



# **WATER FORWARD**

INTEGRATED WATER RESOURCE PLAN

## **Austin Integrated Water Resource Planning Community Task Force**

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**December 13, 2016**

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**Austin Integrated Water Resource Planning Community Task Force**  
**December 13, 2016 2:00 – 4.00 p.m.**  
**Glen Bell Service Center, Rm 134**  
**Tom Medders Training Rm,**  
**3907 S. Industrial Drive**  
**Austin, Texas 78744**

**For more information go to:**  
**[Austin Integrated Water Resource Planning Community Task Force](#)**

## **AGENDA**

### Voting Members:

Sharlene Leurig - Chair	Marianne Dwight	Sarah Richards
Jennifer Walker – Vice Chair	Diane Kennedy	Lauren Ross
Todd Bartee	Perry Lorenz	Kate Zerrenner
Clint Dawson	Bill Moriarty	

### Ex Officio Non-Voting Members:

Austin Water: Greg Meszaros  
Austin Energy: Kathleen Garrett  
Austin Resource Recovery: Sam Angoori  
Neighborhood Housing and Community Development: Rebecca Giello  
Office of Innovation: Kerry O'Connor  
Office of Sustainability: Lucia Athens  
Parks and Recreation: Sara Hensley  
Watershed Protection: Mike Personett

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## **1. CALL TO ORDER – December 13, 2016, 2:00 p.m.**

## **2. CITIZEN COMMUNICATION**

The first 10 speakers signed up prior to the meeting being called to order will each be allowed a three-minute allotment to address their concerns regarding items not posted on the agenda.

## **3. APPROVAL OF MEETING MINUTES**

- a. Approval of the meeting minutes from the December 6, 2016 Task Force meetings (5 minutes)

**4. STAFF BRIEFINGS, PRESENTATIONS, AND OR REPORTS**

- a. Disaggregated Demand Model Overview – City Staff and Consultant (joining remotely) (60 minutes)
  - i. Task Force Discussion and Input

**5. SUBCOMMITTEE REPORTS**

**6. VOTING ITEMS FROM TASK FORCE**

**7. FUTURE AGENDA ITEMS**

**8. ADJOURN**

Note: Agenda item sequence and time durations noted above are subject to change.

The City of Austin is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give notice at least 2 days (48 hours) before the meeting date. Please call Austin Integrated Water Resource Planning Community Task Force, at 512-972-0194, for additional information; TTY users route through Relay Texas at 711.

For more information on the Austin Integrated Water Resource Planning Community Task Force, please contact Marisa Flores Gonzalez at 512-972-0194.

# MINUTES



**The Austin Integrated Water Resource Planning Community Task Force convened in a regular meeting on December 6, 2016 at 625 East 10<sup>th</sup> Street, Room 104, in Austin, Texas.**

**Members in Attendance:**

Sharlene Leurig - Chair  
Clint Dawson

Diane Kennedy  
Sarah Richards

Bill Moriarty  
Lauren Ross

**Ex-Officio Members in Attendance:**

Greg Meszaros, Mike Personett, Lucia Athens, Kathleen Garrett

**Staff in Attendance:**

Kevin Critendon, Daryl Slusher, Teresa Lutes, Joe Smith, Marisa Flores Gonzalez, Mark Jordan, Chris Chen, Liz Johnson, Ginny Guerrero, Jeff Fox, Heather Cooke, Katherine Jashinski

**Additional Attendees:**

Katharine Hayhoe, Richard Hoffpauir, Ron Anderson, Leonard Oliver, Mary Ann Neely, Craig Smith, John Burke, Bill Bunch

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**1. CALL TO ORDER**

Sharlene Leurig, Chair, called the meeting to order at 6:06 p.m.

**2. CITIZEN COMMUNICATION: GENERAL**

**3. APPROVAL OF MEETING MINUTES**

The meeting minutes from the October 4, 2016 Austin Integrated Water Resource Planning Community Task Force regular meeting were approved on Member Richard's motion and Member Dawson's second on a 5-0-1-5 vote with Member Moriarty abstaining and Members Zerrenner, Walker, Bartee, Dwight, and Lorenz absent.

**4. STAFF BRIEFINGS, PRESENTATIONS, AND/OR REPORTS**

- a. Draft Climate Change and Hydrology Analysis Results presentation was provided by Katherine Hayhoe, Ph.D., ATMOS Research. This briefing was followed by a Task Force discussion including questions and answers.

**5. SUBCOMMITTEE REPORTS**

- a. Written Public Outreach and Code Subcommittee Reports were provided in Task Force Member Packets.

**6. VOTING ITEMS FROM TASK FORCE**

- a. The proposed 2017 Task Force meeting schedule was approved on Member Moriarty's motion and Member Dawson's second on a 6-0-0-5 vote with Members Zerrenner, Walker, Bartee, Dwight, and Lorenz absent.

**10. FUTURE AGENDA ITEMS**

None

**Chair Leurig adjourned the meeting at 7:59 pm.**



# **PRESENTATION**

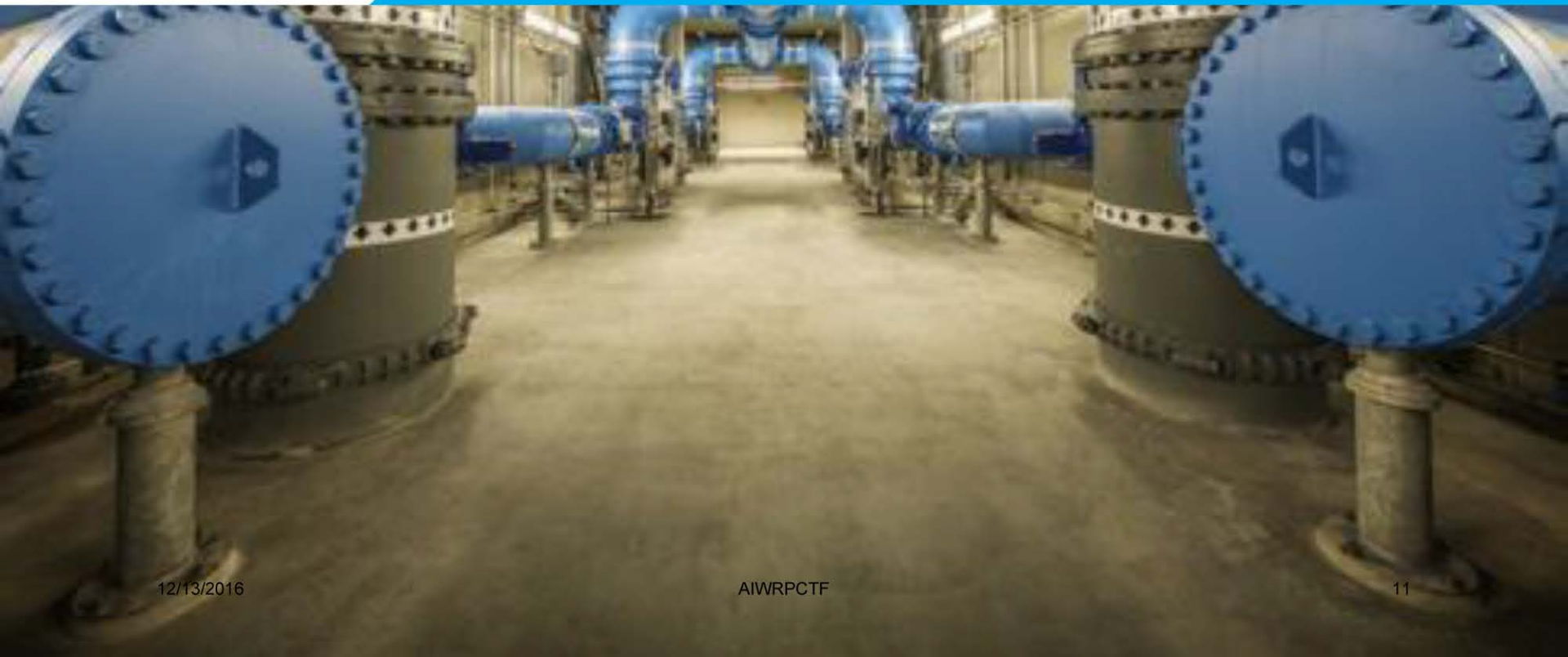






# Disaggregated Demand Model

December 13, 2016



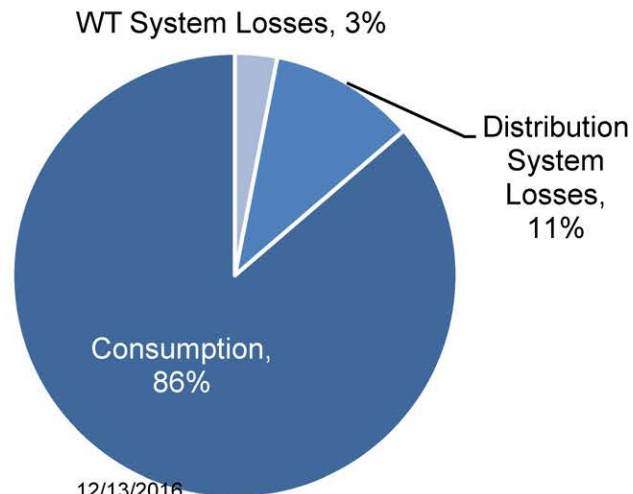
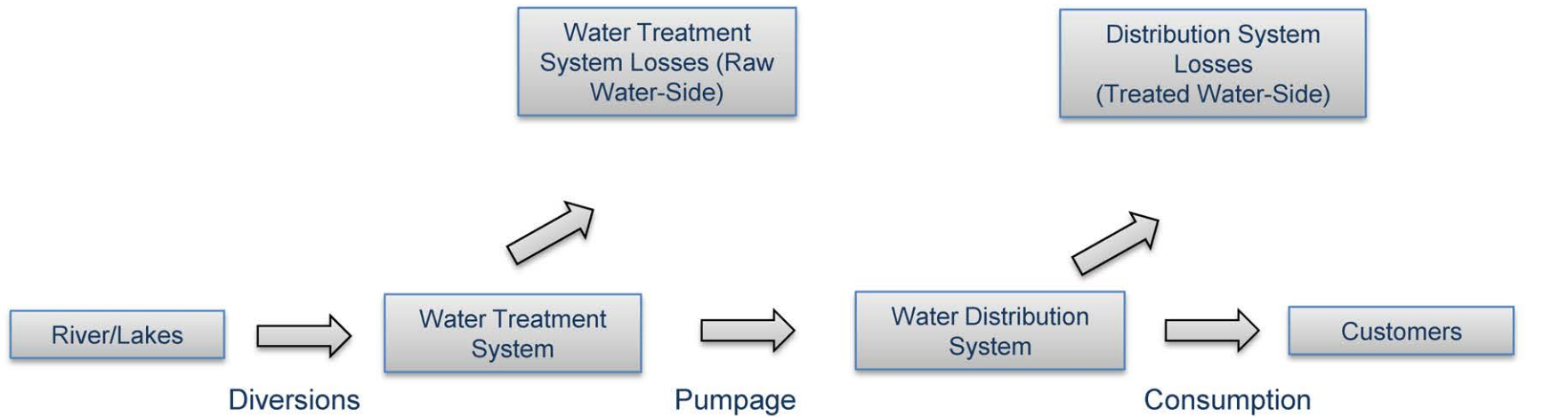
## Outline

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- What does the model do?
- How does the model work?
- Preliminary results from the model
- How will the model be used?
- Next steps

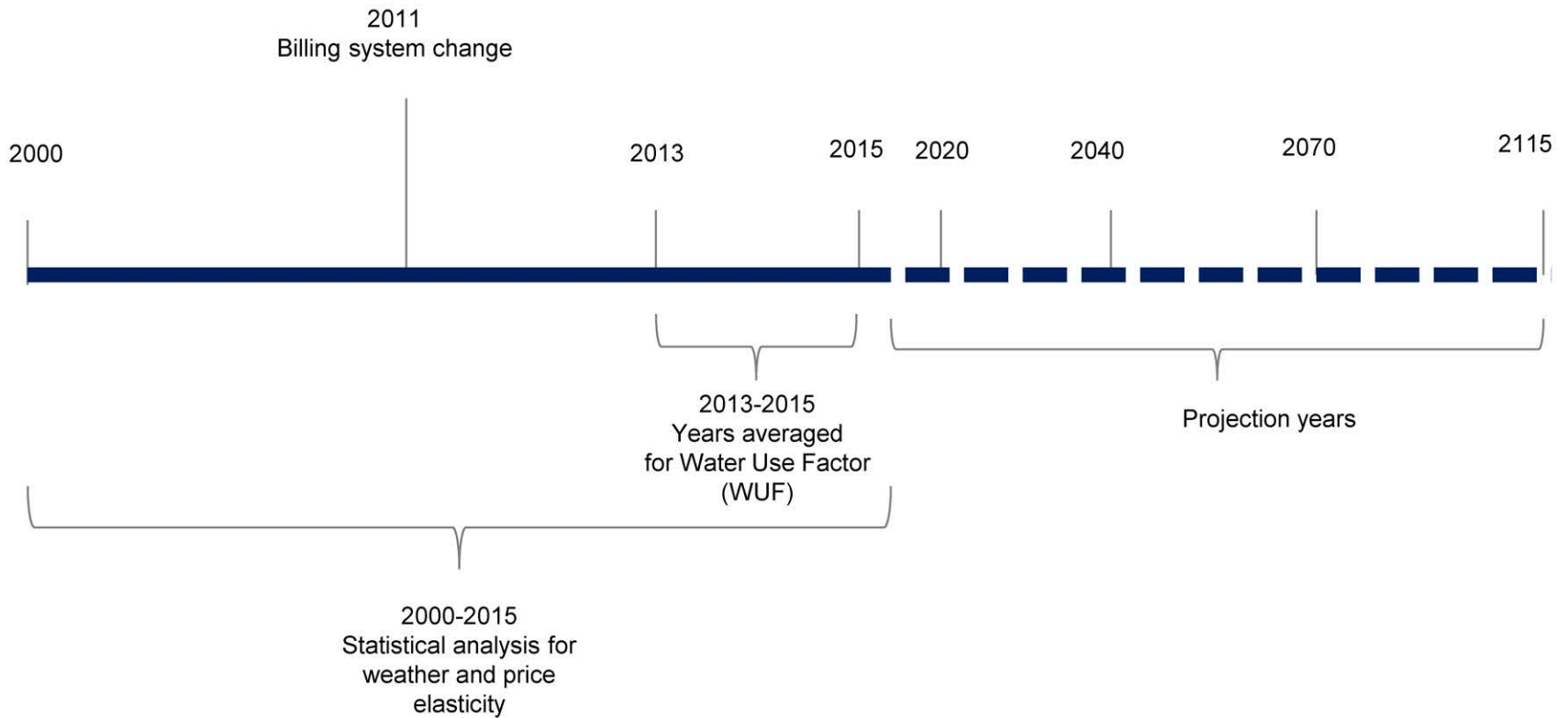
## What Does The Model Do?

## Typical Water-Flow In Austin's Water System








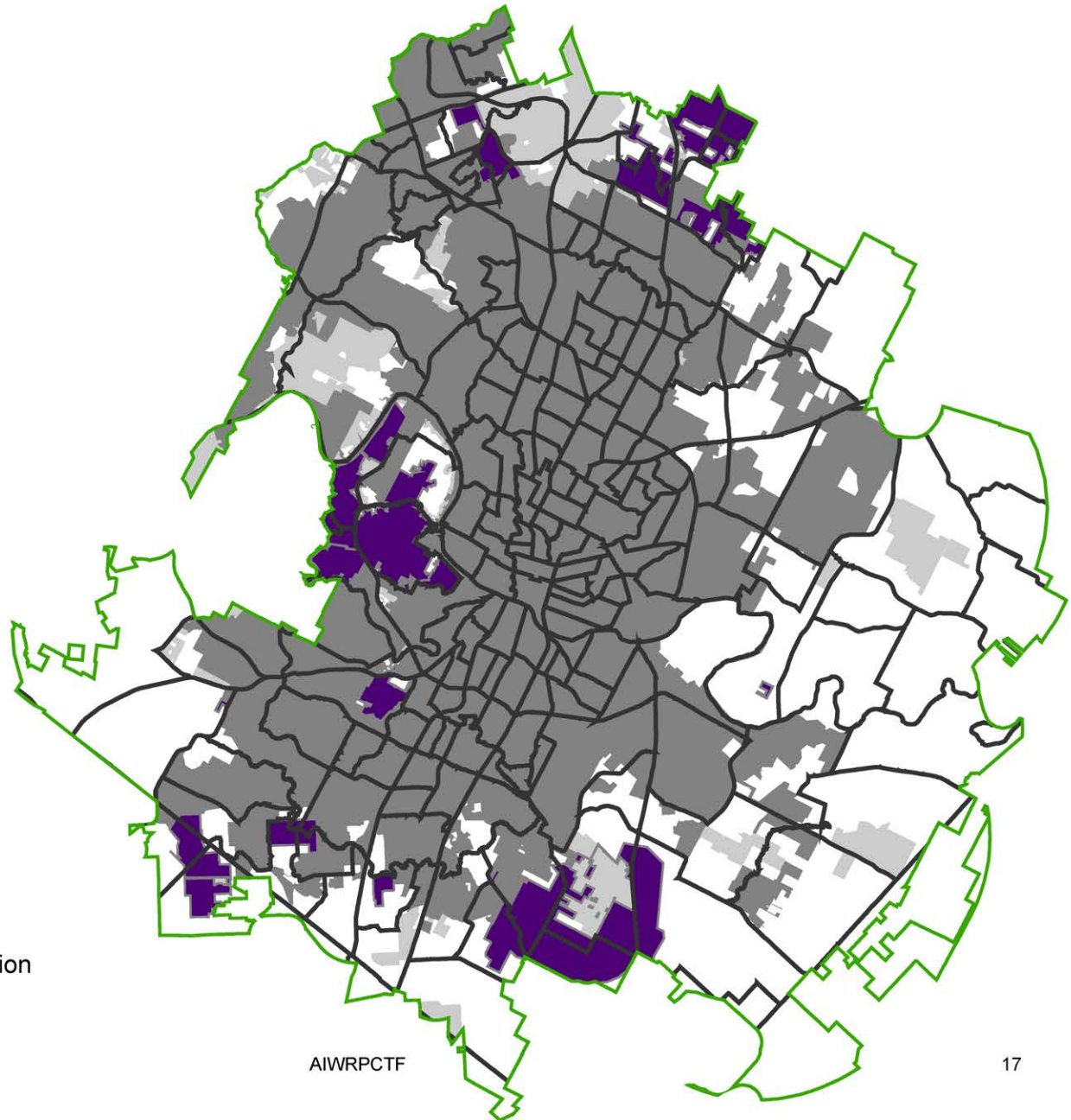


## Analysis Timeline





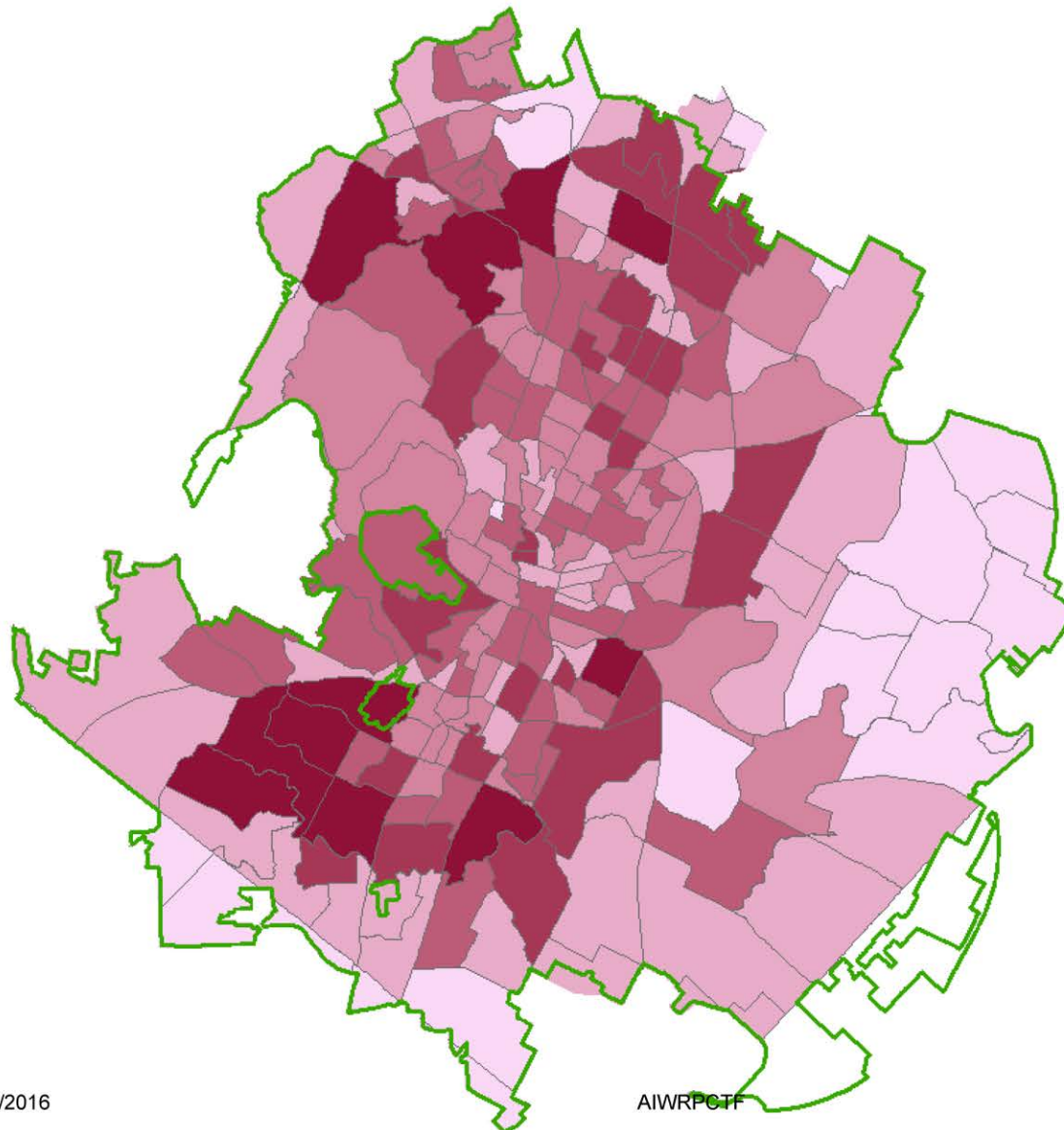
-  DTI polygons
-  Impact fee boundary
-  Austin full purpose jurisdiction
-  Austin limited purpose jurisdiction
-  Wholesale service areas



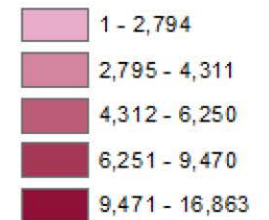


## How Does The Model Work?

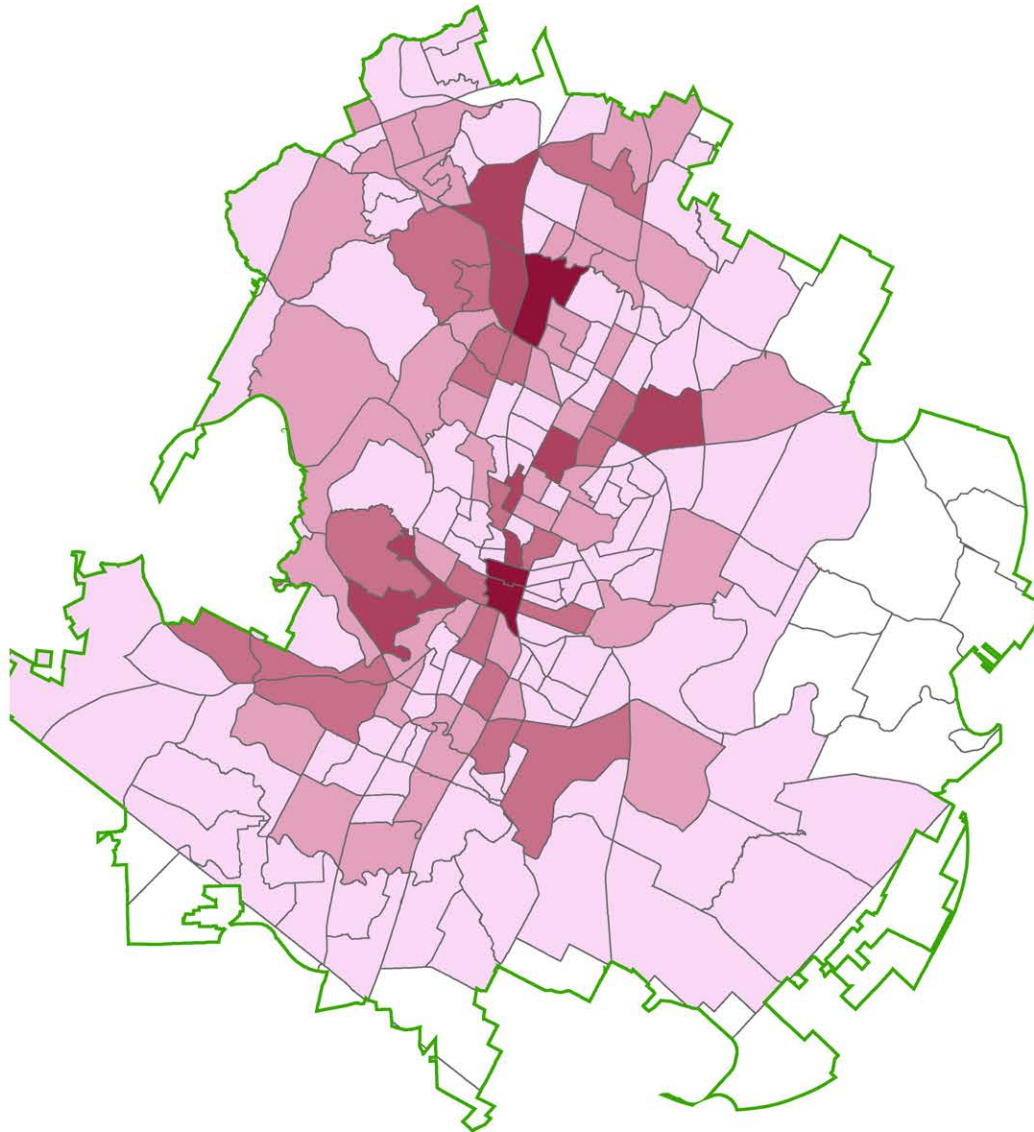
## Served Population Distribution 2010



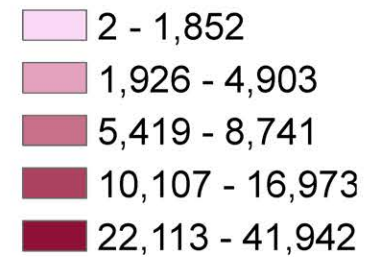
**2010 Served Population**

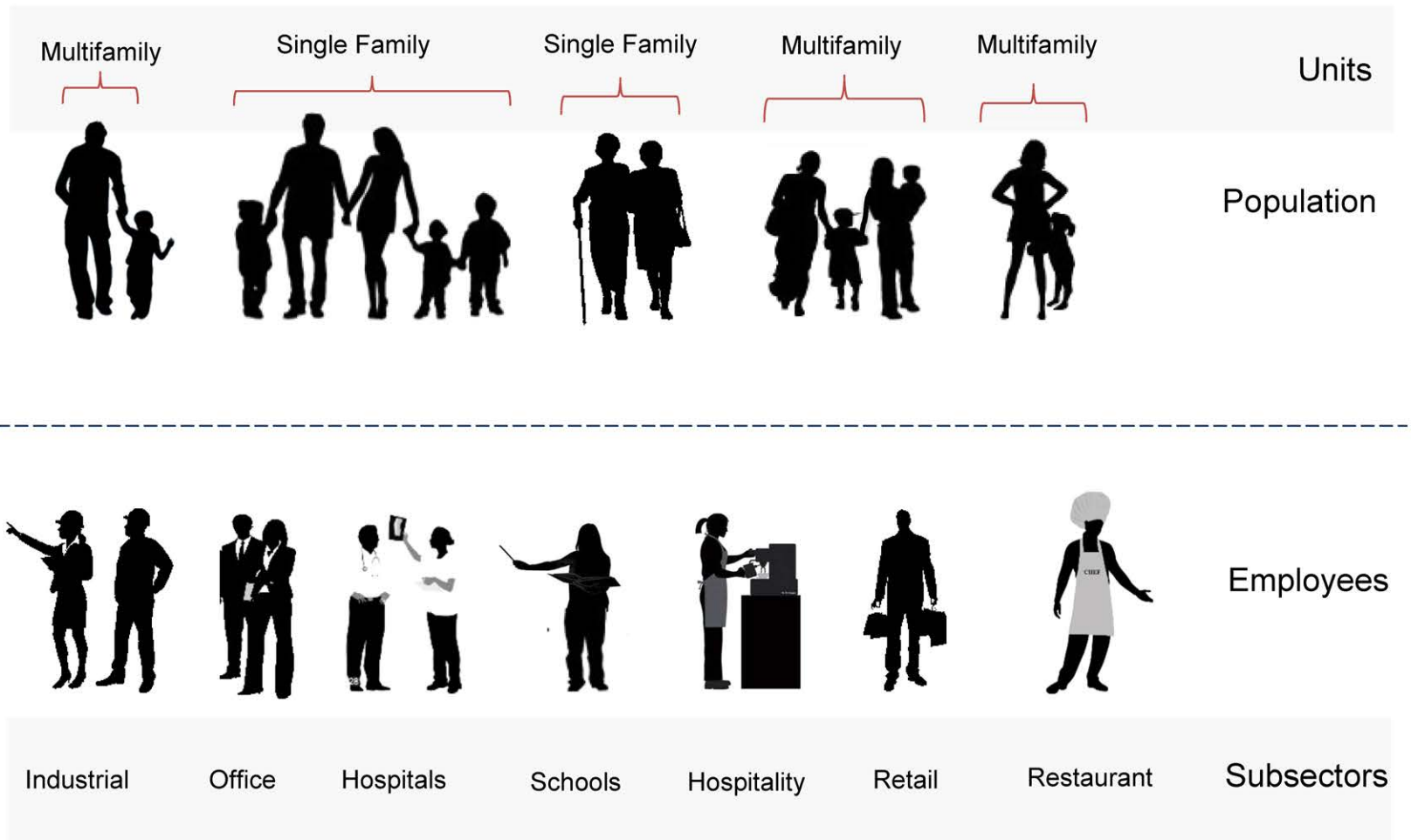


## Employment Distribution 2010



### 2010 Employment

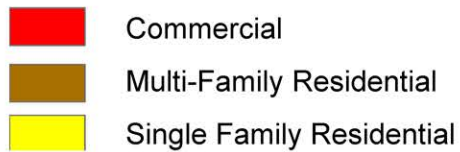






## Water Use Factor Development

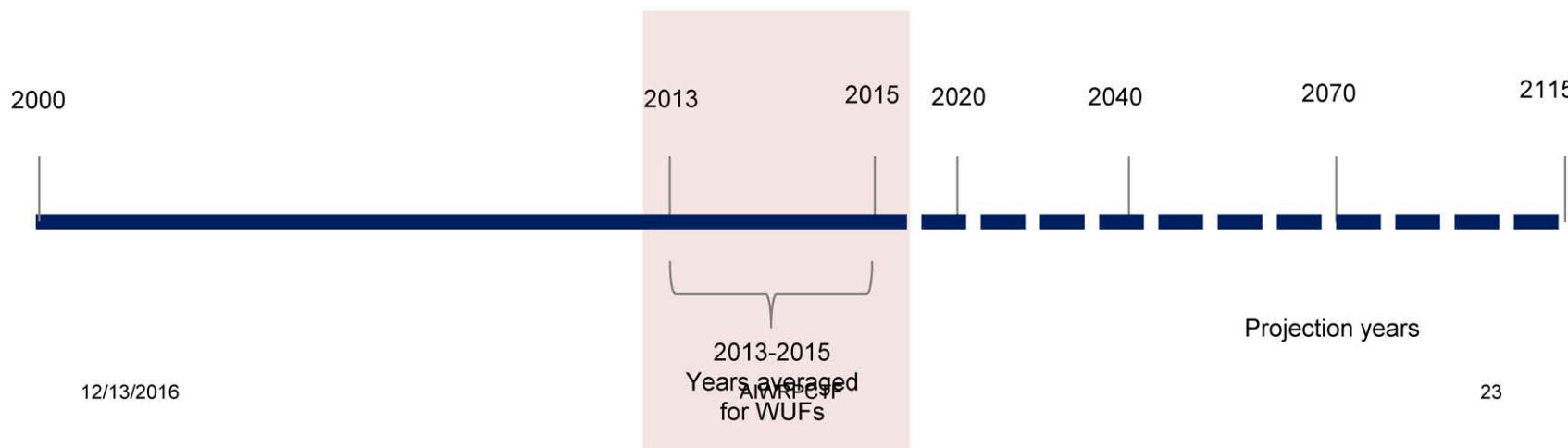
Eg: DTI polygon 89

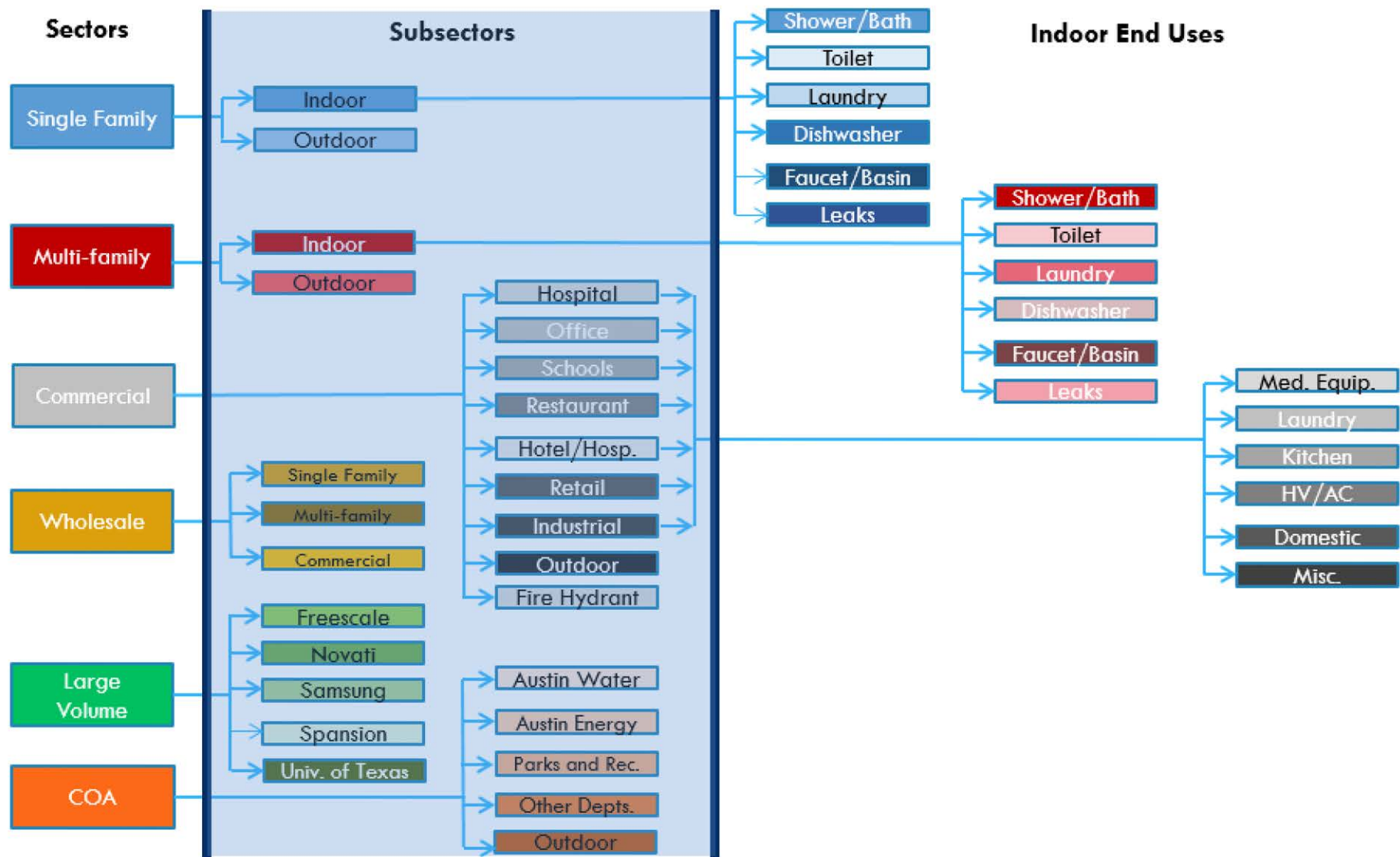


## Water Use Factor (WUF) Calculation

Example of WUF calculation for  
Single Family Residential

$$\frac{\text{SF Billed Volume (gal)}}{\text{Number of SF units}} = \text{SF Water Use Factor (WUF)}$$

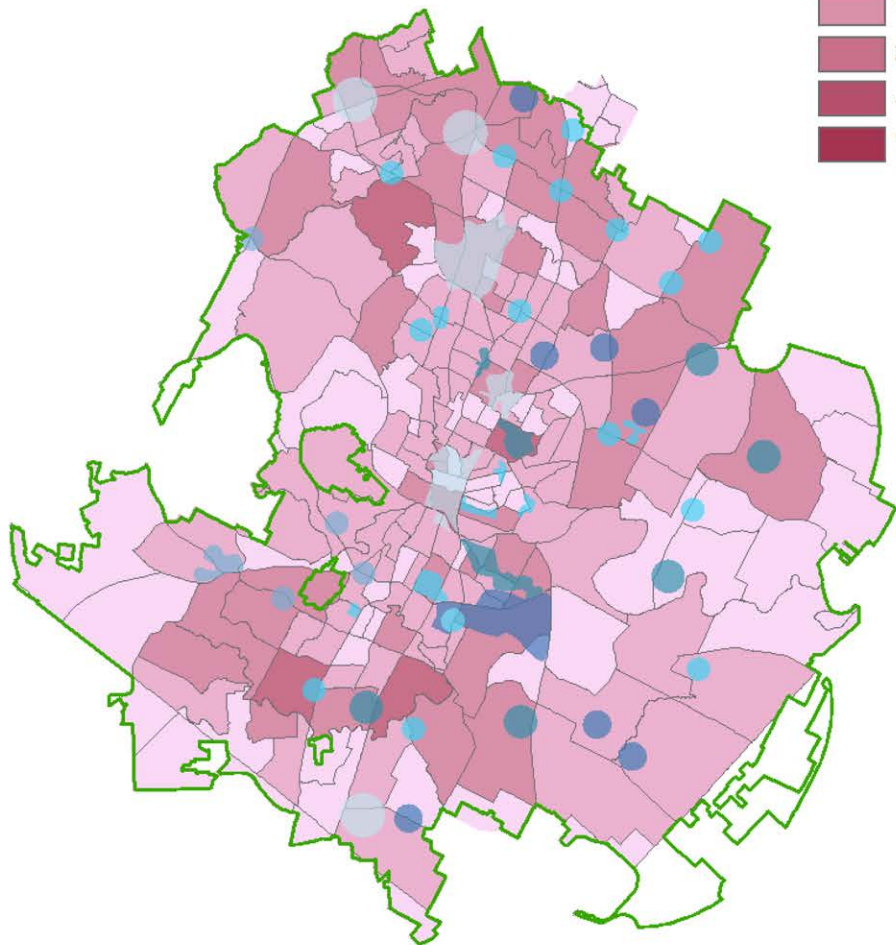
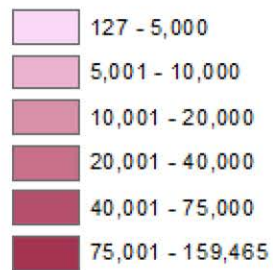






## Served Population Projections

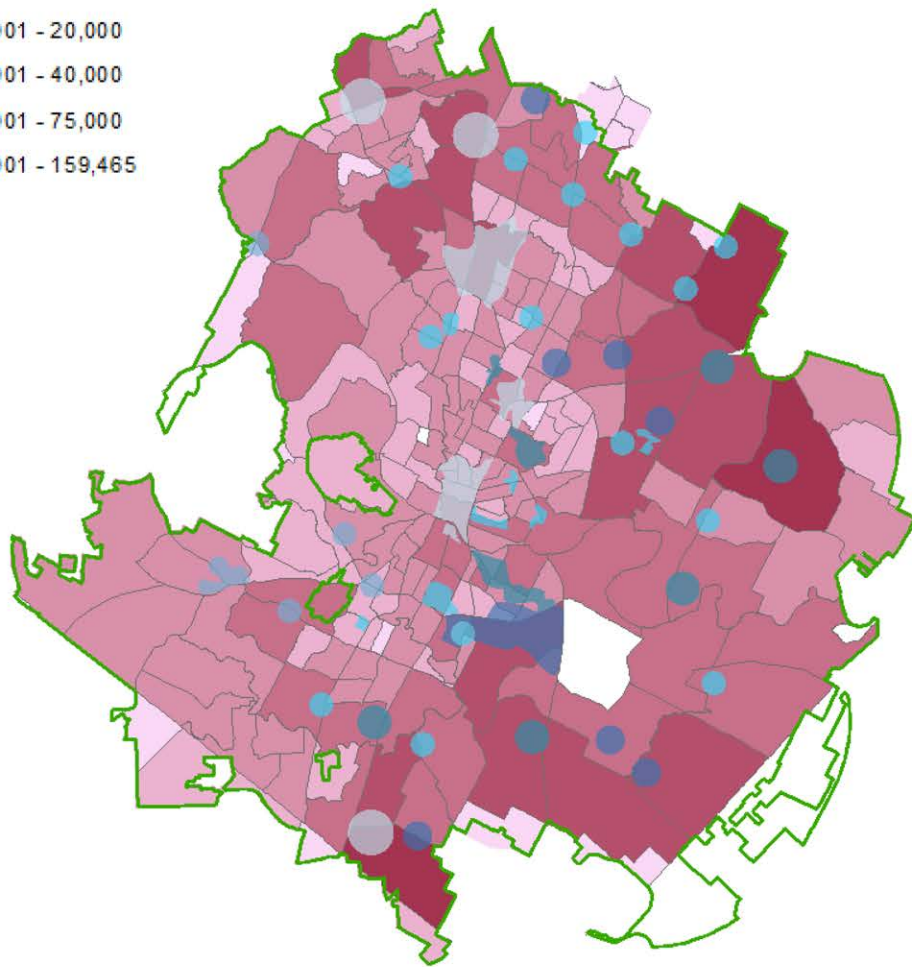
Served Population



12/13/2016

2040

AIWRPCTF



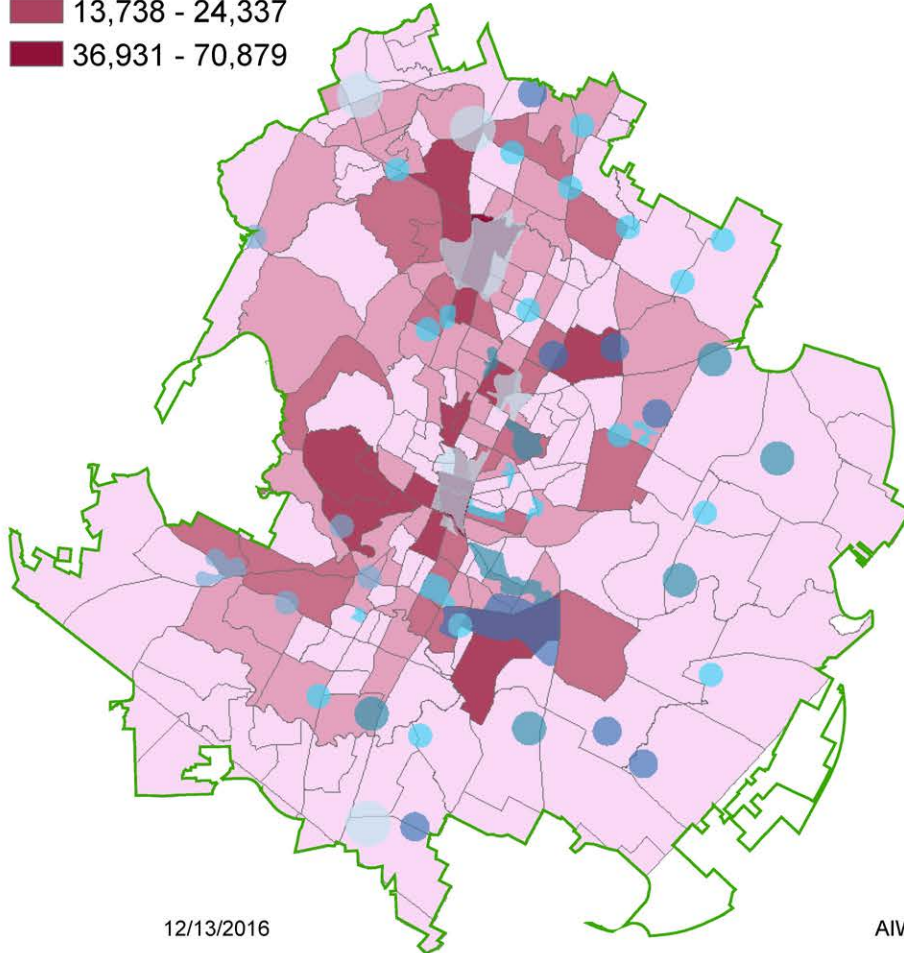
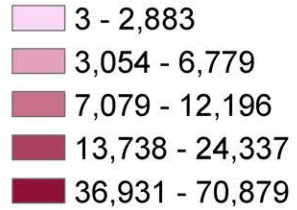
2115

25



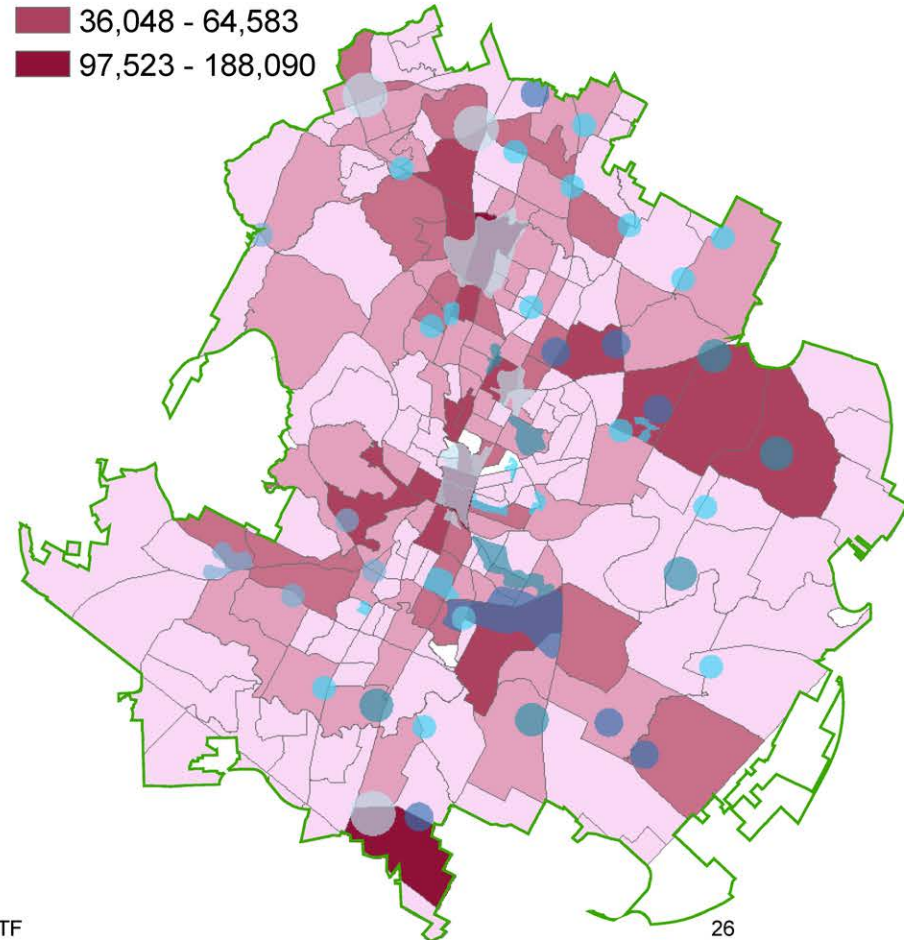
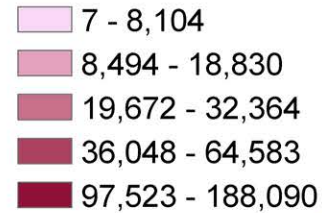
## Employment Projections for 2040 and 2115

### 2040 Employment



12/13/2016

### 2115 Employment



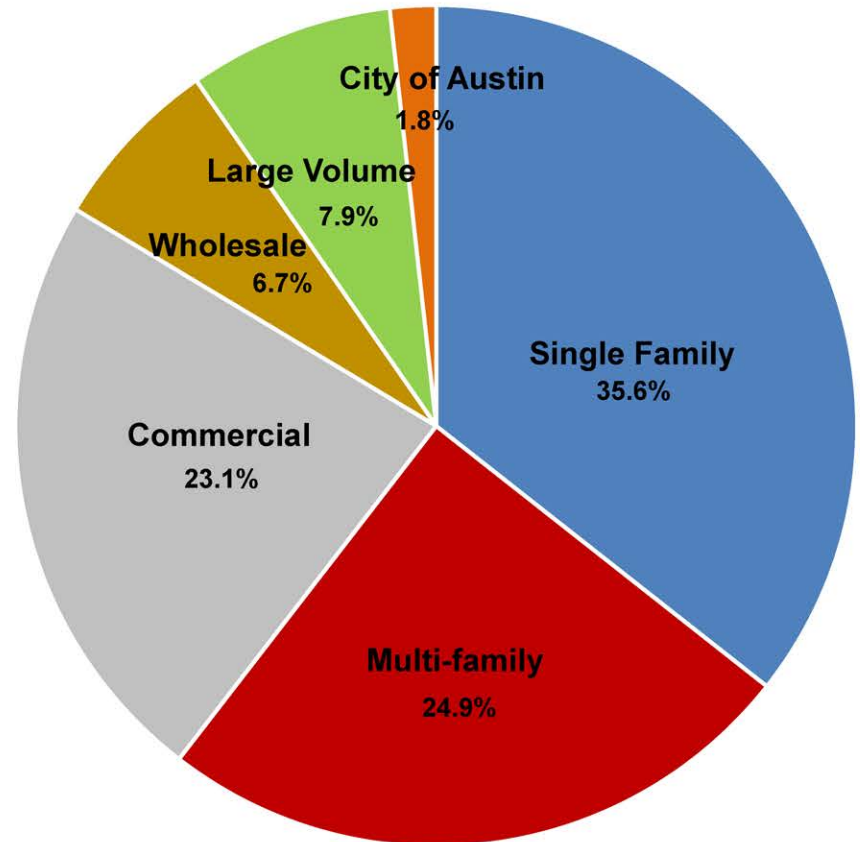
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## Preliminary Results From the Model

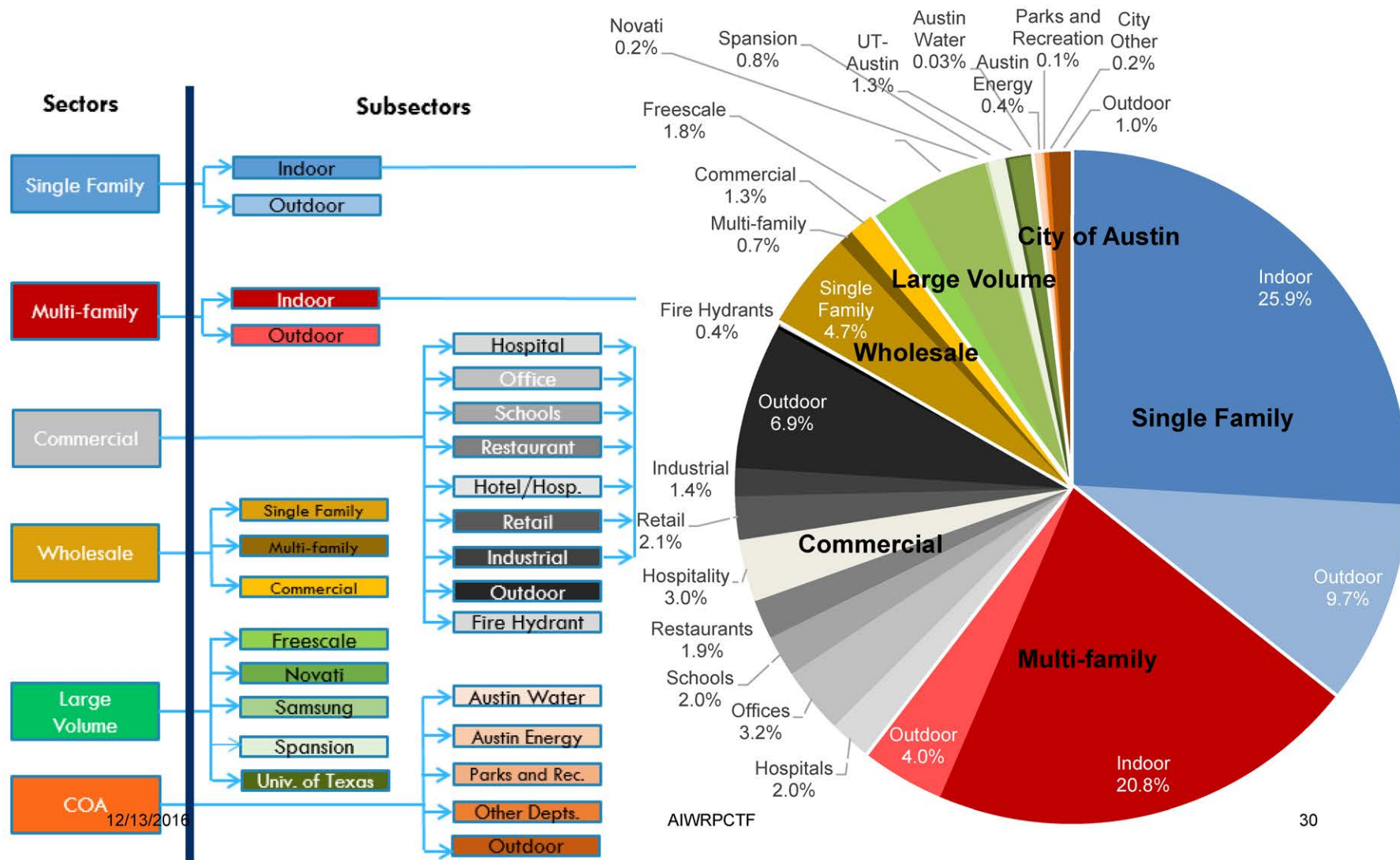


## Base Year Consumption Sectors



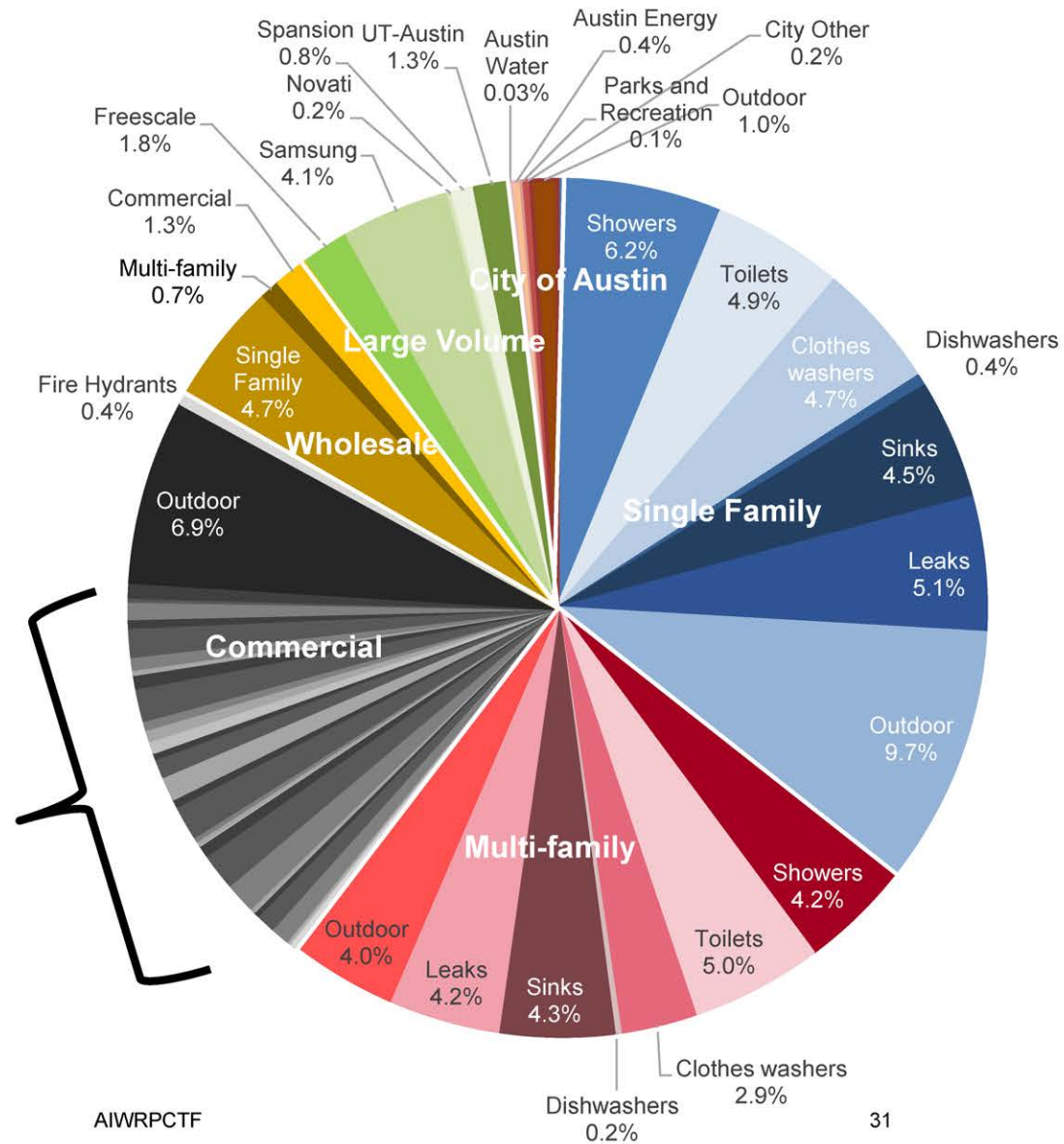
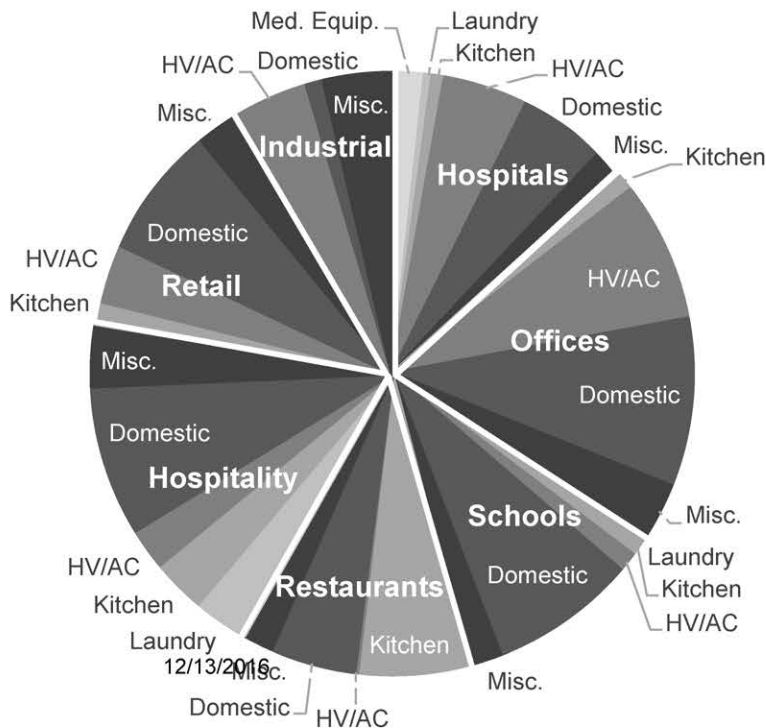


## Base Year Consumption Subsectors

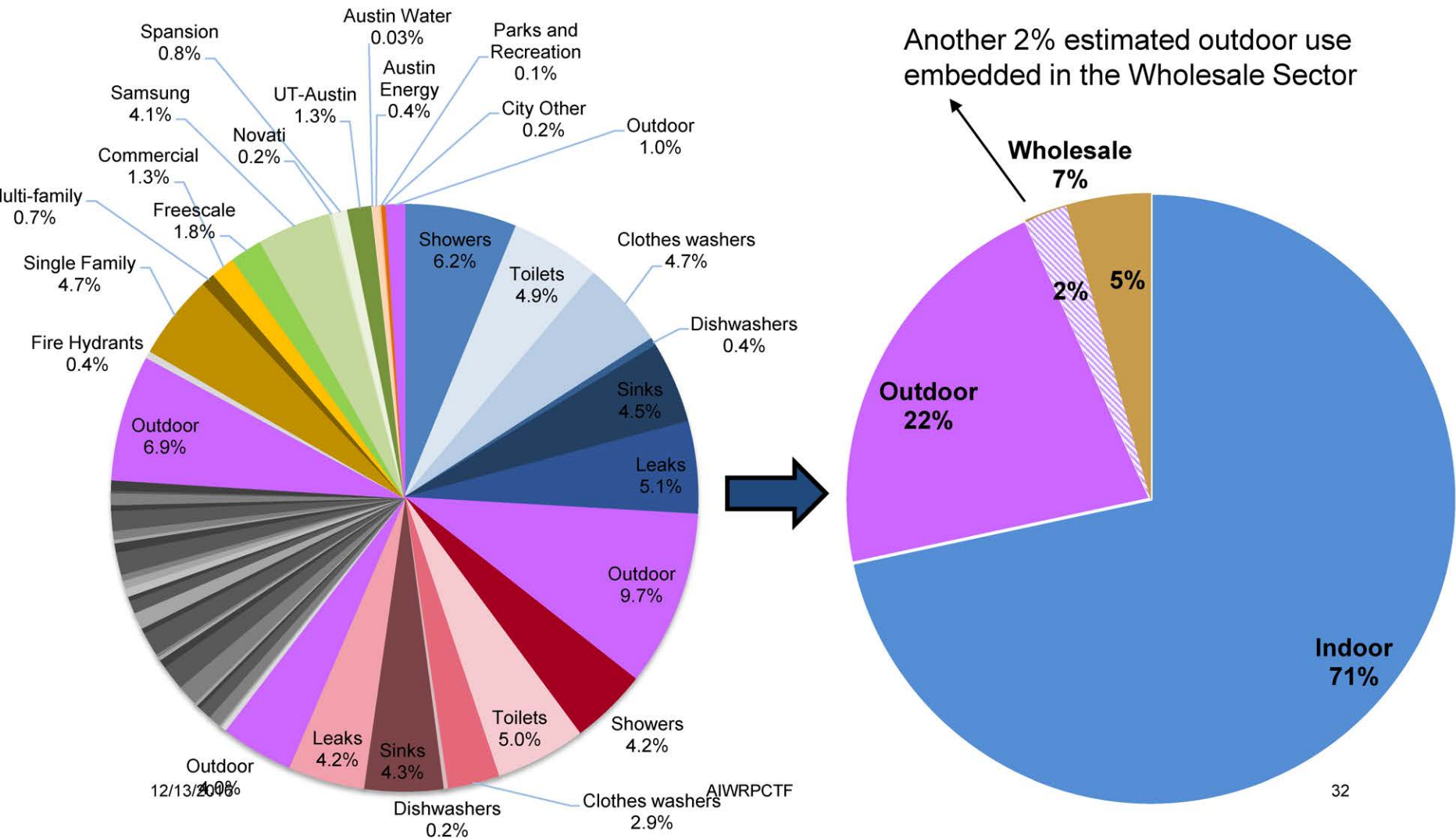


## Base Year Consumption Subsectors & End Uses

### Commercial Indoor End Uses



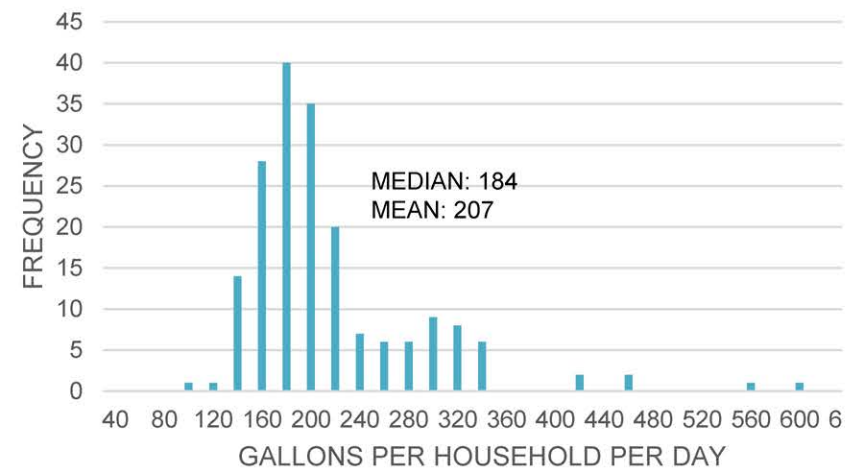
## Indoor vs. Outdoor Consumption



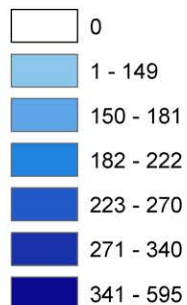


## Base Year Single Family Daily Household Consumption

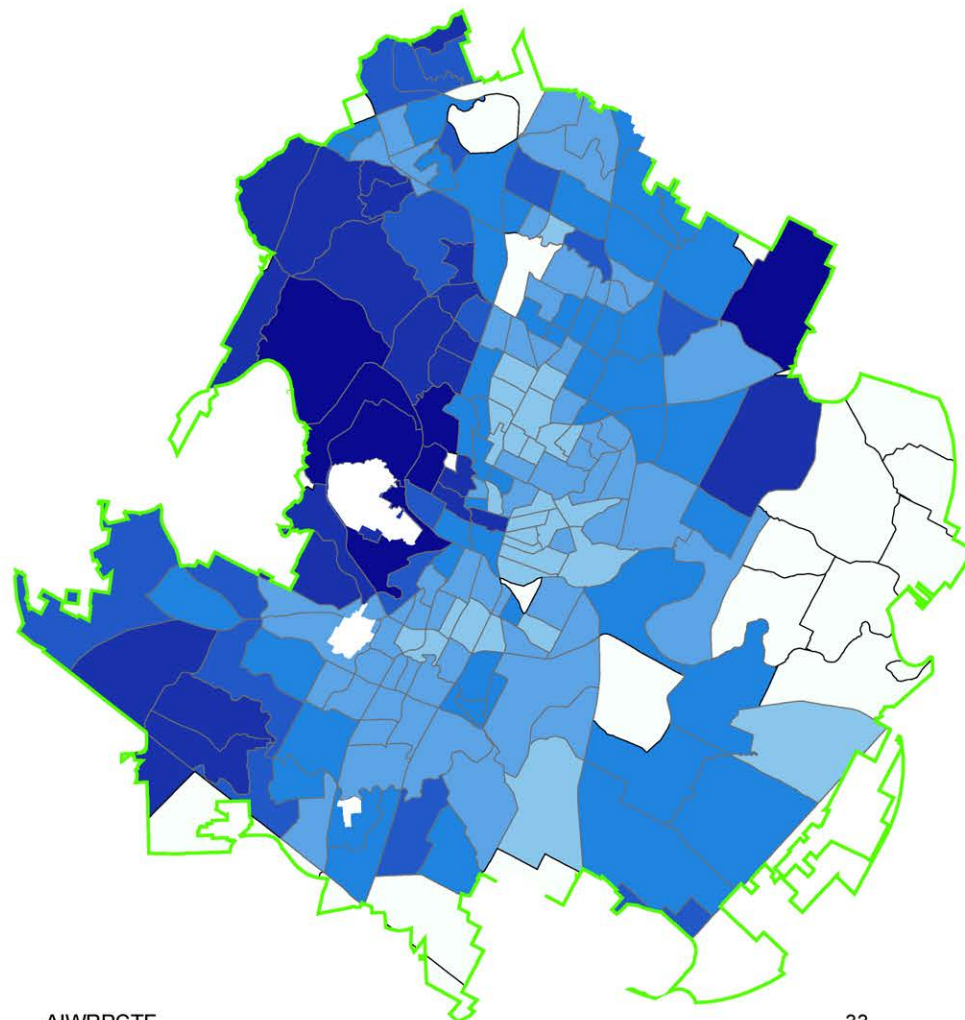
Single Family Daily Household Consumption



Gallons/Household/Day



DTI\_POLYGON

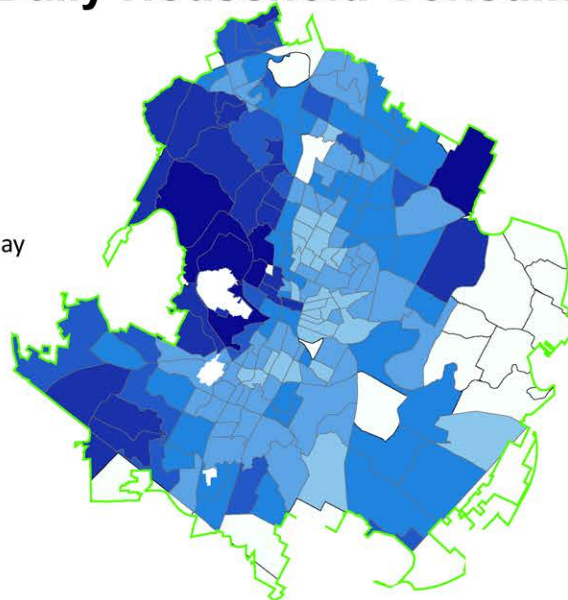
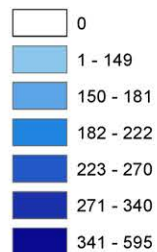




## Base Year Single Family Daily Household Consumption

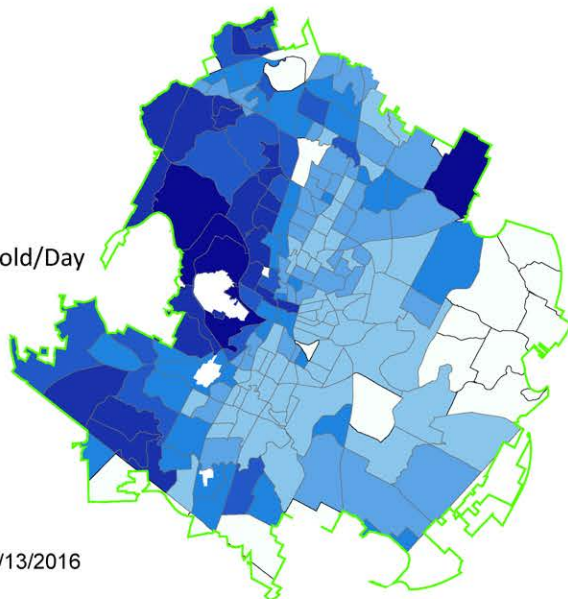
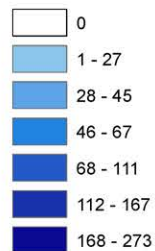
### Indoor + Outdoor

Gallons/Household/Day



### Outdoor

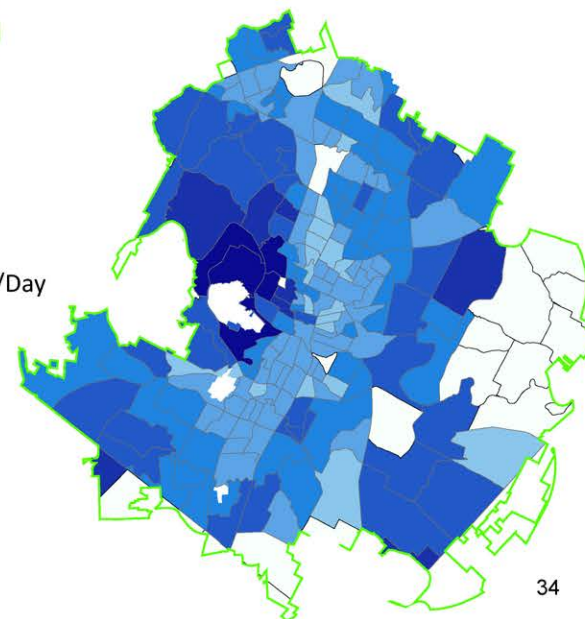
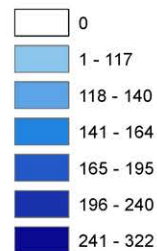
Gallons/Household/Day



12/13/2016

### Indoor

Gallons/Household/Day

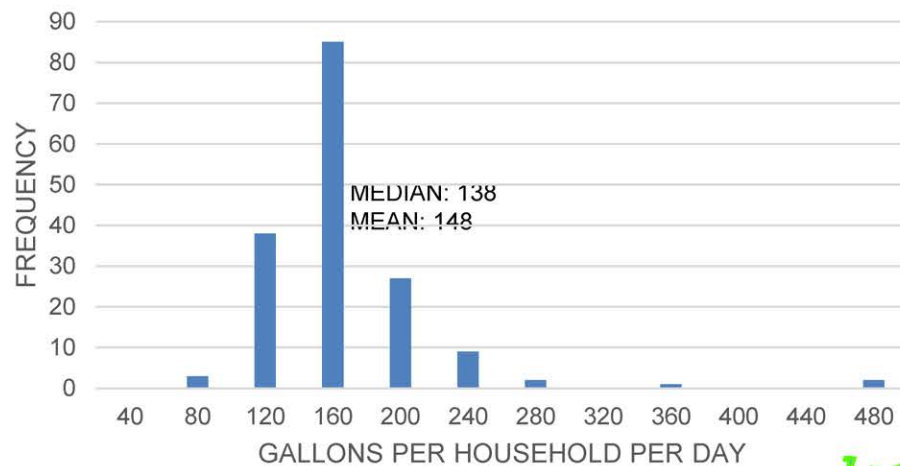


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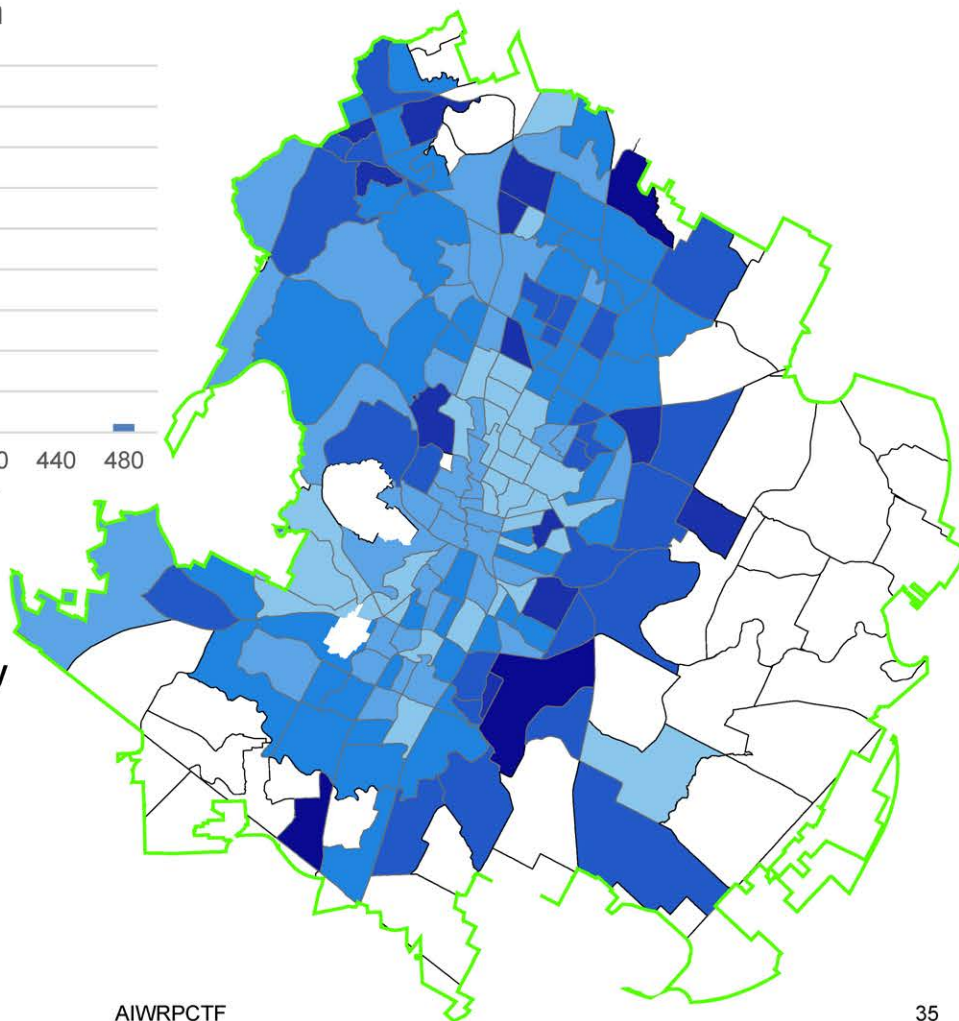
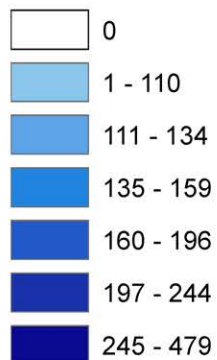
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## Base Year Multi-Family Daily Household Consumption

Multi-family household consumption



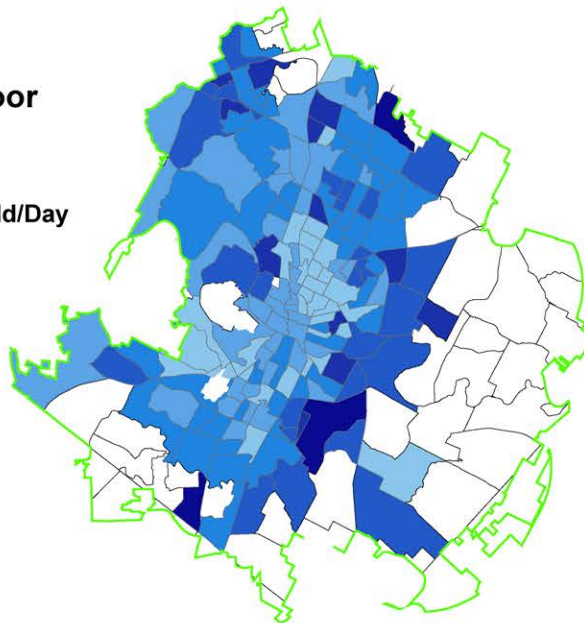
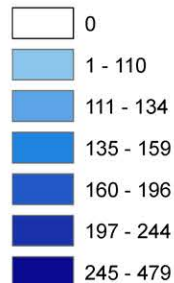
Gallons/Household/Day



## Base Year Mutli-Family Daily Household Consumption

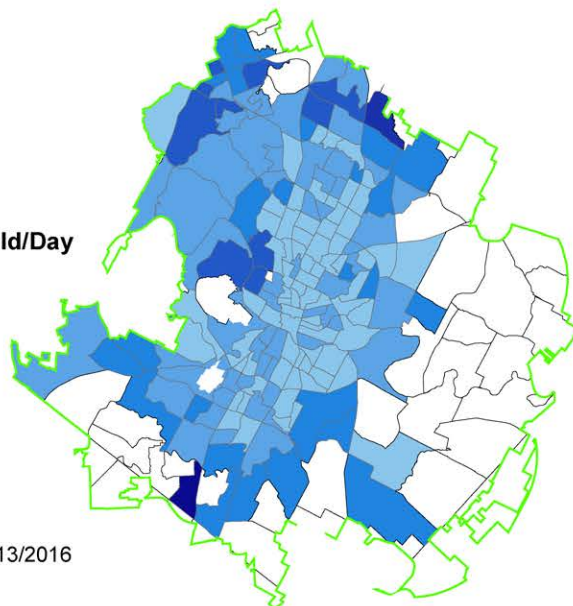
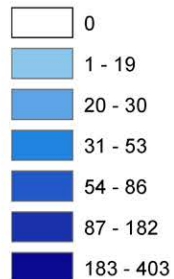
**Indoor + Outdoor**

**Gallons/Household/Day**



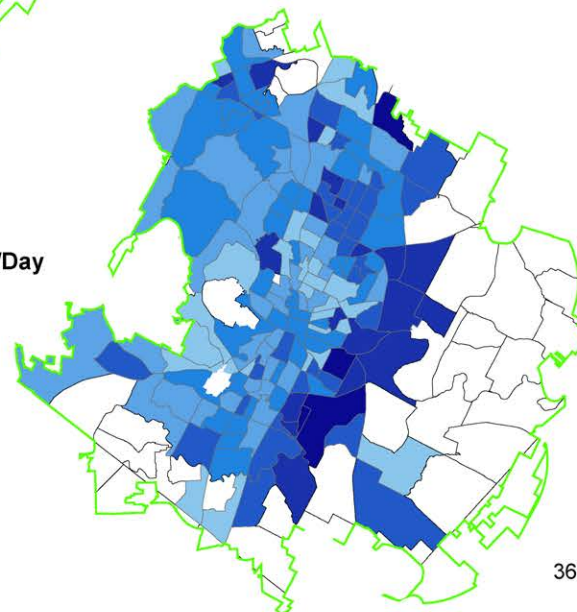
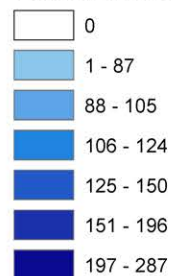
**Outdoor**

**Gallons/Household/Day**



**Indoor**

**Gallons/Household/Day**



12/13/2016

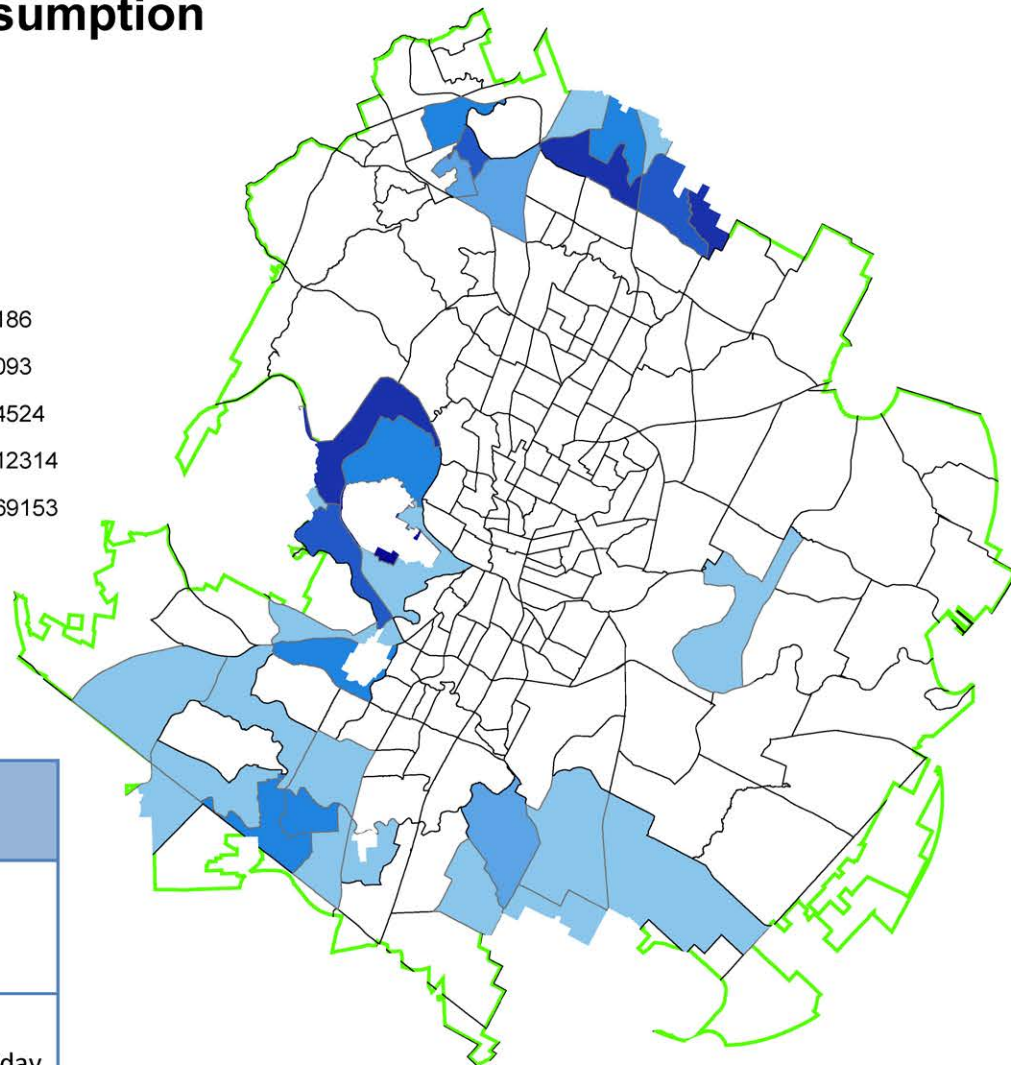
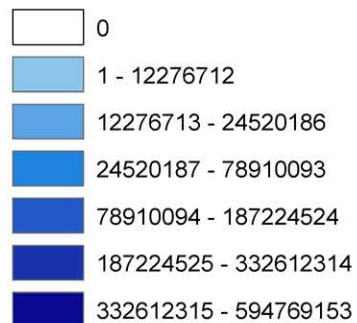
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## Base Year Wholesale Annual Consumption

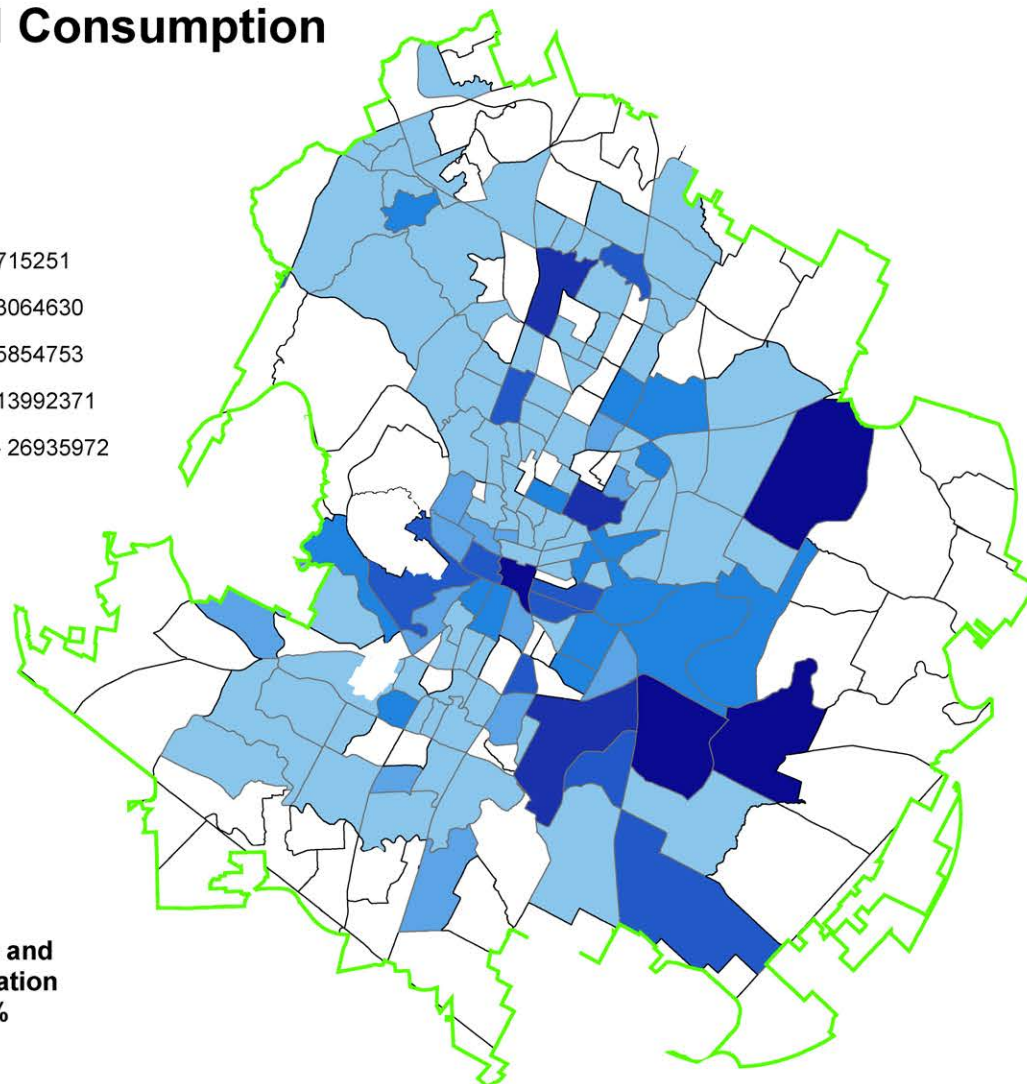
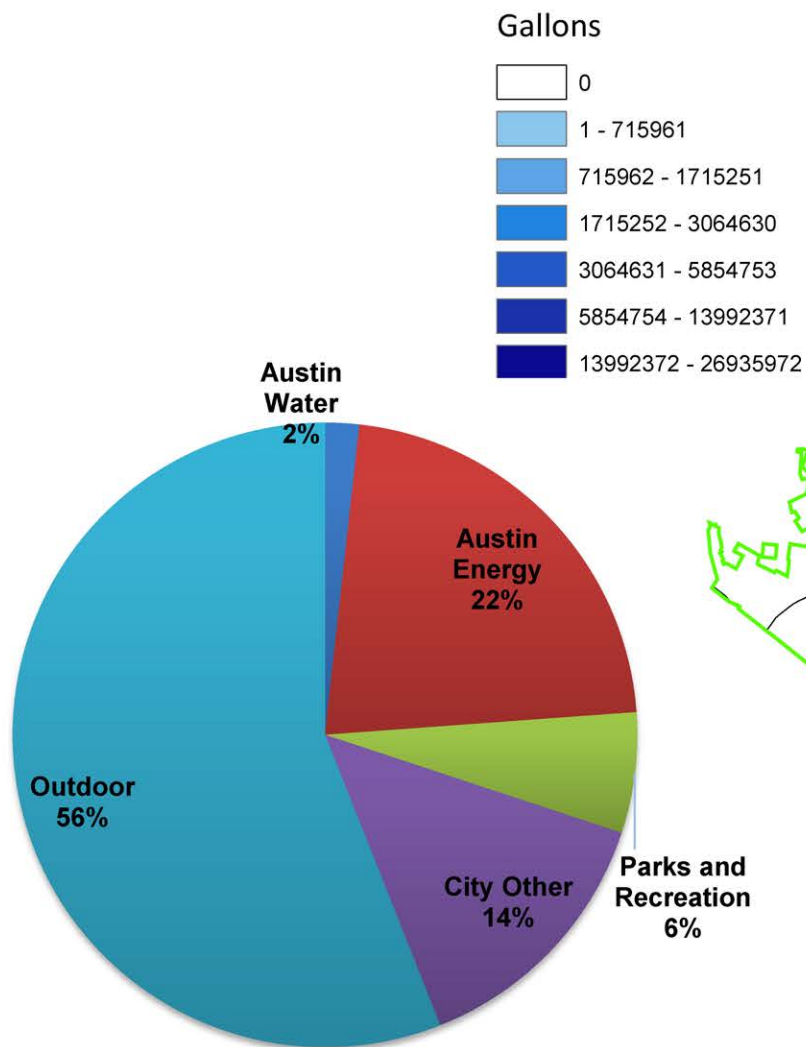
Gallons



### Wholesale WUFs

Single Family	Multi-family	Commercial
342 Gallons/household/day	150 Gallons/household/day	313 Gallons/employee/day

## Base Year City of Austin Annual Consumption



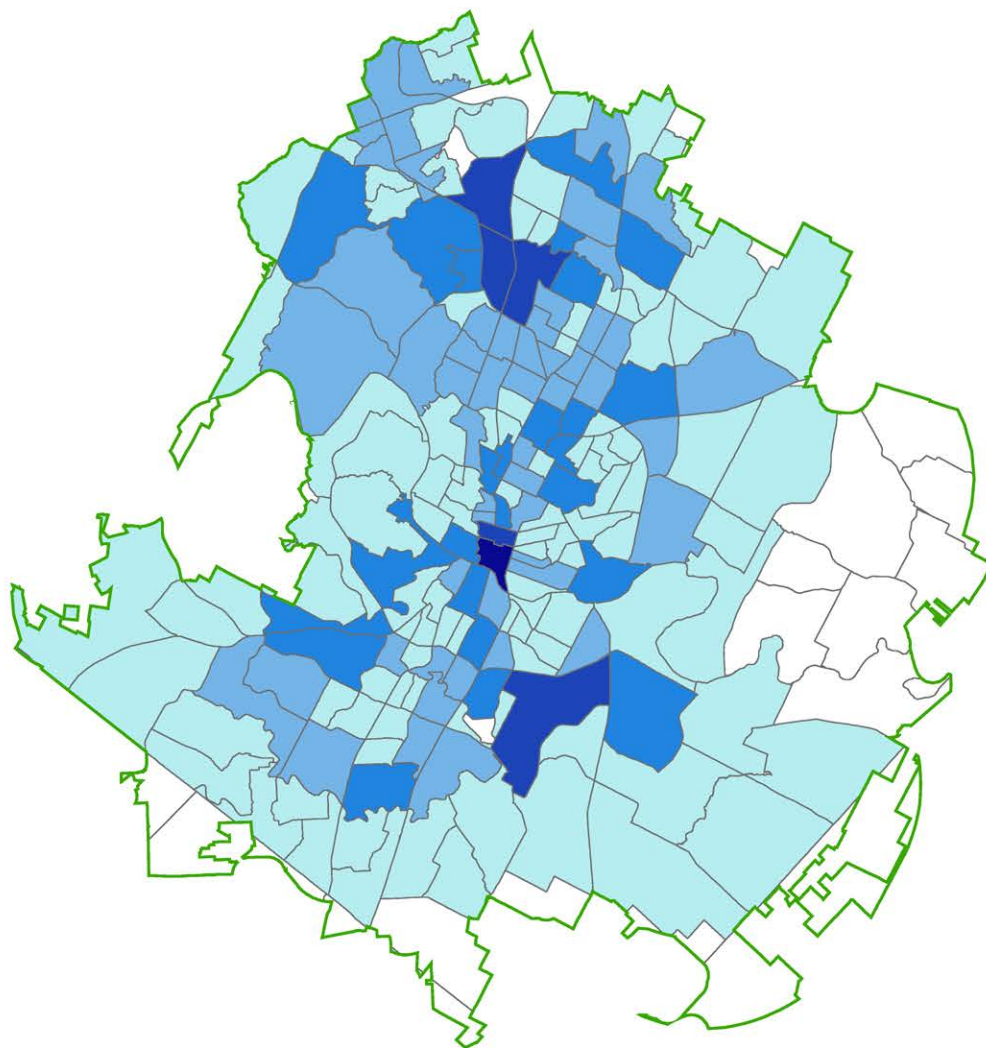
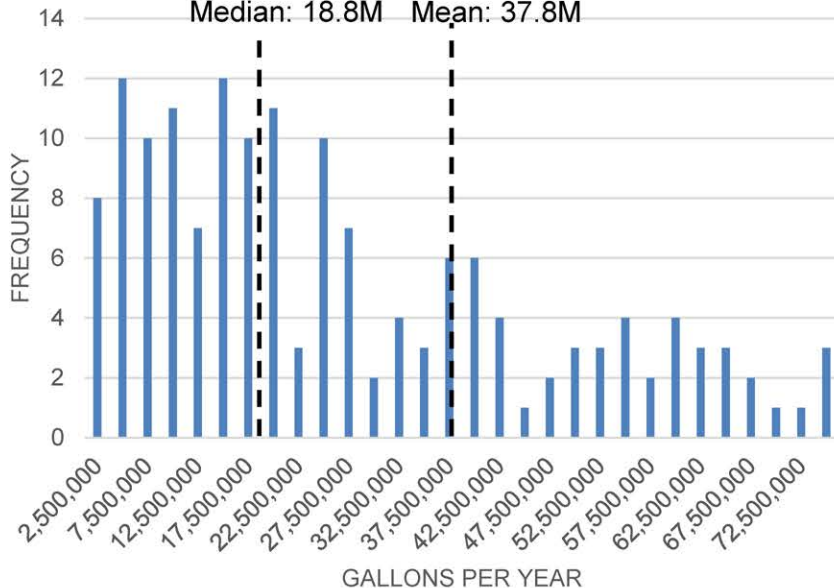
## Base Year Commercial Annual Consumption

### Total Consumption (Gallons/Year)



Annual total commercial consumption

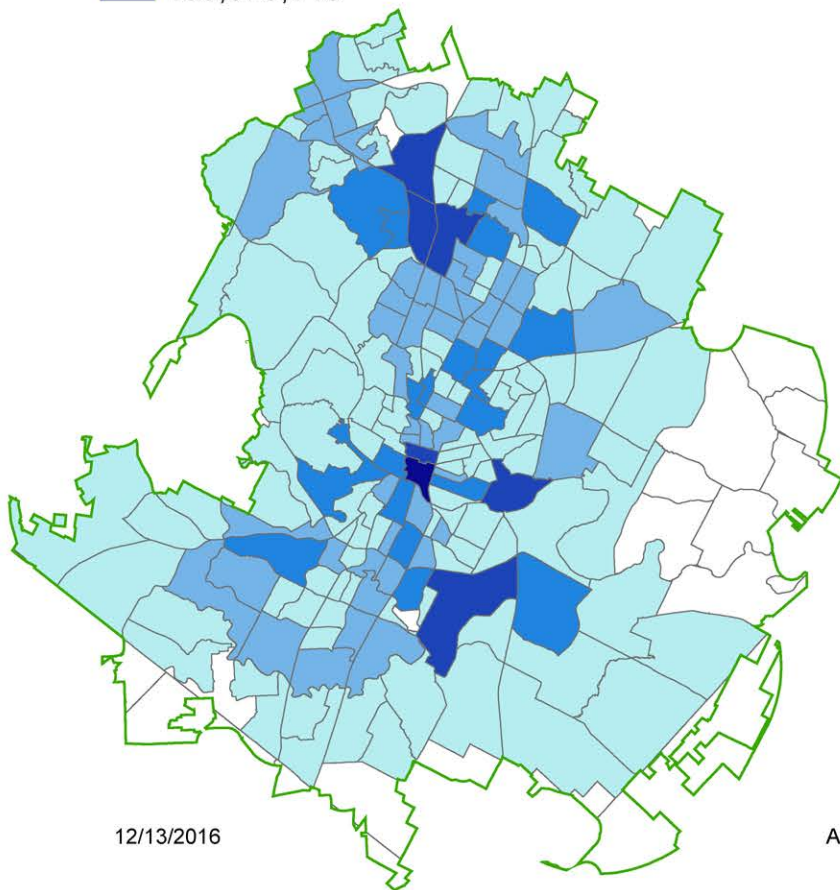
Median: 18.8M Mean: 37.8M





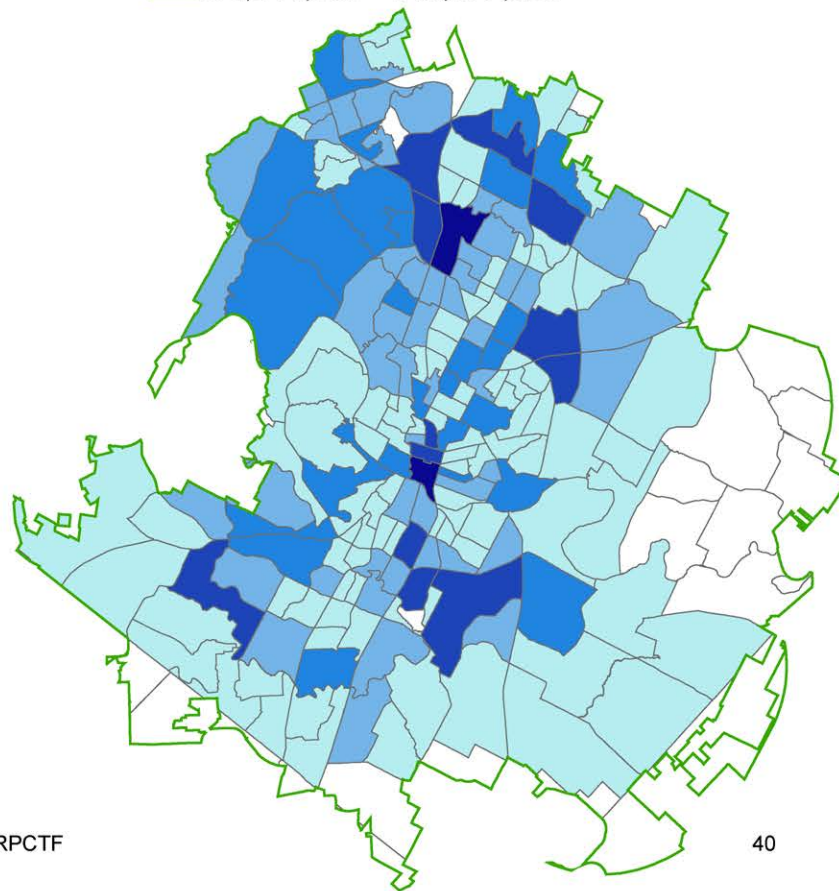
## Base Year Commercial Annual Consumption

### Indoor Annual Consumption (Gallons/Year)



12/13/2016

### Outdoor Annual Consumption (Gallons/Year)

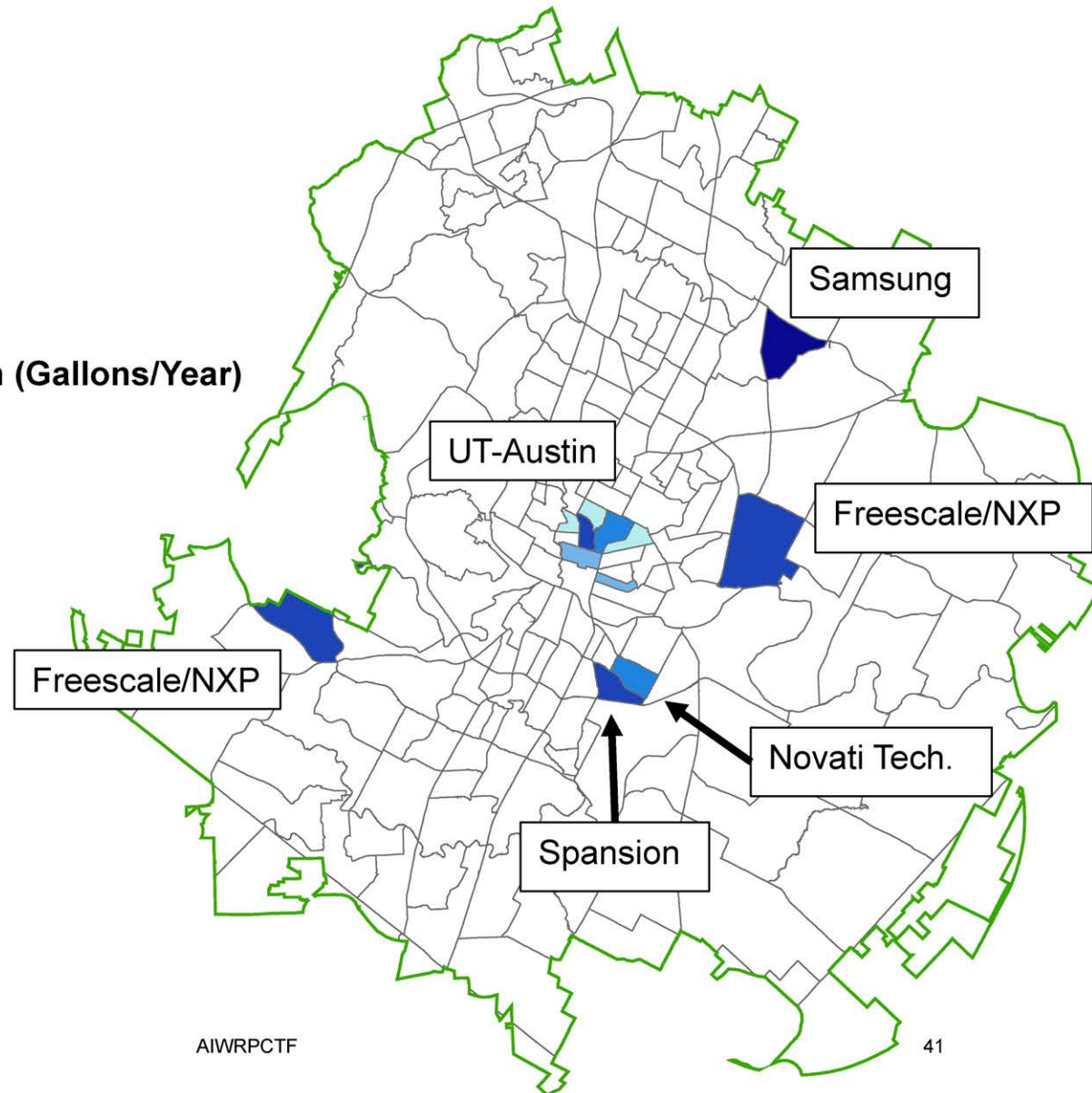


AIWRPCTF

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## Large Volume Annual Consumption

### Large Volume Annual Consumption (Gallons/Year)





How will the model be used?

## Water Demand Projections for Water Forward

- Water needs assessment with baseline demand (gap analysis)
- Options screening and characterization
  - Task 6.3 and reclaimed water
  - Climate and price elasticity analysis/knobs/adjustments
- Portfolio evaluation
  - Demand scenario management

## Next Steps

## Next Steps

- Continue work on demand projections
  - Continue DDM refinement
  - Summarize additional regional demand projection information for use in the Water Availability Model (WAM) for project-related WAM analysis
  - Provide update at January 5, 2017 Task Force meeting
- Work with consulting team on prepare demand sets for WAM gap analysis

