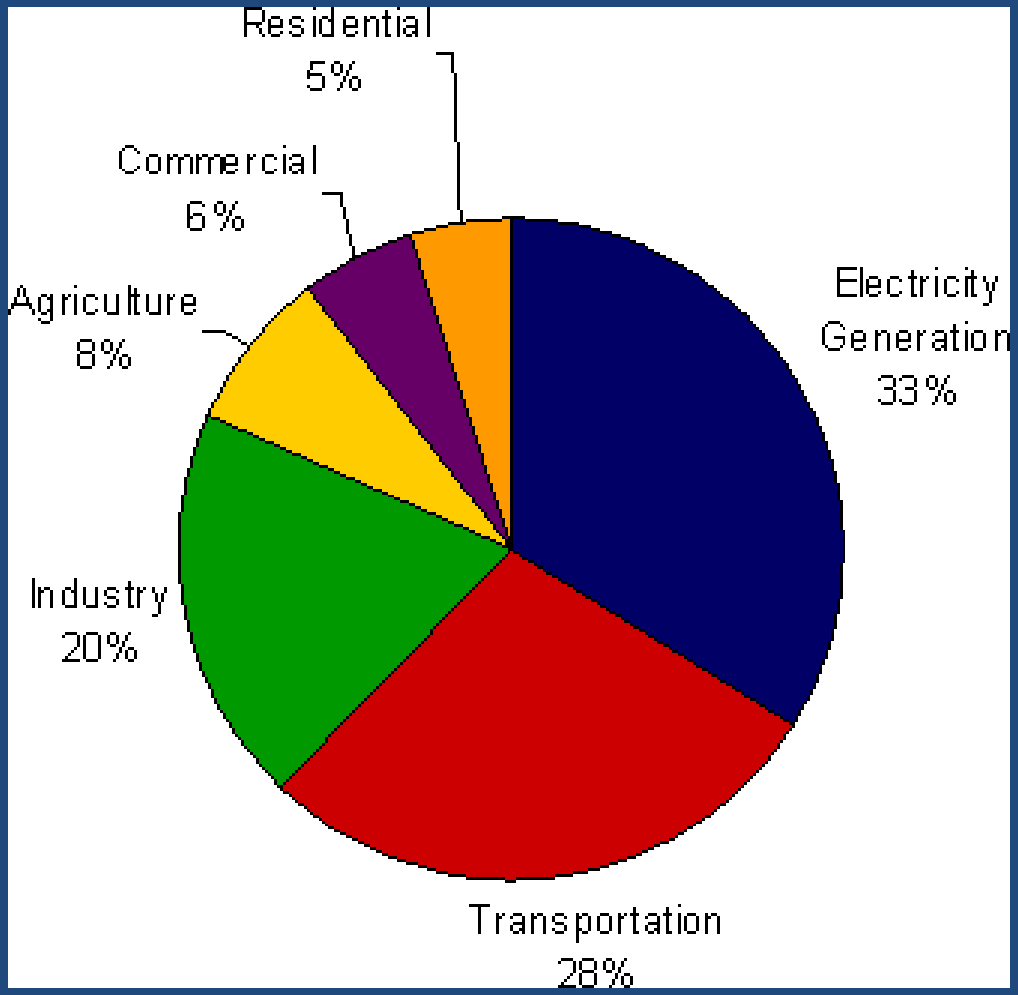
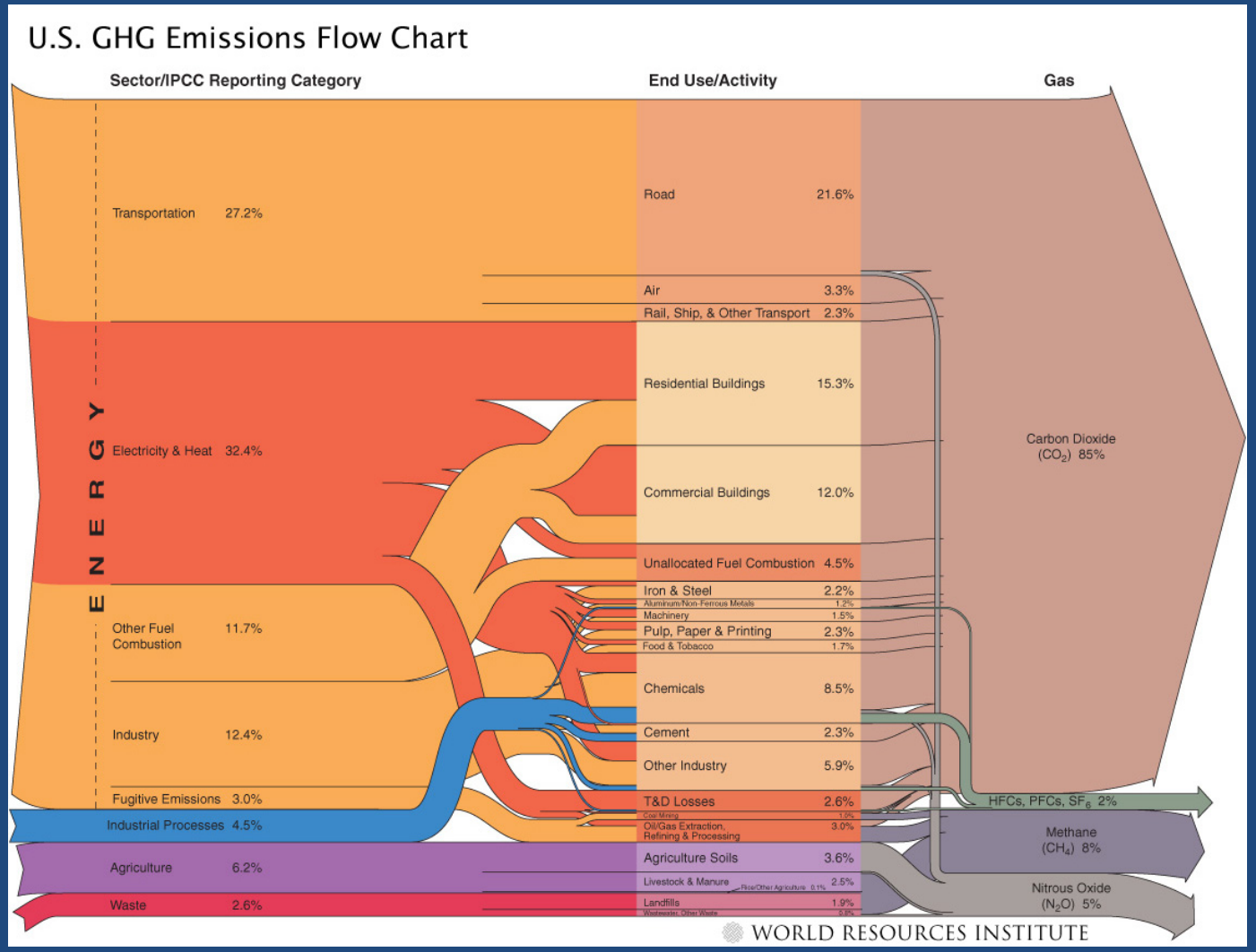
Is that All There Is? The Surprising Value of Unenforceable Local Climate Action Plans

Melissa Powers
Associate Professor of Law
Lewis & Clark Law School

U.S. GHG Emissions



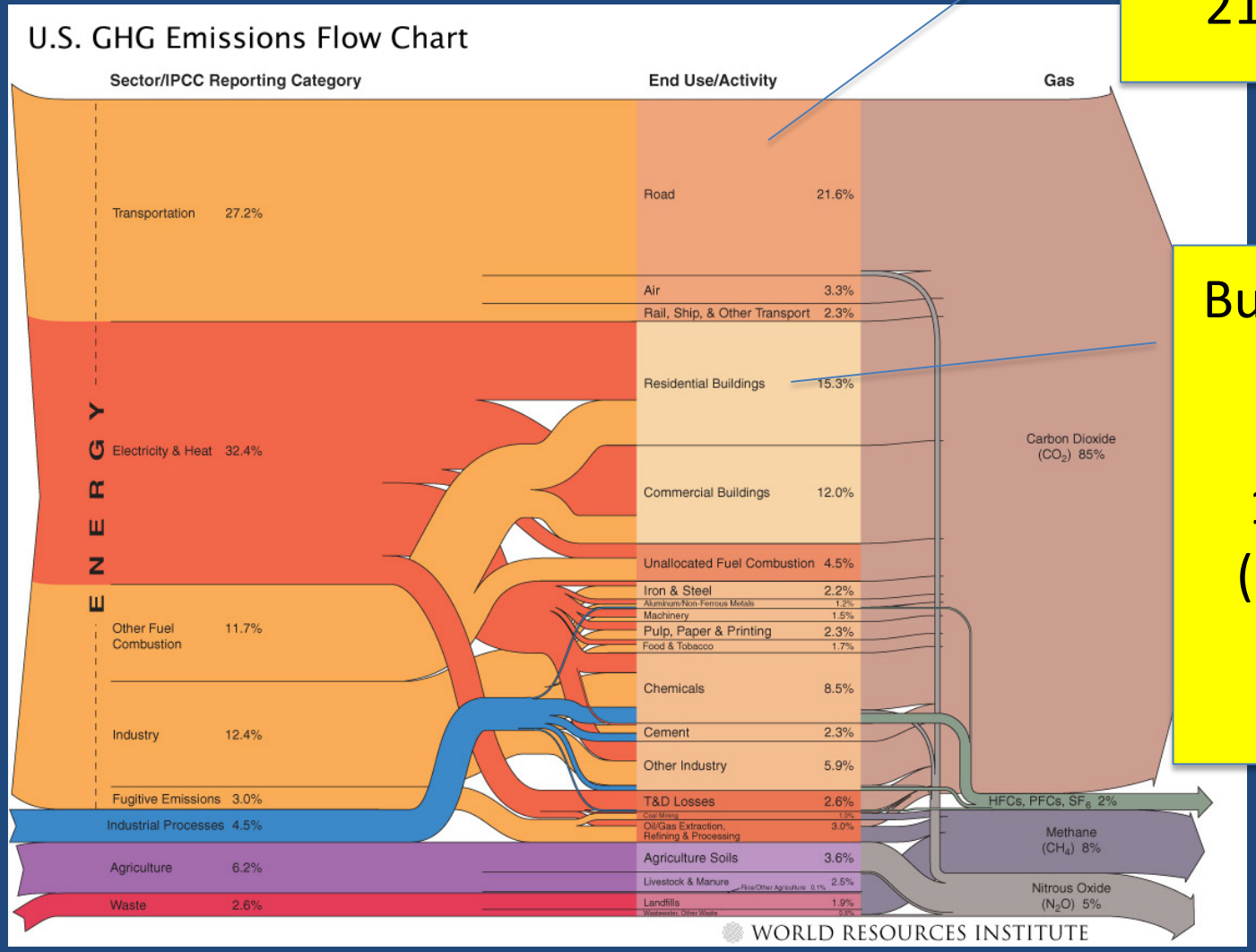
U.S. GHG Emissions – Source and End Use



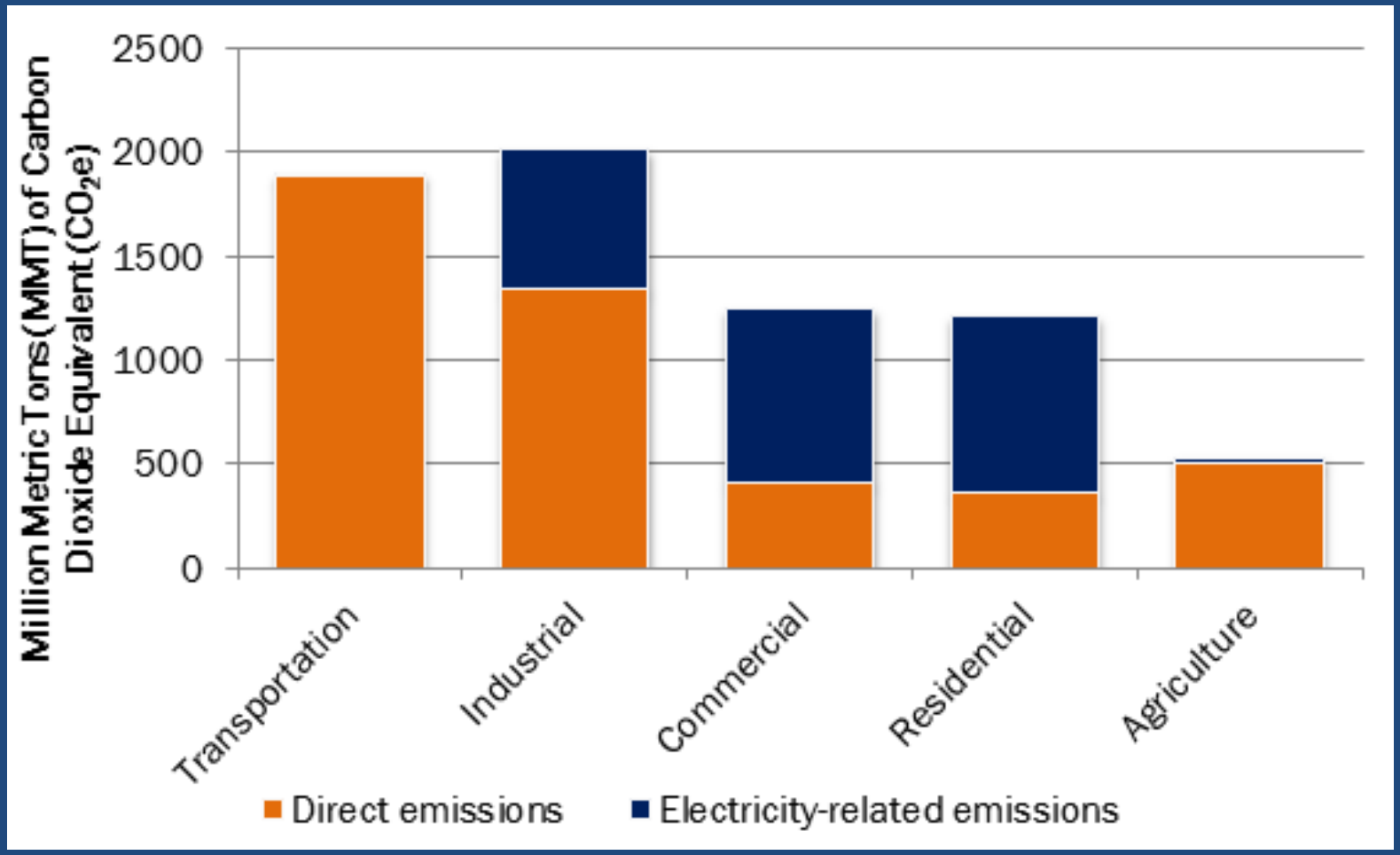
U.S. GHG Emissions – Sources and End Use

Roads = 21.6%

Buildings = 27.3% (Res. 15.3%) (Comm. 12%)



End Use – Direct and Indirect



Mitigation: Federal, State, Local

Federal/State

- Source emissions
  - Stationary sources
  - Fuels
  - Energy sector
  - Agricultural sector
- Some demand
  - Vehicle emissions
  - Energy efficiency (to some extent)

State/Local

- Demand/end use
  - Transportation
    - Land use
    - Alternative transportation
  - Buildings
    - Efficiency codes
  - Local offsets
    - Trees/greenspaces
  - Waste/food production
- Some sources
  - Alternative energy

The Role of Municipalities

- Control/influence demand
- Replace/offset sources
- Norm-setting

Critiques of Local Efforts

- Not global
- Too slow
- Not enforceable

Is enforceability a problem?

- My informal survey results
  - 6 cities on track
    - Only 4 produced regular compliance reports
    - Denver, for example, set goals, apparently met them, but have several-year gap in public disclosure
  - 4 cities seemed to abandon efforts
    - But may have restarted plans with new leadership
- Other analyses
  - Only 5% of cities with local climate action plans in compliance
  - Few Florida cities on track
  - Most California cities on track

Potential Enforcement Mechanisms

- State mandates
  - State comprehensive land use laws
  - State Clean Air Act requirements (especially in states with poor air quality)
  - CEQA
- Federal Clean Power Plan's building blocks

State mandates

- California example
  - Land use + Clean Air Act transportation conformity + CEQA
  - Required San Diego county to revise land use plan because would not otherwise meet emissions reductions requirements
  - Required San Bernardino to revise land use plan

Clean Power Plan

- Carbon dioxide emissions reductions at existing fossil fuel-fired power plants
  - Emissions reductions and compliance options based on 4 building blocks
    - On-site emissions reductions through power plant efficiency
    - Switch from higher GHG to lower GHG fuels
    - Increase renewables 
    - Increase end use efficiency 

Enforcement limitations

- Standing
- Willingness of state governments to impose requirements
- Clean Power Plan – years away

So, is that all there is?

Yes and No

The Role of Municipalities

- Control/influence demand
  - Land use and transportation
    - Reduced vehicle miles traveled (VMT)
    - Limit sprawl where necessary
  - Building efficiency
  - Waste and food
    - Food policies and “food miles”
    - Waste control = emissions reductions + possible alternative energy
  - Green spaces and urban heat islands

The Role of Municipalities

- Replace/offset sources
  - Traditional role in energy efficiency
  - Emerging role for municipalities in energy production
    - Municipal utilities
    - Distributed producers
  - Urban green spaces

The Role of Municipalities

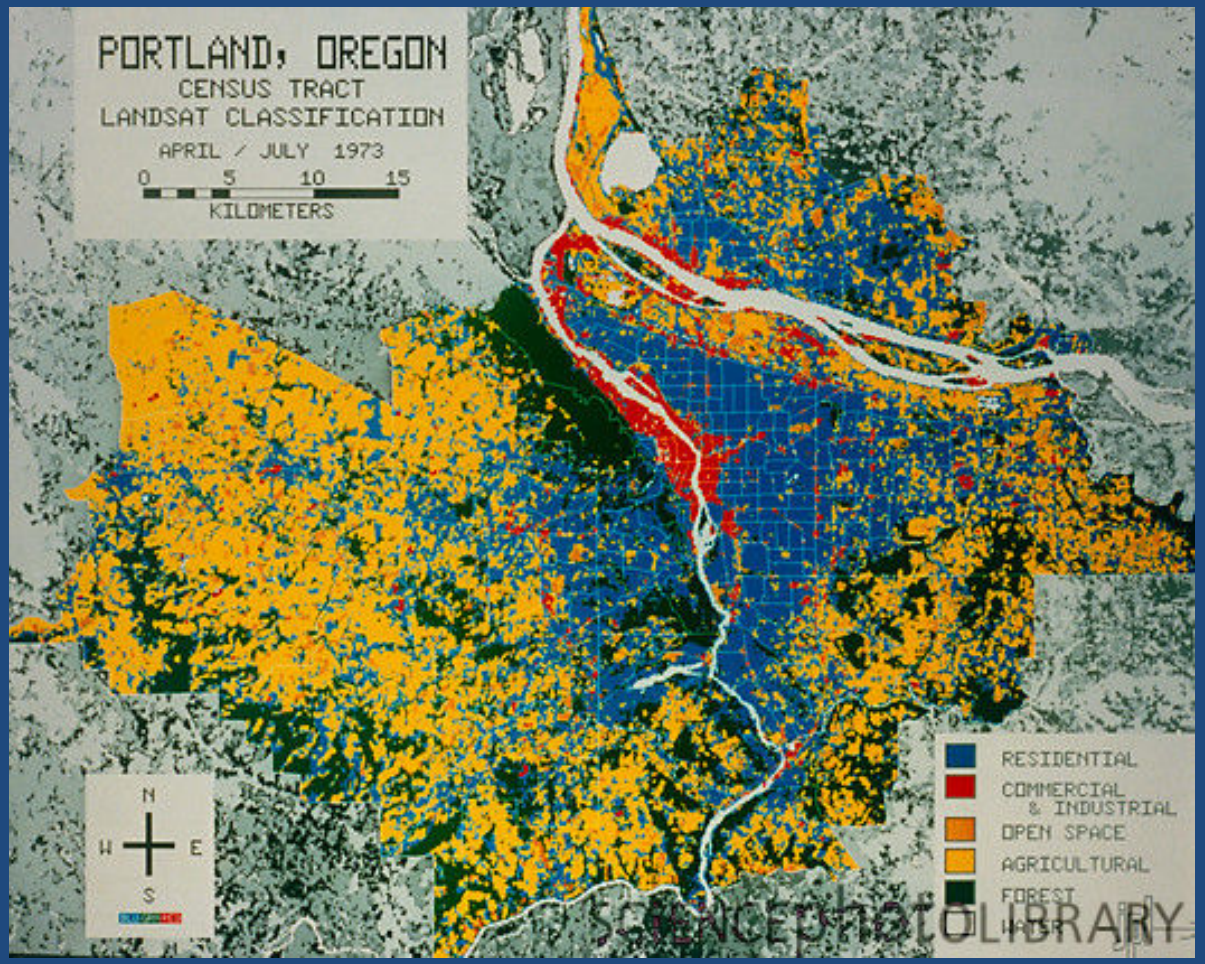
- Norm-setting
  - Policies based on norms/local image
  - Images designed to reinforce or change behaviors and norms
    - Greener
    - Fitter
    - Hipper
    - Better

Portland, OR

- Portland, Oregon
  - Greener/hipper/better
  - Environmental legacy - statewide
    - First “bottle bill” in country
    - First comprehensive land use plan
  - Portland = sustainable city
    - First local climate action plan 1993
  - Sees itself as a leader

Portland Map

Portland Land Use – Urban Growth Boundary - 1973



Portland Land Use – Urban Growth Boundary

Portland Land Use – Urban Growth Boundary

Portland Climate Change Action Plans

- 1993
  - First in nation
  - 20% below 1990 levels by 2010
- 2001
  - 10% below 1990 levels by 2010
- 2009
  - 40% below 1990 by 2030
  - 80% below by 2050

Portland Climate Change Action Plans

- Specific Strategies (since first plan, but refined)
  - Land use and transportation
  - Building efficiency
  - Waste, food, and trees
  - Renewable energy

Portland Climate Change Action Plans

- Land use and transportation
  - Metro (regional governmental organization) has authority over urban growth boundary
  - City: urban density and infills
    - Pearl District
  - Alternative transportation
    - Public transportation
    - Bicycling
    - Electric vehicles

Portland: land use and transportation

Portland: land use and transportation

Portland: land use and transportation

Pearl District

Transit
Oriented District

High urban density

Walkable/bikable

Green
Hip

Portland: land use and transportation

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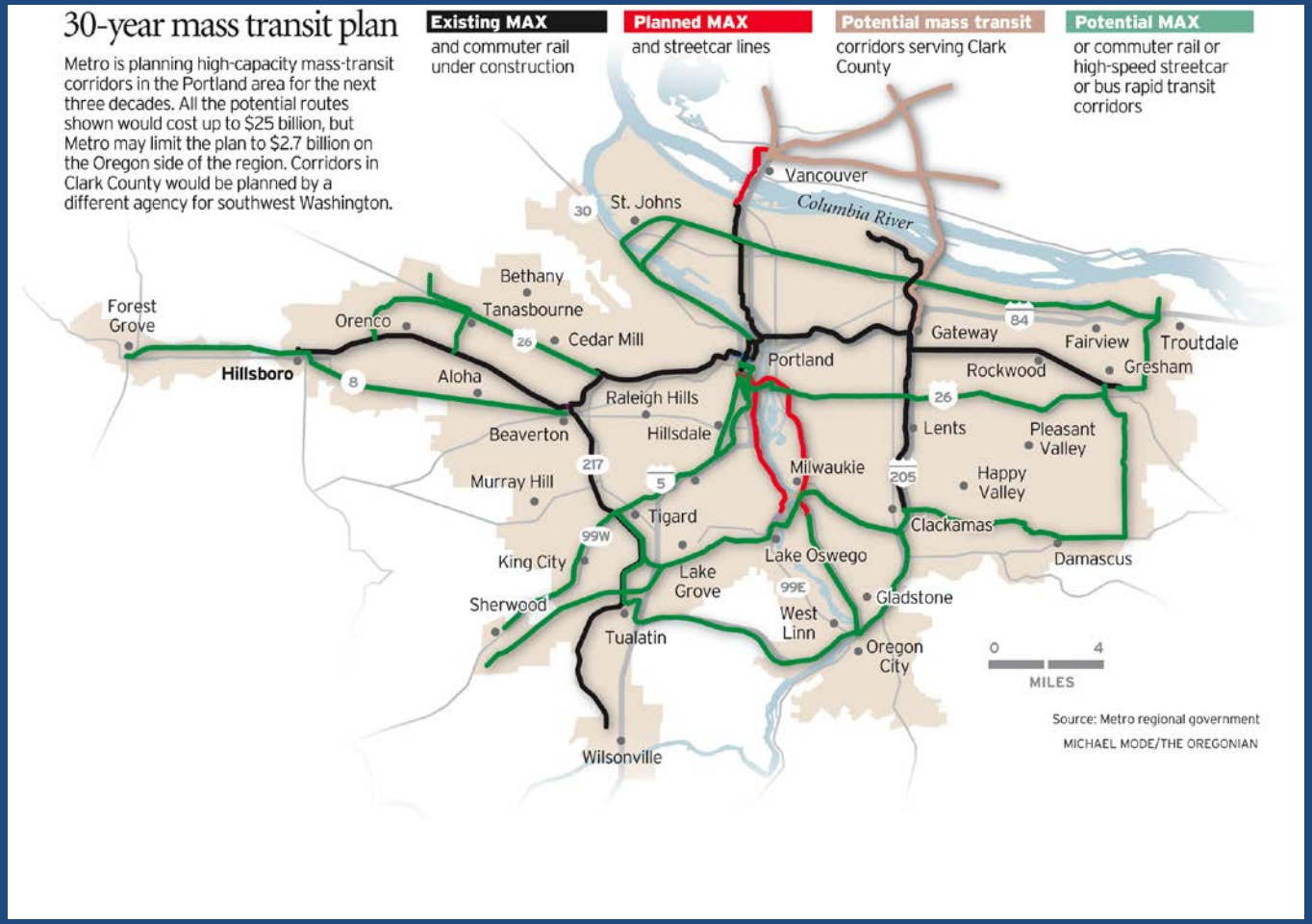
Portland: land use and transportation



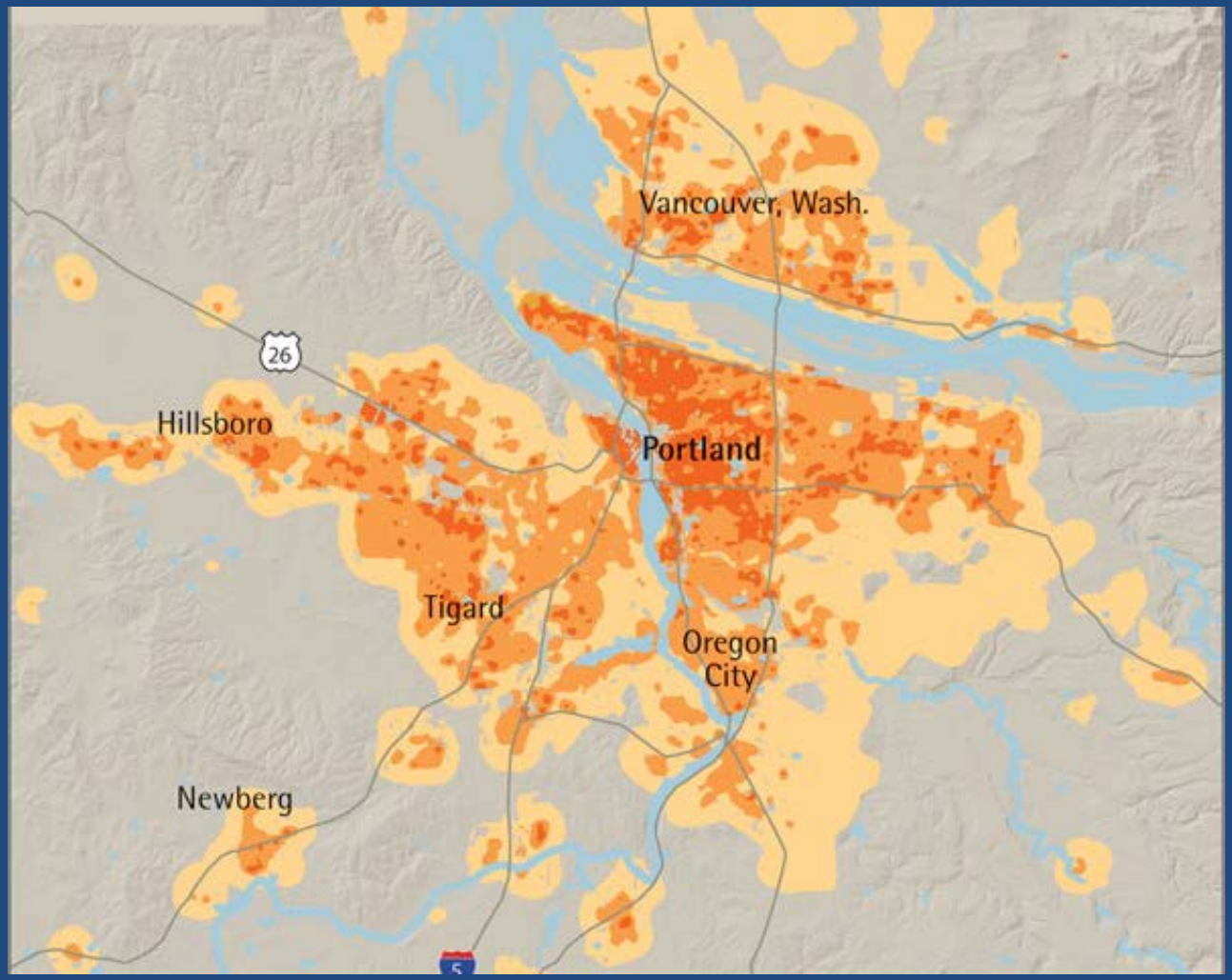
Portland: land use and transportation

- Embracing multi-pronged transportation options
  - Capitalizing on the cycling culture
    - Increased rates 230% from 2000-2009
    - Limited expenses (signs, sharrows, outreach)
    - Creating new economy around cycling = long-term economic benefits
  - Public transportation – light rail
    - Increasing ridership rates every year
  - Electric vehicles – emerging infrastructure

Portland: land use and transportation

- Limits and challenges
  - Leakage
    - Leakage/commuting from suburb-to-suburb
      - Metro government in Oregon can address some of this
      - But major source of commuting = Vancouver, WA

Portland: land use and transportation



Portland: land use and transportation

- Limits and challenges
  - Increased urban density without decreased house sizes =
    - loss of urban gardening land and loss of solar access

Portland: building efficiency

- New city-owned buildings must meet gold LEED standards
  - LEED = certification re: efficiency and other environmental values
- New buildings that receive city funding must meet good LEED standards
- However
  - Codes could be stronger and require more from private developers

Portland: waste, food, trees

- Waste
  - Curb-side yard debris
  - Recycling (67% recycling rate = second-highest in country)
  - 2011
    - Food scraps/compost on curbside
    - Reduced garbage collection

Portland: waste, food, trees

- Trees
  - Street tree planning program through non-profit organization “Friends of Trees”
  - Volunteers plant trees around the city; owners receive donated trees or purchase them
- Food
  - Promoting urban food production

Portland: Using and Setting Norms

- Portland "sustainable city"
  - Long-standing self-identification with green image
  - Leadership role in sustainability important for city and its residents
  - Historical energy development made Portlanders embrace efficiency early on
  - Reinforcement of these ideas
    - Portland Bikeways
    - Green Building
    - Renewable Energy
  - "We're Number 1" messaging matters

Portland: Using and Setting Norms

- Incremental change may be necessary
  - Portland's action plan: 1993 – 2001 – 2009
    - Responding to increased population growth and realities of the challenge
  - Self-reinforcing ideas necessary for long-term/permanent change

Portland's Outcomes

- 2011 emissions
  - 6% below 1990 (after initially going up)
  - 26% below 2000 levels (even though population grew by 26% at that time)

The role of cities?

- Long-term demand-side reductions
  - Incremental, but lasting
- Untapped authority to promote renewable energy development
- Leading from the bottom up

Recognizing different motivations

- Traditional approach
- Market-based approach
- Behavioral, community approach