
To: Cost Review Sub-Committee
From: Sotoria Montanari, CRCOG Program Manager
Date: November 5, 2021
c: Transportation Committee
Rob Aloise, CRCOG Director of Planning
Cara Radzins, CRCOG Transportation Deputy
Subject DRAFT Project selection Policy revised October 2021

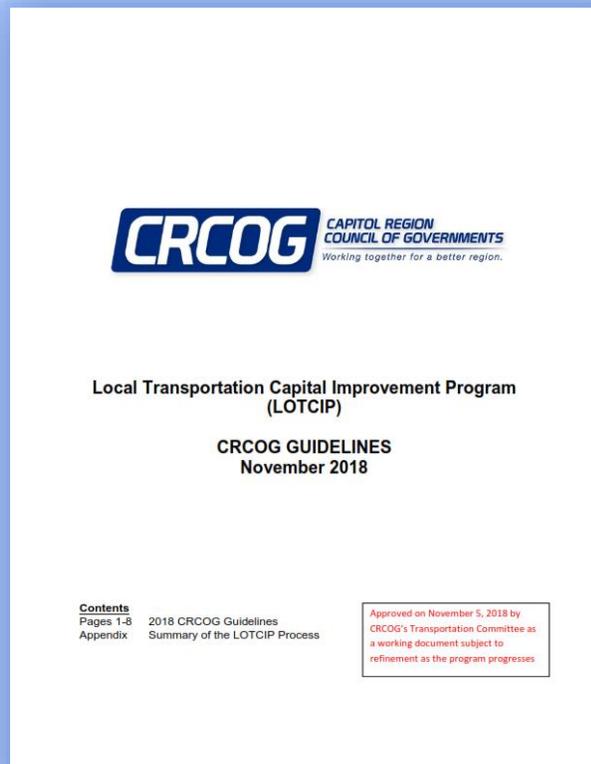
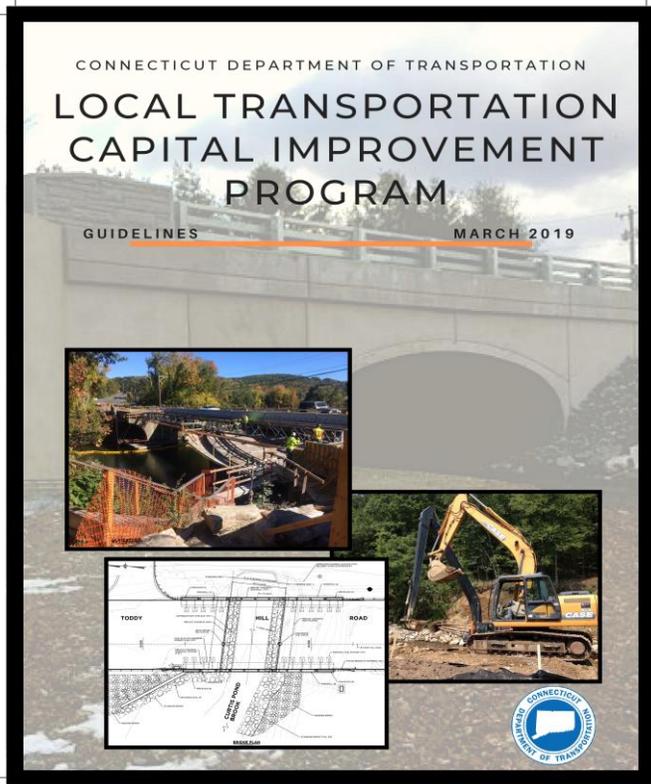
Included in the packet are two documents for discussion:

The DRAFT Project Selection Policy revised October 2021 is attached for the Committee's review. Staff provided the document to the Committee in October so it may be discussed and approved at the November 15 meeting. The revisions pertain to the pavement categories CTDOT is proposing to include in the CTDOT LOTCIP guidelines.

Also, attached to the end of the Selection Policy is the DRAFT pavement changes that are anticipated to be included in the proposed revisions to the CTDOT LOTCIP guidelines. This document is provided for review and discussion.

Capitol Region Council of Governments LOTICIP Program

2022 Solicitation Project Selection Policy



Revised October 2021 (Pending Transportation Committee Approval)

This Project Selection Policy is used by the CRCOG Transportation Committee to guide the project selection process for CRCOG's member municipalities for the Local Transportation Capital Improvement Program (LOTICIP). The CTDOT LOTICIP Guidelines (March 2019) and LOTICIP CRCOG guidelines (November 2018) are used to administer the overall program.

Project Selection Policy Contents:

- I. Project Selection & Funding
- II. Project Rating Criteria

I. **Project Selection & Funding**

1. **Total Program Award (\$38,000,000)**

CRCOG will approve up to two years of LOTCIP funding for projects. The anticipated \$38,000,000 total program award is based on funding levels included in the Connecticut Department of Transportation (CTDOT) budget for State Fiscal Years 2022 and 2023 (pending approval). **Prior to the release of project ranking results, the project category amounts described in Sections 4 through 8 below, may be adjusted proportional to any funding revisions in the SFY2022/2023 State budget as administered by CTDOT.** The State Bond Commission approval of bonds is needed for project funding to proceed and will dictate the number and type of projects that will be initiated under this program. Therefore, selection under this solicitation does not guarantee project eligibility or funding.

2. **Eligible Projects**

As per CTDOT LOTCIP Guidelines, the projects must meet the eligibility requirements of the Federal Surface Transportation Block Grant (STBG) program. As such, roadway improvements must be located on a roadway classified as collector or higher (rural minor collectors, rural local roads, and urban local roads are not eligible). However, for projects primarily proposing bridge/culvert improvements, the following eligibility requirements apply:

1. The structure must carry a Federal Aid system roadway, OR;
2. For structures that carry public Local Roads or Rural Minor Collectors, the structure length (sum of the spans) must be greater than 20 feet.

Functional Classification Maps for each municipality are available on the Department's website at: <http://www.ct.gov/dot/maps>.

At times, in sensitive areas such as town centers, it may be appropriate to include enhancement type items on a project. It is CRCOG's policy to limit enhancement type items in a project to 20% of the project's cost. Enhancement type items include elements that enhance but are not required for transportation; such as benches, trash receptacles, concrete pavers, and decorative versions of streetlights, mast arms, and crosswalks. Also, street trees and landscaping, in excess of those needed to replace impacts in-kind, would be considered enhancement items.

Additionally, per CTDOT guidelines, items with no relation to transportation will typically be ineligible for funding in any quantity, including utility betterments/upgrades that are not required to accommodate the proposed transportation improvement.

It is the **responsibility of each municipality to independently confirm the eligibility** of their proposal, as any prior lists of potentially eligible projects provided by CRCOG or others could contain errors, omissions, or outdated data.

3. **Target Projects**

CRCOG is primarily looking to fund capital improvement projects that will substantially improve the physical condition of our transportation system (roads, bridges/major culverts), construct complete streets (transit, pedestrian and bicycle accommodations) or correct existing traffic problems related to congestion, safety (crashes), and geometry. The majority of funding is for reconstruction/**major pavement rehabilitation** projects, however separate funding is set-aside for **minor** pavement rehabilitation, stand-alone sidewalk, and bicycle and pedestrian projects.

4. Project Cost Limits (\$300,000 to \$3,200,000)

CRCOG will fund projects that cost between \$300,000 and \$3,200,000. Per CTDOT LOTCIP Guidelines, projects must have a minimum construction cost of \$300,000 to qualify for LOTCIP funding. Extremely large projects will take a disproportionate share of program funds, therefore projects utilizing more than \$3,200,000 of LOTCIP funding will not be approved. The submitted cost estimate should reflect no more than the maximum funding per municipality allowable and any additional amount should be noted as a non-participating cost in the cost estimate.

5. Municipality and Agency Funding Limit (\$3,200,000)

If applying for multiple project categories, no municipality will be awarded more than \$3,200,000 in projects (reconstruction/major pavement rehabilitation improvements, minor pavement rehabilitation, stand-alone sidewalk, and bicycle/pedestrian projects).

6. Roadway Reconstruction, Major Pavement Rehabilitation and Bridge Improvement Projects (\$25,800,000)

A maximum of \$25,800,000 shall be reserved for Roadway Reconstruction/Major Pavement Rehabilitation and Bridge Improvement projects. The maximum cost for any single project is \$3,200,000. For a description of roadway reconstruction and major rehabilitation pavement treatments, click link below:

<https://bit.ly/3mts670>

7. Minor Pavement Rehabilitation, Pavement Preservation and Stand-Alone Sidewalk Projects (\$5,700,000 Total)

A maximum amount of \$5,700,000 shall be reserved for Minor Pavement Rehabilitation and Stand-Alone Sidewalk projects. This maximum amount is within the State limit of expending no more than 15 percent of program funds for minor pavement rehabilitation and/or stand-alone sidewalk projects. The maximum cost for any single project is \$1,200,000. Note that Minor Pavement Rehabilitation Projects and Stand-Alone Sidewalk projects will be ranked using different criteria as shown on pages 13,14. However, both project categories are ranked using a total of 50 points and will compete against each other in one ranking list. For a description of minor pavement rehabilitation and pavement preservation treatments, click link below:

<https://bit.ly/3mts670>

NOTE: Per State Guidelines, pavement rehabilitation projects will be subject to a 15-20 year minimum design life.

Stand-alone sidewalk projects must provide a safety and mobility benefit to the community, including, but not limited to filling a gap, connecting destinations, being located in a school zone, or improving safety in a vulnerable user population area. Per CTDOT, the replacement or maintenance of existing sidewalks due to their age and condition will not be eligible. However, if widening sidewalks to achieve ADA compliance, then project may be eligible.

8. Bicycle and Pedestrian Project Funding (CTDOT “Transportation Enhancement / Alternative projects) (\$2,500,000 Total)

A maximum amount of \$2,500,000 shall be reserved for bicycle and pedestrian projects. In general, CTDOT differentiates these projects from stand-alone sidewalk projects by requiring the bicycle/pedestrian project to have a significant bicycle improvement component and/or have a significant portion of the pedestrian accommodations removed from a roadway alignment (such as a multi-use trail). The funding limit for each individual project is \$1,200,000 which allows for funding of at least two (2) individual projects.

9. Projects in Rural Communities (\$4,000,000 Total)

A maximum amount of \$4,000,000 will be set-aside exclusively for rural communities. The following policies will apply:

- CRCOG towns that are classified as 60% or more rural per the US Census Bureau's 2010 census are eligible to compete for the set-aside. This results in the following fifteen eligible towns: *Andover, Bolton, Canton, Columbia, Coventry, Hebron, East Granby, East Windsor, Ellington, Granby, Mansfield, Marlborough, Stafford, Suffield, and Willington.*
- Projects will first compete with all CRCOG municipalities for \$34,000,000 of funding. Eligible projects from rural communities that are not awarded projects will then compete against each other for the \$4,000,000 funding set-aside.

10. Incentive Projects - The awarding of "incentive projects" is in keeping with CRCOG's historic practice of conditionally awarding high ranking projects to municipalities that already have active LOTCIP projects (for this solicitation staff proposes 2) in the design phase. The advancement of these "incentive projects" would be contingent on that municipality completing design of one of their two other LOTCIP projects.

11. Cost Containment Policy (Municipal Liability for Cost Increases)

CRCOG's cost containment policy will remain in effect as amended by the Transportation Committee on April 24, 2017 (and Policy Board on April 26, 2017) to address cost increases in excess of twenty percent (20%). A municipality will be held liable for any increase in the cost of its project beyond twenty percent (20%) of that previously approved by CRCOG. If costs exceed the CRCOG approved amount by more than twenty percent (20%), the municipality will be required to either pay the entire amount of the increase in excess of the twenty percent, or request review and approval by the CRCOG Cost Review Subcommittee. Similarly, any noteworthy changes to a project's scope will necessitate Cost Review Subcommittee approval, regardless of any associated project cost changes

12. Eligibility of State Highways and Bridges

Projects on State highways will be considered eligible projects if they are proposed by member municipalities, however the LOTCIP program was initiated to streamline projects not requiring standard State/Federal design oversight and approval. Projects that require this oversight are better suited for other funding sources, however there may be circumstances where flexibility to utilize LOTCIP funding is necessary. If a proposed project is viewed by CRCOG or CTDOT staff as needing state design oversight in excess of an encroachment permit, staff will first work with CTDOT to determine if the project merits the use of alternate funding sources, such as STBG.

13. Project Rating & Approval Process

The following rating process shall be applied. Unsuccessful proposals from communities categorized as Rural per Section 9 will then again be rated (against each other) to compete for the rural funding set-aside.

Step 1: All proposals are due on January 19, 2022 at 2 p.m.

Step 2: Staff rates projects. All proposals shall be rated by CRCOG staff using the approved rating criteria.

Step 3: Staff confirms eligibility and prepares rankings. The staff will confirm eligibility of projects based on CTDOT LOTCIP guidelines and rank all eligible projects based on rating criteria.

Step 4: Subcommittee Reviews Project Rankings/Ratings. The Subcommittee will review all the project ratings/rankings prepared by staff. The Subcommittee may make revisions as warranted.

Step 5: **Approval by the Transportation Committee and Policy Board.** The project list shall be submitted to the full Transportation Committee for its consideration and approval. The list shall also be submitted to the Policy Board for its consideration and approval.

Step 6: **Review of Alternate Funding Opportunities.** CRCOG staff will identify projects that might be funded through other federal or state programs.

14. Project Rating Criteria

The project rating system is described in the attached "Project Rating Criteria". CRCOG staff shall rate each project on each of the criteria listed. Staff ratings will be reviewed by the Subcommittee.

Most of the criteria require some subjective judgments about the potential benefits of the project. The subjective nature of the rating system is due to the need to apply the rating system to a broad range of project types. To ensure consistency in the rating process, CRCOG staff shall follow the guidelines specified in the attached "Project Rating Criteria".

15. Project Time Limits

Generally, design timeframes of more than 36 months (as measured between the commitment to fund letter and authorization to advertise) may be considered significantly delayed. If a project schedule slips due to reasons outside of securing permits or DOT/DEEP review, a letter may be sent to the Chief Elected Official putting the municipalities on notice. CRCOG staff will bring significant delay issues to the Cost Review Subcommittee for their review and action. The Cost Review Subcommittee may also require additional Town/City Council Resolutions in support of the project or the submission of periodic project progress/status reporting. If the Subcommittee is not satisfied with the progress, it shall recommend project termination to the Transportation Committee.

16. Project Submissions

Each municipality may submit no more than two (2) proposals from a combination of any of the following categories. Each of proposal must consist of a completed signed LOTCIP application. No municipality will receive more than \$3,200,000 total.

Project Category

Roadway Reconstruction/ Major Rehabilitation /Bridge Improvement	\$25,800,000
Minor Pavement Rehabilitation and Stand-Alone Sidewalk Projects	\$5,700,000
Bicycle and Pedestrian Project Funding (Multi-Use Trail)	\$2,500,000
Projects in Rural Communities	\$4,000,000

Total \$38,000,000

17. CRCOG Complete Streets Policy

Proposals must comply with the most current approved [CRCOG Complete Streets Policy](#). The CRCOG Complete Streets Compliance Form needs to be completed and submitted with each project proposal. For more information about eligible exceptions and the exception process, please review the CRCOG Complete Streets Compliance Form.

II. Project Rating Criteria

Each project proposal is ranked using the criteria listed below for each project type. **It is up to each applicant** to provide a description and explanation of how they meet any of these criteria.

Proposals will be rated based on a point system, with the maximum number of possible points assigned to the criteria reflecting the relative importance of the criteria. Points are awarded on the basis of how well the project meets the criteria. For example, a reconstruction project that provides a major traffic safety and operational improvement will be awarded the maximum 21 points for that criteria. A project with no traffic safety or operational improvement will be given a score of zero on that criteria. CRCOG staff will review each application and determine the number of points warranted for the benefits described by the applicant.

ROADWAY RECONSTRUCTION/MAJOR REHABILITATION & BRIDGE IMPROVEMENT

<u>Rating Criteria</u>	<u>Max. Points</u>
1. Structural Improvement (Pavement, Drainage, Bridge/Culvert)	14
2. Traffic Safety & Operations (Flow, Safety, & Geometrics)	21
3. Traffic Volume or Transit Ridership	15
4. Regional Significance	17
<input type="checkbox"/> Benefit to Regional Public Facilities (10 points)	
<input type="checkbox"/> TOD Supportive (5 points)	
<input type="checkbox"/> Economic Development (2 points)	
5. Environmental	12
<input type="checkbox"/> Green Infrastructure (4 points max.)	
<input type="checkbox"/> Environmental Justice (8 points max.)	
6. Complete Streets	16
<input type="checkbox"/> Vulnerable Users	
<input type="checkbox"/> Pedestrian Supportive (3 points max.)	
<input type="checkbox"/> Bicycle Supportive (3 points max.)	
<input type="checkbox"/> School Zones (2 points max)	
<input type="checkbox"/> Traffic Calming (5 points max)	
<input type="checkbox"/> Transit Supportive (3 points max)	
7. Derived from Corridor Study / Long Range Transportation Plan	5
8. Municipal Road	10
9. Leveraging of Other Finances	5
10. Municipality has not recently secured LOTICP funding	5
TOTAL Possible Points	120

1. Structural Improvement: Pavement, Drainage, Bridge/Culvert (14 points)

The structural improvement rating provides an indication of the extent to which the project will help correct or reduce a structural problem with a road, a bridge, or a culvert. A municipality must provide documentation of: (1) the existing structural problems, and (2) how the proposed project will correct the problem. The municipality should provide any available deficiency ratings such as the municipality's own pavement condition inventory or the State's ratings on local bridges. Photographs would also be helpful. The municipality should also describe how the project will address each of the deficiencies it identifies.

For pavement projects, please attach core or test pits data to provide a representative sample of the existing roadway conditions (if available and prior to submittal to CTDOT). If varying pavement conditions exist along roadway indicating the possibility of different pavement conditions, a core/test pit should be performed in each roadway section. Pavement thickness and type, subbase thickness and type, and the presence of fines and/or groundwater should be noted.

CRCOG staff will review the documentation on each project. They will then rate each project based on their professional judgment, the general criteria listed below, and the municipality's documentation.

General criteria: (indicate existing conditions & conditions after improvement)

Roadway Pavement: pavement condition rating (e.g., PCI or RSR)

Roadway Drainage System: adequacy of subsurface drainage system (water in base?)
adequacy of surface drainage system (icing or ponding?)

Bridges & Culverts: bridge condition rating (super structure, deck)
hydraulic capacity (adequate for 25, 50, or 100 year flood)

When assigning a project rating, staff will consider the range of existing problems (pavement, drainage, and culvert/bridge), the severity of the problems, and the degree to which the problem will be reduced.

2. Traffic Safety and Operations: Flow, Safety, & Geometrics (21points)

The traffic improvement criterion provides an indication of whether the proposed project will help improve traffic delay, traffic safety, or roadway geometrics. The applicant must provide documentation of the existing problem and describe the proposed improvement. Using the suggested design criteria will assist CRCOG staff in their review. CRCOG staff will review the documentation and determine whether the improvement qualifies as major, moderate, minor, or none.

	Existing Problem	Proposed Improvement	Design Criteria
Traffic Flow	Describe the existing delay, congestion, or traffic operations problem. What is the severity of the travel time delays?	Will the proposal reduce the congestion and delays, or improve operations? Is this a suitable area for a roundabout?	Level-of-service (LOS) before & after the proposal is implemented. The use of Highway Capacity Manual procedures is recommended but not required.
Traffic Safety	Provide crash data over a 3 year period. Identify if the project location is included as a Top Crash Intersection or a Top Crash Corridor, as listed in the CRCOG Regional Transportation Safety Plan, 2020.	Identify proposed safety countermeasures (e.g., signage, pavement markings, centerline rumbles, shoulder & clear zone, roadside barriers).	Describe the expected reduction. The use of Highway Safety Manual procedures showing Crash Reduction Factor (percentage) is recommended but not required.
Roadway Geometry	Describe roadway geometric deficiencies, such as excessive grade, substandard width, excessive horizontal curvature, poor sight line, improper super elevation.	Describe the proposed improvement and how it meets design criteria.	Indicate degree of improvement in appropriate design criteria (e.g., improvement to meet sight distance requirements for the design speed of the roadways. Use AASHTO "Green Book" or CTDOT Highway Design Manual.

3. Traffic Volume or Transit Ridership (15 points)

This criterion provides a general indication of the number of people who benefit from the proposed project. Measurement method is dependent on the type of project proposed. For roadway improvement projects, the applicant must supply data on either the annual average daily traffic (AADT) or the peak hour volume of traffic (PHV). For transit projects, the applicant must supply data on the number of transit riders who will benefit from the project. For projects other than road or transit improvements, the applicant must provide some other estimate of the number of people who will benefit and give an explanation of how the estimate was prepared. Submit documentation on one of the following:

1. ADT,
2. PHV,
3. Transit Riders
4. Bike/Pedestrian Volume

When using ADT, the score is calculated by the following formula: **Score = ADT/12,000 x 15** (where ADT = Average Daily Traffic, and the maximum ADT that will be considered is 12,000)

4. Regional Significance (17 points)

Regional significance provides an indication of how widespread or localized the *transportation* benefits of the project are. The applicant must describe the area of impact of the project. For example, does the project benefit only a very small area, an entire municipality, multiple municipalities, or most of the region? Proposals can receive up to seventeen points if the proposed project has any of the benefits listed below.

❑ **Benefit to Regional Public Facilities** (maximum 10 points)

A proposal can receive up to ten points if it helps improve access to regional **public** facilities such as hospitals, colleges, and airports; on an evacuation route; or to an emergency shelter.

The applicant should provide documentation on (1) the size of the area that benefits from the proposed project, and (2) information on any regional **public** facilities that benefit from the proposed project. The documentation should demonstrate how the area or regional facilities benefit.

CRCOG staff will review the documentation and determine whether the project qualifies as regional, sub-regional, town-wide, or localized.

❑ **TOD Supportive** (maximum 5 points)

A proposal can receive up to five points if it is supportive of transit-oriented development (TOD). The applicant should provide documentation showing that the proposed project is within a half mile of a park and ride lot or a transit station on the CT **fastrak** guideway or CT **rail** Hartford Line. If the project is within a quarter mile of a transit station, the applicant should document that as well. Also, key to supporting TOD, any elements of the project that enhance bicycle and pedestrian connections within the project area should be clearly stated and documented.

A bike/pedestrian facility may be derived from a study or identified on a state/CRCOG bike network map.

❑ **Economic Development** (maximum 2 points)

Projects that help the economic development goals of the community will receive up to two points.

5. Environmental (12 points)

Proposals can receive up to twelve points if the proposed project has any of the benefits listed below.

❑ **Green Infrastructure** (maximum 4 points)

Proposals can receive up to four points if the project includes the implementation of new technologies and methodologies that reduce environmental impacts associated with transportation infrastructure, it can receive up to an extra five points. These new initiatives seek to reduce stormwater runoff and associated pollutants, promote the use of recycled materials, bring natural elements into streets, and reduce “heat island” effects

Green Streets strategies include the use of permeable pavement, bioslopes and bioswales, bioretention cells, and vegetated filter strips to reduce and filter stormwater runoff. Additional strategies to reduce

environmental impacts include use of reclaimed or recycled pavements and integration of natural elements into streets. include use of in-place reclaiming of existing pavements for use as a road granular base on lower-volume roads, partial depth cold-in-place recycling of pavements up to 8,000 ADT, use of reclaimed asphalt pavement (RAP) into hot-mix-asphalt, warm-mix asphalt (WMA) technology, and integration of natural elements into streets.

❑ **Environmental Justice** (maximum 8 points)

Proposals can receive up to six (6) points if the proposed project benefits primary target area. A maximum of four (4) points if the proposed project benefits a secondary target area and eight (8) points both primary and secondary. A map of the environmental justice target areas is included in this document. An interactive version of the map is also available at:

<https://crcog.maps.arcgis.com/apps/webappviewer/index.html?id=01d47e9baf3b406798021be3b200f88d>

6. Complete Streets (16 points)

❑ **Vulnerable Users**

❑ **Pedestrian Supportive** (maximum 3 points)

Proposals that improve pedestrian mobility and/or safety can receive up to three points. Proposals should indicate pedestrian measures that are being proposed such as new sidewalks, crosswalks, or pedestrian traffic signal equipment and how the measures will improve pedestrian safety.

❑ **Bicycle Supportive** (maximum 3 points)

If the project helps to improve the mobility and safety of bicyclists or helps achieve the goals of the Regional Bicycle Plan, it can receive up to three points. Proposals should indicate how bicycle provisions (i.e. pavement striping to provide exclusive bicycle lane) will advance the vision of safety, convenience and improved linkages. Considerations should be given to the viability of reducing vehicle lane widths (for example from 12' to 11'), where appropriate, to provide additional shoulder width for cyclists.

❑ **School Zones/Senior Citizen Housing** (maximum 2 points)

Projects that assist in addressing vehicular, pedestrian, or bicycle safety in school zones or in proximity to senior citizen housing will receive up to two points.

❑ **Traffic Calming/Road Diets** (maximum 5 points)

If the project will have a positive effect on reducing vehicular travel speeds, altering driver behavior and/or reducing the negative effects of automobile use, the project is eligible for up to five points. When considering traffic calming benefits, CRCOG staff will evaluate a wide range of potential traffic calming improvements such as road diets, speed humps, reduced lane width, streetscaping elements, or other measures appropriate to the type of street. Proposals should indicate the severity of the existing problem and the degree to which the proposed improvements will reduce the problem.

❑ **Transit Supportive** (maximum 3 points)

If a proposal benefits the region's transit system or transit users, it can receive up to three points. Proposals should indicate if bus shelters are being proposed or if sidewalks to bus stops are being improved or installed.

7. Recommended in other CRCOG planning documents? (5 points)

A proposal can receive up to five extra points if the project includes recommendations in CRCOG documents in accordance with the following:

- Includes recommendations from corridor study initiated through CRCOG
- Is a project in CRCOG’s Metropolitan Transportation Plan
- Includes proposed bicycle infrastructure on a road identified on the State/CRCOG Bike network map.
- Includes a Top Crash Intersection, Top Crash Corridor, or location listed in Appendix A Municipal Reports, from the CRCOG Regional Transportation Safety Plan, 2020.

8. Municipally Owned Arterial or Collector Road (10 points)

A proposal can receive up to 10 points if the project is located on an arterial or collector road that is owned by the municipality (as versus State ownership).

9. Leverages other Finances to fully fund or construct project (5 points)

A proposal will can receive up to five points if the proposed project leverages other finances. Leveraging other finances is defined as using LOTCIP funds to supplement other existing funds to fully fund a project. The number of points awarded will depend on how complete the planning or design processes are. To receive points, the existing funding must be secure and cannot be in the form of an earmark. With difficult financial times expected, multiple funding sources will offer great flexibility towards completion of projects.

10. Municipality has not recently secured LOTCIP funding (5 points)

A proposal can receive up to five points if it is from a municipality that either has not yet been awarded a LOTCIP project or all of its municipal projects have received an Authorization to Award Letter by application due date.

MINOR PAVEMENT REHABILITATION PROJECTS

<u>Rating Criteria</u>	<u>Max. Points</u>
1. Structural Improvement (Pavement)	20
<ul style="list-style-type: none"> • Pavement/Roadway structural deficiencies are addressed by treatment appropriate relative to PCI, RSR or observed conditions. • Addressing drainage issues such as ponding, shoulder rutting or bridge/culvert drainage problems • Heavy truck traffic may also be used as a rating criteria 	
2. Traffic Volume or Transit Ridership	10
<ul style="list-style-type: none"> • ADT Volumes • Bus routes; transit ridership numbers 	
3. Complete Streets ⁵	
<ul style="list-style-type: none"> • Narrower vehicle lanes to accommodate bike lanes • Create bike lane on roadway • Install sidewalks/ADA compliance (ramps) 	
4. Regional Significance	5
<input type="checkbox"/> Benefit to Regional Public Facilities (3 points) <input type="checkbox"/> Economic Development (2 points)	
5. Environmental Justice	5
6. Municipality has not recently secured LOTCIP funding or all of its municipal projects have received an Authorization to Award Letter by application due date.	5
TOTAL Possible Points	50

Minor Pavement rehabilitation projects will be evaluated on, but not limited to, the following criteria: structural deficiencies including existing roadway issues, appropriate treatment relative to pavement deficiencies, and above surface drainage issues (such as ponding); traffic volumes based on average daily traffic (ADT) or peak hour volume of traffic (PHV); regional significance including how widespread or localized the benefits of the project are (including the facilities it will benefit, and economic development); project location in relation to environmental justice areas; and whether the municipality has recently secured LOTCIP funding. In support of complete streets, considerations should be given to the viability of reducing vehicle lane widths (for example from 12' to 11'), where appropriate, to provide additional shoulder width for cyclists.

BICYCLE AND PEDESTRIAN PROJECTS and STAND-ALONE SIDEWALK PROJECTS

<u>Rating Criteria</u>	<u>Max. Points</u>
1. Improves Mobility (including filling gaps/connecting destinations)	16
<ul style="list-style-type: none"> • High Density or Town Center • Access to Transit • Connects gaps • Destination or transportation alternative (library, park and ride, public buildings, senior housing) 	
2. Improves Safety (including volume of conflicting traffic)	19
<ul style="list-style-type: none"> • Addresses crash history • ADT's • Quality of bike facility; level of protection (barrier, width) 	
3. Vulnerable Users (up to ½ mile from project area)	5
4. Environmental Justice	5
5. Municipality has not recently secured LOTCIP funding or all of its municipal projects have received an Authorization to Award Letter by application due date.	5
 TOTAL Possible Points	 50

Bicycle and Pedestrian projects and Stand-alone sidewalk projects primarily rated on their ability to improve bicycle and pedestrian mobility and safety. These projects will be evaluated, but not limited to the criteria: whether or not the improvement fills a gap or connects destinations; the effectiveness in providing alternatives to driving; safety benefit to the community; if there are especially vulnerable users (i.e. elementary school children, handicap individuals, teenagers, elderly); the project's location in relation to environmental justice areas; and whether the municipality has recently secured LOTCIP funding.

Proposed Revisions anticipated to be included in CTDOT LOTCIP Guidelines

DRAFT July 2021

Design Life of Proposed Pavement Improvements:

The LOTCIP is funded with 20-year State bonds. Therefore, projects funded under the LOTCIP must be designed to provide an approximate 20-year design life (see exceptions below) for the proposed improvements commensurate with the duration of the bonds.

Pavement improvements can generally be categorized in four treatment categories:

- 1) Preservation,
- 2) Minor Rehabilitation,
- 3) Major Rehabilitation, and
- 4) Full Depth Reconstruction.

The treatment category must be selected based on existing field conditions by an engineer with pavement experience. Choosing the correct category helps to determine the appropriate level of investigative sampling required later. The adequacy of a specific treatment type or repair strategy (mill and overlay, reclamation, full depth reconstruction, etc.) within these categories cannot be confirmed without proper investigation of the existing pavement layer depths and subsurface material composition. For all treatments, the required investigation should begin with review of as-built construction records. This must be followed by investigative sampling (cores, borings, test pits, split spoon samples, sieve analysis) for the specific treatment category chosen, to accurately determine existing conditions and perform the required pavement design.

For projects that involve pavement improvements, this process will include providing a pavement design that meets the design life requirements for the respective treatment category chosen. Adherence to pavement design life requirements is determined by projecting construction-end-year traffic volumes over the design period, calculating cumulative Equivalent Single Axle Loads (ESALs), and then evaluating whether the provided structural number is greater than the required structural number per the 1993 AASHTO Guide for Design of Pavement Structures.

Exceptions to Design Life:

Pavement **major rehabilitation** and **full depth reconstruction** projects are required to meet the 20-year structural design life without exception.

Pavement **minor rehabilitation** projects must also meet a 20-year structural design life; however, mill and overlay resurfacing treatments that result in a minimum 15-year design life will be accepted. It should be noted that shortened design life periods are not necessarily more cost effective when considering life cycle costs over the long term. It is still encouraged to meet a 20-year design life for mill and overlay treatments if possible.

Pavement **preservation** projects, which should be limited to structurally sound pavements only (determined by an engineer with pavement experience), are exempt from all structural design life requirements, as these treatments are not intended to provide a structural improvement but simply preserve the existing structure. However, treatments should be selected that extend the service life as much as possible.

Simplified tools and guidance for following the AASHTO procedure are available on the Department's Pavement Design Unit web page under "Pavement Design Resources" at the following link:

<https://portal.ct.gov/DOT/Engineering/Pavement-Design/Pavement-Design-Unit>

Further discussion of individual treatment types is included in the pavement guidance provided by the Department's Pavement Design Unit in the following pages:

PAVEMENT INVESTIGATION FOR LOCAL ROAD PROJECTS

Introduction

This document outlines the required investigation for Local Roads (LOTICIP) projects that include pavement improvements. The guidance is broken out by categories of pavement improvement in order to identify the particular considerations, information, and investigative sampling required. This document considers only pavement with asphalt wearing surfaces and does not address concrete pavement wearing surfaces. The categories below attempt to capture some of the more common treatment strategies but do not seek to identify all pavement repair strategies.

Please contact the Pavement Design Unit at 860-594-3287 if you have any questions.

Category 1: Pavement Preservation

Surface Treatments (Bonded Overlay, Thin Overlay, Chip Seal, Microsurfacing, etc.):

A surface treatment project may be recommended for asphalt surfaced pavements with little or no areas of structural failure. Structural failures such as alligator fatigue cracking, potholes, and deformations generally indicate that the existing roadway structure, including asphalt and granular materials, are inadequate for some combination of the existing traffic, subgrade, and drainage conditions. In order to determine whether a surface treatment is appropriate, the roadway condition should first be surveyed to determine if the distresses are functional or structural in nature. Functional distresses are related to age and environmental impacts and may include transverse cracking, longitudinal cracking (non-wheelpath), block cracking, and raveling. For surface treatments, these functional distresses should be limited, covering some but not all of the area of the pavement surface, and should generally be low severity to moderate severity at worst.

Collecting the following minimum information is required for this effort:

- Perform a detailed distress survey to identify and estimate distress types, severities, and quantities using the linked documents as a reference to ensure the pavement is in good structural condition and can support a surface treatment.
 - [FHWA - Distress Identification Manual](#)
 - [Pavement Interactive - Pavement Distresses](#)
- Determine whether surface preparation will be required prior to treatment such as crack sealing and partial depth patching.
- Identify the latest traffic volumes which may be available here:
 - https://portal.ct.gov/DOT/PP_SysInfo/Traffic-Monitoring
 - AADT Reporting Tool
- Identify the functional classification which may be available here:
 - https://portal.ct.gov/DOT/PP_Bureau/Documents/Maps
 - Miscellaneous Maps → View/Download FC Maps
- Determine the pavement surface age from existing records.
 - Surface treatments have generally been found to be of the most benefit when the pavement surface age is roughly between 6 and 10 years.

Category 2: Minor Rehabilitation

Mill and Overlay, Hot-in-Place Recycling, Cold-in-Place Recycling, etc.:

A mill and overlay resurfacing treatment or in-place pavement recycling treatment may be recommended for asphalt surfaced pavements without extensive structural failure. Extensive structural failures such as alligator fatigue cracking, potholes, and deformations generally indicate that the existing roadway structure, including asphalt and granular materials, are inadequate for some combination of the existing traffic, subgrade, and drainage conditions. In order to determine whether a treatment of this type is appropriate, the roadway condition should first be surveyed to determine if the distresses are functional or structural in nature. Functional distresses are related to age and environmental impacts and may include transverse cracking, longitudinal cracking (non-wheelpath), block cracking, and raveling. A mill and overlay resurfacing treatment or in-place pavement recycling treatment is well suited for roadways that are experiencing primarily functional distresses to varying extents and severity. This treatment may also be appropriate if some minimal amount of structural failures are present but isolated; however, all areas of structural failure should be identified and repaired with full depth patching in combination with the resurfacing. When performing full depth patching, replacement of the existing granular base/subbase may be warranted if it is determined that those materials are in some way contributing to the poor performance of the asphalt pavement.

The next step is to determine the existing pavement depth and layer configuration, granular base and/or subbase depth, and subgrade type. The following minimum sampling is required for this effort:

- Take representative pavement cores along the roadway at 500-foot increments. Cores should be measured for total depth and depth between layers. Milling depths/recycling depths should be chosen to remove or recycle deteriorated layers and provide a layer for placing the new material that is sound. When milling, this is generally accomplished by avoiding the interface between existing pavement layers with the selected mill depth – staying slightly above an interface by approximately 1 inch, or slightly below an interface by approximately 1/2 inch. The targeted milling depth should also avoid exposing existing granular material by staying a minimum of 2 inches above the granular base or subbase. Consideration should also be given to the minimum pavement thickness that traffic will be traveling on after the initial mill. For instance, selecting a mill depth that results in the remaining pavement being 2 inches thick may be adequate to avoid subbase exposure while being inadequate to support heavy truck loads even for short term use.
- Check existing records to determine whether a granular base or subbase exists below the pavement. If no records on the existing roadway are available, take 1 split spoon sample (possibly in an existing core hole), or 1 test pit, every 1/2 mile to determine total base/subbase depth (engineered granular material) and depth to subgrade (existing or native material). A general identification of the base/subbase is recommended to distinguish whether the material is composed primarily of sand, gravel, or both (fine graded, coarse graded, or well graded). This assessment may also identify whether the material is silty or contains other contaminations.
- Identify the subgrade type for the area utilizing surficial mapping or other resources. Soil information can be accessed here:
 - [Surficial Materials - CT DEEP GIS Open Data Website](#)
 - Surficial Materials Map
 - [ArcGIS - My Map](#)
 - Additional Surficial Materials Map

- Identify the latest traffic volumes which may be available here:
 - https://portal.ct.gov/DOT/PP_SysInfo/Traffic-Monitoring
 - AADT Reporting Tool
- Identify the functional classification which may be available here:
 - https://portal.ct.gov/DOT/PP_Bureau/Documents/Maps
 - Miscellaneous Maps → View/Download FC Maps
- Perform a pavement design following the 1993 AASHTO Pavement Design Guide. Resources to assist in the calculation of ESALs, design structural number, and required structural number are available here:
 - <https://portal.ct.gov/DOT/Engineering/Pavement-Design/Design-Guidance>

Note: In-place recycling treatments should be covered with an overlay (either a dense graded HMA layer or preservation surface treatment) to achieve the best performance, and this layer should be accounted for in the design evaluation if applicable. It is not recommended to use the recycled pavement layers as a final wearing surface for the roadway. To maintain the existing roadway elevation, existing pavement material may need to be removed through partial milling before recycling occurs to accommodate placing the new asphalt pavement.

Category 3: Major Rehabilitation

Removal and Replacement of Asphalt (“Peel and Pave”), Full Depth Reclamation (FDR):

A peel and pave treatment or FDR treatment may be recommended for full depth asphalt pavements without extensive structural failures that would indicate a poor base/subbase condition or drainage issues. Extensive structural failures such as alligator fatigue cracking, potholes, and deformations generally indicate that the existing roadway structure, including asphalt and granular materials, are inadequate for some combination of the existing traffic, subgrade, and drainage conditions. In order to determine whether a treatment of this type is appropriate, the roadway condition should first be surveyed to determine if the distresses indicate that an extensive structural failure is present. Peel and pave or FDR treatments are each well suited for roadways with a high quantity and severity of functional distresses related to age and environmental impacts, which may include transverse cracking, longitudinal cracking (non-wheelpath), block cracking and raveling. These treatments are also appropriate if some structural failures are present but isolated, and mostly related to an inadequate initial pavement design thickness or indicative of a pavement that has reached terminal serviceability from repeated traffic loadings.

The next step is to determine the existing pavement depth, granular base and/or subbase depth, and subgrade type. The following minimum sampling is required for this effort:

- Take representative test pits along the roadway at 1000-foot increments to a depth of 36 inches each. Determine pavement thickness, total base/subbase depth (engineered granular material), and depth to subgrade (existing or native material). Test pits should be of an appropriate size and area in order to properly collect base/subbase samples which may be used in performing a sieve analysis based on the treatment selected.
 - For FDR projects, particle size distribution must be determined for the retrieved base/subbase samples. The material gradation should be determined in accordance with AASHTO T 27 and AASHTO T 11 standard test methods and identify sieves corresponding to CTDOT Form 818 Section M.02.06 Grading B requirements. See below for additional considerations.

- For peel and pave projects, the collected base/subbase samples can be characterized visually. A general identification is recommended to distinguish whether the material is composed primarily of sand, gravel, or both (fine graded, coarse graded, or well graded). This assessment may also identify whether the material is silty or contains other contaminations.
- Take representative pavement cores along the roadway at 1000-foot increments between each test pit. Cores should be measured for total pavement depth.
- Identify the subgrade type for the area utilizing surficial mapping or other resources (visual identification should be used if encountered at 36-inch test pit depth in conjunction with mapping). Soil information can be accessed here:
 - [Surficial Materials - CT DEEP GIS Open Data Website](#)
 - Surficial Materials Map
 - [ArcGIS - My Map](#)
 - Additional Surficial Materials Map
- Identify the latest traffic volumes which may be available here:
 - https://portal.ct.gov/DOT/PP_SysInfo/Traffic-Monitoring
 - AADT Reporting Tool
- Identify the functional classification which may be available here:
 - https://portal.ct.gov/DOT/PP_Bureau/Documents/Maps
 - Miscellaneous Maps → View/Download FC Maps
- Perform a pavement design following the 1993 AASHTO Pavement Design Guide. Resources to assist in the calculation of ESALs, design structural number, and required structural number are available here:
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Special Considerations for Full Depth Reclamation (FDR):

When considering an FDR treatment, it is important to keep in mind that in order to maintain the existing roadway elevation, base material will have to be removed after reclamation is performed, and before placing the new asphalt pavement. Note that there is also an approximate 15% bulking or “fluff” factor associated with this treatment to consider as well. Once a reclamation depth is chosen, and a new asphalt pavement thickness is determined through design evaluation, consideration should be given to the depth of reclaimed base material that will be left in place. Ultimately, this may not be the most effective treatment if less than 8 -10 inches of reclaimed base will be left in place.

Select a reclamation depth that will provide a blend of asphalt and granular base/subbase material meeting Section M.02.06 Grading B requirements. It is generally recommended that this blend not consist of more than 50% asphalt pavement, and typically would include an approximate 40% ratio of asphalt and 60% ratio of granular material. Blending subgrade material into the new reclaimed base should be avoided since this will typically blend in fine material (passing #200 sieve) that will increase the frost susceptibility of the reclaimed base.

Blended Material Example:

Sieve #	Assumed RAP Gradation (9" Depth)	Existing Subbase Gradation (11" Sandy Gravel)	Blend: RAP Gradation * (9/20) + Subbase Gradation * (11/20) =	M.02.06 Grading B Requirements	Check
5 inch	100	100	100	100	OK
3.5 inch	100	100	100	90 to 100	OK
1.5 inch (37.5 mm)	80	80.8	80.4	55 to 95	OK
0.75 inch (19mm)	65	69.3	67.4		NA
0.25 inch (6.3mm)	35	58.7	48.0	25 to 60	OK
No. 10 (2.0mm)	20	46.6	34.6	15 to 45	OK
No. 40 (425 µm)	9	26.8	18.8	5 to 25	OK
No. 100 (150 µm)	5	10.1	7.8	0 to 10	OK
No. 200 (75 µm)	2	4.2	3.2	0 to 5	OK

Note: In some instances, there may be both a granular base and granular subbase course between the bottom of the asphalt pavement and the subgrade; in this case, the additional layer may be blended in depending on the reclamation depth chosen. It should be noted that this base material would also require sampling and sieve analysis to consider the overall blend.

Category 4: Full Depth Reconstruction

A full depth reconstruction project may be recommended for asphalt pavements with extensive structural failures that would indicate a poorly designed asphalt pavement thickness, poor base/subbase condition, or drainage issues. Extensive structural failures such as alligator fatigue cracking, potholes, and deformations generally indicate that the existing roadway structure, including asphalt and granular materials, are inadequate for some combination of the existing traffic, subgrade, and drainage conditions. In order to determine whether a full depth reconstruction project is appropriate, the roadway condition should first be surveyed to determine if the distresses indicate that an extensive structural failure is present, warranting this treatment strategy.

Collecting the following minimum information is required for performing a full depth pavement design.

- Identify the latest traffic volumes which may be available here:
 - https://portal.ct.gov/DOT/PP_SysInfo/Traffic-Monitoring
 - AADT Reporting Tool
- Identify the functional classification which may be available here:
 - https://portal.ct.gov/DOT/PP_Bureau/Documents/Maps
 - Miscellaneous Maps → View/Download FC Maps
- Identify the subgrade type for the area utilizing surficial mapping or other resources. Soil information can be accessed here:
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- Perform a pavement design following the 1993 AASHTO Pavement Design Guide. Resources to assist in the calculation of ESALs, design structural number, and required structural number are available here:
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