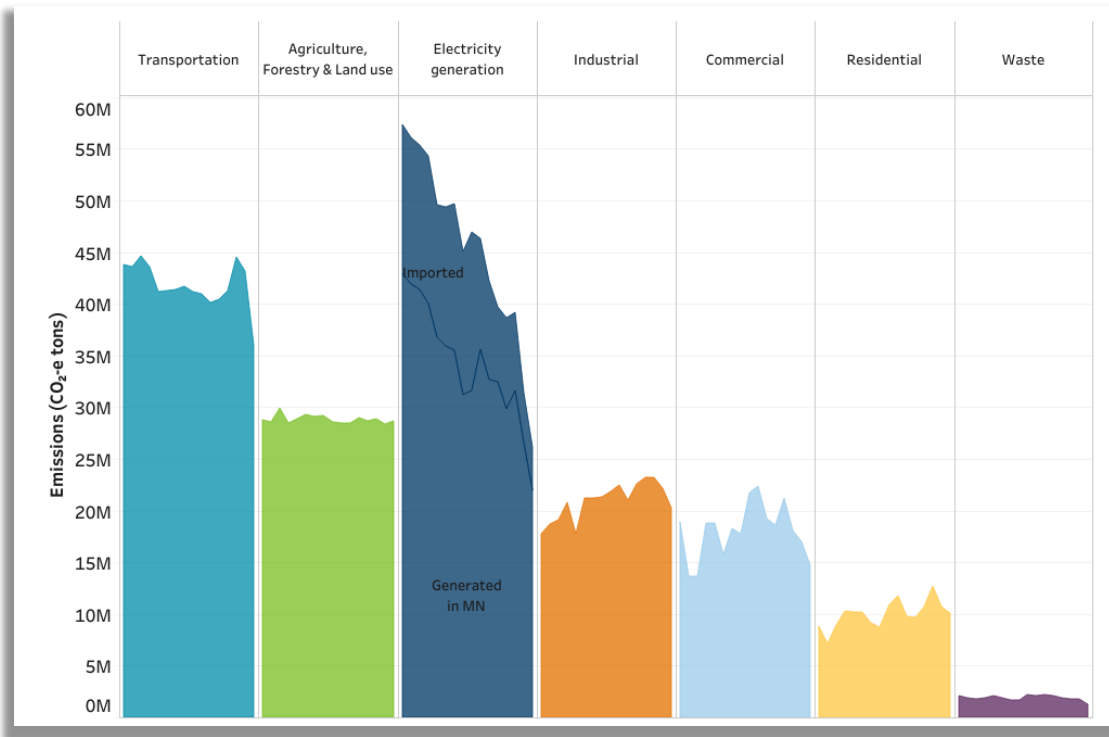


State GHG Legislation Implementation

TAC

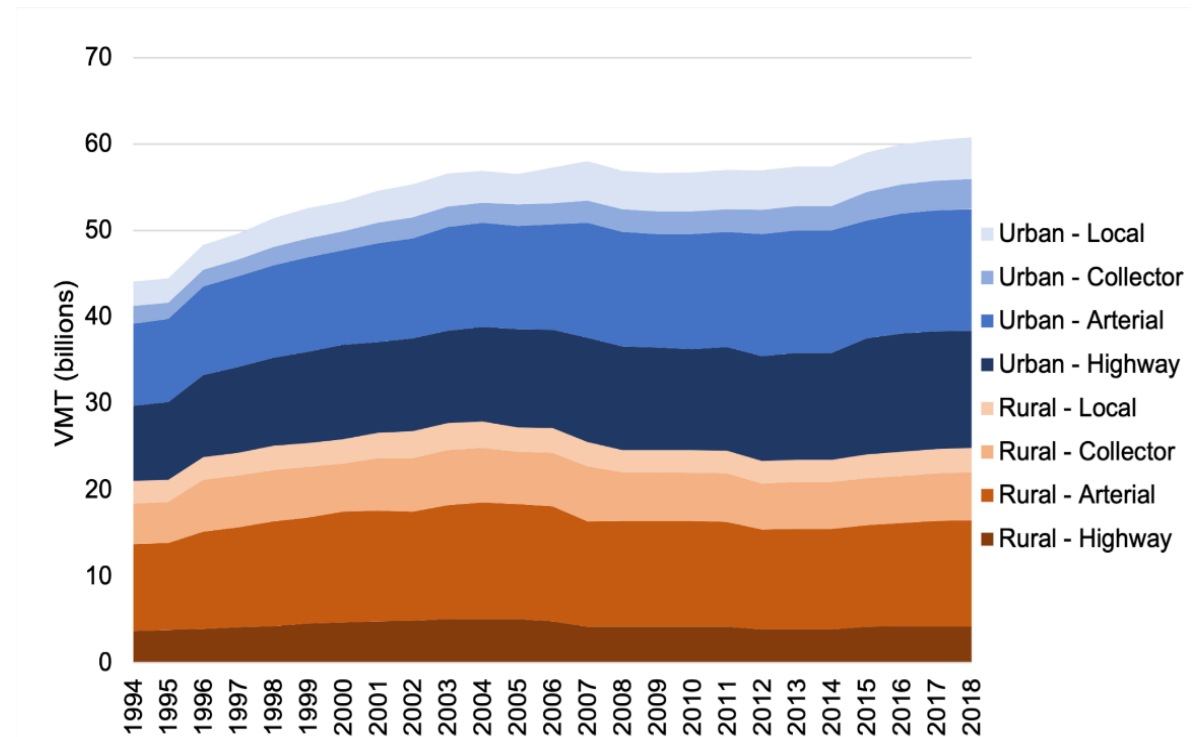
GHG Overview of Legislation Background

Carbon Emissions in Minnesota by Sector



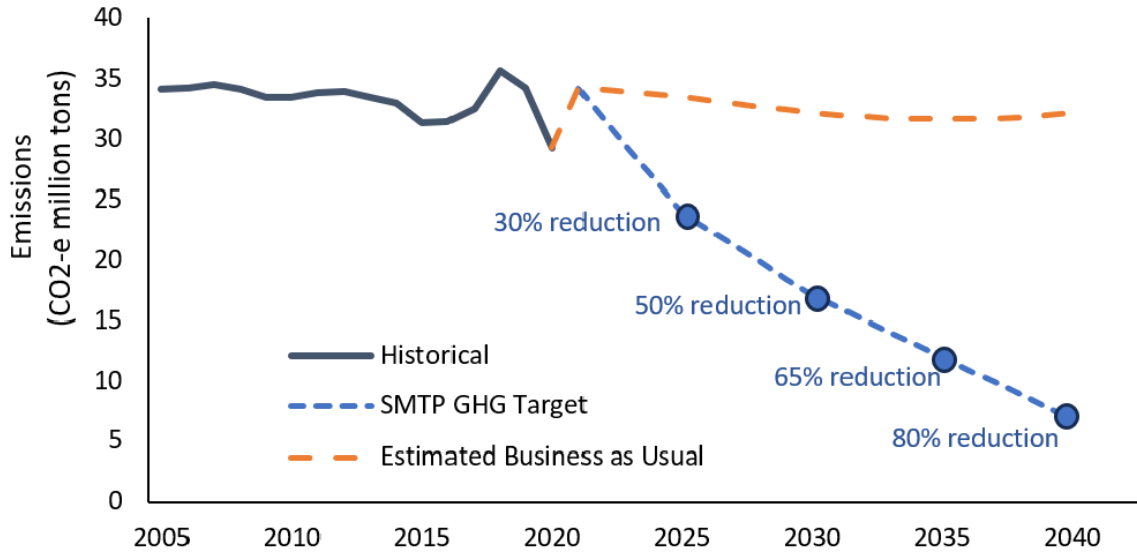
Transportation sector is contributing the most to emissions in Minnesota

VMT in Minnesota (1994-2018)



As our VMT increased 40%, our Minnesota population only grew 23%. VMT has increased almost twice as fast as our population

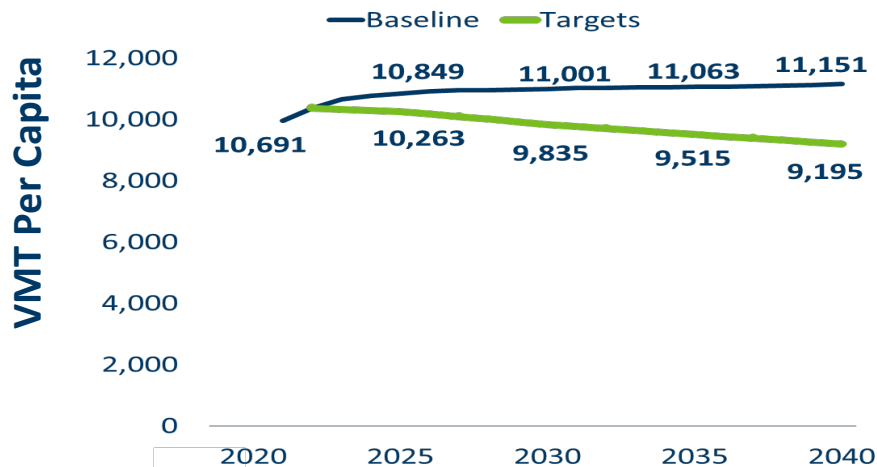
Emissions + VMT Reduction Targets for Transportation Background



MnDOT Transportation GHG Reduction Target

From 2005 baseline:

- ≤ 29.5 million metric tons CO2e by 2025 (-30%)
- ≤ 20.1 million metric tons CO2e by 2030 (-50%)
- ≤ 14.1 million metric tons CO2e by 2035 (-65%)
- ≤ 8.0 million metric tons CO2e by 2040 (-80%)



VMT Per Capita Reduction Target

From 2019 baseline:

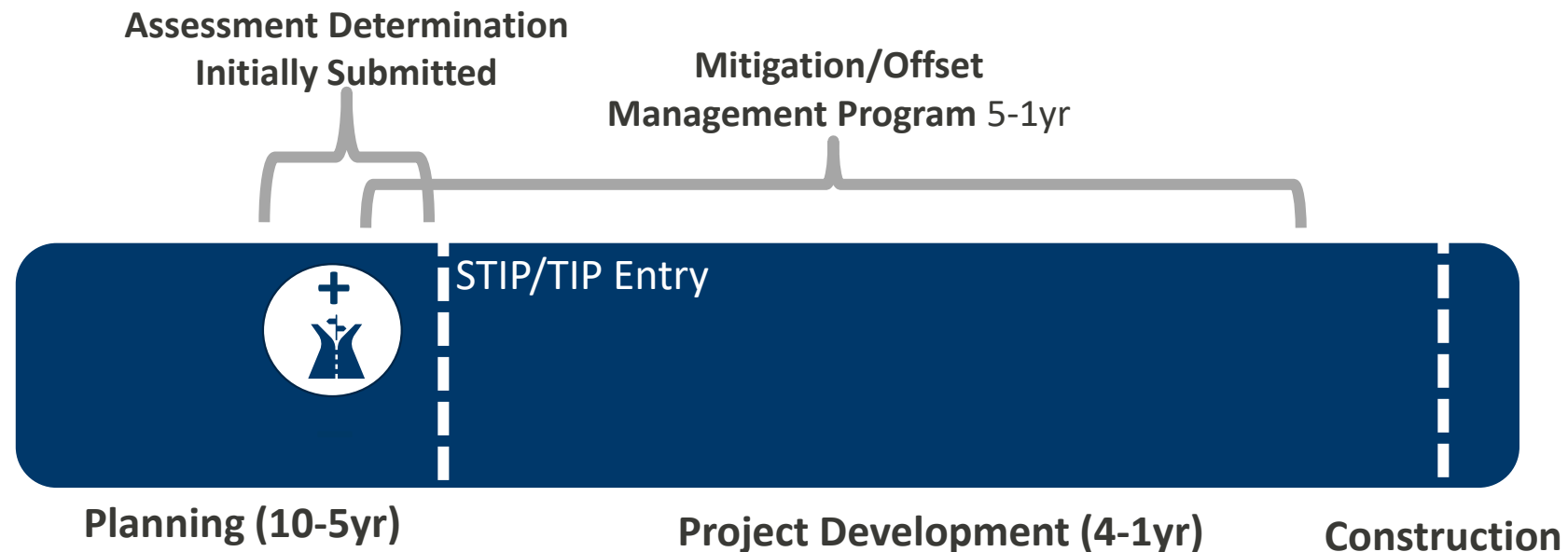
- ≤ 10,263 by 2025 (-4%)
- ≤ 9,835 by 2030 (-8%)
- ≤ 9,515 by 2035 (-11%)
- ≤ 9,195 by 2040 (-14%)

Overview of Legislation Sections

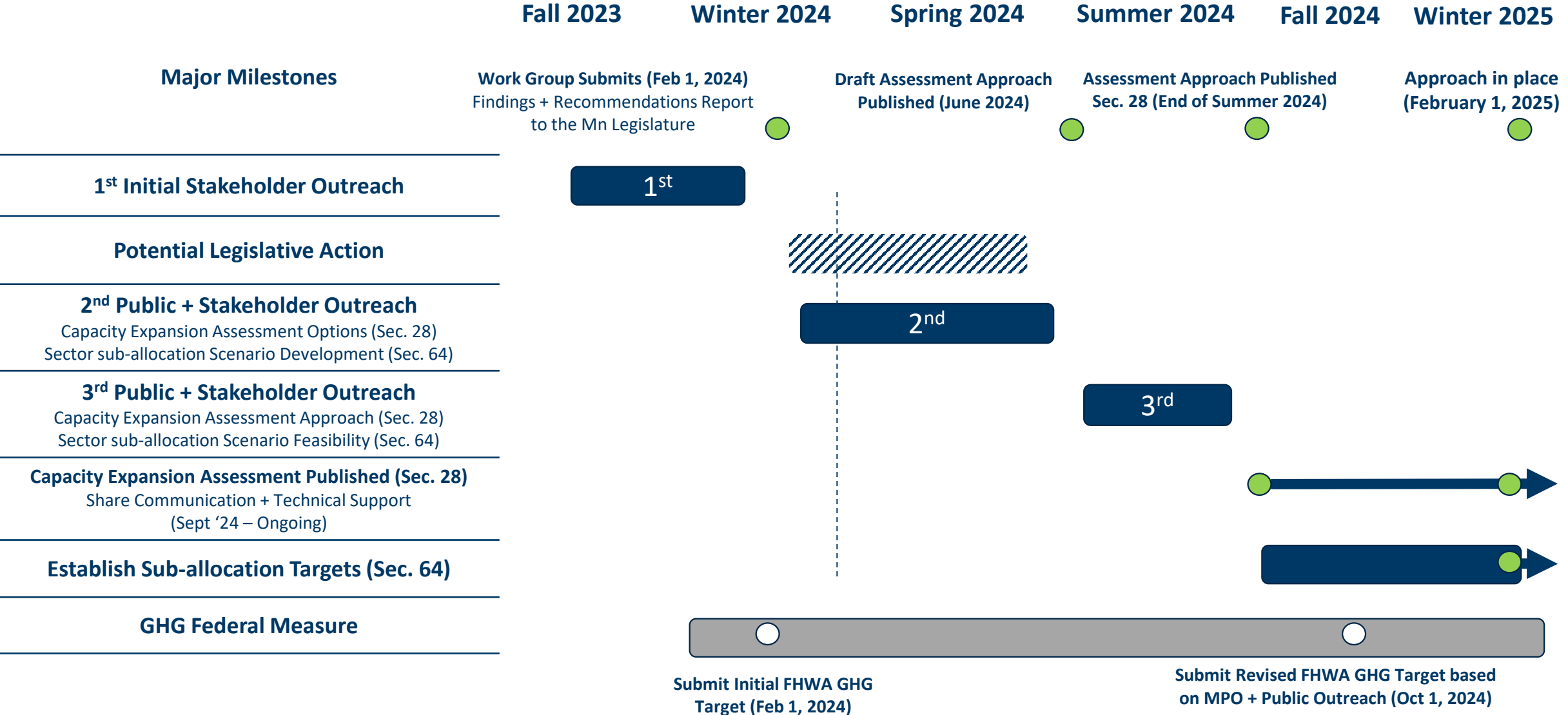
Section 28: GHG Emissions Impact Assessment and Interlinking/Mitigation management plan for expansion projects for both MnDOT + Locals

Section 64: Amends MnDOT Statute of goals to include GHG targets for transportation sector in Minnesota and development of a sub-allocation for reduction across the state

Section 125: Creates Greenhouse Gas Emissions Impact Mitigation external Working Group to assist MnDOT



State GHG Legislation Implementation



Themes + Priorities from Work Group Members



GHG Assessment Implementation Maturity Model

Assessment Maturity	Level 1: Project 	Level 2: MPO Plan (Metro & greater MN MPOs) 	Level 3: Regional/ Statewide Plan (Not currently available) 
Summary	A trunk highway capacity expansion project is analyzed. The network directly within the project is analyzed for emissions and VMT impacts. If interlinking /mitigation is needed, the project proposers develop a mitigation plan.	A trunk highway expansion project is analyzed in the context of an MPO plan of projects. All projects are evaluated for their emissions and VMT reduction benefits and impacts. If interlinking /mitigation is needed, the MPO develops a mitigation plan.	A trunk highway expansion project is analyzed in the context of a region or state. All multimodal investments are evaluated for their emissions and VMT reduction benefits and impacts. If interlinking /mitigation is needed, the region develops a mitigation plan.
Assessment Area + Method(s) <small>(Area of analysis and determination of current and future speeds, traffic volume, etc.)</small>	Affected network of project is analyzed using currently available travel demand forecasts for a project area to determine build/no build operational impacts	MPO region and plan of projects evaluated with the Regional Model in the metro area and using greater Minnesota MPO transportation demand models in MPO's outside the metro	Regional plan of multimodal investments evaluated regionally such as an ATP or Statewide (not available)
Analysis Validation <small>(Determining net change in VMT and carbon emissions)</small>	<ul style="list-style-type: none"> • Minnesota Infrastructure Carbon Estimator (MICE) • Motor Vehicle Emission Simulator (MOVES) project level tool 	<ul style="list-style-type: none"> • Minnesota Infrastructure Carbon Estimator (MICE) • Motor Vehicle Emission Simulator (MOVES) program level tool • Off-the-shelf program of projects evaluation tool (e.g. Georgetown Climate Center TEA-CART) 	<ul style="list-style-type: none"> • Motor Vehicle Emission Simulator (MOVES) program level tool • Emissions evaluation integrated into TDM analysis • Off-the-shelf program of projects evaluation tool (e.g. Georgetown Climate Center TEA-CART)
Conformance	Project build results in a reduction of emissions and VMT per capita over the 20 years of the project	Multimodal MPO program of projects conforms with net emissions and VMT per capita reduction targets for 2025, 2030, 2040 and 2050	Multimodal regional program of projects conforms with net emissions and VMT per capita reduction targets for 2025, 2030, 2040 and 2050
Mitigation/Interlinking Management Plan	Project proposer develops offsetting mitigation management plan	MPO develops offsetting mitigation management plan	Region develops offsetting mitigation management plan

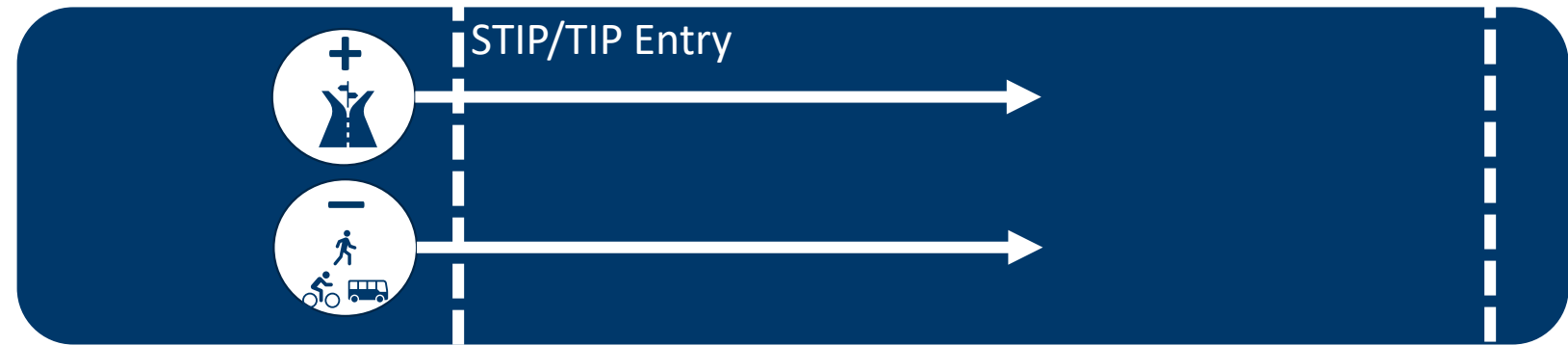
GHG/VMT Assessment + Reduction Options



Assessment Determines the Project will increase GHG and VMT

Assessment Determination Submitted

Mitigation/Offset Management Program 5-1yr



Planning (10-5yr)

Project Development (4-1yr)

Construction

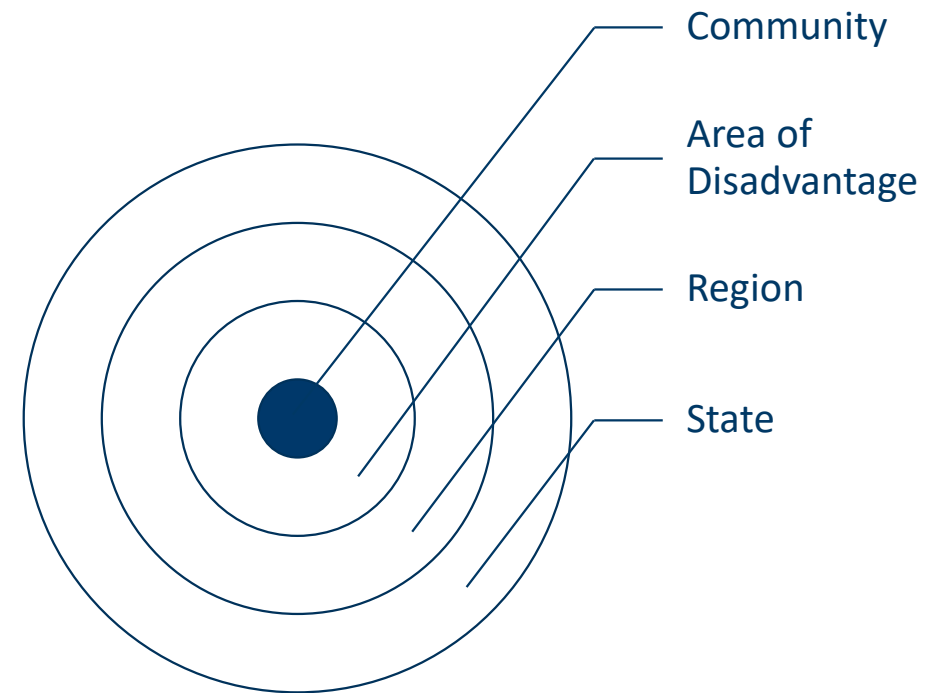
GHG/VMT Assessment Procedure

Draft Steps

	Steps	Overview
1	Determine whether proposed action qualifies as a capacity expansion project	New lanes or new grade separation
2	Select an Analysis Model(s) (Forecast Method)	Metro: Regional Model and associated project forecast GM MPO: MPO Model and associated project forecast Non-MPO Area: Project corridor forecast
3	Project Assessment + Method(s) (Area of analysis and determination of current and future speeds, traffic volume, etc.)	Affected network of project is analyzed using currently available travel demand forecasts for a project area to determine build/no build impacts
4	Compare Impacts to Targets (Determining net change in VMT and carbon emissions)	<ul style="list-style-type: none"> • Minnesota Infrastructure Carbon Estimator (MICE) <u>OR</u> Motor Vehicle Emission Simulator (MOVES) project level tool • (In development) Non-emissions VMT impacts
5	Mitigation/Offset Evaluation	<ol style="list-style-type: none"> 1. Project – Program a project(s) within the community experiencing GHG/VMT increase 2. Setaside – Program a setaside at the amount of GHG/VMT increase into STIP/TIP. To be converted to a transportation project. 3. Land Use Change – Voluntary, measurable change in land use density that would support emission and VMT reduction in the community
6	Mitigation/Offset Management Plan (Conformance Determination GHG + VMT Reduction Targets)	Project proposer develops offsetting mitigation management plan/projects Conformance Determination: Project build results in a reduction of total emissions and per capita VMT over the 20 years of the project

What qualifies as a mitigation/offset?

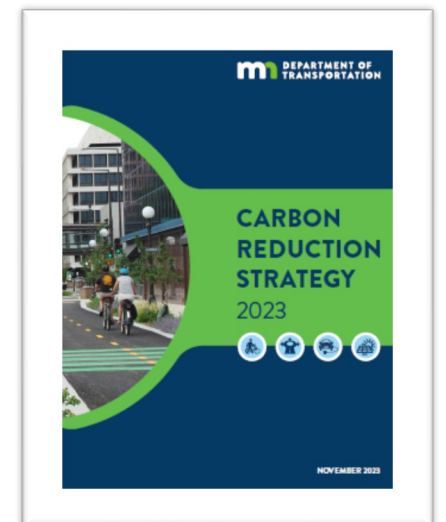
- (1) Transit expansion,
- (2) Transit service improvements,
- (3) Active transportation infrastructure (biking and walking)
- (4) Micromobility infrastructure and service
- (5) Transportation demand management
- (6) Parking management
- (7) Land use density increases
- (8) Infrastructure improvements related to traffic operations
- (9) Natural systems



Section 64

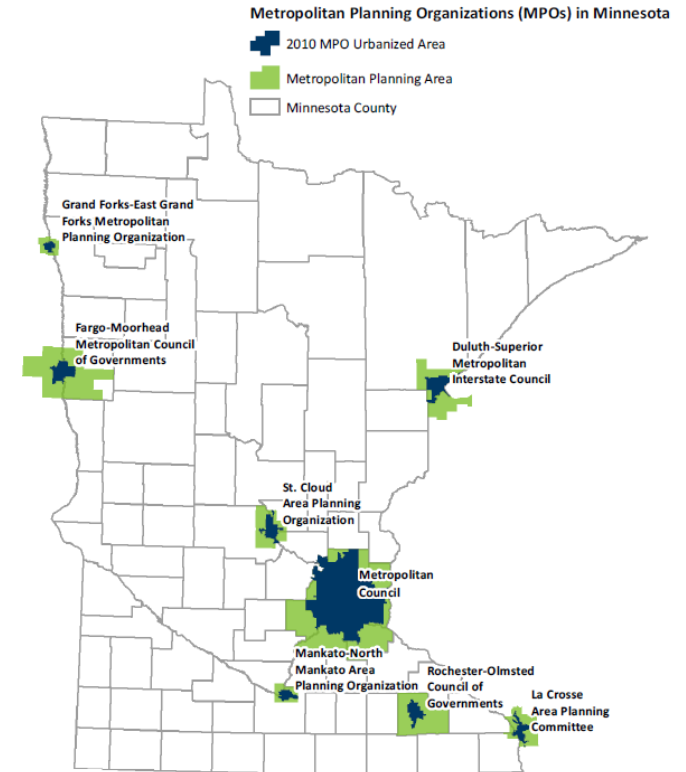
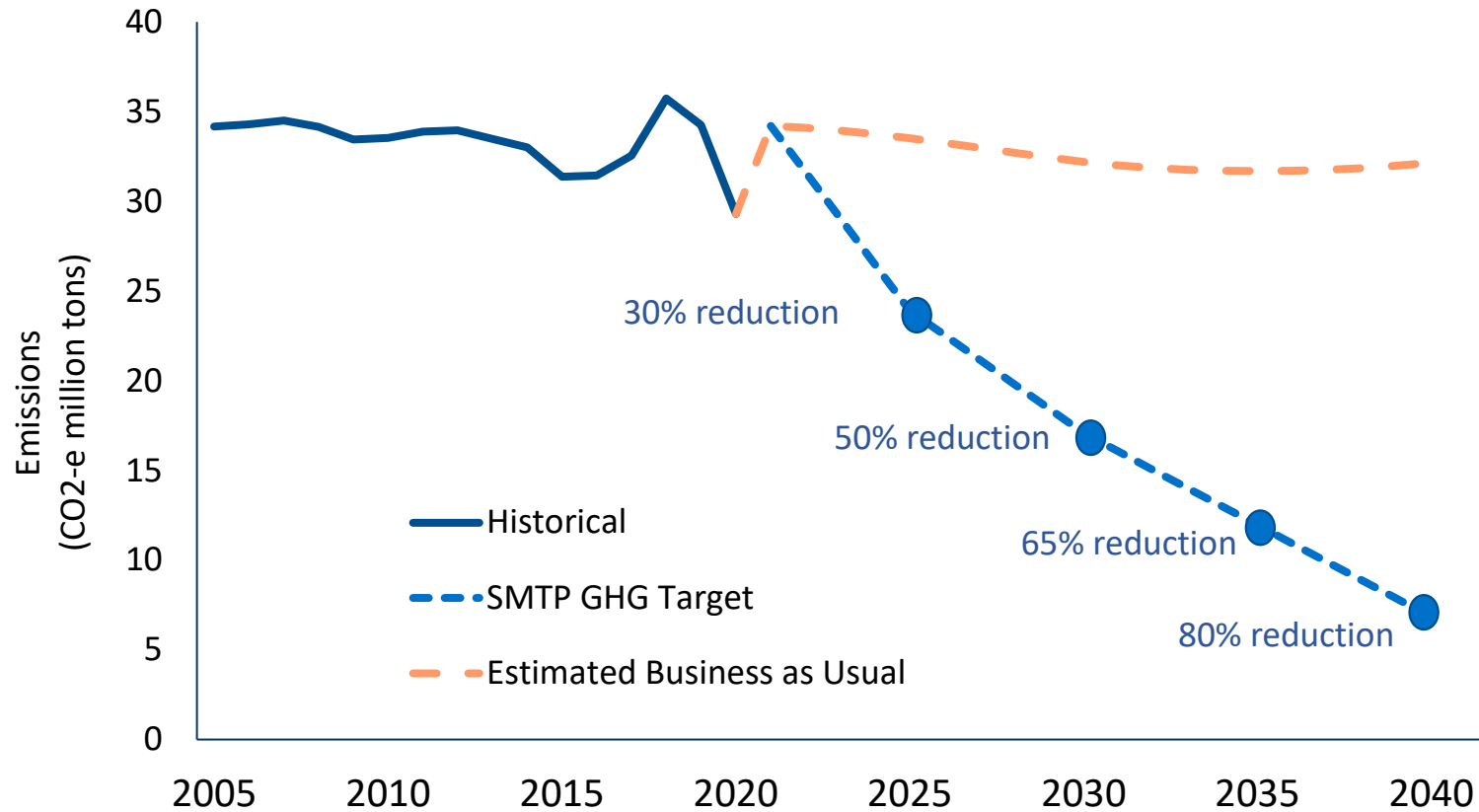
Allocation of GHG Reduction Target across Transportation Sector

- (1) establishment of proportional emissions reduction performance targets for the transportation sector;
- (2) specification of the performance targets on a five-year or more frequent basis; and
- (3) allocation across the transportation sector, which:
 - (i) must provide for an allocation to the metropolitan area;
 - (ii) must account for differences in the feasibility and extent of emissions reductions across forms of land use and across regions of the state; and
 - (iii) may include performance targets based on Department of Transportation district, geographic region, a per capita calculation, or transportation mode, or a combination.



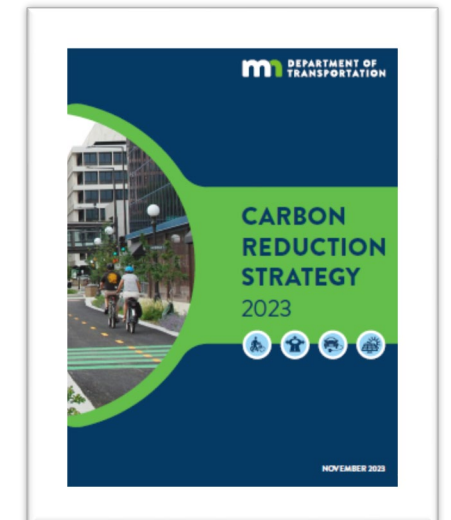
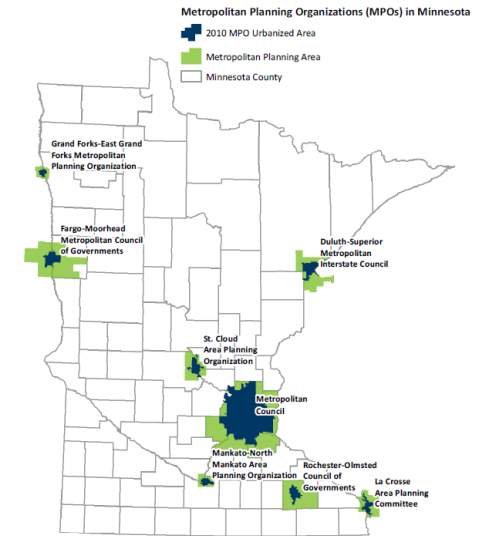
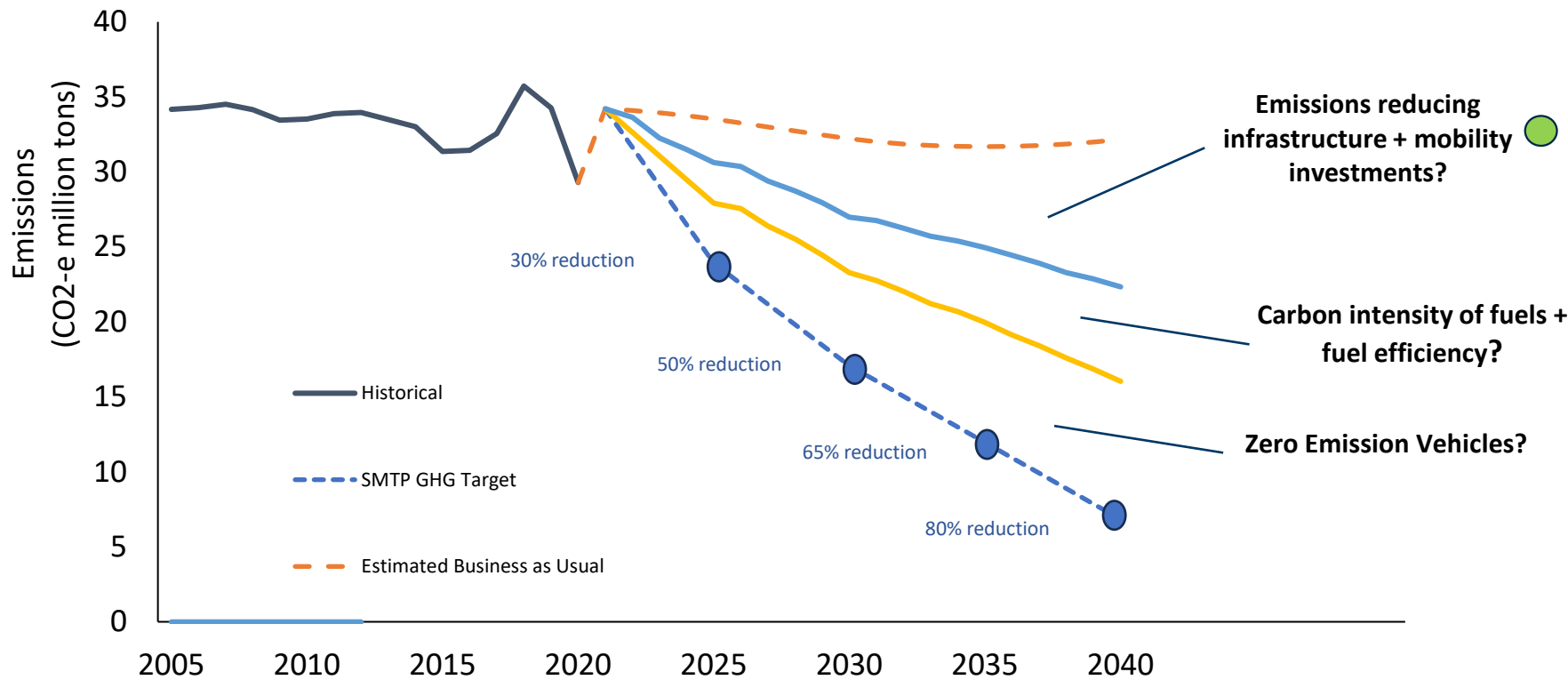
Emissions Target for Transportation Sec 64 State Suballocation Requirement

Greenhouse Gas Emissions from the transportation sector



Emissions Target for Transportation Sec 64 State Suballocation Requirement

Greenhouse Gas Emissions from the transportation sector



EXAMPLE

Oregon Regional GHG Targets

**2040 GHG targets
for Oregon metropolitan areas**
per capita light vehicle GHG emissions reduction¹

Adopted target	Metropolitan area
25%	Portland Metro ²
20%	Albany
	Bend
	Corvallis
	Eugene-Springfield
	Middle Rogue
	Rogue Valley
	Salem-Keizer

¹ Reductions beyond expected vehicle and fuel improvements

² Required scenario planning and adoption

■ 45-minute travelshed extent
■ MPO boundary




8 Metropolitan areas GHG Targets

Source: STS Statewide 2050 Vision

Metric: % GHG reduction “beyond vehicles and fuels” → % VMT/capita target

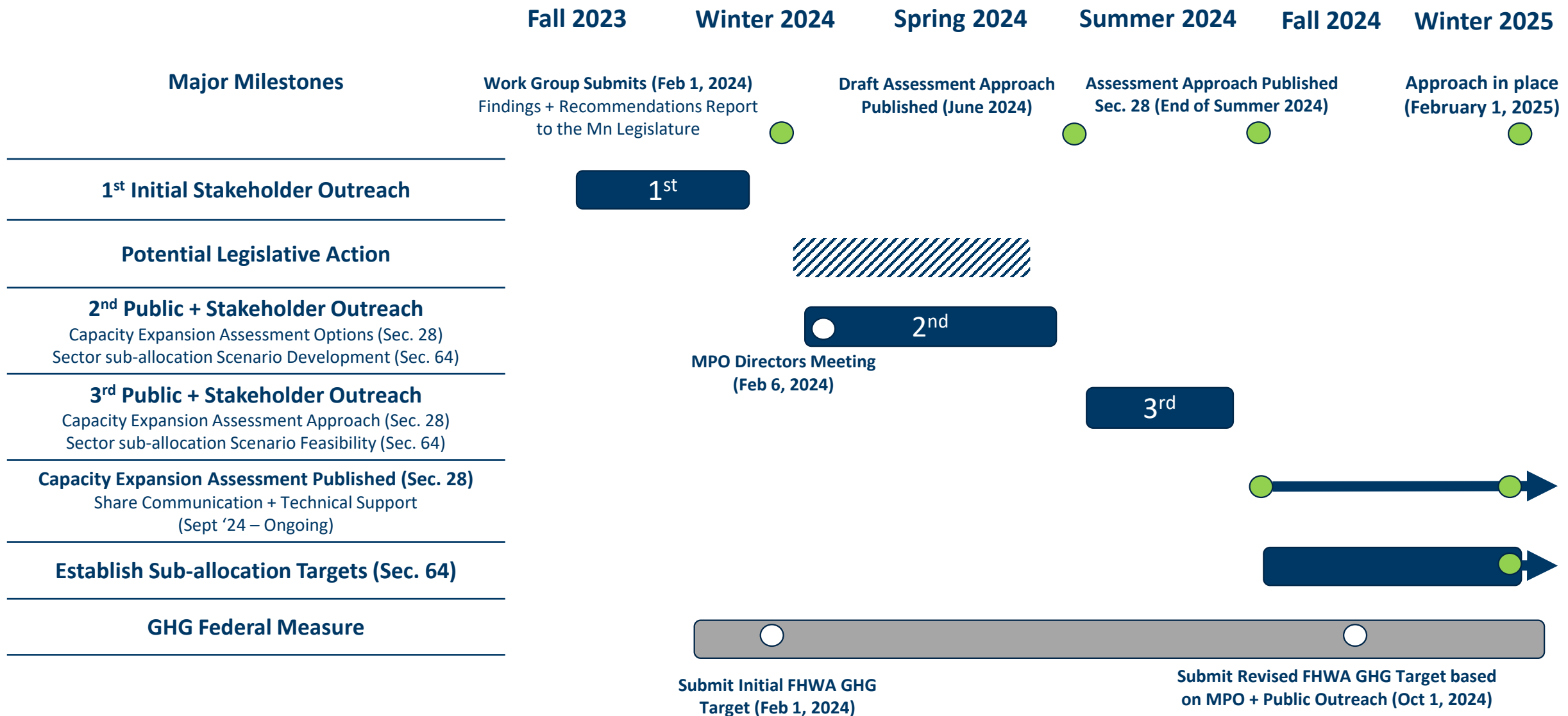


$$\frac{\text{GHG}}{\text{Capita}} = \frac{\text{GHG}}{\text{Mile}} \times \frac{\text{Miles}}{\text{Capita}}$$

State GHG Legislation Implementation

Stakeholder and Public Outreach



What are the questions you have?