Water Smart Growth:
Best Practices for Implementing Water Efficiency Through Land Use Planning

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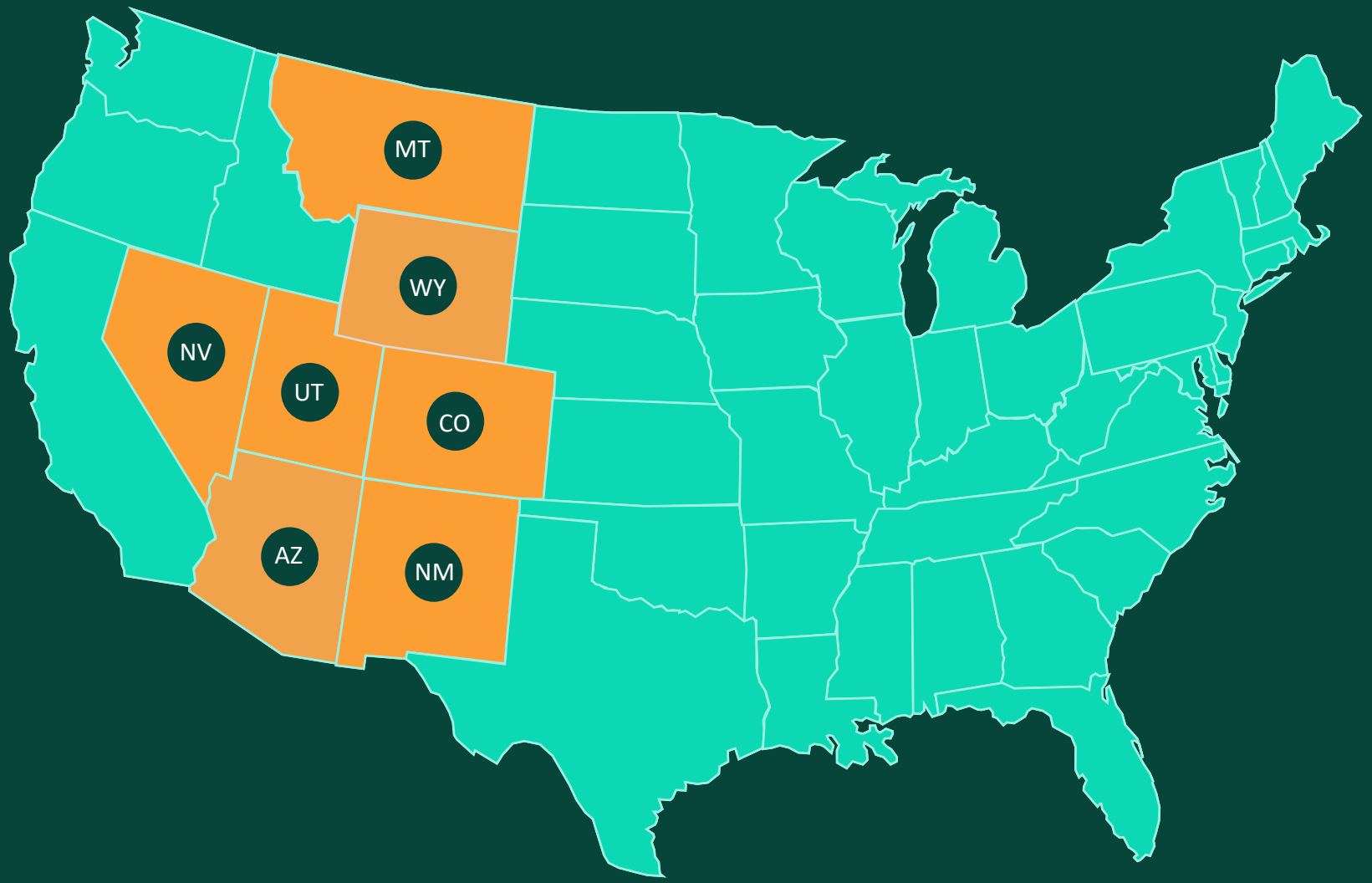


Western Resource Advocates

- Federal & Regional Collaboration
- State Legislatures
- State Agencies & Commissions
- Local Governments
- Electric Utilities
- Diverse Coalitions & Communities

WRA works across seven states in the **Interior West** to **protect our climate**, land, air, and water.

Integrated Water & Land Use Planning

AGENDA

I. Introduction
II. Overview of strategies throughout the development process
III. Examples & case studies
IV. Question

Why does municipal water use matter?

- 7% of total water use in Colorado
- By 2050, 360,000 acre-feet/year projected M&I supply and demand gap
- Population projected to be 7.5 million in 2050
- Climate change & prolonged drought exacerbate supply challenges
- ~$93,000 - $98,000 per 1 AF of C-BT project water
- More demand can lead to increased pressure on agriculture & rivers

Shift to Demand-side Water Management

Water Conservation = Encouraging water users to reduce their use

Water Efficiency = Requiring/encouraging the use of technology, building, or site design that uses less water

Water Reuse = Treating or converting gray and black water to replace/augment supplies

Decoupling Growth from Demand

- **Fort Collins** grew 6% from 2000 to 2015 and saw total water use reductions of 14%
- **Denver** grew 17% from 2000 to 2015 but saw total water use reductions of 28%
- **Colorado Springs** grew 92% since the mid-80s, but the City is using about the same amount of water today as it was 40 years ago

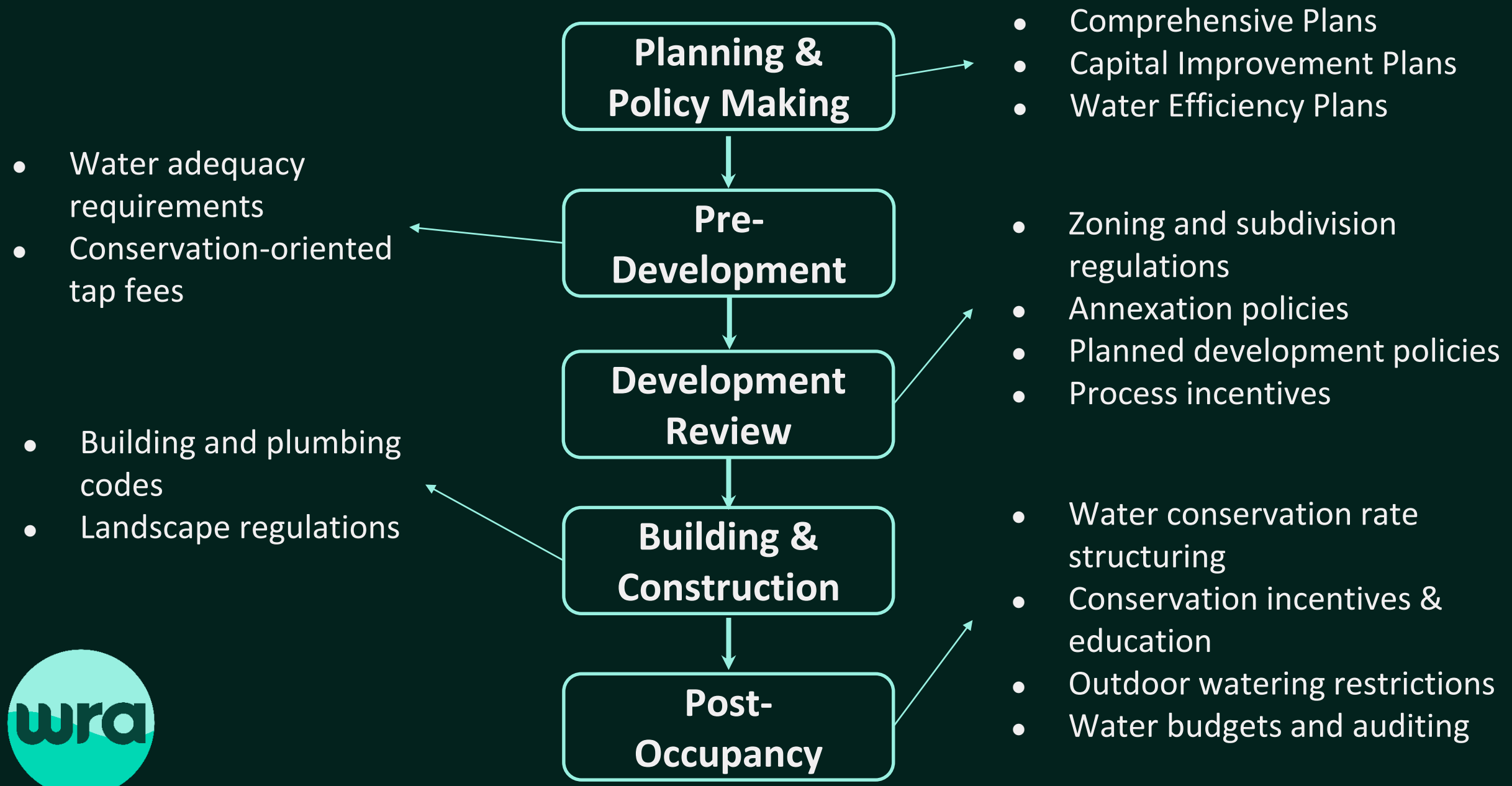
Reducing Outdoor Water Use

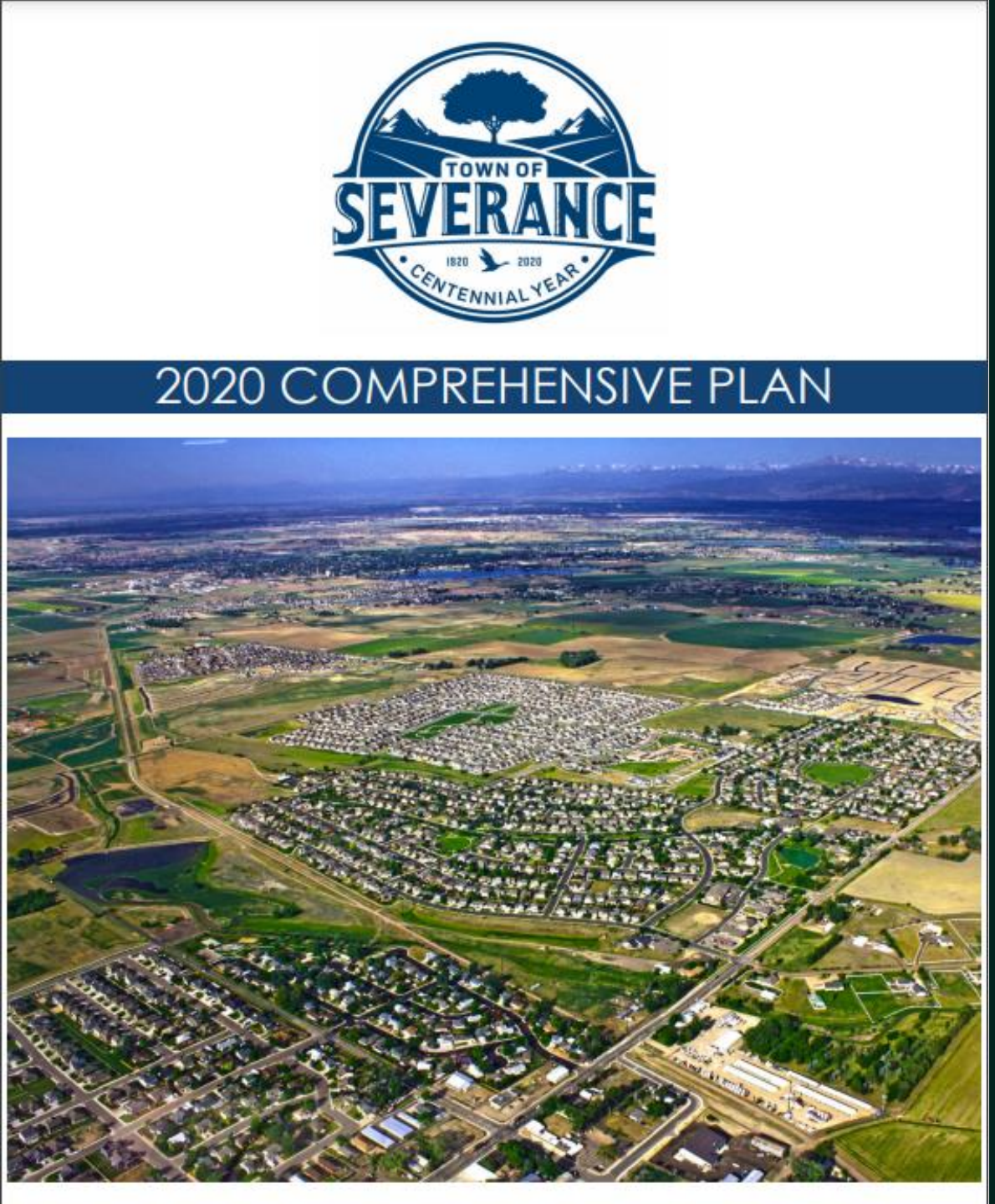
- Nearly 50% of municipal water supplies in Colorado are used outdoors, mostly irrigating **high water use turfgrass**
- Outdoor water use is **consumptive**
- Replacing or limiting **non-functional turfgrass** is one our most impactful demand reduction opportunities

2015 CWP Measurable Objective:
By 2025, 75% of Coloradoans live in communities that have incorporated water saving action into land use planning

Why integrate water & land use planning?

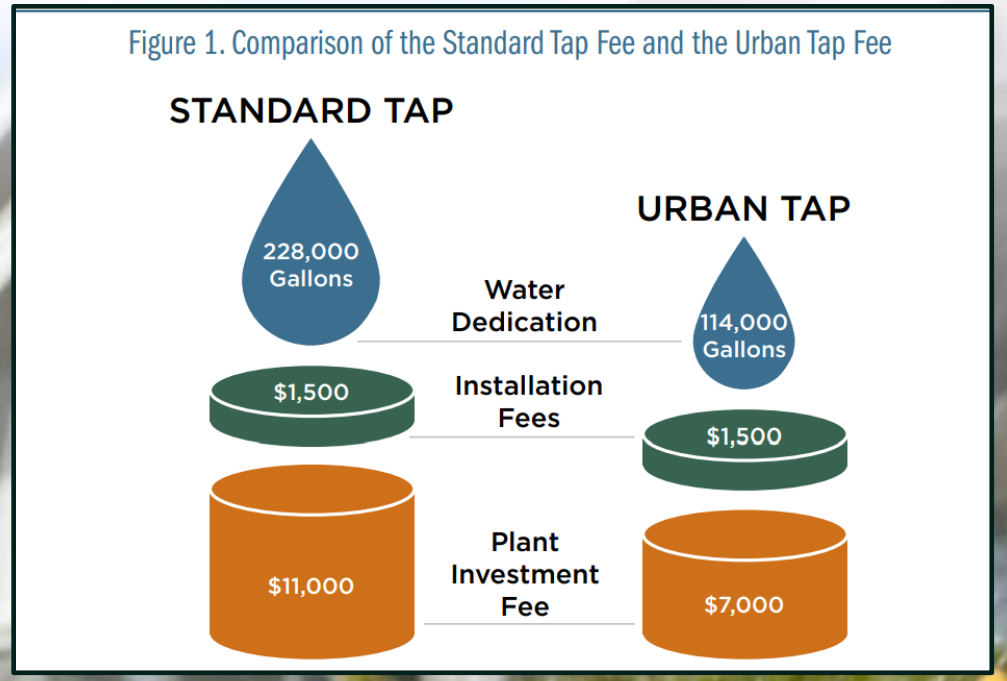
- Historically **siloed**, leading to inefficiencies
- Significantly **reduce the water demand** of new and redevelopment
- Empowers communities to improve water efficiency within their **own context**
- Align water supply and demand to **increase resilience** to drought and climate change


Planning & Policy Making
Pre-Development
Development Review
Building & Construction
Post-Occupancy
Comprehensive Plans
Capital Improvement Plans
Water Efficiency Plans
Water adequacy requirements
Conservation-oriented tap fees
Zoning and subdivision regulations
Annexation policies
Planned development policies
Process incentives
Building and plumbing codes
Landscape regulations
Water conservation rate structuring
Conservation incentives & education
Outdoor watering restrictions
Water budgets and auditing



Planning & Policy Making:
Comprehensive Plans

"Any proposal for changing land uses in or around Severance will be evaluated based on… Water resource availability and commitment to water efficient development practices."



Pre-Development: Conservation-Oriented Tap Fees

- Traditionally based on meter size
- Conservation-oriented tap fees based on:
  - Lot size
  - Landscapable area
  - Number of bedrooms or bathrooms
- *Example: Little Thompson Water District*

Development Review:
Zoning Codes

- **Compact, infill development** reduces water demand and infrastructure costs

- Compared to a single-family home:
  - ADUs = 22% less water
  - Small Multi-Family Unit = 63% less
  - Large Multi-Family Unit = 86% less

  (Keystone Policy Center, 2018, Colorado Water & Growth Dialogue Final Report)

Castle Rock passes new rules on limiting lawns

Building & Construction:
Landscape Regulations

Example: Town of Castle Rock

- No lawns in front yards & limited to 500 sq ft in backyards
- Soil amendment & mulch
- Irrigation efficiency best practices

"Introduce a program to reduce the quantity of **non-functional turf grass by 30%** through replacement with drought- and climate-resilient landscaping..."
- CO River Basin MOU, Aug 2022

Post-Occupancy: Turf Replacement

- 34 cities/water providers offer turf replacement incentives
- Residential & Commercial
- ~$1-$2 per sq ft rebates
- Programs save ~1-2 AF/acre/yr
- $2M appropriated through HB22-1151: Turf Replacement Program

Thank You!

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Questions?

Western Resource Advocates