

Meeting Future Water Demands

Water and Wastewater
Commission
May 10, 2023



HOW AW PLANS TO MEET WATER DEMANDS FOR THE NEXT 100 YEARS



100-year population and employment projections

- Developed in collaboration with the City Demographer

100-year demand projections

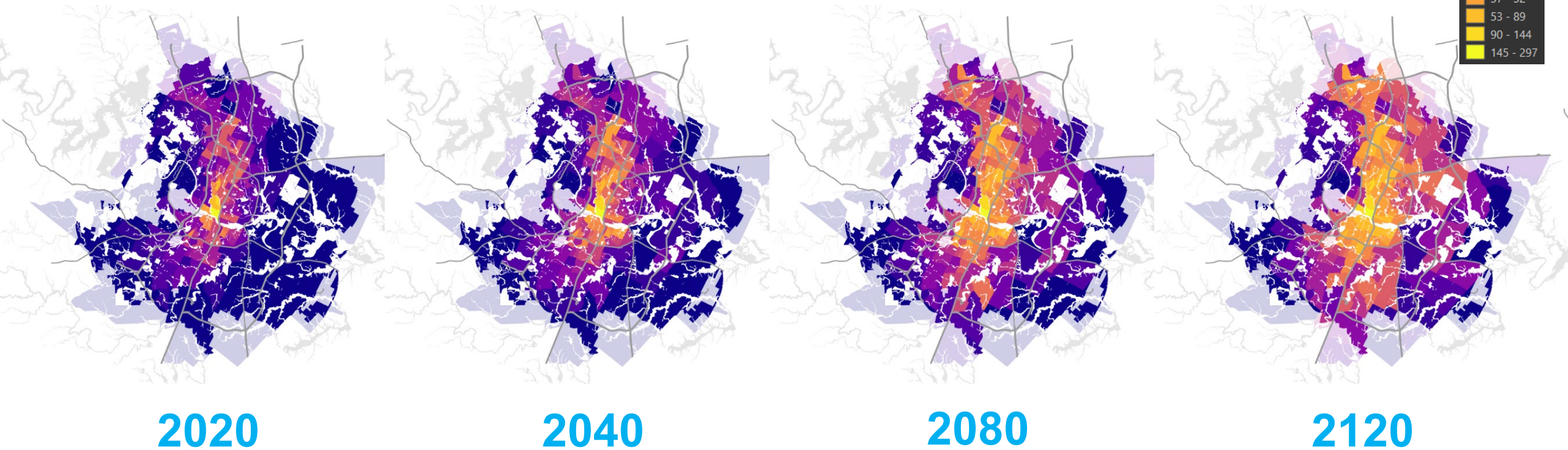
- Disaggregated by sector, subsector, and end use

Strategies to Meet Demands

- Including conservation, reuse, and supply



PROJECTING GROWTH



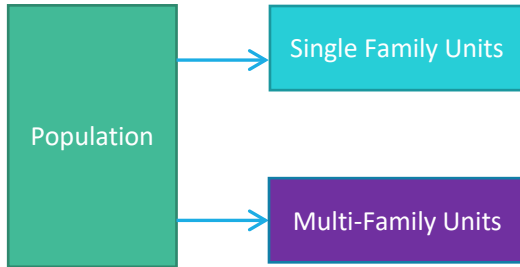
Combined Population and Employment Density
(people + employees/developable acre)



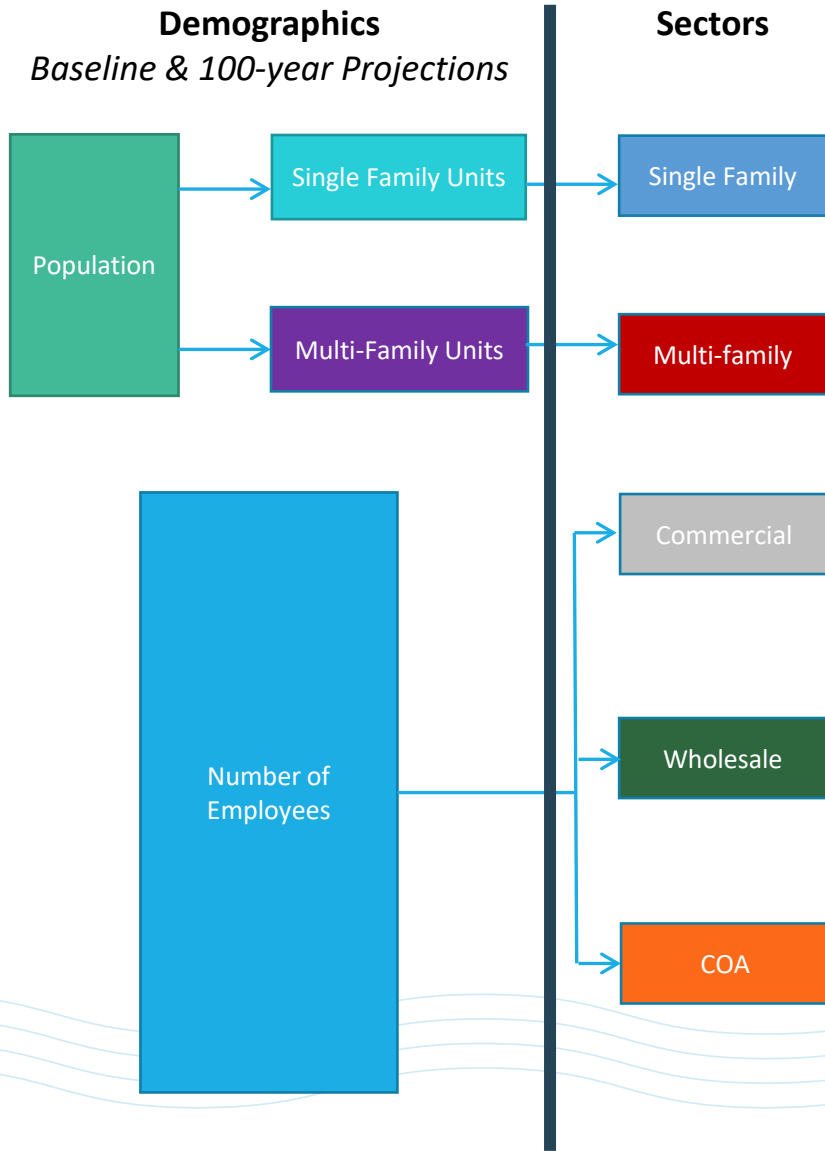
DISAGGREGATED DEMAND MODEL: DEMAND ESTIMATION PROCESS

Demographics

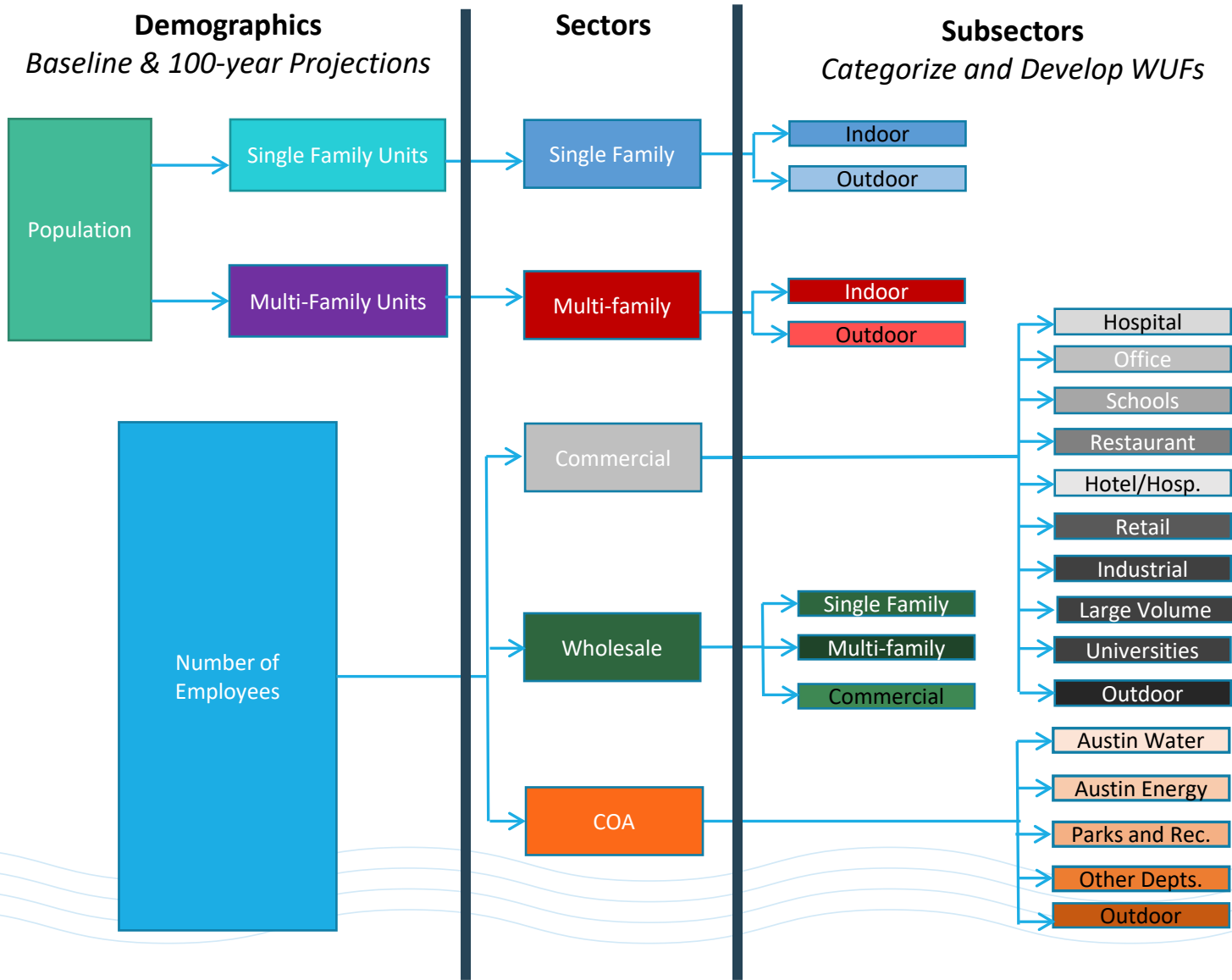
Baseline & 100-year Projections



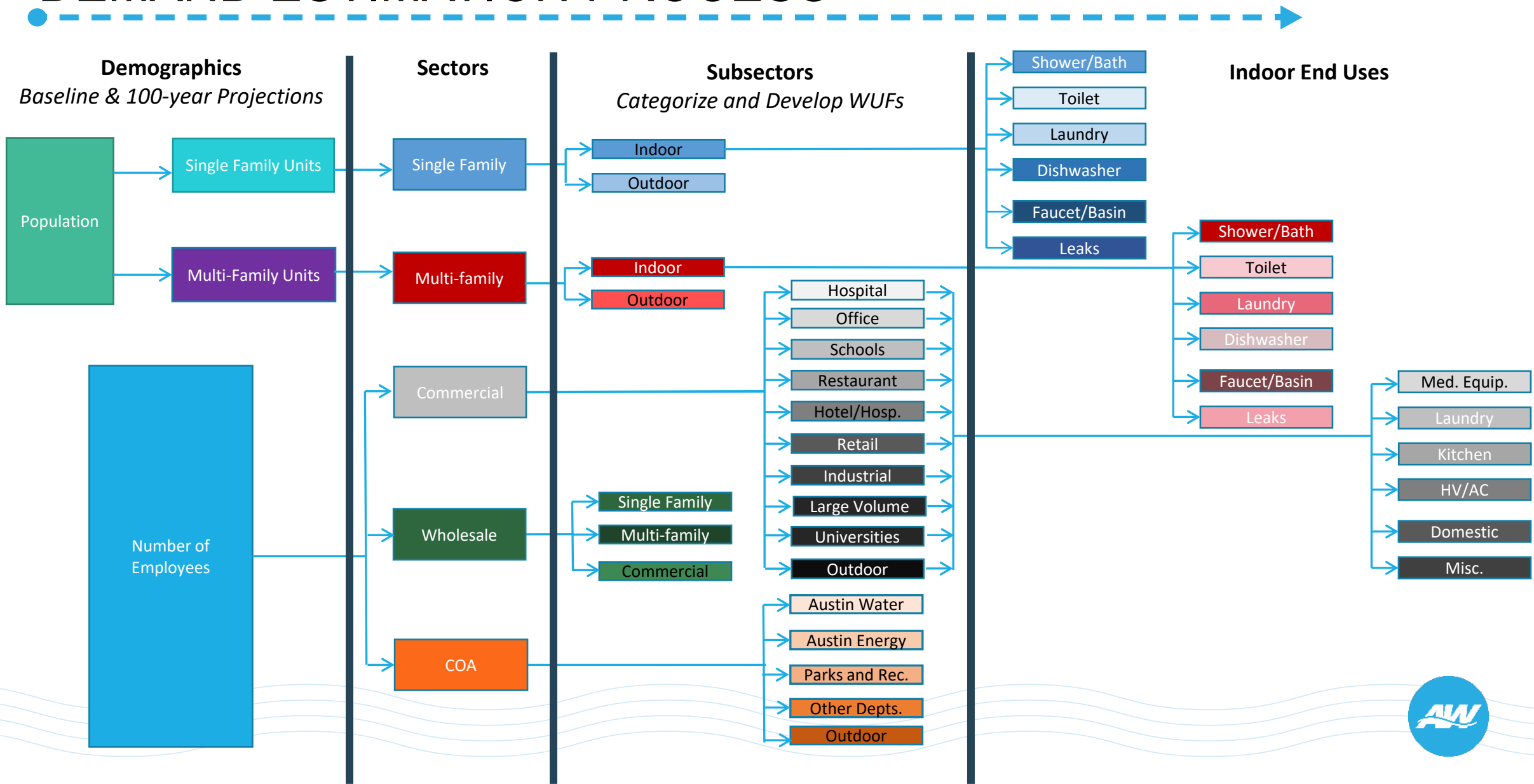
DISAGGREGATED DEMAND MODEL: DEMAND ESTIMATION PROCESS



DISAGGREGATED DEMAND MODEL: DEMAND ESTIMATION PROCESS

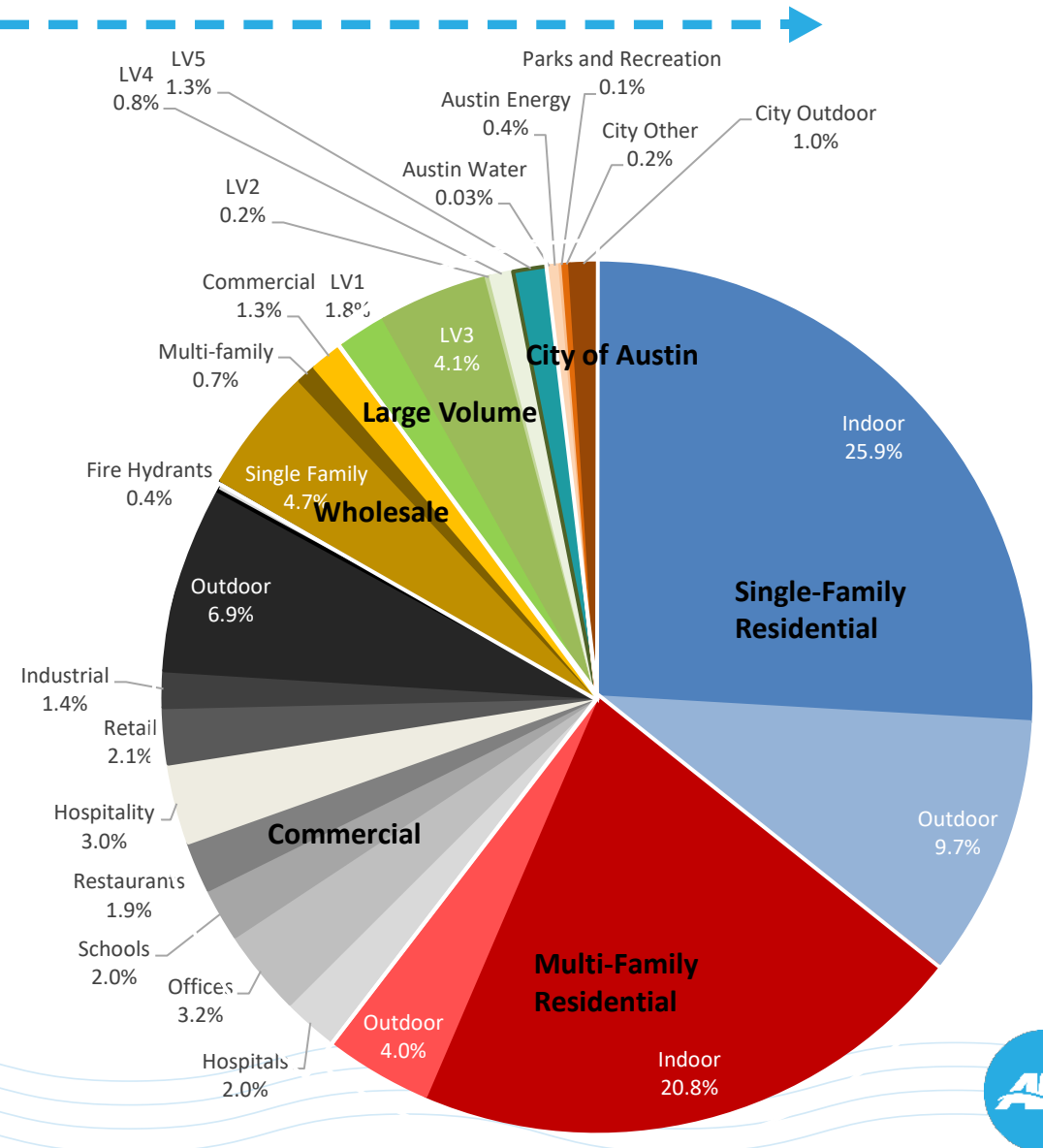


DISAGGREGATED DEMAND MODEL: DEMAND ESTIMATION PROCESS



END USE PROJECTIONS

- End use level projections are used to identify strategies to reduce demand via conservation or reuse



100-YEAR DEMAND PROJECTIONS

Table 4-2. Baseline water demand forecast by sector to 2115 – consumption, pumpage, and demand

Sector	Base Year Demand (Billion Gallons Per Year)	Future Water Demand (Billion Gallons Per Year)			
		2020	2040	2070	2115
Single family residential	13.99	15.61	19.98	28.22	41.99
Multi-family residential	9.76	11.13	14.81	22.66	42.47
Commercial	12.03	13.16	18.02	27.60	44.39
Wholesale	2.64	2.43	2.79	3.32	3.53
City of Austin	0.70	0.89	1.48	2.05	3.07
Other	0.16	0.18	0.23	0.34	0.55
Consumption Total	39.29	43.40	57.30	84.19	136.0
Difference between Consumption and Pumpage (includes system losses)	4.85	5.36	8.44	9.93	12.12
Pumpage Total	44.14	48.76	65.75	94.12	148.1
Total Baseline Demand ^{1, 2}	45.39	50.13	67.60	96.78	152.3

¹ Baseline demand amount would equate to raw water diversion at present.

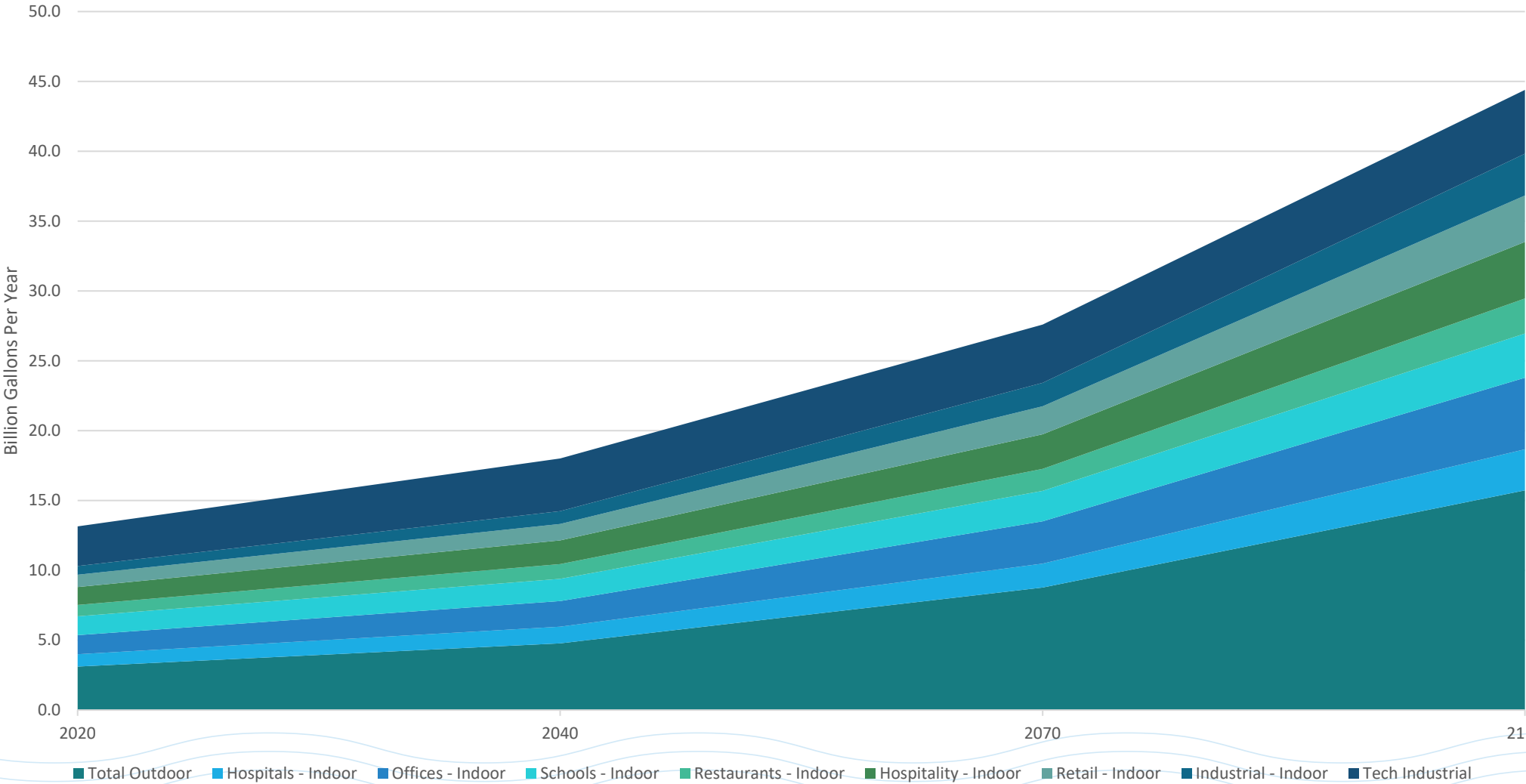
² The difference between raw water diversions and treated water pumpage is attributable to several factors including use of some of that water in the treatment process itself, water loss due to evaporation, and metering differences.



COMMERCIAL SUBSECTOR PROJECTIONS

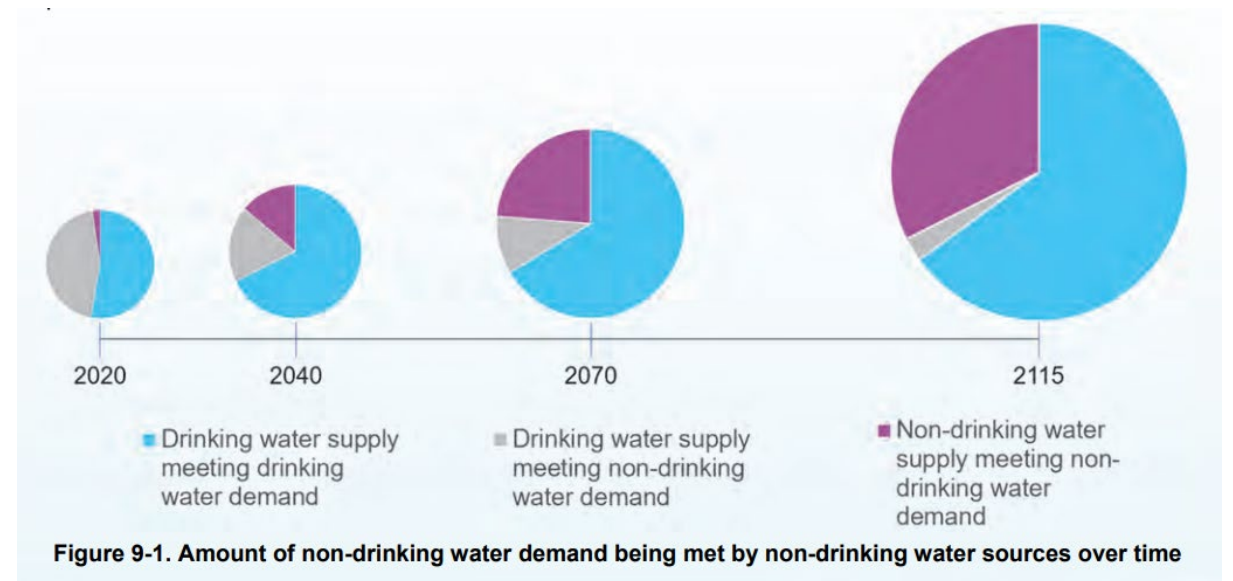


WF18 Baseline Commercial Subsector Water Demand Projections



STRATEGIES TO MEET FUTURE DEMANDS

- WF18 embraced a “fit-for purpose” approach
- Meeting non-potable demands with water treated to the most appropriate quality (aka reuse)
- Identifying additional potable water supplies to meet potential gaps



STRATEGIES TO MEET FUTURE DEMANDS



Conservation

- Advanced Metering Infrastructure
- Water Loss Control
- **Water Benchmarking**
- Water Budgeting
- Others

Reuse

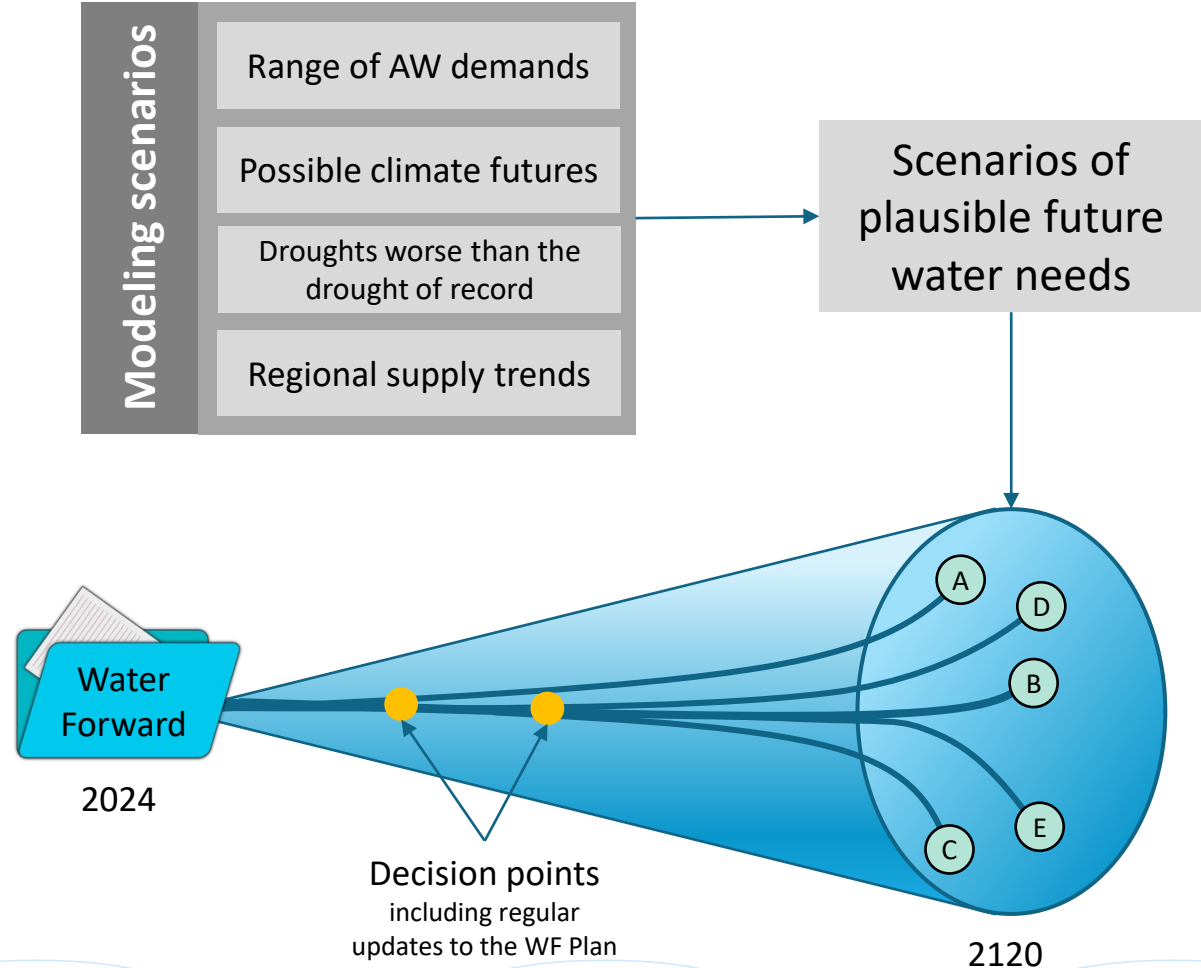
- **Onsite Water Reuse Systems**
- **Decentralized Reclaimed**
- **Centralized Reclaimed**

Supply

- Aquifer Storage and Recovery
- Indirect Potable Reuse
- Others

PLANNING PROCESS IMPROVEMENTS

- Regular demand forecast updates
 - To incorporate growth trends and updated demand data
- Scenario planning
 - Evaluating multiple plausible future water demand scenarios
- Adaptive management
 - Including key decision points for adaptation



An aerial photograph of a wastewater treatment plant. In the foreground, there are several large, rectangular concrete basins filled with water, connected by a network of walkways and railings. Beyond the basins, there's a large green field and some industrial buildings. In the far background, a dense urban skyline is visible under a cloudy sky. A semi-transparent blue banner is overlaid across the middle of the image.

Thank you!

