



Transportation

Transportation accounts for 27% of total U.S. greenhouse gas emissions and emissions have risen by 16% since 1990.ⁱ Vehicles release carbon monoxide, nitrogen dioxide, ozone, particulate matter and other emissions that pose a risk to human health.ⁱⁱ Pollutants from traffic are associated with asthma, nonallergic respiratory morbidity, and cardiovascular morbidity.ⁱⁱⁱ In the health care sector, emergency medical service operations, with ambulances that are typically powered by diesel or gasoline, emit a substantial amount of carbon per unit response.^{iv} The transportation carbon footprint of the health care sector also includes suppliers and other fleet vehicles.

Health Care Without Harm and Practice Greenhealth^v recommend the following interventions:

- **Reduce fleet emissions** – *Hospital fleets, including emergency medical service vehicles, hospital shuttles, and supply vehicles, may include high-fuel efficiency, hybrid, alternative fuel vehicles.* Use of hydrogen fuel cell technology and electric vehicles would have to consider whether the energy is generated by fossil or renewable fuel. Utah’s Intermountain Health Care has 23 natural gas vehicles and one electric car, cutting its fleet’s carbon footprint by 20% from 2013 to 2014.^{vi} Stockholm Sweden’s County Council and Council-owned ambulance company AISAB developed the world’s first “eco-ambulance,” which runs on renewable, low-emission biogas.^{vii} AISAB has also promoted “eco-driving,” training its drivers to operate vehicles in a manner that reduces fuel consumption.
- **Help commuters reduce emissions** – *Encourage use of mass transit, establish vanpool/carpool programs to make employee commuting more efficient; telecommuting for employees; shuttles to public transit.* Mount Sinai Hospital has increased its shuttle service frequency to encourage public transit use and has installed bike parking around the campus.^{viii} Hospitals, clinics, and physician offices can choose sites near public transportation and mixed use areas, encouraging transit use and improving accessibility for patients and employees while reducing the number of automobile trips.
- **Choose suppliers with efficiency or alternative-fuel standards** - *Select vendors and suppliers that share your facility’s sense of mission.*
- **Prefer local suppliers** – Using local suppliers can help reduce transportation and shipping distance, and fuel consumption. The Nottingham University Hospitals NHS Trust sourced its milk from a local dairy, and nearly all of its meat from local providers. The change “saved an estimated 150,000 food miles a year and 6 (million GBP) in costs.”^{ix}
- **Purchase energy-efficient shipping** – Choose lighter products with less packaging, encourage environmentally sustainable packaging.

Case Study; Seattle Children's Hospital

- SCH developed a Comprehensive Hospital Transportation Plan proposal.^x
- The plan includes strategies to reduce vehicle traffic by providing shuttles that link to transit hubs, parking changes, encourage carpooling, free transit for employees, vanpool service.
- It recommends providing areas that are more walking and cycling-friendly through capital investments that link hospital and surrounding community to larger walking/biking networks, free bikes to employees who pledge to bike to work, cash for those who don't drive to work, on-site bike maintenance, discounts on gear from in-house bike shop.
- According to Streetsblog, the hospital is more than halfway to its goal of getting from 50 percent car commuting to 30 percent.^{xi}

Resources

International Institute for Sustainability in Emergency Services

<http://greenems.org/>

Best Workplace for Commuters <http://www.bestworkplaces.org/>

ⁱ U.S. Environmental Protection Agency. Transportation and Climate: Basic information. Accessed at <https://www3.epa.gov/otaq/climate/basicinfo.htm>

ⁱⁱ Radley DR and Orrick P. Transportation and Health: Policy Interventions for Safer, Healthier People and Communities. July 2011. Accessed at http://www.prevent.org/data/files/transportation/pages%20from%20transportation%20and%20health_%20policy%20final%2007082011%20chapter%201-1.pdf

ⁱⁱⁱ Krzyzanowski M, Kuna-Dibbert, and Schneider J, editors. Health effects of transport-related air pollution. Copenhagen: World Health Organization; 2005. https://books.google.com/books?hl=en&lr=&id=b2G3k51rd0oC&oi=fnd&pg=PR1&dq=transportation+and+health+effects+emissions&ots=O64ybDFm4z&sig=zH_gPY7FJYFZLmosg6YJf24KcT8#v=onepage&q=transportation%20and%20health%20effects%20emissions&f=false

^{iv} Page D. How Green Are We? Studies measure the carbon footprint of EMS. Jrl Emer Med Svcs. March 9, 2011. Accessed at <http://www.jems.com/articles/2011/03/how-green-are-we-0.html>

^v Health Care Without Harm and Practice GreenHealth. Addressing Climate Change in the Health Care Setting: Opportunities for Action. Accessed at <https://practicegreenhealth.org/pubs/toolkit/reports/ClimateChange.pdf>

^{vi} Lee P. Intermountain Healthcare Receives Utah's "Excellence in Energy" Award. July 15, 2014. Accessed at <https://intermountainhealthcare.org/blogs/2014/07/intermountain-healthcare-receives-excellence-in-energy-award>

^{vii} Stockholm City Council. The World's First Eco-Ambulance. Accessed at https://www.sll.se/Global/Om%20landstinget/Miljo/Green_ambulance_web.pdf

^{viii} Mount Sinai Hospital. About Mount Sinai: Green Transportation. 2016. Accessed at <http://www.mountsinai.org/about-us/who-we-are/greening-mount-sinai/greening-at-the-medical-center/green-transportation>

^{ix} Building Better Healthcare. Carbon reduction: NHS catering bosses urged to avoid meat and 'go local.' August 26, 2011. Accessed at http://www.buildingbetterhealthcare.co.uk/news/article_page/Carbon_reduction_NHS_catering_bosses_urged_to_avoid_meat_and_go_local/71308

^x Seattle Children's Hospital. Comprehensive Transportation Plan. Accessed at http://masterplan.seattlechildrens.org/documents/CTP_booklet_final.pdf

^{xi} Schmitt A. How Seattle Children's Hospital Took the Lead on Healthy Transportation. Streetsblog. May 8, 2015. Accessed at <http://usa.streetsblog.org/2015/05/08/how-seattle-childrens-hospital-took-the-lead-on-healthy-transportation/>