



Local Transportation Capital Improvement Program (LOTCIP)

CRCOG GUIDELINES November 2018

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Approved on November 5, 2018 by
CRCOG's Transportation Committee as
a working document subject to
refinement as the program progresses

Introduction

This document presents the Capitol Region Council of Government's (CRCOG) LOTCIP guidelines. If any information within this document conflicts with Connecticut Department of Transportation (CTDOT) LOTCIP guidelines, the CTDOT guidelines will dictate. The LOTCIP program is new, and therefore its policies are expected to evolve as the program's needs are realized. A summary of the current LOTCIP process under both CTDOT and CRCOG guidelines appears in the Appendix.

Project Identification

Initially, CRCOG municipal projects selected for, but not yet receiving STP-Urban funding will be prioritized and transferred to the LOTCIP program. Approved STP-Urban projects that have begun drawing down federal funds, or involve State roadways, will likely remain in the STP-Urban Program.

Additional LOTCIP projects will be identified by CRCOG via project solicitations. It is envisioned that a competitive solicitation will be held approximately every two years. The process is expected to resemble previous CRCOG STP-Urban solicitations, with any changes to procedures, criteria, selection policies, etc., identified by the CRCOG Transportation Committee prior to solicitation. As a result of each solicitation CRCOG will select projects and reserve LOTCIP funding. In determining funding levels, CTDOT guidance dictating that no more than 20% of a project's costs may be expended along non-eligible roadways, bridges or on enhancement type items (ornamental streetlights, special pavement treatments, monuments, street trees, etc.) will be utilized. Per CTDOT guidelines, selected projects will be forwarded to CTDOT for their review and approval.

Project Prioritization, Scheduling, and Design Kickoff Meeting

Following CTDOT approval of project funding, CRCOG will prioritize the project and inform the municipality of an anticipated construction funding year. The year will be dictated by LOTCIP program status. CRCOG and the municipality will then determine a date when design is expected to commence.

The municipality will contact CRCOG when design commencement is imminent, or has just begun. CRCOG will then assign a design submission reviewer to the project and hold a Design Kickoff Meeting or a Kickoff Conference Call. It is anticipated that this meeting will involve a review/determination of project challenges, critical path items, LOTCIP processes, reporting requirements, design submissions, and schedule dates.

Municipal Engineering Assistance and CRCOG On-Call List Contracting

CRCOG will be maintaining the following LOTCIP On-Call consultant lists, selected via a QBS process in compliance with CTDOT guidelines:

On-Call List 1: Municipal Engineering Design Phase Assistance

On-Call List 2: Municipal Engineering Construction Phase Assistance

On-Call List 3: CRCOG Program Management and Design Review Assistance

Municipalities seeking LOTCIP assistance are free to contract with consultants independently (in accordance with CTDOT requirements), or to utilize On-Call List 1 and 2 consultants. Regardless, municipalities will bear all responsibility for contracting with consultants, and all scopes of service should be developed with deference to LOTCIP guidelines (required submissions, processes, etc.).

For the purpose of selecting On-Call List 1 and 2 firms for LOTCIP work, CRCOG will make firms' contact information readily available, and fee schedules available to any member municipality that requests them. Contracts with on-call consultants must be developed with regard to CRCOG's Request for Qualifications (RFQ) for LOTCIP Transportation Engineering Services. CRCOG approved LOTCIP fee schedules, if available, must be utilized for determining rates, estimating lump sum fees, etc. Terms related to Consultants' on-call status will not apply to contracts for services unrelated to LOTCIP.

Design Standards/General Requirements

CRCOG recommends that municipalities utilize the best and latest adopted or accepted design guidance, and encourages the inclusion of elements to accommodate all users. Design Criteria may include:

- American Association of State Highway and Transportation Officials (AASHTO)
 - Guide for the Planning, Designing, and Operation Pedestrian Facilities
 - Guide for the Development of Bicycle Facilities
 - Policy on Geometric Design of Highways and Streets (Green Book)
 - LRFD Bridge Design Specifications
- Federal Highway Administration (FHWA)
 - Separated Bike Lane Planning and Design Guide
 - Achieving Multimodal Networks: Applying Design Flexibility & Reducing Conflicts
- National Association of City Transportation Officials (NACTO)
 - Urban Street Design Guide
 - Transit Street Design Guide
 - Urban Bikeway Design Guide (2nd Edition)
- Manual on Uniform Traffic Control Devices (MUTCD)
- U.S. Access Board
 - USDOT ADA Standards
 - Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
- Connecticut Department of Transportation (CTDOT)
 - Highway Design Manual
 - Bridge Design Manual
 - Drainage Manual
 - Utility Accommodation Manual
 - Traffic Control Signal Design Manual
 - Form 817 Standard Specifications for Roads, Bridges, Facilities and incidental construction
- Local Design Guidelines

Project Design Submissions

CTDOT guidelines require only a single project design submission (at Final Design) for LOTCIP projects. However, in order to effectively manage its program CRCOG is requiring interim submissions for CRCOG review. A Preliminary Design (PD) Submission can be made for any project at the municipality's discretion, but will be required for Traditional Roadway or Bridge Reconstruction type projects. A Semi-Final Design is optional for all projects. A Detailed (90%) Submission of Selected Design Elements will be required for all projects. Requirements for each submission are provided below.

Preliminary Design (PD) Submission: (Required for Traditional Roadway/Bridge Reconstruction type projects. Optional for all other projects)

An electronic .pdf of the following deliverables are required for a typical Preliminary Design (PD) submission:

Roadway Projects

- Preliminary Design (PD) half scale plans consisting of: Title Sheet, Typical Sections, Plans and Profiles, Critical Cross-sections, Critical Details Sheets, Signing and Pavement Marking Sheets.
- Maintenance and Protection of Traffic Specification
- Preliminary Design (PD) Construction Cost Estimate¹
- Projected Design Schedule with Critical Milestones
- List of anticipated permits, right-of-way acquisitions, and utility coordination efforts
- **Optional for Review** – DRAFT Final Design Scope of Services

The submission should clearly depict the following items, as applicable:

- Topographic survey and mapping (including: utilities, delineated wetlands, property ownership of parcels and rights-of-way)
- Proposed roadway/sidewalk/trail features, including lane configurations and approx. slope limits
- Turning movement counts at impacted signalized and significant unsignalized intersections
- Proposed pavement structure
- Locations and summaries of bridge, culvert, and retaining wall requirements
- Right-of-way, environmental, utility, railroad, and any other anticipated significant impacts
- Preliminary drainage designs, bridge layout, construction phasing and closure schedules
- Reference to (or actual) source documentation of design criteria is being utilized
- Indication on plans of proposed values for the following:
 - Roadway functional classifications
 - Design speeds
 - Travel lane and shoulder widths
 - Bridge widths (curb to curb)
 - Structural capacity
 - Horizontal and Vertical alignments
 - Grades
 - Stopping sight distances
 - Cross-slopes and Super-elevations
 - Vertical clearances (for any underpasses/obstructions)
 - Dimensions related to ADA accessibility
 - Roadside clear zones
 - Intersection sight distances at impacted unsignalized intersections, excluding residential and minor commercial driveways

¹ Construction cost estimate shall be based upon unit prices provided by CRCOG

Bridge Projects

- Hydrologic, Hydraulic and Scour Report (as needed per town's discretion)
- Structure Type Study Report, which should include multiple practical alternates based on: structural and geometric deficiencies; hydraulic and geometric requirements; anticipated subsurface conditions; accommodation of traffic, watercourse and utilities; site constraints; constructability concerns; construction duration and estimated costs (as needed per town's discretion)
- Soils and Foundation Report with boring logs (as needed)
- Preliminary Design (PD) half scale plans consisting of: Title Sheet, Typical Roadway Approach Sections, Roadway Plan and Profile, Critical Cross-sections (if necessary), Maintenance & Protection of Traffic, Bridge General Plan, Elevation and Section, Boring Plans, Pier Plan and Elevation, Stage Construction, Handling Water and Accommodation of Utilities.
- Maintenance and Protection of Traffic Specification
- Preliminary Design (PD) Construction Cost Estimate²
- Projected Design Schedule with Critical Milestones
- List of anticipated permits, right-of-way acquisitions, and utility coordination efforts
- *Optional for Review* – DRAFT Final Design Scope of Services

The electronic submission should clearly depict the following items, as applicable:

- Topographic survey and mapping (including: utilities, delineated wetlands, property ownership of parcels and rights-of-way)
- Proposed layout of new bridge components, including controlling horizontal dimensions, span lengths, skew angle, hydraulic opening, wingwall lengths and orientation, footing elevations anticipated subsurface conditions, final grading and proposed utility accommodation
- Inspection access features (if required)
- Proposed bridge/roadway/sidewalk features, including: lane configurations, approx. slope limits and bridge ornamentation (if proposed)
- Traffic volumes at the site and turning movement counts at adjacent intersections (when critical to MPT & Stage Construction)
- Right-of-way, environmental, utility, railroad, and any other anticipated significant impacts
- Construction phasing and closure schedules coordinated with MPT and stage construction along with layout of work zones and locations of required large equipment
- Reference to (or actual) source documentation of design criteria is being utilized
- Indication on plans of proposed values for the following:
 - Roadway functional classification
 - Design speed
 - Travel lane and shoulder widths
 - Bridge width (curb to curb)
 - Proposed structural capacity
 - Horizontal and Vertical alignments
 - Grades

² Construction cost estimate shall be based upon unit prices provided by CRCOG

- Stopping sight distances
- Cross-slopes and Super-elevations
- Vertical clearances (for any underpasses/obstructions)
- Dimensions related to ADA accessibility
- Roadside clear zones
- Intersection sight distances at impacted unsignalized intersections, excluding residential and minor commercial driveways

Next Steps –

- Semi-Final (SF) Design Submission – (OPTIONAL)
- 90% Design Submission **(Required)**
- Final Design Submission **(Required)**

Semi-Final (SF) Design Submission: **(OPTIONAL for all projects)**

An electronic .pdf of the following deliverables are required for a typical Semi-Final (SF) Design submission:

- Semi-Final (SF) half scale plans consisting of all anticipated sheets (placeholder sheets acceptable for any non-critical detail items)
- Specifications that the Municipality would like reviewed
- Semi-Final (SF) Construction Cost Estimate
- Soils and Foundation Report with boring logs (for structures as applicable)
- Revised Hydraulic and Scour Reports (for structures as applicable)
- Bridge Load Rating Report (for structures)
- Projected Design Schedule with Critical Path and Milestones identified
- Documentation of progress made on permits, right-of-way acquisitions, and utility coordination

The submission should clearly depict the following items:

- All items recommended for depiction in the Preliminary Design (PD) Submission
- Progressed drainage design per hydraulic analysis, including any necessary water handling
- Progressed maintenance and protection of traffic and construction phasing plans (if necessary)
- Progressed traffic signal phasing/timing/structural plans based on calculations
- Progressed structural plans based on structural and geotechnical analyses
- A full set of cross sections, including all significant features/design constraints

Next Steps –

- 90% Design Submission **(Required)**
- Final Design Submission **(Required)**

90% Submission (Required for all projects)

An electronic .pdf of the following deliverables are required for a typical 90% Submission:

- 90% half scale plans
- All Specifications (8½" by 11")
- 90% Construction Cost Estimate (8½" by 11")
- Final Hydraulic, Scour, Soils & Foundation and Bridge Load Rating Reports
- All calculations and back-up materials

Next Step -

- Final Design Submission **(Required)**

Final Design Submission (Required for all projects)

Per CTDOT guidelines, a Final Design Submission to CTDOT (through CRCOG) is required. CRCOG and CTDOT will only review the final submission for the presence of required deliverables. The content of the Final Submission will not be reviewed. For the Final Design Submission, an electronic .pdf of each item below is required.

- Complete set of Final Project Plans, Specifications, and Contract Documents, including the signature and seal of the Professional Engineer preparing the project documents (Designer of Record)
- Construction Cost Estimate
- Final Design Submission Documentation, including required reports
- Completed Certification Forms

Project Design Submissions Reviews

CRCOG will coordinate the review of each interim (Preliminary Design (PD), Semi-Final (SF), 90%) submission. An on-board review meeting to discuss review comments is anticipated to be scheduled by the CRCOG consultant reviewer approximately three (3) weeks from their receipt of the submission. Review comments are anticipated to be submitted via written comments to municipalities at least one (1) week prior to the on-board review meeting.

Responses to Comments will only be required for comments identified by the reviewer as “critical”, and should be provided to CRCOG at, or shortly after, the on-board review. Comments are anticipated to be identified as critical only if they potentially involve safety or liability issues, or are in conflict with the project’s stated purpose and need. The reviewer is also anticipated to be tasked with identifying design flaws, errors, and omissions, identifying items at risk for change orders, providing value engineering suggestions, and independently assessing the project’s anticipated design schedule and construction costs. The reviewer is anticipated to be tasked with determining any exceptions to controlling design criteria (in absence of written municipal standards, CTDOT and AASHTO criteria will be utilized). The municipality should retain documented rationale for any controlling design criteria exceptions that cannot be brought into conformance.

Significant Scope or Cost Changes

Per CTDOT guidelines, if there is a change in project scope and/or a 20% or more increase in cost (above prior approval), municipalities are required to submit justification documentation to CTDOT (through CRCOG) for approval. Additionally, per CRCOG’s Transportation Committee, CRCOG staff will maintain a separate CRCOG approved amount which will be subject to Subcommittee approvals for any change in project scope and/or a 20% or more increases in cost (similar to the 20% threshold currently stipulated by CTDOT policy). CRCOG staff will maintain records of approved amounts, and organize any necessary Subcommittee cost increase request meetings.

Quarterly Reporting Requirements

Municipalities with projects active in the design and construction phases will be required to submit quarterly updates to CRCOG. Updates should be provided by September 30th, December 31st, March 31st, and June 30th. Updates will include information needed for CRCOG to compile and submit to CTDOT the Regional Quarterly Status Report appearing in the CTDOT LOTCIP guidelines. Municipal reporting requirements and format will be reviewed at the Kickoff meeting. Following each update, CRCOG will schedule and hold a LOTCIP Quarterly Review Meeting with representatives from each municipality with active LOTCIP projects. Materials will be provided that show the latest status of each LOTCIP project and the program as a whole. Major cost and scheduling issues will be highlighted for committee review and potential actions.

APPENDIX - Summary of the LOTCIP Process

The following has been prepared to highlight the main milestones of the LOTCIP process under both CTDOT and CRCOG guidelines. It has been prepared to summarize policy and in no way defines it. For additional information on any listed activity please consult the CTDOT and CRCOG guidelines directly.

Application Phase Guidelines

For a successful LOTCIP project, the Application Phase will generally consist of the following milestones:

1. CRCOG announces a competitive solicitation for municipal projects to be funded under LOTCIP
2. Municipality submits to LOTCIP application data to CRCOG for a potential project
3. CRCOG rates, selects, and reserves funding for projects
4. CRCOG reviews all selected applications for completeness and coordinates with the municipality to finalize the application
5. CRCOG submits to CTDOT applications for selected LOTCIP projects for review and approval
6. CTDOT, in coordination with the RPO and municipality, determines if the project is to advance per LOTCIP guidelines, or is to be administered by CTDOT (mainly for projects on state facilities)
7. CTDOT provides to the Municipality a Commitment of Funding Letter and results of an Environmental Screening
8. CRCOG prioritizes the project and informs the municipal contact of the anticipated funding year. Collaboratively a date is determined when design activities are expected to begin

Design Phase Guidelines

For a successful LOTCIP project, the Design Phase will generally consist of the following milestones:

1. Municipality informs CRCOG that design commencement is imminent or has recently begun
 - CRCOG assigns a project design submission reviewer and organizes a Design Kickoff Meeting with Municipality and design submission reviewer
2. **OPTIONAL** - Municipality contracts with CRCOG On-Call List 1 consultant for Design Assistance
3. Municipality provides CRCOG with Quarterly Project Updates throughout design
 - CRCOG processes, compiles, and submits Quarterly Regional Updates to CTDOT
4. When applicable, Municipality submits documentation and justification to CRCOG of any significant change in scope, 20% change in cost, or unanticipated required right-of-way phase
 - CRCOG holds Cost Review Subcommittee meeting for approval of cost/scope changes
5. When applicable, Municipality submits documentation and justification to CRCOG of any significant change in scope, 20% change in cost, or unanticipated required right-of-way phase
 - CRCOG forwards CTDOT scope/funding documentation for approval
6. During design, the Municipality either certifies to CTDOT (copy to CRCOG) that no right-of-way acquisition is required, or coordinates with its assigned CTDOT right-of-way liaison to submit any required right-of-way acquisition information. For right-of-way costs to be LOTCIP participating, either:
 - The Municipality requests in writing that CTDOT perform right-of-way acquisition, or,
 - The Municipality performs right-of-way acquisition under an executed Municipality/CTDOT right-of-way agreement
7. During design, the Municipality files for an encroachment permit preliminary review with the CTDOT District Maintenance Director for any work proposed within the State right-of-way
 - CTDOT provides the Municipality with documentation that states CTDOT will not object to the improvements
8. During design, the Municipality engages in a public outreach process for the project

9. Municipality submits Preliminary Design (PD), Semi-Final, and 90% Design Submissions to CRCOG, as necessary
 - CRCOG provides review comments to Municipality and if there are any “critical comments” requiring responses
 - Municipality provides to CRCOG responses to “critical comments” (if any)
10. Municipality submits Final Design Submission to CRCOG
 - CRCOG administratively approves and forwards Final Design Submission to CTDOT
 - CTDOT forwards a Project Authorization Letter (PAL) to the Municipality
 - Municipality signs and returns the PAL to CTDOT
 - CTDOT provides Municipality Authorization to Advertise
11. Municipality advertises project
 - Municipality receives bids, holds bid opening, and identifies the lowest responsible bidder
12. Municipality provides CRCOG the Bid Results and a Request for Construction Funds
 - CRCOG approves and forwards items to CTDOT along with recommendation for award
 - CTDOT issues approval of award, commitment to fund the project, and grant payment to the Municipality
13. Municipality awards the contract to lowest responsible bidder

CRCOG Construction Phase Guidelines

For a successful LOTCIP project, the Construction Phase will generally consist of the following milestones:

1. **OPTIONAL** - Municipality contracts with CRCOG On-Call List 2 consultant for Construction Phase Assistance
2. Municipality provides CRCOG with Quarterly Project Updates throughout construction
 - CRCOG processes, compiles, and submits Quarterly Regional Updates to CTDOT
3. Municipality provides CRCOG with Annual Financial Project updates throughout construction

Following Construction Completion

3. Municipality submits Final Package Submission to CRCOG
 - CRCOG approves and forwards the package to CTDOT
4. Municipality provides CTDOT Final project audit results and resolves outstanding financial balances (refer to CTDOT 2013 LOTCIP guidelines, page 27)
5. **OPTIONAL** – Municipality provides CRCOG feedback regarding improvements to the LOTCIP program/process, and a review of the performance of Consulting Firms and Prime Contractor