Carbon Reduction Program Toolkit

January 3, 2024

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mndot.gov

- Carbon Reduction Strategy

- CRP Funding Distribution

- CRP Toolkit

  - Application

  - Project evaluation criteria

  - Carbon emissions tool

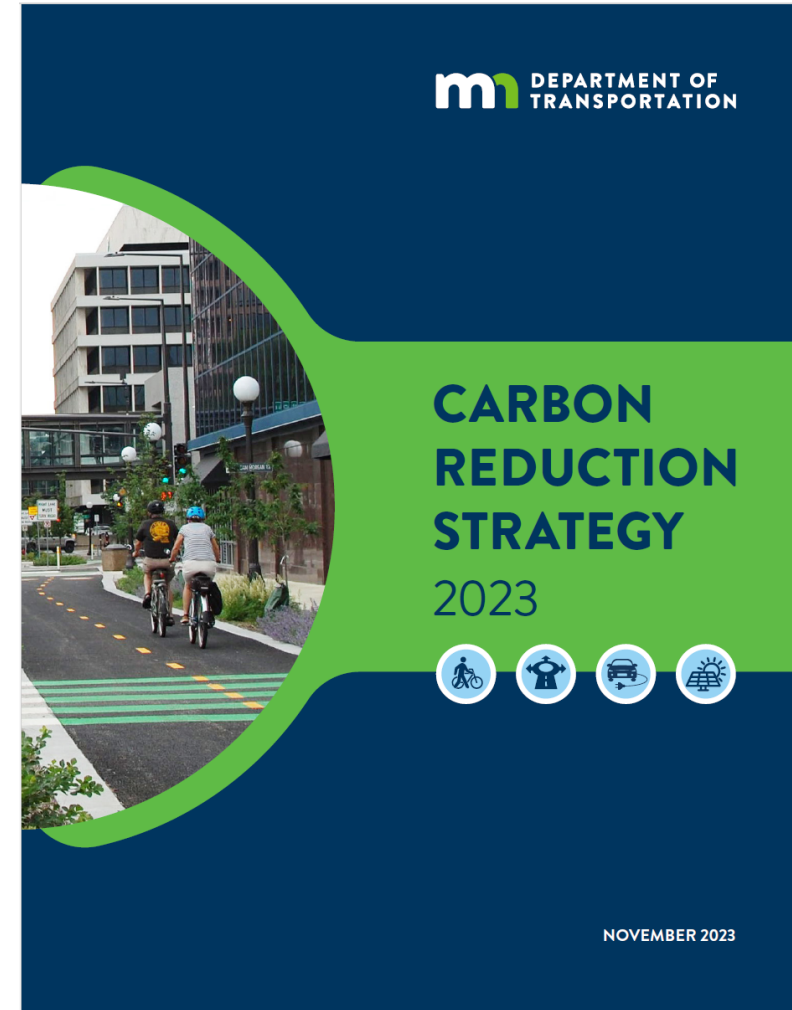 - Project ranking spreadsheet (for reviewers)

CRP Overview and Update

- What is the purpose of CRP?

  - Reduce transportation emissions (CO^2 emissions from on-road highway sources)

- How?

  - Develop state carbon reduction strategy

  - Fund projects designed to reduce transportation emissions

Minnesota Carbon Reduction Strategy

- Submitted to FHWA in November 2023

- New statewide plan (available on the [CRP website](#))

- Developed on an accelerated timeline with substantial input from MnDOT staff, local partners, and the public

- Includes:

  - priority categories, strategies, and project types for investment

  - project-specific methodologies for analyzing GHG emissions reduction

  - project selection criteria for CRP funds

Electrification

- Install EV or ZEV charging infrastructure
- Purchase or lease EVs or ZEVs
- Support EV and ZEV through outreach & education

Travel Options

- Install and maintain infrastructure network improvements for walking, rolling and bicycling

- Plan, design, and engineer infrastructure network improvements for walking, rolling, and bicycling

- Implement context sensitive design for travel options

- Add high capacity transit options (operations and capital)

- Add intercity & regional public transit options (operations and capital)

- Implement travel demand management

Priority Strategies | Low Carbon Infrastructure

Low Carbon Infrastructure and System Management

- Optimize transportation system management and operations
- Utilize low carbon methods for constructing and maintaining transportation infrastructure
- Support renewable energy generation

- Estimated cost-effectiveness of carbon reduction emissions reduction

- Equity

- Safety

- Transportation access

- Health benefits

ATPs and MPOs may adjust weighting of different scoring criteria based on their own regional goals, if consistent with goals of CRS.

- $20.5 million annually to spend in Minnesota

- Distributed based on populations

    - Statewide funds distributed annually through MnDOT Districts **(~$7.3 million annually)**

    - Metropolitan Planning Organization (MPO) area funds distributed annually through MPOs **(~$7 million annually)**

    - Rural area funds distributed annually through Area Transportation Partnerships (ATPs)
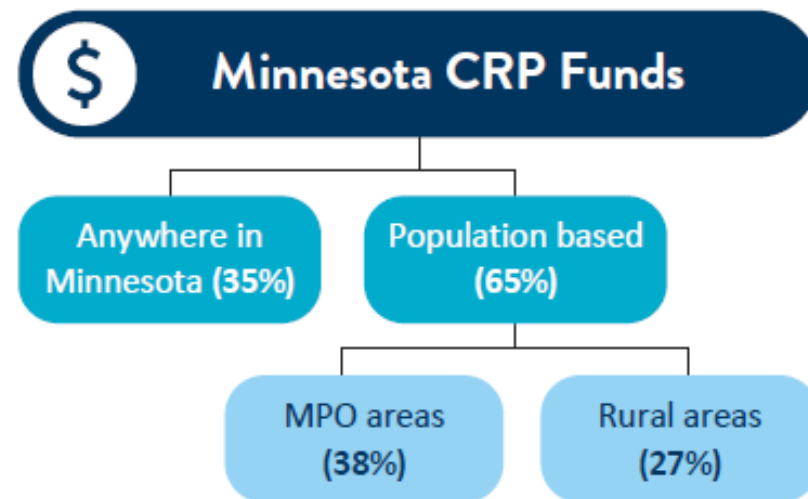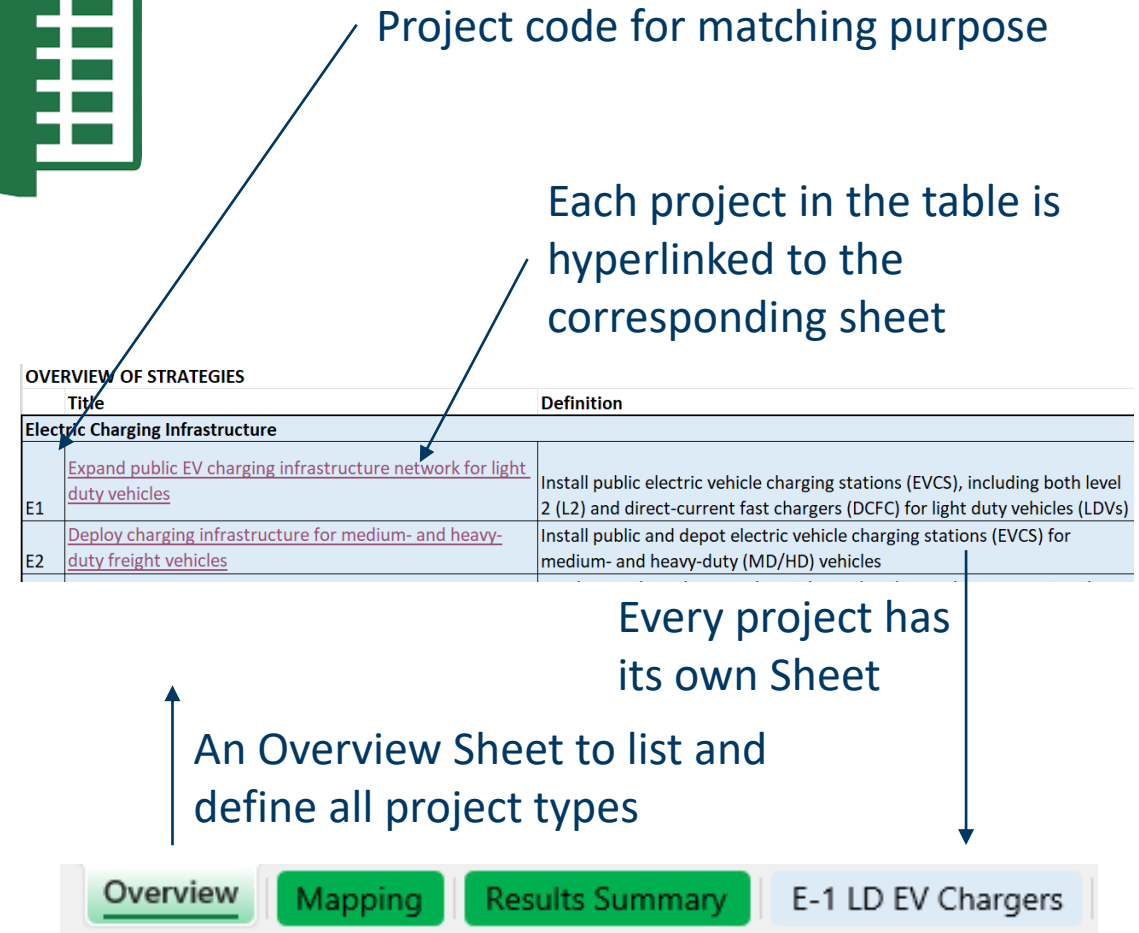
CRP Draft Toolkit

- MnDOT will share Toolkit with MPOs and ATP to initiate solicitation for CRP project applications

- Applicants will complete an application for each project applying for CRP funding

- MPOs, ATPs and Districts will select the most carbon reducing, cost-effective and beneficial projects based on the evaluation criteria to support Minnesota's carbon reduction goals.

Application: Part 1 | Project Description and Readiness

- Narrative text that provides an overview of the project

- Key milestones to be added that help understand project readiness

- These will be used as screening criteria to determine project eligibility

- Microsoft Excel Spreadsheet-Based

- Three-Step Approach to Use the Tool
  - Step 1 - Identify the Project Component (Project Type and Corresponding CRS Strategy and Project Type)

  - Step 2 - Enter Project-Specific Information (User-Provided Input)

  - Step 3 - Review the Results Summary (Emissions and Cost Effectiveness)

Project code for matching purpose

Each project in the table is hyperlinked to the corresponding sheet

OVERVIEW OF STRATEGIES

Title	Definition
Electric Charging Infrastructure	
E1	Expand public EV charging infrastructure network for light duty vehicles	Install public electric vehicle charging stations (EVCS), including both level 2 (L2) and direct-current fast chargers (DCFC) for light duty vehicles (LDVs)
E2	Deploy charging infrastructure for medium- and heavy-duty freight vehicles	Install public and depot electric vehicle charging stations (EVCS) for medium- and heavy-duty (MD/HD) vehicles

Every project has its own Sheet

An Overview Sheet to list and define all project types

Overview | Mapping | Results Summary | E-1 LD EV Chargers

Carbon Emissions Tool | Example

Project Type: Construct or improve bicycle network

Required User Input: type of facility; city and town type; facility length (< 1 mile, 1-2 mile, or > 2 mile); average annual daily traffic (AADT) on road parallel to facility (1-30000); nearby attractions; project implementation year

New Bikeway Engineering Project
- Average daily trips across the current roadway: 12,500
- Off-road trail facility
- > 2 mile
- > 7 key destinations within ¼ miles
- Population < 250,000

Project	Year 1 Emissions Reduction (CO2e MT per year)	Cumulative Emissions Reduction (CO2e MT)	Total Project Cost ($)	Cost Effectiveness ($/MT)
New Bikeway Engineering Project	17.9	274	$224,800	$820

Project Type: Establish or expand intercity bus service
Required User Input: fuel type; increase in annual ridership; increase in bus service mile; project implementation year
Optional User Input: rider transit dependency; average length of vehicle trip replaced; project lifetime

New Intercity Bus Service
- Annual ridership increase: 122,844
- Annual service miles: 108,000
- Non-electric bus service
- Average displaced vehicle trip: 80% of terminal-to-terminal distance (estimated)

Project	Year 1 Emissions Reduction (CO2e MT per year)	Cumulative Emissions Reduction (CO2e MT)	Total Project Cost ($)	Cost Effectiveness ($/MT)
New Intercity Bus Service	1059.4	10659.5	$5,372,000	$504

- "Please describe in detail how this project addresses disparities faced by disadvantaged communities. These communities can be defined by a variety of methodologies and datasets."

- Four tools identified for determining eligible disadvantaged communities

  - [Climate and Economic Justice Screening Tool](#) (CEJST)

  - [RAISE Mapping Tool](#)

  - [EPA Environmental Justice Screening Tool](#) (EJ Screen Tool)

  - [MnDOT Active Transportation Equity Map](#)

- Other tools may be used based on what is available to project proposer

- "Please describe how this project will improve safety concerns in the community. These can be identified in a safety study or plan."

- "Please describe if this project occurs in an area with high rates of motor vehicle serious or fatal crashes and/or areas with high rates of non-motorized serious or fatal crashes."

- It is encouraged to use local planning documents or tools to identify areas with high safety risk

  - MnDOT [Suitability for the Pedestrian and Cycling Environment](#) (SPACE) Tool

- "Please describe how the project improves non-motorized access and transit or shared mobility access to key locations."

- "Please describe if the project improves travel efficiency (via driving, carpool, or other) to key destinations."

- All metrics are self-defined by the proposer

- Projects cannot 'double-dip'

  - Example: pedestrian access and transit

- "Please describe how this project improves localized air quality, especially in communities with high rates of asthma."

- "Please describe if this project supports active transportation."

- Improving localize air quality is defined as a reduction in harmful local pollutants, such as:

  - PM2.5

  - PM10

  - NOx

  - Carbon Monoxide

  - Ozone

- High asthma rates can be found in the EJScreen Tool

Application| Scoring Co-Benefits

Score	Description
0	This project demonstrates no connection to the co-benefit.
1	This project shows minimal connection to the co-benefit with little to no documentation in datasets, plans, or narrative.
2	This project shows moderate connection to the co-benefit with minimal documentation in datasets, plans, or narrative.
3	This project shows good connection to the co-benefit somewhat documented with datasets, plans, or narrative.
4	This project shows well defined connection to the co-benefit with well documented datasets, plans, or narrative.
5	This project shows outstanding connection to the co-benefit through thoroughly documented datasets, plans, or narrative.

Applicant provides:

- Project readiness summary

- Cost effectiveness of GHG emissions reduction

- Narrative responses to co-benefits questions (equity, safety, access, and health)

Selection committee scores applications:

- Ranks projects based on cost effectiveness of GHG emissions reduction

- Scores co-benefits narratives (5 points each)

- Total score is a combination of the two

Discussion & Feedback

- Would you recommend any changes to the draft questions in the application?

- Would you recommend any changes to the scoring process?

- Is there anything else you'd like to see included in the toolkit?

- Other feedback?

✓ Dec 8, 1-3pm: CRP Subgroup Meeting/Draft Toolkit Update Meeting

- Dec 8 – Jan 25: MnDOT to present portions of draft Toolkit and gather feedback at ATP and MPO TAC meetings

✓ Dec 13: PMT Meeting – Review portions of draft Toolkit and gather feedback

- Jan 12: CRP Subgroup Meeting – Review full draft Toolkit and discuss final edits

- Jan 17: PMT Meeting – Review full draft Toolkit and discuss final edits

- Mid-February: Final Toolkit Distributed to ATPs, MPOs, and Districts to support FY25-27 CRP project selection

Questions

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CRP Website
http://www.dot.state.mn.us/carbon-reduction-program/