off-System Bridge Program funds
- Responsible for ensuring that the bridge and budgetary information the SHC needs for making their decisions and on which they base their approvals is accurate and complete
- Forwards the formal SHC award notification memorandum to CDOT OFMB, CDOT Regional Planners, CDOT Local Agency Staff, CDOT Local Agency Coordinators and CDOT Regional Business Managers within 14 days of receipt
- Forwards the formal SHC supplemental award notification memorandum to CDOT OFMB, CDOT Regional Planners, CDOT Local Agency Staff, CDOT Local Agency Coordinators and CDOT Regional Business Managers within 14 days of receipt
- Technical and program advisor to the SHC, CDOT HQ Staff, CDOT regional personnel, and local agencies

- Conduct the Annual Local Communication which reviews previously approved bridge projects to identify inactive projects, closed projects, current project status, project savings, and changes in the award amount
 - This requires consultation with SHC, Local Agencies, CDOT regional planners, CDOT Local Agency coordinators, and CDOT project managers
- Updates the BRO Tracking Summary spreadsheet:
 - With relevant findings from the Annual Review process
 - With new projects when they are authorized by the SHC
 - When a project is closed
 - When a project is cancelled
 - When a project budget is revised as approved by the SHC
 - When a project status changes
- Receives requests for project authorization modifications, from local agencies and CDOT personnel. Reviews these requests for accuracy, completeness and eligibility before forwarding them to the SHC for their action
- Retains Colorado county and municipality applications, SHC Award Memorandums, SHC correspondence, Annual Local Communication correspondence, and any other Off-System Bridge Program correspondence in a central location for future reference and access by stakeholders.

5.8.1.3 Staff Bridge Structure Asset Management Engineer Responsibilities

- Provides the Colorado Off-System Structure Eligibility List to the Staff Bridge Off-System Bridge Program Manager for distribution to the SHC and CDOT stakeholders
- Ensures that all the major structures on the Colorado Off-System Structure Eligibility List are eligible for the Off-System Bridge Program funds
- Determines the percentage of Poor deck area in the Municipalities or Counties. See subsection 9.4.8.1

5.8.2 CDOT OFMB Responsibilities

- Annual Budget Setting
 - Determine the Annual Budget for the Off-System Bridge Program (BRO) allocation, based on FHWA BRO specific revenues, local and state match, and additional funds as directed by the Transportation Commission. All parties are informed via the adoption of the annual CDOT budget by the TC
- Annually fund the statewide BRO pool using the value in the CDOT Budget Bridge Off-System line
- Identify Local Overmatch when necessary
 - Allocate Colorado county or municipality funds to meet match requirement for funding above and beyond the typical 20%
- See the CDOT Local Agency Manual for additional details

5.8.3 CDOT Statewide Transportation Improvement Program (STIP) Manager Responsibilities

- Year End Roll forward of pool balances
 - Roll forward of pre-determined project savings from regional BRO pool to statewide BRO pool.
- Identify unneeded funds

- Identify closed projects or cancelled projects that leave funds in the regional BRO pool
- Return any liquidated or unused funds from regional BRO pool to the statewide BRO pool
- Inform Staff Bridge Off-System Bridge Program Manager of any funding changes so that they can update the BRO Tracking Spreadsheet
- See the CDOT Local Agency Manual Chapter 2 - TIP / STIP and Long-Range Plans for additional details

5.8.4 CDOT Federal Aid / Project Budget Responsibilities

- Distribution of funds to Regions
 - Based on the SHC Award Memorandum, transfer relevant funds to the respective regional pool for further distribution to the awarded projects

5.8.5 CDOT Regional Planner Responsibilities

- STIP Projects
 - Designate a unique STIP number, amount by fiscal year based on SHC award memorandum and project data
- Re-STIP projects into current STIP
 - Identify projects that will not be completed in the predicted fiscal year and re-STIP to reflect current fiscal year for project
- See CDOT Local Agency Manual Chapter 4 - Federal Funding Obligation and Authorization for additional details

5.8.6 CDOT Regional Business Manager Responsibilities

- Budget Projects by phase
 - Funding projects in SAP using ZFMBBT no greater than 90 days prior to desiring FHWA authorization on a phase (or 90 days before advertisement for C phases)
- Project close, identification of project savings
 - De-STIPing and de-budgeting of project as well as determining if there are project savings to roll forward from pool balance

5.8.7 CDOT Local Agency Coordinators / CDOT Project Managers Responsibilities

- Project Application
 - Assist the Colorado counties and municipalities in preparing their applications for the SHC
 - See subsection 5.5 Application
- Manage projects from award of funding through project closure
- Receiving the contractual agreement (IGA) between CDOT and the Colorado county or municipality for scope and budget
 - See the CDOT Local Agency Manual Chapter 3 - CDOT / Local Agency Inter-Governmental Agreements for additional details
- Set-up projects
- Prepare risk assessments
- Prepare project budget actions
- Prepare project shopping carts within CDOT SAP (i.e. an enterprise level software application used to satisfy CDOT business needs)

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- Assist Colorado counties and municipalities with work hour estimates and schedules
 - Conduct project scoping meetings in coordination with appropriate CDOT specialty unit personnel
 - Assist Colorado counties and municipalities with consultant selection to be in conformance with the Brooks Act
 - Work with designers to develop project plans and specifications to be in conformance with the CDOT project development process
 - Coordinate with CDOT specialty unit personnel throughout the project development process to achieve ROW, Environmental and Utility clearances
 - Coordinate and attend Field Inspection Review (FIR) meeting
 - Coordinate and attend Final Office Review (FOR) meetings
 - Perform general engineering review of advertisement plans and specifications
 - Submittal of Form #1180, Standard Certification and Project PS&E Approval, to get funding authorization for the federally funded projects
 - Assist Colorado counties and municipalities with advertisement packages
 - Assist Colorado county or municipality with low bidder selection
 - Provide support through the process to achieve CDOT Concurrence to Award
 - Oversee construction and visit projects as necessary to:
 - Ensure compliance with federal/state laws and regulations
 - Ensure the plans and specifications are being followed
 - Review and approve change orders
 - Verify Civil Rights laws are being followed
 - Work with CDOT Environmental to ensure compliance with storm water requirements
 - Work with CDOT Materials to educate project personnel on proper documentation
 - Attend final walk through
 - Concur with final acceptance when appropriate
 - Assist local agency with project closure and finals documentation

5.9 Responsible, Accountable, Consulted, Informed (RACI) Matrix

Table 5-4 Off-System Major Structure Program RACI Matrix

Off-System Bridge Program RACI Matrix		Outside Partners			Transportation Commission	CDOT HQ Staff					CDOT Regional Staff		
Event	Detailed Explanation of Event	Local Agencies	Special Highway Committee	Federal Highway Administration		Budget Office	Staff Bridge	STIP Managers	Federal Aid / Project Budget	Procurement Office	Regional Planners	Regional Business Managers	Local Agency Coordinators or Project Managers
Annual Budget Setting	Determine the Annual Budget for the Off-System Bridge Program (BRO) allocation, based on FHWA BRO specific revenues, local and state match, and additional funds as directed by the Transportation Commission. All parties are informed via the adoption of the annual CDOT budget by the TC.	-	I	C	A	R	C	I	I	-	-	-	-
Subdivide funds between Municipalities and Counties	Quantify the \$ available for Municipalities and Counties based on the percentage of poor deck area in the Municipalities or Counties.	I	C	-	-	-	R	-	-	-	-	-	-
Colorado Off-System Structure Eligibility List created	Prepare the list of major structures that qualify for the Off-System Bridge Program.	-	A	-	-	-	R	-	-	-	-	-	-
Solicitation of Colorado county and municipality Project Applications	Call for the submission of applications from Colorado counties and municipalities for identified bridges in need of rehabilitation or replacement for those that fall below substandard.	R	A	I	I	-	I	-	-	-	-	-	-
Application review	Review applications and prepare recommendations to go before the Special Highway Committee for consideration during formal project selection process.	-	A	-	-	-	R	-	-	-	-	-	-
Perform Selection of the Projects	Selection of projects to be awarded funds based recommendations from Bridge Staff and qualifying criteria.	-	R	-	-	-	-	-	-	-	-	-	-
Notification of Selected Projects	Formal award notification that includes an award letter and a list of projects that are awarded funding. This also contains pertinent information about the award itself such as the amount awarded, structure number, and the geolocation. Information should be sent to the local agencies, CDOT Staff Bridge, Regional Planners, and Regional Business Managers.	I	R	-	-	-	I	I	-	-	I	I	I
Reconciliation of Projects	Updating the BRO Tracking Summary spreadsheet with all newly awarded projects as well as information regarding the budgeting and status of existing projects.	I	-	-	-	I	R	-	A	-	I	I	I
Distribution of funds to Regions	Based on the SHC Award Memorandum, transfer relevant funds to the respective regional pool for further distribution to the awarded projects	-	-	-	-	-	A	C	R	-	I	I	I
Intergovernmental Agreements	Receiving contractual agreement between CDOT and the Local Agency for scope and budget.	C	-	-	-	-	-	-	I	A	C	C	R
Identify Local Overmatch when necessary	Allocate local funds to meet match requirement for funding above and beyond the typical 20%	A	-	-	-	R	-	I	-	C	C	C	I
STIP Projects	Designating unique STIP number, amount by fiscal year based on allocation and project data.	-	-	-	-	-	-	A	-	-	R	I	C
Budget Projects by phase	Funding projects in SAP using ZFMBBT no greater than 90 days prior to desiring FHWA authorization on a phase (or 90 days before advertisement for C phases).	-	-	-	-	-	-	I	A	-	I	R	C
Federal Highways Agreement	Receiving FHWA concurrence on a phase via the FMIS system.	-	-	R	-	-	-	-	A	-	-	I	-
Project development and implementation	Delivery of the project by the local agency and monitored by CDOT.	R	-	-	-	-	-	-	-	C	C	C	A
Project close, identification of project savings	De-STIPing and de-budgeting of project as well as determining if there are project savings to roll forward from pool balance.	-	-	-	-	-	I	-	A	-	-	R	-
Annual Review Process	Identification of inactive projects, closed projects, project status, project savings, and changes in the award amount. Update the BRO tracking spreadsheet with relevant findings from the Annual Review Process.	-	-	-	-	-	A	C	C	-	C	I	C
Year End Roll forward of pool balances	Roll forward of pre-determined project savings from regional BRO pool to statewide BRO pool.	-	-	-	-	-	I	R	A	-	I	-	-
Re-STIP projects into current STIP	Identify of projects that will not be completed in the predicted fiscal year and re-STIP to reflect current fiscal year for project.	-	-	-	-	-	I	A	-	-	R	-	-
Identify unneeded funds	Identify closed projects or cancelled projects that leave funds in the regional BRO pool.	-	-	-	-	-	A	R	-	-	I	I	-
Return unneeded funds to statewide BRO pool	After project closure unused funds are returned to the statewide pool using SAP transaction FMBB. The Special Highway Committee may now select additional project(s).	-	I	-	-	-	A	R	C	-	-	-	-

5.10 Off-System Bridge Program Flow Charts

The flow charts below are not intended to be a project delivery guideline. It is meant to provide specific steps about the Off-System Bridge Program (BRO) funding process only. Basic delivery steps were added to provide context, not instruction. See the CDOT Local Agency Manual for project delivery requirements.

5.10.1 BRO Selection Through Planning Flow Chart

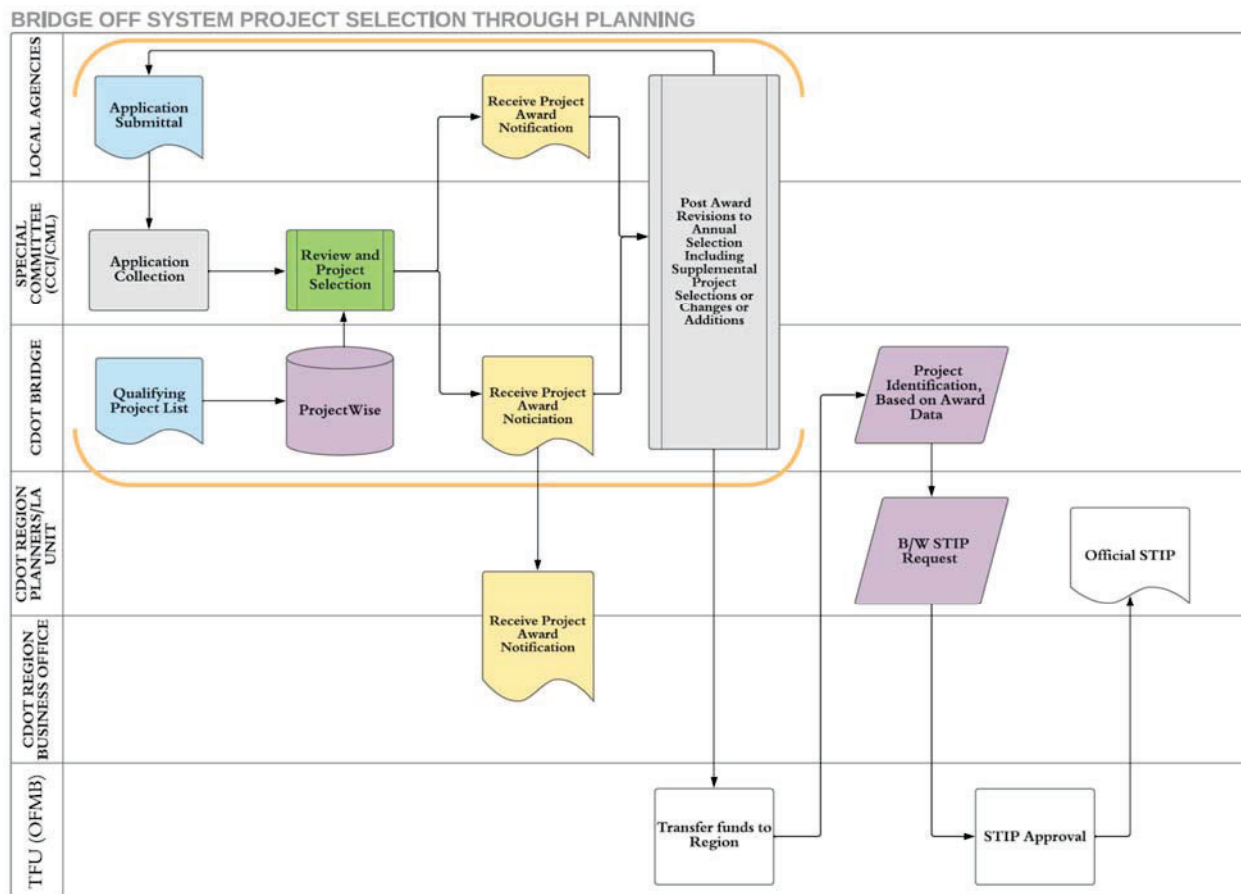


Figure 5-1 BRO Selection Through Planning Flow Chart

5.10.2 BRO Implementation Through Project Closure Flow Chart

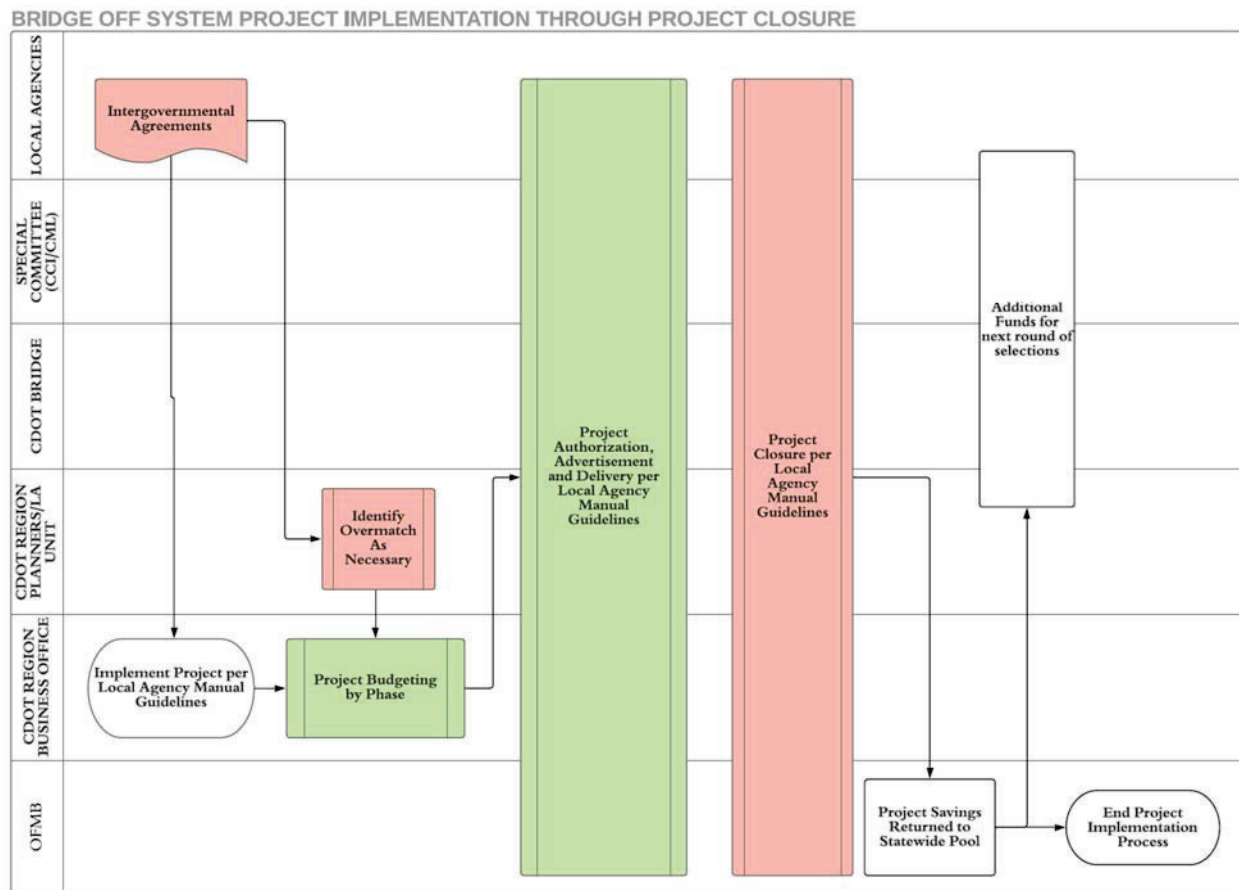


Figure 5-2 BRO Implementation Through Project Closure Flow Chart

5.10.3 BRO Annual Review and STIP Rollover Process Flow Chart

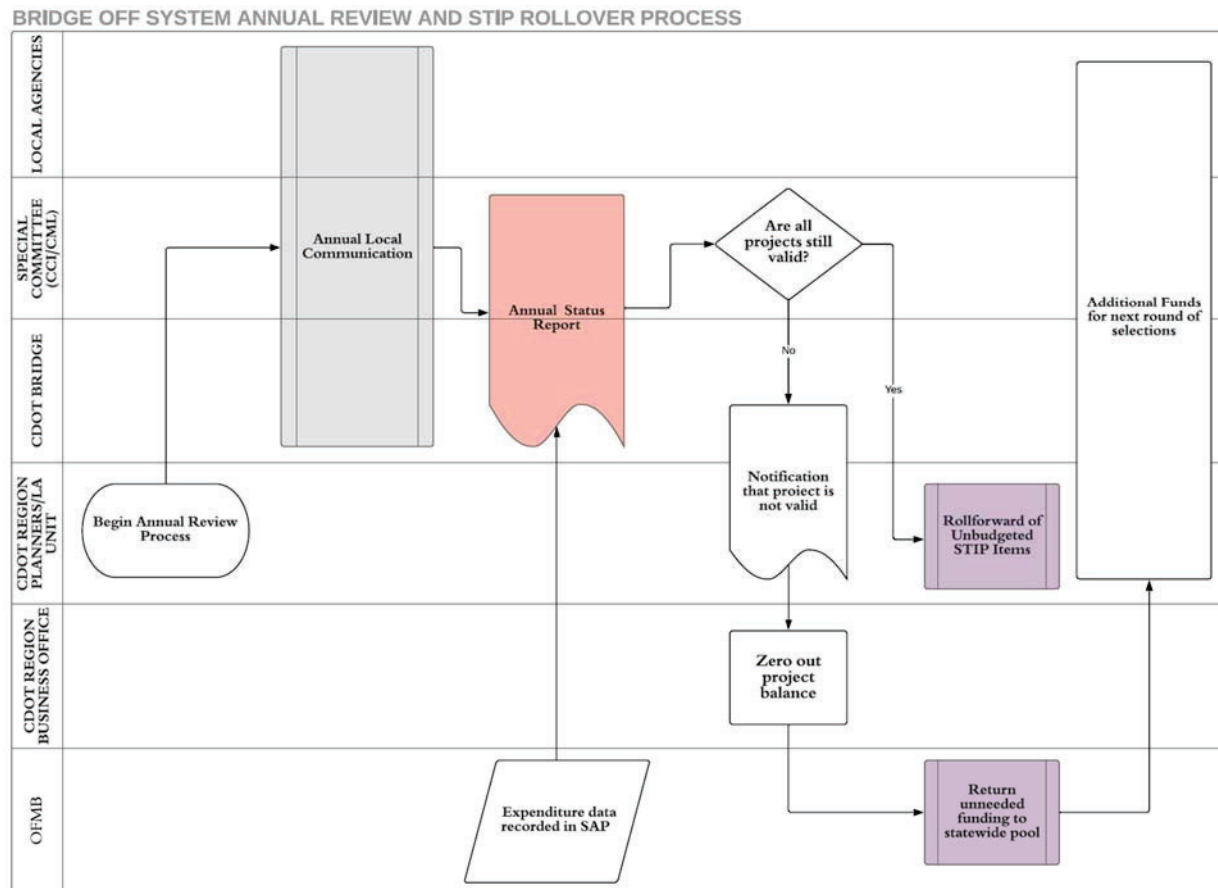


Figure 5-3 BRO Annual Review and STIP Rollover Process Flow Chart

5.11 Typical Annual Timeline

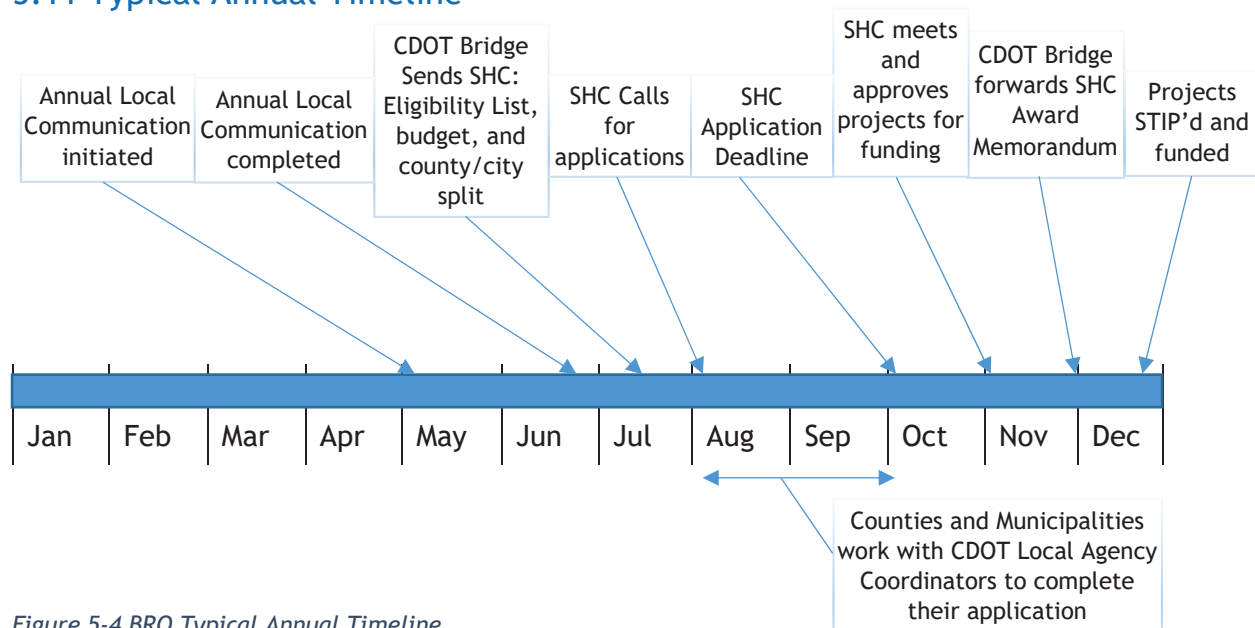


Figure 5-4 BRO Typical Annual Timeline

January through April

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary

May

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- Initiate Annual Local Communication

June

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- Annual Local Communication:
 - Meet with local agencies through CCI & CML to discuss the project status
 - update BRO Tracking Summary spreadsheet with outcomes from meeting
 - Sweep funds from languishing projects as necessary

July

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- CDOT OFMB funds statewide BRO Pool
- Staff Bridge sends the following information to the SHC
 - The current Colorado Off-System Structure Eligibility List
 - Total Off-System Bridge Program available budget
 - Breakdown of available BRO budget dollars between Municipalities and Counties based on the percentage of Poor deck area in the Municipalities or Counties based on the total Poor deck area in the Municipalities and Counties.

August

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- SHC calls for applications
- Counties and Municipalities start working with CDOT Local Agency Coordinators to complete their application

September

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary

October

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- LA Deadline for SHC Applications

November

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- SHC meets and approves projects for funding
- SHC produces the SHC Award Memorandum and sends it to the successful local agencies and copies CDOT Staff Bridge

December

- Monitor projects and update BRO Tracking Summary spreadsheet as necessary
- Staff Bridge forwards SHC Award Memorandum to CDOT OFMB, CDOT Regional Planners, CDOT Local Agency Coordinators and CDOT Regional Business Managers.
- Regional Planners STIP the project
- OFMB transfers funds to the regions to budget the projects
- Local Agency Coordinators work with the local entities to move the project forward

5.12 BRO Tracking Summary

The BRO Tracking Summary is the centralized spreadsheet for monitoring bridge projects. This tool should be used regularly and be updated throughout the year as the local agencies and regional staff provide revisions to the project information.

The BRO Tracking Summary spreadsheet is a protected document. If you would need access to this document, then please request permission from the Structure Asset Management Engineer.

5.13 Annual Local Communication

This is an annual process whereby the Colorado counties and municipalities with support from CCI and CML update the Off-System Bridge Project status to CDOT. In addition, this process provides Colorado counties and municipalities an opportunity to justify continuing with projects that are more than 4 years past the year of the original SHC award.

The Annual Local Communication is initiated by CDOT Staff Bridge and the CDOT Office of Financial Management and Budget (OFMB). The communication is also copied to the CDOT Local Agency Coordinators so that they can support the Colorado counties and municipalities while they update their project status.

5.13.1 Annual Local Communication Memorandum

The typical memorandum contains at least the following:

To: CCI and CML

From: CDOT Staff Bridge and CDOT Office of Financial Management and Budget

Subject: Annual Off-System Bridge Project Reconciliation

Purpose

The purpose of this memorandum is to reconcile a list of known Off-System Bridge projects that were selected over the past several years, but have yet to be fully executed or funded. By documenting an updated status of each project, CDOT hopes to improve the transparency & accountability of the project list, identify projects that are cancelled or no longer valid, and identify whether there is a deficit or surplus of funding to cover the remaining projects.

Action

The Colorado Department of Transportation requests that the Special Highway Committee, including Colorado Counties Inc. and the Colorado Municipal League review and notate the status of the projects on the attached list prior to distribution to CDOT regional staff and planning partners.

Next Steps

Any program surplus or deficit after the reconciliation will be discussed between CDOT and the Special Highway Committee prior to any funding decisions or project awards.

Attachments

Annual Local Communication Project List

CC: Local Agency Coordinators

5.13.2 Annual Local Communication Project List

The Annual Local Communication Project List is a report spreadsheet built off the Aging Report in the BRO Tracking Summary spreadsheet. The report spreadsheet is grouped into Unfunded, Partially Funded and Fully Funded sub tables. The minimum required data items are described in the following table.

Table 5-5 Annual Local Communication Project List Data Items

Data Item	Value - Description
Status	<i>Planned</i> - Project has not received funding but will be budgeted shortly <i>Delayed</i> - Project is still valid but is on hold <i>Cancelled</i> - Project is no longer valid <i>Funded Pre-construction</i> - Project has been fully funded and is in the pre-construction phase <i>Funded Construction</i> - Project has been fully funded and is in the construction phase
Comments	The value is comments by the stakeholders. The comments can be anything but most recently they identified the source of the Status. (e.g. Per Region 2)
City/County	The value is the city or county that owns the major bridge. (e.g. Mesa for a Mesa county owned bridge)
CCI/CML	CCI - County owned bridge CML - City owned bridge. (e.g. CCI for a Mesa county owned bridge)
Structure #	The value is the structure number (i.e. NBI Item 8 - Structure Number) (e.g. MESA 34-F.9A)
Federal Award Amount	The amount of Federal Funds authorized by the Special Highway Committee for the project.
Federal Funded to Date	The total amount of Federal Funds that have been funded to the project to date.
Remaining Federal Funds Needed	The difference between Federal Award Amount and Federal Funded to Date.
Award Year	The year the project was authorized by the Special Highway Committee. ? - If the Special Highway Committee Award Year is not known.
Years Outstanding	The difference between the current year and the Award Year. <i>Missing</i> - If the Special Highway Committee Award Year is not known.
Overdue	<i>No</i> - Years Outstanding is less than or equal to 4. <i>Yes</i> - Years Outstanding is greater than 4. ⁸ <i>Unknown</i> if the Years Outstanding is Missing.

⁸ The 4-year period starts December 31st of the year the SHC awarded the project.

Data Item	Value - Description
Recommendation	<p>Sweep - If the Project is past its four-year deadline, then review the project. Recommend that the funds be returned to statewide pool if the project is not advancing or expected to advance.</p> <p>Review - If the Years Outstanding is 4.</p> <p>Allow [blank] more year(s) - If the Years Outstanding is less than 4.</p> <p>Validate - The Project has entered the construction phase or is fully funded or both.</p>

5.14 Project Requirements

The replacement or major rehabilitation project must follow the criteria set by the following documents:

5.14.1 General Requirements

- CDOT Project Development Manual
- CDOT Local Agency Manual
- Other requirements as identified by the CDOT Region Local Agency Project Coordinator

5.14.2 Roadway Design Requirements

- CDOT Roadway Design Guide
- CDOT Drainage Manual
- AASHTO Policy on Geometric Design of Highways and Streets

5.14.3 Structure Design Requirements

- CDOT Bridge Design Manual
- CDOT Bridge Detailing Manual
- CDOT Bridge Rating Manual
- CDOT Geotechnical Design Manual
- AASHTO LRFD Bridge Design Specifications

5.14.4 Construction Requirements

- CDOT Construction Manual
- CDOT Field Materials Manual
- CDOT Standard Specifications for Road and Bridge Construction
- CDOT M-Standard Plans
- CDOT S-Standard Plans

5.15 Eligible Work

Eligible work may utilize the awarded BRO funds.

5.15.1 Major Structure

- Replacement or major rehabilitation as shown in the application and awarded by the SHC.

5.15.2 Roadway

- A nominal amount of approach work, sufficient to connect the new facility to the existing roadway or to return the grade line to an attainable touchdown point in accordance with good design practice is eligible. This roadway work should generally be no more than 15% of the cost for replacing the bridge and shall not be more than the minimum necessary to meet current geometric design requirements.

5.15.3 Aesthetic Features

- Special architectural features on major structures required by the environmental document may be eligible for bridge program funds.

5.16 Ineligible Work

Ineligible work must utilize other funding sources.

The ineligible work described below is retained by CDOT from the retired federal HBRRP program.

5.16.1 Major Structure

- Structure length or width beyond that required to satisfy current design requirements is not eligible.

5.16.2 Roadwork

- The costs of long approach fills, causeways, connecting roadways, interchanges, ramps, and other extensive earth structures, when constructed beyond the attainable touchdown point is not eligible.
- Roadwork costs exceeding 15% of the bridge replacement or major rehabilitation costs, or the minimum necessary to meet current geometric design requirements is not eligible.

5.16.3 Aesthetic features

- Special architectural features on major structures are not eligible
- Any other project aesthetic features are not eligible

5.16.4 Other ineligible work

- Safety feature replacement or upgrading independent of a structure replacement or major rehabilitation (e.g. bridge rail, approach guardrail or impact attenuators)
- Overlay of bridge deck as part of a larger highway surfacing project (e.g. an overlay carried across bridge deck for surface uniformity without additional bridge work).
- Utility work independent of a structure replacement or major rehabilitation
- Emergency repair to restore structural integrity to the previous status following an accident
 - Federal ER program funding may be available for a declared disaster exceeding \$700,000 in roadway and bridge damage

- Any retrofit done to correct a deficiency which does not substantially alter the physical geometry or increase the load-carrying capacity
- Any work performed to keep a major structure operational while plans for complete major rehabilitation or replacement are under preparation (e.g. adding a substructure element, adding an extra girder, installing a pulpit to support a girder end, etc.)

5.17 Off-System Bridge Program Records

Records pertinent to the Off-System Bridge Program are to be retained in a central location for future reference with access made available to stakeholders. Select CDOT personnel (e.g. Staff Bridge Off-System Bridge Program Manager) will have full access while all CDOT personnel will have at least read only access. External stakeholders (e.g. CCI, CML, SHC, Local Agencies, etc.) will have to request the documents.

The minimum records to retain are:

- BRO Tracking Summary spreadsheet
- Colorado Off-System Structure Eligibility Lists
- Program budgets
- Annual Local Communication Project Lists
- Colorado county and municipality applications
- SHC Award Memorandums
- Supplemental funding requests
- SHC Supplemental Funding Award Memorandums
- Annual Local Communication correspondence
- Relevant Off-System Bridge Program templates