



# Union County Water Strategy

Board Update

November 13, 2019





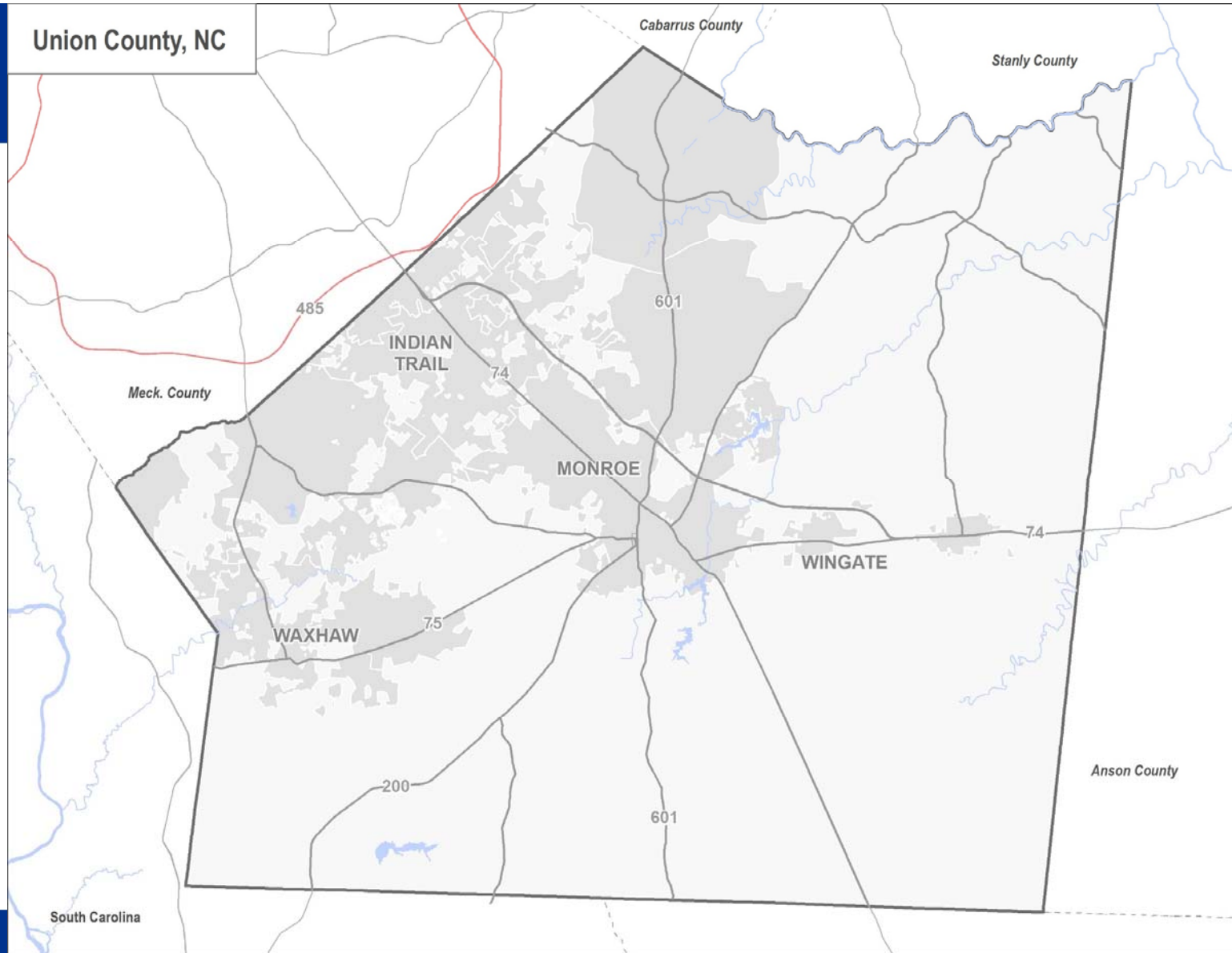
# Purpose

- Discuss our current and future water strategy
  - Where is the water?
  - Where does the water go?
- Get Board direction on water strategy

NOTE: Additional background material is provided under Tab 8.

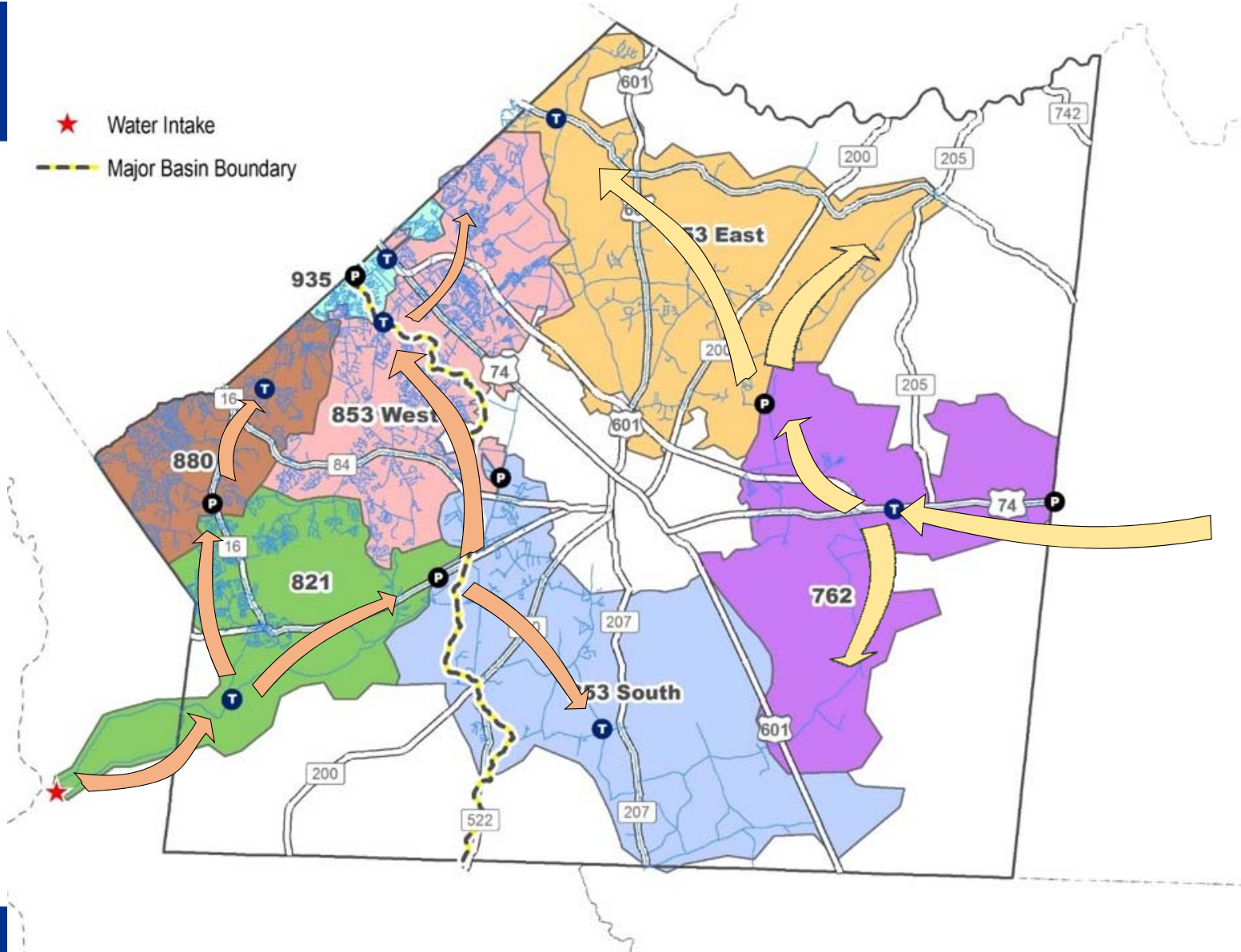


# Union County, NC



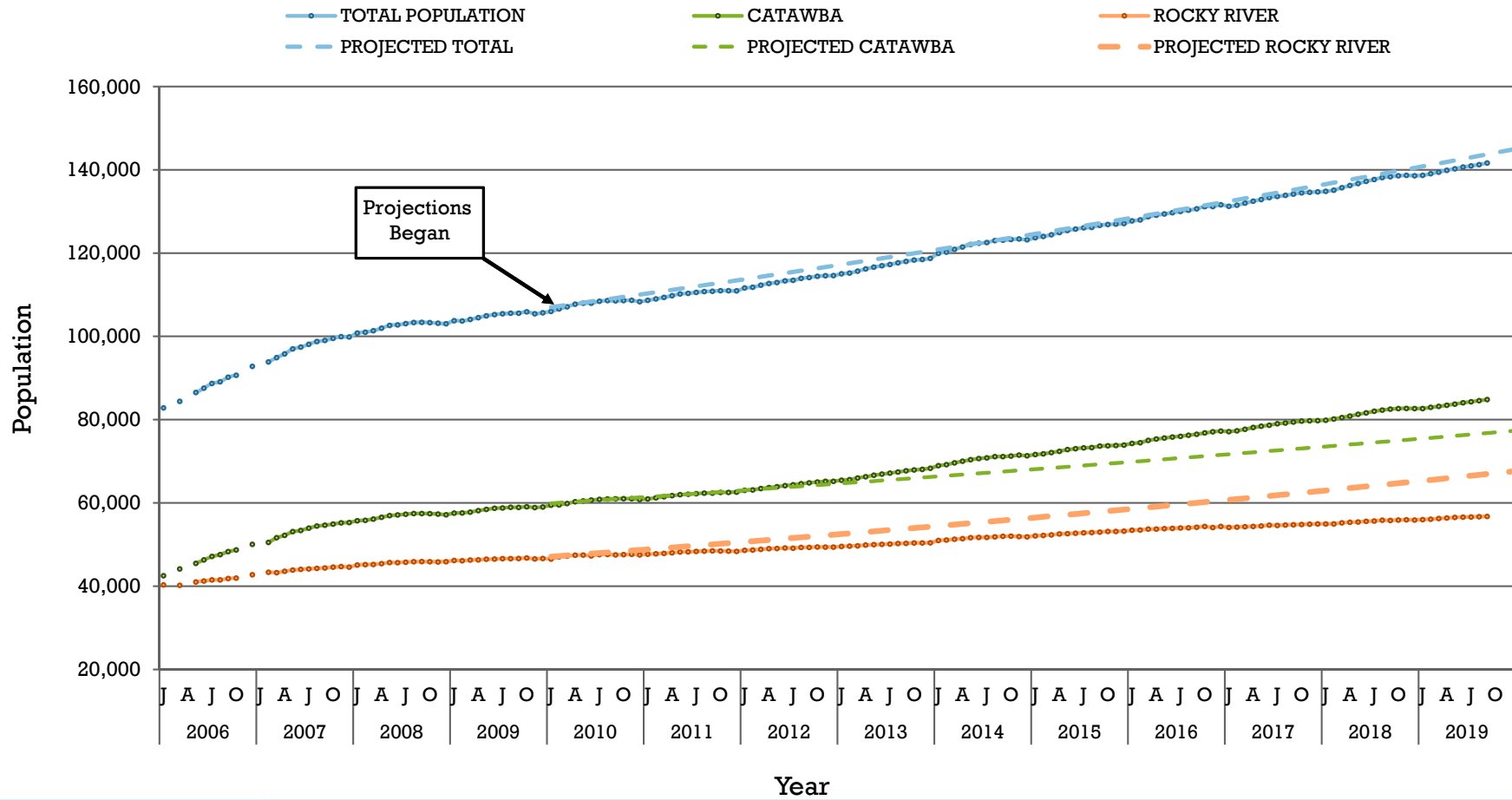


# Current Water Strategy





# Projected Population by Basin





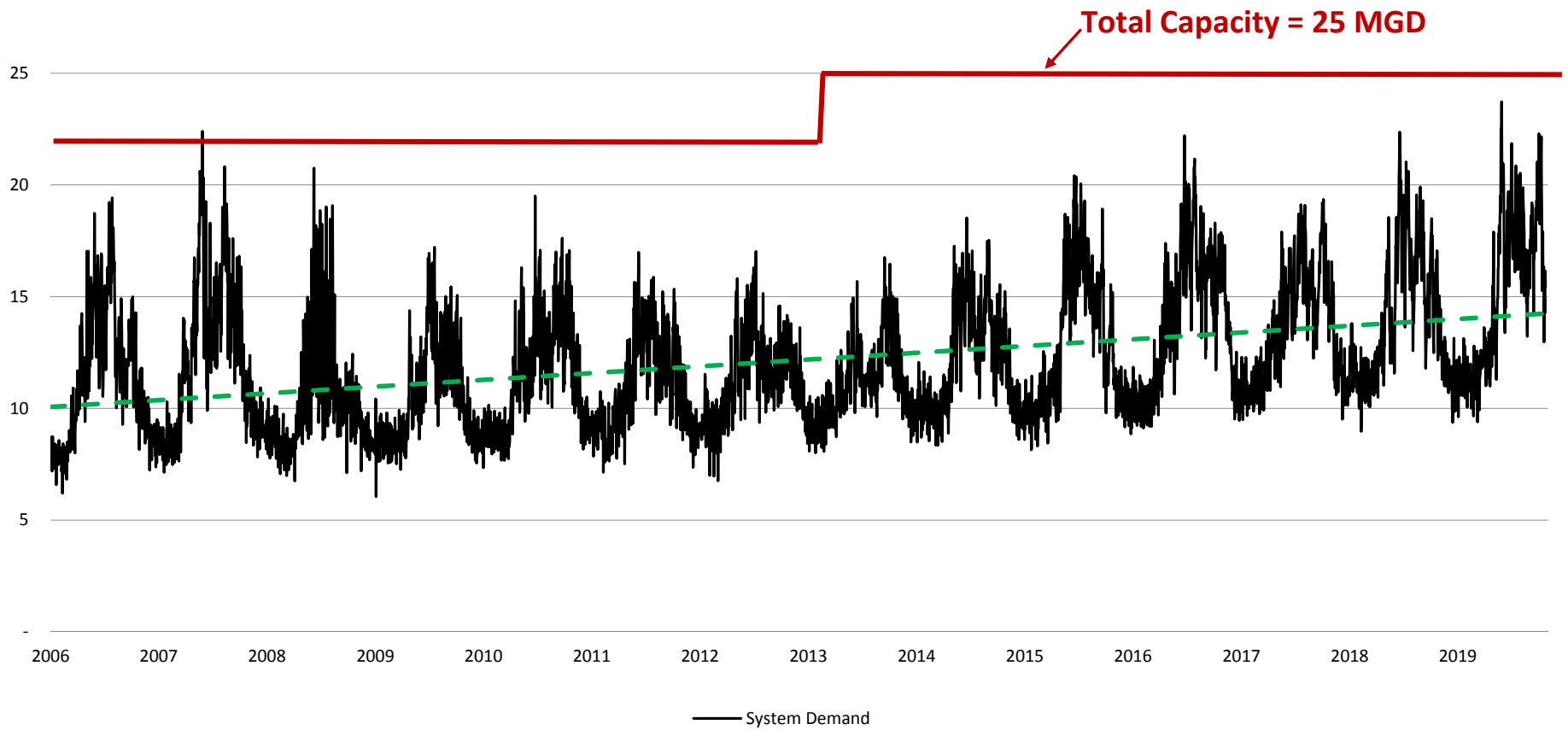
# By Pressure Zone (Current)

	762	853 East	853 South	853 West	880	821	935	Total
Source	Anson	Anson	Catawba	Catawba	Catawba	Catawba	Catawba	
# of Meters	1,067	3,220	3,197	23,572	8,282	8,338	3,688	51,364
Meters per Miles of Pipe	20	25	25	64	52	54	55	
Average Day Demand (MGD)	1.440	0.538	0.664	5.619	2.958	2.541	0.401	14.160
<b>Potential</b> Max Day Demand Range (MGD)	1.0 – 3.2	0.8 – 1.7	0.6 – 1.7	10.0 – 12.2	4.0 – 5.5	3.5 – 7.5	0.4 – 1.4	
Potential MDD by Source/Pressure Zone	1.8 – 4.9 MGD		18.5 – 28.3 MGD					20.3 – 33.2 MGD
Max by Source	4 MGD		21 MGD					25 MGD





# Existing Supply & Demand





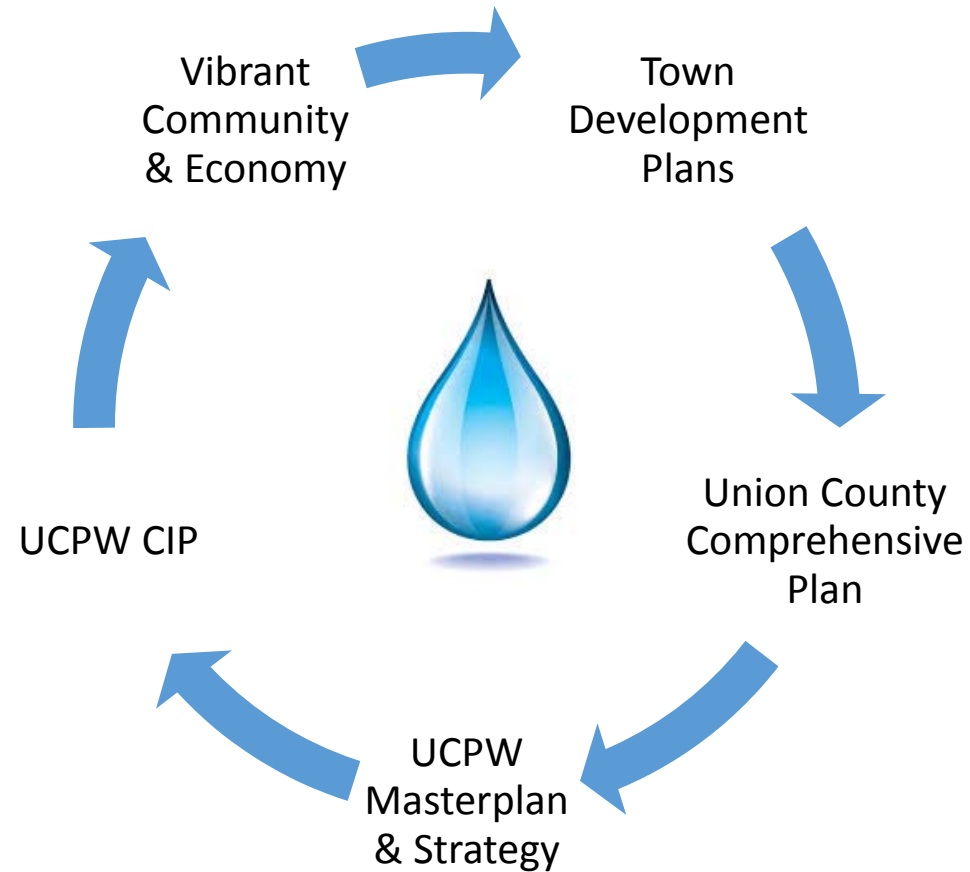
## Based on what we know...

If we do nothing, demand will exceed the supply of water.





# Planning to Provide Water





# Short Term and Long Term Strategy

	Short Term	Long Term
Supply of Water	<ul style="list-style-type: none"> <li>• Expand Catawba Water Treatment Plan to 40 MGD (20 MGD to UC)</li> <li>• Extend water contracts with neighboring utilities</li> <li>• Invest in renewal and replacement program</li> <li>• Automated Metering Infrastructure (AMI)</li> <li>• SCADA project to improve management system</li> </ul>	<ul style="list-style-type: none"> <li>• Yadkin Regional Water Supply Project</li> <li>• Maintain Water Contracts</li> <li>• Plan for future water plant expansions</li> </ul>
Demand for Water	<ul style="list-style-type: none"> <li>• “Best” Water Conservation Program</li> <li>• Enforcement of Water Loss/Theft Prevention Program</li> </ul>	<ul style="list-style-type: none"> <li>• “Best” Water Conservation Program</li> <li>• Shortline Water Extension Program</li> </ul>

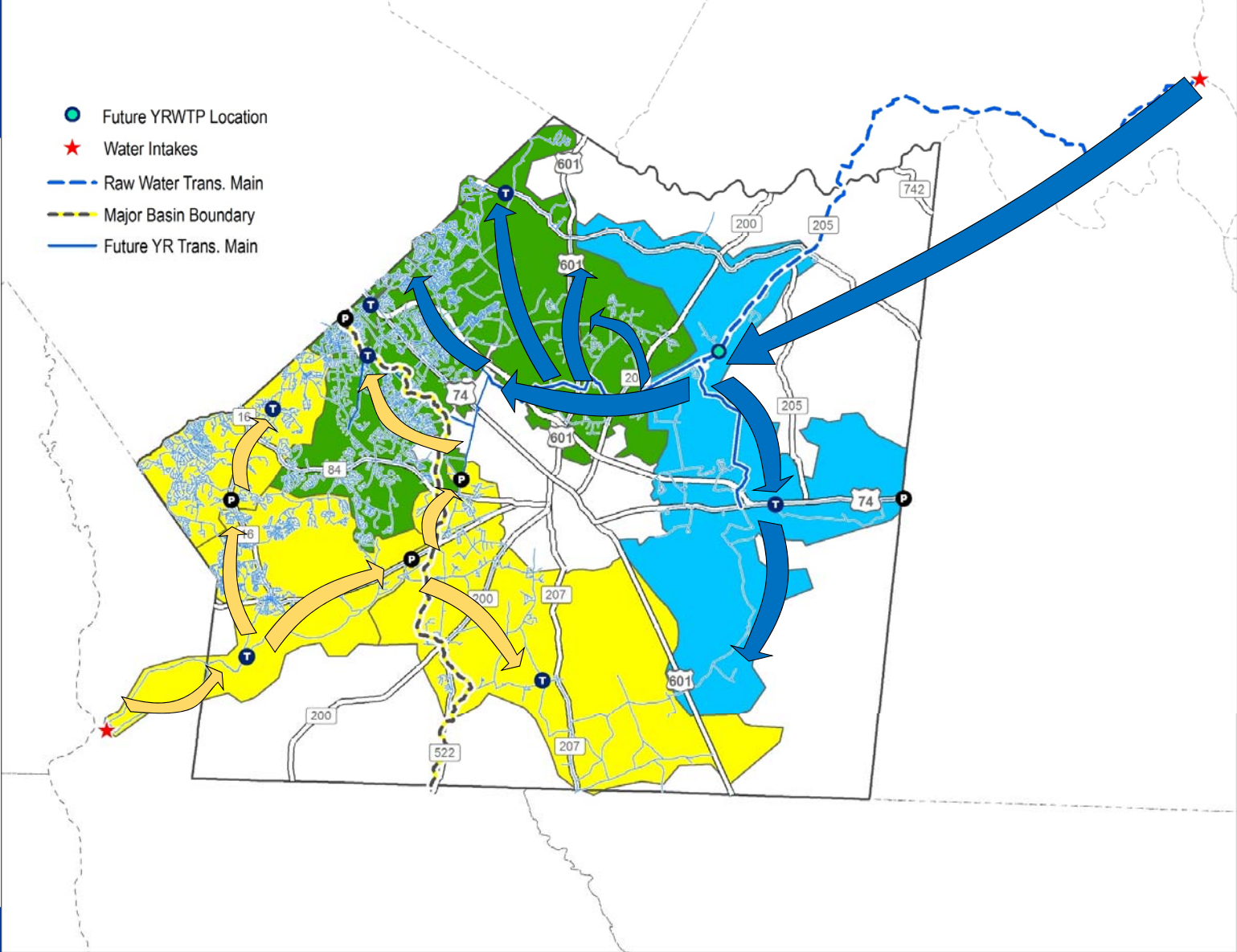


# Existing Water Supply & Contracts

Source	Available	Actual
Catawba River Water Plant	18 MGD (36 MGD Total)	Approx. 16 MGD
Anson County	4 MGD	Approx. 3 MGD
Lancaster County (by agreement)	3 MGD	3 MGD
Lancaster County (offset by Charlotte Water purchase)	Up to 3 MGD	Up to 3 MGD based on demand
Charlotte Water (935 Pressure Zone)	N/A	Approximately 1 MGD
Charlotte Water (880 Pressure Zone) (replaces 935 PZ)	N/A	Approximately 4.5 MGD



# Post-Yadkin Water Strategy (2024)





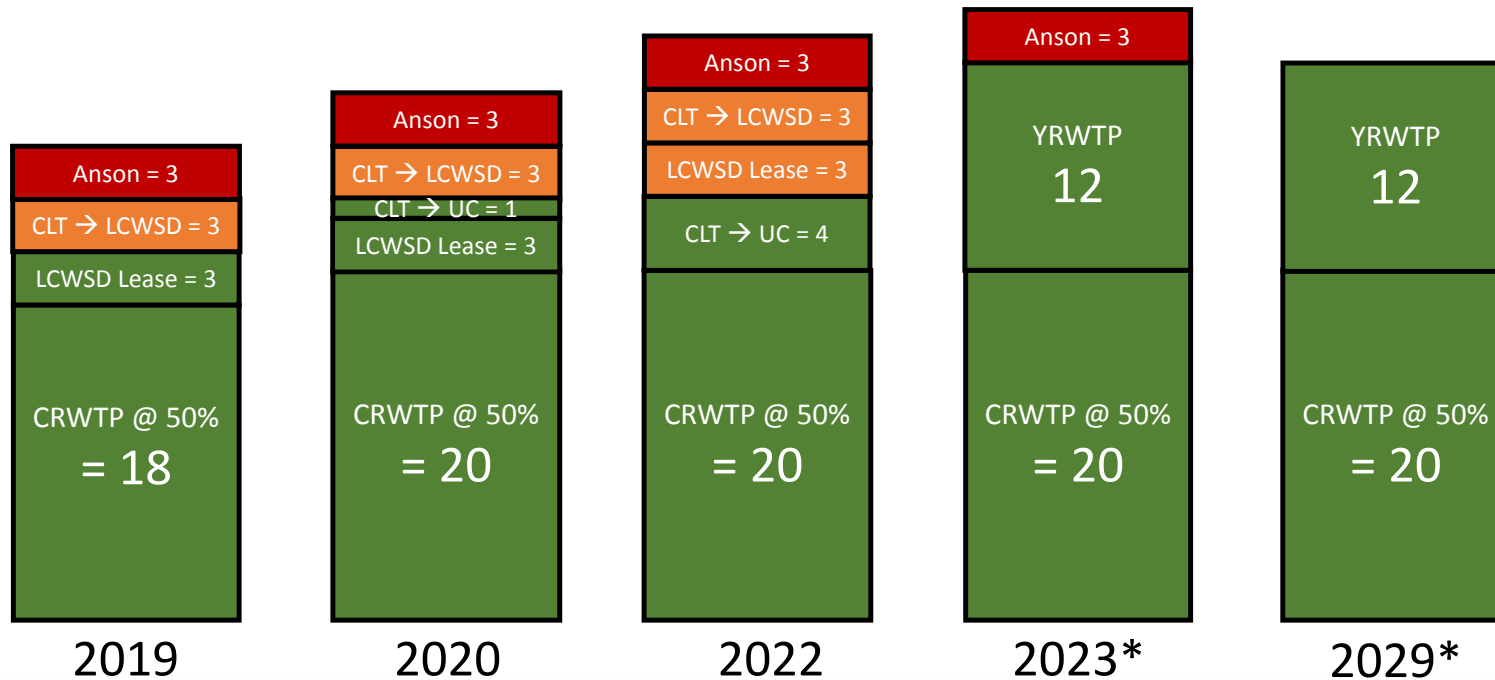
# By Pressure Zone (Post-Yadkin (2024))

	762	853 East	853 West	853 South	880	821	935	Total
Source	Yadkin	Yadkin	Yadkin/ Catawba	Catawba	Catawba	Catawba	Catawba	
Average Day Demand (MGD)	2.4	7.1		1.0	3.0	2.6	0.9	
ADD Total by Source	9.5 MGD			7.5 MGD				17.0 MGD
Max Day Demand (MGD)	4.1	14.0		1.7	5.1	4.4	1.4	
MDD Total by Source	18.1 MGD			12.6 MGD				30.7 MGD
Max by Source	12 MGD			20 MGD				32 MGD



# Water Supply Capacity Over Time

<b>Unreliable</b>	<b>27</b>	<b>30</b>	<b>33</b>	<b>35</b>	
<b>Probable</b>	<b>24</b>	<b>27</b>	<b>30</b>		
<b>Reliable</b>	<b>21</b>	<b>24</b>	<b>24</b>	<b>32</b>	<b>32</b>



\* Emergency agreements with Charlotte, LCWSD and Anson to remain



# Water Strategy 2025

- Continue investing in Catawba River and Yadkin River water sources
- Manage the boundary zone through the Inter-Basin Transfer (IBT) Certificate
- Water contracts and interconnects with other utilities for emergencies
- Planning for future water plant expansions (as needed)
- Continue extending water transmission mains throughout the County
- Provide water to residents in a sustainable fashion





# Questions?



# Based on what we know...

- If we do nothing, demand will exceed the supply of water
- This will have negative long term consequences for
  - Economic Growth
  - Credit rating
  - Fire insurance rating
  - Cost to produce and deliver water to customers
  - Rate increases