asdwa
Association of State
Drinking Water Administrators

Intersection of Roads and Drinking Water
Opportunities for Collaboration Between State Programs

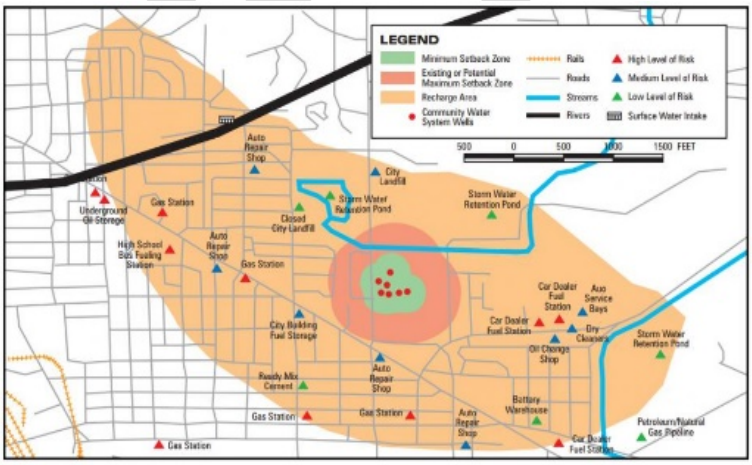
Who is ASDWA**:** The Association of State Drinking Water Administrators (ASDWA) represents the drinking water program administrators in the 50 states, the five territories, the Navajo Nation, and the District of Columbia. Organizational locations of state drinking water programs within state government vary by state: 16 of our state drinking water programs reside in state departments of health; 31 in departments of the environment or natural resources; and three in joint departments of health and the environment.

ASDWA's Vision: We seek to ensure safe drinking water, at the tap, for all Americans – regardless of where they live or work – in support of healthy Americans and a thriving economy.

We Can Work in Partnership: State drinking water programs work within a web of mutuality and accomplish our work in partnership with federal agencies, other state governmental agencies, and local governments. Together with state highway programs, we can align our work for mutual benefits.

Intersection of Roads and Drinking Water: The table below provides opportunities for "intersection" between roads and drinking water. Together, state highway and state drinking water programs can:

- **Share maps,** water quality data, and information on roads and delineated drinking water protection areas (for both surface and ground water).
- Provide information about and **leverage potential funding sources**.
- Assist with implementation and **help target state DOT initiatives** for protecting drinking water.
- Partner to **share information among states,** and **conduct outreach to municipalities**.



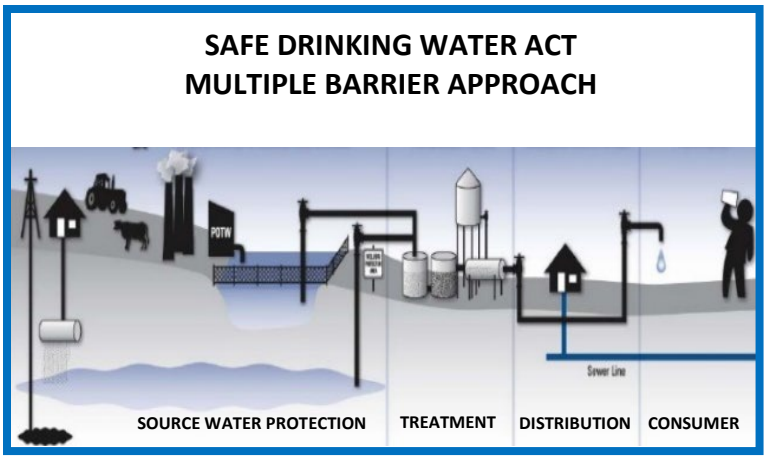
Source water protection area map overlay example. Source: US EPA

Intersection of Roads and Drinking Water	State Highway Programs	State Drinking Water Programs
Map overlays	Roads	Drinking water protection areas
Development/planning	Road construction/design Stormwater runoff	Land use protections/conservation to prevent contamination
Best practices	Road maintenance, salt storage, calibrated de-icing application	Remediation and mitigation actions to address potential contaminants
Spills/Emergency Response Planning/Exercises	Notification, response, containment, and environmental cleanup	Monitoring/early warning systems shutoff/treatment/decontamination

To learn more about how to start coordinating with state drinking water programs on roads and road salt, *contact Deirdre White at dwhite@asdwa.org or go to www.asdwa.org/source-water/road-salt.*

Road Salt and Drinking Water

Road Salt and Drinking Water: In the U.S., an average of more than 20 million tons of road salt are applied to roads, parking lots, sidewalks and driveways each year. Studies have shown that road and parking lot de-icing applications have in some cases doubled chloride concentrations in streams[1] and have negatively impacted shallow aquifers used for drinking water. The following table provides information about impacts from road salt based on each element of the multiple barrier approach to ensure safe drinking water.



Multi-Barrier Approach to Ensure Safe Drinking Water from Source to Tap	Road Salt Impacts on Drinking Water
1. Protection from contamination (from chloride, sodium, and additives in road salt and de-icing compounds)	Surface water: Alkaline rivers and mobilization of contaminants from soils and sediments.
	Ground water: Mobilization of arsenic and other natural contaminants in aquifers.
2. Drinking water treatment	High treatment costs for reverse osmosis, distillation, or de-ionization and for disinfection by-products.
3. Distribution system delivery	Leaching of metals (e.g., lead and copper) from pipe corrosion in the distribution system.
4. Community Involvement	**Working with (transportation) partners and the public to reduce and tailor the use of salt and de-icing applications.**

Drinking water health advisory and standards for chloride, sodium, and ferrocyanide (additive): There are currently no federal regulatory requirements for maximum contaminant levels of sodium or chloride under the Safe Drinking Water Act for finished water. However, EPA has established:

- A health advisory level for sodium of 20mg/L for people on salt restricted diets.
- A secondary (aesthetic) drinking water standard of 250 mg/L for chloride ions and 250 mg/L for sulfate ions, for salty taste.

In addition, EPA added ferrocyanide (a road salt additive) to its list of toxic pollutants under section 307(a) of the Clean Water Act in 2003.

For more information about road salt and drinking water, please follow the links to the state resource documents and examples, and USGS research study.

- **New Hampshire Environmental Fact Sheets on:** Sodium and Chloride in Drinking Water includes health implications, control, and drinking water treatment considerations; and Road Salt and Water Quality includes best practices for road salt application and storage. The state's Green Snow Pro Voluntary Salt Applicator Certification & Liability Protection program is aimed at reducing and tracking salt use by commercial applicators.
- **Virginia's Salt Management Strategy (SaMS)** provides recommendations for: improving efficient and effective salt use; raising awareness of the impacts; getting individuals and organizations to participate; and providing guidance for water quality monitoring and research to support action.
- **[1]USGS Study:** Increasing chloride in rivers of the conterminous U.S. and linkages to potential corrosivity and lead action level exceedances in drinking water**.**