Sustainability Perspective on Construction and Demolition Waste in Maine

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Thank you for your support of LD 1639!
The law now protects Maine's limited State-owned landfill capacity for the people of Maine.
Now, let's save even more space …

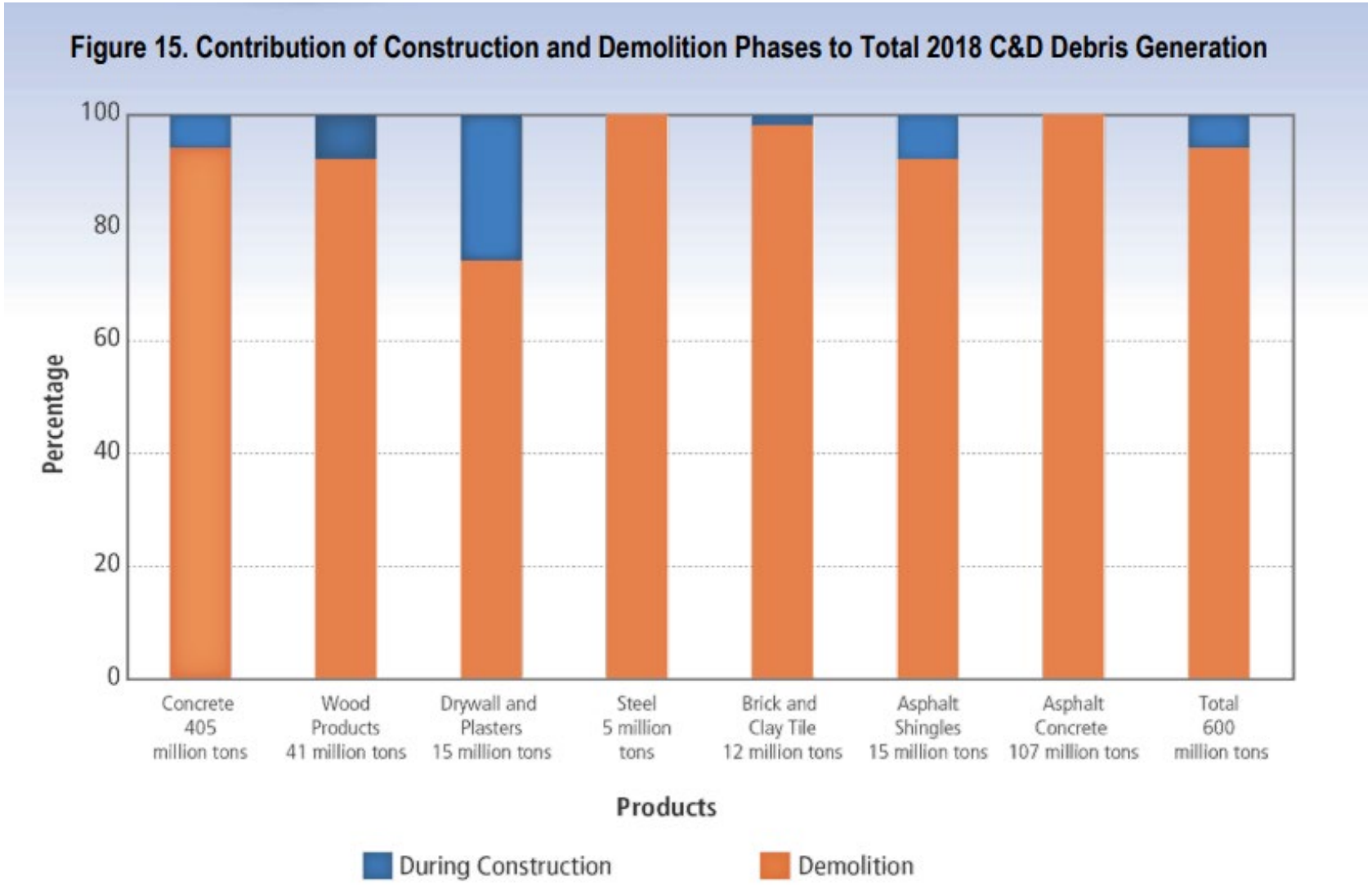
This presentation:

- ✓Best practices for CDD Waste Management
- ✓How does Maine measure up?
- ✓Some policy tools to consider

Best Practices for CDD Waste Management

Where is all the waste coming from?

- CDD waste increased in the US by **342%** from 1990 to 2018
- About 1/3 of total waste
- Demolition>Construction
- Municipal vs. Commercial?



Source: https://www.epa.gov/sites/default/files/2021-01/documents/2018_ff_fact_sheet_dec_2020_fnl_508.pdf

Waste Prevention by Design

- **Adaptive Reuse**: transform existing structures into new ones
- Buildings **built to last**
- **Prefabricated:** Less waste; centralized collection
- **Disentangling** measures: Easier for deconstruction and reuse
- **Proper Planning:** Intentionality throughout process; waste not an afterthought
- **Carbon budgeting:** Better design, reuse and landfill diversion are key ways to reduce climate impacts

Use of Construction Materials that Support Landfill Diversion and Recycling Markets

TIMBERHP: Madison, Maine

GLAVEL: Burlington, Vermont

Reuse of construction materials, furnishings & fixtures

- On site reuse
- Store and save for later
- Offer for sale
- Offer for free distribution

Saves landfill space, creates jobs, keeps materials local, reduces need for new products, adds and/or preserves character to our structures.

Habitat for Humanity® ReStore

BARN BOARDS & MORE

Maine Building Materials Exchange

Recycling:
Source Separated > Mixed

- Metals: valuable, indefinitely recyclable into new metals
- Wood: mulch, compost, biomass, animal bedding, composite panels, wood pellets
- Concrete: Soil stabilization, aggregate road base, pipe bedding, landscape materials
- Gypsum Drywall: New drywall, cement production, soil applications, additive to composting

Landfill as last resort

- Best if used for on-site engineering purposes (beneficial reuse)
  - But, should not count as “recycling”, needs a distinction and transparency
- Need strict air and water pollution control standards
- We need to seek ways to decouple waste disposal from profit

Better alternative to demolition: DECONSTRUCTION

Deconstruction is the systematic method of dismantling building structures and features to maximize their potential to be reused, resold, and/or recycled.

How does Maine measure up?

Difficult to measure **REDUCTION AND REUSE**

NEED BETTER IDEA OF PREVENTION AND REUSE OPPORTUNITIES IN MAINE

GOALS FOR LANDFILL DIVERSION, NOT JUST MORE RECYCLING

Table 2 - Maine CDD Management - Calendar Years 2018 & 2019

Maine-generated CDD disposition	2018 tons	2019 tons	Total tons
Mixed CDD disposed in state	412,783	440,336	853,120
Mixed CDD disposed out of-state	1,495	1,423	2,918
Processed CDD sent to a landfill for daily cover, shaping, and grading*	14,603	16,335	30,939
Processed CDD recycled into new wood products	394	3,966	4,360
Processed CDD beneficially used as fuel	8,943	7,658	16,601
Subtotal Maine CDD recycled & beneficially used as fuel	9,337	11,624	20,961
Total CDD generated in Maine	438,218	469,719	907,937
Maine's CDD recycling rate (all non-landfill uses)	**2.13%**	**2.47%**	**2.30% (average)**

* includes only Maine-generated portion of CDD processing wastes from processing facilities located in Maine

Recycling: We can do a lot better than we are doing

Some CDD Waste laws in the US

C&D Material by State													
	CT	DC	MA	ME	NH	NJ	ND	PA	RI	SD	VA	WV	WI
Asbestos	B	B		B			B	B			B	B	
Asphalt Shingles and Pavement		B	B									B	
Brick		B	B									B	
C & D wood		B	B									B	
C & D Metal		B	B		B		R					B	
Concrete		B	B									B	
Corrugated Cardboard	R	R	B	B		R		R	R	R	R		R
Glass (containers)	R	R	B			R		R	R	B	R		R
Land-clearing Debris			B									B	B
Metal (containers)	R	R	B			R		R	R		R		R
Mercury-containing Devices		B	B	B			B		B			B	B
Paint	B	B										B	B
Plastic (containers)	R	R	B			R			R	B			R
Scrap Metal	R		B			R	R	R	R				
Wallboard		B	B		B	B						B	
Wood (clean)	B		B										

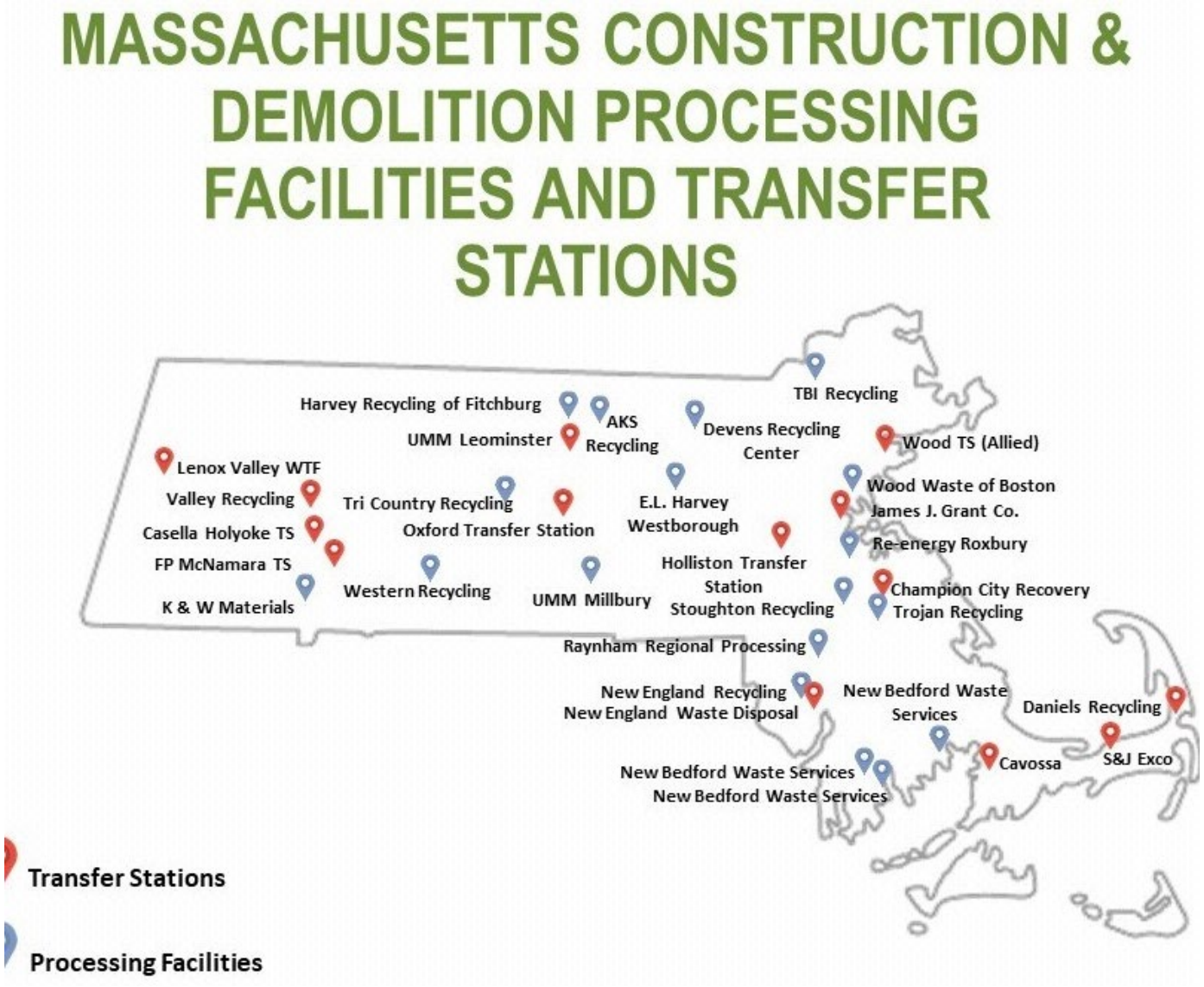
B = Ban on material in landfill

R = Mandatory recycling ordinance

MASSACHUSETTS

- **Comprehensive landfill bans**
- **More robust infrastructure**
- **Closer to markets**
- **State resources and guidance**
- **City of Boston as a leader**
- **Recycling rate 22%**

RECYCLINGWORKS MASSACHUSETTS



https://www.mass.gov/lists/managing-construction-demolition-cd-wastes

Some Policy Tools to Consider

Requirements for specific construction and demolition projects

- Required deconstruction for certain structures
- Certain materials must be separated onsite
- Waste reduction, salvage and recycling plan part of the permit process
- Fines for failure to achieve certain recovery or recycling rates
- Lower costs for permits that have certain waste reduction components

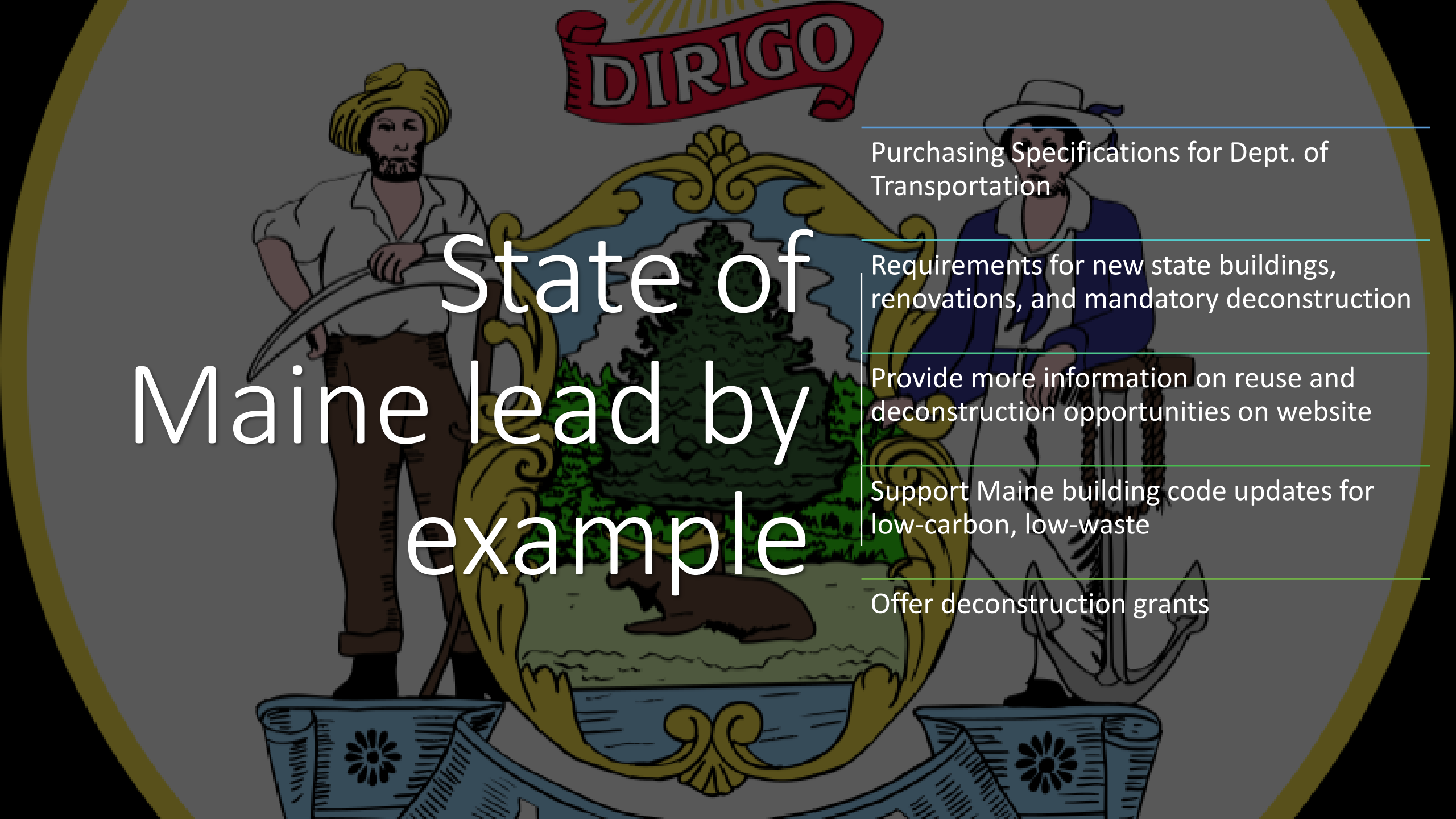
Municipal Ordinances

- Portland, Oregon
- Pittsburgh, PA
- San Antonio, TX
- Milwaukee, WI
- Baltimore, MD
- Palo Alto, CA
- Seattle, WA
- Santa Monica, CA

& more ….

Landfill bans or mandatory recycling on specific materials that are:

- ✓Most problematic in landfills and sorting facilities
- ✓Highest value as reused or recycled commodity
- ✓Highest environmental & carbon saving benefits



State of Maine lead by example

- Purchasing Specifications for Dept. of Transportation
- Requirements for new state buildings, renovations, and mandatory deconstruction
- Provide more information on reuse and deconstruction opportunities on website
- Support Maine building code updates for low-carbon, low-waste
- Offer deconstruction grants

Economic incentives should always favor reduction, reuse, and recycling

Raise Cost of Disposal

Lower Cost of Recycling, Reuse

Laws that target or phase in specific sectors, activities, geographic locations

Residential vs. Commercial

Construction vs. Demolition

Proximity to facilities

Encourage Maine's waste companies to be part of the solution

Processing and landfill sites facilitate source separation & reuse?

State gives credit toward facility permit standards?

Other Stakeholders and Sources of Information

Architects and designers

US Green Building Council

Construction Contractors

Demolition & Deconstruction Contractors

Landfill Engineers

Reuse and Salvage Industry

Municipalities

Haulers

Recyclers

Thank you! I’m here to help; reach me at:

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