



SIERRA CLUB

MAINE CHAPTER

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To: Committee on Environment and Natural Resources

From: Patricia Rubert-Nason, Sierra Club Maine

Date: May 5, 2021

Re: Testimony in Support of LD 1545 - **An Act Regarding Greenhouse Gas Emissions and Reductions Associated with Significant Development Projects**

Chairman Brenner, Chairman Tucker and Members of the Joint Committee on Environment and Natural Resources. My name is Patricia Rubert-Nason, and I write on behalf of Sierra Club and the over 20,000 members and supporters in Maine. Founded in 1892, Sierra Club is one of our nation's oldest and largest environmental organizations. We work diligently to amplify the power of our 3.8 million members nationwide as we defend everyone's right to a healthy world.

The State of Maine has committed to reducing its emissions by 45% by 2030 and 80% by 2050. To accomplish this goal, we will need to decarbonize every sector of our economy. Development has significant impacts on emissions, both direct and indirect at every stage. The choices we make around development projects will have a profound impact on our ability to meet our climate goals.

During construction, there are emissions associated with the materials and equipment used. Embodied carbon in building materials accounts for 11% of global greenhouse gas emissions annually and 28% of emissions from the building sector.¹ The choice of materials and the design of the buildings can have a major impact on the magnitude of these emissions. For instance, material efficiency (using less materials) reduces both emissions and costs.

Building materials are some of the largest contributors to emissions globally. For instance, in 2018 the production of steel emitted 1.85 tons of carbon dioxide per ton of steel and accounted for 8% of global emissions.² Concrete, another major building material, accounts for another 8% of global emissions annually.³ The emissions impact of wood is debated, but most agree that the carbon footprint of structural wood is small. This differential means that the choice of materials has a big impact. According to a

¹ <https://architecture2030.org/new-buildings-embodied/>

² <https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel#>

³ <https://www.ecori.org/climate-change/2019/10/4/global-warming-has-a-co2concrete-problem>

recent study substituting wood for conventional building materials could reduce the building's carbon footprint by 69%.⁴

The operation of commercial and residential buildings account for 30% of emissions in the State of Maine. There are multiple ways to reduce the emissions from buildings. For instance, you can improve insulation and air sealing so that buildings require less energy to heat and cool. You can choose high efficiency HVAC equipment so that more of the energy consumed is working to keep buildings comfortable rather than being wasted. And, perhaps most importantly, you can electrify buildings so that they use clean electricity rather than burning fossil fuels. Regardless of the strategies employed, they are all easier if they are incorporated from the very beginning of development. The choices made during development will impact the emissions associated with those buildings for the lifetime of the development, easily 50 years or more.

Transportation accounts for more than half of all emissions in Maine. The choices we make about where to site developments and their layout have a major impact on transportation emissions. A 2008 study found that compact development can reduce vehicle miles traveled by 20 to 40 percent compared to conventional development.⁵ A subsequent study found that a combination of more compact development and investments in transit and other transportation options could reduce greenhouse gas emissions from transportation by 9 to 15 percent by 2050.⁶

These benefits are only achieved when development is not only compact, but mixed-use. Mixed-use development combines a variety of different uses, including residential, commercial, recreational, educational, cultural and more into mixed neighborhoods. This means that the places people want to go; to work, to play and run errands; tend to be closer to where they live. It encourages people to live an active lifestyle, reduces vehicle trips and increases interactions between neighbors. This kind of walkable, mixed-use development encourages people to shop at local businesses, develop stronger social ties within their communities and save money on transportation.⁷

You may think that compact, mixed-use development is irrelevant to most of Maine since we are a rural state. I want to counter that misperception. Small towns can be walkable too, sometimes more so than big cities. I live in Fort Kent and I can run all of my

⁴ <https://doi.org/10.1016/j.dibe.2020.100030>

⁵ https://www.nrdc.org/sites/default/files/cit_07092401a.pdf

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<https://www.issuelab.org/resource/moving-cooler-an-analysis-of-transportation-strategies-for-reducing-greenhouse-gas-emissions.html>

⁷

<https://www.wri.org/insights/people-oriented-cities-mixed-use-development-creates-social-and-economic-benefits>

day-to-day errands without ever getting in a vehicle. In fact, when I visited Madison, WI (a city of 250,000 that has worked hard to develop its walking, biking and transit infrastructure and where I lived for 15 years without a car) I was surprised at how much harder it was to get around Madison on foot than it is in Fort Kent. While Fort Kent is a small town and we don't have big stores like Walmart, we have small businesses where you can buy everything you need on a regular basis. And, because we are so small, the distances are short. There is no place in town that is too far to walk to.

Major development projects have a major impact on greenhouse gas emissions which is locked in for half a century or more. In order to meet our climate goals, we need to consider the emissions impacts of major development projects. I urge the committee to vote "ought-to-pass" on LD 1545.

Respectfully,
Patricia Rubert-Nason
Legislative Team Volunteer