



# Carbon Reduction Program Toolkit

January 25, 2024

[mndot.gov](http://mndot.gov)

- Carbon Reduction Strategy
- CRP Funding Distribution
- CRP Toolkit
  - Application
  - Project evaluation criteria
  - Carbon emissions tool
  - Project ranking spreadsheet (for reviewers)

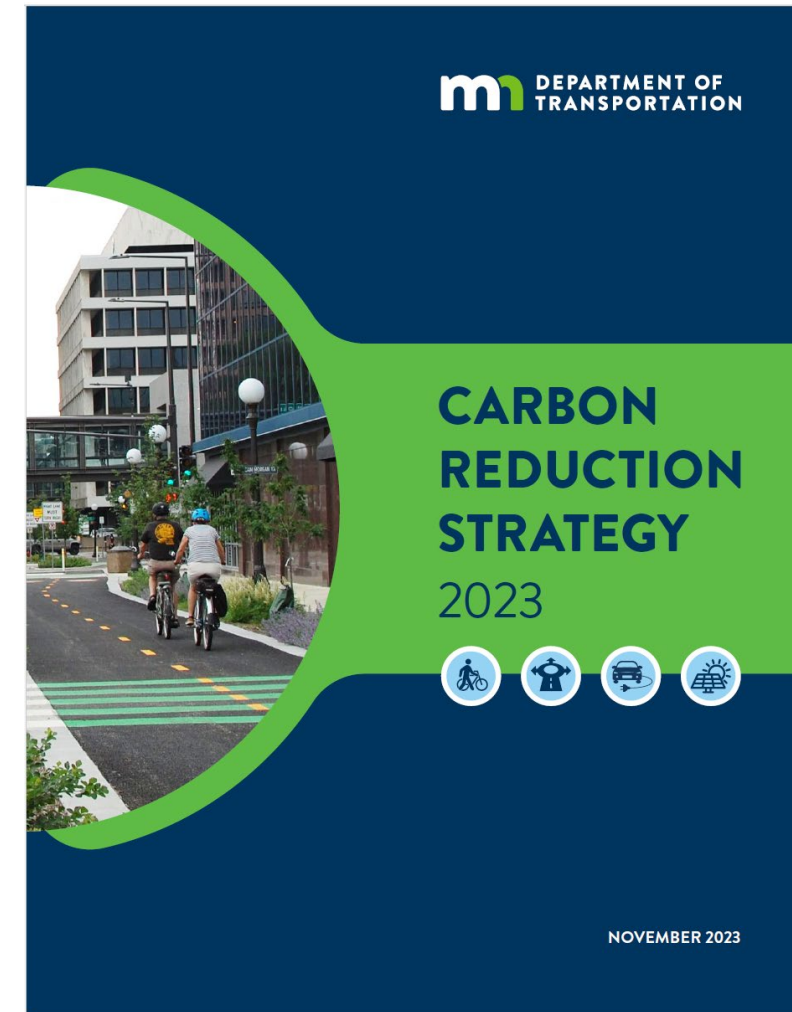
# CRP Overview and Update

# CRP | Purpose & How

- What is the purpose of CRP?
  - Reduce transportation emissions (CO<sup>2</sup> 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



# Priority Strategies | Electrification



## Electrification

Install EV or ZEV charging infrastructure

Purchase or lease EVs or ZEVs

Support EV and ZEV through outreach & education

# Priority Strategies | Travel Options



## 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



# Project Evaluation Criteria

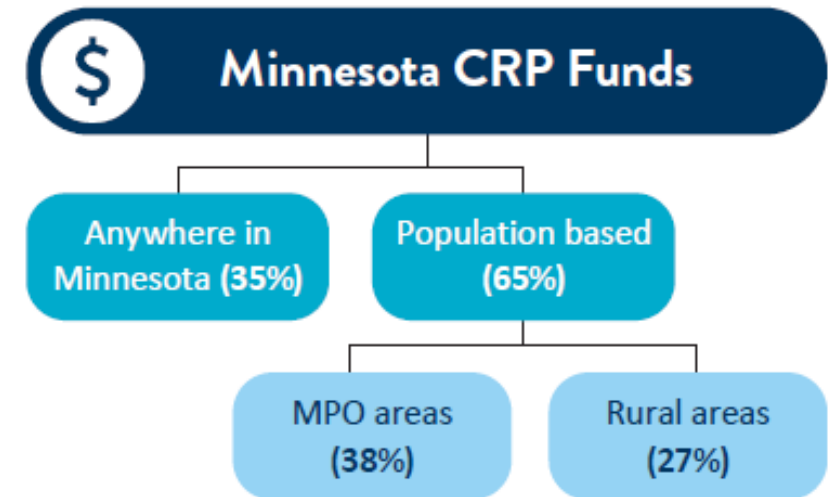
- Estimated cost-effectiveness of carbon emissions reduction
- Equity
- Safety
- Transportation access
- Health benefits

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



# CRP | Funding Appropriations in MN

- \$20.5 million annually to spend
- Distributed based on populations
  - Statewide funds distributed annually through MnDOT Districts
  - Metropolitan Planning Organization (MPO) area funds distributed annually through MPOs
  - Rural area funds distributed annually through Area Transportation Partnerships (ATPs)



# CRP Draft Toolkit

# CRP | Using the Toolkit

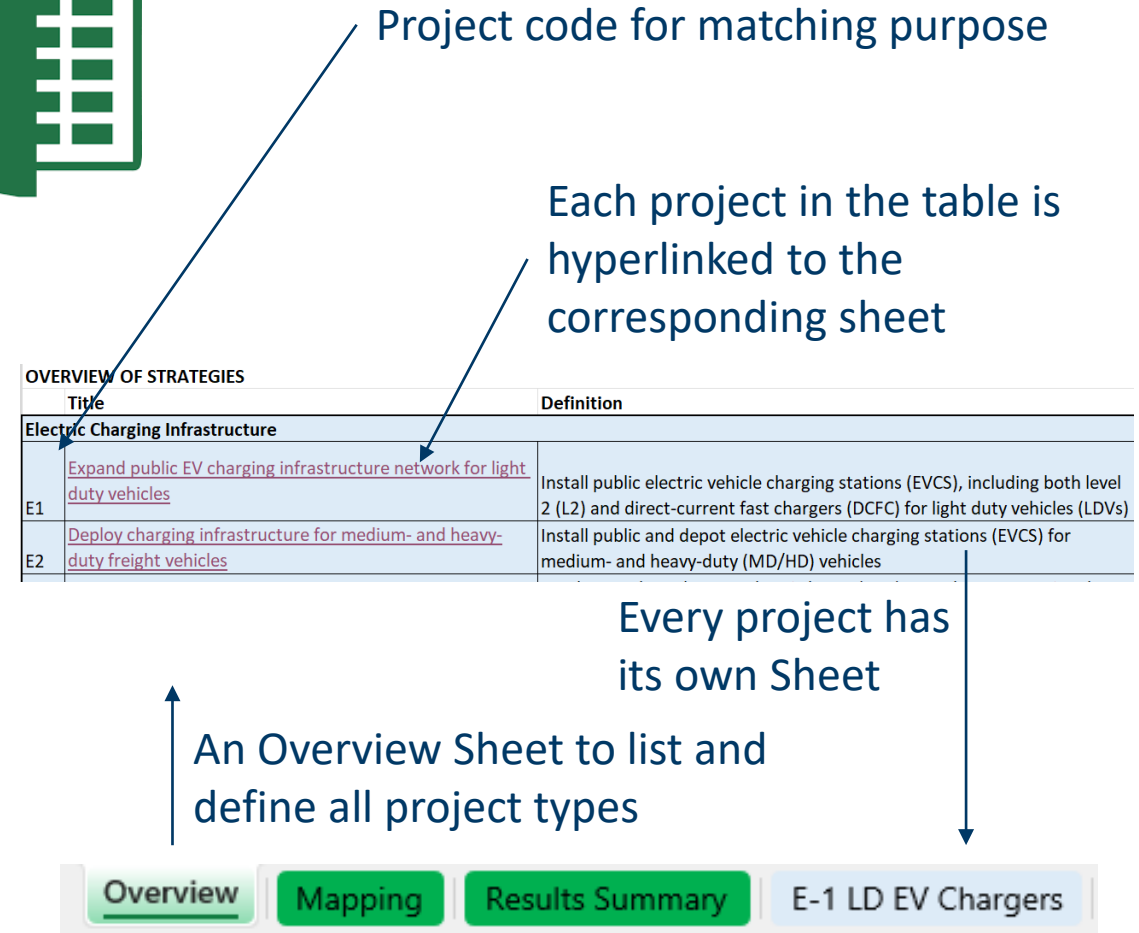
- MnDOT will share Toolkit with MPOs and ATPs to initiate solicitation for CRP project applications
- Applicants will complete an application for each project applying for CRP funding
- MPOs, ATPs and Districts will select the most carbon reducing, cost-effective and beneficial projects based on the 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

# Application Part 2 | Carbon Emissions Tool

- 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)



# 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 (CO <sub>2</sub> e MT per year)	Cumulative Emissions Reduction (CO <sub>2</sub> e MT)	Total Project Cost (\$)	Cost Effectiveness (\$/MT)
New Bikeway Engineering Project	17.9	274	\$224,800	\$820

# Carbon Emissions Tool | Example

## 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 (CO <sub>2</sub> e MT per year)	Cumulative Emissions Reduction (CO <sub>2</sub> e MT)	Total Project Cost (\$)	Cost Effectiveness (\$/MT)
New Intercity Bus Service	1059.4	10659.5	\$5,372,000	\$504



# Application: Part 3 | Equity Question

- “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

# Application: Part 3 | Safety Questions

- “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](#)

# Application: Part 3 | Access Questions

- “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

# Application: Part 3 | Health Questions

- “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 localized 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.

# CRP | Using the Toolkit

## **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?

# CRP I Toolkit Next Steps

- ✓ 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/](http://www.dot.state.mn.us/carbon-reduction-program/)