

the Town of Eliot owns 174 KW of solar array in our community. It is providing 90% of our municipal energy at this time. We've been urged to be a good global citizen to embrace solar and do the right thing to address the climate crisis. The Town has already committed to doing that and I'm very proud of that. The other piece of why I was asked to take a look at this project is that I have 14 years of experience in land conservation working for the Great Works Regional Land Trust (GWRLT), the Kittery Land Trust, and the Mount Agamenticus to the Sea Conservation Initiative, which includes US Fish & Wildlife. I've worked with them very closely. Any conversation about conservation really should be something that strikes very early in the project, not at the end of the project. Solar and conservation is not often done together. This parcel, and this area of our Town, has a high degree of natural resources that are desirable for conservation and they have been desired and worked on being conserved for over 20 years. The Mount Agamenticus to the Sea Conservation area is the largest intact coastal forest land south of Acadia and north of New Jersey Pine Barrens. That's the abundant natural world. In this part of our Town is the largest unfragmented piece of forest that we have left. I'm going to keep my remarks mostly related to my experience with the PB. I'll start first with this solar array. This is a large-scale distributed commercial energy facility and the State of Maine is a leader in New England in allowing and promoting this type of renewable energy but it's new. The first large-scale array went online in 2018. There are 488 towns and 310 registered solar companies at this time. There will be more tomorrow, I'm sure. Proposals are appearing throughout the State. We know our neighbors, South Berwick, have five on the books. We've been made aware that not only this proposal was coming that is before us, there is another one and it's larger. All of this reminds me of, when I was on the PB, when adult use and medical marijuana came before us. It was a leader because of where we are, so close to the NH and MA borders. At that time, we had our first proposal, the Chair at the time quickly tabled the proposal, refused to hear it, and we sought a moratorium from the SB. It was granted. We started to talk about what we wanted and what we might ask of our citizens because our ordinances come from citizens. It took a year and a half and, Madam Chair, you will remember some of the very detailed deliberations we went through before we decided to start to create an ordinance to address marijuana. I will argue, and it's not hard to do, that our ordinance is not a fit to deal with this application. In fact, the applicant said in his first presentation to the PB "As some of you may understand or have heard, Maine has become a bit of an exciting place for not only marijuana but also for solar development so there's been quite a rush of new solar projects coming into the State." (6/22/21 Minutes p. 21) I don't envy you guys. Your Planner has done a great job at highlighting this in his planning memos. When I started to look at this, I just went to the bare bones of if I were on the PB. You go to your definitions and to what is in code. The only piece that we have on record for solar energy systems, §45-462, was ratified by the citizens in 2008 in response to our Comprehensive Plan. That was envisioning solely residential rooftop systems and also small wind. I don't believe a commercial energy facility is consistent with the definition of our rural residential zone. Nor do I think it would be more consistent with the prohibited use that appears in §45-290, our Table of Land Uses. Just to remind you that our Rural District is §45-286 to provide low density, rural housing and "to protect (this area) from suburban development pressures, agricultural and forest land capable of economic production, so as to safeguard this sector of the town's economic base and to avoid the irretrievable loss

of land well-suited for food and fiber production; and to help maintain the essentially rural and the open character of the district." I do not think that what is proposed is consistent with that purpose of our Rural District. As Representative Meyer also stated, there is a recent statute - LD936 - that was passed and signed by the Governor, that is being identified for suggested changes to be taken up by the legislature in their next session. Specifically, it describes the method of limiting impacts by locating them "on previously developed or impacted land, including areas (already) covered by impervious surfaces, reclaimed gravel pits, capped landfills or brownfield sites," I predict that when the legislature does come back together, there will be more guidance to direct towns to site these in those types of land uses. If I were in your shoes...now the horse is out of the barn, here. You are hearing this application. You are doing site plan review. I would make a motion to deny the request for this change of use at this time and seek a moratorium so that you have the opportunity to research ordinances in other towns. There are 16 towns that have installed these types of systems. They have well-fleshed out ordinances about what is a residential size, scale, and type. Is it large scale. Is it a utility scale. Where those can be. Should they be on prime farmland soils. There are ordinances that include a decommissioning plan, and the bonding. All of these questions that are coming out exist in other towns' ordinances that would help you and you don't have at this time. And you need to have the citizens weigh in on this. I have solar, I installed a residential solar system on my own home in 2016. In listening to these meetings and this hearing, people have become aware that there are really only two substations in the Town of Eliot and there is one that would service this proposal. I believe that at the last Conservation Commission meeting, the applicant indicated that there are about 10 megawatts of capacity in that system right now and their proposal is 2 megawatts. There is already a 5-megawatt registered with the State. That's why they're saying not to worry. that there would only be 2 to 3 arrays in Town. That's all you have to worry about. One of the things I think the PB needs to think about is that infrastructure that's in our Town because we've become aware that it would be \$5 to \$10 million dollars to upgrade a substation. If you go forward with very little guidance and just go with a technical review to figure out that particular proposal, will you be crowding out the potential for future residential solar. What if the Town wants to upgrade the Town Hall and start to upgrade our own array if we allow three commercial installations to go in Town, and they're probably going to come pretty darn quickly before all the rules coalesce at the State level for guidance. You run the risk of crowding out other uses. I would say get the ordinance in place like we did with marijuana before you go forward with these large-scale commercial arrays. I think with a moratorium or tabling of this proposal that would allow you to step back at the 10,000-foot view and have those conversations about where and how much and what. Consistency with the Comprehensive Plan is your next step if you don't have the ordinance and I don't actually think that this is consistent with our current. though dated, Comprehensive Plan. I won't go much more into the Comprehensive Plan. I'm actually speaking from a powerpoint that I would be happy to share with you, if you like. I believe that Mr. Kellar had cited our Comprehensive Plan in the piece where we did a survey. Citizens did want to, asked about the importance of using tax dollars, they did prioritize using tax dollars for electrical energy derived only from renewable sources. And I have to say that, when we go back to the Comprehensive Plan, we can check that one off because we have dedicated tax dollars to getting at least 90% of the electrical



Zoning 101



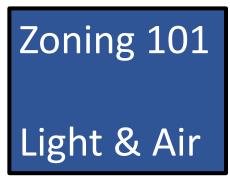




Zoning 101

Separation of Land Uses





CHAPTER 674 LOCAL LAND USE PLANNING AND REGULATORY POWERS

Zoning

Section 674:17

674:17 Purposes of Zoning Ordinances. -

- I. Every zoning ordinance shall be adopted in accordance with the requirements of RSA 674:18. Zoning ordinances shall be designed:
- (a) To lessen congestion in the streets;
- (b) To secure safety from fires, panic and other dangers;
- (c) To promote health and the general welfare;
- (d) To provide adequate light and air;
- (e) To prevent the overcrowding of land;
- (f) To avoid undue concentration of population;
- (g) To facilitate the adequate provision of transportation, solid waste facilities, water, sewerage, schools, parks, child day care;
- (h) To assure proper use of natural resources and other public requirements;



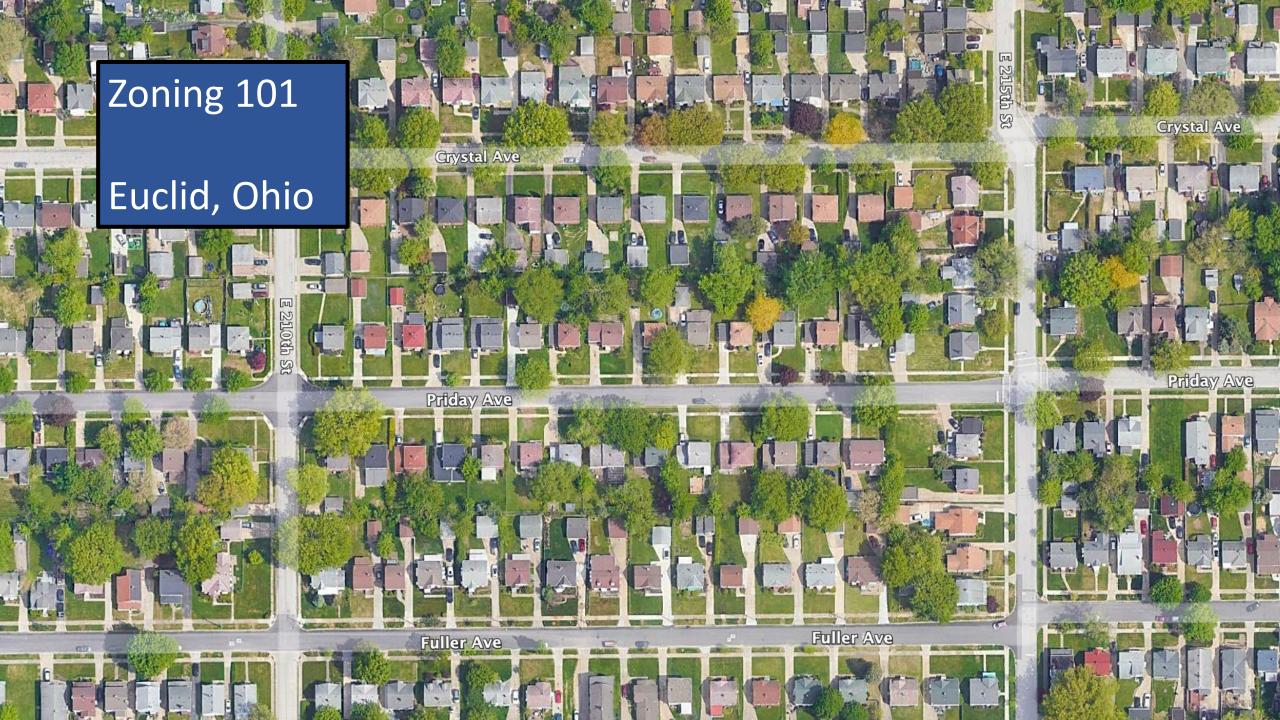
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Section 674:17

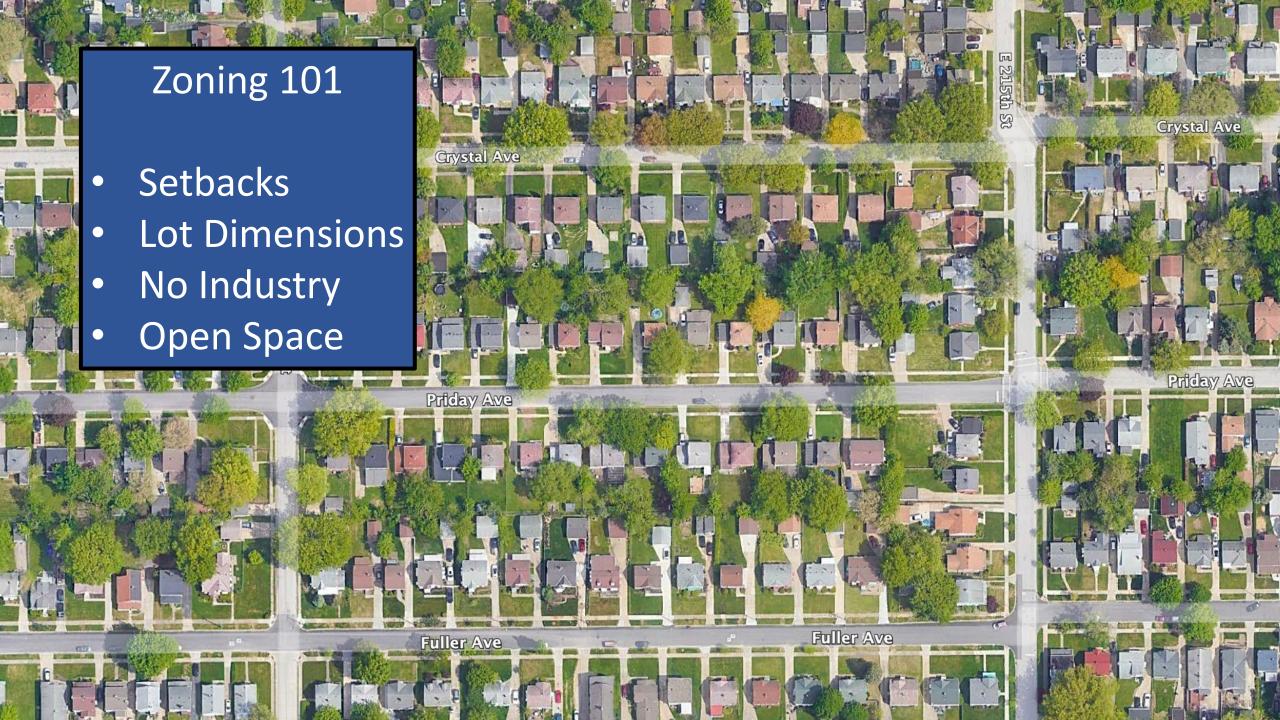
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- (g) To facilitate the adequate provision of transportation, solid waste facilities, water, sewerage, schools, parks, child day care;
- (h) To assure proper use of natural resources and other public requirements;
- (i) To encourage the preservation of agricultural lands and buildings and the agricultural operations described in RSA 21:34-a supporting the agricultural lands and buildings; and
- (j) To encourage the installation and use of solar, wind, or other renewable energy systems and protect access to energy sources by the regulation of orientation of streets, lots, and buildings; establishment of maximum building height, minimum set back requirements, and limitations on type, height, and placement of vegetation; and encouragement of the use of solar skyspace easements under RSA 477. Zoning ordinances may establish buffer zones or additional districts which overlap existing districts and may further regulate the planting and trimming of vegetation on public and private property to protect access to renewable energy systems.









DEPARTMENT OF COMMERCE

A STANDARD STATE ZONING ENABLING ACT

UNDER WHICH MUNICIPALITIES MAY ADOPT ZONING REGULATIONS

BY THE

ADVISORY COMMITTEE ON ZONING

APPOINTED BY SECRETARY HOOVER

CHARLES B. BALL -	•	٠	٠	-		•	*	Secretary-Transmer, City Planning Division, American Society of Civil Engineers.
EDWARD M. BASSET	۲.	•	•	٠	•	•	•	Counsel, Zoning Committee of New York.
ALFRED BETTMAN -	٠	•	•	•	•	•	٠	Director, Notional Conference on City Planning.
IRVING B. HIETT	•	٠	٠	٠	•	•	•	Ex-President, National Association of Real Estate Boards.
JOHN IHLDER	-	-	•	•	•	•	٠	Manager, Civic Development Department of the Chamber of Commerce of the United States.
MORRIS KNOWLES		•	•	•	•	•	•	From the Chamber of Commerce of the United States; Chairman, City Planning Division, American Society of Civil Engineers.
NELSON P. LEWIS * Municipal Engineer	: -	•	•	*	-	-	-	From the National Conference on City Planning and National Municipal League; Fast Prosi- dent, American City Planning Institute.
J. HORACE MeFARLA	ND Ch	k i	-	eti	rati	. :	•	Ex-President, The American Civic Association.
FREDERICK LAW OL	MS					•	•	Ex-President, The American Society of Land- scape Architects; Ex-President, American City Planning Institute.
LAWRENCE YEILLER								Secretary and Director, The National Housing

JOHN M. GRIES

Chief, Division of Building and Housing, Bureau of Standards Department of Commerce



One Size Fits All? It's a Bad Idea.

WASHINGTON GOVERNMENT PRINTING OFFICE

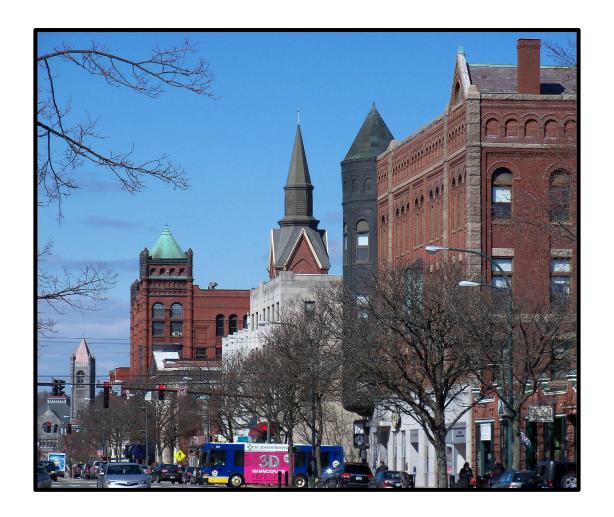


Section 3. Purposes in view. Such regulations shall be made in accordance with a comprehensive plan and designed to lessen congestion in the streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality.



Blueprint for Suburbia?

- (a) To lessen congestion in the streets;
- (b) To secure safety from fires, panic and other dangers;
- (c) To promote health and the general welfare;
- (d) To provide adequate light and air;
- (e) To prevent the overcrowding of land;
- (f) To avoid undue concentration of population;



Prepare Your Zoning Ordinance for Solar Farms

- 1) Keep it simple
- 2) Avoid Model Ordinances
- 3) Refrain from Cut & Paste
- 4) Define Solar Farm
- 5) Update the Use Table
- 6) Redefine Open Space



Keep It Simple





- (c) Setbacks for Ground-Mounted Solar Energy Systems
 - (i) Notwithstanding any other provision of this ordinance to the contrary, the setbacks for ground-mounted solar energy systems shall be as follows:
 - (1) Minimum front yard: In residential zoning districts, fifty (50) feet. In mixed use and non-res idential zoning districts, whatever the front yard setback is for that zoning district, but in no event less than ten (10) feet.
 - (2) Minimum rear yard: Whatever the rear yard setback is for accessory buildings in that zoning district.
 - (3) Minimum side yard: Whatever the rear yard setback is for accessory buildings in that zoning district.
 - (ii) Additional setbacks may be required to mitigate visual and functional impacts.

Avoid Model Ordinances

Refrain From Copy & Paste





Open Space

NEWS

Solar farm rejected by Concord code officials

Staff Writer Portsmouth Herald

Published 11:30 a.m. ET April 7, 2018 | **Updated 11:30 a.m. ET April 7, 2018**









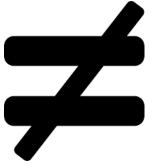


CONCORD, N.H. (AP) — A proposal for New Hampshire's biggest solar farm doesn't pass muster with zoning laws in Concord.

The Zoning Board of Appeals this week rejected the 54-acre solar farm because it had too many "impervious surfaces" that would cause rain to run off instead of soak into the ground.



Open Space

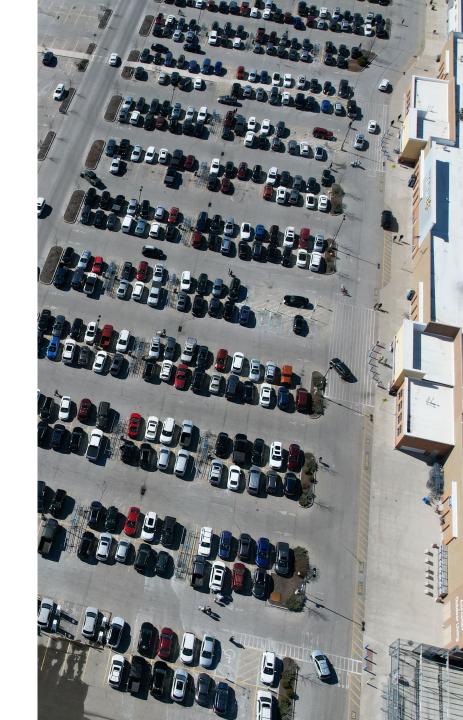






Open Space

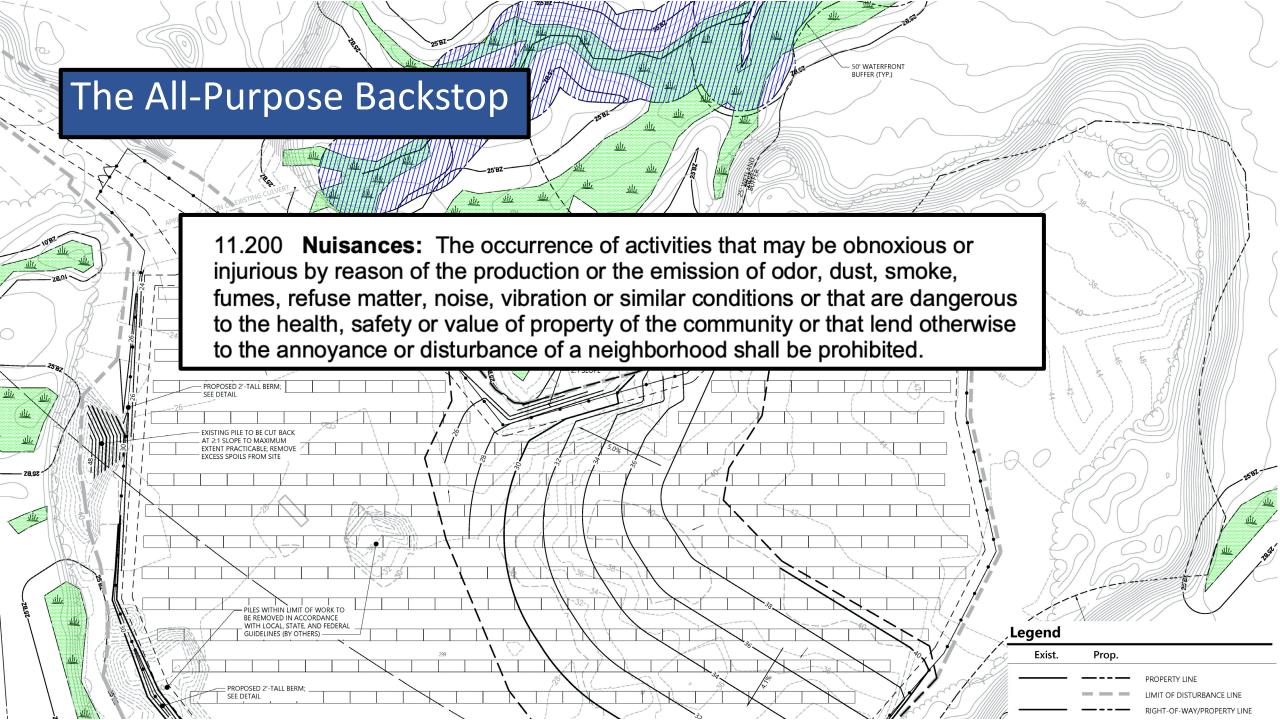




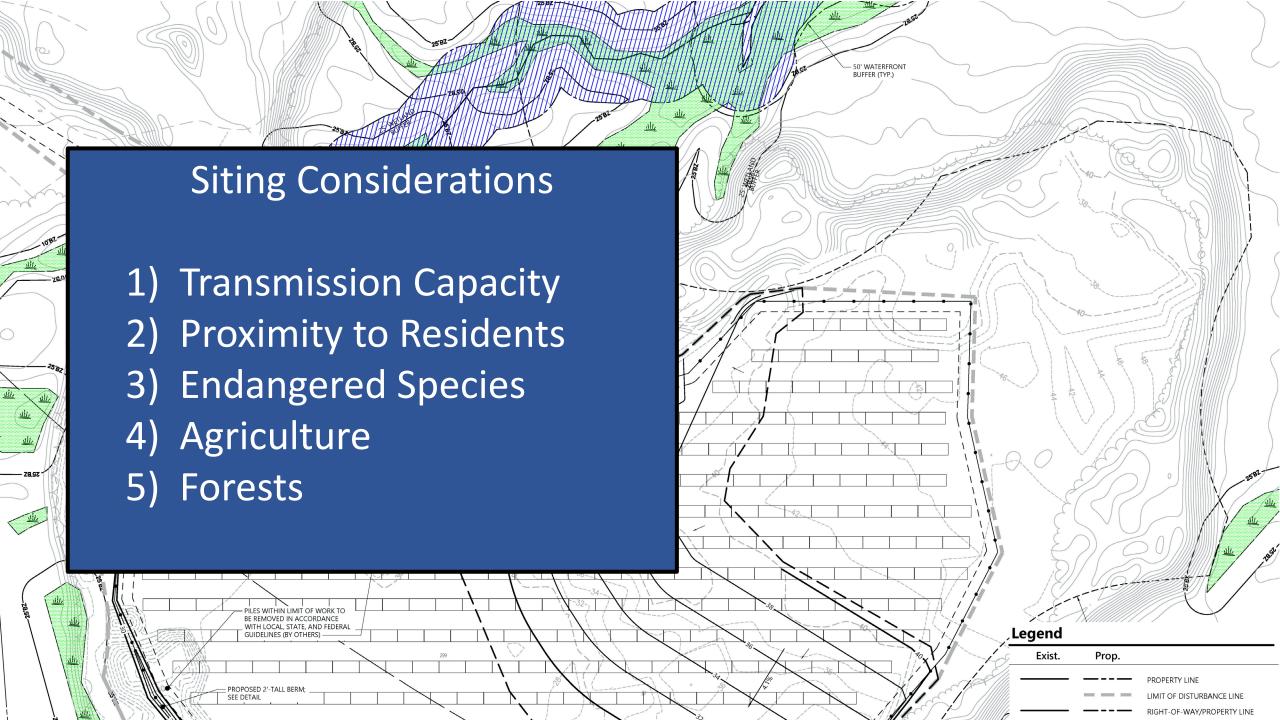


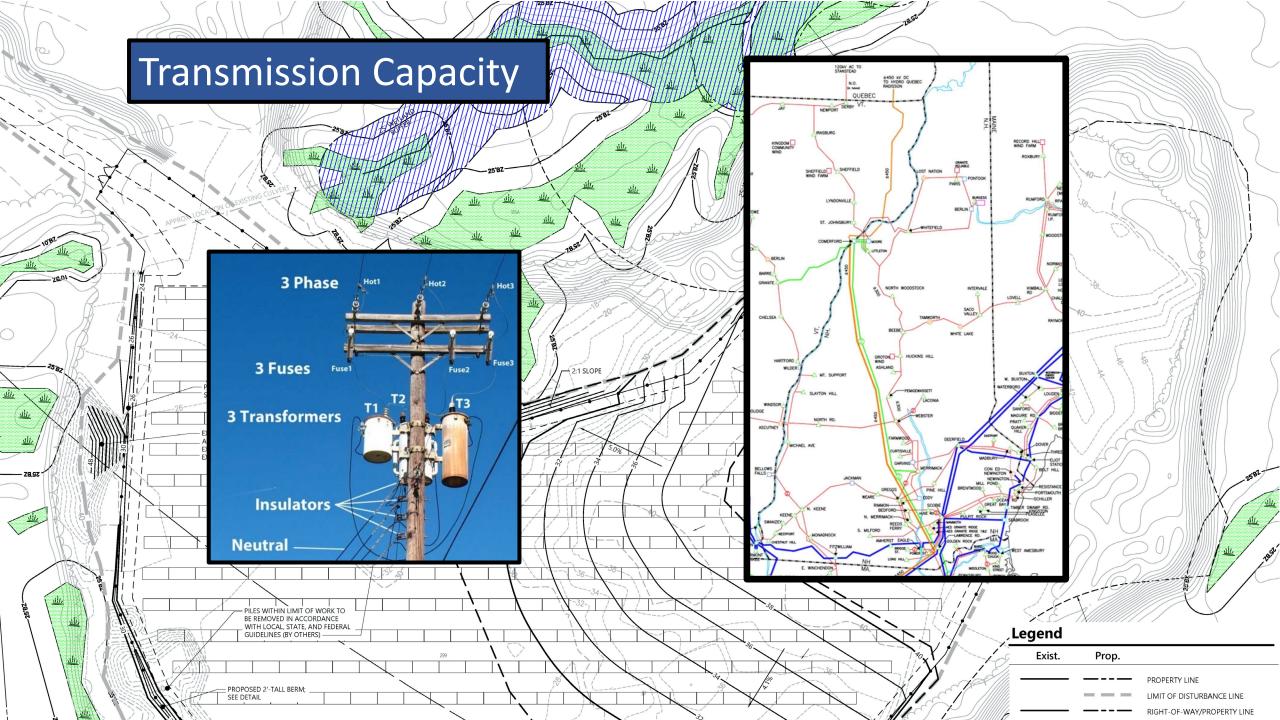




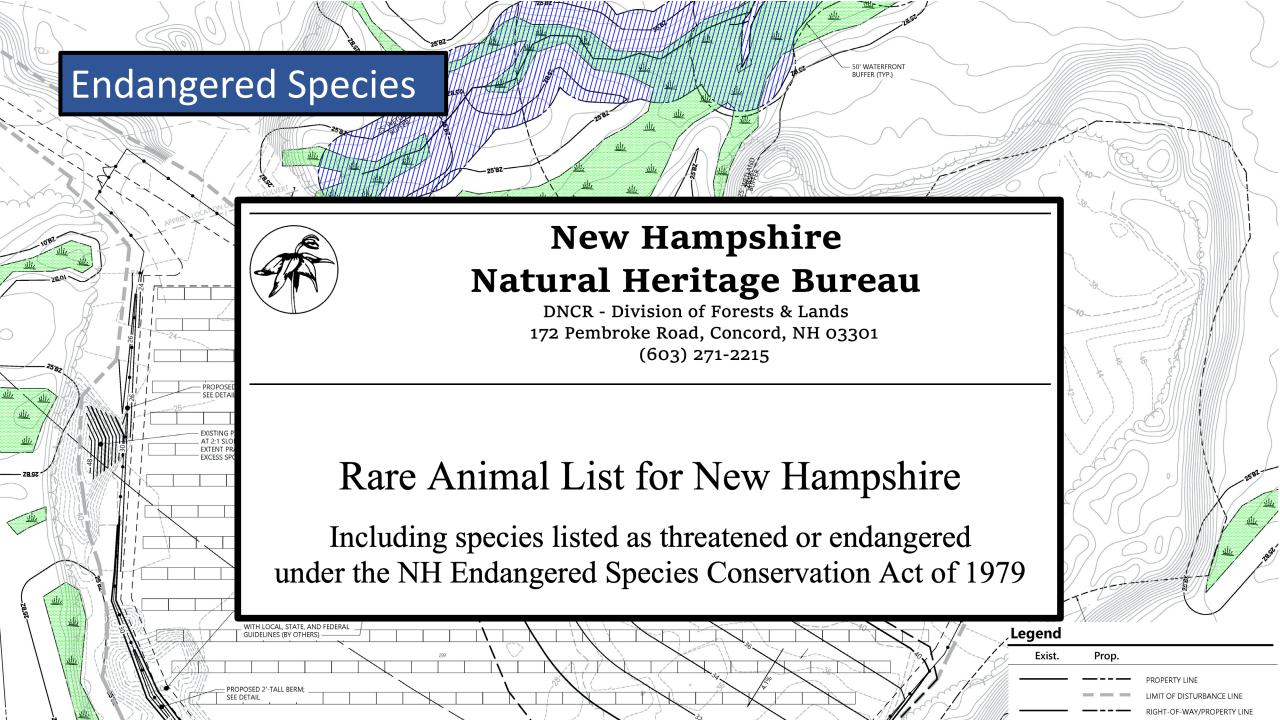


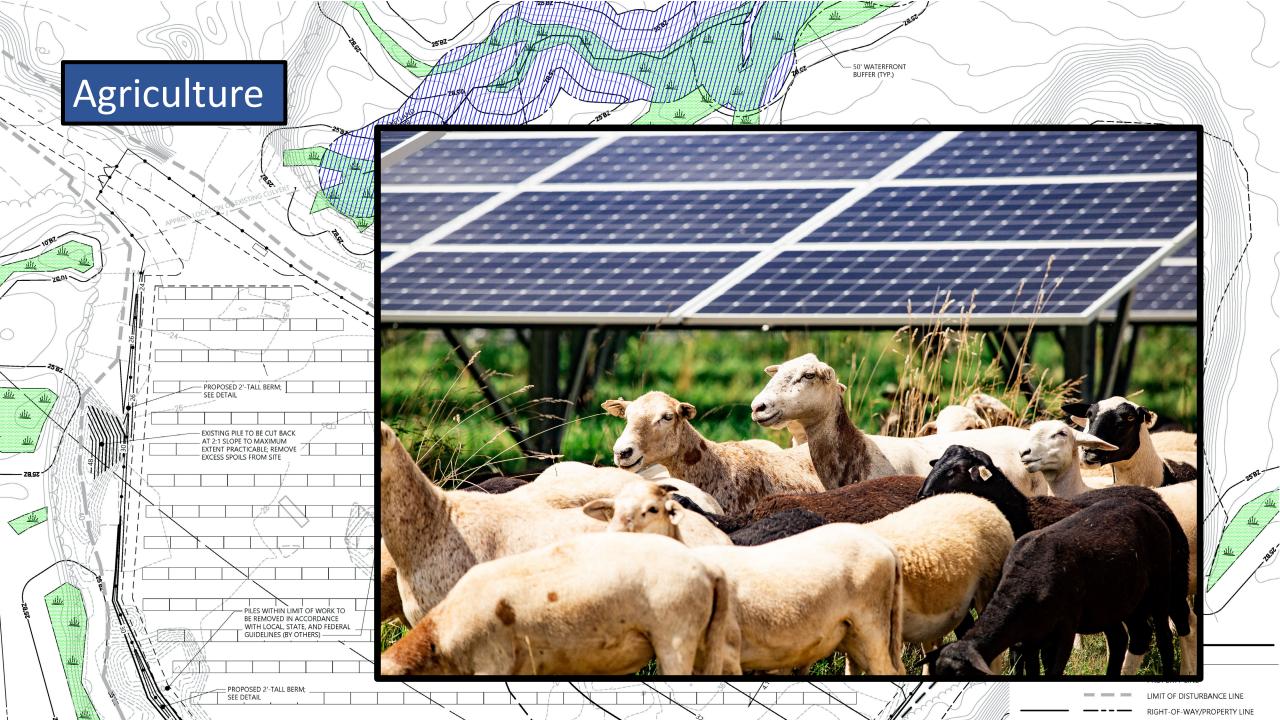




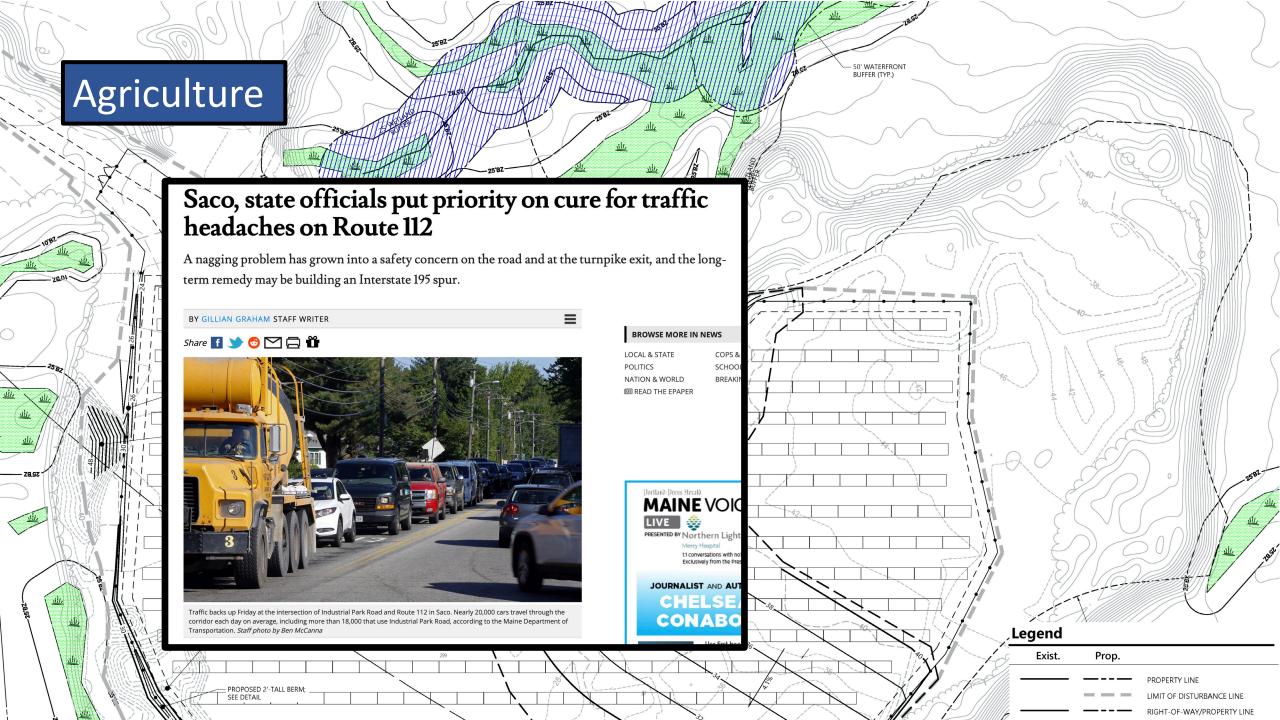


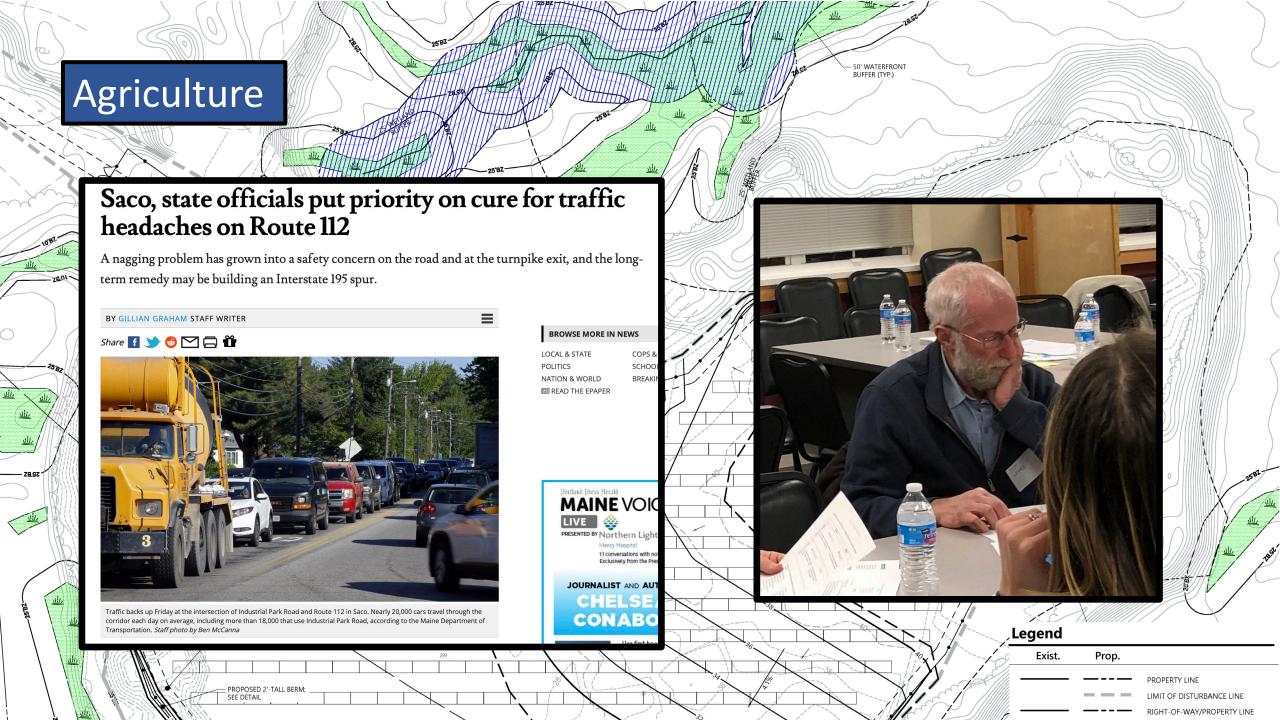


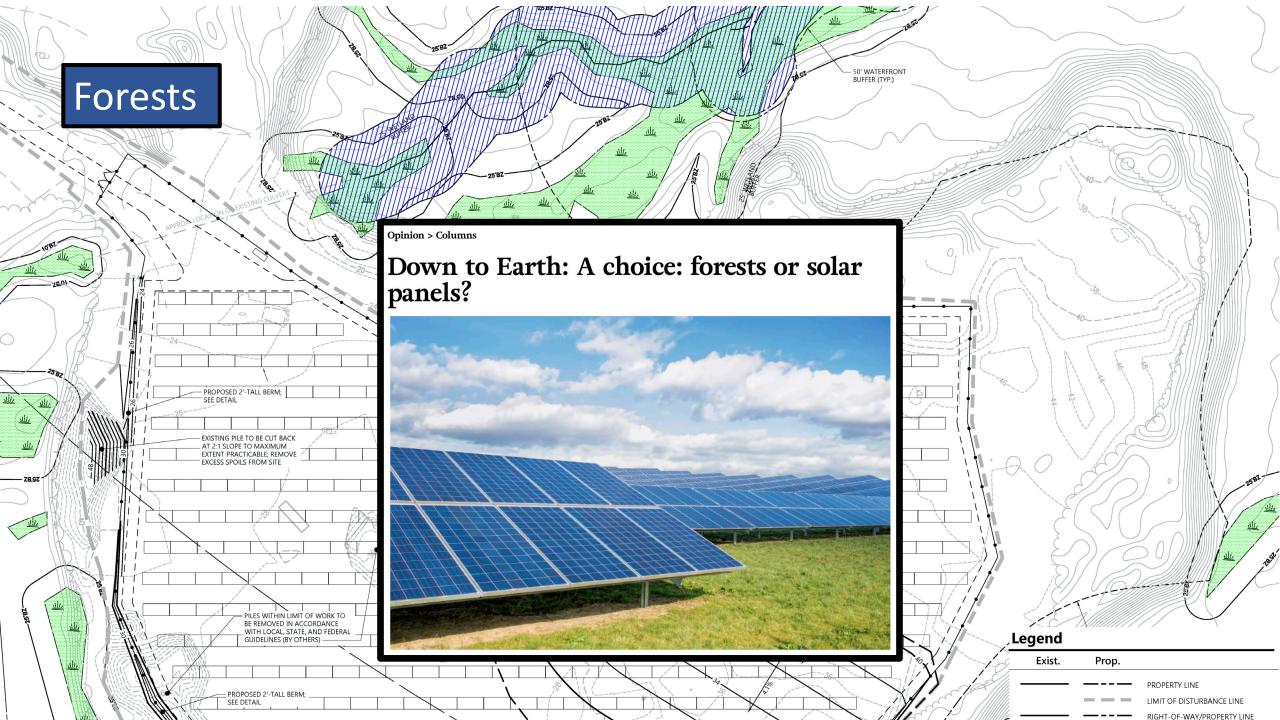


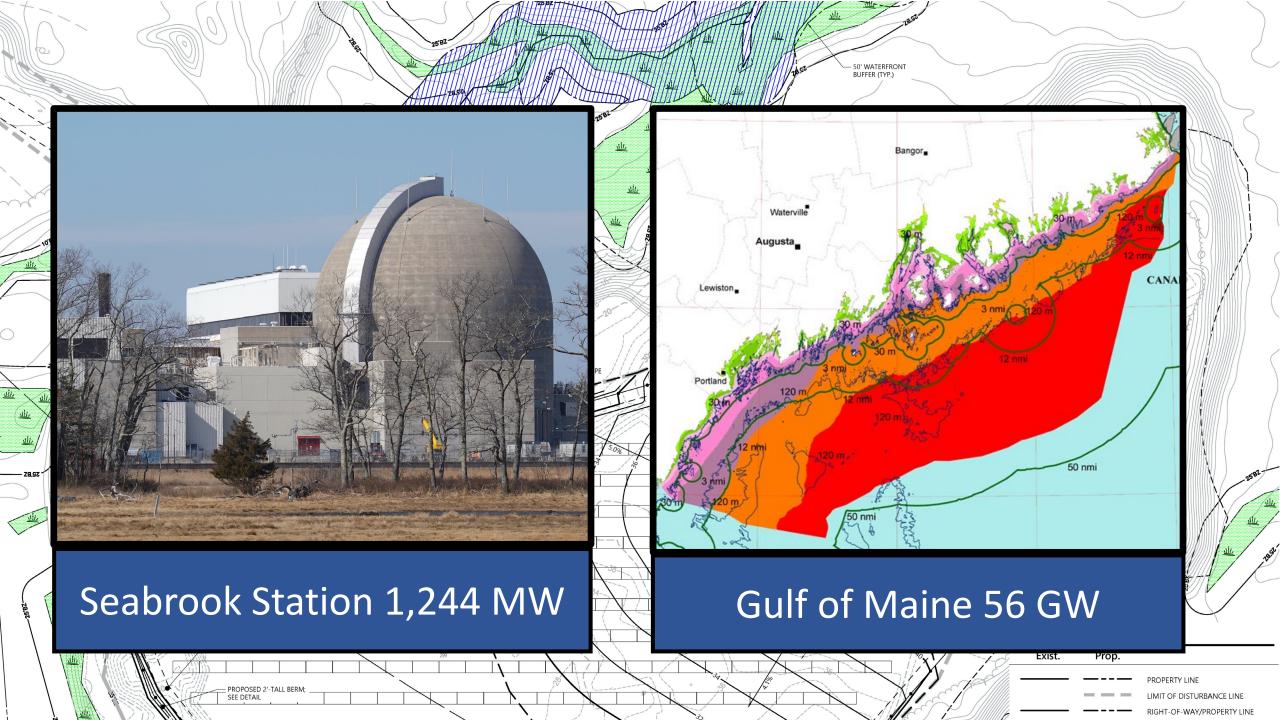


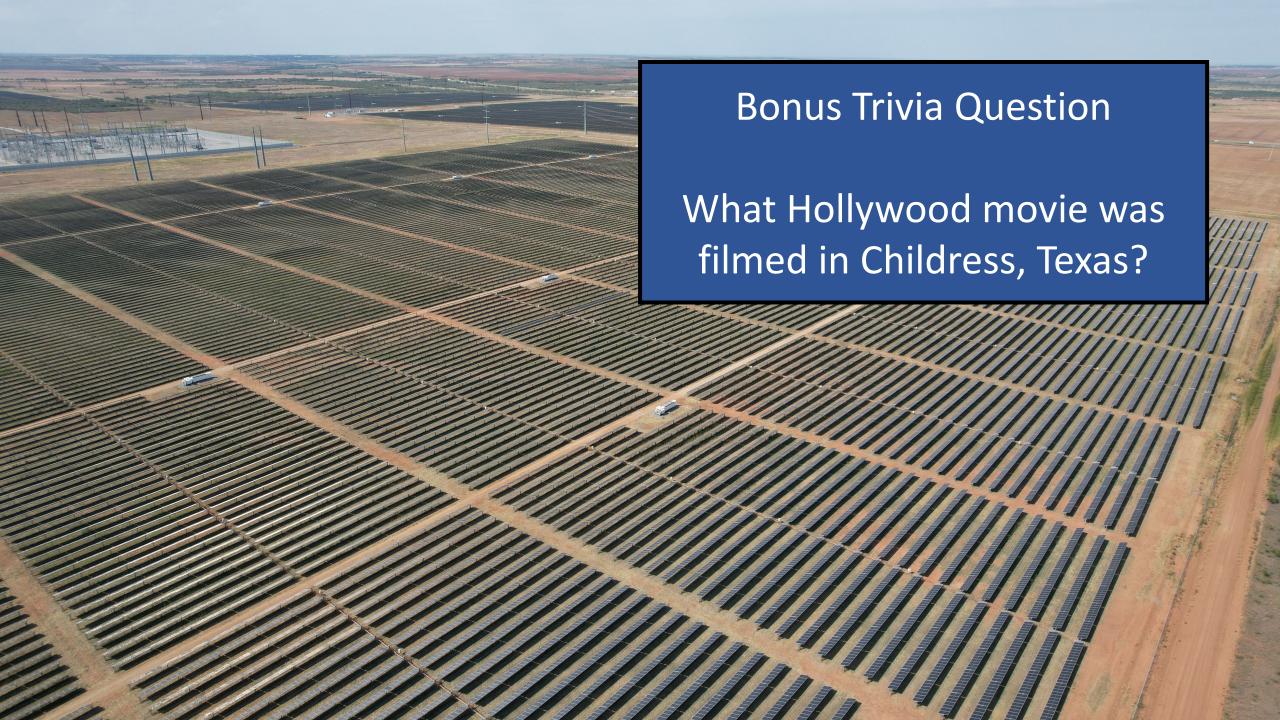


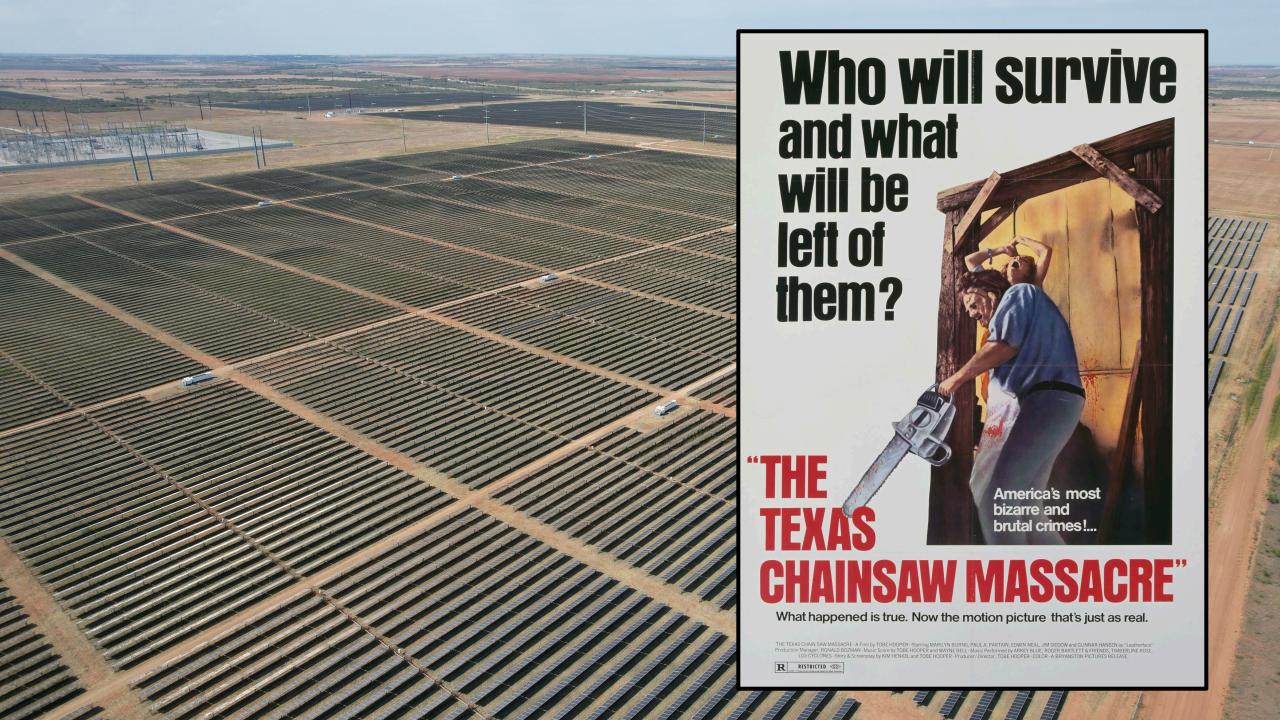




















All Things Considered



By Degrees: Covering Climate Change

Over 2 million more electric vehicles estimated in New **England over next** decade

New Hampshire Public Radio | By Sarah Gibson Published February 28, 2023 at 3:54 PM EST









Dan Tuohy / NHPR



Unknown % of residents have no off-street parking.

Median Sale Price \$700,000

Average Rent \$2,000

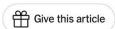
46% of population rents

DC Fast Chargers essential to enable this population to transition to EV.



E.P.A. Is Said to Propose Rules Meant to Drive Up Electric Car Sales Tenfold

In what would be the nation's most ambitious climate regulation, the proposal is designed to ensure that electric cars make up the majority of new U.S. auto sales by 2032.





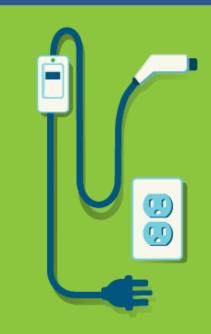






President Biden delivered a speech at a General Motors electric vehicle assembly plant in Detroit in 2021. The new rules would exceed his earlier goal that half the cars sold in the United States be all-electric by 2030. Doug Mills/The New York Times

In NH, the transportation sector is responsible for 47% of GHG.



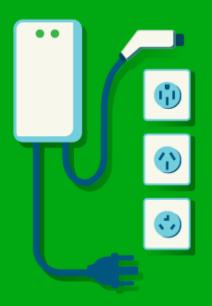
Level One

120V

Electrical source from a regular home outlet.

Charge Time

2-5 miles of range per 1 hour of charging.



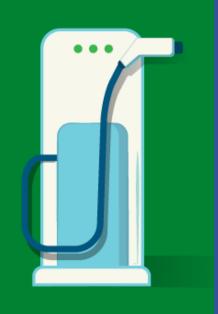
Level Two

220V

Electrical source from a regular home dryer outlet, home hardwire, or public station.

Charge Time

10-20 miles of range per 1 hour of charging.

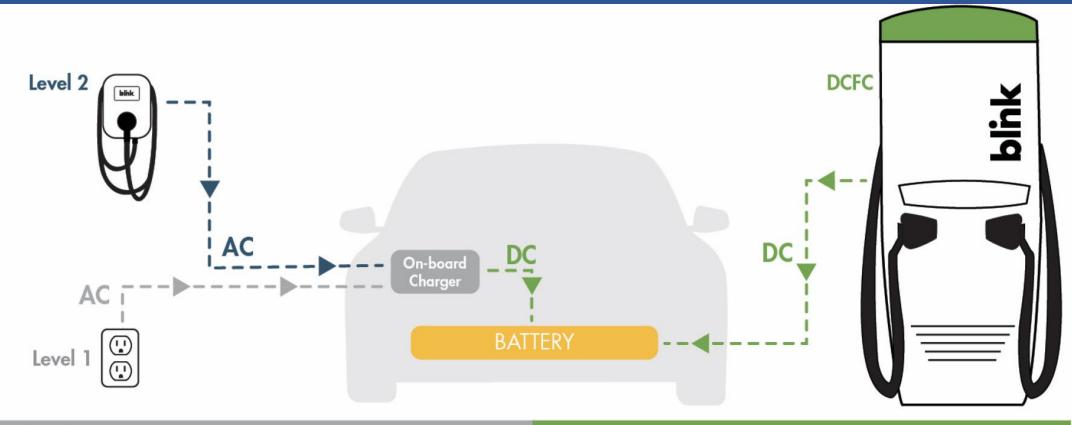


DC Fast Charge

208 or 480V 3-Phase AC Electrical source from a public station.

Charge Time

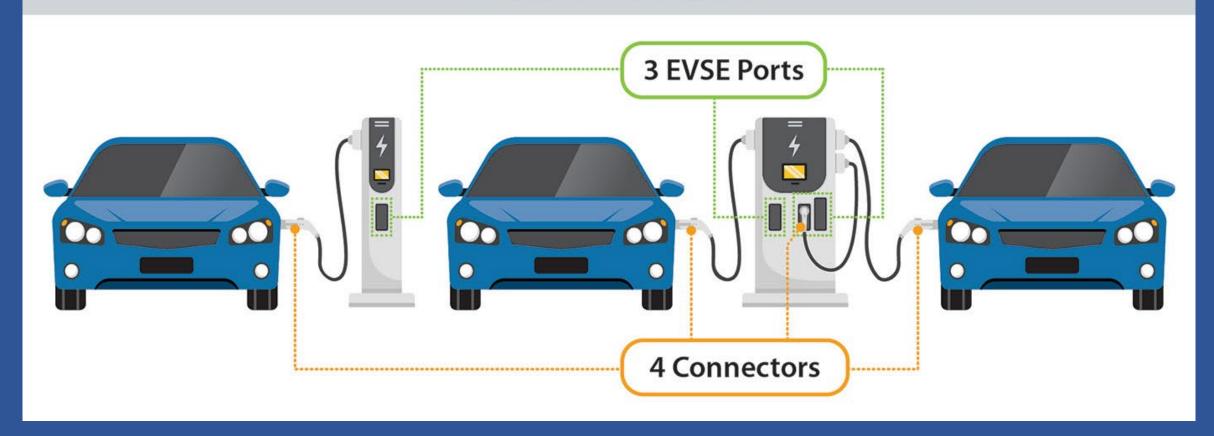
60-80 miles of range per 20 minutes of charging.



AC Up to 19.2kW

Up to 350kW DC

1 Station Location



LEVEL 1 Charging



LEVEL 2 Charging

72

DC Fast Charging



CHAdeMO



CCS Combo



Tesla Supercharger

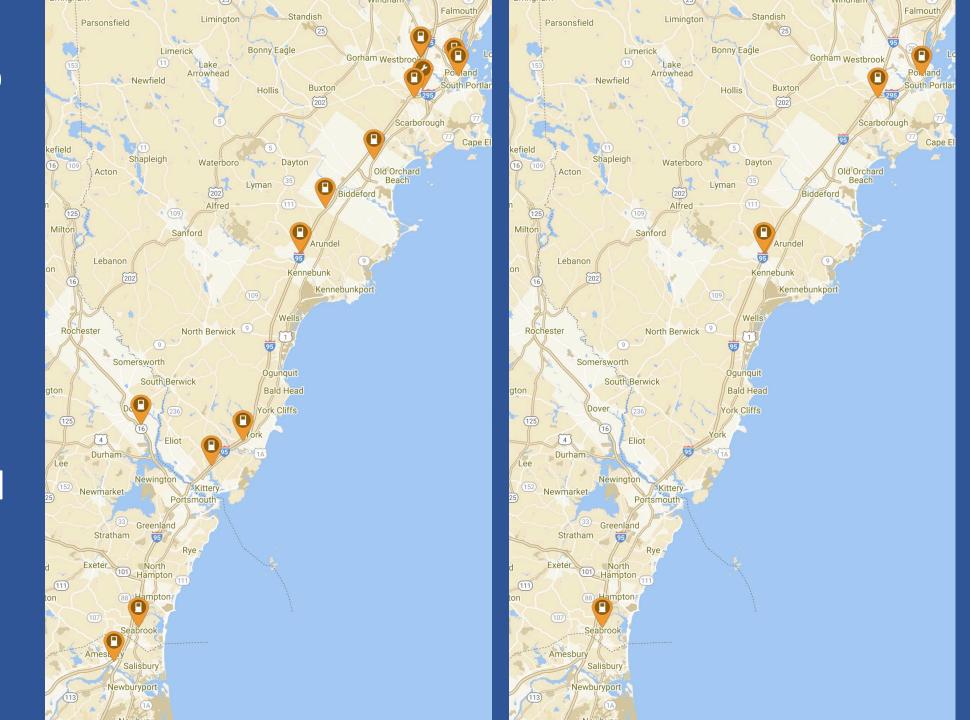
Standard Wall Plug

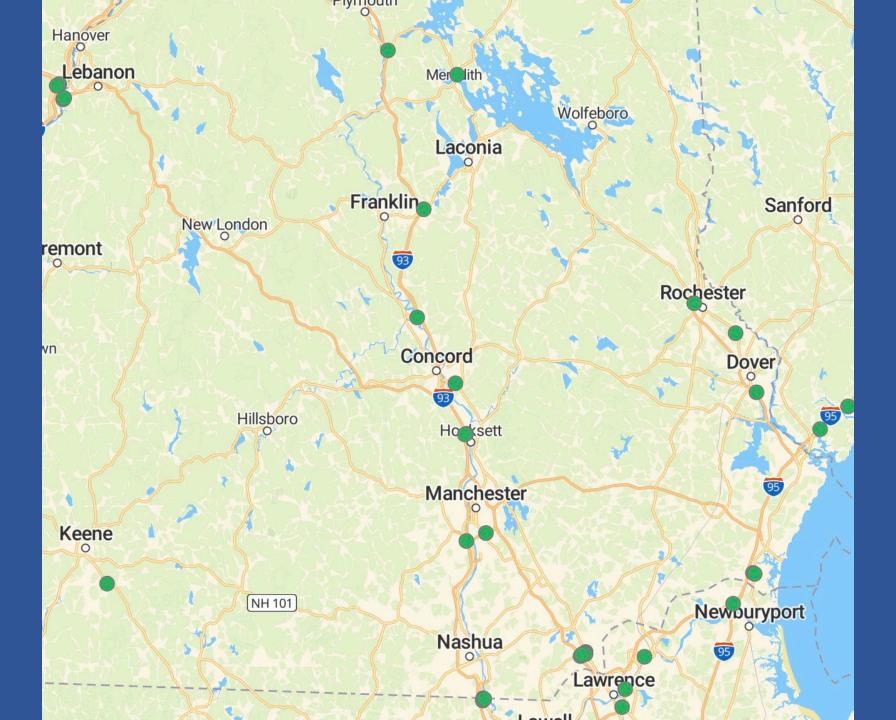
J1772

Tesla

The Charge Hub and Plug Share apps alert drivers to charging options.

Shown here are 50 kW (left) and 200 kW (right). Tesla chargers not depicted.





DC Fast Chargers in New Hampshire

Network	Hosting Type	Ports	Municipality
Tesla	Dunkin'	8	Ashland
ChargePoint	Convenience Store	1	Bedford
Tesla	Shopping Center	12	Concord
	Auto Dealer	1	Concord
Circle K	Convenience Store	2	Dover
Tesla	Dunkin'	8	Franklin
Tesla	Travel Plaza	12	Hookset
Electrify America	Shopping Center	4	Lebanon
Tesla	Shopping Center	16	Lebanon
Tesla	Ski Resort	6	Lincoln
Electrify America	Shopping Center	4	Manchester
Tesla	Convenience Store	6	Meredith
EVgo	Shopping Center	2	Nashua

Network	Hosting Type	Ports	Municipality
Electrify America	Shopping Center	4	Nashua
Tesla	Shopping Center	8	N. Conway
Tesla	Shopping Center	8	Rochester
Electrify America	Shopping Center	4	Salem
EVgo	Shopping Center	2	Salem
ChargePoint	Convenience Store	1	Salem
ChargePoint	Shopping Center	1	Salem
ChargePoint	Shopping Center	1	Salem
	Auto Dealer	1	Salem
Electrify America	Shopping Center	4	Seabrook
Tesla	Shopping Center	8	Seabrook
	Auto Dealer	1	Somersworth
	Auto Dealer	1	Swanzey

Source: Alternative Fuels Data Center, US Dept. of Energy

DC Fast Chargers Organized by Towns & Cities

Source: Alternative Fuels Data Center, US Dept. of Energy

Municipality	Ports
Ashland	8
Bedford	1
Concord	13
Dover	2
Franklin	8
Hookset	12
Lebanon	20
Lincoln	6
Manchester	4
Meredith	6
Nashua	6
N. Conway	8
Rochester	8
Salem	10
Seabrook	12
Somersworth	1
Swanzey	1

DC Fast Chargers Organized by Charging Network

Network	Ports
Tesla	92
Electrify America	20
ChargePoint	4
Circle K	2
EVgo	4
no network	4

Tesla accounts for 64% of EV registrations, but 73% of NH's DC Fast Chargers

DC Fast Chargers Organized by Hosting Type

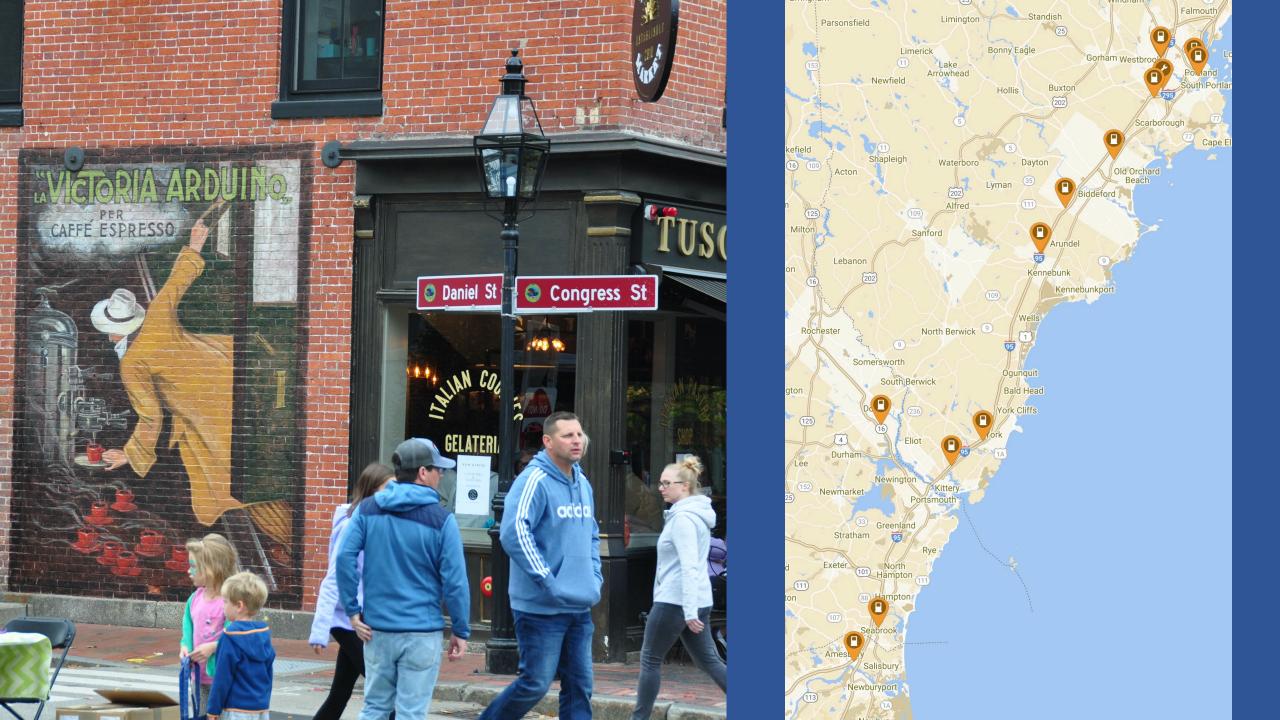
Hosting Type	Ports
Shopping Center	78
Dunkin'	16
Travel Plaza	12
Convenience Store	10
Ski Resort	6
Auto Dealership	4

Only 1 of the 26 charging stations is situated in a town or city center.

No Fast Chargers in the downtown business districts in any of NH's 13 cities.







Zoning Fixes

- 1) Define EV Charging Station
- 2) Designate EV charger as an Accessory Use.
- 3) Adjust the Use Table to identify those zoning districts where such chargers are permitted.
- 4) Carve out an exception in the parking regs for EV charging infrastructure.



Motor Vehicle Service Station

An establishment that sells fuel (including but not limited to gasoline, diesel, natural gas, electricity or hydrogen) to individual vehicles.

Motor Vehicle Service Station

An establishment that sells fuel (including but not limited to gasoline, diesel, natural gas, electricity or hydrogen) to individual vehicles.





Vehicle Fueling Station

A commercial establishment primarily engaged in the retail sales of vehicle fuels, traditional and alternative fuel types (e.g. electric-charging stations, ethanol, natural gas, propane, solar, etc.), lubricants, parts, and accessories. This use may include retail establishments (e.g. convenience stores). This use does not include stand-alone, alternativefuel charging units for vehicles, which are permitted as an accessory use in all districts.



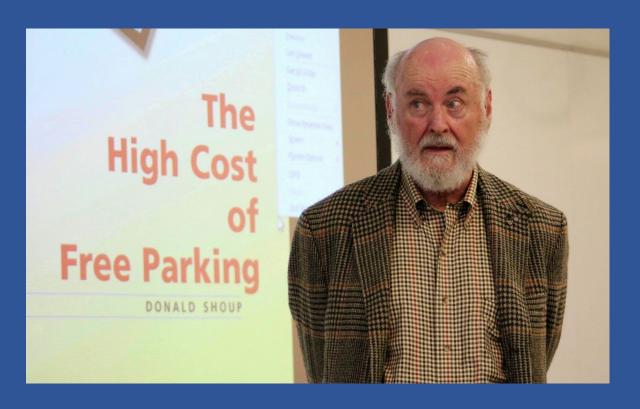
















PARKING

Shifting gears: Parking reform gains traction

Minimum off-street parking requirements have created a host of problems, leading cities and states to rethink this policy. The wave of reform is just beginning, because the oversupply from a century of misguided parking policy is likely to persist.

Recap - Zoning Fixes

1) Define EV Charging Station.

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