DECARBONIZING THE TRANSPORTATION SECTOR
JUNE 10TH @ 3:00PM ET
State Carbon Pricing Network (SCPN)

- Over 7,500 advocates, legislators, government officials, business leaders, and academics working to price carbon pollution in their states
- Members across all 50 states
- Learn more at [www.climateexchange.org/network](http://www.climateexchange.org/network)

Noa Dalzell
SCPN Manager
SCPN Services

- Conduct research studies on the state-specific impacts of carbon pricing
- Help draft carbon pricing bills and provide technical assistance
- Offer opportunities for cross-state collaboration, like our monthly national SCPN call and quarterly legislative calls
- Share knowledge and information via our monthly webinars and weekly newsletters
Today’s Speakers

Daniel Gatti
Massachusetts Executive Office of Energy and Environmental Affairs

Colin Murphy
UC Davis Policy Institute for Energy, Environment, and the Economy

Beth Osborne
Transportation for America
Building a clean transportation system for Massachusetts
Three Massachusetts counties have average PM$_{2.5}$ exposures higher than the state average. In Suffolk County, the most polluted, average concentration is 88 percent above the state average. Middlesex and Norfolk are the next most polluted, with concentrations 17 percent and 3 percent above the state average, respectively. High levels of PM$_{2.5}$ are found in pockets in Springfield, bordering I-91, as well as in areas of Massachusetts east of Providence, Rhode Island, bordering I-195.

Commission on the Future of Transportation
Recommendations:

• Improve public transportation.
• Establish a goal that all new light duty vehicles and buses are zero-emission by 2040.
• Prioritize movement of people over vehicles.
• Develop our strategy to support new technologies and trends, including automated vehicles, TNCs and mobility as a service.
• Create a market-based program to limit transportation pollution.
• Improve resiliency of our transportation infrastructure.
• Adopt dense, mixed-use and transit-oriented development policies
Engine of the Future?
Flow of crude oil and gasoline to your local gas station

Source: U.S. Energy Information Administration
Source: International Council on Clean Transportation, *Update on electric vehicle costs in the United States through 2030.*


*Figure 4.* Initial purchase price of conventional vehicles and electric vehicles for cars, crossovers, and SUVs for 2020–2030.
COMPUTERS SEEMED WEIRD AT FIRST, TOO.

Electric cars. They’re Normal Now.

Image: Electrify America
Public Workshop: July 30, 2019 in Baltimore

The Transportation and Climate Initiative hosted the public workshop: Low-Carbon Transportation Investments, Strategies, and Outcomes on July 30 in Baltimore.

Read More
1. CAP POLLUTION
2. POLLUTERS PAY
3. COMMUNITIES BENEFIT

Image: Jessica Russo, Natural Resources Defense Council
Low Carbon Fuel Standards:  
A Critical Climate Policy Tool  

• 10 June 2020  

Colin Murphy Ph.D  
Deputy Director – UC Davis Policy Institute for Energy, Environment, and the Economy
Who We Are:

Graduate Degree Programs
- Transportation Technology & Policy
- Energy Systems

Research Centers
- Sustainable Transportation Energy Pathways
- Plug-in Hybrid & Electric Vehicle Research Center
- Energy Futures Program
- 3 Revolutions Future Mobility Center
- China Center for Energy and Transportation
- Sustainable Freight Center
- Western Cooling Efficiency Center
- Center on Water-Energy Efficiency
- Program on International Energy Technologies

Partner Programs
- National Center for Sustainable Transportation (NCST)
- UC Institute of Transportation Studies
- UC Pavement Research Center
- China Center for Energy and Transportation
- 3 Revolutions Future Mobility Center
The Challenge: A Tale of Two Graphs

Source: IPCC Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development, Figure 2.5. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15_Chapter2_Low_Res.pdf

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2017

Other Policies Can’t Do Enough

- **California’s 2030 Target: 40% Reduction**
  - Transportation + Refinery Emissions = 215 Million Tonnes CO$_2$e in 2017
    - 40% Reduction = 86 million tonnes/year
  - Even if all major non-fuel GHG policies yield reductions at the high end of their plausible range, transportation doesn’t reduce emissions 40% by 2030.

- Emissions from 2017 GHG Data. All values approximate. Emissions reduction estimates adapted from *Half the Oil: Pathways for Petroleum Reduction on the West Coast*.
The Role for Fuels Policy

• Fleet turnover rate limits near and mid-term emission reductions from advanced technology vehicles (ZEVs, high-efficiency vehicles, non-liquid fuels)
  • Near and mid-term emission reductions matter

• Biofuels are the dominant (only?) near-mid term option for emission reduction from existing vehicles

• Without life cycle analysis, easy to get biofuels wrong
  • European palm oil biodiesel experience

• Need to balance incremental benefit of 1st gen fuels while providing large incentives for advanced, very low-carbon fuels.
Low Carbon Fuel Standard Sets a Carbon Intensity Target, Measures Fuels Against It
California’s Experience So Far

Alternative Fuel Volumes and Credit Generation

VOLUMES

CREDITS

Fuel Volume (Million GGE)


Credits (Million MT)


Ethanol  Biodiesel  Renewable Diesel  Fossil Natural Gas  Biomethane  Electricity
LCFS – Projecting the Next Decade
Other Jurisdictions Following CA

- **Oregon, British Columbia** – LCFS operational
- **Brazil** – RenovaBio program, liquid-fuel focused, just starting
- **Puget Sound Air Quality Management District** – proposal paused following State Supreme Court Decision on indirect emission sources
- **Washington State** – 2019 Legislative attempts failed, will try again in 2020
- **Canada (Federal)** – Draft Regulatory Approach comments received, revised proposal expected, may finalize in 2021.
- **Colorado** – Feasibility study being finalized
- **New York** – Legislative and administrative approaches paused by COVID-19
- **Midwestern states** – Early discussions
Thank You!

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- policyinstitute.ucdavis.edu
- Twitter: @scianalysis

To receive updates regarding the Institute of Transportation Studies research, policy briefs and related work, sign up on our listserv via this link: its.ucdavis.edu/join-our-mailing-list/.
Decarbonizing the Transportation Sector

Beth Osborne, Director
Transportation for America
June 10, 2020
Reducing GHG emissions from transportation

- Fuel switching / Auto manufacturers, Fuel providers
- Improving fuel efficiency with advanced design, materials, and technologies / Auto manufacturers
- Improving operating practices / Drivers, Operators
- Reducing travel demand / Employers, Government
- Reduce building on fringe / Developers, Government
Reducing travel demand and building on fringe

• Frequent, connected, safe transit that goes where people need to go
• New roadway design standards that support safety over speed
• Jobs and services placed close to homes
• Performance measures that judge whether the transportation system connects people to jobs and services and the impact of government investments on GHG emissions (buildings and transportation).
COVID-19 exposes long-term inequities

- Communities near highways have more PM-2.5 pollution.
- People of color are more likely to be in exposed communities.
- COVID-19 mortality is linked to PM-2.5 exposure.
COVID-19 has led to increases in speeding

Amid Pandemic, Traffic Fell 50% But Roadway Death Rate Doubled

The coronavirus pandemic emptied America’s roadways. Now speeders have taken over.

Police see uptick in speeding, fatal crashes amid pandemic

_In Connecticut, traffic is down, but fatal crashes are up by 40%._
The coronavirus pandemic emptied America’s roadways. Now speeders have taken over.

Police see uptick in speeding, fatal crashes amid pandemic

In Connecticut, traffic is down, but fatal crashes are up by 40%.

UHP: 119 tickets for 100 mph+ drivers in 4 days as speeding trend continues

Amid Pandemic, Traffic Fell 50% But Roadway Death Rate Doubled

Six speeding drivers ticketed within an hour at Jean, Primm
Clear now that essential workers rely on transit

March 24, 2020

Transit Is Essential: 2.8 Million U.S. Essential Workers Ride Transit to Their Jobs

<table>
<thead>
<tr>
<th>Select Essential Industries</th>
<th>Transit commuters</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Workforce, 2018</td>
<td>7,614,524</td>
</tr>
<tr>
<td>U.S. Essential Workforce (see Appendix for definition)</td>
<td>2,759,929</td>
</tr>
<tr>
<td>Hospitals</td>
<td>320,456</td>
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<tr>
<td>Doctor’s offices, other healthcare (not hospitals)</td>
<td>327,007</td>
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<tr>
<td>Nursing, care, and psychiatric facilities</td>
<td>110,479</td>
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<tr>
<td>Grocery &amp; convenience stores</td>
<td>126,954</td>
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<tr>
<td>Pharmacies</td>
<td>40,448</td>
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<tr>
<td>Transit &amp; taxi services</td>
<td>84,219</td>
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<tr>
<td>Waste management</td>
<td>12,957</td>
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<tr>
<td>Postal &amp; courier services</td>
<td>51,528</td>
</tr>
<tr>
<td>Social services (e.g. food &amp; housing services)</td>
<td>150,574</td>
</tr>
<tr>
<td>Public safety &amp; armed forces</td>
<td>113,289</td>
</tr>
</tbody>
</table>
Many areas reprioritizing space on streets

Oakland to Open 74 Miles of Streets for Walkers and Cyclists

Heeding the call for more space to get outside while practicing social distancing, Oakland takes bold steps to open streets

By Roger Rudick | Apr 10, 2020  ●  87 COMMENTS

Burlington expands ‘Shared Streets’ initiative during social distancing

by Aidan Quigley
Apr 10, 2020 | no reader footnotes

VTDigger is posting regular updates on the coronavirus in Vermont on this page. You can also subscribe here for regular email updates on the coronavirus. If you have any questions, thoughts or updates on how Vermont is responding to Covid-19, contact us at coronavirus@vtdigger.org

Some streets in Burlington will be closed to local traffic only and others “shared” to help with social distancing.
Many areas reprioritizing space on streets

**Louisville closes major park loop roads for social distancing**
Mayor Greg Fischer said Iroquois, Cherokee and Chickasaw park loop roads will close at 7 a.m. April 9.

**Charlottesville will close some streets to allow social-distance exercise during COVID-19.**

**Traverse City proposes pedestrian-only street to help social distance when businesses reopen**

**Denver Keeping Streets Closed To Allow Greater Social Distancing**

**Madison to open more roadways to pedestrians, cyclists with room to maintain social distancing**

**St. Paul, Minneapolis close streets for biking, walking through April 10. Should this last longer?**
Opportunities for green and equitable recovery

• Learn from Recovery Act how to to ensure funding goes to priorities (job creation, equity, climate)

• Reconsider shovel ready projects for relevance and priorities.

• Support transit and space for people.

• Provide resources to identify need and evaluate projects based on priorities.
Questions?

Please use the Q&A Box to submit your questions!