

There's an easy formula for warmth on TriMet's old high-floor MAX cars, says TriMet rail equipment manager Mark Grove: "Stay away from the doors."

Pressure heater MAX doors don't actually matter nearly as much as they might. Here's why: TriMet keeps air pressure inside its trains just a bit higher than Portland's natural atmospheric PSI. That means opening doors send a burst of controlled air out – not a burst of cold air in.

Dead simple Type I MAX cars have overhead forced-air heating and cooling powered by the same electricity that moves the train (it's maybe 2% of the total system load). Two thermostats in the return air ducts, on the ceiling just behind each driver cab, aim for a Jimmy-Carter-approved 68 degrees year-round.

Cool breeze As if you needed another reason to dislike the sleek, cramped Type IV MAX cars, the ventilation has never quite worked on these: there's a perpetual draft in the raised seating areas at front and rear. TriMet's working on a fix, but for now the agency compensates by cranking the base temperature up here to 72 – so unzip your jacket as you climb the ramp.

Winter radiance Like movie franchises, Decemberists albums and mediocre dates, the four generations of MAX cars peaked with the second and third. In 1997, TriMet introduced one of the great joys of Portland winters by rolling out Type II MAX trains with floor-level radiators that kick on whenever outside temperature drops below 55 and inside temperature below 66. On the coldest days, avoid the middle sections of Type II, III and IV cars – their facing seats still lack heaters underneath.

Everything's relative
Starting with Type III in 2003, new MAX cars have used an advanced thermostat in their overhead heaters that automatically varies the target inside temperature based on outside temperature. When outside temperature is below 60, the target inside temperature is 66, gradually scaling up to a max of 72 when outside temperature exceeds 72. That means less sweat when you're in long johns and fewer goose bumps when you're in shorts.

taking the chill off

Rain? No sweat. But let's confess: Portlanders **don't do cold well**. So we put some of the smartest folks in town (including TriMet's professional comfort geeks) in the hot seat – and came away with a ton of **tips and secrets for doing winter better**. Now wipe your nose and go catch some sun.

The oven Like other autos, TriMet buses get all the heat they need from their engines. This one pumps heat forward through a duct system above the handrails, but the back rows of the bus are always hottest, thanks to heat leakage, less crosswind and (on new, low-floor buses) being closer to the ceiling.

**more tips from
the experts**



Snap into a Slim Jim. Smartphone styluses start at \$13, touchscreen-friendly gloves at \$14. Beef jerky sticks are \$1.30, and they work just as well when you want to check arrival times with gloves on. Try it.



Wake Gregg, owner, E-Bike Store (N Vancouver & Alberta)
Heated grips aren't just for motorcyclists. Find a pair on eBay for \$50 and wire them into your e-bike's battery.

Avalanche rescue tricks aren't just for hikers.
"Tense up, hold for five seconds, release for five seconds. You'll be sweating in a heartbeat."

Keep your bike battery indoors. They lose 15% of range at 40 degrees, 30% at 30 degrees and can't fully charge when cold. Bring yours inside at least an hour before each charge.

Electric blessing Cold feet? Try the seat immediately in front of the rear door on newer buses. When TriMet finishes its biggest new bus purchase in 10 years this summer, the agency will finally phase out most buses without these small heaters.

Low-tech thermostat All TriMet buses are theoretically set at 72 degrees, but at their size it's hard to keep to. In off-hours, bus thermostats are tested by a six-inch hand thermometer hung from the extreme front of the right handrail.

Winter-proof your glasses with a little spray of Pam. Fog and rain droplets won't stick to the thin layer of grease.

Keep your nose clear with saline nasal spray. Breathing through your mouth brings in cold air too fast. A small bottle costs \$3.19 at Freddy's. "I use it all the time."

If your kids are in the trailer, bundle them "ridiculously."
"It might be even a good idea to have a warm water bottle if you want to go for a really long ride."

Martina Fahrner, owner, Clever Cycles (SE 9th & Hawthorne) **Don't overdress your torso and don't neglect your extremities.** "A good rule of thumb is if you get a little bit nippy when you're standing still, that's good. If you feel good when you're standing still, that's too warm."

Nicola Swain-Campbell, psychologist, University of Otago: **Play a game on your phone.** In results published this month in the journal *Pain Research and Management*, Swain-Campbell's team found that people playing a video game were less sensitive to cold water than people watching television. But gamers should hope the battery lasts until the bus arrives. "If they stop while still cold, it might seem more intense as all their attention switches to the sensation of cold they have been ignoring." Nothing to do then but eat your Slim Jim. 

*Carl Larson,
walk + bike
ambassador,
Bicycle
Transportation
Alliance: Keep
your ears out of the wind with
a ski helmet. "I wouldn't really
want to exert myself in it, but
it's nice and warm."*