

MPCA Volkswagen Phase II Public meeting agenda

- Settling in (5 minutes)
- Presentation and questions (30 minutes)
- Table conversations (40 minutes)
- Sharing table conversations and wrap up (15 minutes)

Why are we here?

MPCA will share information about the progress we've made implementing Phase I of Minnesota's VW settlement state plan – what projects we funded and how those projects helped reduce pollution. We'll soon be writing the Phase II plan and want feedback from you about what we should focus on. Learn more about the settlement and how to have your voice heard on our website: www.pca.state.mn.us/vw.

If you want to provide input beyond this meeting, please email us at vwsettlement.pca@state.mn.us. We are accepting comments on Phase II until August 16, 2019.

VW settlement: A refresher

In 2016, Volkswagen and the federal government settled allegations that VW violated the federal Clean Air Act by selling vehicles that emitted air pollution over the legal limit, and by cheating on federal emission tests to hide the excess pollution. The affected vehicles exceeded federal limits for nitrogen oxide (NOx), a pollutant that harms public health and contributes to ozone or smog formation.

As part of the settlement, states are eligible to receive funds to pay part of the cost of projects to reduce emissions from diesel vehicles and to install electric-vehicle charging stations. Minnesota's share of the settlement is \$47 million. In 2018, MPCA finalized Minnesota's plan for using the first phase (2018-2019) of funds to improve air quality in our state.

Terms you might hear (and their definitions)

- **Electric vehicle fast chargers** – Fueling stations for electric vehicles that allow quick charging while people are on the go. These stations charge 100 miles of range in 20 minutes.
- **Environmental justice** – When all people – regardless of their race, color, national origin, or income – benefit from equal levels of environmental protection and have opportunities to participate in decisions that may affect their environment or health.
- **Fine particles (PM_{2.5})** – This pollutant is associated with the most health risks from diesel exhaust, including increased risk of heart attacks, asthma attacks, and other respiratory issues. Diesel particles are also a likely carcinogen, or cancer-causing agent.
- **Greenhouse gases (GHGs)** – These pollutants warm our planet and cause climate change.
- **Heavy-duty off-road equipment** – Large equipment used for activities such as construction and freight handling. Tends to be fueled with diesel. Examples include tug boats, locomotives, construction equipment, and forklifts.
- **Heavy-duty vehicles** – Large vehicles such as semi-trucks, garbage trucks, and buses.
- **Level 2 electric vehicle chargers** – Fueling stations for electric vehicles that are best for locations where people are parked for 30 minutes or more. These stations charge 100 miles of range in 2-4 hours.
- **Nitrogen oxides (NO_x)** – Pollutant that violating VWs emitted excess amounts of into the air. It contributes to the formation of ground-level ozone, which is another harmful and widespread pollutant. It causes lung irritation and can diminish your body's ability to fight respiratory infections.

Phase I grant programs



School bus replacements

- **What we spent:** \$2.35 million (20% of total funds)
- **How many projects:** 111 buses, owned by 21 different organizations
- **How many applied:** 497 buses within 71 different applications
- **How much pollution reduced:** 27 tons of nitrogen oxides (NO_x), 2 tons of fine particles (PM_{2.5}), and 2,700 tons of greenhouse gases (GHGs)



Clean heavy-duty off-road equipment replacements

- **What we spent:** \$1.76 million (15% of funds; matches approximately \$900K of federal dollars over Phase I)
- **How many projects:** 17 pieces of equipment from first round of grants. Second grant round will open in summer/fall 2019.
- **How many applied:** 21 eligible pieces of equipment
- **How much pollution reduced:** 2,000 tons of NO_x, 150 tons of PM_{2.5}, and 10,800 tons of GHGs



Clean heavy-duty on-road replacements (trucks and transit buses)

- **What we spent:** \$4.1 million (35% of funds)
- **How many projects:** TBD (grant currently open for applications, approx. 130 potential replacements)
- **How many applied:** TBD
- **How much pollution reduced:** Potential for 500 tons of NO_x, 17-34 tons of PM_{2.5}, and 12,500 - 23,000 tons of GHGs



Heavy-duty electric vehicles

- **What we spent:** \$1.76 million (15% of funds)
- **How many projects:** TBD (Request for proposals to be published Summer 2019, but we estimate approx. 14 vehicle replacements)
- **How many applied:** TBD
- **How much pollution reduced:** Potential for 15 tons of NO_x, 0.5 - 1.0 tons of PM_{2.5}, and 1,800-4,500 tons of GHGs



Electric vehicle infrastructure grants (15% is the maximum allowed by the VW settlement; MN used the full amount)

Fast charging stations along highway corridors:

- **What we spent:** \$1.58 million (90% of total EV charging infrastructure funds for Phase I)
- **How many projects:** 4 corridors through Greater MN
- **How many applied:** 9 applications
- **How much pollution reduced:** .26 tons of NO_x, 0.01 tons of PM_{2.5}, and 1,000 tons of GHGs

Level 2 electric vehicle charging stations

- **What we spent:** \$176,000 (10% of total EV charging infrastructure funds for Phase I)
- **How many projects:** estimated 45 single stations (Projects have been selected; contract signatures in progress)
- **How much pollution reduced:** Potential for 0.8 tons of NO_x, 0.01 tons of PM_{2.5}, and 1,000 tons of GHGs



Volkswagen settlement in Minnesota

Planning the next phase

1. Presentation

- Background: VW settlement in Minnesota
- Progress of Phase I and lessons learned
- Planning for Phase II

2. Q & A

3. Small group discussion





Background

Short Video



View the video on our website: <https://www.pca.state.mn.us/air/volkswagen-settlement-101>

VW settlement

- VW violated national vehicle emissions standards for nitrogen oxides (NOx)
- June, 2016: VW settled with US Dept. of Justice to spend \$14.7 billion nationally over 10 years
- Minnesota is receiving \$47 million over 10 years



\$47 million over 10 years

Funds can only be used for 2 things:

1. Take an old diesel vehicle/engine off the road, rail or water and replace it with a new vehicle/engine
2. Electric vehicle (EV) charging stations

Goal is NOx clean up



Why replace old diesels?

One old truck can pollute more than 30 new diesel trucks

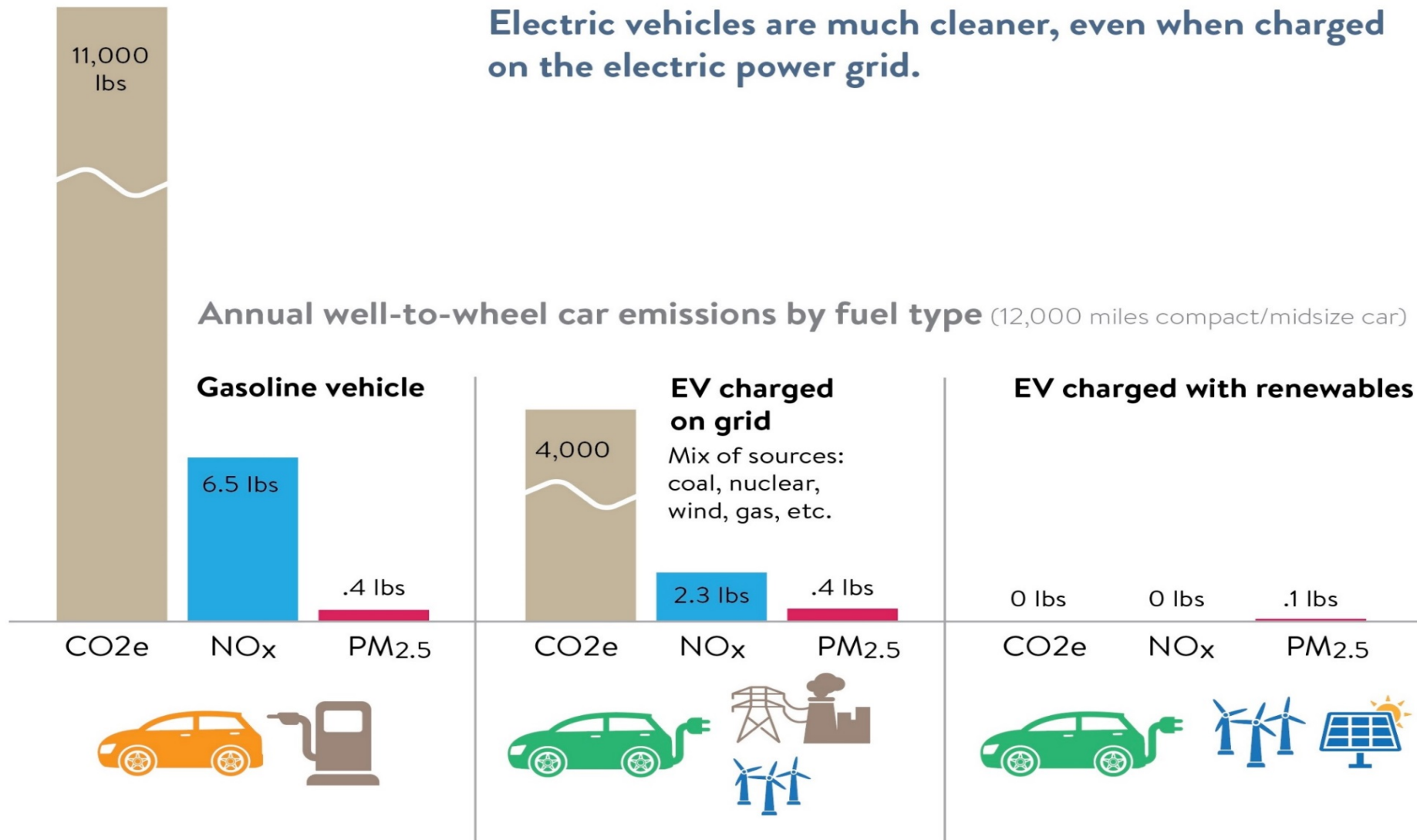
Depending on factors such as the age of the truck, how far it travels, and how much it idles, one old diesel truck can produce as much particle pollution as 25-50 modern trucks under the same operating conditions.



VS.

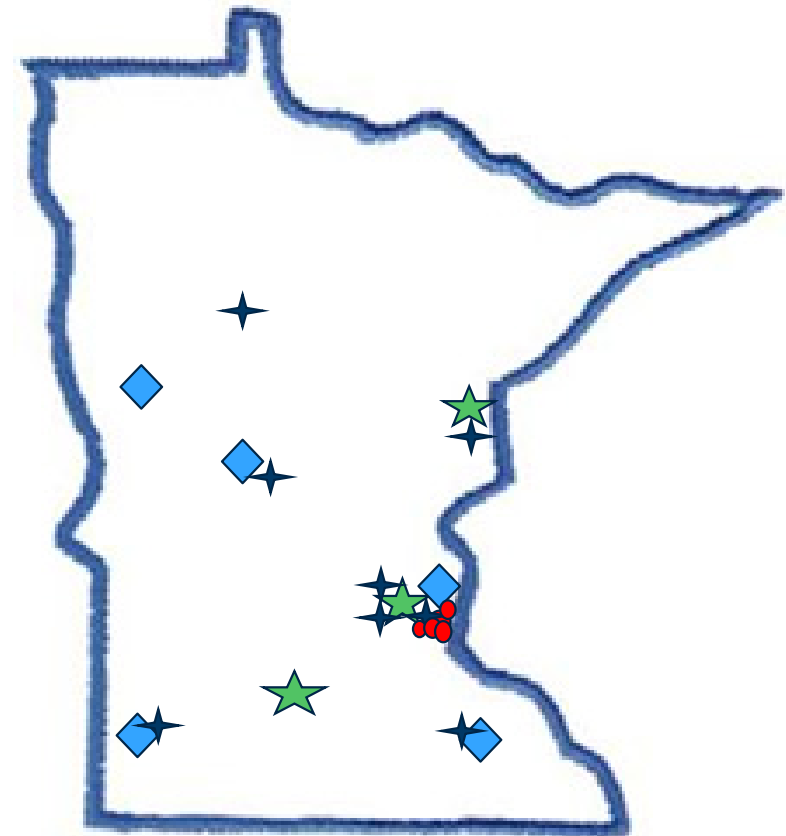
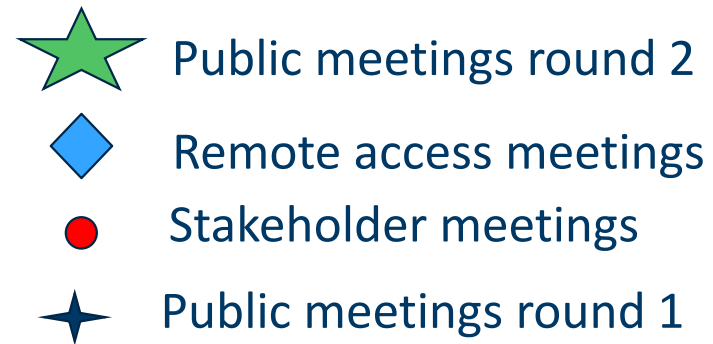


Why encourage electric vehicles?



Developing Minnesota's plan

- 19 meetings around Minnesota, throughout 2017-2018
- 759 written comments
- 955 survey responses



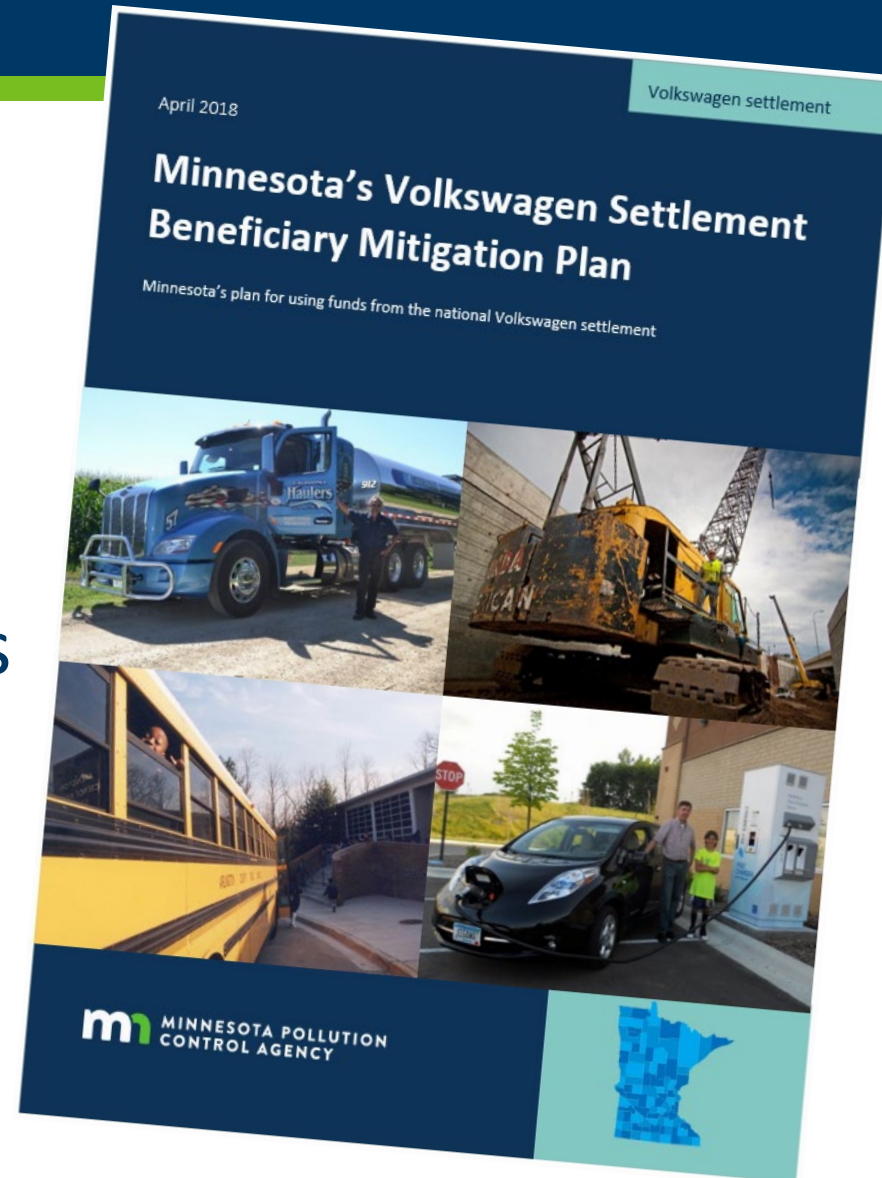
What we heard: key themes

- Significant emissions reductions
- Include greater Minnesota
- Public health and environmental justice
- Electric vehicle infrastructure
- Long-term future of transportation system
- Measureable results



Minnesota's Plan

- Define 10-year goals
- Structure plan in 3 phases
- Grant programs



- Significant emissions reductions
- Statewide benefits (60/40)
- Help people disproportionately affected (40%)
- Reduce exposure, maximize health benefits
- Balance cost effectiveness with other goals

Three funding phases

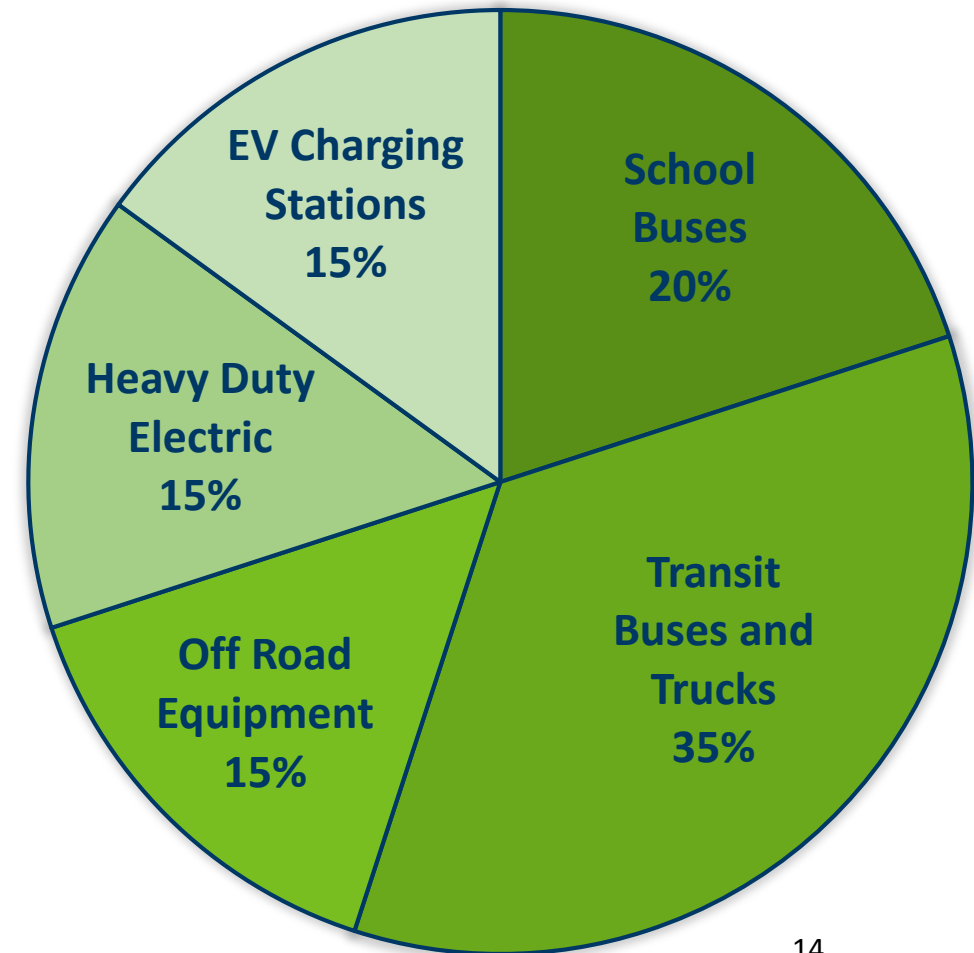


Phase I (2018-2019) grant programs

\$11.75 million over two years

5 categories

- School buses
- Transit buses and trucks
- Off-road equipment
- Heavy-duty electric vehicles
- Electric vehicle charging stations



Cost sharing

**VW funds
via the
MPCA** **+** **Vehicle
owner
funds** **=**

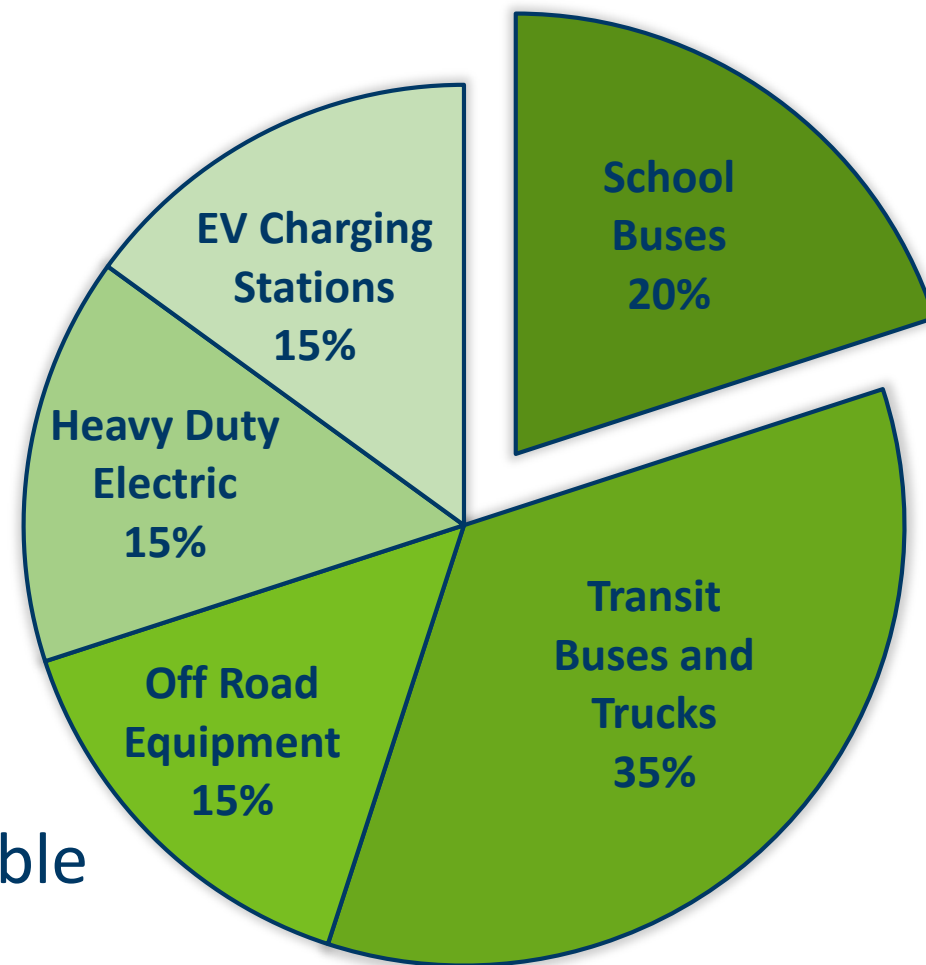


School bus replacements



\$2,115,000, 111 new buses, 21 owners

More than 4X more interest than funds available

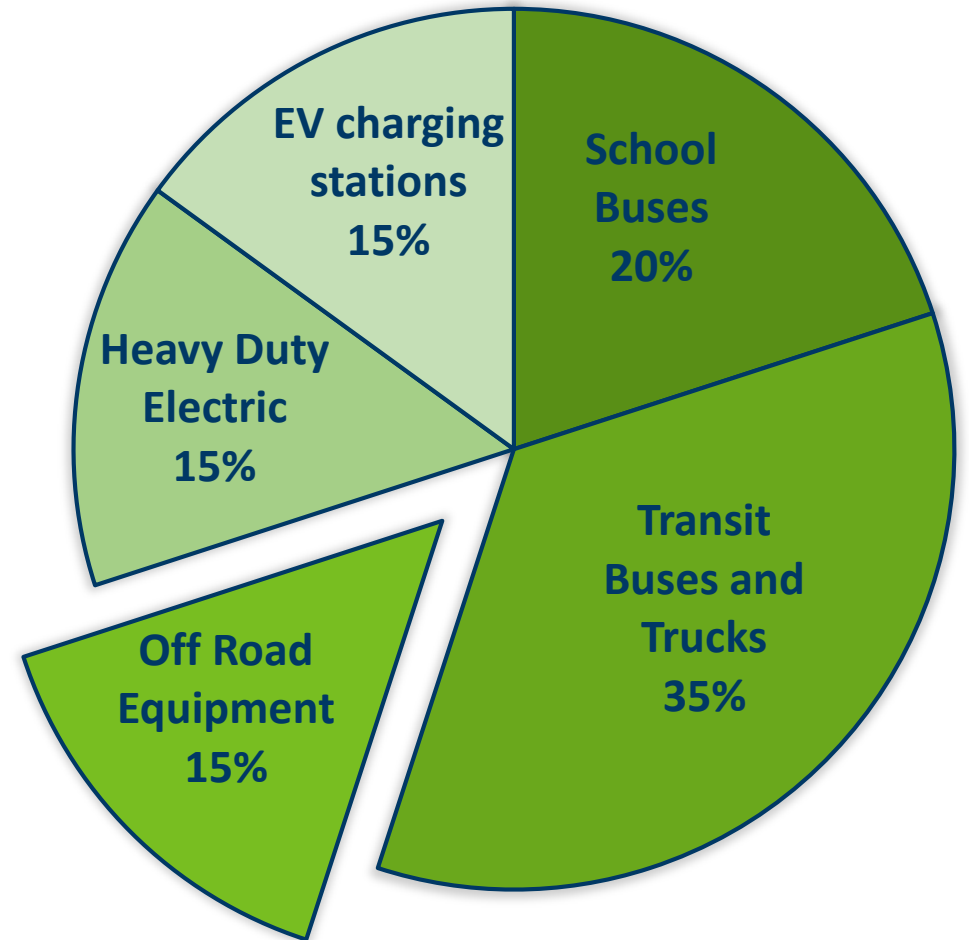


Grant Programs

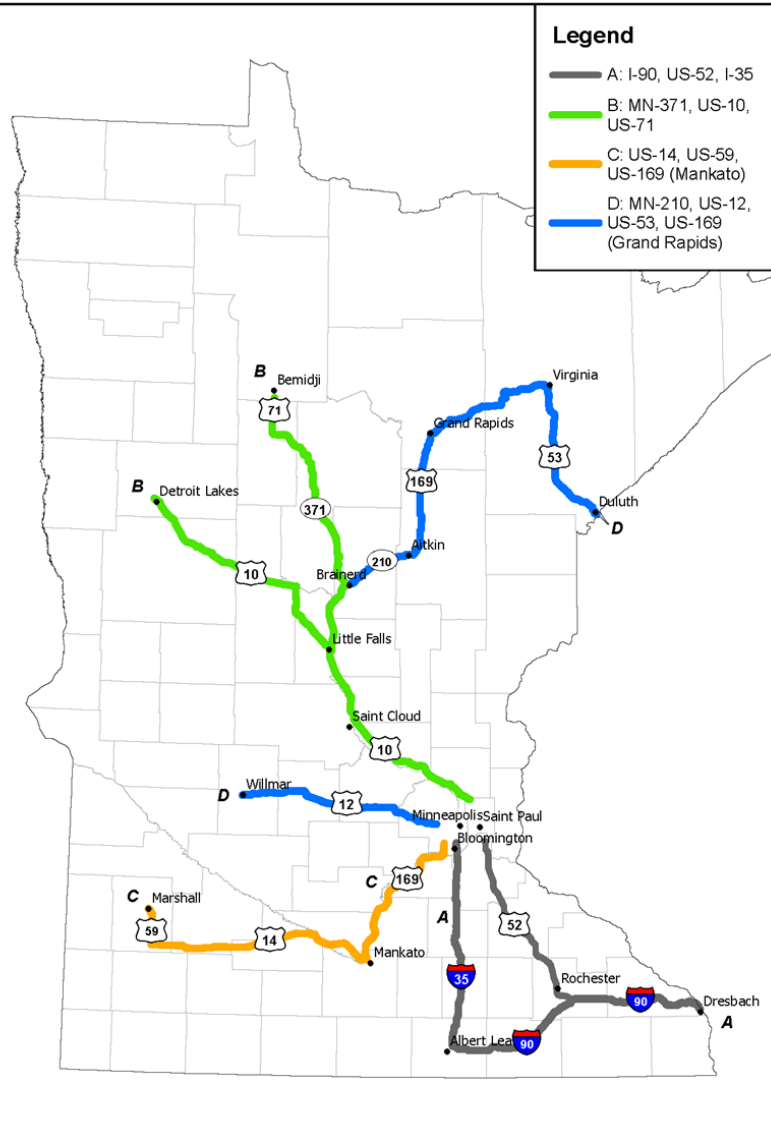


\$1,100,000, 17 new projects

Huge emissions reductions



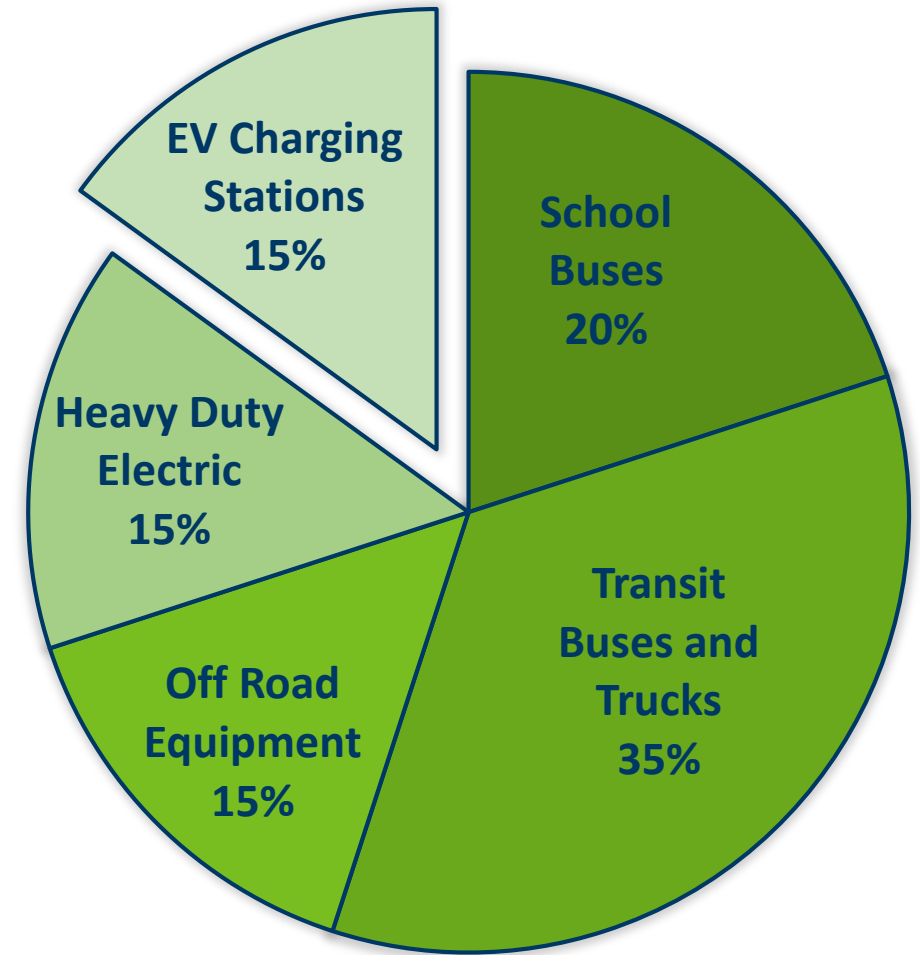
EV charging stations



\$1,580,000

Two grant rounds:

- 4 Fast charging highway corridors, 22 chargers
- Anticipate 45 Level 2 chargers throughout MN



Additional Grants

Currently Open: Trucks and transit buses

www.pca.state.mn.us/vwgrants

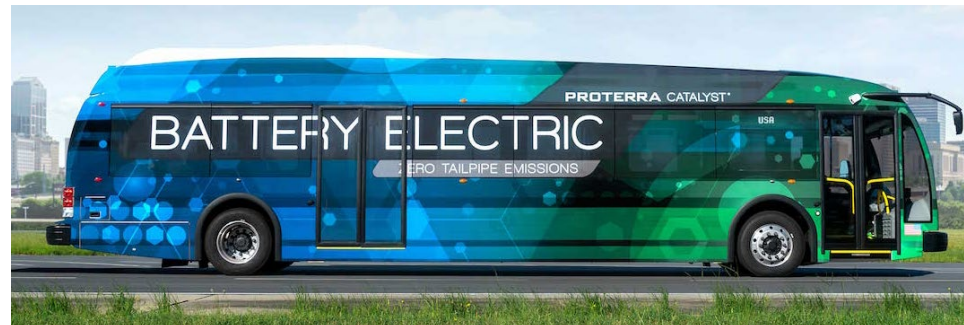


Coming soon

Greater Minnesota school buses



Heavy-duty electric



Heavy-duty off-road



Level of interest compared to available funds

Application Summary Table:

Grant type	Dollars available	# of eligible applications	# of eligible projects	Dollars requested	% more than available
School buses	\$2,115,000	71	497 buses	\$8,545,000	400%
EV fast chargers	\$1,400,000	9	4 corridors/ 22 stations	\$3,200,000	225%
EV Level 2 chargers	\$158,000	24	71	\$538,693	350%
DERA off-road (year 1)	\$1,100,000 (DERA + VW)	4	23	\$1,400,000	125%



Progress towards our goals

10-year goals

- Significant emissions reductions
- Statewide benefits (60/40)
- Help people disproportionately affected (40%)
- Reduce exposure, maximize health benefits
- Balance cost effectiveness with other goals

Explore the data: <https://www.pca.state.mn.us/vwprogress>

Goal 1: Achieve significant emissions reductions

10-year goal



Goal 4,000 tons

NOx reduced:
2,203.5 tons



Goal 150 tons

Goal: 150 tons

PM2.5
reduced:
155.5 tons



Goal 100,000 tons

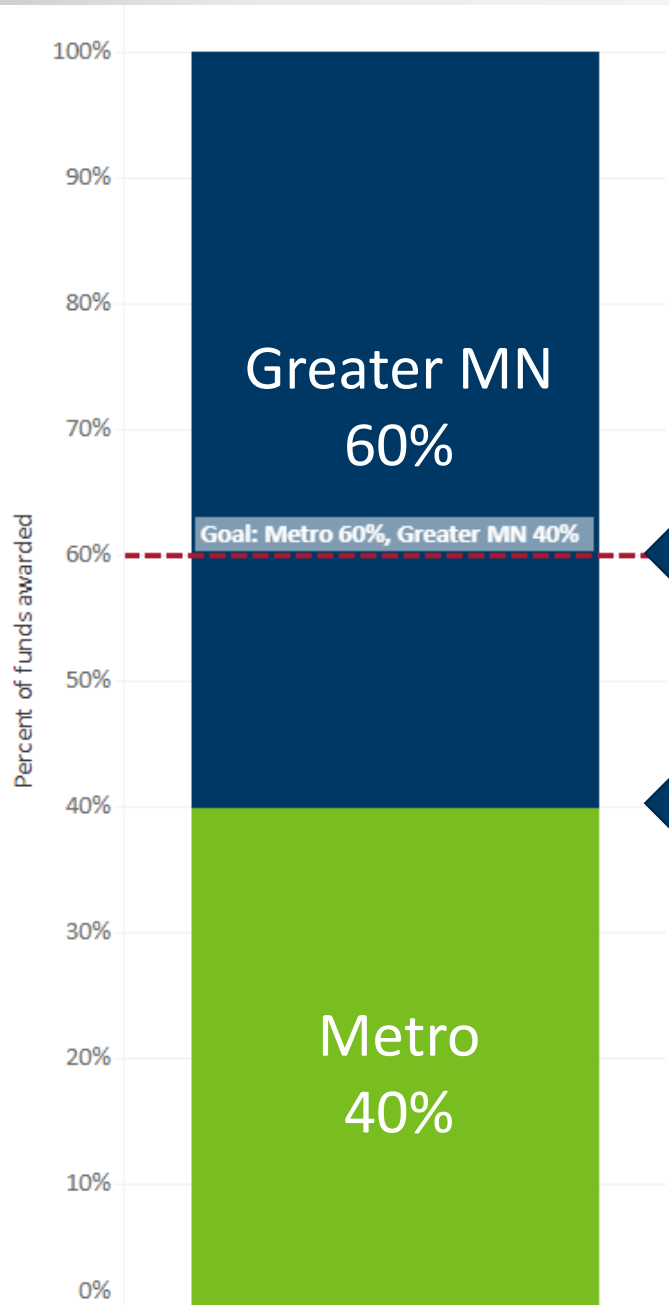
GHGs reduced:
14,575 tons



Grant Program

- Clean Heavy-Duty Off-Road Equipment
- Electric Vehicle Fast-Charging Stations
- School Bus Replacements

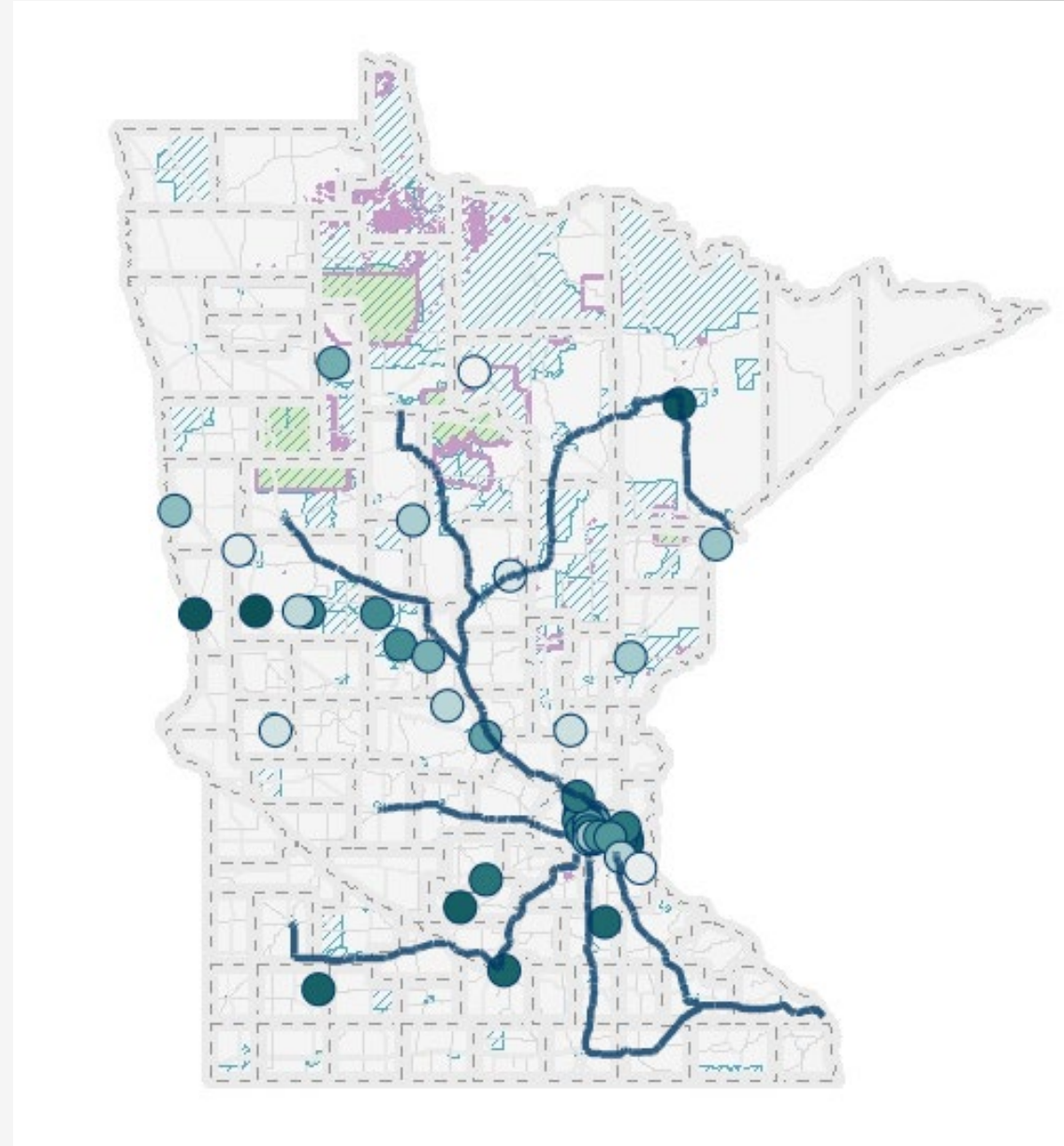
% funds awarded by location



Goal 2: Benefit all parts of the state

Goal

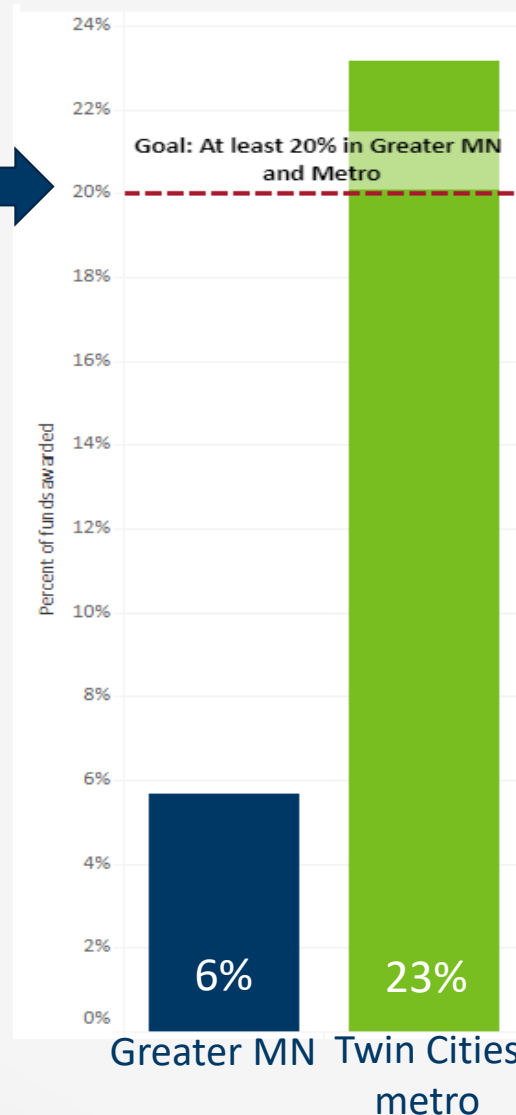
We are
here



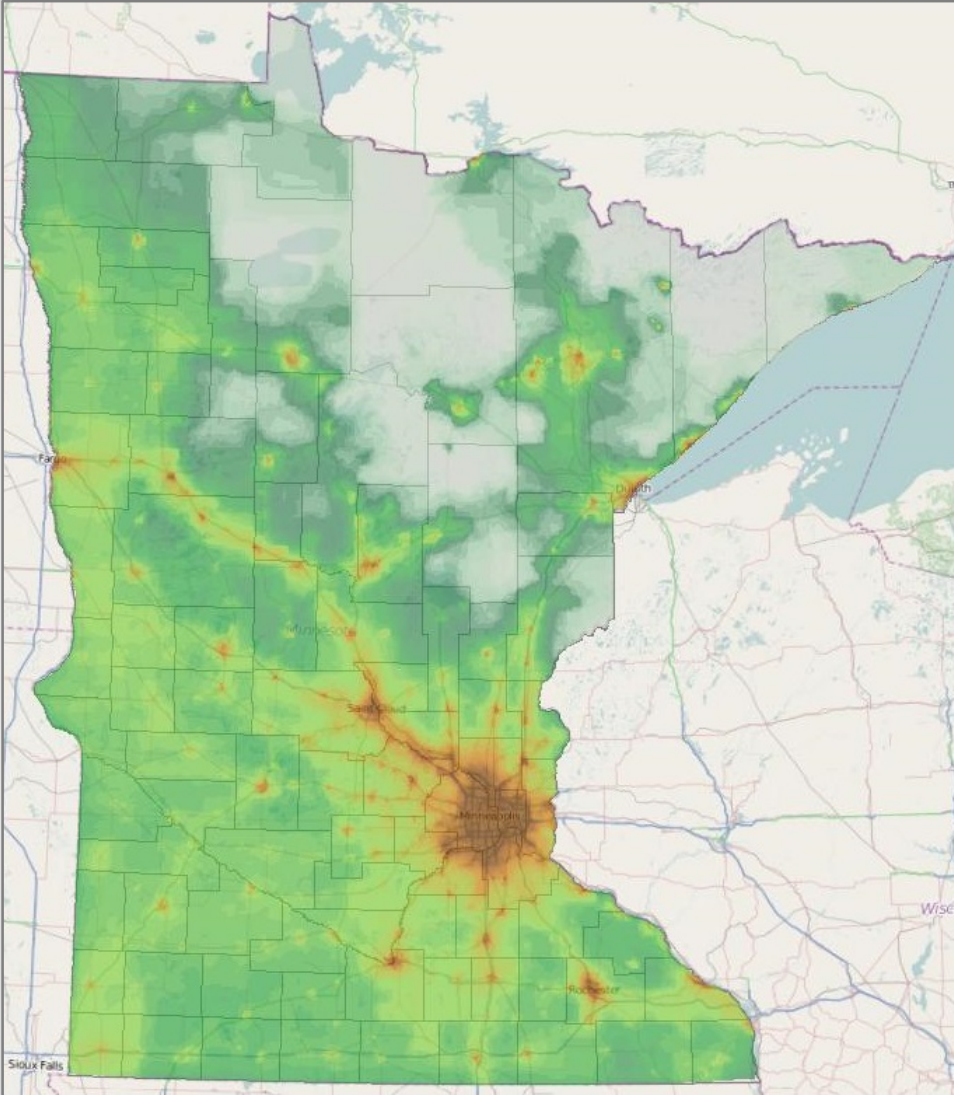
Goal 3: Help people and places disproportionately affected by air pollution

% of total funds invested in ZIP codes that are majority areas of concern for environmental justice

20% Goal



Goal 4: Reduce exposures to harmful air pollutants and maximize health benefits

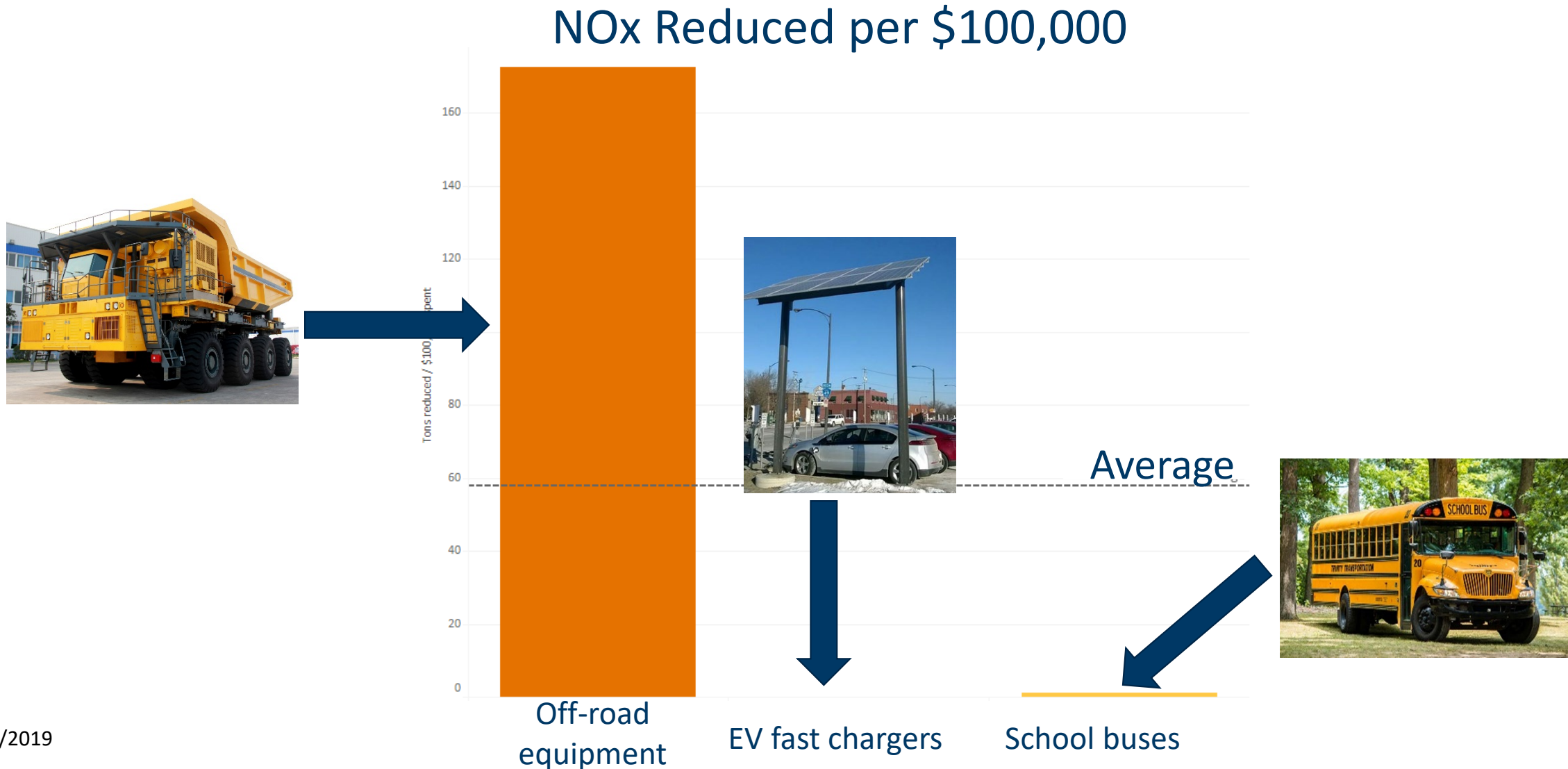


Inhalation health risks from diesel exhaust

The darker the color, the higher the health risk

All projects selected use
Health and Exposure data
for evaluation

Goal 5: Balance cost effectiveness

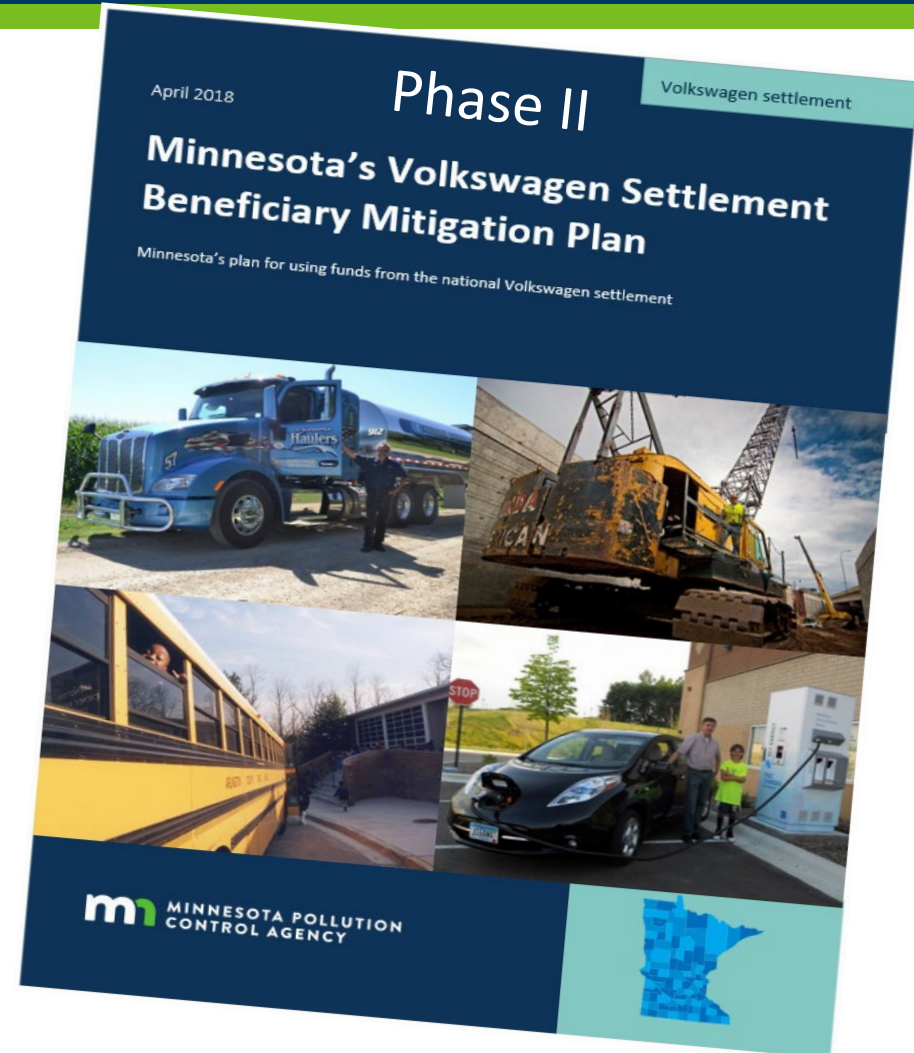


Lessons learned

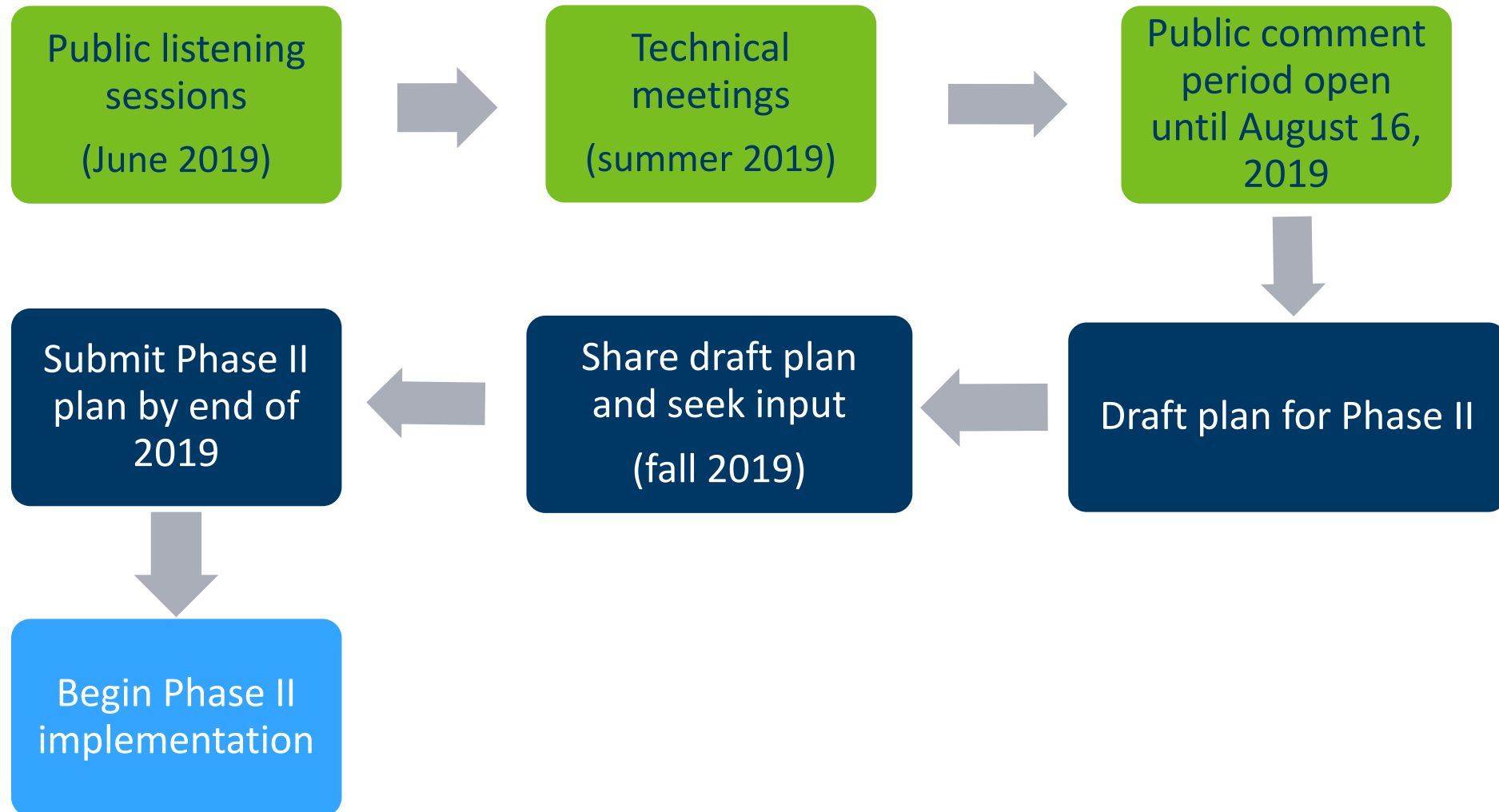
- Lots of interest in the programs: receiving more applications than anticipated
- Administering VW settlement grants takes time
- Initial estimates for emissions reduction estimates were low: our actual NOx reductions may be 5-10 times higher
- Room for improvement on the application process

Developing Phase II

- Phase II can be like Phase I or totally different
 - Nothing is off the table
 - Has not been drafted
- Learn from Phase I
 - What worked well
 - What didn't work
- Hear more input
 - Public meetings scheduled
 - Stakeholder meetings planned
 - Open comment period



Phase II planning timeline



Small group discussion

- General Topics

- Phase II funding categories
- Phase II funding distribution
- Project selection
- Small or large projects

- Electric Vehicle Charging Stations

- Funding distribution (fast vs. L2)
- Corridor selection process

- Heavy Duty Electric

- Financial incentive amount
- Set aside funds

- Heavy Duty Vehicles and Equipment

- All fuel types treated same
- Focus on specific type

Questions and discussion

Thank you!



Discussion questions

1. Consider the project categories MPCA funded in Phase I. For Phase II, would you recommend MPCA fund each of these more, the same, less, or not at all? Why?

2. MPCA's selection criteria for Phase I projects are shown below. Please rank their importance to you in Phase II – 1 for most important, 5 for least. Reasons?

- ___ emission reductions
- ___ cost effectiveness
- ___ areas of concern for environmental justice
- ___ areas of higher air pollution
- ___ areas with higher rates of air-pollution related health conditions.

3. Should MPCA continue to fund many smaller projects, or instead a few big ones? E.g. locomotives, towboats, electric transit buses, etc. Why?

Electric vehicle charging stations

1. In Phase I, 90% of available EV funds were for fast charging stations along highway corridors, and 10% were for smaller level 2 stations. Should we change that approach? If so, how?
2. Phase I funding will provide a workable charging network along selected corridors, with stations 50-70 miles apart consisting of a single fast charger and a Level 2 charger for backup. If you want us to fund more chargers along highways:
 - a. How should MPCA select future corridors?
 - b. Should MPCA provide more chargers and/or upgrade to faster ones along already-funded corridors?

Heavy-duty electric vehicles

1. How much of a financial incentive does MPCA need to offer to encourage buying EVs over traditionally fueled vehicles?
2. Should MPCA set aside money for specific types of heavy-duty electric vehicles? Which ones?

Heavy-duty vehicles and equipment

1. For Phase I, MPCA considered all fuel types (diesel, propane, natural gas, hybrid, electric) equally. However, alternative-fuel vehicles and equipment produce fewer emissions than even clean diesel, and are often cheaper to operate and maintain, but are more expensive to purchase. Should MPCA provide more funding to incentivize purchase of alternative fuel vehicles and equipment? If so, how much?
2. Should MPCA focus on specific types of heavy-duty vehicles and equipment? Which ones? Why?