DEPARTMENT OF TRANSPORTATION

Minnesota Greenhouse Gas Reduction Legislation Target Setting

Anna Pierce | MnDOT Office of Sustainability & Public Health

Key Takeaways

- GHG emissions reduction targets
  - Seven-county Metropolitan Area is **1 of 16 geographic regions**
  - **Per capita approach** is recommended to set targets
  - Seven-county Metropolitan Area's emissions targets are recommended to **not include non-surface** transportation emission

Agenda

- Target Setting
  - Purpose
  - Background
  - Process overview
  - Recommended outcome
  - Next steps

Why this matters

Greenhouse gas emission reduction sub-allocation targets are a **requirement** of the legislature.

Transportation is the largest contributor to GHGs in Minnesota.

Integrating emissions reduction into our projects, policies & programs impacts our transportation system's resilience, sustainability and economy.

Reducing emissions encourages healthy and thriving communities **for people.**

Legislation Context

Timeline of Minnesota's Climate Actions

2007 **Next Generation Energy Act** created goal to reduce Minnesota GHG emissions 80% by 2050

2008 Minnesota **Climate Change Advisory group** publishes final report recommending a comprehensive set of state-level climate polocies

2016 **Climate Solutions and Economic Opportunity report** identifies near-term emission reduction opportunities

2019 MnDOT publishes **Pathways to Decarbonizing Transportation in Minnesota**, outlining potential transportation actions to meet GHG goals

2020 **Sustainable Transportation Advisory Committee** established

2021 **Clean Cars Minnesota** rule adopted

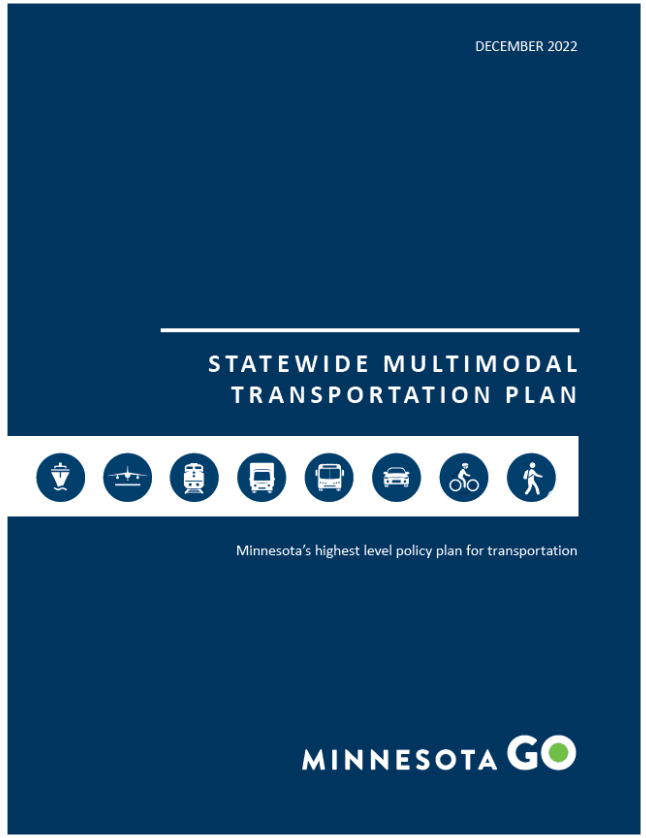
2022 Minnesota's **Climate Action Framework** set goal to reduce GHG emissions by 50% by 2030 and achieve net-zero by 2050

Minnesota **Statewide Multimodal Transportation Plan** establishes transportation GHG reduction targets consistent with the Framework (80% reduction by 2040)

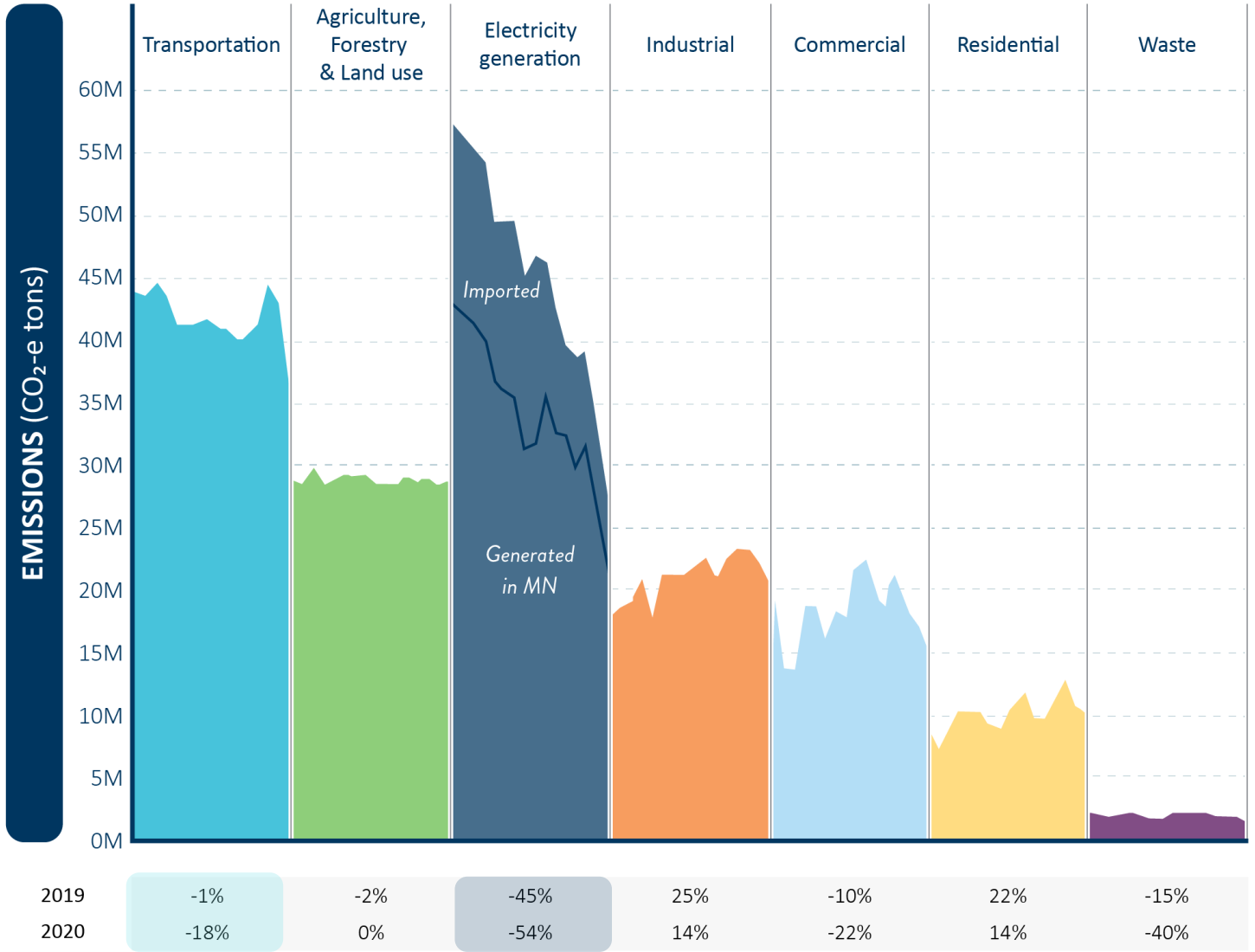
2023 **HF 2887** law creates new transportation funding sources for sustainable transportation, rebates and work groups

Next Generation Energy Act adopts goal to reduce GHG emissions by 30% by 2025, 50% by 2030 and net-zero emissions by 2050

Clean Transportation Fuel Standard Working Group and **GHG Emissions Impact Mitigation Working Group** are established and begin work



Legislation Context

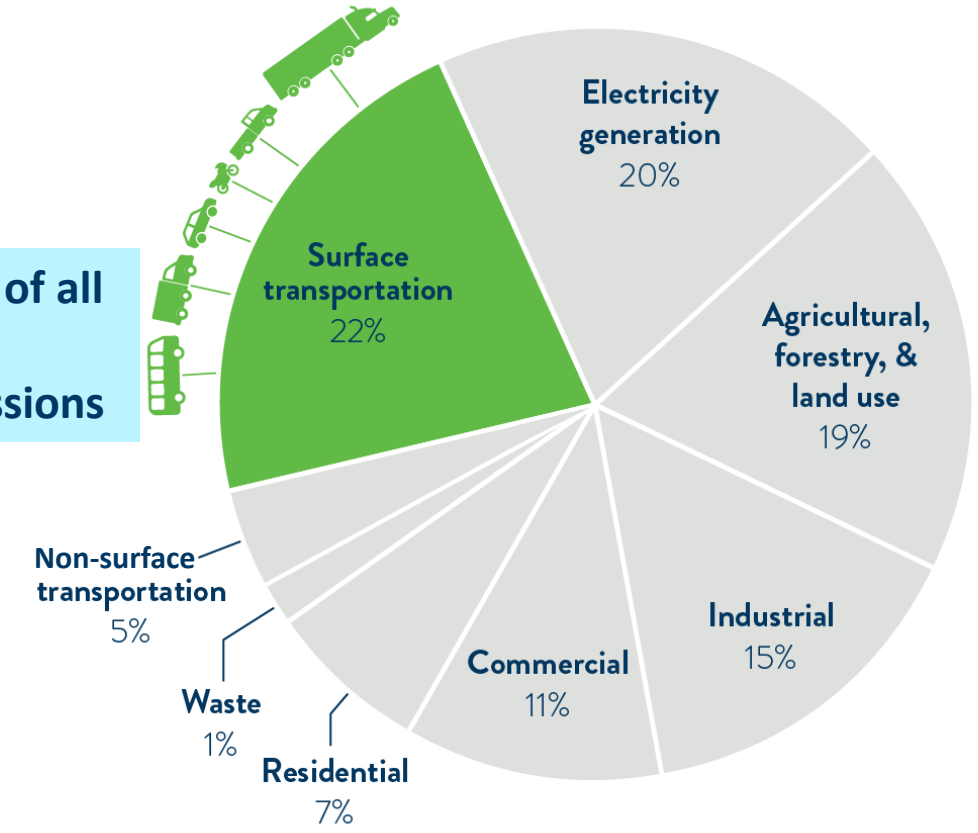


Carbon Emissions in Minnesota by Sector

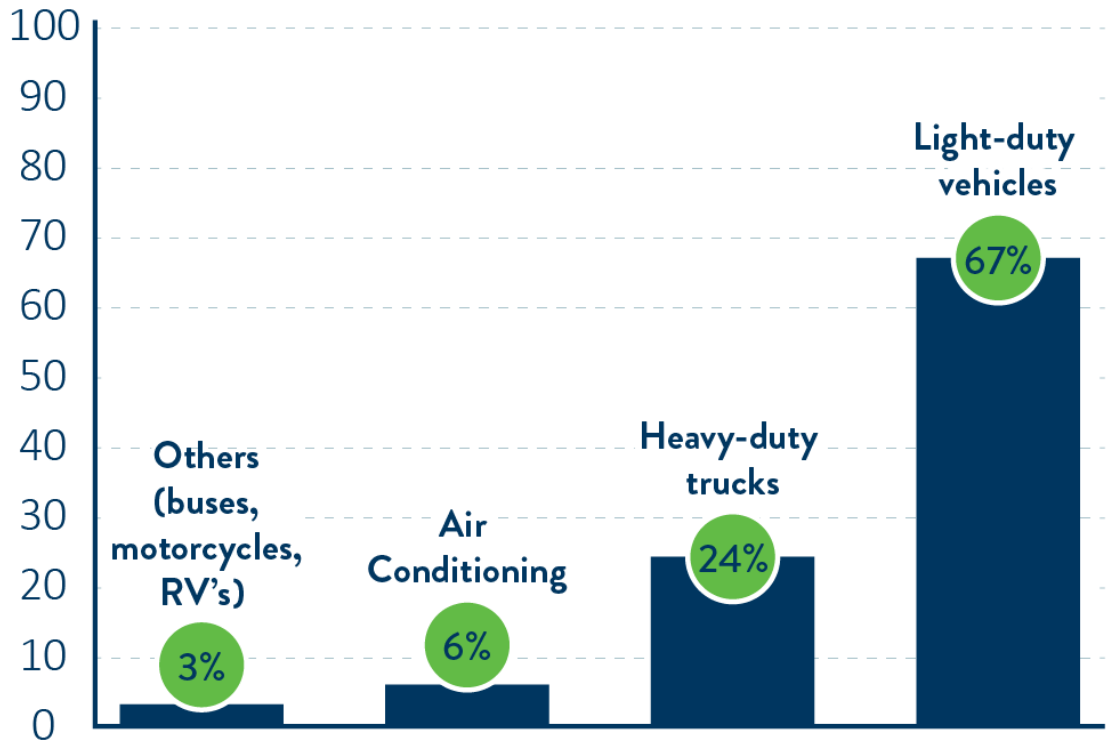
Minnesota Transportation Emissions

ALL SECTOR BREAKDOWN (%)

27% of all GHG emissions



SURFACE TRANSPORTATION BREAKDOWN (%)



Legislative Context

Greenhouse gas emissions targets:

- Chapter 216 (2023): Set greenhouse gas emissions goal for Minnesota across all sectors
- Chapter 174 (2023): requires the commissioner of transportation to establish greenhouse gas emission reduction targets for the transportation sector

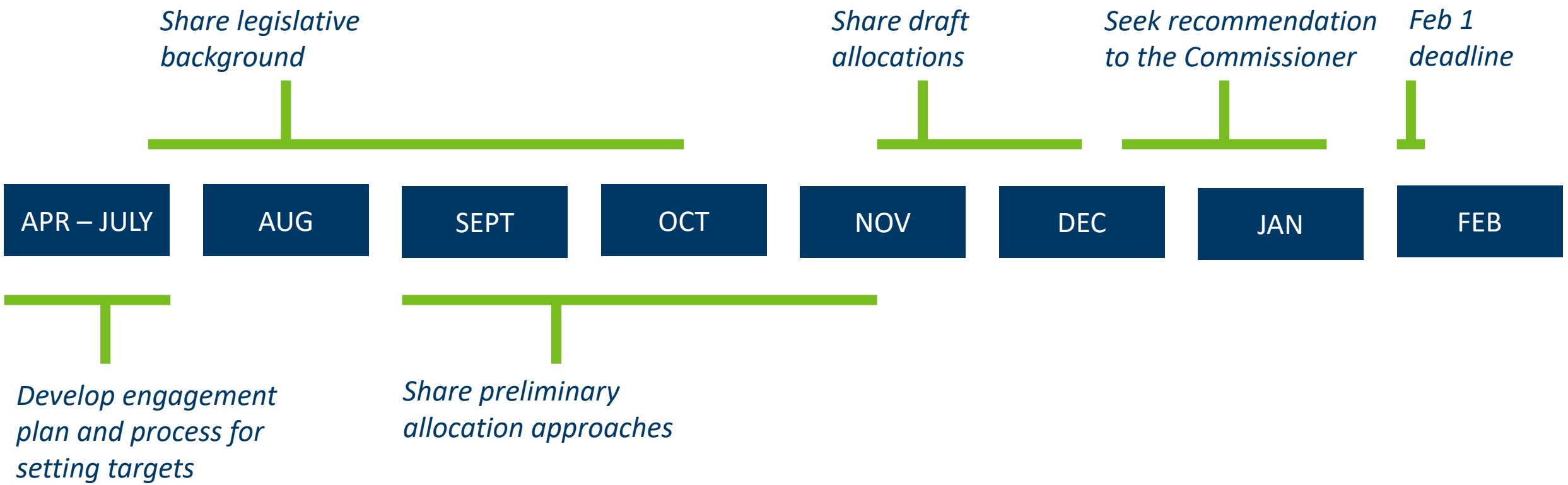
Transportation project assessment and mitigation:

- Chapter 161 (2023): Requires MnDOT to assess and mitigate greenhouse gas emissions for highway expansion projects
- Chapter 127 (2024): Amends 161.178 to add a requirement of "assessing a portfolio or program of projects instead of on a project-by-project basis" by 2027

Legislative Background | MN Statute 174.01 Subd. 3

- Targets must be **allocated on a 5-year** or more frequent basis.
- Provide an allocation to the metropolitan area, as defined in statute as the **seven-county metropolitan twin cities area**.
- Account for **differences in feasibility** and extent of emission reductions across forms of land use and across regions of the state
- May include performance targets based on DOT districts, geographic regions, per capita calculations, transportation mode, or any combination.

Target Setting | Process



Target Setting | Engagement

ACEC/MN

Advocacy Council for Tribal Transportation

MPO TACs and Policy Boards

MPO Directors' meetings

RDO Quarterly

RDO mtgs

ATP mtgs

County Prescreening mtgs

City Prescreening mtgs

SHIP Coordinators mtg

FHWA-MN

Met Council/MnDOT Joint Leadership mtg

MCEA/MnDOT Joint Leadership mtg

Met Council Active Transportation Committee, Climate Subcommittee, TAC, TAB Exec, TAB, Committee of the Whole

33 external

22 internal

APG

PMG

PMLG

PCMG/CMG

Ops VidCon

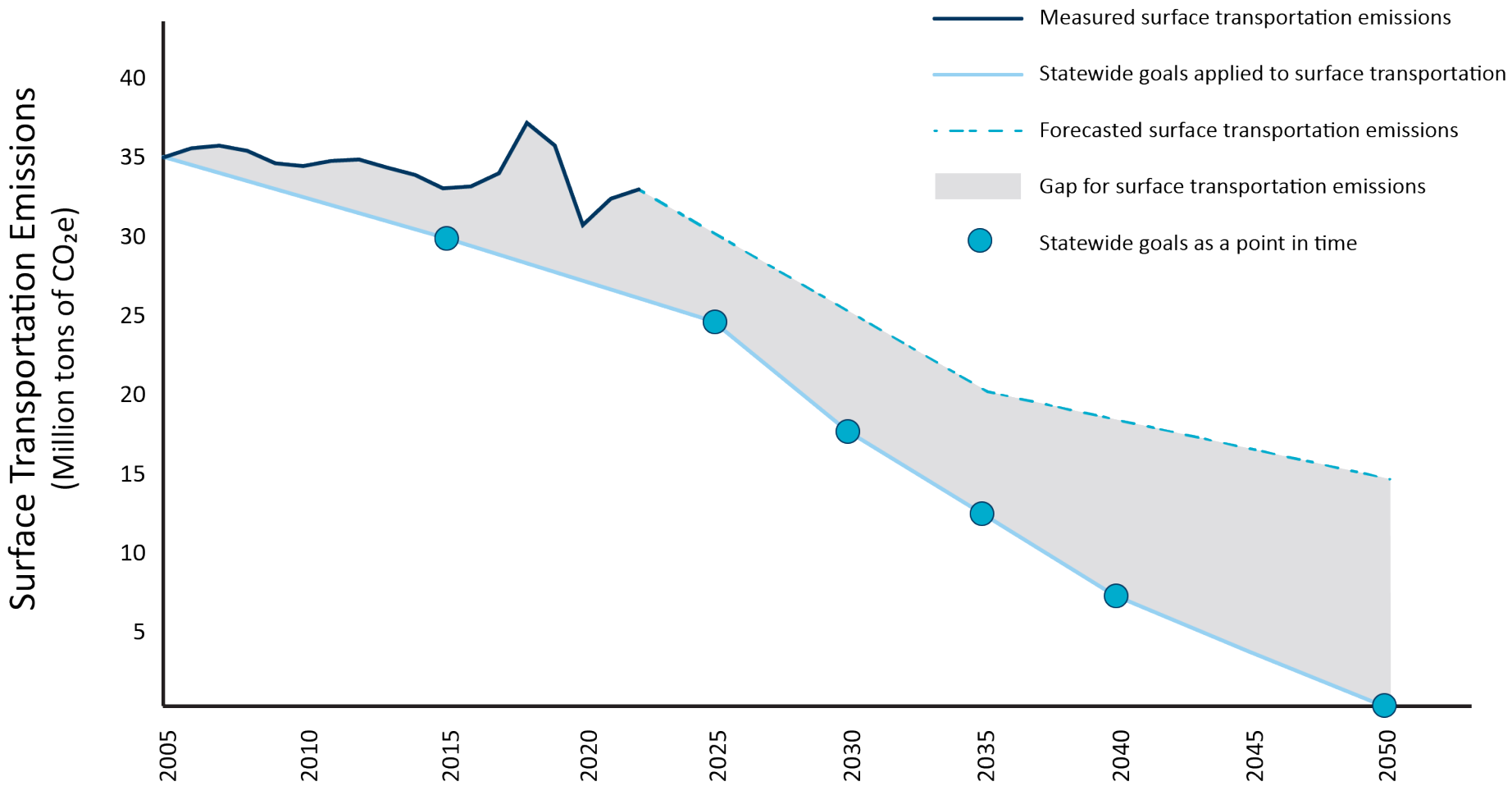
GHG Steering Team

Chief Engineers

SLT

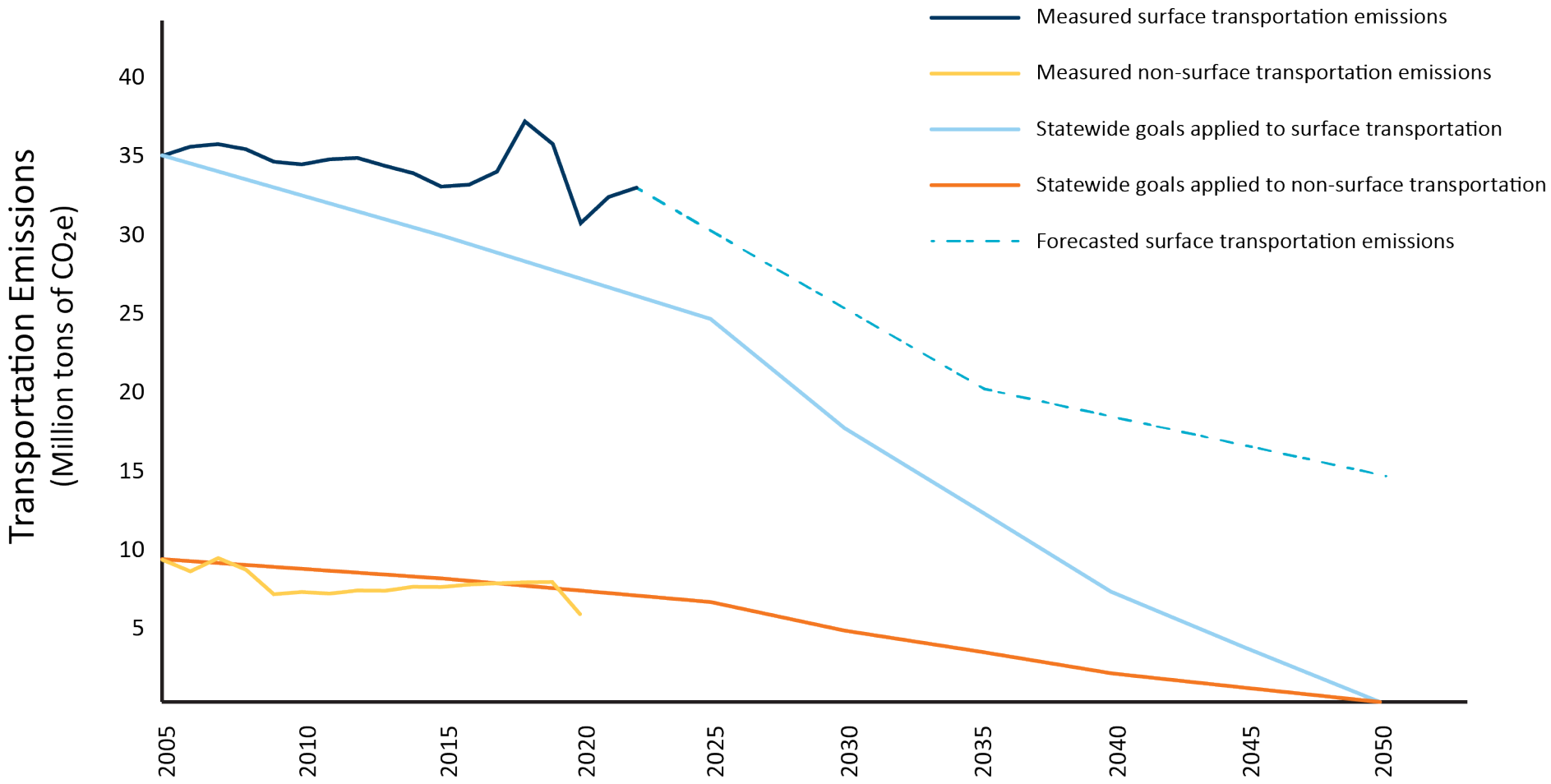
ELT

Target Setting | Engagement



NOTE: The 'zero' at the right hand side of the graph represents a net value of zero greenhouse gas emissions from the transportation sector above those that existing in 2005, and net of any mitigation efforts that get counted as 'offsets' to greenhouse gas emissions.

Target Setting | Emissions



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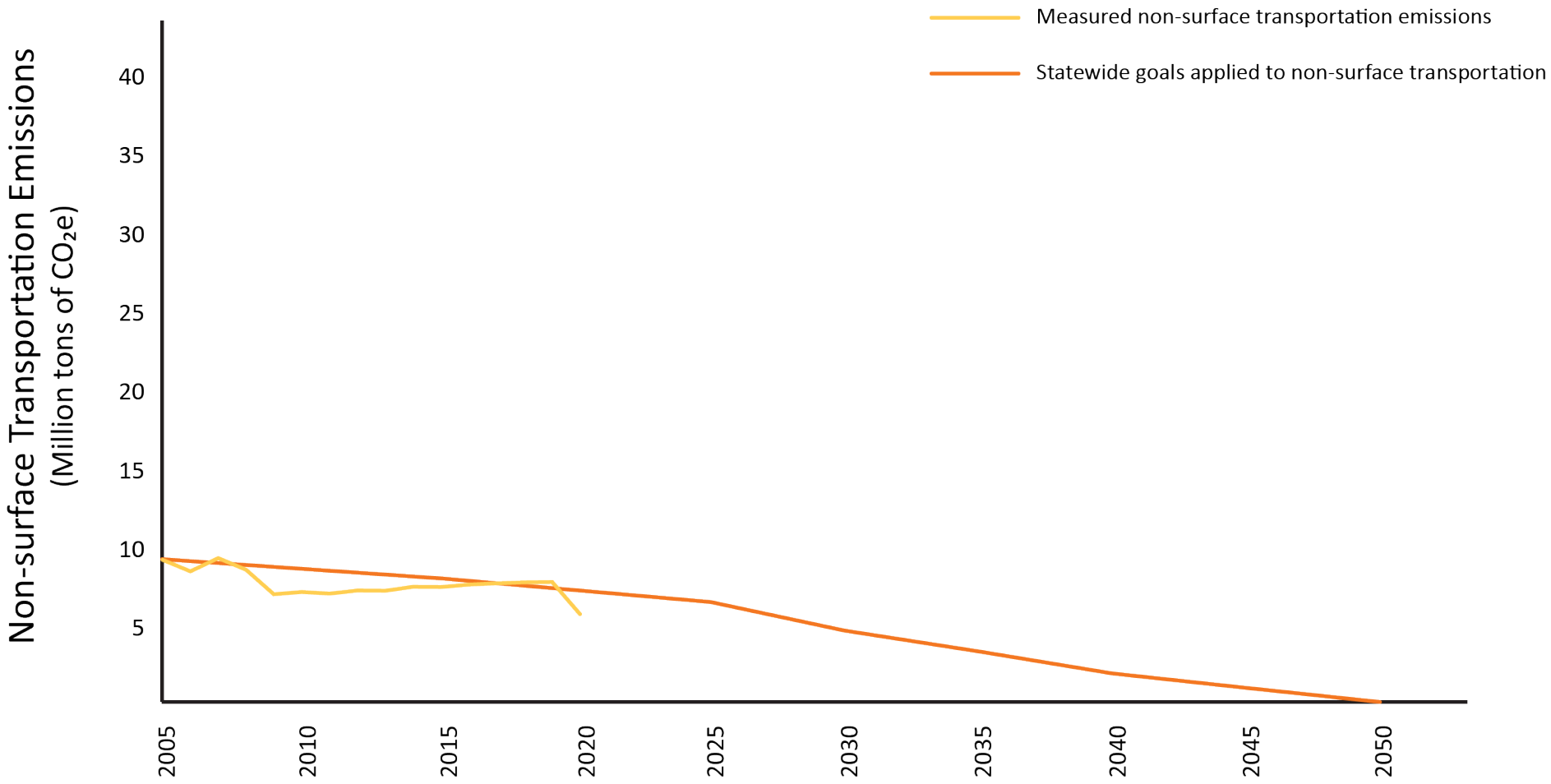
Surface transportation emissions include:

- Air conditioning
- Buses
- Heavy-duty trucks
- Light-duty trucks
- Motorcycle
- Off-highway
- Passenger cars
- RV

Non-surface transportation emissions include:

- Aviation
- Marine
- Natural gas transmission
- Railroad

Target Setting | Non-surface Transportation emissions



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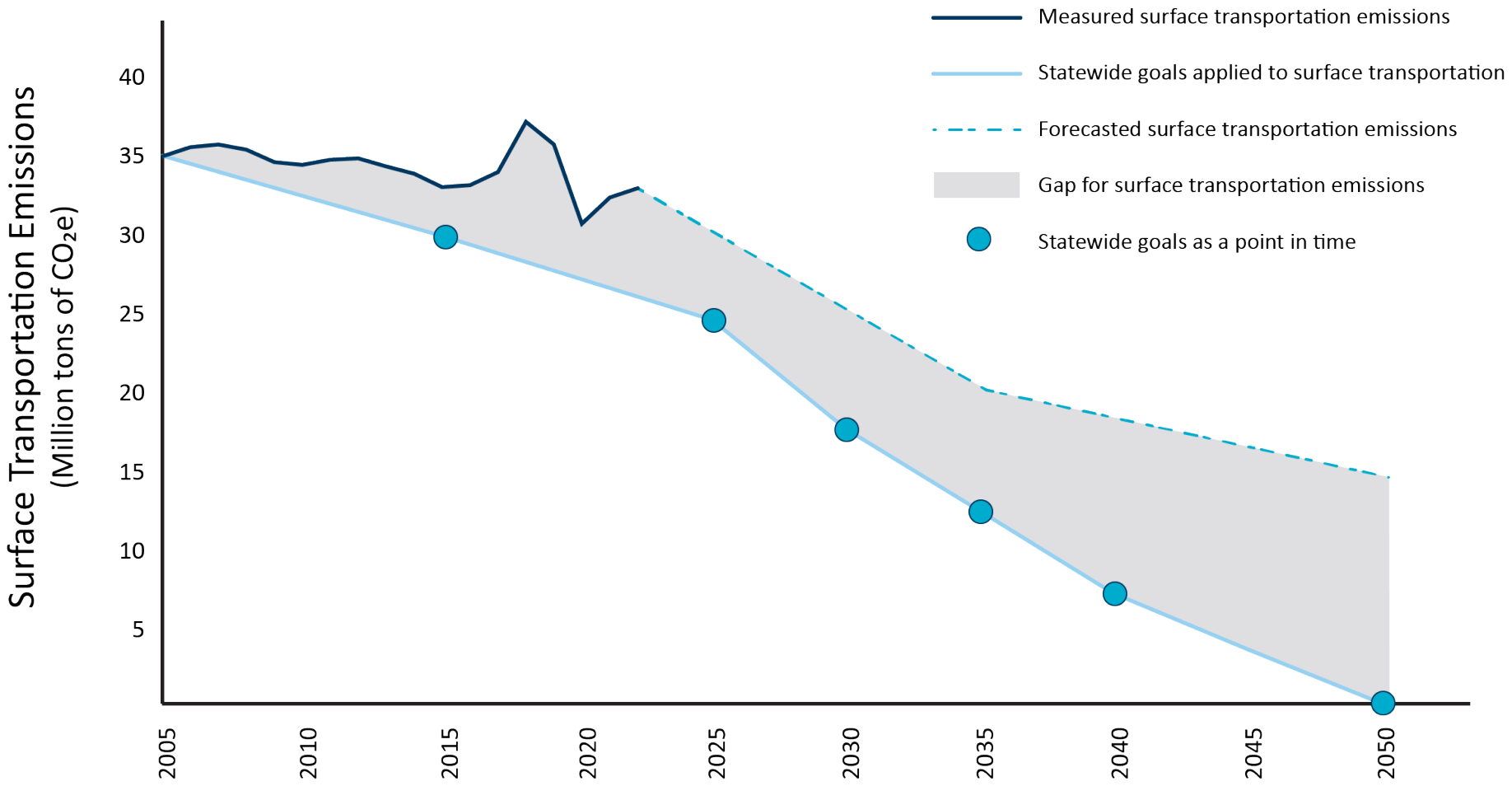
Non-surface transportation emissions include:

- Aviation
- Marine
- Natural gas transmission
- Railroad

Target Setting | Surface transportation emissions



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Target Setting | Geographic scenarios

Scenario 1

Metropolitan Council's 7-county metro area
(statute defined)

Greater Minnesota
(everywhere outside the metro area)

Scenario 2

Metropolitan Council's 7-county metro area
(statute defined)

Greater Minnesota Metropolitan Planning Organizations
(7 urbanized areas)

Greater Minnesota rural areas
(everywhere outside the metro area and 7 MPO urbanized areas)

Scenario 3

Metropolitan Council's 7-county metro area
(statute defined)

Greater Minnesota Metropolitan Planning Organizations
(7 urbanized areas)

Greater Minnesota Area Transportation Partnerships
(8)

Provides more opportunities for accountability.

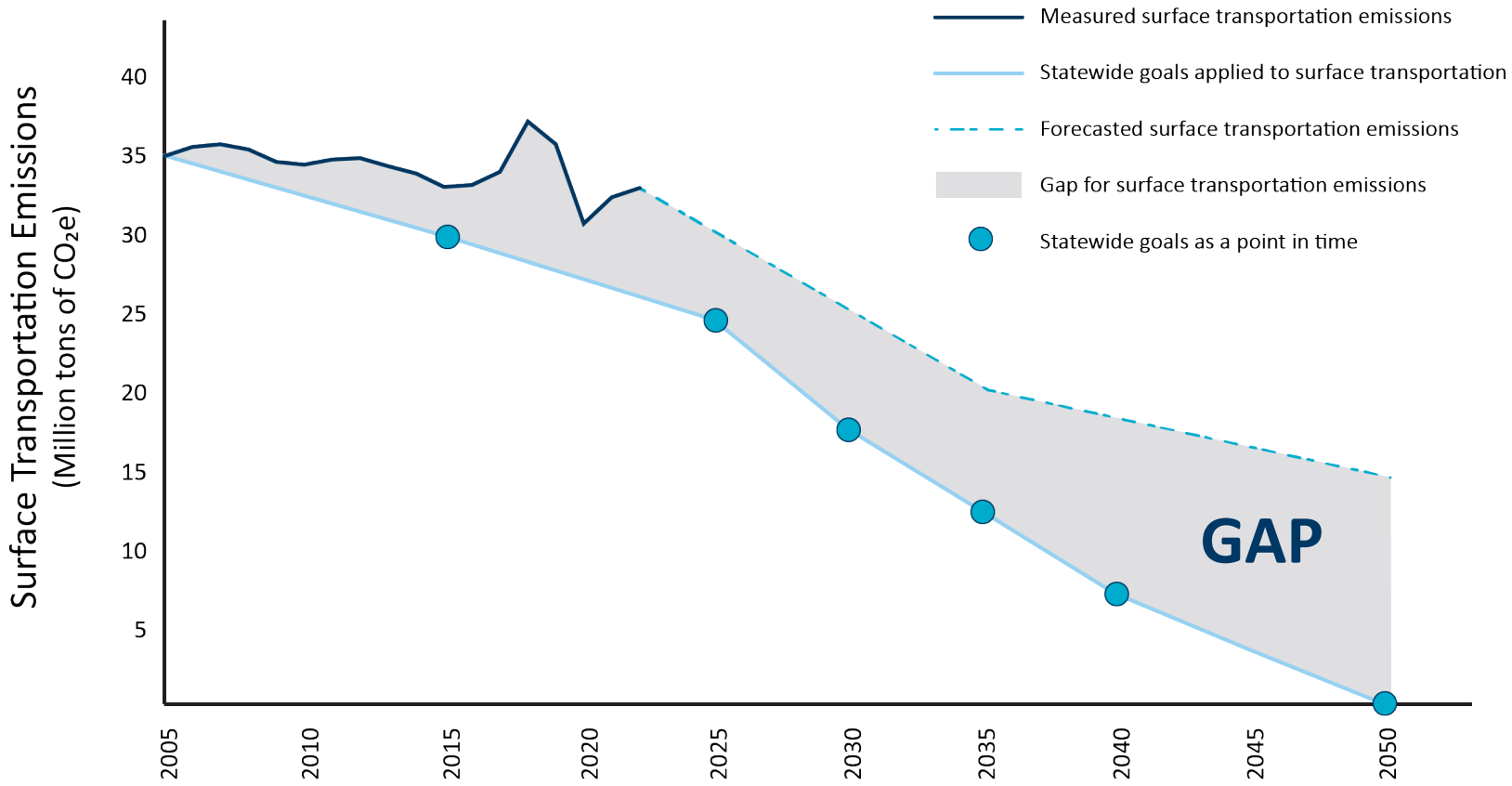
We can see ourselves in the work because it's more context-sensitive.

Target Setting | Approaches

Assign emissions targets for each target year

Per Capita

Regional Context+



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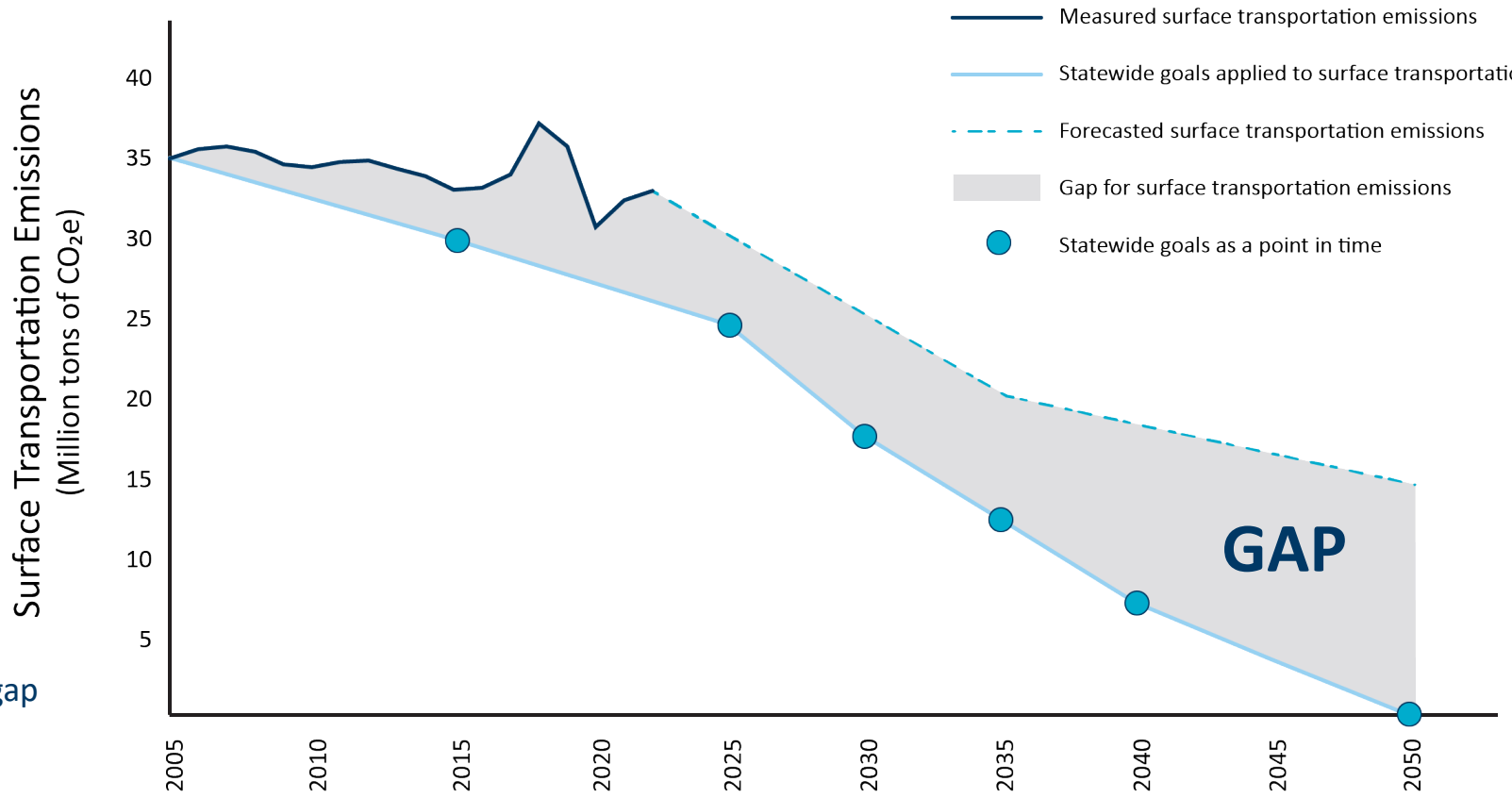
Target Setting | Approaches

Per Capita

Based on the number of people forecasted to live in a geographic region

SG x (SP / RP) = RE

SG = Forecasted surface transportation emissions gap
SP = Forecasted state population
RP = Forecasted regional population
RE = Geographic Regional emissions annual target



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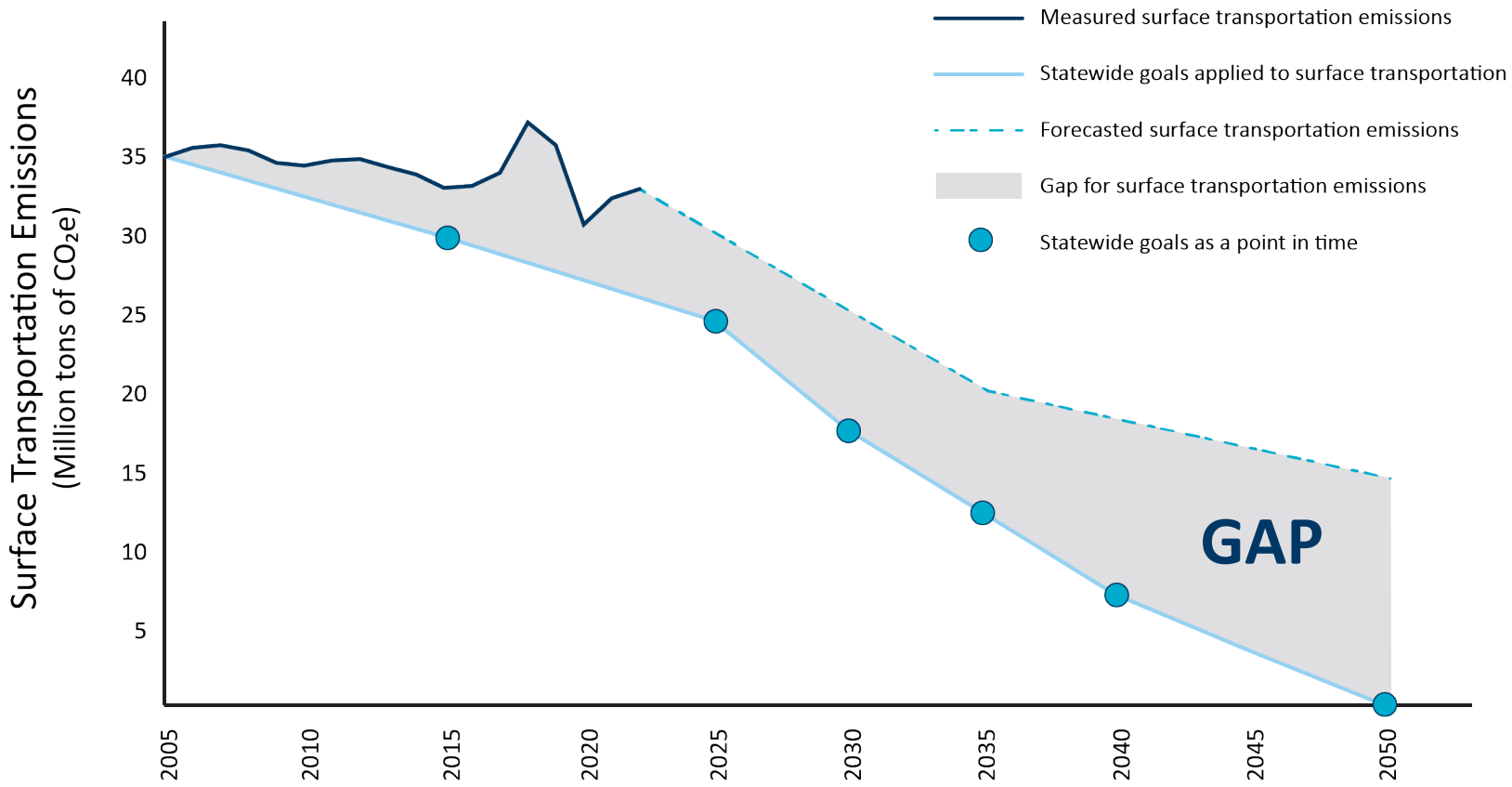
Target Setting | Approaches

Regional Context+

Based on priorities identified by a geographic region, and the priorities' expected growth rates within that geographic region

Less than 3% decrease in emissions from the forecast



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Note: Not all geographic regions provided input, but all were encouraged to. Requests for input and data were made multiple times to each geographic region.

Target Setting | Per capita targets

Per Capita

Based on the number of people forecasted to live in a geographic region

SG x (SP / RP) = RE

SG = Forecasted surface transportation emissions gap
SP = Forecasted state population
RP = Forecasted regional population
RE = Geographic Regional emissions annual target

Region	2030	2035	2040	2045	2050
7-County Metropolitan Area	16,501,000	25,194,000	31,516,000	39,162,000	45,073,000
APO	1,119,000	2,010,000	2,549,000	2,651,000	3,888,000
MIC	1,253,000	1,871,000	2,280,000	2,764,000	3,101,000
MAPO	563,000	876,000	1,118,000	1,412,000	1,651,000
LAPC	94,000	140,000	171,000	205,000	228,000
ROCOG	1,034,000	1,588,000	2,002,000	2,509,000	2,912,000
GFEGF MPO	148,000	215,000	248,000	285,000	304,000
Metro COG	346,000	534,000	674,000	843,000	976,000
ATP-1 rural area	540,000	802,000	970,000	1,163,000	1,288,000
ATP-2 rural area	721,000	1,068,000	1,288,000	1,541,000	1,703,000
ATP-3 rural area	2,571,000	4,012,000	5,142,000	6,537,000	7,695,000
ATP-4 rural area	1,034,000	1,588,000	2,002,000	2,509,000	2,912,000
Metro ATP rural area	306,000	477,000	608,000	766,000	896,000
ATP-6 rural area	1,402,000	2,112,000	2,602,000	3,187,000	3,615,000
ATP-7 rural area	1,034,000	1,555,000	1,912,000	2,338,000	2,645,000
ATP-8 rural area	910,000	1,364,000	1,667,000	2,024,000	2,277,000

Target Setting | Cumulative sum 5-year targets

Per Capita

Based on the number of people forecasted to live in a geographic region

2025RE + 2026RE + 2027RE + 2028RE + 2029RE = 2030 CRE

RE = Geographic Regional emissions annual target

CRE = Cumulative Sum Geographic Regional emissions 5-year target

Region	2025	2026	2027	2028	2029	2030
7-County Metropolitan Area	2,403,000	2,851,600	3,300,200	3,748,800	4,197,400	**16,501,000**
APO	165,000	194,400	223,800	253,200	282,600	**1,119,000**
MIC	185,000	217,800	250,600	283,400	316,200	**1,253,000**
MAPO	81,000	96,800	112,600	128,400	144,200	**563,000**
LAPC	14,000	16,400	18,800	21,200	23,600	**94,000**
ROCOG	150,000	178,400	206,800	235,200	263,600	**1,034,000**
GFEGF MPO	22,000	25,800	29,600	33,400	37,200	**148,000**
Metro COG	50,000	59,600	69,200	78,800	88,400	**346,000**
ATP-1 rural area	80,000	94,000	108,000	122,000	136,000	**540,000**
ATP-2 rural area	107,000	125,600	144,200	162,800	181,400	**721,000**
ATP-3 rural area	369,000	441,600	514,200	586,800	659,400	**2,571,000**
ATP-4 rural area	150,000	178,400	206,800	235,200	263,600	**1,034,000**
Metro ATP rural area	44,000	52,600	61,200	69,800	78,400	**306,000**
ATP-6 rural area	206,000	243,200	280,400	317,600	354,800	**1,402,000**
ATP-7 rural area	152,000	179,400	206,800	234,200	261,600	**1,034,000**
ATP-8 rural area	134,000	158,000	182,000	206,000	230,000	**910,000**

Key Takeaways

- GHG emissions reduction targets
  - Seven-county Metropolitan Area is **1 of 16 geographic regions**
  - **Per capita approach** is recommended to set targets
  - Seven-county Metropolitan Area's emissions targets are recommended to **not include non-surface** transportation emission

Target Setting | Next steps

- Coordinate on non-surface transportation target
- Finalize draft targets
- Seek approval of targets from the Commissioner of Transportation
- Develop an info sheet to update external and internal partners about the approved approach and targets
- Seek input on future resources and coordination MPOs, ATPs and internal staff see needing as we work towards achieving the targets
- Work together to implement emissions-reducing policies and projects

As of Dec. 11, 2024

Target Setting | Closing the gap

- Requires us to **rethink project prioritization** in order to reduce emissions
- Must consider how we encourage and implement **greater accountability** for emissions reduction
- Emissions reduction **enhances the work** we are already doing

Target Setting | Opportunities

- Align policy-level guidance and performance measures with greenhouse gas reduction targets
- Work together to support local knowledge and action on greenhouse gas reduction strategies and co-benefits
- Encourage partners to design projects that reduce greenhouse gas emissions
- Program funding with a focus on reducing emissions

Moving forward with the HOW

Contact

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GHG Reduction Legislation
dot.state.mn.us/sustainability/ghg-legislation.html