DEPARTMENT OF TRANSPORTATION

Minnesota Greenhouse Gas Reduction Legislation Target Setting

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Purpose

- Share and ask for feedback on the approaches and regional scenarios
  - 2 approaches
  - 3 regional scenarios
- Regional priorities activity
- Document your questions and input
- Share next steps and process

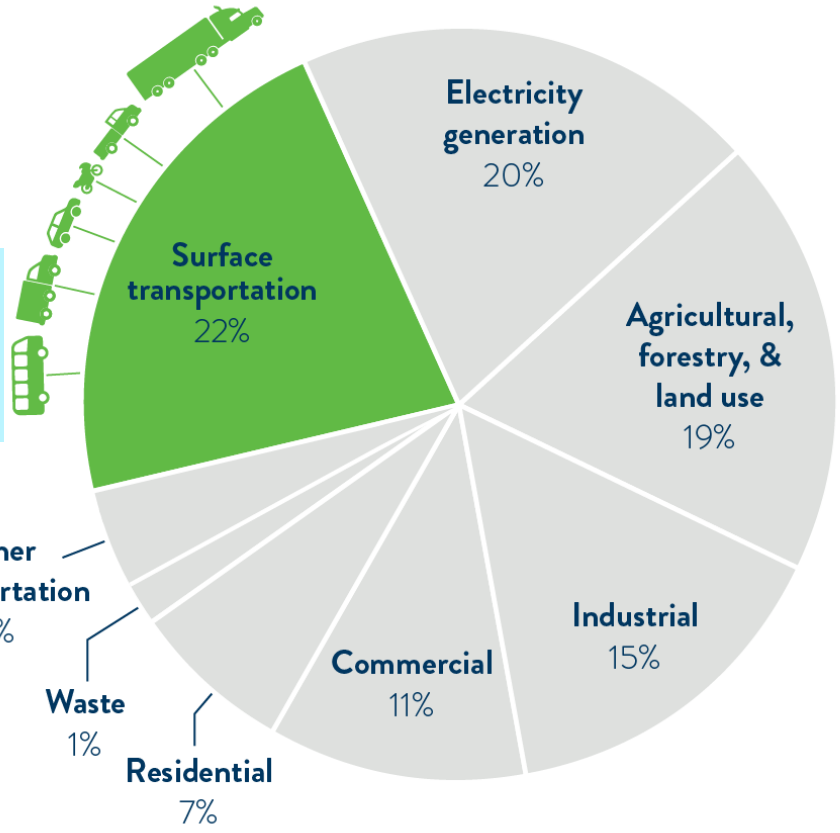
Legislative Background

- Set targets that bridge the gap
- Transportation greenhouse gas emissions impact assessment
- Establish a Technical Advisory Committee (TAC) for the Transportation Impact Assessment

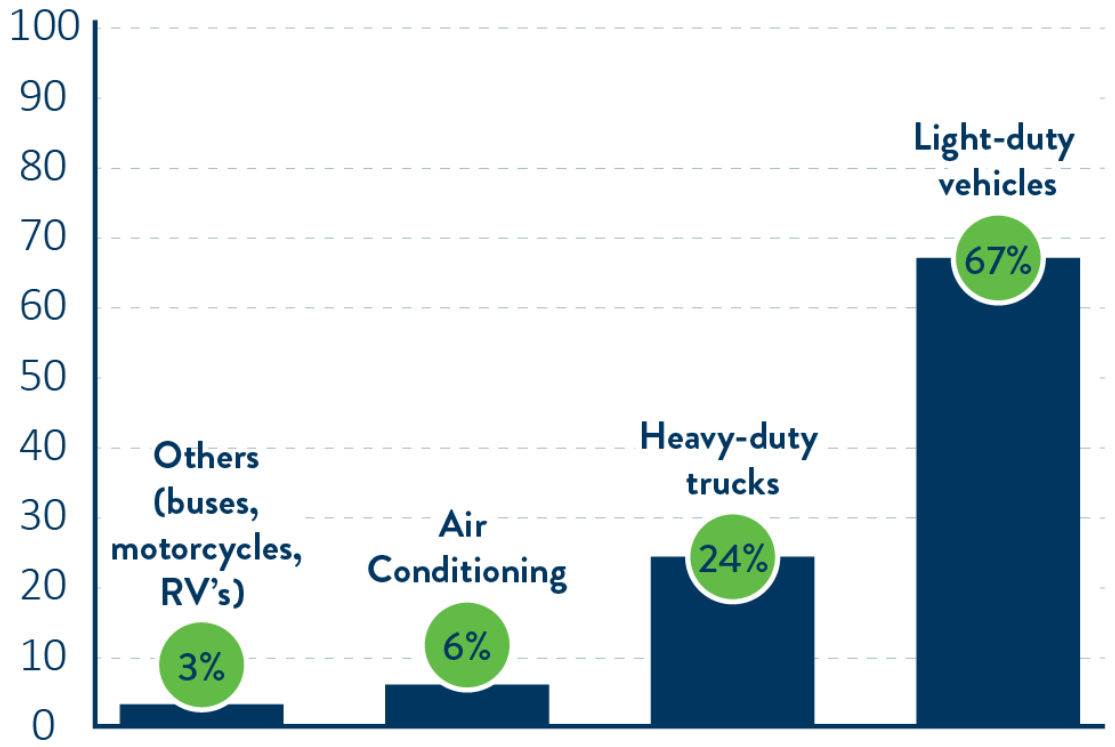
Transportation Emissions

ALL SECTOR BREAKDOWN (%)

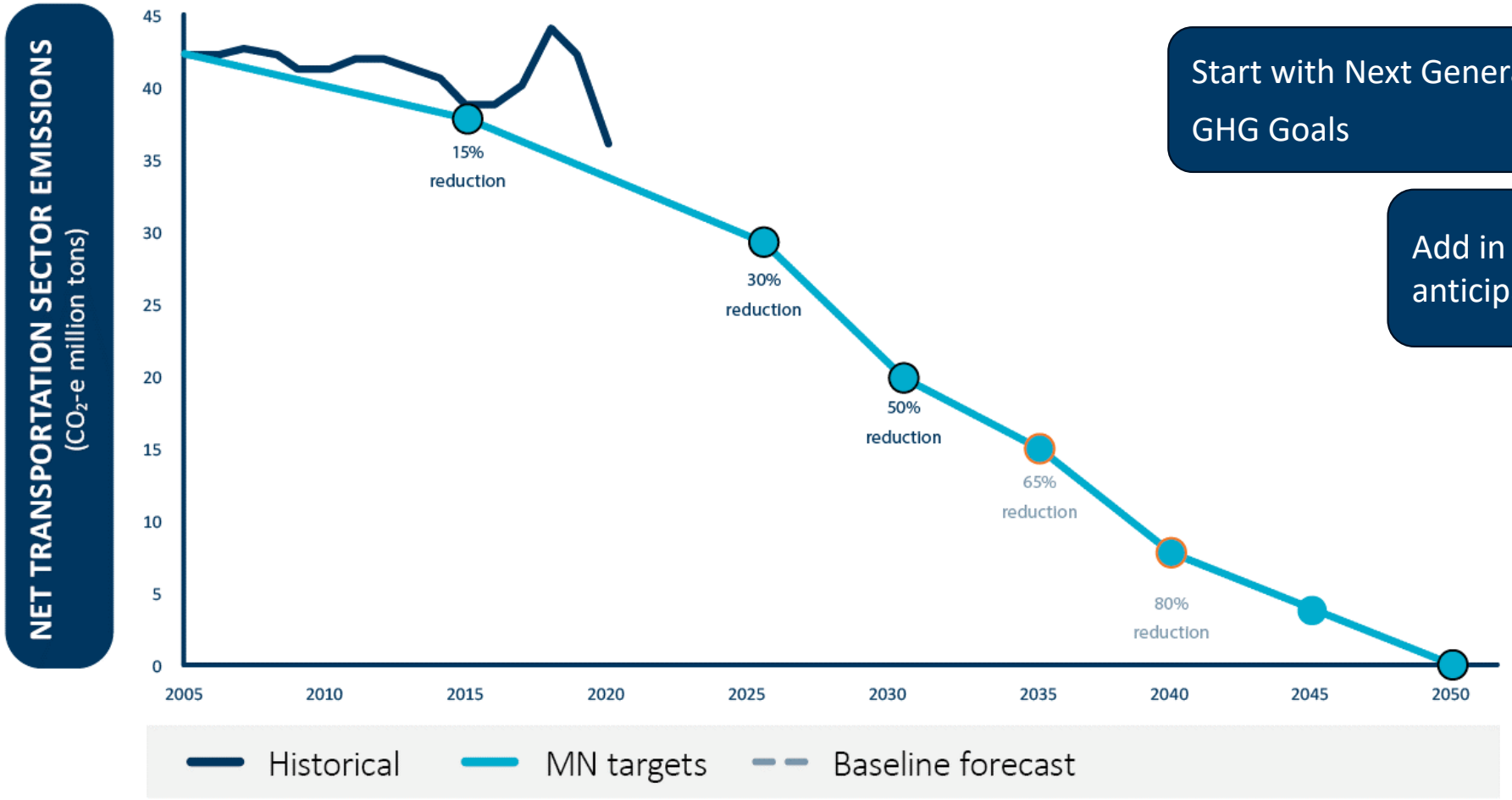
27% of all GHG emissions



SURFACE TRANSPORTATION BREAKDOWN (%)



Target Setting

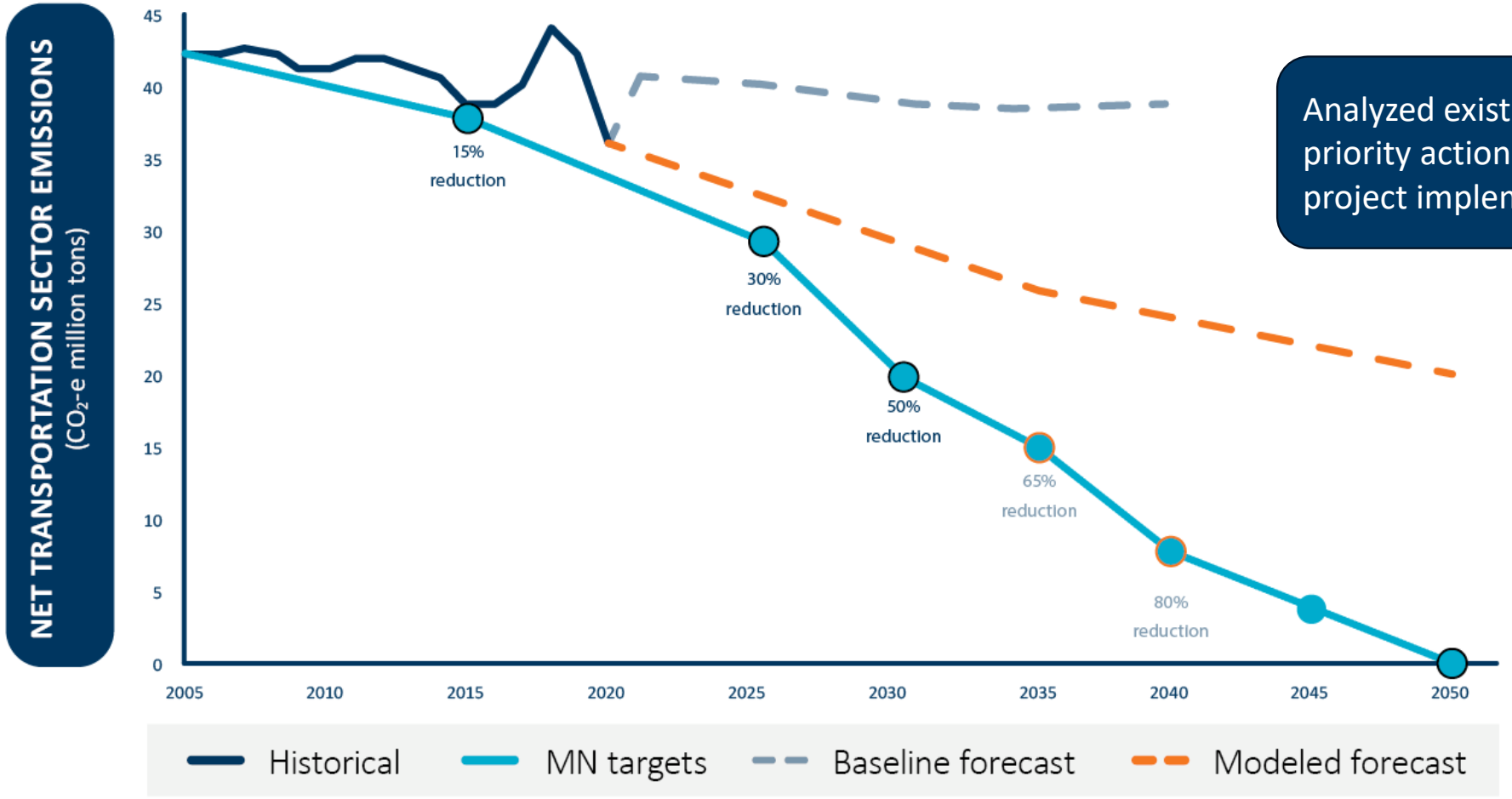


Start with Next Generation Energy Act's GHG Goals

Add in SMTP targets and anticipated 2045 target

NOTE: The 'zero' at the right hand side represents a net value of zero GHG emissions from the transportation sector above those that existed in 2005 (43,557,058 tons), and net of any mitigation efforts that get counted as 'offsets' to GHG emissions.

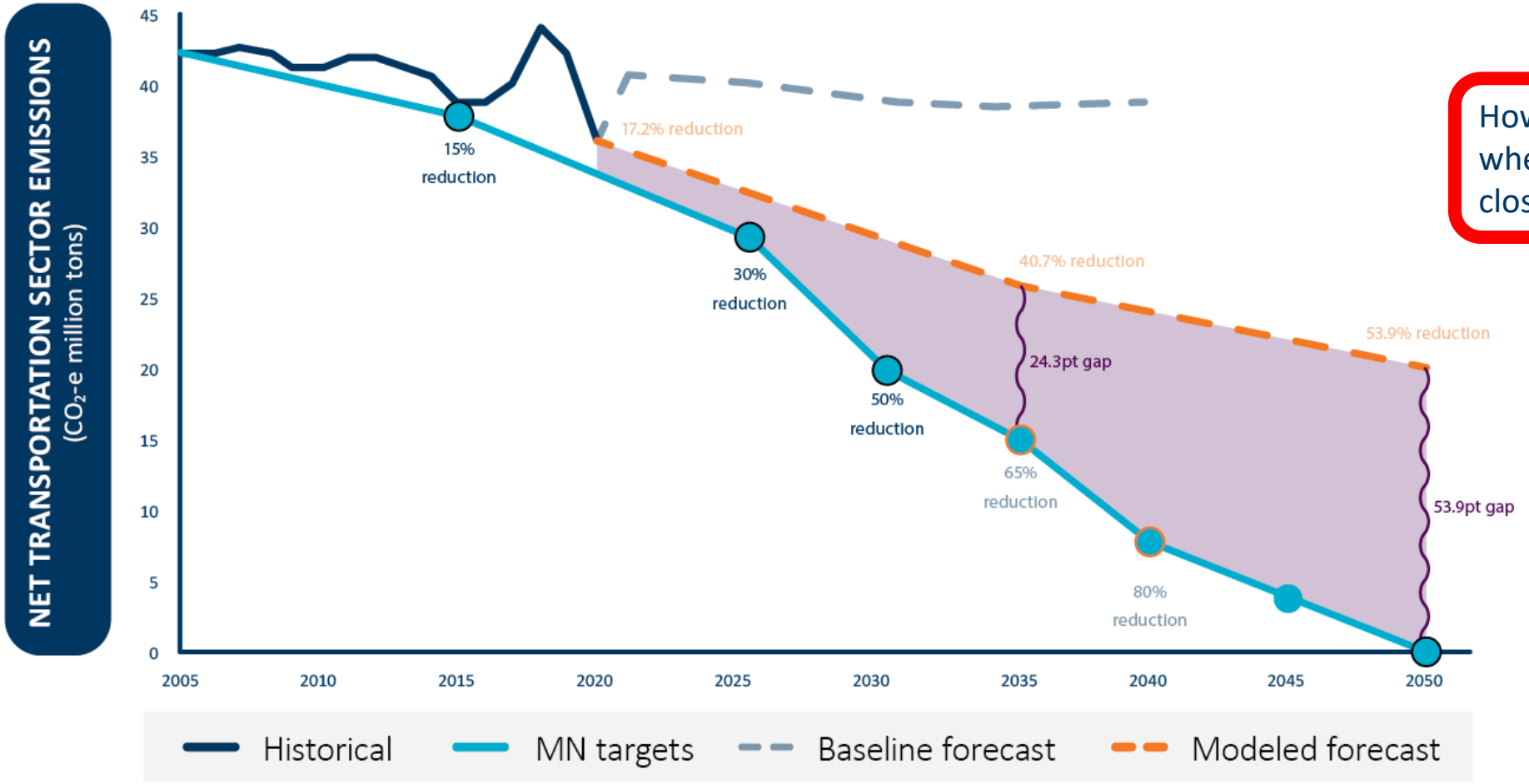
Target Setting



Analyzed existing conditions and priority actions in policy and project implementation

NOTE: The 'zero' at the right hand side represents a net value of zero GHG emissions from the transportation sector above those that existed in 2005 (43,557,058 tons), and net of any mitigation efforts that get counted as 'offsets' to GHG emissions.

Target Setting | How do we close the gap?



How, where and when do we close the gap?

NOTE: The 'zero' at the right hand side represents a net value of zero GHG emissions from the transportation sector above those that existed in 2005 (43,557,058 tons), and net of any mitigation efforts that get counted as 'offsets' to GHG emissions.

How do we close the gap? | Approaches

Assign emissions targets for each target year

Per capita

- Based on the number of people in a region

Regional priorities + per capita

- Based on regional priorities (e.g., transit, alt fuels, safety, access, health) combined with the number of people in a region

Where do we close the gap? | Regional 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)

How do we close the gap? | Approaches

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Regional priorities + per capita

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Per Capita | Regional scenario 1 (2035)

Minnesota – Population: 6,093,579

Target: 15,244,970 CO_2e

Forecasted emissions: 23,664,013 CO_2e

Per capita gap: 1.38 CO_2e

Gap: 8,419,043 CO_2e

Region	% of Population (forecasted)	Gap responsible for
Met Council	55.2%	4,645,820

Region	% of Population (forecasted)	Gap responsible for
Greater MN	44.8%	3,773,223

Per Capita | Regional scenario 2 (2035)

Minnesota – Population: 6,093,579

Target: 15,244,970 CO_2e

Forecasted emissions: 23,664,013 CO_2e

Per capita gap: 1.38 CO_2e

Gap: 8,419,043 CO_2e

Region	% of Population (forecasted)	Gap responsible for
Met Council	55.2%	4,645,820
APO	5.3%	443,868
MIC	4.1%	344,478
MAPO	2.0%	171,888
LAPC	0.3%	24,929
ROCOG	4.2%	351,524
GFEGF MPO	0.5%	38,477
Metro COG	1.2%	101,660

Region	% of Population (forecasted)	Gap responsible for
Rural Greater MN	27.3%	2,296,400

Per Capita | Regional scenario 3 (2035)

Minnesota – Population: 6,093,579

Target: 15,244,970 CO_2e

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Metro COG	1.2%	101,660

Region	% of Population (forecasted)	Gap responsible for
ATP1	1.7%	143,721
ATP2	2.3%	191,546
ATP3	7.8%	658,874
ATP4	3.5%	291,526
ATP - Metro	1.0%	88,213
ATP6	4.7%	394,251
ATP7	3.4%	282,542
ATP8	2.9%	245,728

Per Capita | Regional scenario (2050)

Minnesota – Population: 6,416,283

Target: 0 CO_2e

Forecasted emissions: 16,016,295 CO_2e

Per capita gap: 2.5 CO_2e

Gap: 16,016,295 CO_2e

Region	% of Population (forecasted)	Gap responsible for
Met Council	56.9%	9,105,404

Region	% of Population (forecasted)	Gap responsible for
Greater MN	43.1%	6,910,891

Per Capita | Regional scenario 2 (2050)

Minnesota – Population: 6,416,283

Target: 0 CO_2e

Forecasted emissions: 16,016,295 CO_2e

Per capita gap: 2.5 CO_2e

Gap: 16,016,295 CO_2e

Region	% of Population (forecasted)	Gap responsible for
Met Council	56.9%	9,105,404
APO	5.8%	929,955
MIC	3.8%	600,694
MAPO	2.0%	317,506
LAPC	0.3%	42,528
ROCOG	4.3%	696,613
GFEGF MPO	0.4%	71,172
Metro COG	1.3%	214,887

Region	% of Population (forecasted)	Gap responsible for
Rural Greater MN	25.2%	4,037,536

Per Capita | Regional scenario 3 (2050)

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LAPC	0.3%	42,528
ROCOG	4.3%	696,613
GFEGF MPO	0.4%	71,172
Metro COG	1.3%	214,887

Region	% of Population (forecasted)	Gap responsible for
ATP1	1.5%	241,135
ATP2	2.2%	351,676
ATP3	7.4%	1,184,053
ATP4	3.3%	523,911
ATP - Metro	1.0%	155,481
ATP6	4.4%	701,463
ATP7	3.0%	477,622
ATP8	2.5%	402,194

How do we close the gap? | Approaches

Assign emissions targets for each target year

Per capita

- Based on the number of people in a region

Regional priorities + per capita

- Based on regional priorities (e.g., transit, alt fuels, safety, access, health) combined with the number of people in a region

Regional priorities | Geographies

- Statewide
  - Values only available at a statewide level (e.g., one value)
- MPO
  - Values available for the eight MPO's urbanized areas and Greater Minnesota (e.g., nine values total)
- County
  - Values available for each of the 87 Minnesota counties

Regional priorities | Values

- Values
  - Continuous
  - 0% to 100%
- Type of values
  - Number
  - Percentage

Regional priorities | Levers

- **Transportation Options**
  - Transit service
  - Mode shift
  - Walkable intersection density
  - Lane miles
- **Land use**
  - Parking space reductions
  - Pay parking
  - Portion of neighborhood with mixed use living spaces
  - Household size
  - Group quarters
  - Urban area
  - Rural activity
- **Fuels**
  - Transit fuels
  - Transit fuel carbon intensity
  - Power Train
    - Transit
    - Car service
    - Heavy truck
    - Commercial
  - Charging availability
  - Vehicle age
  - Household vehicle sales
- **Other strategies**
  - Fuel and power cost
  - Vehicle ownership taxes
  - Light truck proportion
  - Pay-as-you-drive (PAYD) insurance
  - Vehicle use taxes
  - Congestion charges
  - Operations deployment
  - Travel Demand Management (TDM)
  - Fuel carbon intensity

Regional priorities | Levers

- **Transportation Options**
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- **Fuels**
  - Transit fuels
  - Transit fuel carbon intensity
  - Power Train
    - Transit
    - Car service
    - Heavy truck
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  - Charging availability
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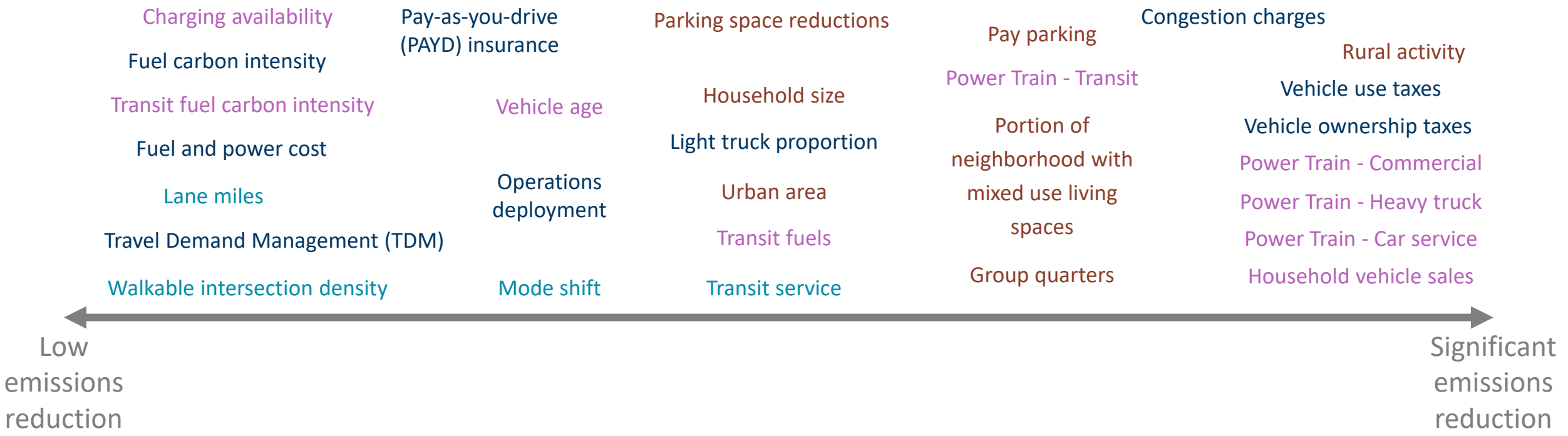
Regional priorities | Levers and influence



Legend: Fuels | Connected Growth | Transportation Options | Other Levers

Regional priorities | Levers and influence

- Activity

Regional priorities | Regional scenario 3 (2035)

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ATP - Metro	1.0%		
ATP6	4.7%		
ATP7	3.4%		
ATP8	2.9%		

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

Closing the gap | Next steps

- Reporting the results of the modeling and comparing the approaches
- Gather input on the approaches from MPOs and ATPs
- Commissioner of Transportation sets the targets
- Working together to implement emissions-reducing policies and projects

Questions/Thoughts

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