



Emissions Assessment – Legislative Update

Jon Solberg – Assistance Commissioner

MnDOT Sustainability, Planning & Program Management

GHG Assessment Timeline

2007: Legislature sets targets for emissions reduction

2023: Legislature updates goals to net zero by 2050, requires establishment of sub-targets for the transportation sector, and requires emissions assessment of expansion projects.

2024: Legislature requires portfolio assessment and establishes TAC

Jan. 1, 2025: Projects that offset emissions that are funded, programmed or constructed after this date may count as offsets to expansion projects

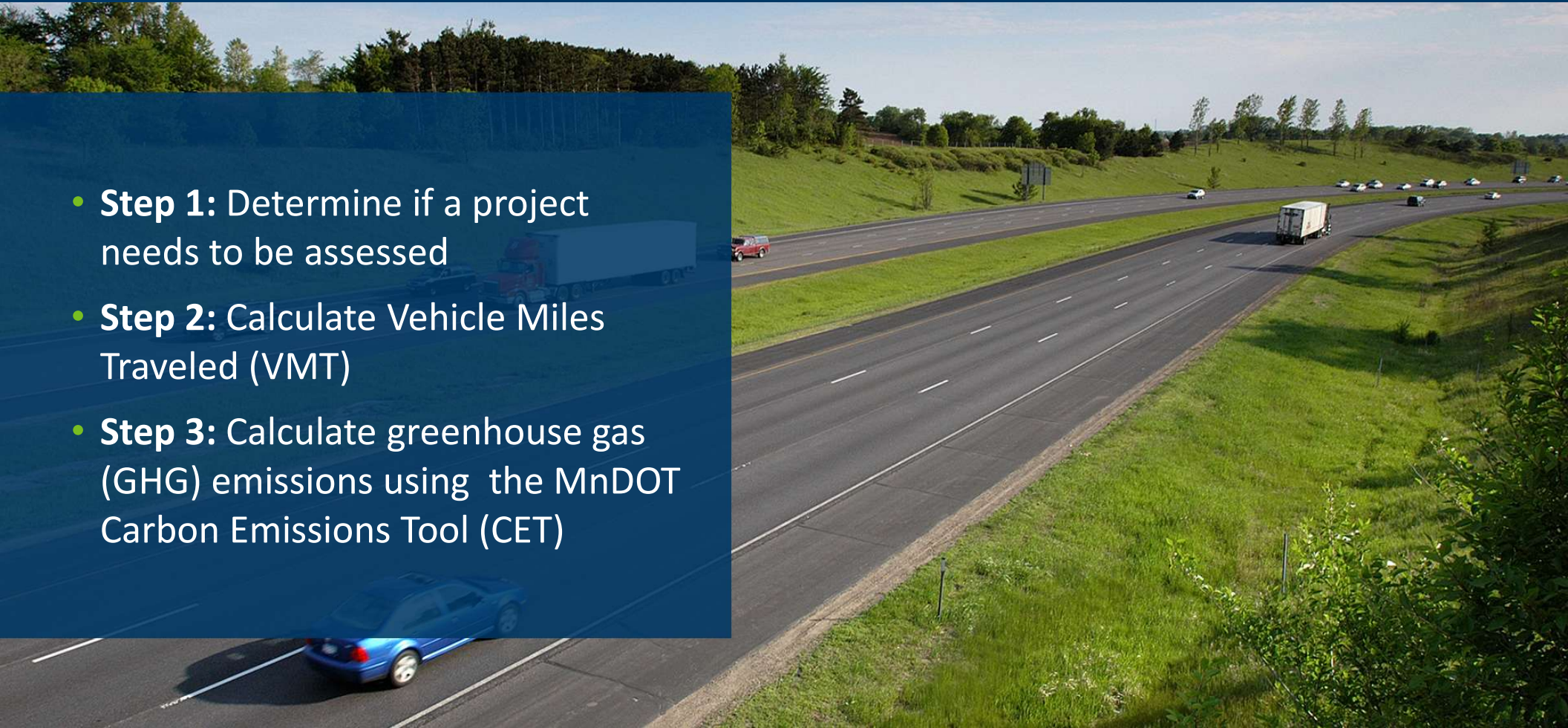
Feb. 1, 2025: Project Assessment required

Aug. 1, 2027: Portfolio Assessment start date for FY2031 and beyond



Assessment Process

- **Step 1:** Determine if a project needs to be assessed
- **Step 2:** Calculate Vehicle Miles Traveled (VMT)
- **Step 3:** Calculate greenhouse gas (GHG) emissions using the MnDOT Carbon Emissions Tool (CET)



Assessment as applied to Test Cases

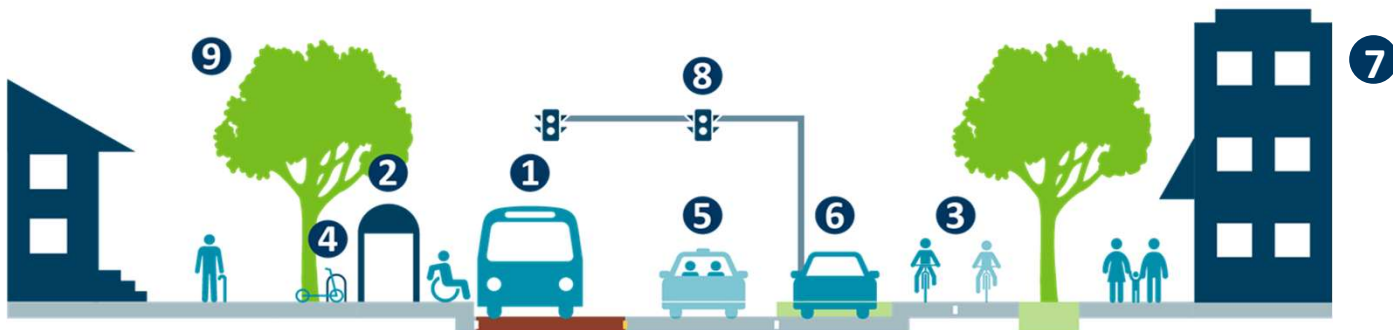
Lane expansions impacts

Context	Location	Lane miles added from the project	GHG emissions cumulative impact over 20 years
Rural	MN 55, (Bigville)	2.6 miles	2,500 MT CO ₂ e
Suburban/Town	MN 23, Willmar	5 miles	4,900 MT CO ₂ e
Urban	MN 36, Roseville	14 miles	90,300 MT CO ₂ e
Urban Core	I-394, west bound from downtown	2.7 miles	32,300 MT CO ₂ e

Note: Assessments account for the differences rural/urban travel behavior. Interchange test cases are also being developed.







Identifying Offsets to Emissions

- 1. Transit expansion***
[bus routes, BRT, passenger rail]
- 2. Transit service improvements***
[increase transit service level, transit fare reduction]
- 3. Active transportation infrastructure***
[gap or standalone trail improvements, bike lane adds]
- 4. Micromobility***
[shared vehicle services]
- 5. Transportation demand management***
[vanpool and shared vehicle programs, telework programs]
- 6. Parking management**
[policies to reduce or eliminate parking requirements, parking pricing]
- 7. Land use***
[increased density, mixed-use & transit-oriented development]
- 8. Traffic operations***
[roundabouts, reduced-conflict intersections]
- 9. Natural systems**
[prairie restoration, reforestation, wetland conservation, restorative ag]
- 10. Land acquisition**
[easements, restoration and enhancement for outdoor recreation system]
- 11. As specified by the Commission****



Offset Plan for MN 23, Willmar (5 lane miles added) = 4,900 MT CO₂e emissions impact

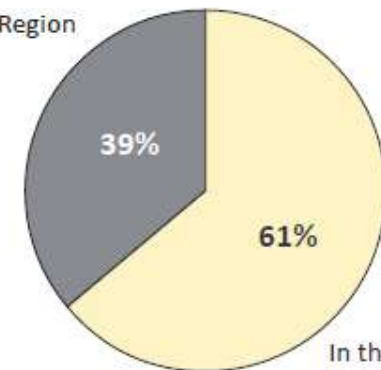
MnDOT's Carbon Emissions Tool was used to estimate emission offsets based on completed and hypothetical projects.

	Category	Offset Description	Emissions reduction (MT CO ₂ e)
Project			
	Active Transportation Infrastructure	Construct a shared-use path along the length of the project	25
In the Community			
	Transportation Demand Management	300 people work remote schedules 50% of the time for 3 years, implement commuter benefits ordinance, carpool program, household-based trip reduction program	1,300
	Other (as specified by the commissioner)	Purchase 3 battery electric school buses, install 4-level 2 electric vehicle chargers, Replace 3 passenger truck, 2 cars, 1 refuse truck with equivalent electric vehicles	900
	Active Transportation Infrastructure	Construct 21 miles of trails in Kandiyohi County* and 5 miles of bike lanes in Willmar <small>* as described in the Kandiyohi County Active Transportation Plan</small>	350
In the Region			
	Land Use	Increase residential density from 0.64 to 9 dwelling units per acre in Saint Cloud near Metro bus station	2,100
	Other (as specified by the commissioner)	Install solar panels on transit stations, rest stops, parking, and other facilities	225
Illustrative Example	Total Emissions Reduced (cumulative, over 20 years)		4,900 MT CO₂e

Sample Offset Plan

Offset by Proximity to Project

In the Region



In the Community

Portfolio Timeline | Implement by August 1, 2027



January – March

ATIP development
Draft STIP Projects
developed



April – June

ATIPs submitted to
MnDOT for Review
MnDOT approves Draft
STIP
STIP public comment
period



July – September

Final ATIP Due
MnDOT approves
Final STIP
STIP submitted to
FHWA

Assessment required
at a portfolio level



October

FHWA/FTA approves
STIP

Ongoing Technical Advisory Committee Discussions

- What is the portfolio definition?
- How do we assess the portfolio?



Challenges

- Expansion projects generate emissions
- Offsetting and reducing emissions is hard
 - The impact of other capital projects to reduce emissions can be limited
 - Offset projects have costs of their own
 - Offsets require more coordination in new areas (e.g., changes to land use)
 - Accounting for offsets is a new area that is not yet developed
- Other policy approaches are needed to reduce transportation emissions



Stakeholder feedback

- Support for reducing emissions, but concerns with additional costs for infrastructure projects
- Questions about administration and tracking of the offsets
- Admission of difficulty of developing process that works efficiently
- Question about when is it appropriate to start the process
- How does this process interact with other transportation policies and guidance



Continued Improvements

- Development of portfolio methodology to assess STIP/TIP
- Testing of wider policy approaches
- Development of interactive portal for partners to plan and track emissions
- Refinement of technical resources
- Expanding the range of offset techniques
- Continuing research, especially rural applications



Summary

- MnDOT has established a process to assess emissions generated by expansion projects.
- MnDOT has methodologies, based on national and local research, for calculating the emissions reduction potential (e.g., offset) from 37 different project types.
- The assessment Procedure is well-founded in current transportation research and best practice.
- Capacity expansion projects will increase emissions, but reducing emissions via capital investments is limited.
- Additional policy and/or legislation will be necessary to reach the State's climate goals



Thank You!

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For more information:
www.dot.state.mn.us/sustainability/ghg-tac.html