

2020 Water and Wastewater Rate Study

Public Involvement Summary
October 26, 2020

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The following items are a summary of the public input received regarding the 2020 Water and Wastewater Rate Study, to date. Additional public input will be provided to Council as the process continues and as it is received. Summaries and transcripts may not be word for word. Available recordings are posted on the rate study webpage at www.tempe.gov/utilityratestudy.

Community Stakeholder Group and Meetings

This year, Municipal Utilities and Neighborhood Services formed an external community stakeholder group consisting of representatives from each water customer class, including low-income customers, neighborhood associations, commercial entities and organizations and community organizations. The Community Stakeholder Representatives for the 2020 Water and Wastewater Rate Study were:

| Name and Title, if applicable | Customer Class | Additional Notes |
|--|--------------------------|--|
| Chastity Villaverde, La Estancia Apartments | Multi-family residential | Large apartment complex (eight meters) |
| Phil Plentzas, Director FDM Business Operations | Commercial/Industrial | Arizona State University |
| Steve Baxley, Vice President of Operations | Commercial/Industrial | United Dairymen of Arizona |
| Stacy Renfrow, SES Manager | Commercial | Coca Cola/Swire |
| Ann Gill, President and CEO of Tempe Chamber of Commerce | Commercial | Chamber of Commerce President |
| Cassandra Olmstead | Single Family | Large Water User/South Tempe |
| Julianne Wheeler, Sunburst Farms Homeowners Association | Single Family | Large Water User/South Tempe/HOA President |
| Bob Kawa, Corona Del Sol Estates | Single Family | Large Water User/South Tempe |
| Delia Story | Single Family | North Tempe/Irrigation Customer |
| Carmen J. Umeres | Single Family | Equity in Action Coalition Member |

The City and contracted financial consultant, Stantec Consulting, hosted four working stakeholder group meetings throughout the rate study to review, discuss and receive input on the various components of the process and recommendations. The following pages are a written transcript of the questions and comments from the 2020 Water and Wastewater Rate Study Community Stakeholder Meetings. Recordings of these meetings can be found at www.tempe.gov/utilityratestudy.

Community Stakeholder Group Meeting 1

“Project Introduction & Rates 101” – June 2, 2020

Carmen J. Umeres (Stakeholder Group Member) chat question at 25:20:

Why do we have more expenses than income? Isn't that supposed to result in bankruptcy?

Kyle Stevens (Stantec) response at 25:33:

That's an absolute great question. So, fundamentally what we're doing here over a long-term period is trying to manage our reserve balances. And let me get my laser pointer back up here and I can show you exactly the conversation that as we update this next time we'll want to be looking at. So in this particular case, what we've identified here is a minimum target that we would like to hold in the utility

funds which is this black line right here. And what that really represents is an amount of fund balance that we would not like to go below. And that's mainly because we have ongoing expenses that we would like to protect against in case they were, we had an unplanned failure or just overall liquidity. It typically takes three months to bill customers by the time they use the service, you have a bill and then you get payment for it. And so, it's very common for utilities to hold some balances in their bank account to protect against unforeseen circumstances. In the case of Tempe, when we've updated this model, what you'll notice it's a little bit above the target in this beginning period. And so this plan was crafted in order to spend down some of those balances over a multi-year period, but being very cognizant of the fact that as we spend those down we're creating this gap between cash out and cash in, which you're absolutely right in the long-term is unsustainable. But with the 4.25 plan, what we're trying to do is maintain, in the very out years here, those expenses and incomes on top of each other so we do have a sustainable plan and we've been able to get those reserve balances in alignment with the designated target we have for the utility funds.

Andy Burnham (Stantec) response 27:20:

And Kyle, one thing if I could, this is Andy, to add to that is with utility systems, it is not uncommon to make set-asides of funds in anticipation of future capital outlays because of just how intensive water utilities are from a capital investment perspective. It's prudent to make annual set-asides for future capital investments and then as those investments occur, you can then draw upon those reserve funds to make the payment for those capital expenses. And so, that's kind of an important dynamic that you'll see that utilities will have some points in their time period, you know cash reserves that they can draw on for planned capital expenses intentionally. But fundamentally, back to Kyle's top center chart of revenues and expenses, from an income perspective that's why we always want to make sure that that cash in, the black line, is also above that O and M line, the operations and maintenance expenses, that's at the core, operating expenses of the utility. So that's why we track total cash out in orange, which includes capital, but then also just what our annual operating cost to quote "keep the lights on" so that we can make sure we have that as well as our debt payments covered.

Bob Kawa (Stakeholder Group Member) chat question at 28:30:

How would you describe the condition of the water and sewer system?

Andy Burnham (Stantec) response 28:37:

So I may, from a financial standpoint, I can certainly answer that question. I would say from a financial standpoint, the condition of the water and sewer systems is actually quite positive. The reserve trajectory are the reserves are adequate. They've got some good flexibility that allows us to continue to make sure income streams are in close alignments with our expenditure profiles over time. Particularly on the sewer side, it seems like we're in a very good position there as well. So as compared to other utility systems across the country, where you have this type of a stable outlook for sewer and a pretty moderate outlook for the water system, I would say from a financial condition standpoint it's very positive. But, perhaps maybe Terry or Tara could maybe from a physical standpoint describe their perspective of the physical system or the physical condition of the system?

Terry Piekarz (Municipal Utilities) response 29:37:

This is Terry. Bob, thanks for that question. From a physical condition of the infrastructure, like was described previously with most other water utilities, we have an aging infrastructure as you probably

know and we've got the all the challenges associated with the timing of infrastructure replacement but also investment and new infrastructure. I would say, generally speaking, our system is in good condition. We are very proactive in terms of assessing conditions from an engineering standpoint, planning for replacement, planning for repairs and preventative maintenance and that sort of thing. But the challenge is as we move forward, Tempe, there's many other aspects to being able to accomplish certain types of infrastructure replacement work that we have to face and it ends up having an effect on timing and such, as you can imagine, with development and not impacting customers negatively but still being able to achieve the goals relative to our capital improvement and capital replacement program. So, generally speaking, I'd say we're in good condition, our facilities are in good condition, our buried infrastructure is in good condition, but we have to be cognizant of the replacement needs and our maintenance programs moving forward. So, I hope that answers your question.

Carmen J. Umeres (Stakeholder Group Member) chat question at 31:01:

In the last two to three years, has the debt gone up or down and how much is that debt?

Kyle Stevens (Stantec) response at 31:10:

Yeah, absolutely I'd be happy to answer that. So, as you can see on this chart, and I'll get my laser pointer back out, one of the elements that we use to fund the capital system in Tempe is debt. So, in red here is the debt financing that we're forecasting in the future for capital. And so basically, we've got big capital items or big-ticket items, they have a really long life as well which is a key dynamic of them and when we're investing, as they may last 30, 40 and 50 years in some cases with this infrastructure. And so, one of the ways that utilities will pay for it is using debt to spread that cost out and have the repayment over a number of years which helps us better align the benefits of that infrastructure with the ratepayers today and also in the future that'll benefit. And so, the debt has increased each and every year that we've done capital improvements, but I think from a financial perspective the debt is not anything that we've necessarily been concerned with as far as it being too high for these utility systems. But it's something we track and it's a key performance indicator for both of these funds on an ongoing basis. And, I'd have to get the exact numbers Steve, maybe I could follow up with the exact numbers. I wouldn't want to talk... if I don't have the exact one in front of me.

Steve White (Municipal Utilities) response at 32:30:

Understood Kyle and we'll provide those numbers for Carmen. And thanks Terry and Andy for your previous response. Bob has responded, yes, you answered his question. And I would just echo what Kyle was saying that as we incur more debt, we're also retiring debt so there is a quite a bit of balance there with retired debt from bonds that were paying off every single year versus new bonds that we are issuing. But we'll get that information out.

Andy Burnham (Stantec) response at 33:03:

Steve, I was just going to make that very same point. You know, on the slide that Kyle has up for sewer you can see that exact dynamic play out on the expenses by type. Even though we're issuing more debt over this forecast period, we are paying off some of the existing debt at the same time so you can see that the thickness of that red bar stays generally consistent over the time period. So, we're not incrementally adding a substantial amount of additional debt service or principal and interest repayment requirements above what we're paying off. So, we're kind of maintaining a pretty steady level of annual principal and interest requirements over the forecast period.

Bob Kawa (Stakeholder Group Member) chat question at 33:52:
Does development pay for itself or is it subsidized by the community?

Kyle Stevens (Stantec) response at 33:59:

It's a great question. So, within these models, we have projected that as new development comes online, they would pay the applicable system developments fees which are essentially the fees that a new connection to the system pays based on their expected capacity usage of the system. And so, to that degree, each new account that's brand new to the system would pay into this and would pay for some of that capital that they would use. And then of course once they're hooked in, they would pay the ongoing operational rates that everyone is subject to that's connected to the system using water.

Carmen J. Umeres (Stakeholder Group Member) chat question at 35:14:
Are there any debt limits that are limiting our ability to make investments in the water system?

Andy Burnham (Stantec) response at 35:30:

So, generally when we look at the debt instruments for water resource utilities, it depends on the type of financing. So, the City has utilized different types of debt with different pledges of revenue sources to repay that debt with the ultimate source of funds to repay any and all of those debts being the utility rates. So really, debt doesn't necessarily limit us or, in this case have any additional constraints upon us other than we just have to continue to plan and set our rates to be sufficient to cover our operating expenses and the principal and interest expenses on that debt, in addition to being able to cash fund a certain amount of future investments. So, it really doesn't limit us in our ability to make future investments. We just have to plan on the repayments for that debt as we look ahead over a three, five and ten-year forecast period.

Julianne Wheeler (Stakeholder Group Member) chat question at 49:42

Tempe has a significant number of agricultural properties. That use is not broken out separately. Those properties are treated as single family uses and penalized for water usage, even though the acreage is the equivalent of that used by several single family homes. It seems appropriate to make adjustments as those owners, myself included, are often paying very high property tax rates as well.

Steve White (Municipal Utilities) response at 50:16:

And I think we are going to get into this a little bit later in the presentation so you might want to address that later but you can, I'll just send it over to you.

Andy Burnham (Stantec) response at 50:28:

Yeah, thanks. Steve, this is Andy. I think one thing on that, you know, rate design would be a good place to maybe elaborate on it. But, this is a good opportunity as we go through cost of service that to the extent that, you know, we can and there's interest to look at additional customer classes to the extent we have the data, you know, we can look at the usage characteristics and configurations and see if from a cost of service standpoint, it's appropriate to have a different customer class. So, a good example would be in Bismarck, North Dakota; they were very interested in looking at some institutional categories for hospitals and government facilities as a separate rate classification in addition to churches. So we were able to work with the community to flag those accounts in the system to understand who they were and then did the analysis of their usage requirements to see, you know, should they in fact be treated differently from a customer classification standpoint because they're

usage characteristics and service characteristics were different. So, notwithstanding the pricing element of that question that we'll get to in a minute, you know, there is the ability to the extent we have the data to look at creating or consolidating customer classifications as part of this process. So this may be something back to you, Steve, that relative to agricultural properties to the extent we can identify them and your billing system, you know, from a cost service standpoint, it's certainly something that we could look at is part of this study.

Steve White (Municipal Utilities) response at 51:56:

That's a good point, Andy. And that is something— not specifically agricultural properties but, lot size was certainly something we incorporated into our 2017 study— but we did stop at, I believe it was 16,000 square feet. So, certainly a good discussion point and a lot of those agriculture properties— some of them have flood irrigation, some don't have flood irrigation. But now that we have AMI, we do have a better sense of usage but we would need land use and do some other analysis there to get a little bit more granular and identify agricultural versus nonagricultural so certainly it's something we can look in to.

Bob Kawa (Stakeholder Group Member) chat question at 52:48
Has the automated meters decreased the costs to customers?

Steve White (Municipal Utilities) response at 53:00:

It certainly doesn't decrease the cost to customers. However, it does provide each customer the ability to manage their own water use through the WaterSmart portal and obviously fix leaks and respond to higher than normal water use. All of that's in each customer's control now. However, the cost of our system doesn't go down just because we have AMI. It just provides us with more data and analytics to understand customer trends and be more precise with our cost of service analysis and so forth.

Julianne Wheeler (Stakeholder Group Member) chat comment at 53:40:

Remember that we're paying these costs with after tax dollars, these are not business expenses.

Steve White (Municipal Utilities) response at 53:51:

And then, one of the points that I think Julianne had made earlier was 'it seems appropriate to make adjustments as those owners, myself included, are often paying very high property tax.' So, one point and Andy you can probably jump in here is, your property taxes and what those pay for versus cost recovered for a utility system. As an Enterprise Fund, rates have to cover the cost of providing water and wastewater service. It's really not, we don't look at taxes and what goes to the General Fund to provide other City services. We are a stand-alone operation completely, wholly Enterprise-Funded so there is no 'subsidation,' if you will, between what you pay in property taxes that go to the City versus what you pay in rates to receive water or wastewater service.

Andy Burnham (Stantec) response at 54:45:

Yeah, just to pile on. Simply Steve, I mean, really all the cost of water and sewer services are captured in water and sewer rates.

Carmen J. Umeres (Stakeholder Group Member) chat question at 54:59:

I didn't know that there would be penalized for water usage. What is the limit for usage?

Steve White (Municipal Utilities) response at 55:05:

There is no limit of usage. However, on the single family customer class, there's an inclining block rate structure. Which, I believe Andy and his team will get into next, which I think shows a higher cost for the more use and we'll get into that shortly and maybe we can go into that now.

Carmen J. Umeres (Stakeholder Group Member) chat question at 106.38:

What do you mean with landscaping class? Are these public green areas, landscaping business or what is it?

Steve White (Municipal Utilities) response at 1:06:46:

So, the answer is, it's a dedicated meter strictly for outdoor use and that could be from a business, it could be from a multi-family complex – all their outdoor use may be on one meter, all of our parks throughout the City have landscaping meters. The difference between a landscaping meter and all the other meters is there's no return flow. There's no connection to the sewer system and it's strictly for outdoors. So, it really could be any customer that has a landscape meter, even potentially a single family customer if they had a large enough property, they could have their own landscape meter as well so, that's the difference.

Bob Kawa (Stakeholder Group Member) chat question at 1:07:41:

How much discretion goes into determining the rate tiers?

Andy Burnham (Stantec) response at 1:07:50:

So Bob, that's a really good question. Really that is ultimately a function of each community and what you observe relative to usage characteristics and property distributions. But ultimately that is up to each community in terms of how many tiers they would like to have and what are the sizes of those tiers. But ultimately, you do tend to get into situations where you generally see structures that have say three to five tiers. You often don't see many systems going above that and if they do, they really wish they hadn't. So, Kyle I'm thinking about Purcellville, Virginia. How many tiers did they have?

Kyle Stevens (Stantec) response at 1:08:32:

I believe they had 17 we had to analyze.

Andy Burnham (Stantec) response at 1:08:35:

Seventeen tiers, and it was regretful. Washington Sanitary Suburban Commission in DC, they had a significant number of tiers and it became just too much to manage and it became too granular from a cost allocation perspective. It was a real challenge. So, I think you know, ultimately, you know, there is discretion there. There's generally, you can see from what we also identified from local practices too, what the typical ranges are. But there is discretion there. We just want to make sure from a cost of service standpoint that we can support establishing prices for the different tiers that we set based upon the contributions to system cost that we can connect to them and that they're meaningful differentials. We don't want to have too small of tiers, you know 1,000-gallon increments, that becomes too much to manage. So, I think there's some judgment involved but, there is a fair amount of discretion as well.

Bob Kawa (Stakeholder Group Member) verbal question at 1:09:31:

I have a follow-up on that question. So, in the different rate structures that have the Tier 1, the \$1.80 I think it was, and then it goes on from there for the different tiers. How much discretion is there, either by yourselves or by the Council, in determining what that cost is at those different tiers?

Andy Burnham (Stantec) response at 1:09:56:

So ultimately, the process to determine the cost for each tier is really based on what Kyle outlined which was the base extra capacity approach that has been widely used throughout the water industry for a long period of time and as part of a manual of practice published by the American Water Works Association. So, it's a pretty, I don't want to say standardized but a very commonly used approach to allocate your cost to functions and then distribute those costs to setting your tier rates. So we would envision, absent direction otherwise, that we continue to follow that type of approach where we assign cost to the tiers using that methodology so as we changed tier sizes it would change the rates but ultimately notwithstanding the analysis that we do to have cost justified rates. Ultimately, it's up to the elected officials to adopt rates for the community. The problem is if they do something different than what's cost supported, there is a potential for legal challenge to say 'well, you had this study done that used an industry-accepted methodology and approach; it recommended this and for no good reason, you made an arbitrary decision to set rates here,' that would open up the community, potentially, to a legal challenge for what's oftentimes referred to as arbitrary and capricious rate setting which goes against the state statutes. So, there's some discretion there to do some things differently but there's got to be a basis ultimately for whatever decision is made.

Bob Kawa (Stakeholder Group Member) verbal question at 1:11:44:

Would it be fair, I know in the last 2017 rate hike that a lot of the residents in Tier 3, 4 and 5 were thinking that they were being charged higher rates and subsidizing the lower tiers in order to be encouraged, or some would use the word 'forced,' to reduce their water consumption. But, is there a subsidy going on with Tier say 3, 4 and 5 to the other tiers?

Andy Burnham (Stantec) response at 1:12:19:

Not in the way that the rates were calculated because as Kyle described it, we allocated the cost to each tier based upon the contributions and use that we saw from each tier to our maximum day and peak hour demands. And so, really the intent was so that you would have a very specific cost basis for the rate in each tier so that you wouldn't have that type of subsidy. The part of the process that we had to make an assumption on last time, as Kyle mentioned because we didn't have it was, what are the actual peak hour contributions by customer class and by tier. But now that we have the AMI data, that's where we can really enhance the process before that relied on some industry-standard assumptions that we can make that now also be data-driven as was every other element of the tier setting process last time.

Bob Kawa (Stakeholder Group Member) verbal response at 1:13:15:

Okay, thank you.

Cassandra (Cass) Olmstead (Stakeholder Group Member) chat question read at 1:14:17:

I'm curious as to why there can't be a tier for single family homes that have acreage? I use very little water in my home comparative to my landscaping needs.

Steve White (Municipal Utilities) response at 1:14:28:

Again, I think that gets back to the fact that the break point between Tier 4 and Tier 5 is 16,000 square feet. But, I'm not sure how much that would impact the cost per tier so much. I mean even if we added more tier breaks or more tiers, how much that would change as far as what that cost would be. Maybe you could talk about that a bit.

Andy Burnham (Stantec) response at 1:14:57:

Yeah, I think that tier breaks would just affect the distribution of the costs. So to the extent that, you know, we were to, you know, incorporate an additional tier Steve, I think then the issue would be when we run the numbers of the AMI data, the usage in each tier as we regroup it – how much is that contributing to our maximum day and peak hour demands? And so that could, the way we size the tiers, could affect the allocation of costs depending upon the usage in those tiers and how it impacts the system on the maximum day and peak hour. So, tier sizing could have an impact on the rates per tier as well.

Steve White (Municipal Utilities) response at 1:15:36:

Based on what I'm hearing, maybe something we want to look into just to show, okay based on our AMI data if we were to add a tier or two, what that might look like.

Andy Burnham (Stantec) response at 1:15:50:

Yeah and that's one of the great points that we can do this year is really amplify the approach used in 2017 with your AMI data. And you know, the way Kyle and Deb set these things up is they're pretty dynamic models. So, I think that might be an interesting topic for that Rate Design Workshop that we'll have is to maybe not necessarily have it be as much of you know, kind of just specific PowerPoint but maybe have of couple different scenarios we can look at to just do that.

Cassandra (Cass) Olmstead (Stakeholder Group Member) chat question at 1:20:59:

When you use current data to create the new criteria, are you going to take into account the COVID impacts such as everybody has been home 24/7 for the past two or three months, using much more water in our homes than we would normally use?

Steve White (Municipal Utilities) response at 1:21:16:

You can go into this, but from my standpoint, we always look back over the last three years, Cass. It's basically a baseline, if you will. Obviously, we want to take out weather impacts, right? So, from one year to the next we may have some very variable weather that can absolutely affect outdoor usage. And obviously COVID has a huge reduction in commercial. And that's great for us for a scenario-base to kind of predict and/or forecast what revenue sufficiency may look like say for instance if we had a second COVID impact and so forth. But all of those criteria, we want to normalize that so we're not just basing it off of a very short time period; we actually look over several years. But I'll let Andy and Kyle address that in more detail.

Kyle Stevens (Stantec) response at 1:22:10:

Absolutely. I think, you know my thoughts on that Steve is you know, we get into this data at detailed level such that we can incorporate the relevant things and COVID definitely is. And, you know, as we pull up that revenue sufficiency analysis, I'm going to want to talk through how we pulled that data that I showed a little bit of it today and how we've integrated that into your financial model. And I think the only other thing that I would kind of mention is, you know, with utility rate setting and changes, a steady hand approach is often the best. So, the year-to-year dynamics can be very volatile. Steve mentioned you know, weather is a really big one in your particular area so, I know you guys just had some abnormally hot weather, irrigation goes up, revenues come into the system. On opposite years, though, the revenue comes down. And what we try to do is make sure that we're seeing those trends but we don't want to necessarily make large changes one year to the next for these changes, rather recognize

the long-term trends that are influencing the utility and make adjustments appropriately along the way. And that's part of the reason that, you know, we open this up every two years to do a deep dive and look at the data and ensure we're on a sustainable path.

Community Stakeholder Group Meeting 2

“Revenue Sufficiency Workshop” – June 9, 2020

Steve White (Municipal Utilities) verbal comment at 22:14:

Delia asked a question prior to the meeting started, but I think we'll hold off until later because it's a little bit different than what we are covering right now.

Carmen J. Umeres (Stakeholder Group Member) chat comment at 22:32:

It's a lot of information, I think, at one-time.

Tarja Nummela (Customer Services) verbal question at 32:50:

Kyle, this is Tarja. I have a question. We made a change in that wastewater rate – applying the cap for the residential customers. Did that have any kind of impact on this rate study this year?

Kyle Stevens (Stantec) response at 33:10:

You're referring, so and I think just to be clear for the group, what we're referring to here is there's a practice in place where for sewer billing we rely on the winter average. And what we essentially mean there is we look at your water consumption in the winter months to determine the sewer billing throughout the year which helps us avoid charging customers for seasonal irrigation demands that might increase water demands temporarily but are not necessarily returned to the sewer system. And there was a change made where, as we mentioned early on, there's this data point, industry wide, where indoor usage has been declining over a number of years and what that's led to is declining wastewater returns as well. So, as we went to update those rates, the averaging has decreased slightly, and that target is included within this analysis and the revenues have been updated. And it does I believe, slightly, and I can pull the exact number or Deb might have it, it does slightly decrease the revenue generation of the system over time. And it's something that we've seen in a number of different funds that cap would be lowered as indoor usage contracts. So, it's definitely included as something we watch as part of the projections.

Julianne Wheeler (Stakeholder Group Member) chat question at 39:41:

Is 10k gallon a month a typical bill for these communities?

Kyle Stevens (Stantec) response at 39:50:

So, it's a typical bill for Tempe. And then what we've done is applied that usage amount in these other communities to create a comparable bill. But, in those individual communities, their average bill might fluctuate a little bit differently depending on their underlying customers. So, they may have smaller homes or less irrigation demands or older areas or newer areas and so their average bill might slightly fluctuate. I would think, though, that most times, because we're talking about residential customers, those usage amounts on a monthly basis for the typical are going to be very, very similar to one another on average. But we have to set it kind of at your average to create a comparison.

Steve White (Municipal Utilities) response at 40:41:

Hi Kyle, this is Steve. Just since I've reviewed most of the other Valley cities most recent rate study's, I

have a pretty good idea of what they have for their typical bill. A lot of communities have a 9,000 water to 6,000-gallon typical usage. Scottsdale has an 11,000 and 8,000 as their typical usage. So, it's really right in the same range as what we have at 10 and 7.

Unknown (Stakeholder Group Member) chat question at 41:25:

Why are Tempe's rates for higher users so much higher than Gilbert's and Chandler's?

Kyle Stevens (Stantec) response at 41:34:

I think that goes back to probably an initial slide we had where we had tiered rates for consumption. And so, as we move into the next components of the analysis, we are really going to be digging into how we structure those rates and the components that go into them. You know, I think I guess that the question and answer is two-fold. So, one is, you know, on this comparison, which shows a pretty large user, the actual bill that comes out is relatively comparable. The tier break points in pricing though for Tempe, we have a configuration in Tempe where we're trying to properly assign the cost to providing service. And when we get into that cost of service, we're going to really take a deep dive into this. And in that Rates 101, I went through this where we use an industry-standard approach that's called 'base plus extra capacity' which identifies the base level of cost to provide average demands, but then also peak demands are a huge cost driver on the water side. And in the case of Tempe, we've made a critical methodology approach where we're trying to assign that cost of peaking to the people and the customers who were peaking on the system. And so, we typically find a lot of that peak usage occurring in the top tiers of usage, typically related to seasonal changes in demand that happen that the system must be sized to meet year-round when they occur. When we get into the next analysis, I'm really going to show you exactly how those cost numbers flow through to create those rates and how we identify those.

Andy Burnham (Stantec) response at 43:03:

And, Kyle if I could just hop in too, you're exactly right. Back to the Rates 101 presentation, you know we had the slide that kind of showed the different tiered structures for the agencies. And so communities like you know, Tempe and Scottsdale and Peoria and Mesa and Surprise and Phoenix, you know they have inclining block rate structures or seasonal rate structures where that higher usage, you know, rate on average is about five or six dollars, you know, a thousand gallons. Chandler and Gilbert have very, very modest inclining block rate structures where that top tier rate only gets into the two-dollar to three-dollar range. So, that's really the big difference. So, I just wanted to kind of hit that up a little bit more specifically and directly but you're, you're spot on in terms of the why.

Cassandra (Cass) Olmstead (Stakeholder group member) verbal question at 44:20:

My question to you is I know I've sat through several City Council meetings on you know, why those higher tiers are more and why you feel the structure needs to be that way but I just want to make sure you guys understand that, you know for those of us that live in south Tempe, our lots were purchased as the City allowed them. They allowed acre, two acre lots down here. In order to water an acre, an acre and a half, two-acre lot, you're obviously going to use a tremendous more amount of water. And to me, and this has been my beef for years, it seems like you guys have always wanted a green city, you've always wanted green landscapes and its always been kind of an agenda item. You allowed us to purchase these large lots and then you suddenly decided to start punishing people with larger lots and needs for water based on the fact that they have to water them. So that's the part that I want to make

sure people don't forget is that you guys created this dilemma and now you're pushing the expenses off on the people who purchased years ago. We've been in this home for over 25 years, 26 something. And it's just, it is aggravating when our costs are just astronomically higher than they used to be based on the new criteria that you guys are using as you make these rate decisions. And, we've even heard people in the City say, "well, maybe we can do two different meters, one for landscape and one for water usage." I don't use very much water in my home at all, but my landscape water usage is high. And you know, I've heard people say well maybe we can do two meters but then I got data from the City about a year or so ago saying, yeah, that would be on you to pay for that second meter and it was like, if I remember right, it was like 3,000 dollars or something to pay for that second meter and have it installed and it was just, it was ridiculous. And so, I just want to make sure that people understand that you guys are thinking about that as you go through these rate structures and, understand that, I mean I'm not the only one that feels this way in South Tempe, believe me. There's a lot of us down here because there's a lot of large lots and it seems inappropriately, what's the word I want to say here, it's just an extreme as to how much more we are paying per gallon to water our lawns. Does that make sense?

Andy Burnham (Stantec) response at 47:15:

Yeah, this is Andy. I appreciate those points. I think one of the things that also came about as part of the last rate structure, as well, to your comments specifically about the separate irrigation meter was, as Tarja brought up, capping sewer at 12,000 gallons a month, not just using just simply the winter average in case there was some outdoor use for irrigation happening in those months you know, that may otherwise be also you know, inequitably influencing a higher volume for sewer use or for sewer volume that's returning to the system. And so, that was an adjustment that was made last time, you know recognizing those types of conditions. And so, I think as part of this study, you know, considering lot size and looking at tiers as we get into cost allocation and rate design discussions, you know I think these are great things for stakeholders to really offer opinions much like you've done about different considerations and things that we can look at. And what Kyle's really saying is that we just want to make sure that when we look at different break points of tiers you know, we have a good understanding of how to assign the cost to those different usage levels recognizing how they influence our system. So, I think there is a good process here that we can look at and explore alternatives. I think all Kyle's really saying is that from a cost of service perspective, that's what we've been trying to maintain cost of service and equity throughout and if we're not quite there, you know, let's explore some alternatives that can maybe improve on some things.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal comment at 48:51:

I appreciate that. The one thing that was very frustrating to me through this whole process the last couple three years that I've been involved in the water part is that, you know I get that those extra meters are expensive but I personally, and this is nobody else's opinion, but I personally feel like the City has kind of created this problem for those of us down in South Tempe. And you guys need to eat the cost of the additional meters for the homes and get them setup. I personally feel like that's an expense to the City. I mean, you guys created this and I'm more than happy to pay for the water that I have to have to water my land but it's either spend the money on the water or get rid of all the green. And I know neighbors that have torn their trees out because their water costs have gone up so high. So, you

know, we don't want to see a brown Tempe. And I just think that somewhere the City's got to meet us halfway on this. So anyway, thank you for taking that into consideration.

Stacy Renfrow (Stakeholder Group Member) chat question at 50:37:

Do we have a slide comparison for commercial customers, for large commercial customers?

Steve White (Municipal Utilities) response at 50:44:

I don't believe we have one as part of this presentation, but I think we can put one together and send it out after.

Kyle Stevens (Stantec) response at 50:53:

Yeah, we absolutely could. The big nuance on commercial is that usage levels can vary widely from one commercial use to the next. And so, often times it's harder to come up with a representative, typical bill like we just did where we can say hey, you know, a lot of homeowners or residential customers would experience this. As we go into the next sections, we can talk about, you know, some representative commercial and will be showing you some of that but I'm happy to pull a couple out, Steve and we could follow up on what those look like.

Julianne Wheeler (Stakeholder Group Member) chat question at 51:26:

Does Chandler use gray water? May I address that issue?

Steve White (Municipal Utilities) response at 51:37:

Obviously, our consultants wouldn't know that but I'm not aware that Chandler uses any gray water. They do have reclaimed water but, that's a completely separate system that they have a separate rate for.

Carmen J. Umeres (Stakeholder Group Member) chat questions at 51:55:

So far, what I'm understanding is that the City of Tempe has a great debt. It is very difficult for the City to maintain the water system. What is causing the income not to cover those costs? Does it cost a lot of money to bring water to the desert? I suppose that debt has been increasing year after year and it will continue to increase. What is needed? Increase prices reduce the amount of water you offer; maybe think about restricting certain uses of water or start charging more for water for certain uses?

Kyle Stevens (Stantec) response at 52:33:

Absolutely. Happy to take on a few of those that I heard, Steve, that have a theme. So, you definitely, you know, CAP water costs are a cost that come to you. You don't have control for that and that is the cost of moving water across the desert from really the Colorado river all the way over to the Valley for your portion of that. That is a cost that does typically increase but, I wouldn't say the costs that we've seen increased have been too crazy over the last few years. It's been relatively stable, slight increases on that one. The debt profile has actually been, and as we have projected out, is relatively stable. So, the interesting thing about the debt is while we're funding capital improvements with debt, we're also paying that debt off. And so, as we borrow new money, we have to repay that. But also, as we get to the end of a term of loans we've made in the past, that debt falls off. And what we try to do and as we put into our models, we look at that projection of debt service over time and actually if I go back really quick, I can show you exactly what this looks like. I actually got it broken out, we'll go to the water system really quick since that's the one we had the increases on. You can kind of see here in the red right here this is the ongoing debt profile. So, this is the expenditure by each year of debt expenses.

And so, while it might increase a little bit here or there, the actual profile, this gap of this red, is relatively flat over the projection period and that's because when you get under the hood and you look at the assumptions we actually pay off some debt, that frees up room and cash flow for additional borrowing that we need to do to fund investments in the near-term for capital investments. And so that typically is kind of a stable situation. The real driver oftentimes is the ongoing O and M costs, the costs of doing business that increase over time, as well as the fact that we need to fund and size this capital program, especially on the water side, to meet the reinvestment needs and replace those pipes to ensure we continue our level of service into the future.

Steve White (Municipal Utilities) verbal comment at 55:28:

Before the meeting started, we did receive a question about agricultural properties, similar to one we had at the first meeting last week. But it sounds like we will probably address that more in our next two meetings, looking at larger properties.

Kyle Stevens (Stantec) response at 55:51:

Yeah, I would think so, Steve. I think we will really drill into the customer classifications, get an understanding of why we are grouping different customers together into classifications and the unique demands of serving those customers. I think that falls really nicely as we start talking about cost of service and rate structure.

Carmen J. Umeres (Stakeholder Group Member) chat question at 56:41:

If the debt is stable, could we think about investing in the quality and improving the taste of the water?

Tara Ford (Municipal Utilities) response at 57:03:

So, thank you for the question Carmen, and I do assure you that the quality of Tempe's water, it meets all EPA/ADEQ standards. It is very high-quality water. So, if you do have more questions on that obviously you can reach out to me we can get you values/numbers, specific concerns with the water we can address, but the quality like I said does meet all ADEQ, EPA and local standards. As far as the taste of the water, I think I'd need more specifics on that because I know there's some times of the year, which I would like to address, where you get that musty, moldy taste and I don't know if that's what you're talking about, maybe in the summer months. And then what we'll do is we'll turn carbon on at the plants and that'll get rid of that taste and odor, and but that is MIB/Geosmin and its naturally occurring in the water, it's perfectly safe. We do invest, Tempe does invest, and I am proud of that, that we do feed the carbon to get rid of that taste. It's an aesthetic thing and so it's not actually necessary, but hopefully that answers your question but again please feel free to reach out to me if you have specifics on quality of water.

Terry Piekarz (Municipal Utilities) response at 58:24:

Tara, can I just to add to that? Also, for Carmen, for the group, that also I would definitely like to refer them to the Consumer Confidence Report that we publish each year if there's any questions about quality and such. But just on the taste and odor question, this is a sort of an age-old question in the Valley as Tara was describing. The nature of our surface water and, not only the chemistry of it but also what happens with it biologically as we move through the seasonal changes that we see here in Arizona, has the effect of creating those types of situations. Again, the water itself and the quality of the water that leaves our facilities meets or exceeds all standards but, there aren't standards necessarily for taste and odor. As well, there are some challenges that we, not just Tempe but across the Valley, as we use

chemicals for disinfecting, there's an effect that it has on the taste of water versus what you might taste directly out of a maybe a groundwater well back east or a system that has a water softener or something like that. So, it is a challenge but from purely a quality standpoint, it's as high quality of water as you can find anywhere in the US. And the things we do to try to, to some extent, mitigate those tastes and odors as Tara mentioned are carbon feeding during certain times of the year and trying to be cognizant of that as we move through those seasons. So, we do invest but taking it to a different level than that and the amount of investment that has been certainly researched and analyzed and cost effectiveness discussed and it's such a large investment for such a short period and what you achieve for that, it's been kind of deemed to be not feasible or a good investment of our capital dollars or operating dollars. So, thank you for the question, Carmen.

Steve White (Municipal Utilities) verbal comment at 1:00:49:

I just want to add one thing, and this is unrelated to Carmen's question. But for our commercial and industrial stakeholders who are attending as well, once we get into the cost of service and cost allocation for all customer classes, there'll be more detail and information for commercial and industrial. So, wait until the next meeting and you'll see a lot more on your side as well.

Andy Burnham (Stantec) verbal comment at 1:01:42:

Steve, did you want to circle back to, I think it was Delia's, question at the very beginning of the discussion? That kind of, I know Kyle's got the remaining activities up and the next thing on our schedule is Cost of Service and that may involve looking at different customer classifications, so that agricultural zoning question and discussion might be appropriate.

Steve White (Municipal Utilities) response at 1:02:18:

I'm sorry, Andy, I kind of missed part of that question. Can you rephrase that?

Andy Burnham (Stantec) verbal question at 1:02:25:

Sure, yeah, I just didn't know if we wanted to circle back to the very first question that I think Delia posted about agricultural zoning because as we get into cost of service, you know looking at different customer classifications such as agricultural properties, this is a good time to have that type of guidance and discussion you know if that's something that we want to look at and if we have the data to be able to look at as part of you know, understanding the usage characteristics and seeing if separate customer classifications might be appropriate.

Steve White (Municipal Utilities) response at 1:02:58:

That's a good question. As far as our land use and zoning is concerned as far as how, I mean, we probably need to go back and actually take a look at our City Charter to kind of go back and define what's single family versus nonresidential. I'm not sure we have the data, but I will look into that this week to see if I can, if I have sufficient data to really dig into that at the level we need to dig into. Terry, do you have any comments on that?

Terry Piekarz (Municipal Utilities) response at 1:03:42:

I would say, just I'm not sure either, Steve, but I agree, we would have to just kind of outside of this meeting figure out what we've got access to and what kind of data we have within the City. And then we can probably, then if we have that, we can discuss that with the group.

Community Stakeholder Group Meeting 3 “Cost of Service Workshop” – July 7, 2020

Terry Piekarz (Municipal Utilities) verbal comment at 1:20:

I wanted to talk about a couple of questions that came up at our last stakeholder meeting and address those so we can kind of have those at least mostly answered before we get into this part of the study and the various topics that are involved. A question came up last time about the idea of creating an additional customer class for residential agricultural properties which is large lots, horse properties and such. Staff looked into this question and after further considerations, there's a number of reasons why this is not something we would necessarily include in this study and probably would not recommend moving forward with future studies. And those include that we don't have specific data in our billing system for residential horse properties or agricultural properties. And also, not all horse properties or agricultural properties raise horses or have farms. So, these would require additional study and there's certain resource constraints around that as well. But also, it's a relatively small number but most importantly we feel like we have an option that addresses that sufficiently which is our landscape class and it's meant for outdoor water use so there's no connection to sewer or the return of water into the sewer system. Some horse property communities in Tempe have communal corrals and tracks that receive their water from landscape meters, and again we believe this is the appropriate class for that purpose. The second question was about why Tempe doesn't have reclaimed water available like Gilbert and Chandler. As most of you know, Gilbert and Chandler are relatively young cities relative to other cities in the Valley, including Tempe. As those cities were developing and growing, they actually Master-Planned their reclaimed system and have wastewater plants that provide water to those systems. So, a couple parts to that. Tempe, currently, all of our wastewater goes to the 91st Avenue wastewater plant which is a multi-cities plant that's operated by the City of Phoenix. Our reclaimed water plant, the Kyrene Water Reclamation Plant, is currently decommissioned but there are plans in the future to bring that facility back online to somewhat of a limited use. But, the infrastructure necessary to have a reclaimed system within a city, if not done when the city is being built, is extremely cost-prohibitive. So, there's a lot of limitations to being able to put a parallel system in that's following, basically, your distribution system. As you can imagine, we have a challenge with doing replacement of water lines currently, the amount of, the cost of doing that, the cost of getting into the infrastructure but also the disruption of the community. So, as you can imagine, imagine putting in a system that was able to provide an entirely different type of water to a city. So, most cities that do have this, they don't, if they do it, they do it to the new construction areas and they don't necessarily do it to the existing buildings and infrastructure of the city. And in the case of Tempe, we're primarily built out, if you will. So again, it's a very cost-prohibitive process. We do intend to use reclaimed water to some extent in the future but having a reclaimed water system that would provide that source of water to customers is not feasible from our estimation. So, I hope those answer your questions sufficiently that were raised last time. We appreciate them and the opportunity to give feedback and talk about those issues.

Delia Story (Stakeholder Group Member) chat question at 49:14:

Could you talk about how [flood] irrigation is included in the scope of this study?

Kyle Stevens (Stantec) response at 49:23:

Yeah, absolutely. And so, it's not necessarily irrigation separately. The best way to think about this is that we're including every type of demand on the system in our analysis. And because Tempe has

invested in a state-of-the-art AMI system, we're able to get the real data. And we're really able to understand on your utility system, how these demands are placed on the system. And in the landscape class, as maybe a great example on this chart for the hours, of how some of those outdoor, seasonal irrigation demands potentially impact the system. And so, it's included as a demand type in our analysis that comes all the way through from the production data, seeing those seasonal trends, the actual demand data that we see on AMI, and then as I just went through those ending results, we can see for customer classes where the peaks that are identified, such as landscape, are higher than what's currently being recovered. There is some differences in the cost of service compared to the current revenue levels.

Andy Burnham (Stantec) response at 50:30:

Yeah and Kyle, just to maybe help kind of further clarify because you probably can't see the chat. The question, I think, was really specific to flood irrigation. And so, what Kyle described is kind of how we handle irrigation that happens through potable water meters. But irrigation through flood irrigation, we've done a separate, very specific cost of service analysis for that that's identified what that cost is and compared the current revenues to that for, you know, City facilities as well as flood irrigation customers. I think there's going to be some policy discussions for Council to discuss what level of cost recovery they would like those flood irrigation rates to capture recognizing, you know, what rates are providing today and then some of the potential ancillary benefits of flood irrigation from an aesthetic value perspective to give guidance to this study about what level of cost recovery should the flood irrigation rates reflect and over what time period should that be established. In the prior study, Council had approved flood irrigation rates that captured 50 percent cost recovery. The costs have changed a little bit so we're not quite at that mark today, but I think that's going to be an important discussion from a policy perspective with Council that I think maybe Terry or Steve you may want to further elaborate on from a process standpoint.

Terry Piekarz (Municipal Utilities) response at 51:55:

That's correct, Andy. Yes, that's one of the, one of the study results that we will be going to Council with to provide them with the information and the data. And then, as you mentioned, that would be a policy decision that would have to be the consensus of Council if we're to make any adjustments to that program or keep it at the current level or even potentially plan for longer-term phasing in of potential full cost recovery. So, thank you for that question.

Delia Story (Stakeholder Group Member) chat question at 52:37:

Is flood irrigation water treated?

Terry Piekarz (Tempe Municipal Utilities Director) response at 52:46:

Flood irrigation water is not treated. Flood irrigation water is surface water coming from Salt River Project that is distributed through a various system of laterals, but it is not treated potable water.

Delia Story (Stakeholder Group Member) chat question at 53:10:

Where are most landscape meters located? I am single family and do not have a separate landscape meter.

Steve White (Municipal Utilities) response at 53:30:

Landscape meters are primarily HOAs, common areas, commercial and multi-family properties have

outdoor landscape meters. The reason for landscape meters are they're not connected to the sewer system so you're only billed for your potable water use and not your sewer system. The majority of our parks are also fed by landscape meters. We do have some parks that are on raw water, that get water from SRP. However, landscape meters can be in any other customer class given they pay for them to be installed.

Delia Story (Stakeholder Group Member) chat comment at 54:15:
Thank you.

Steve White (Municipal Utilities) verbal comment at 55:21:
Hey Mary, this is Steve again. I just want to bring up one item that Stacy had requested in our last meeting but it will actually be in...the August stakeholder meeting when we get into rate structures but we will have commercial and industrial cost comparisons at different volumes for those customer classes as well when we meet in August.

[Community Stakeholder Group Meeting 4](#) "Rate Structure Design" – August 11, 2020

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal comment at 1:05:30:
I have a question. As you guys went through all this, in the very beginning we talked about the problems that the larger lots in Tempe are having with the rates that we're being charged. And we talked about some different options and you guys talked about maybe looking at some different scenarios of how you could help those of us that are on larger lots. And I didn't see any of that reflected today in your presentation. We have a lot that's just over an acre. So, when you're talking about those lots that you were looking at, the different sizes, you didn't go anywhere near what an acreage would be. You know I think an acre has 43,000 square feet. So, you know, I get a notice every day from the City of Tempe on my phone, a text that says that you've used, like just while you were talking, I got my text today. I've used over 2,800 gallons, 2,809 gallons yesterday. So, there's only two of us in this house, we don't use very much water at all. And so, the problem is, you know, my sprinklers go off, if you would come by my house, you'd be embarrassed at how dead my lawn is. I mean it's barely, I would say 50 percent of it is brown and 50 percent of it is green. I've cut my watering back so far that I can't keep it green. But we have lots of trees and lots of bushes and I'm trying to figure out where in this, it doesn't look like you've taken into account, those of us in South Tempe especially, that you know, have these large lots. And, you know, my water bill last month was \$553.00. And you know, that's with cutting my water back use as far as I can. I've even turned off my auto fill on my pool and I just do it manually, just to make sure that it's not using any more water than I have to. So, I've done everything that I possibly can and, you know, there's a lot of us in the neighborhood that are in the same boat. I talked my neighbors and some of my neighbors are tearing trees out. It's ridiculous. We need something that can help us be able to afford our water bill and keep our lawns without going to rock and desert. So, I'm looking for some input on what you took into account for this?

Kyle Stevens (Stantec) response at 1:08:22:
So, I'd be happy to start off and kind of give you some general thoughts. And, you might have some more so feel free to jump in as well. You know, the first thing, with regards to outdoor usage and when we set these tier structures, the first thing to consider is when we do this is we have to set these rates,

and we have to set the tier break points kind of recognizing the overall profile of customers within the entirety of the community. And so, a lot of the data points that are presented and that you've seen us walk through, including the outdoor usage, I mean you can kind of see it. So just as you pointed out, when you get up on this chart, the majority of lots are much, much smaller sized. And so, the average is right around a little under 8,000, or maybe 8,000 thousand or so square feet. We know, as part of the rate structure, you know did incorporate that much larger lot size, which is about 18,000 square feet, 95th percentile, meaning that that should incorporate 95 percent of all single family homes within Tempe's community. Totally understand your consideration of the fact that, you know, on this chart even, on the x-axis, you know, that 43,560 break point, that one acre that you mentioned, is pretty far over there to the right and represents kind of the 99th percentile, if you will, of large lots within Tempe. And so, the rate structure when you set it, there's nothing necessarily from a pure rate structure standpoint that you can do. If you increase that up there, it's still going to be some of the top water usage and the cost of that water, as we've talked about, is really a key consideration, that peaking demand is relatively expensive for the municipal system. Some of the thoughts through the community, I know they have some of the conservation programs and they do have a program in place where if you sign up for it you can, I believe, get out of the Tier 5 pricing if you can keep your demands at a certain level or demonstrate that they've come down a little bit. Andy, do you have any other thoughts?

Andy Burnham (Stantec) response at 1:10:26:

Yeah, just maybe kind of a little bit of elaboration on some of the things you were talking about Kyle is that, you know, we just don't have, you know, within the current systems and context, you know, the ability to do kind of individualized customer specific tiers, you know, at this point in time. That's something that, you know, we do see in California where every customer has a specific set of tiers that are developed, but that's a very few number of utilities in California and it's really not applied anywhere outside of the country because of some very significant technical and administrative limitations and costs associated with doing that. So, absent going to that type of a system, you know what we've done here is really tried to make allowances, you know, as best we can, to try to accommodate for some of those things both directly and indirectly. And when I say indirectly, you know, when Kyle was going over some of the indoor usage assumptions at 70 gallons per day, that's kind of the, you know, for homes that maybe haven't done any current updates or remodeling, maybe have some leaks, you know. California, Texas, they've adopted indoor, you know, state water standards of 50 gallons a day. And even more efficient homes today, down to 40 gallons today. And if you have a smaller household size, you know, chances are you're probably getting into some irrigation even in potentially that first tier or that second tier, which is why we saw some of those peaking costs in those tiers. So, you know, we're trying to use profiles to set up the rate structure as best we can, recognizing we can't get this perfect for every individual customer. And in so doing we've made conservative assumptions to make sure those allowances you know, are as fair as they can be and kind of customer-oriented such that, you know, there's, from the description of your particular property, it sounds like, if it's, you don't have many folks in the house, you know, you're probably getting some of the irrigation at those, you know very low rates, which helps offset some of your concerns. And I think as Kyle pointed out, the demand management program may be another way to address some concerns additionally as well to the extent that, you know, that program is something the city's going to continue to offer. That may also be part of the solution to mitigate some of your concerns.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal comment at 1:12:44:

Is there not a way that you can, like, we irrigate in the middle of the night. Is there not a way to, with all of the digital technology that we have now on our meters, isn't there a way to say, okay, if they're using 20,000 gallons a night between the hours midnight and 3:00 a.m., obviously it's not people up using that water. Isn't there a way to do a different tier structure for different hours?

Andy Burnham (Stantec) response at 1:13:14:

So, we really haven't seen yet in the water industry, and I say yet, like we have in the electric industry, time of use rates. You know, I think we're all, within the water industry, optimistic that they will be coming at some point the future when we do have the systems and the ability to do that because we're now seeing communities start with the advanced metering infrastructure, which is the first step in being able to do some of these more specific and granular types of billing practices. So, we're optimistic we'll see it, but the water industry is typically lagging behind the electric industry, which does things like that – time of use rates – by a few years. But, that's certainly something that you know, I would think would be considered in the future when the technology and systems would allow for it. But, in the interim period, I think you know Steve, this kind of goes to kind of the demand management program, you know, that have been piloted and potentially trying to bridge that gap for those that are able to control the time of use of some of those discretionary water demands.

Steve White (Municipal Utilities) response at 1:14:15:

Thanks Andy. That demand management is really about just working with Conservation and becoming water efficient, getting a Water Efficiency Certification through our Water Conservation Office. And, what that provides, over a 12-month pilot period, is if you commit to working in that program, that your billed at the Tier 4 rate, you would not top out with the Tier 5 rate. And that's a pilot that City Council has authorized, I believe it was last June. And you know, if that was to continue on in the future, certainly that would be a Council decision but that's exactly what has been done to date to address large lot owners with a lot of turf and trees, to assist with their not only water bill but also their demand management as far as being as efficient as possible with their water, watering of their lawns.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal comment at 1:15:19:

I am part of that program and we also updated our meters, our sprinkler meters so that we are on the digital ratio meter. So, the City made sure that we were doing everything that we could. We literally have done everything we could possibly do to bring our rates down. Last year, my water bill was over \$800.00 for one month. And, you know, making the changes that we've made and done everything that we could. We turned down our watering time. We even water less than what your City recommends. They're like 'that's not going to be enough water' and I'm like, well I can't afford to water as much as I need to keep my grass green and they're like, well maybe you can, they give me these ideas. I work with your City Water Department all the time, they know me. But it's ridiculous that people are having to spend, you know, \$500, \$600, \$700 dollars a month on water because 90 percent of what they're using is for landscaping. So, I just think it needs to be readdressed. I understand that, you know, maybe you don't have the technology yet, but there are things I think can be done for specific, like you said, if there's only five percent of the City that has the large lots, that the City approved – you know, that's the thing that frustrates me is, you guys approved it, you guys have always pushed for a green City. Now we have green lots and we're being absolutely punished for this and so it just seems like there's something

that can be done for the five percent that have these acre lots and at least give us some sort of a cost break because it doesn't look like it's really been taken into account in the study.

Delia Story (Stakeholder Group Member) chat question at 1:17:59:

With respect to any goal of conservation, isn't reduction of lawns a priority?

Steve White (Municipal Utilities) response at 1:18:11:

I wouldn't say a reduction in lawns has been a priority by any Mayor and Councilmembers that I've never heard any of them say that nor has the water utility recommended that. Our focus is really on watering efficiency – just whatever landscape that you choose to have, just to water it as efficiently as possible so we're not wasting any water. So, I don't know if there's any other staff on the call that would like to respond to that as well but that, to my knowledge, I don't, we do have a rebate program for turf removal, if that's something you desire, we can, but that's not something that we necessarily recommend.

Terry Piekarz (Municipal Utilities) response at 1:19:10:

Steve, this is Terry. I just want to comment on your response to that question and just reiterate that yes, our Council direction we've been given is not about necessarily reducing the amount of grass or turf cover or anything like that but really our focus, one of the major focuses of our utility is to work with customers to reach the point that they're watering technique practices and such, and their systems, are as efficient as possible. So, we also understand that, you know, there are limitations to that in terms of, you know, the previous question that was raised and I know that's sort of a longer standing question but, you know, when you have a very large surface area with a very large amount of turf or plants or greenery, it's going to require a certain volume of water, even if you have reached a high-level of efficiency. So, we understand that, but we want to do all we can as a community, for our community as a utility, to create a scenario where we're doing it as best we can, collectively. So, that's the purpose of not only the sort of rebate programs and the programs to move out of Tier 5, but really the core of our conservation program is not necessarily conservation, other than in terms of efficiency. That's what we're moving towards. So, no, officially there's been no direction to try to encourage or move toward that, but certainly our Council has provided sort of policy direction in terms of sending a conservation signal that was mentioned by Kyle previously, which is very much in alignment with industry-standard across the U.S. And it's not a new concept, it's something that's really been going on for the last 20 years. But, that doesn't necessarily mean, you know, go from turf to xeriscape. It just means be as efficient as we can be in the use of our water in terms of all water customers. So, but we understand there's going to be different volumes and that's why we have this structure, but as mentioned previously, it's difficult to capture without great cost and great administrative overhead every single type of customer. We have to try, as best we can, to make it proportional to groups in general, as we can identify them.

Carmen J. Umeres (Stakeholder Group Member) chat question at 1:22:00:

I'm concerned about what the City is doing to ensure that we have water in the Valley in the future. We live in the desert and the big businesses and their offices keep coming. I like that, but I also worry about whether the City is ensuring that we're not going to run out of water.

Terry Piekarz (Municipal Utilities) response at 1:22:22:

Tara and I can probably best touch base on or chime in on this particular one. As I sort of mentioned

previously but...incorporates... approach, water resources and long-term drought resiliency, system efficiency, different sources of water. We have a multitude of different infrastructure investments that we're making. We also have investments we're making in opportunities for additional sources of water. Again, we're always looking for ways to improve the efficiency of our system as a whole, which also creates a certain level of resiliency moving forward. We have a very secure supply of water. We have the luxury of surface water availability as well as groundwater. And we're always looking for opportunities to leverage other sources such as reclaimed water recharge and recharging our aquifers so that if we were to get into a situation where we needed to supplement our supply of surface water for a period of time, or if we experienced a drought condition, that we could do so without impacting obviously our customers, whether they be commercial, industrial or residential. So, we have a very robust program. Our Council has been very supportive in this area. Like I said and as you've seen in the presentations to date, we have a robust CIP. We replace and add infrastructure as appropriate to assure this water supply and the ability to move water within our system to where it's needed. And also, to be able to support new businesses and new industry that comes to Tempe. So, we think we've got a very good handle on this and it's something that we place a very high priority on every day. It's a big part of running a water utility. So, thank you for the question.

Andy Burnham (Stantec) verbal question at 1:25:15:

One thing I'd be interested in from those here, you know, Kyle presented kind of two options for you know the revenue adjustment plans, kind of an equal levelized, you know, very predictable plan of increases, or one that has a smaller near-term adjustment but then slightly higher level plan thereafter. You know, I guess I was just wondering what this group's reaction was to either of those two plans and if there was a preference between either of those two options.

Laura Kajfez (Neighborhood Services) response at 1:25:42:

Great question. I am happy to unmute anybody if they would like to speak.

Andy Burnham (Stantec) verbal question at 1:25:52:

Or just even typing in the chat. The scenario one was the five and a half percent level plan versus the scenario two which had the 2.75 percent increase. I mean, I'm just kind of curious about what the group's general sentiment about those, all things considered, predictability, current economic conditions, there's a lot of things to balance depending upon your perspective.

Delia Story (Stakeholder Group Member) chat comment at 1:26:30:

Stable adjustment, scenario one.

Phil Plentzas (Stakeholder Group Member) chat comment at 1:26:47:

Scenario one as well.

Phil Plentzas (Stakeholder Group Member) chat question at 1:27:30:

One question. Have you had an independent auditor verify these numbers?

Laura Kajfez (Neighborhood Services) verbal question at 1:27:40:

Which numbers are we talking about?

Andy Burnham (Stantec) response at 1:27:48:

While we maybe get clarity on that, Laura, I can speak to just kind of a couple of elements of the different numbers that we used. So for determining the revenue requirements and the financial forecast and how much money we need to collect, we do start with audited fund balance information so, beginning fund balances reflect audited expenses, as well as our review of historical results are pulled from financial reports generated by the system that tie out to those audit reports. Additionally, when we look at things like billing data, we do perform revenue tests to ensure the accuracy of the billing information matches to the revenues identified in those financial reports. So, to the extent we can, every element of information that we received has either been audited, can be tied back to be audited to the audits, or is cross-checked against other available data sources to ensure its accurate and appropriate for use in the rate making process.

Laura Kajfez (Neighborhood Services) verbal comment at 1:28:50:

Carmen maybe we can clarify a little bit for you. You were saying you can't see anything on your screen. The question is, would you rather see an overall rate increase applied of a smaller number, 2.75, or a larger number, 5.5, with the caveat that subsequent years would be 6 percent if we went with the smaller number?

Carmen J. Umeres (Stakeholder Group Member) chat comment at 1:30:19:

I'm not sure but I guess the small increase would be better.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal question at 1:31:03

What's the process from this point on? Where does it go? You have all this information that you've gathered and a little bit of input from people and where does it go from here?

Terry Piekarcz (Municipal Utilities) response at 1:31:20:

I can respond to that. This is Terry. The next steps in the process are we finish up the proposed rate adjustments for the study itself. We provide the recommended changes and information to our City Management team. They have first review. We make any additional adjustments, as necessary. We also get their input in terms of what the report looks like, what the study ends up ultimately being. We share everything with them that we've shared with the stakeholders. We share the input that you provided. Next steps are we start discussing and preparing Councilmembers, letting them know that our recommendations will be forthcoming. We're on the agenda for I believe mid-September to provide a preliminary report to a Work Study Session. We receive feedback and input from Council based on the information we provided to them. And from there, we go and we make any final adjustments to that and then we present final, and Steve you'll have to help me out with the date and timeline, but we'll present the final study results in I don't know if it's October or November, I can't remember Steve.

Steve White (Municipal Utilities) response at 1:32:47:

Sure. So, our recommendation, based on the completion of the rate study, will go to Council on September 17th during the Work Study Session. Following that, we're going to go through a process of a 60-day notice. Assuming Council is willing to adopt the rates, we would go back in December to adopt the rates, and the rates would not become effective until February 1st of 2021. And in between that, we're meeting with the Sustainability Commission, the Neighborhood Advisory Commission, we're going to hold several more public meetings, more than likely virtually just like we did in June. Probably do one

on a weekend morning and then one in the afternoon during the weekday. Again, open it up for questions and comments and feedback, basically for the next two months. So certainly, residents and account holders have an opportunity to share their opinions, not only to us as staff but also to Mayor and Council.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal question at 1:34:03

I had one other question and I don't know what slide it was on, but it was earlier in the presentation. You were talking about a 19 percent. Down at the bottom it said something about 19 percent, and you made the comment that you wanted to increase it, yeah that one, I think you said increase it to 22 percent or something like that. And you said that, that's a number that's used for some sort of a government regulation or something or honestly, I lost track of what you're talking about. The part that I was questioning was you said that the rates had been decreased over the years a few times down to 19 percent and yet you said it was a very important number that they used in determining something. And I'm wondering why they would decrease it, if it was an important number and why you feel like it's necessary to increase it now?

Kyle Stevens (Stantec) response at 1:35:17:

So, happy to add some clarity to that discussion. So, what we're really talking about is we need a set amount of money for rates to provide, and there's really two mechanisms at the highest level. One is in the monthly fixed charges that each customer receives before any usage is metered, and then the second is on the volumetric part of it. So, we're just talking about the fixed charges here. And that current amount of revenue that's collected, there's about 19 percent of overall what we need. And I mentioned that it decreased slightly in the last few years and that's just been an artifact of the fact that the rate increases the last few times have been just applied to volumetric rates. Which means that has grown a little bit as a proportion of overall revenue, and its decreased this ever so slightly; it's a pretty modest jump back up to 22 percent. But mainly the point here is we didn't want to see that erode anymore. We wanted to make sure that the utility had a good amount of fixed cost recovery, being above 20 percent, which helps provide stability for the utility and it helps when rating agencies, when the utility goes to borrow money, it helps when they look at it to provide a stable outlook. They essentially like to see the fact that not so much of the revenue stream is volatile with changes in usage from year to year, especially in a community like Tempe where you have very large seasonal changes from year-to-year potentially.

Cassandra Olmstead (Stakeholder Group Member) verbal question at 1:36:42:

So they just wanted to see, they want to see your base at a more regulated base number? Is that what you are trying to say?

Kyle Stevens (Stantec) response at 1:36:56:

Yeah absolutely, there's no perfect number but, typically they'll kind of say you know really strong utilities and the highest rated utilities are above 30 percent. The average utilities though are typically in the kind of 20 percent, above 20 percent range. And so, we just wanted to make sure as part of this rate study we put that recommendation out there and would like Tempe to consider keeping their fixed cost recovery above 20 percent, so we put it at 22.

Andy Burnham (Stantec) response at 1:37:21:

This is Andy. It just really goes to their desire to see, you know, revenue stability and certainty and, you

know, trying to put that into percentages. So as Kyle was saying, you know, generally the higher that percentage is, the more stable the revenue stream is so the more favorable, you know, it will be viewed and lead to higher ratings and lower interest rates on future borrowing, which making sure we hit these, you know, kind of rating agency metrics or criteria is important because, as you may recall, we're debt financing a lot of our capital plan. So, a lot of that maybe through the full faith and credit of the City, but some of it may be through things that are specifically pledged by the utility. And so, we want to make sure we've got good financials, you know, for those types of debt instruments if they're used.

Cassandra (Cass) Olmstead (Stakeholder Group Member) verbal response at 1:38:00:
Ok that makes sense, alright thanks for the clarification.

Delia Story (Stakeholder Group Member) chat comment at 1:38:22:
Thank you for your comprehensive and professional presentation.

Public Meetings

Municipal Utilities hosted two public meetings for the 2020 Water and Wastewater Rate Study. They were conducted virtually, via WebEx, and held on June 16, 2020, and September 22, 2020. Both meetings have been transcribed below.

June 16, 2020 – Public Meeting

David Rice chat question at 24:33

In future rates, will the multifamily tier still be higher than the lowest single family tier?

Steve White (Municipal Utilities) response at 25:01:

We still have to go through the rate study process but I'm not thinking at this point that the lowest tier for the single family class will be higher than the multi-family class uniform rate. There's several factors in that and I can discuss that further at a later date.

Julie Hoskin chat question at 25:28:

Are you looking at new wastewater and water infrastructure that will affect rates? What are your thoughts that is needed?

Terry Piekarz (Municipal Utilities) response at 25:40:

Yes, we are definitely looking at, always looking at water and wastewater infrastructure. As I mentioned in one of the slides, we have a very robust CIP, Capital Improvement Program, that's ongoing. We're always looking to either rehabilitate, replace or add to our infrastructure where appropriate. As mentioned earlier, we also are evaluating the use of our currently out of service water reclamation plant and other types of capacity issues as we move through the needs of the system and also, what's anticipated in terms of assessments and looking at where our aging infrastructure is more likely to have reached it's useful life and we need to invest in. So, I guess the short answer is we are always looking at those types of things. That's part of our normal process in managing the assets, as I mentioned earlier, from basically design to either replacement or decommissioning.

Unknown chat comment at 26:47:

The goal of 110 gallons per person per day, I guess, is a citywide average. I am not surprised the rate is

going down as most of the new construction is high-density housing where the use per household should be less because there is less land to landscape.

Terry Piekarz (Municipal Utilities) response at 27:13:

That no doubt has an effect on that number, as well as conservation efforts. The number actually we are quite a bit below that currently. We're looking to even possibly revisit that, as a goal, should the Council choose to do so. But that's true, we are seeing those numbers and it is based on the average for all of the customer usage combined with the population and the water demand.

Nick Darcy chat request at 27:44:

Explain the \$10,000 capped rate regarding wastewater.

Steve White (Municipal Utilities) response at 27:57:

I believe he is referring to the 12,000-gallon sewer cap that was implemented in 2018. Basically, what that means is, currently, your winter average – which is the months of December, January and February – you take an average of that of your water use and that becomes your winter average. We take 70 percent of that to come up with a figure for what your return flow is for single family customer class. Once that is done, that becomes your bill between May and the following April. In 2018, we instituted a sewer cap, so we assume that no more than 12,000 gallons is going to be the return flow from single family residential homes. So, if you use, for instance, a lot of outdoor irrigation in the wintertime and your winter average is higher than we deem indoor usage to be, it's capped at that 12,000 gallons.

Bob Leivian chat question at 29:07:

Does ASU pay a different or preferred rate other than customers?

Steve White (Municipal Utilities) response at 29:20:

ASU is a commercial customer and they pay the commercial rate, which I believe is \$2.59 per 1,000 gallons.

Gary Krahenbuhl chat question at 31:03:

I am a 36-year resident with a half-acre of landscaping. I am in your WaterSmart program and have reduced my consumption each year for many years. Without irrigation, however, my bills continue to grow. Are there any plans to grandfather in people with large...? ...may have landscaped differently.

Terry Piekarz (Municipal Utilities) response at 31:32:

I don't think there are necessarily any plans in that regard but I will say we appreciate your efforts in that water use and efficiency. That would be a decision of Council at some point in terms of how we structure our rates and how we establish our fees and tiers. But in terms of any sort of plans or discussion about grandfathering any large lot owners or anything of that nature, that has not been discussed among City staff or our rate study consulting firm.

Bob Leivian chat question at 32:15:

Is the high-rise density in the core place much more impact?

Terry Piekarz (Municipal Utilities) response at 32:37:

Maybe what he's asking is about our ability to provide water service in sort of the urban core in terms of high-rise buildings. When we as a City look at the permitting for such high-rise facilities, we have a

number of code requirements in terms of fire protection, the ability to provide service, that sort of thing – whether or not our system can support that. There are various fees that are associated with that developers, but primarily that's to make sure that once that building is built and you either have businesses or residents that we can provide sufficient water pressure, volume and such for fire protection and for potable purposes. The answer is we do have the capacity to provide that service currently or we would have addressed that in terms of the, as the development was occurring in terms of our system as well as the needs of the building.

Gary Krahenbuhl chat comment at 33:47:

Just a comment. It is good that you cap the wastewater charge because the formula is wildly inaccurate for people with large landscaping water needs.

Rudolf Owens chat question at 34:12:

What is a Tier 5 user?

Steve White (Municipal Utilities) response at 34:20:

Basically the answer to that is any single family resident that uses water over 40,000 gallons during any month.

Kurt Lehman chat question at 34:34:

When will we see the results of the actual rate change?

Steve White (Municipal Utilities) response at 34:39:

At this time, we plan on presenting potential rate adjustments to City Council in September.

Robert Kawa chat question at 35:20:

Has there been consideration for large lot owners to have a blended rate taking into consideration landscape rate?

Steve White (Municipal Utilities) response at 35:38:

At this time, first of all, thank you for the question. And second, we're not looking at blending rates. We take each customer class separately and understand the revenue requirements that are needed from each customer class and develop rate structures that conform with industry standards and best practices. And that's how we will continue to approach it.

[September 22, 2020 – Public Meeting](#)

Mariam chat question at 27:33:

I would like to know how multifamily district zoning is impacting single family residents?

Terry Piekarcz (Municipal Utilities) verbal response at 27:46:

I'm not sure exactly what that question is asking except for I can say that when it comes to the multifamily customer class, we've seen some adjustment in the numbers of multifamily customers since the last rate study was conducted, which made for a shift in the numbers of customers within the multifamily class, but also within the single family class. But as we saw earlier in the presentation, as the analysis was conducted and cost allocation, the proportional cost allocation, was determined, we actually saw a slightly reduced recommendation in multifamily, as they were being somewhat over-recovered in terms of the way the model results turned out. In other words, the cost to provide the

water service to that particular customer class, based on their peaking information, their customer usage and the AMI data, indicated that they had much less of a peaking factor, or peaking factors, than did the single family class, for example. So, the allocation of the cost was less to that group. So, I guess in answering to the question, we could potentially see if you had more multifamily customers within that class, we could potentially see that cost allocation changing because of their peaking characteristics as we would see in others as they increased or decreased. Again, everything based on proportional cost allocation and AMI data. So, I hope that answers the question.

David Rice verbal question at 29:37:

With regards to single family, single family sewer rates assume that all water used above 12,000 gallons a month is for outdoor use. And within the rate structure, water above 12,000 gallons is charged at three different rate tiers. I'm curious the rationale for having three different rate tiers for exterior or outdoor water use for single family whereas for landscape there is a single rate. And so, I'm curious why, what's the rationale for not having rate tiers in landscape? So why is this in single family and not in landscape?

Terry Piekarz (Municipal Utilities) verbal response at 30:28:

Thanks for that question, David, I appreciate that, and I can, I'll ask Steve White to also chime in as I go, but I'll take a first shot at that. This is something that actually did come up in our stakeholder meetings several times where we discussed that, of course the tier structure within the single family class. Of course, tier structures are generally put in place where you've got similar groupings of characteristics that you can then accomplish further cost allocation based on the analysis within those groups. Landscaping and the landscaping class is definitely a candidate for that at some point in the future. It's not something we could get into in this particular rate study, but it did come up by the stakeholders who basically had the same feedback that you're providing, which is, you know, we see that, there are some similarities there you could make that comparison and maybe that's something that potentially we want to look into in the longer term. The issue becomes that we have, in certain cases, the choice to either create tier structures within a class or to create different classes, there's an administrative cost to that. There's a cost associated with basically administering a program where you've got a very small number of customers, versus a very large class like single family residential. But basically, you're correct. That is definitely a candidate for future consideration and it's something we'll have to analyze and it is on our list for our next rate study because we know that that's, you know, we're seeing those peaking factors, we know that there are costs associated with that in the landscape class and it is something that we could potentially refine further so we could actually see what the allocation within that group is. But it's definitely a point well taken and it's something we definitely will put on our list for moving forward. So, Steve, did you want to add anything to that?

Steve White (Municipal Utilities) verbal response at 32:19:

Sure, Terry, thank you. You're absolutely correct, Terry, in your response. I think the only thing I would add to that is when you look at landscape usage, it does have quite a bit of peaking. But there's, when you look at the other customer classifications that are not single family, they have very customer specific usage types. So, given that the volume disparity between, for instance a City park or a high school where they have a lot of outdoor fields versus some smaller landscape meters that are, you know, maybe drip irrigation, watering desert-adapted plants. Creating tiers that are accurate to the demand characteristics of each customer on such a large scale of volume differences between the

customers within the landscape customer class becomes difficult, but it's definitely something, as Terry said, that we will investigate further in our next rate study to evaluate if we can accurately divide that up into reasonable tiers that will cost recover that we have an allocation of costs between those customers as well as similar to the single family customer class.

David Rice verbal question at 33:37:

I guess I'm wondering why that same difference doesn't exist in the single family residential class and that there's people that have say half acre lots or even a quarter acre lot. Depending on what size your lot is, your watering peaking factor is essentially individually is the same in that if you had the same type of landscape but you're penalized by having more landscape in the single family usage class or user class as opposed to a landscape user class, right?

Steve White (Municipal Utilities) verbal response at 34:37:

David, I would respond to that just by saying that how we allocate our pricing to each individual tier, and what I mean by that is how we're allocating our peaking cost association, our maximum day and our peak hour cost to each tier is proportional to the peaking factors, the ratios as Terry was going through in the presentation today, that maximum day and peak hour within each tier that we've observed over the last three years. We looked at 2017, 2018 and 2019 calendar years, observed the peaking factors that we see from the minimum month and the maximum month of each one of those years, average those and applied them, allocated the cost of maximum day and peak hour cost to those tiers proportionally and that includes Tier 1, Tier 2, Tier 3, Tier 4 and Tier 5, every single tier within the single family customer class pays maximum day and peak hour costs within that rate structure proportionally to the use characteristics that we've observed in our billing data and our AMI data.

David Rice verbal comment at 35:49:

Yeah, so that's fine, I, you know, I guess that's fine, thanks.

Tom Best chat question at 36:08:

How does this relate to Tempe having enough water in the future? I hear "cost" and therefore money but not "water" as in its use and having enough. Shouldn't it be "having enough" basis rather than "cost" basis?

Terry Piekarcz (Municipal Utilities) verbal response at 36:26:

Thank you for that question as well. That's a question that also has come up a couple times and I'll take a shot at that. Yes, certainly part of our cost that we recover is part of water resources but it's also for water efficiency efforts, water conservation and all those things that go into that. It also plays into our sort of resiliency efforts, what we're doing for planning purposes in the future, making sure that not only do we have sufficient resources should we face any sort of a shortage, maybe there's a drought condition that would occur in the short term that we would have to be able to address and still be able to provide service. But also, to be able to provide the service consistently and throughout the system from a variety of sources. So, you know, all systems are not 100 percent efficient where you can get all water from various sources to all locations at the same level that you need to at all times. So, we make a lot of efforts to make sure we have, for example, we primarily use surface water. We treat surface water and we distribute that water to our customers. We also use well water and we use that on some level of frequency, but we can't get necessarily the same volume of well water at all times to all areas. So, we also are investing in infrastructure and our CIP reflects that. We're looking at well location and

siting. We're making sure that we have redundancy where we need it. We make sure that our system is sized appropriately to be able to do that as I mentioned. But we're also looking at other opportunities for water resources and we're investing in the potential of groundwater and recovery of water and potential use of reclaimed water in certain areas where we can have other benefits from a groundwater credit standpoint. We're always looking at a variety of that, so all of that is sort of built into the equation of managing a utility so it's very much part of this, it's an excellent question. But we have a very strong water portfolio within the City of Tempe. It's very actively managed by this utility and our staff, and we have significant support from council in terms of doing all of the necessary steps to make sure we're in a very strong position moving forward, whether it be for the basic provision of service to our customers or how it's viewed from an economic development standpoint. But all of those being said, we're in a very strong position relative to our water resources and portfolio moving forward in the future.

Tom Best verbal question at 39:05:

No, I think that answers it. I'm fairly new to the issue, that's why I wanted to be on this webinar and I'm fairly ignorant of what's going on in the background to make sure we do have enough water so I appreciate, I thank you for the answer and I'll try to keep my interest up and follow these webinars and all your community outreach and I'll keep giving my feedback. But let me just do, a real wild question. Given Arizona's incoming residents from all over the place, what about this, I doubt it would work, but what about a pipeline from say 10,000 Lakes Minnesota to Arizona. I mean, we do gas. I don't know, just a wild idea. You don't have to respond.

Terry Piekarz (Municipal Utilities) verbal response at 40:23:

I can give you a brief response, it's not really that wild of an idea and it's actually been done on smaller scales in different parts of the country where they found themselves, it's interesting they're not necessarily in desert areas, but they found themselves in situations where they needed to move large volumes of water to different parts of the country. And again, this has kind of been throughout the history of our country but our version of it here in Arizona, of course, is the, you know, the Salt River Project and the Central Arizona Project going back, you know, decades before. But those types of considerations have been used in I think Texas and New Mexico recently did a version of a very extensive pipeline system and others have considered that. Also, people have looked at, you know, desalination facilities and such for sea water. But I'll say that we're fortunate in that we have a very active water management industry in Arizona. Obviously, water is our basic source of everything we're doing here. So, going back, you know, beyond 100 years, there's a lot of really effective and really well-supported planning that took place. We're very fortunate to have both the SRP system and the CAP system as our primary sources of water. They're very actively managed, both of them; CAP of course being much larger scale in terms of that, but in Tempe specifically, we're less dependent on that but we have the SRP system that again is very well managed and maintained in terms of the watershed, the facilities, the structures and so forth. But also, on the CAP side which you may read about, there's a lot of discussion and planning and cooperation about keeping water in Lake Mead, for example, and keeping water from the watershed in those lakes and preserving so that we have water moving forward as we move through drought cycles and such. So all that, everything you're describing is really not that wild of an idea but I think for us in Arizona and us specifically in Tempe, we're not at the point where that type of thing is being seriously considered in terms of that but there are all a lot of different

alternative that are always being looked at in terms of water and not only what additional sources we can develop but how we can conserve and be efficient with our usage as to not draw what we have currently. So, I appreciate that question, Tom, and your involvement is very much appreciated.

Tom Best verbal response at 42:56:
Thank you.

David Rice verbal question at 43:06:
I guess out of curiosity, how do fire protection demands and requirements, how are they apportioned to different rate classes? I notice there's something that's kind of in the appendix of the 2017 rate study. I was curious if you could explain how that is done or if it is apportioned in any way or it affects really any cost.

Steve White (Municipal Utilities) verbal response at 43:34:
Sure, David, thank you for your question. This is Stephen White. As far as fire protection goes, we do have separate meter fees so the cost recovery for that is in the monthly service fee based on meter size. So, there are some classifications that do have fire protection that have a different meter fee associated with them. So that's where that is captured at. We call them monthly service fee with an additional sprinkler fee. Does that answer your question, David?

David Rice verbal question at 44:26:
I guess, so it seems like fire protection requires some large distribution, ability to distribute large amounts of water to all parts of the city regardless of whether a multifamily or a commercial building or different residential lots use a lot of water, and I'm wondering if that shows up at all in the rate other than, I guess, how you described.

Steve White (Municipal Utilities) verbal response at 45:09:
Let me go back and take a look at that and I'll respond to your question at a later time. At this point in time, I don't have that information in front of me, but I'd be happy to research that and provide you with a proper explanation¹.

David Rice verbal comment at 45:22:
Okay, thanks.

Gary Krahenbuhl submitted a comment form prior to the meeting, read at 46:13:
This question follows up on material that I have previously submitted via email. In reviewing the criteria that guide water rate studies, there are two glaring omissions. These are, one the impact of rising water rates on those with fixed incomes and number two, the very real possibility that rates have reached a threshold beyond which the City of Tempe will see severe deterioration and the ability of homeowners to maintain their existing yards. This is especially impactful on those with large lots and no access to irrigation water. Is it accurate to conclude that the Council does not care about and will not consider these issues?

Terry Piekarcz (Municipal Utilities) verbal response at 46:59:
Thanks for that question, Gary, I appreciate that. Let me try to answer it this way. I would say that the,

¹ Municipal Utilities follow-up email can be read [here](#).

you know, not speaking on behalf of Council but I guess I can just speak from my perspective that, you know, I think that, I believe that we all care about all of the issues that impact our customers. We try our best to follow certain methodologies that are, again we talk a lot about proportionality, but really what it comes down to is to try to do things in a way that's systematic and following a methodology that can be defended in terms of, I don't mean just legally defended but we can stand behind our process. We can stand behind it and say, you know, we while being both sensitive to costs and the impact of rate increases, the costs of providing water services generally don't decrease and that's typically because of as I mentioned in the presentation, we see kind of a higher level of typical inflationary costs than we might see in the rest of the economy. Again, we're I think, and again not speaking on behalf of our elected officials but I can say that we put a strong component of considering those with lower incomes, fixed incomes if you will, however that might be described. And I think we always face that, as do other utilities for that matter, you know, electric utilities, gas utilities, others face that same type of pressure and consideration as we figure out how do we recover costs. How do we do this in terms of having this be truly proportional and how do we base these charges on what it actually takes to provide the water? I think the important part is that, you know, there is a reality to how much our water costs. We try to show the value of our water and its relative cost versus other areas and what we do and we try to, you know, have programs in place that help customers become as efficient as they can. We dedicate, we the City Council and the City itself, dedicate significant resources to outreach efforts and education and efficiency and our own sorts of efficiency efforts within the utility to try to make sure we're controlling cost to the extent possible. But there's a financial reality in being able to provide that amount of water that we have to recover because we are an enterprise fund, we are self-sufficient and we have to develop a method to do that. So, the question you are asking is somewhat outside the scope of what we do in a water rate study, but I'll assure you that our methodology that we follow is in no way arbitrary. It's very specific and we follow industry best practices for a reason, because we have to be able to say that to the people on this call and the rest of the community and our elected officials and say we're following a method that you can rest assured is a proportional method... that truly based on what it costs to provide the service at the level that it's required and to have the high quality water and have this water available when it's demanded and that sort of thing. I know that's sort of an indirect answer to your question, but it's our sort of basis for what we do, so I hope that somewhat helps.

Gary Krahenbuhl verbal comment at 50:31:

Well, what you didn't speak to directly. But first of all, let me say it seems like you've been very conscientiousness in looking at this and I'm impressed with the thoroughness and thoughtfulness of what you've just presented. Sometimes, there are unintended consequences or unanticipated consequences from actions. And the one that I don't think you spoke to really is what the City of Tempe looks like aesthetically. Just speaking of my own neighborhood, which is Corona del Sol Estates, where there are third and half acre lots, the water rates, I believe have been responsible for a browning of the community. As I drive around, what used to be a place filled with big trees and green lawns, now there are dead trees, dead plants and brown lawns. And some people are switching to some form of desert landscaping, and maybe that's what we all have to do. But it certainly, as rates go up, Tempe is going to become a browner city in terms of its vegetation. And maybe that's just the way it is. I guess I just wanted to call the Council's attention to the fact that that's perhaps an unintended consequence of the price of water continuing to go up. Anyway, it's coming back to where I started, I think you're doing a

very good job in your analysis and the presentation was straightforward and clear. And it seems to me that anybody should be able to understand why you're doing what you're doing.

Terry Piekarz (Municipal Utilities) verbal response at 52:39:

Thank you, Gary. We appreciate that very much. And I'll just sort of reiterate what I mentioned at the beginning which is, you know, there are some questions that are difficult for us to answer from a utility perspective. But I will say that one of the main purposes of this outreach not only to be able to get feedback is so that we understand and hopefully can help people understand our process that we go through, but also our City Council genuinely wants to hear this type of feedback. Whether it's something we can answer or not, they want to know what the community's thoughts are, even individuals within the community's thoughts are. They genuinely care and they want to make informed decisions. And you know, they have to make difficult decisions about certain things so you know, things like, you're pointing out where there's an unintended consequence potentially or even if there's a perception of something like that, I think our Council would want to know that so, I'll let everyone know on this call or anyone listening to this is that we, you know, we will provide that feedback to Council as we're discussing it here. This will be provided in basically a version of a transcription that they'll get to see and so they can get all the information and all of the feedback as we are and they can make an informed decision so thank you for that.

Gary Krahenbuhl verbal comment at 53:55:

Yeah, could I add one more thing? Yes sir. I would be happy to provide information to the Council and to the people on the water management aspect of the City. If you've read some of my emails, I've already tried to understand my water use and have more data than most people. I have meters downstream from the City meter so I can see exactly what's going to landscaping, exactly what's going into my swimming pool, exactly what's going into the house and therefore will become wastewater. And so, I really have a good handle on my water use. And I have the water to my landscaping sorted out so if there's a leak I can track it down very quickly by just turning off this valve or that valve. Anyway, I have over... trying to provide... as I could to your personnel. For example, John Woods was interested in how much pools, swimming pools, lose per day. I actually measured mine and this summer during July when it was really hot, I was losing 78 gallons a day to evaporation. So you know, that's just a little piece of information but it might be useful as you, as people think about their use of water and what adding a pool is going to do to that. Anyway, my offer stands. I'll be happy to visit anybody about any of these issues. I have a lot of data collected over many years.

Terry Piekarz (Municipal Utilities) verbal response at 55:40:

Thank you, appreciate that.

Tom Best verbal question at 55:46:

This is Tom if I'm unmuted still. Yes sir. I have a question. The landscaping indicated in the charts, what is that? Is that the City's cost of landscaping therefore parks and right of ways and stuff like that or is there some private component in that some way.

Terry Piekarz (Municipal Utilities) verbal response at 56:18:

I'll let Steve take that one, but I believe what we represent as landscaping as a customer class is where we have a separate landscaping meter for that usage. So, it could be anything from an individual to a business to a facility. But if they've got an individual landscaping meter that's dedicated to that

resource, this is the water volume, the meter water volume within that certain classification of meters. Steve, I might not be representing that fully but.

Steve White (Municipal Utilities) verbal response at 1:00 pm:

Terry, you're absolutely correct. Just a few examples: any common areas, HOAs, obviously City. But it's both public and private. So, we have approximately 1,600 customers in that landscape, that have landscape meters or that are in the landscape classification.

Anne Till verbal comment at 57:35:

I just wanted, I posted a note about, you know, somebody mentioned browning yards but I don't know if there's, I know you guys have Tina who's done some focus on low water use habitat gardening. But I don't, I'm actually working effort with another gentleman that lives in the City to do a 'Keep Tempe Beautiful' Chapter. And so, you know we're hoping the fact, focus on, you know, neighborhoods doing more low water use plantings. My yard itself has no grass in it and I have, it's full of blooms right now and it's all desert habitat you know purples, reds. You know, so, I've got different varieties of birds that live. My neighbor has a great big mesquite tree so it's like a little native habitat and I've got a couple, hopefully low water use water features that attract that so it makes it a real peaceful, not brown but low water use environment, and low maintenance too. So, I don't know if there's people that I, you know, we should be talking with. I know the other person has talked with a bunch of the Council about that but we're hoping to figure out a way to encourage that and hopefully reduce people's water bills at the same time. Anyways, I just got to mention that people just kind of fail to forget that it doesn't always take water to have a beautiful yard. And grass isn't the only yard option.

Terry Piekarz (Municipal Utilities) verbal response at 59:37:

Thank you for sharing that, Anne, I appreciate that.

Tom Best verbal question at 1:00:05:

One last question, this is Tom. The community groups meeting that you had in one chart, is that just the leadership of each neighborhood association or are you visiting some way each neighborhood association or what does that mean?

Terry Piekarz (Municipal Utilities) verbal response at 1:00:30:

Sure. This year we did it a little differently as well as you're participating in. This year is a bit unique. We're doing almost everything virtually. So, in previous rate studies, the utility has done more, kind of lean more toward doing HOAs and those groups, but we thought that would be a little challenging so that's why this year we also decided to do the stakeholder group. We formulated the community stakeholder group, which was 10 individuals representative of, you know, various of the customer classes, but also several of those were, you know, HOA presidents, active members in their local neighborhood, we had business leaders and we had representatives from all various different groups, businesses and such. We had the one, the first public meeting was in this format where we did basically an introduction of the rate study process and how we'll be doing that. Of course, Council meetings and such that are available to the public to participate and review, but the others are the Commissions. And we did one Commission Meeting yesterday, that's the Sustainability Commission. And then we've got the second one, which is the Neighborhood Advisory, and maybe I can ask Laura or Steve to maybe answer the question more directly as to who comprises the Neighborhood Advisory Commission?

Laura Kajfez (Neighborhood Services) at 1:01:57:

Sure, the Commission is, I don't have an exact number for you, but I believe let's say roughly 12 to 15 members. And they do come from all out, all throughout Tempe. There's representation from every zip code. So they're just regular citizens that have expressed an interest in, you know, issues like this and providing their input so yeah, they'll be, you guys will be talking to them on Wednesday next week I believe.

Gary Krahenbuhl verbal question at 1:02:39:

Well this is Gary again; can you hear me? Yes sir. Just so you know, I submitted two questions on the, that showed up on my Q and A, but you haven't acknowledged them. One was actually just an observation. Somebody asked about wastewater rates. I have looked at that quite a bit and with people with large landscaping usage, what you find is that wastewater production stays constant throughout the year. Landscape water use changes dramatically. And so, there's really no relationship between the two, and yet the City bills based on a relationship assuming that a certain part of the total water use is wastewater and it turns out for large, people with large landscaping uses it just doesn't hold at all. And you end up paying way more than you really ought to pay. I think it's capped at 12,000 or something. I've measured mine and it's never four; it's usually between three and 4,000. But I paid it, I pay for 12,000 every month because that's supposed to be a good deal, I guess. And there's really no easy way to measure it, I mean, you have there's no easy way to measure what's going into the wastewater. I estimate it by what's coming into the house. If I know what is coming into the house, that's pretty much going to be my wastewater production.

Anne Till verbal question at 1:04:10:

Can I ask a question on that? This is Anne Till again. Isn't the fee for the wastewater itself though capped altogether because I kind of, since I, you know have my desert habitat, but I have a lot of fruit trees too. So, I use water for that, so I was kind of looking into a separate meter but when I evaluated that they told me that it was significantly less if I, you know, it wasn't a huge amount of the wastewater amount, it didn't seem like. But I'm not really sure because it's, well it's been awhile since I looked into that.

Gary Krahenbuhl verbal response at 1:04:49:

I think, just speaking as another rate payer, it's not a lot, no. And it would be probably would be cost prohibitive for the City to try to figure out a way, any way to bill it other than a percent of the total use.

Anne Till verbal response at 1:05:11:

Yeah, I mean, I don't know. What I've found is a lot of people aren't aware that your wastewater rate is set up based on your bill in January, February and March, you know. And it's weird because my bills switched to later in the month so March kind of gets me irritated because I have to use more water in March for landscape. I wish it was December, January and February for the billing because those are the months when I use the least water. So, I don't know if that's something you could consider. I had Tina out to look at my house, or you know, go over my water usage and it was pretty low considering what I have in my yard, you know as far as fruit trees. I have like 52 fruit trees. And I have a small lot though so it's kind of, you know, not one of those situations where I have a large lot but, you know, considering that my water bill somehow a couple years ago, the billing date moved from like the beginning of the month to the end of the month, so now that March is the end of the month that kind of makes a

difference. I don't know if everybody else's bill moved, but you know, either way, I actually, as much as I, like I don't water much at all in those months, I mean if it rains, I don't even water. But my water rate, I still get, you know, I still end up, I don't know why even when I had no irrigation, you know, I was still up, and I don't have any leaks. So, I still more than what the other guy was saying. He's said he's 4,000, but mine was, mine's always been over six, you know. Even when I had no irrigation system in my yard or hand watering. So anyways, comments, sorry.

Terry Piekarz (Municipal Utilities) verbal response at 1:07:08:

No, that's good, that's good discussion. Steve, I was going to ask if anything wasn't captured in that discussion in terms of how the wastewater calculations are made and when. Is there anything to add to that for the good of the group?

Steve White (Municipal Utilities) verbal response at 1:07:23:

Thank you, Terry, and I certainly appreciate Gary and Anne's comments on this. I will say that comparing our single family wastewater rate compared to our neighboring valley cities, I believe we have one of the most customer-centric and most accurate ways of charging using a winter average, as Anne and Gary were talking about. But we also take that a step further and we only bill single family residents 70 percent of their winter average. Beyond that, we're the only city in the valley that caps that at 12,000 gallons and I very much appreciate the fact that Gary is measuring his own indoor water use, but that's a very cost prohibitive process for any city to undertake and it would defeat the purpose, if you will, if we or any other city were to go to that level of sub-metering. But our single family rates at \$1.84 and at 70 percent of winter average and the fact that we cap it so we're not penalizing any customers that use a lot of outdoor water use in the winter time during that three month average period I think is a significant step forward and provides as much accuracy as we possibly can and capturing what the return flow is from our single family customers.

Anne Till verbal response at 1:08:45:

Yeah, I was going, I felt like when I looked into the, getting a dedicated line which was just cost prohibitive anyways because it was like \$4,000 or \$5,000. But even over time there was no return but my analysis, you know, talking to Tina and another person at the water management in your group led me to believe it wasn't a huge charge for the wastewater. If that's what I recall, it's been a year now since I did that. But the only thing that might be nice, and I don't know if you guys can consider it, is to look at when people are billed and see if maybe there might be, you know, a measurement in there that makes a difference, you know, that you know, maybe going to December, January, February if you're billed later in the month or just something to consider. I don't know how much difference it even would make, you know, on an individual resident since you cap it.

Terry Piekarz (Municipal Utilities) verbal response at 1:09:56:

We appreciate that.

Commission Meetings

September 21, 2020 – Sustainability Commission Meeting

Gretchen Reinhardt chat question at 4:50 p.m.:

Why is the flood irrigation only cost reimbursement up to 50%?

Terry Piekarz (Municipal Utilities) verbal response:

Sure, that was one of the slides that we skipped but the last time we did a rate study, Council adopted a 50 percent cost recovery policy. So they decided that we would strive for that number, so our study and analysis is based on getting to the 50 percent. It's simply based on Council's direction and policy. There's no arbitrary component to it from our rate study standpoint, we simply go with what the existing policy is. So that's what it is currently.

Kendon Jung verbal question at 4:56 p.m.:

So am I to understand that in an example of if it costs \$100 to implement that the City would recover through fees and whatever to the user the equivalent to \$50 of that \$100?

Terry Piekarz (Municipal Utilities) verbal response:

That is correct.

Kendon Jung verbal comment:

Thank you.

Kendon Jung at 4:57 p.m.:

I'm curious about your performance measures and how we know that we are investing enough in conservation. I'm not sure if you were around back in 2018, but almost 18 months' worth of my time was put into developing a water rate recommendation² which was submitted to Council. And so I'm personally curious about some of those pieces.

Terry Piekarz (Municipal Utilities) verbal response:

Sure, yeah, we talked about it just briefly at the beginning about which Council priorities and strategic priorities that this rate study reviewed and what we do as a water utility. But certainly we have specific goals that are around drought resiliency but also, you know, water conservation, water efficiency. For example, I'll just touch on the, I believe it is 4.03, which is the Water Conservation goal; that's the 110 gallons of residential water use per capita per day. We have actually exceeded that. So currently, we're in the process of updating several of our documents, policies and forms. But one of the things we intend to do as part of that review and update is to actually propose a slightly lower target for that goal, for example, because that is very indicative of the success of our conservation program and what's been invested in that program and we've seen the payoff. We know that's something that's very strongly supported by Council. We do fairly regular updates on the program and how we're doing in terms of what we're seeing in terms of savings and participation and such. So that's just one example. But, we've also got many of our objectives are toward, not just drought resiliency which is one, but sort of resiliency in general in terms of how we operate our system and having, making sure we're able to deliver water throughout our system efficiently and having various sources of water should we have any kind of a condition that would necessitate a change in our, you know, physical operation at any time. So there is a lot of capital improvement money that's being invested in groundwater wells, for example, and technology and things to make sure we meet compliance standards, everything like that. But also making sure that as we're moving forward in the long-term, we're maintaining these assets and not waiting for any kind of future date to start. We don't want to be in a situation like a lot of cities find themselves where they've got very old infrastructure and they find themselves with immense rate

² The Water Subcommittee recommendation from February 12, 2018, can be found in [Appendix A](#).

burdens on their customers because they've fallen very far behind in the maintenance and replacement. So we got a very active program in that regard. So there are other examples of that but those are a couple.

Kendon Jung verbal question:

Wonderful. Will you come back to this commission with your new Performance Measures for us to review?

Terry Piekarz (Municipal Utilities) verbal response:

We'd be happy to, certainly.

Gretchen Reinhardt chat question at 4:58 p.m.:

What is the history for council choosing 50%? How can I learn more about that as it seems quite different from the 100% goal for all other contexts. Or am I misunderstanding?

Sukki Jahnke chat question at 4:58 p.m.:

The study is based on a rather wet year (2019). Will this dry monsoon season impact the revenue structure moving forward? Meaning will a delay cause further gaps in revenue needs than this study currently represents.

Kendon Jung verbal question at 5:00 p.m.:

My second question is in regards to the LVRCs. What are the demographics of the LVRCs?

Terry Piekarz (Municipal Utilities) verbal response:

A little bit more than that, the demographics, are we talking...

Kendon Jung verbal question:

Are they higher socio-economic? Are they larger plot sizes? What is their average bill size related to their net income?

Terry Piekarz (Municipal Utilities) verbal response:

I can't tell you the net income demographics. I can tell you the nature of the LVRCs in terms of what we typically see are large lots. We're typically talking about half acre lots or larger, in some cases one acre lots and may even have some that are above that. What we consider large volume is when we get up into Tier 5 of our rate structure. So Tier 5 would be using in excess of 40,000 gallons in any given month.

Kendon Jung verbal question:

Which I understand is four times the amount of the average household usage, correct? The average is between 9,000 and 10,000.

Terry Piekarz (Municipal Utilities) verbal response:

Yes, the slide we showed previously. Sort of the typical we use is a 5/8 meter, about 10,000 gallons of water per month.

Kendon Jung verbal question:

And what kind of activity is taking place on these types of lot sizes?

Terry Piekarz (Municipal Utilities) verbal response:

So these lot sizes can vary from, you know, to not much in terms of foliage or anything like that to

people who have, you know, very green, very heavily tree-d. It can be a variety of different things depending on where, you know, what part, what particular lot owner or property owner, that sort of thing, what sort of customer and what their uses are.

Kendon Jung verbal question:

And do we know the average property value of those LVRCs?

Terry Piekarz (Municipal Utilities) verbal response:

I do not know that.

Kendon Jung verbal question:

The reason that I'm asking is the night that Council was talking about this, there were multiple, or I believe there was a total of three people who came in and complained really loud about the rate structure at that time and they were sitting on these large, wealthy lots. And so I'm particularly curious about... First of all, I want to say thank you for doing all of the outreach that you have done around this. I know Councilperson Doreen is especially excited about how the smart water system has been implemented with your work around community engagement. But I am particularly curious about how we are not disproportionately supporting those of means implementing these types of water conservation strategies long term. Obviously, they do need them, but I would love to see also in your recommendations how we are going out and helping those from lower socio-economic communities be able to implement these same pieces. Yes, high water users definitely, like 40,000 to I believe the example that was brought up the night of Council was 120,000 gallons of water a month, which was absolutely ridiculous and in my opinion should be criminal, but I will be curious about how this rate incentive has a timeline for the WEC, or whatever you called it... anyways in terms of the equity piece. But I would be happy to resend our original subcommittee recommendation if it helps at all with any goal setting, as well as a value document we created. But overall, I think a lot of this is going in the right direction and I appreciate your work on this. I know water is a touchy subject in the desert and the way in which we're able to continue to do community outreach especially with a lens for our lower socio-economic community and incorporating all of these conservation values.

Katja Brundiers chat question at 5:03 p.m.:

Echoing Kendon, thank you for the stakeholder engagement. What social equity considerations were brought up through the stakeholder engagement process and throughout the study?

Gretchen Reinhardt chat question at 5:04 p.m.:

I too am concerned about the social equity aspect being discussed. I understand that we want to have green spaces, but subsidizing 50% in individual home yards strikes me as not the best way forward.

Anna Melis chat question at 5:04 p.m.:

Yes, I agree with the point regarding equity because the upper classes are the biggest users of water.

Following the Sustainability Commission Meeting on September 21, 2020, Grace Del Monte Kelly (Energy Management) sent the following email to the Commissioners at 6:51 p.m.:

Hello Commissioners,

To follow up on the water rate study presentation, Terry Piekarz requested that Commissioners fill out comment cards available on the website: www.tempe.gov/utilityratestudy.

The Water Utilities team will provide all comments provided to Council. They would like your comments and they want to know if you think the rate increase should be adopted on January 1, 2021 or at a later date.

Thanks,
Grace

Grace DelMonte Kelly
Energy Management Coordinator
City of Tempe
Engineering & Transportation Department
480.350.8369
grace_kelly@tempe.gov

September 30, 2020 – Neighborhood Advisory Commission Meeting

Daniel Schugurensky verbal comment:

If I recall correctly, there are about over 3,000 large users, but only 62 joined the program. Why do you think that more people have not joined the program?

Terry Piekarz (Municipal Utilities) verbal response:

Well thank you for that question. We've actually been asked that question a couple of times previously and I'll let Tara chime in as well. You know, I think a lot of people, we find that there are a lot of people that are not terribly involved or not terribly, I guess, paying attention to their water usage and water bills. And then there are some that are very attentive to it, that are very involved. So, what we see is the 50 or 60, or there's actually a few others who aren't even large volume that have joined the program, they're very interested. They're very engaged. They're very aware of their water usage and they want to be part of the program and they want to be able to, you know, receive regular updates and understand how their water is being used and contribute to efficiency and all those things. But I think frankly that a lot of folks just either don't take the same level of interest or maybe don't have the time to give, to have that level of interest in it. But, you know, that number has been noticed as well, and we do, like Tara mentioned earlier, that it's a tremendous amount of effort in terms of outreach and we do a lot to try to reach people specifically and they, you know, people seem to appreciate it but they don't necessarily always seem very, well, I won't say enthusiastic, but it's not their top priority.

Tara Ford (Municipal Utilities) verbal response:

And some of the feedback also that we've received when we ask that question is that some of the customers feel that they can monitor their usage themselves, through WaterSmart or through our consultation program without joining WEC itself. Some just prefer to do that and do not want to join the program.

Jana Lyn Granilo verbal question:

For the flood irrigation, those customers, well, you anticipate that they're going to have more of an increase. Is that correct? Flood irrigation.

Terry Piekarz (Municipal Utilities) verbal response:

Yes that's correct. The rate study looked at the cost recovery, just like we do for all other parts of our program, the cost to provide services. And in the case of flood irrigation itself, the analysis came out that to keep the current policy level, which is 50 percent cost recovery, it would require a 9.7 percent increase in revenue. We didn't put that slide in, kind of trying to get the slide numbers down from about 25 or 30 down to a 15-minute presentation. But, the number, the actual increase for customers, we actually have it on another presentation – what you see in sort of a half-acre lot versus an acre lot in these customers, it is not what most people would consider significant in terms of the charge. It's a six-month fee, I believe; they pay a semi-annual charge. But it's again, just trying to get back to that 50 percent cost recovery basis.

Jana Lyn Granilo verbal question:

Are there any characteristics of income or demographics with people who live in flood irrigation?

Terry Piekarz (Municipal Utilities) verbal response:

I'm not sure. I don't know if I know.

Jana Lyn Granilo verbal question:

I guess what I am trying to get at is – if there, as a result, there would be any kind of particular burden on people who are lower income who may have flood irrigation? I don't know what flood irrigation is in the City and if that represents a low-income area or not.

Terry Piekarz (Municipal Utilities) verbal response:

I don't know that that does or doesn't. We don't necessarily look at the demographics themselves. We're looking at really customer demand and use patterns. Typically, what we've seen is flood irrigation is a little bit different because flood irrigation is a service. They're paying for a service and then the water is actually water that's associated with the property that they have. It's not treated water so it's not a service we provide directly in terms of water that we put into the distribution system. But we provide the service of basically maintaining the system, operating the system and then they receive their flood irrigation water from SRP, actually. So, in terms of the demographics, I can't really answer that question. I don't really know specifically what that would be.

Jana Lyn Granilo verbal response:

Thank you.

October 8, 2020 – Town of Guadalupe Town Council Meeting

The recording of this presentation can be found at www.facebook.com/guadalupez.org.

Councilmember Mary Bravo verbal question:

If we postpone the 5.5 percent rate increase until after December, how will it, will that time, the increase, that interest to accommodate for the time?

Terry Piekarz (Municipal Utilities) verbal response:

Thank you, Councilmember. Yes, essentially what would happen is if we postpone it beyond January, implementation in January of '21, it begins to require a draw down on our reserve fund balance. So, what would happen is we would see a more rapid draw down of our reserve funds because those funds would be used to make up the difference in revenue basically that wasn't being collected from the customers. What we don't know for sure, because you know a lot of it, there's uncertainties to all of this. As you all know, we're sort of managing risks and we're making decisions and trying to do the best we can to have a robust utility and good financial condition and those sorts of things. But the issue becomes if some unforeseen issue should occur in the meantime, so maybe between, you know, January and whenever we do have an increase in revenue, that comes directly from the reserve fund so pretty quickly you can see how if you lost a major piece of equipment or something occurred where we had to expend some of this reserve fund, how it would start coming down pretty rapidly. And then what happens, of course, is at some point we would have to adjust for that. So, it is not anything that is, we're not facing any sort of doomsday scenario. We have a very well-run utility and well-run city so we're in very good financial condition. And, frankly, our assets are in very good condition as well. So, we do a lot to make sure that's the case. But as you make those decisions and you postpone those sort of increases that make up for if you will, inflation, then you're faced with something like this where you probably instead of a 5.5 percent increase to get back to that same level, you're going to need something slightly higher than that. So, the longer you postpone it, potentially, the higher that can be until you reach the point basically where you, either you've reached your reserve fund policy level or you've dropped below it and then you're kind of playing catch up from there. So, I hope I answered your question.

Mayor Valerie Molina verbal question:

Is the 6 percent, let's just say we waited until July 1, 2021, is that for the 10 years or how long is that?

Terry Piekarz (Municipal Utilities) verbal response:

That's correct. So, each one of these is looking at a levelized increase, or revenue increase for that period, for that 10-year projection period. We do go back each year and revisit the model and we look at the financials and the cost of things, but that's basically looking at a levelized increase. So, for example, in various other versions of this presentation, you can see where we've had increases historically and then sort of levelized or incremental increases where we skipped or postponed for a year or two in some cases. And what we see typically is in that third or fourth year, or even in the second year, you have to have a significantly higher increase to be able to get back to that level of your fund balance, but also to recover those costs over the period. So typically, what we've seen in the water and wastewater industry is our costs don't go down. They go up, and they typically go up at a higher rate than typical inflation. So, we're usually seeing somewhere between 4 and 7 percent in water industry where typical inflation might be 2 to 3 percent. So, at some point, there's a decision that has to be made is that exactly what you're describing, which is we can postpone but there will be some impact to the rate needed later.

Mayor Valerie Molina verbal question:

So if the postponement was to be done until July, what percentage would you be using from your draw down from your reserves? ...What percentage of the reserves would you be using to postpone until July 1?

Terry Piekarz (Municipal Utilities) verbal response:

Well, I don't know the number. What we'd have to do to calculate that, we have to go back into the model and basically subtract out the revenue. So, it would be, you know, our reserve fund balance right now is about, I think we're at about \$50 million. So, we use a portion of that now; we do an intentional spend down within the rate study, so the financial model considers that. So, whatever it would be, I guess potentially it would be, I'm trying to do a little quick math in my head. So, if it were 5 percent off or we could be looking at probably several million dollars a year. So it would be, you know, \$2 to \$5 million per year if you did no increase, so you would see that draw down so that as you can imagine, not only do you draw down that balance, but because you're not collecting that revenue, you also, that has the effect of compounding interest, if you will. And so, we would see that draw down more rapidly and then we're going to see it over time as we're not collection and we're spending, you're kind of coming at it from both sides. So, I'm just, again roughly, I think it's about, our requirement is around \$58 million, I believe, so if it's, you know, \$6 million would be 10 percent we would be slightly less than that, so we could be at \$3 to \$4 million a year drawing down. That's if there's no other, again there's no other, nothing else impacts the reserve fund where we would have to draw. I hope I answered your question.

Town Manager/Clerk Jeff Kulaga verbal question:

Terry, you said that Council, Tempe Council would be considering this December 3rd. Correct?

Terry Piekarz (Municipal Utilities) verbal response:

That's correct, yes. And our open comment period for the public is until October 14th, but certainly, coming from your Town Council, you know, our Council would take that recommendation certainly up until they, you know, consider this in December.

Councilmember Anita Cota Soto verbal question:

If the Tempe City Council approves the increase, does that automatically increase it for the Town of Guadalupe? Do we go hand in hand? And then my second question – the survey. Was that, how has that been publicized? Was it in the water bill or is there going to be an effort to do more publicity within this next week? Because we have a little less than a week before the deadline. Thank you.

Terry Piekarz (Municipal Utilities) verbal response:

Thank you Councilmember. Yes, to your first question the answer is yes. It's the exact same rate structure we follow, and your community follows as well. So, whatever adjustments are made they are adjusted across the board to the structure to the rates and fees. The second question, we have advertised I know through electronic media fairly substantially and maybe Tara can help me with this one. I know we've done several email blasts out to customers that are either registered on WaterSmart, or I don't, I can't tell you exactly whether or not we put it in the water bill itself, but we've, I know we've been on all the social media platforms and advertised in various other communication media.

Councilmember Anita Cota Soto verbal question:

So, I know a tiny bit, maybe Stephanie can help us, but I know that algorithms have a lot to do with demographics and things like that. And I'm not sure if the algorithm for the City of Tempe would be geared to the Town of Guadalupe and is there something that can be done so that we are able to see it. I haven't seen anything about a survey on social media, on Instagram or on the Facebook. And so, I'm wondering if something could be done within these next few days so that we can get it. I know that there's some kind of formula and I'm sure that lots of other people that know a whole bunch more than

me know how to do this so that we are able to see it because algorithms have to do with the time of day that it's posted and again the demographic that it's posted to including age and things like that. So, if that could be somehow promoted in a way that we would be able to see it. I don't know for the rest of Council; I just haven't seen anything about this survey.

Town Manager/Clerk Jeff Kulaga verbal response:

Well tomorrow, the goal for top of the morning tomorrow, sorry. The goal top of the morning tomorrow is to add the survey that is available through Tempe's website to our website, to our Facebook pages and get the word out that way. So, I'm a Tempe resident, I went through it and shared my thoughts so we could certainly blast that to our Facebook pages and our website, so we will get the word out to the Guadalupe community as best we can.

Councilmember Anita Cota Soto verbal response:

So, with that being said then Council, I would admonish us to put it out there to everybody because I would hate for somebody to say 'well, nobody told me.' And of course, I know that we put it on Facebook and the meetings are live, but we still have people that don't have Facebook and don't, you know, it's whatever they don't have it. And so, I think for our part, we do need to try to do our best to get the word out.

Mayor Valerie Molina verbal response:

And unless you follow the City of Tempe on Instagram, social media, any type, you wouldn't know about this so you're correct. So, thank you, Jeff, for putting that out there for the community. We'll make sure to put it on the marquis.

Councilmember Anita Cota Soto verbal response:

That is why I had asked the question because we are, yeah, we wouldn't have gotten, we wouldn't have access, we wouldn't normally look at the City of Tempe website. And since we are being affected, we should have been included in that in the background.

Mayor Valerie Molina verbal question:

When people start submitting the survey, if they put a Guadalupe address, would you let us know, would you be able to pull that data to let us know what the responses are?

Terry Piekarz (Municipal Utilities) verbal response:

Yes, Mayor, we can certainly do that. We, if, as long as, the way the survey works, if they register and provide an address, then they're registered. And sometimes, if they don't register, there's not a lot of information provided, but we still get their survey responses, but we don't know specifically where they're at in Tempe or Guadalupe or wherever. They just don't put that much information in. But if they do, we certainly can share that, yes.

Mayor Valerie Molina verbal question:

Regarding parks, that's pretty much our large-scale areas here in town for Guadalupe is parks because residential areas don't use the volume, I don't believe, that you were discussing. So, how would that work for parks? What kind of increase with parks?

Terry Piekarz (Municipal Utilities) verbal response:

Typically that would fall into our, they would either fall into a landscaping classification, so that would

be the customer class of landscaping, or potentially it could be, I guess, industrial. It depends on how they're registered, but typically it would be landscape. So, that was back to the previous, so it's, the increase is, let me see if I can go back to that. I don't know if you're still seeing my... if you can see this slide. So, this is the, these are the current rate and the calculated rate, actually it should say recommended rate for the non-single family. So, my assumption would be that it would fall into the landscaping class typically. If it's not on a flood irrigation-type system, then it would typically fall in landscaping. So that's, their rate is calculated per 1,000 gallons, so you can see it goes from \$3.51 to \$3.96 per 1,000 gallons.

Comment Card Survey

The 2020 Water and Wastewater Rate Study Comment Card Survey was available to the public from September 21, 2020 through October 14, 2020. The comment card survey could be accessed from the Utility Rate Study Webpage at www.tempe.gov/utilityratestudy or by accessing the Tempe Forum webpage at www.tempe.gov/forum.

Over the period that the comment card survey was open, there were 155 visitors to the survey and 73 responses.

The responses are provided in the following pages.

Question 1: What type of housing best describes your home?



Question 2: Where do you live?



Question 3: Have you received/participated in: (check all that apply)



Question 4: Has this presentation helped you understand Tempe’s water rate study process and the industry standards and methodologies the City follows to arrive at water rates and charges that are cost-based; assigned proportionally to customers based on water use and demand characteristics?



Question 5: Please share any input you have as to how we might improve our public outreach and customer involvement.

1. Solicit more input on Facebook for this survey.
2. I didn't know any of these services existed. More advertising would be helpful
3. Take advantage of the knowledge of people who have devoted time and attention to monitoring their water use and have collected data that would be useful to decision makers.
4. Have a survey prompt when people sign in to pay online. I like the flyers that come with my physical mail bill, although those become costly. I also like these emails notifying me of surveys. It's a great way to reach the masses. If folks pay by phone, the utility rep can also inform them to take the survey and provide feedback
5. Sponsorship a school. Parents and children will have frequent viewing of your name and how you help the community.
6. I wanted to thank Terry Piekarz for being very generous with his time, answering my email questions.
7. I don't know anything about this program. I now receive and read the Tempe news via email. Maybe that will help. It may help to provide examples of who should look into each program.
8. none
9. Better explanation that water has to be self funded.
10. The Tempe Today Newsletter might be read more frequently if it arrived in its own envelope.
11. stop private pools.
12. A mailer would be better.
13. The video is way too long for people to watch and become informed
14. I've seen nothing in the billings sent to homeowners. And, since we get our bills on line we no longer have the Tempe "newsletter" mailed to us --- so notices of public meetings are not available to us as homeowners. The city daily email helps some, but today's notice of these surveys is the first I've seen (other than Rio Salado survey). How are you contacting citizens who (a) don't get the water bill & (b) don't have computers????
15. I receive a newsletter with my monthly bill. I read that newsletter, how could I have missed seeing that the current study was going to cause an increase in water rate? The recommendation is an increase of 5.5 % What is it currently? I have noted that a lot of home owners have converted to low water use landscaping, so are we dealing with fewer trees thus

- less shade and less oxygen to no avail? I think we need more information, and more time to digest and consider the any changes.
16. The video would have been extremely helpful if the slides were actually readable. Perhaps make the slides available for download as PDF so we can review the information easily while watching/listening in on the presentation.
 17. N/A
 18. You can improve outreach by taking appropriate actions necessary to resolve concerns when customers provide feedback about issues that matter to them.
 19. You can improve outreach by taking appropriate actions necessary to resolve concerns when customers provide feedback about issues that matter to them.
 20. i don't have 3.5 hrs to watch a video presentation, to give you feedback. please publish a high level brief that summarizes the findings and recommendations.
 21. Online surveys like this one is beneficial and fairly easy to access and respond.
 22. What presentation?
 23. We moved to Tempe from Chandler 2 years ago. I am shocked by the cost of water in Tempe when Chandler is only 2 miles from my new home. It is almost 2x the cost. I do not support additional increases. Seems Tempe needs to improve its management of water costs.
 24. Tempe seems to have the highest bill rate in the valley already.
 25. None
 26. Prices are way higher than Chandler
 27. For the rate study? This question is unclear.
 28. I still believe mail is the best way to get the word out to everyone, The water bill would be the next effective way.
 29. Make it easier for customers to understand why you want such a huge price increase. 10 minute video would suffice. Email summary would be beneficial
 30. I believe Tempe tries very hard to reach out to all citizens. However, while I read all emails from the city (and they are usually duplicated via Next Door - Cole Park), this is the first that I recall seeing anything about the water/wastewater rate survey. What have I overlooked?
 31. I moved to Tempe from Chandler last September and was baffled by the difference in water rates now. I cannot understand how the usage parameters and rates are so much higher in Tempe compared to an adjacent municipality. Knowing that in this same area cities are able to fund their water at a fraction of the cost I cannot fathom raising the already exorbitant rates.
 32. Send surveys out with the water bill.

Question 6: Do you prefer implementation of the water and wastewater rate study recommendation in January 2021, or postpone implementation to a later date.

| | | % | Count |
|---------------------------|---|-------|-------|
| Implement in January 2021 |  | 37.7% | 26 |
| Postpone implementation |  | 46.4% | 32 |
| Not sure / don't know |  | 15.9% | 11 |

Question 7: Please share any comments you have regarding either the water rate structure or resulting rates that are being proposed.

1. Overall rates are good but makes sense to raise them for more water conscious reduced usage if possible.
2. I don't know much about this. More education would be helpful. I'd like to see fewer large construction projects in north Tempe. It seems like all of this building and increase in housing and offices is not going to be good for the watershed or community
3. Given the criteria and the external comparisons and benchmarks, the proposal appears to meet the goal of being "just" and "legally defensible." I wonder if the rates will lead to a "browning" of the City of Tempe, which could happen if the cost of water reaches a point where people find it impractical to adequately water their trees, plants and lawns. It may be that, over time, most homeowners will have to convert to desert landscaping. It seems as though the personnel in the Water Management Area are conscientiously handling their responsibilities.
4. Inflation doesn't go up by the asking annual rate increase. The increase seems high.
5. The presentation video is so bad I cannot read any of the text. 5.5% seems like a big increase. I hope it is not to fund the proposed skating rink at Rio Salado park.
6. Suggestion to commit to increasing rates based on a steady annual increase instead of re-hashing this every other year. Tempe needs to maintain its strong water and waste water systems through regular, proactive maintenance and capital programs. Strong water systems are foundational to attracting industry to Tempe to support our tax base. I would also suggest that Tempe should increase rates to support additional conservation programs for commercial/industrial/institutional users since their scale makes conservation outreach more impactful.
7. The city should charge roughly the same amount for outdoor irrigation, regardless of rate class or rate tier. However, it does not.

In this rate structure, different customers could be watering identical swatches of grass, grass that has the same seasonal watering requirements, water requirements that place identical incremental demand on the city's water infrastructure.

A high volume Single Family water customer could pay as much as \$5.42/thousandGallons to water that identical grass swatch.

A moderately high volume Single Family water customer could pay \$4.93/thousandGallons to water that identical grass swatch.

A commercial property would pay \$3.96/thousandGallons to water that identical grass swatch, (assuming a landscape meter is used)

A moderate volume Single Family water customer could pay \$3.89/thousandGallons to water that identical grass swatch.

A 2 person household on a small lot could pay as little as \$2.83/thousandGallons to water that identical grass swatch.

A Multi-family property that doesn't use a separate meter for their landscape needs would only pay \$2.05/thousandGallons to water that identical grass swatch.

A high volume Single Family water customer could pay as much as 37% more to water an identical swatch of grass as they would see in front of a commercial business in the city, an identical swatch that has the same seasonal watering requirements, water requirements that

place identical incremental demand on the city's water infrastructure.

Single Family outdoor irrigation demands vary greatly by total volume. The Single Family rate structure charges vastly different rates for outdoor irrigation, ultimately as an underlying function of lot size.

It should be a goal of the Single Family rate structure to bill, as much as possible, all single family outdoor irrigation at a uniform rate.

If the city were to remove the 4th and 5th tiers, the 3rd tier rate would have to be increased by 16% for the rate change to take in the same amount of money:

0-6Kgal: \$1.84/Kgal
6-12Kgal: \$2.83/Kgal
12K&above: \$4.52/Kgal

If you try to get the water volume in 3rd tier to more closely resemble the volume seasonality seen in the "Landscape" rate class, you could push the 3rd tier start down to 10Kgal.

To be revenue neutral, the rates would be roughly:

0-6Kgal: \$1.84/Kgal
6-10Kgal: \$2.83/Kgal
10K&above: \$4.18/Kgal

In this scenario, the 3rd tier water volume is still 6x more in summer than it is in winter.

The 'Landscape' customer class volume is 3.4x more in the summer than it is in winter.

This indicates that the 3rd tier total water volume in this scenario still doesn't capture all the water used for outdoor irrigation within the Single Family Rate class.

At least in this scenario, the \$4.18/Kgal rate begins to approach the \$3.96/Kgal that is charged for the 'Landscape' rate class.

Please look at modifying the Single Family rate structure so that outdoor irrigation is billed at the uniform rate, just as the outdoor irrigation in the ""Landscape"" class is bill at the uniform rate.

8. I think that the brunt of the water cost should go to those parts of Tempe that use the most. Higher rates on the college dorms, apartment building and multi family living areas. The homeowners have been carrying the college dorms for too long. These kids take multiple showers a day but we get the raised rates. The government should be working for the full time resident not the transient student who just don't care about the community.
9. Tempe needs to learn to live within its means. It spends money like water mostly to compete with and show off to surrounding communities. Money is tight for all residents except ASU, and people need to watch their dollars. So should the city.
10. Few enjoy rate increases, but Tempe's Water/Wastewater Programs have continued to improve services for the residents
11. no new projects. just maintenance expenditures.
12. With the economy in the current state due to Covid a lower increase, say 1.5 percent each year due the next 4 years would be better.
13. Study needs more work. Video must be improved.

14. Our water bill has skyrocketed, and the response we get from the office is always "rates increased." It's just outrageous, our water bill used to be \$55 3 years ago, and our most recent bill is \$144.
15. Tempe needs to double or triple their water rates. Water is a precious commodity and should be used wisely. People need to pay attention to water usage and the way to do that is to increase the rates. Stop using water for irrigation. Plant cacti and rocks.
16. Does the city look at areas with high rates of unpaid bills, bad debt etc and look at cost savings by not contracting with non Tempe areas like guadalupe?
17. I am uncomfortable charging people for water already, and a rate increase during economic downturn seems harsh. Would love better information about tempe's water programs, quality and costs especially through the city email newsletters.
18. need MUCH more notification to citizens --- of a proposed rate increase. We've had notes added to our water bill that our usage is above ""comparable housing"" --- but no idea why they say that (& how much are we out of line???). Has anyone taken into account that watering our outdoor plants has escalated this summer due to the higher temperatures. (We'd reduced our watering times, based on a city evaluation --- & we had a tree die & other smaller plants die.)
19. Not enough publicity. Customers don't always read the information with the water bill.
20. I have built a high density food forest on our previous 7,000 sq ft property in central Tempe between 2014-2019 with success. All for the effort to plant more trees that will help cool our property and it regularly keep our property 10-15 degrees cooler than the surrounding houses. Now that we are on a 3/4 acre property in south Tempe, our goal/effort for building a sustainable food forest with lots of fruit trees is hugely impacted by the water rates. Since we are not on an irrigated lot, we are paying the more expensive rate on water compared to the neighbors down the street with flood irrigation. Our household water usage outside of irrigation is only 50-70 gallons per day. Without a pool and only a small front yard grass lawn, plus all irrigation goes to our edible garden and fruit tree orchard in the backyard, we are paying out of proportion in wastewater bill (90% of our water stays on the property, in the garden). Our monthly water usage bill is on the higher tier already. Now with the potential to even pay higher in rate, is disheartening, when our goal is to plant more trees to help cool the property and push to plant more fruit trees, plus encouraging many other gardeners to plant fruit trees to reduce the "heat island" effect for Tempe, in most cases so water used is also providing food source for homeowners. I think we need to review the water rate tier more closely on how each homeowner is using the water and give people who have sustainability goals in mind a break.
21. We all know a "rate study" is a foregone conclusion for a rate increase.
22. How many times does the Council think they can keep increasing our water rates? This has got to stop. Additionally, the water tier structure that is already in place totally overcharges large single-family residences and needs to end. It creates an unfair burden on some residents of the City (especially those on fixed incomes or those with large families). It is an overreach of government trying to tell us how we need to landscape our own private property. The City of Tempe website states that this tier structure is being done "to signal a stronger conservation message." In actuality, it is an abuse of government power, and is contributing to the decay of landscapes and single family residences in Tempe. Fake grass made of harmful plastics are not "sustainable" or "environmentally friendly" towards native wildlife. Gravel landscaping is

heavily sprayed with pesticide continuously to reduce weeds. Neither of these alternatives provides the "green" solution that this City Council thinks it is showcasing to the community. Looking at the data that was provided at the public meeting regarding this topic, Tempe is charging residents in the higher tiers double the cost for water compared to the neighboring cities of Chandler and Gilbert. You claim as a Council that you want to be equitable and fair, yet to charge some residents that much more simply because they own a larger lot is far from equitable. True equity would be all residents paying equal water rates, rather than some residents being charged higher rates for consuming more water. The hypocrisy of this Council is basically that some issues deserve equity and other issues don't. Please respond to this concern by being equitable. This practice of higher water rate charges aimed towards single family residents on larger lots needs to end.

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24. need to understand the proposed rate adjustment before i can agree to it
25. Too high at this time; cut in half or 25 % of proposal.
26. Consider progressive rates for higher water use.
27. We moved to Tempe from Chandler 2 years ago. I am shocked by the cost of water in Tempe when Chandler is only 2 miles from my new home. It is almost 2x the cost. I do not support additional increases. Seems Tempe needs to improve its management of water costs.
28. I already am paid 166 last month for a single guy in a home with desert landscape out front and dying grass out back and no pool. Why so much? Looking forward to my water survey phone call tomorrow..
29. 2020 has been a hard year economically for many Tempe citizens. Please postpone.
30. Prices are way higher than Chandler

31. The City is recommending a 5.5% increase on water rates annually for the next ten years! That is unacceptable! Great way to get people to NOT move to Tempe because the taxes are so high for basic water access. I vote no!
32. Bulk waste pickup service has declined. Neighborhood alleys are filled with debris. Streets without alleys are covered in garbage. Charge more for less? From the City: "The fee being charged (95 Gal Refuse containers 1 @ \$27.64) is the standard fee for weekly residential garbage collection. Regardless if a resident rolls a garbage container to the front curb every week or shares a large container in an alley, the fee to collect the garbage is the same. While the solid waste department recommends fees, the city council makes the final decision to implement them."
33. Not enough information. Also did not explain all the details or accounting of all the money that is used now.
34. I certainly understand the need for increasing the water and waste collection rates. I think we need to see what happens with the economy and pandemic in January before we set a date of implementation. Would a slight water rate rebate be a way homeowners might have an incentives per tree, to plant and care for trees, as a way to help us get to our shade cover goal?
35. Your water rates are unreasonable and not equitable to all Tempe citizens. You are stealing from those who prefer to live on larger properties. The rates are like having a second property tax payment each month. Increases in the future will force people out of their homes, especially senior citizens. This plan has definitely caused hardship for people in my area and that should not be the purpose of a city council. I've watched my neighbors put in fake grass, which is not environmentally friendly, to combat water rates. This is detrimental to the native wildlife and puts our soil, which is home to thousands of organisms at risk. I hope this council will reconsider the water rates and consider taking the tiers away. The new proposed water rate should never be implemented. It is outrageous.
36. The rate hike proposal is really steep. It seems out of line with the economy and 2020 incomes with COVID-19. An increase of 2% a year is still high, but more realistic. Regarding increasing the standard monthly fee, I am not in favor of increasing it any more than \$5 per month. As a long time Tempe resident, it appears we have had to incur multiple rate increases over the years - much higher than inflation.
37. Arizona residents seem to take for granted that they will have water whenever they wish and as much as they wish, on demand. How many can actually cite the SOURCE of their water - and/or what happens to all their wastewater? (Sadly, I believe, very few.) The current rate structure needs to reflect the true cost of this precious resource, and the proposed rate is definitely a step in the right direction.
38. The rate structuring is predatory and unnecessary. Tempe has no reason to be charging so much more with these structured rates that surrounding municipalities.
39. Rates are way too high for those of us who have large yards (1/2 to 1+ acres) and have lived in Tempe for over 40 years with grass. Grass keeps the environment cooler than desert landscaping which retains the heat much longer. There should be some lower rate grandfathered in for those who can't redo their whole yard just because they are punished for watering it. Large trees and grass help cool the environment!

Additional Comments

The following are various emails, phone calls and/or the online comments received through the website: www.tempe.gov/utilityratestudy.

July 22, 2020 – Gary Krahenbuhl

Gary Krahenbuhl email to Tina Sleeper (Municipal Utilities) on July 22, 2020 at 3:07 p.m.:

Tina,

Thank you for the informative visit by telephone earlier today. Attached you will find the following materials pertaining to our discussion.

1. A letter in memorandum form with my observations and suggestions
2. The Tempe Residential Water Consultation and Certification forms
3. A two page table showing my water control summer settings last year and this year
4. Ten photographs of struggling lawns in the Corona del Sol subdivision

Please feel free to share this email with whatever parties you believe would appreciate seeing this material or be brought into the conversation.

Gary Krahenbuhl



2020 Water and Wastewater Rate Study
Public Involvement to Date
October 26, 2020



The attachments are provided in the following pages.

To: Whom it May Concern:

From: Gary S. Krahenbuhl

Re: Observations About Water Consultation Recommendations

Date: 07/21/2020

On September 6, 2019, two City of Tempe personnel (Matt ? and Andi Cauet) conducted a Water Efficiency Certification review and consultation at my home located at [REDACTED] in Tempe. It was my impression that they were generally impressed with the steps I had taken to conserve water and noted that I had been steadily reducing my consumption over the past few years. They made several recommendations (see attached) that they thought might further reduce my water consumption. I implemented those recommendations.

Almost a year has passed and I thought it would be useful to provide some feedback and recommendations for your consideration.

Recommendations and results:

Modify the irrigation control system seasonally (at least 4 times per year). I had been doing this for many years and continued to do it.

Take care to prevent runoff. When I built my home I was required to grade the yard so that water would run from the street into my yard and that no runoff would go from my yard to the street. This was done and I do not believe in the 37 years I have lived at this location that there has ever been any significant runoff from my yard.

Let grass grow taller as it will require less water than shortly cropped grass. I adjusted my mower to allow the grass to grow an additional ½ inch in height. It is not apparent that this has saved any water and it has created a far less attractive lawn. The taller grass is less dense and exhibits a “rangy” growth pattern that seems not to cover the ground as well as more shortly mowed grass. (My base grass is the Santa Ana variety of Bermuda grass.)

Change from watering 3 times per week to 2 times per week. (The theory here is that longer watering times will cause the water to penetrate deeper, the soil will be softer to a deeper depth, and the roots will grow deeper.) This has not worked well. Coupled with the item above, the less frequent watering seems to have led to many areas of die-out. (I should note that 2020 has featured an unusually hot and dry late spring and early summer; this may have exacerbated lawn stress.) These bare areas are unsightly and dry out very quickly. I do not have a soil probe, but I would guess that the overall condition of my lawn is that there are many areas where the water

penetration is far less than it was a year ago. I have attached a PDF file that shows my irrigation schedule for the summer months of 2019 and 2020. In reading it you will observe that I switched my lawn watering from three days a week to twice a week. I started out keeping the total minutes per week the same, but my lawn really struggled so several times over June and July I have increased the length of watering so that I actually have more minutes of irrigation in 2020 than I did in 2019. On top of that my lawn looks the worst it has looked in the 37 years I have lived here.

Use nitrogen-based fertilizer. I have been doing this and where the grass grows it looks fine.

Observations for Your Consideration.

As water rates have increased I have taken many steps to reduce my water consumption. We have an active neighborhood association and I know from many conversations that most people with lawns in Corona del Sol Estates are struggling as they try to keep their lawns and properties looking nice while using as little water as possible. I have attached a number of photos of lawns in our subdivision—there are few of any size the look decent. In the bygone days of lower water rates all of the lawns were beautiful.

A good question for the City of Tempe to ask is this: Is our sole goal in water management the conservation of water? The steady rise in water rates suggests that this is the case. The outcomes of such a practice are becoming clear. Tempe residential areas were once graced with a rich diversity of landscaping. It was equally common to see beautiful lawns and attractive yards featuring native desert plants. Tempe literature proclaimed “Tempe loves trees,” and much of its promotional literature showed park-like scenes of lawns and trees.

Perhaps it is appropriate for a desert city to have as its single—or at least predominant—goal be the conservation of water, restricting its use with ever more punishing rates. The outcome of such a practice will be neighborhood landscaping that looks like that of Tucson, a look unattractive to many and a far cry from the diversity of landscaping that we have enjoyed in Tempe.

It seems to me—as one who enjoys both the tranquility and cooling effect of a well-manicured lawn dappled with sunshine and shade—that there is a place for beauty and diversity in landscaping as things to be considered in creating water use policies. Is there a place for such beautification as a priority when it comes to water use? I would hope that our city leaders at least consider such a possibility.

A Recommendation for Your Consideration

I start with this admission and disclaimer: I maintain a lawn of approximately 10,000 sq. ft., have numerous mature trees, and maintain a wealth of lush groundcovers and plants. People constantly comment on the beauty of the property

and note how it adds value to the community. The rising water rates, however, are making it very difficult to keep the lawn, plants, and groundcovers alive, and I constantly struggle to keep them looking green and healthy.

In talking with various parties in Tempe Water Utilities over the years, it seems that a possible option for helping those homeowners who long ago invested in a non-desert look would be to provide at a reasonable cost the option of installing a separate water meter for landscaping, and provide lower rates for water used for this purpose. This could be done with an experimental basis using a few volunteers (I would hope to be one of them) that are willing to pay for the new service and to make the necessary plumbing changes to separate their household and landscaping water delivery systems. A side benefit would be that the City could gather data to learn for the first time the extent to which its water treatment estimations and charges in any way reflect actual household usage and sewer disposal levels for those with large landscaping water usage. (I know how this will turn out as I have separate meters installed at my own expense so I can see what goes to my pool, what comes into the house and gets back into the sewer for water treatment, and what is used outside the home for landscaping.)

Summary Comments

I have lived in Tempe since 1973 and at my current address since 1983. I personally value a lush green landscape featuring a lawn and trees. The City of Tempe has featured a mixed look in its landscaping, which adds to its aesthetics. Water rate charges driven by the worthy goal of conservation are reaching the point where neighborhood lawns and non-native plants are badly stressed and will be soon be a thing of the past.

This observer suggests that there is value in helping homeowners who have invested in lawns, shrubs and trees that require more water (than native plants) by allowing them to acquire a second water meter at a reasonable price and featuring lower water rates (similar to what is done for commercial properties). This would allow the city to maintain its rich variety of landscaping, bolster property values, and allow the city to gain valuable new information about water usage.

I would be happy to meet with appropriate parties to continue the exploration of this idea.



Water Utilities
 Water Conservation
 P.O. Box 5002
 Tempe, AZ 85280

City of Tempe

Residential Water Consultation

Resident's Address: [REDACTED] Conservation Staff: Andi / Matt

Water Meter Function and Leak Detection

Leak indication? Yes No

Isolation test results: _____

Any complications during the test? _____

Backflow Preventer Type Manual Pressure* Other None

Is it in good condition? Yes No N/A

Recommend replacing? Yes No *Pressure vacuum breaker is recommended

Irrigation Recommendations:

Possible cycle & soak in problem areas. Higher mowing height will lower water needs. Cut watering to twice a week but increase run times. Nitrogen based fertilizer.

Pool

Is there a pool on the property? Yes No

Auto-fill Yes No Functioning Properly Yes No

On WaterSmart? Yes No If not - Signed up during consultation? Yes No

Applicable Rebates: _____

Other Recommendations: _____

uses fertilizer stakes for trees - look great!

For any follow-up questions or if you would like more information based on today's consultation, please call us at 480-350-2684 or e-mail conservation@tempe.gov. We can also be reached through your WaterSmart Portal!

480-350-2684
 77th St
 5/1/2014



Water Efficiency Certification (WEC) Pilot Program Participation Form

Customer Name: Gary Krahenbuhl Address: [Redacted]

Pre-Requisites: Tempe Single-Family Residential (SFR) water customer who is the homeowner or has the permission of the homeowner to implement changes to the irrigation system. Customer's account must be in good standing and not be delinquent.

Participation Criteria: (All Must Be Checked)

- Received a water consultation (Date: 9/6/19)
Registered on WaterSmart
Signed up for WHEMOWATER text alerts
Have no open leak or agree to repair any open leaks within 30 days
Agree to yearly follow-up consultations and periodic check-ins

consultation @ Tempe 900

Efficiency Recommendation: The resident must agree to implement at minimum one of the key recommendations identified by staff below. Note that during consultations, staff will discuss other best practices for achieving watering efficiency and plant health, but the key recommendations listed below save the most water and money.

Table with 3 columns: Staff Recommendations, Resident Implements, Recommendation. Contains 5 rows of irrigation-related recommendations, with handwritten checkmarks and notes like 'let grass grow taller'.

By signing this form resident agrees to implement the chosen water savings efficiency recommendation and understands participation in this pilot program and adjusted utility rate will last for up to 12 billing periods...

Resident Signature: [Handwritten Signature]

Resident Name (Printed): Gary Krahenbuhl

Date: 9/6/19

Staff Signature: [Handwritten Signature]

Staff Name (Printed): Andi Couet

Date: 9/6/19

Matt Seelig

andi - couet @ tempe 900

Gary Krahenbuhl



Water setting and usage

Lawn (Major watering)

2019

| Station | times/week | min/time | total |
|---------|------------|----------|-------|
| 1 | 3 | 22 | 66 |
| 2 | 3 | 22 | 66 |
| 3 | 3 | 22 | 66 |
| 4 | 3 | 18 | 54 |
| 5 | 3 | 18 | 54 |
| 6 | 3 | 22 | 66 |
| 7 | 3 | 22 | 66 |
| 8 | 3 | 22 | 66 |
| 9 | 3 | 22 | 66 |
| 10 | 3 | 22 | 66 |
| 11 | 3 | 30 | 90 |
| Total | | 770 min | |

2020

| Station | times/week | min/time | total |
|---------|------------|----------|-------|
| 1 | 2 | 45 | 90 |
| 2 | 2 | 45 | 90 |
| 3 | 2 | 45 | 90 |
| 4 | 2 | 35 | 70 |
| 5 | 2 | 30 | 60 |
| 6 | 2 | 40 | 80 |
| 7 | 2 | 40 | 80 |
| 8 | 2 | 40 | 80 |
| 9 | 2 | 40 | 80 |
| 10 | 2 | 40 | 80 |
| 11 | 2 | 45 | 90 |
| Total | | 890 min | |

Established Plants: Major Drip Irrigation

| | | | | | | | |
|-------|---|---------|----|----|---|---------|----|
| 12 | 1 | 85 | 85 | 12 | 1 | 60 | 60 |
| 13 | 1 | 85 | 85 | 13 | 1 | 60 | 60 |
| 14 | 1 | 85 | 85 | 14 | 1 | 70 | 70 |
| 15 | 1 | 85 | 85 | 15 | 1 | 85 | 85 |
| Total | | 340 min | | | | 275 min | |

See next page for additional station watering

Supplemental watering*

1019

2020

| Station | times/week | min/time | total | Station | times/week | min/time | total |
|---------|------------|----------|---------|---------|------------|----------|---------|
| 1 | 7 | 5 | 35 | 1 | 7 | 5 | 35 |
| 2 | 7 | 5 | 35 | 2 | 7 | 5 | 35 |
| 3 | 7 | 5 | 35 | 3 | 7 | 5 | 35 |
| 4 | 7 | 5 | 35 | 4 | 7 | 5 | 35 |
| 5 | 7 | 5 | 35 | 5 | 7 | 5 | 35 |
| 6 | 7 | 5 | 35 | 6 | 7 | 5 | 35 |
| 7 | 7 | 5 | 35 | 7 | 7 | 5 | 35 |
| 8 | 7 | 5 | 35 | 8 | 7 | 5 | 35 |
| 9 | 7 | 5 | 35 | 9 | 7 | 5 | 35 |
| 10 | 7 | 5 | 35 | 10 | 7 | 5 | 35 |
| 11 | 7 | 5 | 35 | 11 | 7 | 5 | 35 |
| Total | | | 385 min | | | | 385 min |

New transplants: Minor Drip Irrigation

| | | | | | | | |
|--------------|---|---|-----------|----|---|---|-----------|
| 12 | 6 | 5 | 30 | 12 | 6 | 7 | 42 |
| 13 | 6 | 5 | 30 | 13 | 6 | 6 | 36 |
| 14 | 6 | 5 | 30 | 14 | 6 | 7 | 42 |
| 15 | 6 | 5 | 30 | 15 | 6 | 9 | 54 |
| Total | | | 120 min | | | | 174 min |
| Grand Totals | | | 1,615 min | | | | 1,724 min |

* The lawn watering is necessary to keep the tall fescue grass alive in the heat of the summer. It will grow in the shade, but must have a cooling spray in the mid afternoon. The new transplants cannot go a full week without water. They get a few minutes of water each day until their roots have grown deeper in the soil and until they have enough leaf development to shade their inner branches.

Tina Sleeper (Municipal Utilities) email response to Gary Krahenbuhl on July 23, 2020 at 7:10 a.m.:

Hi Gary,

Thank you for the phone call. I have received your email and the attachments. Thank you for your time compiling your observations and thoughts. I will share your memo with my leadership. When it comes to the water consultation comments, I will review those with the Water Conservation Specialists, and we may reach out to discuss details.

Thank you,

Tina Sleeper, Water Conservation Coordinator
Water Utilities – Water Resources
Municipal Utilities Department
E-mail: Tina_Sleeper@tempe.gov
Desk: (480) 350-2668
Website: www.tempe.gov/conservation
DO YOUR PART – GET WATERSMART!
Track Your Water Usage – visit www.Tempe.Gov/WaterSmart

Gary Krahenbuhl email response to Tina Sleeper (Municipal Utilities) on July 23, 2020 at 8:46 a.m.:

Tina,

Thank you again for the time you spent with me on the telephone yesterday and for confirming the receipt of the materials I sent to you. I would be happy to visit with you or others about what I see as a “tipping point” that we may have reached where it has become too expensive to get the water necessary to keep a large lawn looking nice during the summer months. If I am right our neighborhoods will go through a sad transformation from green to brown to nothing but desert landscaping. That will certainly alter the visual impression one gets driving through Tempe communities.

Gary

Gary Krahenbuhl email to Tina Sleeper (Municipal Utilities) on August 16, 2020 at 2:29 p.m.:

Tina,

Did you have a chance to share my email for your leadership? Did you get any responses? I have heard nothing from anyone. I was hoping to visit with some of the *higher-ups* before the City acts further on water rates or changes in water use policies.

It might be useful for me to know the names and titles/positions of those with whom you shared my email and attachments.

Thank you again for your attention.

Gary Krahenbuhl

Steve White (Municipal Utilities) email response to Gary Krahenbuhl on August 24, 2020 at 4:20 p.m.:

Mr. Krahenbuhl,

Thank you for the detailed information about your landscape and participation in Tempe's Water Conservation program. Tempe's Water Conservation Program is more than a regulatory requirement; it is a means by which Tempe ensures that water is used efficiently and responsibly for all needs of the water service area. This is accomplished through effective water-saving best practices and targeted outreach. The Conservation Program supports the goals of the Water Resources Plan, which outlines how Tempe maintains a robust and resilient water resources portfolio sufficient to meet the current and future needs of the community. Both the Water Conservation Strategic Plan and the Water Resources Plan are in the process of being updated. It is anticipated that updated versions of both will be available by the end of 2020. The current version of the [Water Resource Plan can be found online](#).

One of the many things I love about working here at the City of Tempe is interacting with knowledgeable, engaged and thoughtful citizens. From your memo, I can tell that you are familiar with Tempe's Water Utility. I appreciate your insight into the conservation program and Tempe's water rates. Our Conservation Program is always seeking input on how to better achieve our goals of effective outreach and responsible use of water. As you may know, water rates are set through a comprehensive process. This process seeks to set rates at appropriate levels to support the critical functions necessary to produce and distribute high quality potable water and collect, treat and safely dispose of wastewater. Although the Water Resources Section is involved in the rate study process, there are many stakeholders and steps involved in this process. I'm happy to have a conversation with you about these topics but, as Tempe's rate study is currently underway, I strongly encourage you to participate directly in that process.

The [2020 Water and Wastewater Rate Study Webpage](#) provides details of the work that has been completed so far, including a number of recorded presentations that you may find informative regarding rate setting and rate structure development. We've included your comments from your letter and appreciate your feedback on rates. All the comments the City receives are compiled and provided to the Tempe City Council. If you have additional comments, please use the [Utility Rate Study Comment Form](#), as these responses are emailed directly to me.

In order to ensure that your concerns related to landscape are addressed, Tina Sleeper will be reviewing the recommendations and results in your thorough memo and scheduling time with you to discuss the findings. Once that's complete, we'd like to provide possible next steps and additional measures that may be appropriate for your landscape.

I'll be sharing your insights and data with our Deputy Municipal Utilities Director for Water Utilities for review.

Thank you, again, for reaching out to us on this important issue.

Sincerely,
Stephen White

Stephen White

City of Tempe, Municipal Utilities Department
Municipal Utilities Business Manager
Office: 480-350-8847 Cell: 480-353-7386
stephen.white@tempe.gov

Gary Krahenbuhl email response to Steve White on August 24, 2020 at 4:53 p.m.:

Stephen,

Thank you for the response. I like to work through channels, so will appreciate any opportunity I might be given to provide input about Water and Wastewater policies. I plan to review the documents to which you referred and look forward to further conversation.

Gary

Steve White (Municipal Utilities) email response to Gary Krahenbuhl on August 25, 2020 at 5:33 p.m.:

Thank you, Mr. Krahenbuhl,

I look forward to our future conversations and answering any questions you may have. As a preview to the next month, we are scheduled to present our rate study recommendations to City Council at the September 17, 2020 Issue Review Session. Following the City Council meeting, there will be a public comment period for account holders to provide their feedback. Additionally, there will also be a live public Webinar on September 22, 2020 from 12p.m. to 1:30p.m. The City of Tempe Municipal Utilities Director and Deputy Director will give a presentation and answer questions from the virtual audience. All of the feedback from the public comment period which includes the live Webinar will be provided to City Council.

Stephen

Stephen White

City of Tempe, Municipal Utilities Department
Municipal Utilities Business Manager
Office: 480-350-8847 Cell: 480-353-7386
stephen.white@tempe.gov

August 17, 2020 – Hugo Zettler

On August 17, 2020, 2:55 p.m., Hugo Zettler called and left the following transcribed voicemail:

Hey, this is Hugo Zettler again from the Prosecutors Office. I live at [REDACTED] in Tempe, Arizona. And I'm all for this conservation, but I need to know what regulation or how it is that after you use 40,000 gallons of water, you get into a special category where they charge you three times the amount for the same amount of water. While conservation is great, when the temperature is 116 degrees and it's over 110 for months, it's almost impossible to conserve water and its sort of like a penalty for something I have no control over. I realize that I've talked to you before. I know that you don't have a lot of control over this, but I want to know who does because I sure as heck want to talk to somebody about it. And I also have another issue. I live next to the water treatment plant off of Guadalupe and Price and the trees and stuff back

there are all dying because nobody's putting any water on them and it's getting to look rather ugly. I'd like to know who I can contact about that also and maybe something can be done so those trees survive. I'd also like to make sure my trees and my yard and my grass and my plants survive, and while I understand that over 40,000 gallons you charge me more, it just doesn't seem to be reasonable with the conditions that they have been for the past two months. Anyway, I've said my peace. Please call me, I'm on 8931.

Steve White (Municipal Utilities) left a voicemail for Hugo Zettler on August 21, 2020.

Tina Sleeper (Municipal Utilities) spoke with Hugo Zettler on August 26, 2020 regarding the trees at South plant. Hugo did not receive Steve's voicemail, so Tina provided Steve's direct number.

Steve White (Municipal Utilities) spoke with Hugo Zettler via telephone on August 26, 2020. Hugo has lived in the same house on a half-acre lot for a long time. Hugo is frustrated this summer with the record heat and is unable to keep the grass and plants green and alive and has used more water than ever before. Hugo was not interested in discussing the rate study, process or structure and understands the rates, the need for conservation and the rising cost of water.

September 9, 2020 – Lance Hilpert

Following a phone conversation, Tina Sleeper (Municipal Utilities) sent the following email to Lance Hilpert on September 9, 2020, 9:59 a.m.:

Dear Mr. Hilpert:

Thank you for your call this morning and your questions. As a follow up on our call, here are the links I promised to send:

- [Single-Family Residential Rates](#)
- [2020 Water and Wastewater Rate Study](#)
- [Link to the second Rate Study Public Meeting](#) (September 22 at noon)
- [Utility Rate Study Comment Form](#)

Additionally, I've cc'ed the Water Resources Manager, Craig Caggiano, and the Municipal Utilities Business Manager, Stephen White, in case you have additional questions on either Water Resources (Craig) or the 2020 Rate Study Process (Steve).

Sincerely,

Tina Sleeper, Water Conservation Coordinator
Water Utilities – Water Resources
Municipal Utilities Department
E-mail: Tina_Sleeper@tempe.gov
Desk: (480) 350-2668
Website: www.tempe.gov/conservation
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2020 Water and Wastewater Rate Study
Public Involvement to Date
October 26, 2020

Craig Caggiano (Municipal Utilities) email to Lance Hilpert on September 11, 2020, 1:02 p.m.:

Mr. Hilpert,

Thank you for reaching out regarding Tempe Town Lake. I'm happy to have a conversation with you regarding how the lake is operated from an infrastructure and water resource perspective.

I can be reached via email, or if you prefer a call I'd be happy to accommodate that. However, I am a little limited on time for the rest of the day. If you can provide some dates and times that work for you next week I'm sure we'll be able to set something up.

Thank you,

Craig M. Caggiano

Water Resources Manager

Tempe Town Lake / Water Resources / Warehouse

WaterResources@tempe.gov

Municipal Utilities / Water Utilities Division

P.O. Box 5002, Tempe AZ 85280

480.858.2160 (Office)

480.250.5336 (Cell)

Lance Hilpert sent the following email to Tina Sleeper (Municipal Utilities) on September 11, 2020 at 12:48 p.m.:

Ms Sleeper - thank you for your response. I received 2 emails from you today. I did not get an email yesterday, either in my inbox or spam folder.

You told me that I could contact Water Resources Manager, Craig Caggiano, and/or the Municipal Utilities Business Manager, Stephen White with questions re: water evaporation and the city's water conservation program, but did not include their email addresses or phone numbers. Looking forward to receiving those.

Thanks again for your response,

Lance Hilpert.

Tina Sleeper (Municipal Utilities) sent the following email response to Lance Hilpert on September 11, 2020 at 2:10 p.m.:

Dear Mr. Hilpert,

2020 Water and Wastewater Rate Study
Public Involvement to Date
October 26, 2020

I just received your email letting me know that you did not receive the email I sent below on Wednesday. I am very sorry to hear that. Please let me know if you receive this one.

Thank you,

Tina Sleeper, Water Conservation Coordinator
Water Utilities – Water Resources
Municipal Utilities Department
E-mail: Tina_Sleeper@tempe.gov
Desk: (480) 350-2668
Website: www.tempe.gov/conservation
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Track Your Water Usage – visit www.Tempe.Gov/WaterSmart

Tina Sleeper sent the following email response to Lance Hilpert on September 11, 2020 at 3:40 p.m.:

My apologies Mr. Hilpert on leaving out their contact information. Craig, the Water Resources Manager, has contacted you directly via email and included his contact information in his email signature. Steve is overseeing the rate study, and here is his contact:

stephen_white@tempe.gov

480-350-8847

Thank you for your questions and patience.

Tina Sleeper, Water Conservation Coordinator
Water Utilities – Water Resources
Municipal Utilities Department
E-mail: Tina_Sleeper@tempe.gov
Desk: (480) 350-2668
Website: www.tempe.gov/conservation
DO YOUR PART – GET WATERSMART!
Track Your Water Usage – visit www.Tempe.Gov/WaterSmart

Steve White (Municipal Utilities) sent the following email to Lance Hilpert on September 14, 2020 at 12:59 p.m.:

Mr. Hilpert,

Thanks for your interest in learning more about Tempe's water and wastewater rates. As Tina may have mentioned, we are wrapping up our 2020 Water and Wastewater Rate Study and will be presenting our recommendations to City Council at the September 17, 2020 Work Study Session. I'm happy to discuss any questions you may have. Please give me a call or let me know if you prefer to schedule a meeting.

Thanks,
steve



Stephen White
City of Tempe, Municipal Utilities Department
Municipal Utilities Business Manager
Office: 480-350-8847 Cell: 480-353-7386
stephen_white@tempe.gov

Lance Hilpert called Steve White on September 23, 2020 at 10:23 a.m. Lance asked Steve if he knew of a 'Save water, so your children and grandchildren will have water' flyer that was mailed out and if he knew how much water in the City of Tempe is lost to evaporation. Lance has performed an analysis and estimated that Tempe loses millions of gallons per year due to evaporation between Tempe Town Lake and the lakes at City parks and at the golf courses. Lance stated it is hypocritical that the City asks residents to conserve water when the City does not. Lance then asked why the City follows a tier rate structure instead of a flat fee per 1,000 gallons. Steve responded that the City hires a third-party consultant, follows industry best practices and ensures that the process, methodology and rates are just and reasonable per Arizona Revised Statutes. Lance asked if Steve was aware of any legal challenges to this; Steve replied that he was not aware. Lance stated that the single family tiered pricing structure for water is a socialist scheme to milk the rich and play Robin Hood.

September 14, 2020 – David Rice

David Rice sent the following email to Council Communicator on September 14, 2020 at 4:03 p.m.:

Mayor and Council,

Please present how residential water charges in individual rate tiers are calculated. This calculation is not shown in the 2017 rate study, nor is it shown in the 2020 rate study recommendations.

My impression of what is happening in the tier rate calculation is that water usage of high usage (upper rate tier) customers is smoothing out the peaking of Tier 1 and Tier 2 water user usage. (I've included a pictorial representation of what seems to be going on)
Using some water use of high tier customers to smooth peaking of low tier customers exaggerates the percentage of the peaking cost that is allocated to the higher tier water users. This increases higher tier rates more than they might normally be.

Water treatment and water distribution costs due to max day and peak hour demand are significant. (see 2017 rate study)

2017 Final Utility Rate Study:

page 84 details:

32% of water treatment costs are allocated to max day demand

23% of water distribution costs are allocated to max day demand

28% of water distribution costs are allocated to peak hour demand

2020 Water and Wastewater Rate Study
Public Involvement to Date
October 26, 2020

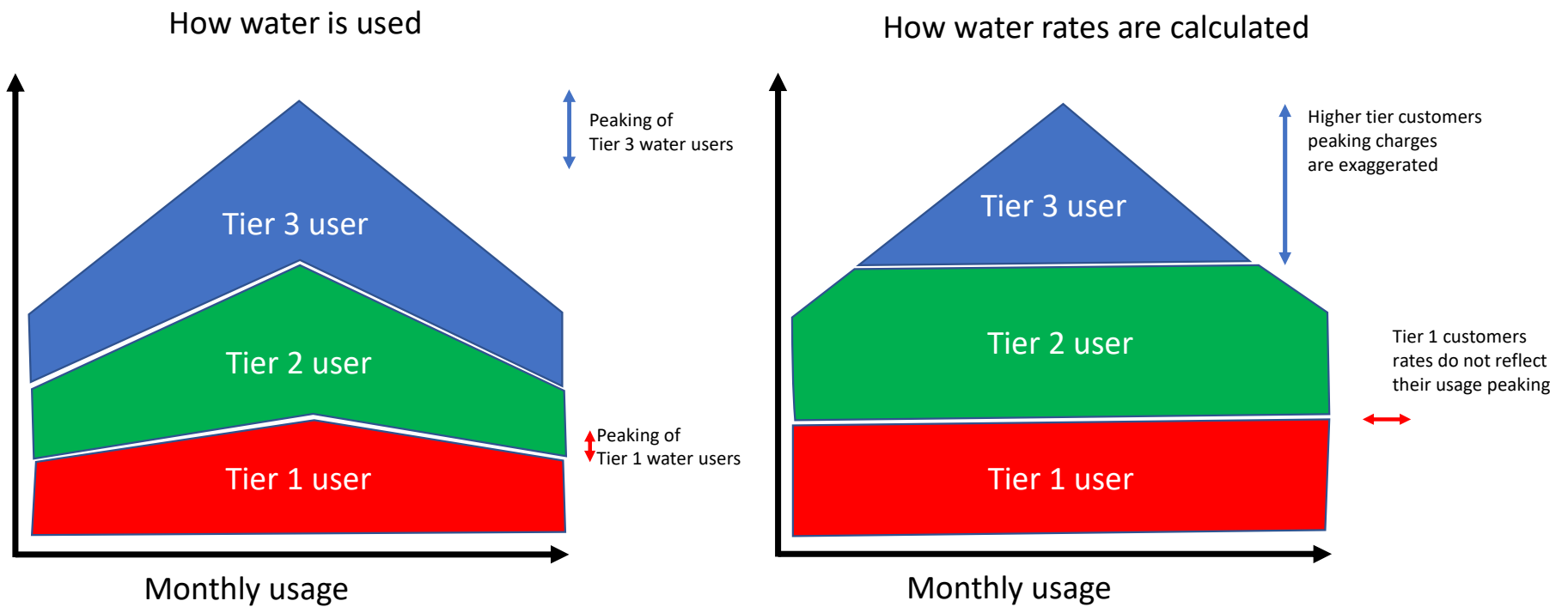
Please be transparent if we are shifting the peak demand costs to higher tier residential customers.

Please provide how these residential tier charges are calculated.

Thanks,
David Rice

The attachment is provided on the following page.

How usage is partitioned affects tier peaking calculations (a higher percentage of peak water use costs are born by higher tier users)



Alex Chin (Council Aide) sent the following email response to David Rice on September 17, 2020 at 1:22 p.m.:

Hello David,

Thank you for emailing the Mayor and Council regarding water rates calculations. Please be assured that Mayor and Council are copied on this reply. I do appreciate your patience as I asked city staff to assist in this topic. Please see the response below from our Municipal Utilities department:

Dear, Mr. Rice,

Water service costs are recovered from customers in two ways: fixed monthly service charges and monthly metered water volume charges.

Fixed monthly service charges include a charge for customer service costs, such as those associated with administration, customer service and billing, metering and meter reading (Customer Charge), and a charge for a portion of the average day or "base" system capacity cost. The customer charge is a fixed dollar amount charged to each customer. The portion of the average day or "base" system capacity charge is scaled, by meter size, and calculated using the most recent three-year average of monthly water use. This cost is then charged to each customer as a fixed dollar amount. Revenue from fixed monthly service charges stabilizes the utility's revenue stream and industry standard is 20 to 30 percent of a water utility's total revenue from fixed monthly service charges. Lower levels of fixed cost recovery can potentially impact bond ratings, which may lead to higher interest rates on financed debt. The recommended adjustments for this year will increase our utility's revenue recovery from fixed monthly service charges from 19 percent currently, to 22 percent.

Monthly metered water volume charges are based on the number of billable units (1,000 gallons per unit) of water consumed during a monthly billing period, in accordance with Tempe's established water service rate structure. Water service rates in Tempe are determined utilizing principles and methodologies established by the American Water Works Association (AWWA), which is the water industry standard in the U.S. The AWWA *M1 Principles of Water Rates, Fees and Charges* (7th ed.) provides a cost-based allocation methodology and development of rates and charges that are Just and Reasonable, per State law, and legally defensible.

To your request, "Please present how residential water charges in individual rate tiers are calculated", I offer the following:

Each customer classification has unique water demand characteristics and thus places different demands and costs on the water system. In addition to the cost to satisfy the average day water demand of our customers, costs are additionally and significantly impacted by peak water demands since the water system is designed, built, operated and maintained to meet these peak water demands at all times. Water mains, booster pump stations and water storage tanks, for example, are sized to meet these specific customer water demands when they occur. This is why peak demands are a significant factor in cost of service calculations in our rate studies and why we recover costs, proportionally, from the customer classes creating these peak demands, i.e., customers with higher average day, maximum day and peak hour demands are assigned higher charges, while customers with lower average day, maximum day and peak hour demands are assigned lower charges. Using 2019 AMI data, the proportion of meters, base capacity and extra capacity by customer classification were determined and system cost components were proportionally allocated to each respective customer classification. As referred to earlier, this process is in accordance with the AWWA M1 Manual (base plus extra capacity process). Unlike the other customer classifications, the Single Family Residential customer class includes groups of customers with similar water use and water demand characteristics. These similarities allow for more precise proportional allocation of the cost of providing water service, within the class, by establishing an inclining block rate or "tier" structure. The cost per billable unit of water is determined utilizing this modern rate setting approach and ensures that the price of water, by

tier, reflects the underlying cost of providing the service to those customers receiving water in each respective tier.

To determine how each respective tier is charged for its monthly metered water volume, we first performed a detailed cost of service analysis, which concluded that out of the total annual cost to provide water services (about \$59.5 million), \$19.6M is attributable to the Single Family Residential customer classification. We then determined what proportion of that \$19.6M was attributable to average day, maximum day, peak hour and customer costs. The amounts calculated from the cost of service analysis are presented in the table below, by cost component (Single Family Residential customer class only):

| | |
|---------------------|---------|
| Average Day | \$10.6M |
| Maximum Day | \$3.7M |
| Peak Hour | \$2.2M |
| Customer | \$3.1M |
| Net Cost of Service | \$19.6M |

Customer costs (\$3.1M), and a portion of average day or “base” system capacity cost (\$2.8M), are recovered through fixed monthly service charges. The remaining \$7.8M of the average day cost is recovered through a uniform “base charge”, which is part of the monthly metered water volume charge and is the same amount in each tier. Whether Tier 1 or Tier 5, \$1.67 of each respective tier charge, per billable unit of water, is charged to recover average day costs. To determine what the cost of each respective tier charge per average day billable unit is, the remainder of the average day costs (\$7.8M, rounded) is divided by the total number of billable units from test year 2019 (4,716,429) to reach the total of \$1.67 per billable unit of water.

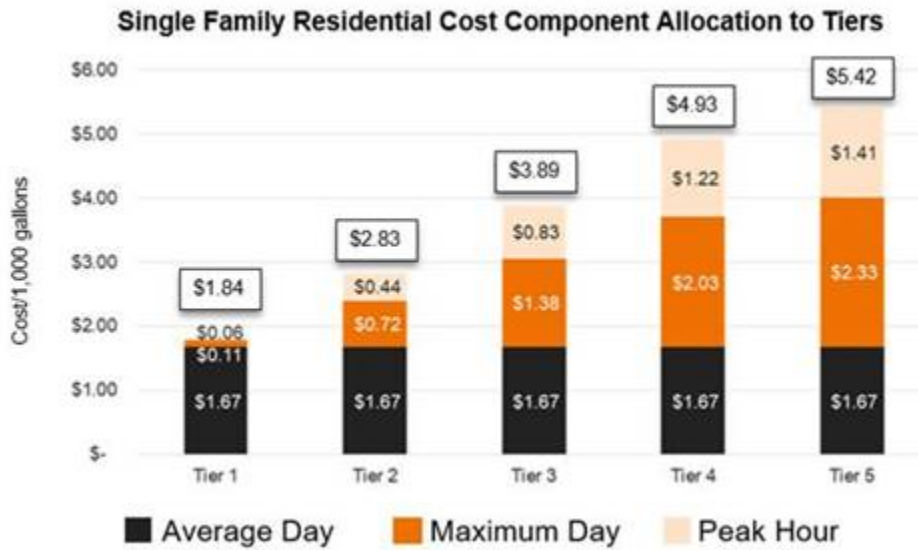
The Remaining costs of \$3.7M in maximum day and \$2.2M in peak hour are also recovered in the monthly metered water volume charges component of the Single Family Residential customer classification rates. Unlike the remainder of the average day costs, which are allocated uniformly to each respective tier, maximum day and peak hour costs are allocated proportionally to the tiers, based on the amount of peaking in each respective tier.

Tier 1 has very little change in demand throughout the year and the result is only a small portion of maximum day and peak hour costs being allocated to Tier 1. Higher tiers have greater allocations of maximum day and peak hour costs due to their relatively larger contributions to the Single Family Residential customer class peak demands, based on observed demand characteristics and patterns from 2017-2019.

The following table includes the billable units of water (1,000 gallons/billable unit) in each tier of the Single Family Residential customer class, which was used as the denominator to calculate the updated tier prices per 1,000 gallons.

| | |
|---------------|------------------|
| Tier 1 | 2,112,755 |
| Tier 2 | 1,104,157 |
| Tier 3 | 701,799 |
| Tier 4 | 526,100 |
| Tier 5 | 271,617 |
| Total | 4,716,429 |

The result of the proportional cost allocation, as indicated in the tables above, is the inclining block rate or “tiered” rate structure. This structure provides cost-based, proportional allocation of costs to customers, based on the cost to provide service to that customer, as indicated in the below chart.



Please note that tier pricing is applied only to the billable units of water consumed within that tier. For example, if a customer used 15,000 gallons of water:

- Gallons 1 through 6,000 will be charged at the Tier 1 rate.
- Gallons 7,000 through 12,000 will be charged at the Tier 2 rate.
- Gallons 13,000 through 20,000 will be charged at the Tier 3 rate.

You would not be charged the Tier 3 pricing for all 15,000 gallons.

Each customer pays the same amount for the water they use in each respective tier. For example, a customer using 20,000 gallons of water in a month would pay \$1.84 per 1,000 gallons in Tier 1, \$2.83 per 1,000 gallons in Tier 2, \$3.89 per 1,000 gallons in Tier 3, etc. Every customer is charged the same billable unit cost for water used in each tier.

With the tiers priced in the manner described above, the proportions of revenue recovered from all metered volume water charges is shown below:

| Tier | Average Day Allocation (%) (2019) | Maximum Day Allocation (%) (2017-2019 Average) | Peak Hour Allocation (%) (2017-2019 Average) |
|--------|--------------------------------------|---|---|
| Tier 1 | 45% | 6% | 6% |
| Tier 2 | 23% | 22% | 22% |
| Tier 3 | 15% | 26% | 26% |
| Tier 4 | 11% | 29% | 29% |
| Tier 5 | 6% | 17% | 17% |

| Tier | Average Day Cost Allocation (\$M) | Maximum Day Cost Allocation(\$M) | Peak Hour Cost Allocation (\$M) |
|--------|-----------------------------------|----------------------------------|---------------------------------|
| Tier 1 | \$3.5 | \$0.2 | \$0.1 |
| Tier 2 | \$1.8 | \$0.8 | \$0.5 |
| Tier 3 | \$1.2 | \$1.0 | \$0.6 |
| Tier 4 | \$0.9 | \$1.1 | \$0.6 |
| Tier 5 | \$0.5 | \$0.6 | \$0.4 |

Regarding your second request, "Please be transparent if we are shifting the peak demand to higher tier residential customers." While transparent and in accordance with industry best practices and methodologies, the cost-based allocation process and calculation was not as precise or detailed in the 2017 Water and Wastewater Rate Study as it is this year. The methodology used, as stated above, was the same in 2017, but this year we had the powerful Advanced Metering Infrastructure (AMI) data to leverage, which provided a very accurate and much more precise understanding of customer use, demand characteristics and the true cost of service by customer classification. We are not "shifting the peak demand to higher tier residential customers". As discussed throughout this response, costs are proportionally allocated based on customer demand and use characteristics, in accordance with industry standards and best practices, following a cost-based approach to utility cost allocation.

This process, as indicated in part above, will be further detailed in our 2020 Water and Wastewater Rate Study report, which we hope to publish on our Rate Study Website in October. As of now, we are awaiting further policy guidance from the City Council and finishing up our document review process. Transparency in all we do is critical to maintaining the trust and confidence of those who task us with executing this important work and we take our responsibility as stewards of our customer's and the public's financial resources very seriously.

Thank you, again, for your questions and your engagement in our 2020 Water and Wastewater Rate Study process. Your questions and input provide valuable insights and help us make better, more informed decisions.

Please feel free to contact Stephen White, Municipal Utilities Business Manager, or me, with any additional questions.

Regards,

Terry Piekarz, Municipal Utilities Director



Terrance Piekarz, Director
City of Tempe, Municipal Utilities

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Alex Chin
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City of Tempe
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Email: alex_chin@tempe.gov

David Rice sent the following email response to Alex Chin, Terry Piekarz and Steve White on September 21, 2020 at 11:05 a.m.:

Terry,

Thanks for the reply and explanation. I am fairly familiar with the utility rate documents that the city has presented to the public.

I believe there was an explanation of the residential water rate tier calculations in the 2015 final rate study. Though it is not the most recent rate study, it provides a slightly different presentation of similar data, that in some aspects, was better explained.

It is no longer on the Tempe Utilities website. Is it possible to have the 2015 rate study posted again?

I will try to ask my question a different way. Regarding Single Family Residential customers, as you stated, groups of customers are separated due to sub-groups' similar water use and water demand characteristics. That leads to my questions.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 5 rate, in their month of max water use. What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users? My sense from looking at how rate tiers are calculated is that this subgroup pays substantially more than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 4 rate, in their month of max water use. What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users? My sense from looking at how rate tiers are calculated is that this subgroup pays more than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 3 rate, in their month of max water use. What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users? My sense from looking at how rate tiers are calculated is that this subgroup pays roughly what is required for cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 2 rate, in their month of max water use. What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users? My sense from looking at how rate tiers are calculated is that this subgroup pays less than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak at the tier 1 rate, in their month of max water use. What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users? My sense from looking at how rate tiers are calculated is that this subgroup pays substantially less than cost recovery.

There is also a large seasonality in Landscape customer class water use. Why wouldn't we implement a tiered rate structure for Landscape class water use?

We wouldn't because it is unfair to larger water volume landscape meters. If one assumes that the seasonal peaking ratio is roughly the same for low water volume meters as it is for high water volume meters, implementing a 2 tier rate structure would push most the peaking charges into the higher tier, increasing rates for higher volume Landscape meters, creating an inequitable rate structure for Landscape customer class users. Maybe this is why a tiered rate structure was never implemented for the Landscape customer class.

I expect, and I understand that it is impossible for every individual customer to be charged exactly what is required for cost recovery. However, it seems that large, distinct subgroups within the Single Family Residential customers class are charged fees that do not closely align with cost recovery.

Thanks again for your reply,
David Rice

David Rice sent a second email response to Alex Chin (Council Aide), Terry Piekarz (Municipal Utilities) and Steve White (Municipal Utilities) on September 24, 2020 at 3:23 p.m.:

Terry, Stephen,

Thanks for hosting the water rate webex meeting. It was very informative. As a follow up to the Webex public meeting, Stephen mentioned he would get back me as to how Fire Protection costs are charged to rate payers. I'm curious if it is charged as more of a fixed sum per customer (possibly differing per customer class), or if there is an additional charge per unit of water used? On page 84 of the 2017 rate study it looks as though Fire Protection water volume is apportioned among the different customer classes, so I'm curious how that water cost is accounted for. Also, on the call I had asked about the water distribution requirement of fire protection, and if that cost is accounted for and if and how that cost is allocated to customers. It seems as though the fire protection minimum peak hour distribution requirement would be the same for both low water use single family customers and high water use single family customers. It seems some peak hour costs should be allocated due to the *possible need* for peak hour distribution (fire), as opposed to the regular use of peak hour distribution.

Another question regarding the Single Family rate class:
Does the city have any estimate to how much of the total water volume (4.71M units) in the Single Family rate class to being used for outdoor irrigation?

A question regarding the email that you sent:

It seems like in order to get the \$1.67/billable unit (for average day usage), the average day cost needs to be \$7.9M, not \$10.6M.

(4,716,429 x \$1.67 = ~\$7.88M)

The recovered peak hour dollars from the bottom table match the top table (\$2.2M)

The recovered max day dollars from the bottom table match the top table (\$3.7M)

However, the average day dollars from the bottle table (\$7.9M) does not match the top table (\$10.6M).

the determined proportion of that \$19.6M was attributable to average day, maximum day, peak hour and customer costs:

| | |
|---------------------|---------|
| Average Day | \$10.6M |
| Maximum Day | \$3.7M |
| Peak Hour | \$2.2M |
| Customer | \$3.1M |
| Net Cost of Service | \$19.6M |

Billable units per residential tier:

| | |
|--------------|------------------|
| Tier 1 | 2,112,755 |
| Tier 2 | 1,104,157 |
| Tier 3 | 701,799 |
| Tier 4 | 526,100 |
| Tier 5 | 271,617 |
| Total | 4,716,429 |

Recovered dollars from each tier:

| Tier | Average Day Cost Allocation (\$M) | Maximum Day Cost Allocation(\$M) | Peak Hour Cost Allocation (\$M) |
|--------|-----------------------------------|----------------------------------|---------------------------------|
| Tier 1 | \$3.5 | \$0.2 | \$0.1 |
| Tier 2 | \$1.8 | \$0.8 | \$0.5 |
| Tier 3 | \$1.2 | \$1.0 | \$0.6 |
| Tier 4 | \$0.9 | \$1.1 | \$0.6 |
| Tier 5 | \$0.5 | \$0.6 | \$0.4 |

Since the Single Family rate class has approximately 20 times as many customers as the Landscape rate class (32364 vs 1892),

has the city, even as just a thought exercise, subdivided the Single Family rate class and calculated each cost allocation individually?

I believe that is what one of the stakeholders in the stakeholder meetings had requested that the city do. I believe it was for 'agricultural' properties.
That is the thrust of the questions that I had asked earlier:

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 5 rate, in their month of max water use.
What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users?
My sense from looking at how rate tiers are calculated is that this subgroup pays substantially more than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 4 rate, in their month of max water use.
What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users?
My sense from looking at how rate tiers are calculated is that this subgroup pays more than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 3 rate, in their month of max water use.
What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users?
My sense from looking at how rate tiers are calculated is that this subgroup pays roughly what is required for cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak into the tier 2 rate, in their month of max water use.
What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users?
My sense from looking at how rate tiers are calculated is that this subgroup pays less than cost recovery.

If we were to look at the sub-group of Single Family Residential customers who have bills that peak at the tier 1 rate, in their month of max water use.
What does cost recovery look like for this subgroup, if it's water use and peaking was analyzed in isolation from other Single Family water users?
My sense from looking at how rate tiers are calculated is that this subgroup pays substantially less than cost recovery.

Thanks,
David Rice

Terry Piekarz (Municipal Utilities) sent the following email response to David Rice on September 25, 2020 at 2:36 p.m.:

Hello, David,

Thanks for attending the Water and Wastewater Rate Study Recommendations public meeting and for your continued engagement in this process. As you requested, attached to this email is the 2015 Water and Wastewater Rate Study. The following paragraphs will address your questions regarding fire protection cost recovery, single family customer class tier pricing and the landscape customer class rate structure.

Most water utilities provide both private fire protection services (serving private suppression systems) and public fire protection (providing and serving public fire hydrants). Fire protection is a unique service that the utility provides as there is very little consumptive use. The key is that the City must be able to provide the water volumes and pressure, on demand, where and when a fire occurs, with no ability for the water utility to have any advanced warning or control.

Tempe has dedicated monthly charges for private fire protection that recovers costs (revenue) from users having made dedicated investments to provide fire protection systems on private property. In contrast, public fire protection is a benefit to all customers and the costs are shared among all water system customers. These costs are recovered through fixed monthly service charges and, to some extent, water development fee charges that address a portion of the base system capacity costs when new customers join the water system. The 2017 Rate Study table on page 84 shows estimated fire flows. As these values are not directly observable, these figures were not used for allocation purposes. In well-developed water service areas such as in Tempe, water system capacity is often considered adequate to meet public fire protection needs as a result of the investment to meet consumptive needs.

Single family customers pay two types of charges, fixed monthly service charges and monthly volume charges, based on metered water use. Fixed monthly service charges include a portion of average day cost (approximately \$2.8M), leaving approximately \$7.8M of average day cost to be recovered in metered water volume charges. Once recovery from fixed monthly service charges is accounted for, the remaining cost requirements will match the average day water volume cost recovery.

| | Total Fixed Monthly Service Charge | Total Monthly Metered Volume Charge | Total Cost |
|-------------|------------------------------------|-------------------------------------|------------|
| Average Day | \$2.8M | \$7.8M | \$10.6M |
| Maximum Day | | \$3.7M | \$3.7M |
| Peak Hour | | \$2.2M | \$2.2M |
| Customer | \$3.1M | | \$3.1M |
| | \$5.9M | \$13.7M | \$19.6M |

Tempe does not analyze each single family customer's individual cost of service. The City uses the widely accepted industry standard of grouping customers with common water demand and service characteristics into customer classes, as described in the *American Water Works Association M1 - Principles of Water Rates, Fees and Charges*. Customer classes are assigned system costs based on their proportional usage of the system's capacity. This cost allocation process is known as "base plus extra capacity". This method of tier pricing leads to a strong nexus between the utility's cost, a customer's consumption profile and the resulting fee for service. The rate study did not analyze the cost recovery of individual customers, or subgroups of customers, in the single family classification. The analysis was conducted following a methodology that results in rates applied to the overall profile of single family customers that are

appropriate, tied to the cost of service and match the characteristics of use for the class as a whole.

Within the landscape customer classification, there are significant seasonal changes and water demands that the utility must meet. Using advanced metering infrastructure (AMI) data, the landscape customer class had the highest maximum day ratio and second highest peak hour ratio, compared to the City's other customer classifications. The updated proportional cost allocation, upon which rates are based, reflects these measured demands and is why the proposed landscape rate is increasing by 13.9 percent. Although discussions during the rate study considered changes to the landscape class rate structure, Stantec (the City's financial consultant) recommended that the City continue using a uniform volumetric rate to recover costs from these customers. This rate structure is best used when customer demands vary greatly by total volume. We commonly refer to this as customer-specific versus non-customer-specific demand characteristics. This is best highlighted in this class by comparing a landscape meter that is being used to water a City park versus one that is installed at a single family home. The peaking demands may be similar, but the total metered water volume will vary greatly. Sizing tiers becomes problematic when such great variation exists between most customers in the class. For these reasons, it is most common to see a uniform rate applied to customer classes where customer specific water demand characteristics vary greatly. Although Tempe uses uniform rates for the commercial, multifamily, industrial and landscape customer classifications, we still recover the full proportional cost of service of each class.

As in this year's study, staff will continue to analyze and consider modification or adjustment to rate structures, if appropriate, in the 2022 utility rate study. Our objective will continue to be execution of a comprehensive cost of service or rate study, conducted in accordance with principles and methodologies established by the American Water Works Association, which is water industry standard in the United States, with a cost-based allocation methodology and development of rates and charges that are Just and Reasonable, per State law, and legally defensible.

Thank you, again, for your questions and your engagement in our 2020 Water and Wastewater Rate Study process. Your questions and input provide valuable insights and help us make better, more informed decisions. Please feel free to contact Stephen White, Municipal Utilities Business Manager, or me, with any additional questions.

Terry



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David Rice sent the following email response to Terry Piekarz (Municipal Utilities) on September 25, 2020 at 2:51 p.m.:

Terry,
Thanks for the reply. That clears up a lot of my questions.
I appreciate you getting back to me,

David Rice

2020 Water and Wastewater Rate Study
Public Involvement to Date
October 26, 2020

September 15-16, 2020 – Gary Krahenbuhl

Gary Krahenbuhl sent the following email to Laura Kajfez (Neighborhood Services) on September 15, 2020 at 1:40 p.m.:

Laura,

I have read the materials you send out pertaining to the study and recommendations regarding future water rates. I have collected personal water use data for many years and have some thoughts regarding the report. I have put my observations in a two page note attached as a PDF file. I hope the City of Tempe officials will consider these items before moving forward.

Thank you for your consideration.

Gary Krahenbuhl (47-year Tempe homeowner)

The attachment is provided in the following two pages.

Comments on the City of Tempe Water Rate Study and Recommendations

Gary S Krahenbuhl (47-year resident and homeowner in Tempe)

I have read the information contained in the City of Tempe Water Rate Study and have the following observations. These are offered in the spirit suggested by the report of seeking customer involvement, input, and understanding through a transparent process.

Each observation calls attention to a potential shortcoming or area of importance that was left unattended or not fully explained. It seems reasonable to expect that each of these items should be considered (if they have not been taken into consideration) and explanations or rationale provided to the customers that will be subject to the rate changes.

1. It seems that the report lacks consideration of the broader context in which it occurs. For example, is every City service self-sufficient? In the City of Tempe budget are collections in excess of costs in some service areas used to support other services where collections fall short of costs? Water usage and treatment services are part of a much larger financial operation. In most large organizations there are areas of greater and lesser priority. An “all-funds” approach provides budgetary flexibility and creates opportunities to be express priorities. This study took the point of view that water services should be self-sufficient. It would be nice for customers to know if this reflects a foundational approach that applies to all city services.
2. The study appears to ignore any consideration of city aesthetics. Was this an oversight or does this mean that the City of Tempe Mayor and City Council Members are not concerned with the ability of homeowners to keep their plants living and their properties well maintained? As the water rates have risen over the years, neighborhoods that once were shaded and green have turned barren and brown. The city once enjoyed a rich mix of landscaping types, some desert and some green and lush. It offered variety and beauty. Drive around the city today. The current water rates make it cost prohibitive for those on half or full acre lots (who lack access to irrigation water) to keep their plants alive and their lawns green. There is an aesthetic cost to raising rates.
3. There is no explanation for why flood irrigation is being billed at less than 50% of its cost. It would seem that the vast majority of customers are being billed at higher than required rates so a small number of homeowners with large monthly water consumption pay less than their fair share. Two homeowners a block apart and both on one half-acre lots have vastly different charges. One pays \$607 per year for irrigation water and the other pays many times that amount. Any move to change rates should clearly explain why this disparity exists and is perpetuated.
4. The proposed changes in water rates pays no attention to the real life circumstances of long-time Tempe residents. The writer of this note has

been retired and on a fixed income since 2003. He lives on a half-acre lot in south Tempe. In July of 2003 (the year he retired) he used 108,400 gallons of water and his utility bill was \$214.41. His plants, trees and lawn were green and healthy. His yard was enjoyed by his family and his neighbors as a cool and shady respite from the summer heat and pleasant to the eye. As rates went up he worked to conserve water. He joined the Water Smart program. He took out ground cover in his side yard and replaced it with gravel. He installed Toro "Precision" sprinkler heads (on his own initiative and at his own expense), which provide a more even distribution of water and are more efficient. He replaced water-loving trees with ones that use less water. His most recent utility bill showed water use of 73,000 gallons and a utility bill of \$422.75. He has lost a number of plants due to a lack of hydration and this lawn has numerous brown spots. To summarize, this homeowner, who has been on a fixed income since 2003, now pays almost twice as much per month for 32% less water. It is a struggle to keep the property looking decent during the summer months. Please understand, each increase in water rates will exacerbate these two problems: (1) taking a greater portion of retirees fixed incomes and (2) more and more plants and lawns will turn brown and be lost.

5. For homeowners with large landscaping water usage, the City's wastewater assumptions badly inflate the amount of wastewater that must be treated. At his own expense, this homeowner installed additional water meters (downstream from the city meter) so he could see how much water was being used for landscaping, in the swimming pool, and within the house (and therefore introduced to the sewer system). Measurements over many years show that the relationship of outdoor water use and indoor water use (eventual wastewater in need of treatment) are actually inversely related. That is, as summer water use goes up, indoor water use remains constant or diminishes. Yet the City formula assumes a positive relationship, which is almost certainly the case for the apartment dweller, but not for single family homes on large lots. These data have been shared with those in the City of Tempe water treatment area.

There are probably other issues that can be brought to the City's attention. One hopes that these items will be considered before action is taken to raise rates.

I will be happy to respond to questions or provide additional information.

Gary S. Krahenbuhl

[REDACTED]

Home Telephone: [REDACTED]

[REDACTED]

Gary Krahenbuhl sent the following email to Laura Kajfez (Neighborhood Services) on September 16, 2020 at 2:37 p.m. as a follow up to the email he sent on September 15, 2020:

Laura,

This note is sent as a followup to my two-page note from yesterday. As I thought about this further, I thought there would be value in ensuring that my main point not be lost in the detail of what I submitted.

The point was this:

The Water Rate Study and Recommendation—at least as written up—seems disconnected from the broader context of city planning.

As a city existing in the desert the conservation of water makes sense. **The questions left unaddressed and unanswered relate to what this means for other city goals, for the aesthetic appearance of our neighborhoods**, and for how raising rates influences the financial ability of homeowners to keep their property looking attractive. My point is this: if the City of Tempe values the appearance of its neighborhoods, then the Council must assess how another rate increase will interfere with this goal. Based on my observations of yards in my neighborhood and my discussion with my neighbors, I believe we have already crossed a tipping point. If people have to choose between paying more for water and letting their yards deteriorate, many are choosing the latter option. Trees and bushes are dying and lawns are turning brown. It is sad to behold.

I read the Tempe City Council Strategic Priorities that is on the City's website. I found only two cryptic entries having to do with the visual appearance of the neighborhoods. Those were:

- Achieve a citywide 25% tree and shade canopy by 2040.

Baseline: 13% Target: 25%

- Achieve the Council adopted water conservation goal of less than or equal to 110 gallons of residential water use per capita per day (GPCD).

Baseline: 111 GPCD Target: 110 GPCD by 2020

I was surprised that the Council Priorities seem to be largely silent on the physical appearance of neighborhoods. Any discussion of rates should necessarily consider the cost to provide water service, but there are important consequences that will derive from increasing rates. As a former administrator in a large and complex organization, It seems to me that a healthy exercise for the Council would be to take a comprehensive, comparative and collective look at the City's resources and commitments. Such an approach—as opposed to blindly making each service self-sufficient—would give the City far greater flexibility in expressing its priorities and reaching its goals. If such an approach is taken one can use the budget as a document that empowers the organization rather than constraining it.

Again, I would be happy to discuss this with members of the Council, the Mayor, and those in the administrative and management structure that serve the community in this important area.

Gary



Gary Krahenbuhl sent the following email to Laura Kajfez (Neighborhood Services) on September 14, 2020 at 4:30 p.m. as a follow up to his previous two emails:

Laura,

Sorry to keep bothering you; I hope this is my last note to you.

A neighbor of mine (Bob Kawa) who has been very active in City issues asked me to compare just the water usage and charges from 2003 and 2020. In my earlier note I gave the overall utility bill, which included service charges, taxes, water treatment, garbage disposal, etc.

Here are the figures.

For my home—similar summer periods.

July 2003 (the year I retired)

Water use

108,400 gallons

Water charge

\$114.58

2020 (late July and early August)

Water use

73,000 gallons

Water charge

\$299.27 (and this would be higher except there is no Level 5 charge as I am on the Water Smart Program)

Change

Water use was reduced by 35,400 gallons

Water use was reduced by 33%

Water charge increased by \$184.69 from \$114.58 to \$299.27

Water charge is 262% higher than in 2003

Summary: the reward for decreasing use of water by 1/3 was to have the charge increase 2.6 times of what I paid in 2003.

Gary

Steve White (Municipal Utilities) sent the following email to Gary Krahenbuhl on September 25, 2020, 1:45 p.m. in response to the questions in the three emails to Laura Kajfez (Neighborhood Services):

Dear, Mr. Krahenbuhl,

Thank you, again, for your participation and engagement in the 2020 Water and Wastewater Rate Study. It was nice to talk to you and answer your questions at the rate study recommendations public meeting. I appreciate the thoughtful questions you asked. Laura Kajfez, Neighborhood Services Specialist, has also provided me with questions you submitted via comment card, through the rate study website. Below are responses in **bold text** to each question within the three comment cards you submitted.

1. It seems that the report lacks consideration of the broader context in which it occurs. For example, is every City service self-sufficient? In the City of Tempe budget are collections in excess of costs in some service areas used to support other services where collections fall short of costs? Water usage and treatment services are part of a much larger financial operation. In most large organizations there are areas of greater and lesser priority. An "all funds" approach provides budgetary flexibility and creates opportunities to be express priorities. This study took the point of view that water services should be self-sufficient. It would be nice for customers to know if this reflects a foundational approach that applies to all city services.

The costs for providing water and wastewater services are accounted for in a standalone, business-like enterprise fund and are funded through the rates, fees and charges paid by customers for services rendered. Solid Waste and Golf are the only other enterprise funds in the City of Tempe where rates, fees and charges cover the cost of the service. The remaining services provided by the City are accounted for in the General Fund, which is funded by taxes. While there are some services in the General Fund that do charge fees for services rendered, such as recreation, those fees do not cover the full cost to provide the service. It is a best practice and industry standard for municipal governments that provide water and wastewater services to do so using a standalone, business-like enterprise fund. This structure ensures long term financial sustainability of the utility.

2. The study appears to ignore any consideration of city aesthetics. Was this an oversight or does this mean that the City of Tempe Mayor and City Council Members are not concerned

with the ability of homeowners to keep their plants living and their properties well maintained? As the water rates have risen over the years, neighborhoods that once were shaded and green have turned barren and brown. The city once enjoyed a rich mix of landscaping types, some desert and some green and lush. It offered variety and beauty. Drive around the city today. The current water rates make it cost prohibitive for those on half or full acre lots (who lack access to irrigation water) to keep their plants alive and their lawns green. There is an aesthetic cost to raising rates.

There are several components to a comprehensive water and wastewater rate study and ultimately the most appropriate rates, fees and charges are developed to align with the organization's strategic and operational goals relative to the provision of water and wastewater services and the financial stability of the water and wastewater utility.

The water and wastewater rate study focuses on the cost of providing water and wastewater services to the community. Following a cost-based approach ensures that rates and fees associated with providing these services are aligned with system cost drivers and are proportional to customer use of the system.

Arizona Revised Statutes 4-511.01 section D and E (shown below) requires a reasonable justification of the rate, rate component or fee for a service.

- D. Any proposed water or wastewater rate or rate component, fee or service charge adjustment or increase shall be just and reasonable.**
- E. Rates and charges demanded or received by municipalities for water and wastewater service shall be just and reasonable. Every unjust or unreasonable rate or charge demanded or received by a municipality is prohibited and unlawful.**

To ensure we meet the State standard, the City retains a third party financial consultant to conduct cost of service water and wastewater rate studies that are guided by the principles of the American Water Works Association (AWWA) M1 Manual, which is the national standard for the development of just and reasonable rates.

Only the cost of providing water and wastewater services was considered as part of the study.

3. There is no explanation for why flood irrigation is being billed at less than 50% of its cost. It would seem that the vast majority of customers are being billed at higher than required rates so a small number of homeowners with large monthly water consumption pay less than their fair share. Two homeowners a block apart and both on one half-acre lots have vastly different charges. One pays \$607 per year for irrigation water and the other pays many times that amount. Any move to change rates should clearly explain why this disparity exists and is perpetuated.

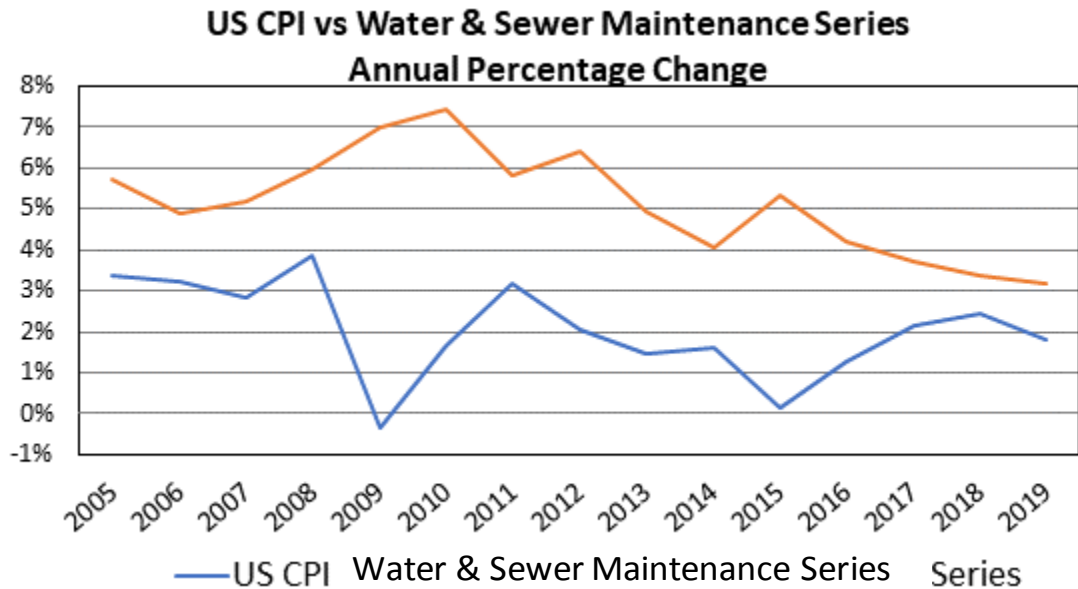
Flood Irrigation is not part of the potable water system or the wastewater system. Flood irrigation water is untreated (raw) water, distributed via a separate distribution system that has been a part of City Services for almost 100 years. The cost recovery percentage for flood irrigation services is based on City Council policy.

4. The proposed changes in water rates pays no attention to the real life circumstances of long-time Tempe residents. The writer of this note has been retired and on a fixed income since 2003. He lives on a half-acre lot in south Tempe. In July of 2003 (the year he retired) he used 108,400 gallons of water and his utility bill was \$214.41. His plants, trees and lawn were green and healthy. His yard was enjoyed by his family and his neighbors as a cool and shady respite from the summer heat and pleasant to the eye. As rates went up he worked to conserve water. He joined the Water Smart program. He took out ground cover in his side yard and replaced it with gravel. He installed Toro "Precision" sprinkler heads (on his own initiative and at his own expense), which provide a more even distribution of water and are more efficient. He replaced water-loving trees with ones that use less water. His most recent utility bill showed water use of 73,000 gallons and a utility bill of \$422.75. He has lost a number of plants due to a lack of hydration and this lawn has numerous brown spots. To summarize, this homeowner, who has been on a fixed income since 2003, now pays almost twice as much per month for 32% less water. It is a struggle to keep the property looking decent during the summer months. Please understand, each increase in water rates will exacerbate these two problems: (1) taking a greater portion of retirees fixed incomes and (2) more and more plants and lawns will turn brown and be lost.

The cost of providing water and wastewater services has increased over time for Tempe and throughout the water industry. Tempe's practice is to conduct periodic cost of service or rate studies to ensure its utility rates, fees and charges recover the cost of providing services, reflect a proportional allocation of costs and conform to industry best practices. Proportional cost allocation means that customer charges and rates are based on the cost to satisfy the respective customer's water demand characteristics. Customer demand characteristics include average day demand, maximum day demand and peak hour demand. Customers with higher average day, maximum day and peak hour demands are assigned higher charges. Customers with lower average day, maximum day and peak hour demands are assigned lower charges. This is the "Cost-based" approach to proportional utility cost allocation, which is highly defensible, just and reasonable.

Water and wastewater rate studies include a Rate Design component where rates, fees and charges are developed to be most appropriate to satisfy the organization's strategic and operational goals. Rate design also includes an analysis of the impact of proposed rate adjustments or rate structure changes on utility customers. This analysis includes seeking of feedback from City Leadership, City Council and the community and making adjustments where appropriate. While the cost of providing water and wastewater services are increasing annually at higher rates than the general consumer price index (CPI), as seen in the graph below, Tempe's utility rates remain among the lowest in the region and nation. Even with the revenue increase being recommended by this year's rate

study, Tempe customers' average monthly water bill will remain either below or at the average, when compared to many other Phoenix metropolitan area cities.



- For homeowners with large landscaping water usage, the City’s wastewater assumptions badly inflate the amount of wastewater that must be treated. At his own expense, this homeowner installed additional water meters (downstream from the city meter) so he could see how much water was being used for landscaping, in the swimming pool, and within the house (and therefore introduced to the sewer system). Measurements over many years show that the relationship of outdoor water use and indoor water use (eventual wastewater in need of treatment) are actually inversely related. That is, as summer water use goes up, indoor water use remains constant or diminishes. Yet the City formula assumes a positive relationship, which is almost certainly the case for the apartment dweller, but not for single family homes on large lots. These data have been shared with those in the City of Tempe water treatment area.

Wastewater volumes are not directly measurable for most single family residential homes without the addition of significant infrastructure and cost. The City’s billing practices for wastewater volumes include three customer-centric assumptions to best estimate the wastewater contribution from the average household. Tempe uses a winter average, calculated based on monthly metered water volume during the months of December, January and February, and calculates 70 percent of that average volume (assumes 30 percent outdoor usage in winter) to determine a volume for monthly wastewater return flow to the wastewater collection system. The maximum calculated winter average wastewater return flow is capped at 12,000 gallons, resulting in customers with greater outdoor irrigation needs in the winter not being penalized for their outdoor winter water use through wastewater volume rates. The winter average, calculated wastewater return flow volume is billed monthly for

wastewater charges from May to April. This practice and calculation prevent higher wastewater charges resulting from seasonal increases in potable water use. Tempe has the most customer-centric Single Family Residential Customer wastewater billing rate structure in the Phoenix metropolitan area.

Laura,

This note is sent as a followup to my two-page note from yesterday. As I thought about this further, I thought there would be value in ensuring that my main point not be lost in the detail of what I submitted.

The point was this:

The Water Rate Study and Recommendation—at least as written up—seems disconnected from the broader context of city planning.

As a city existing in the desert the conservation of water makes sense. **The questions left unaddressed and unanswered relate to what this means for other city goals, for the aesthetic appearance of our neighborhoods**, and for how raising rates influences the financial ability of homeowners to keep their property looking attractive. My point is this: if the City of Tempe values the appearance of its neighborhoods, then the Council must assess how another rate increase will interfere with this goal. Based on my observations of yards in my neighborhood and my discussion with my neighbors, I believe we have already crossed a tipping point. If people have to choose between paying more for water and letting their yards deteriorate, many are choosing the latter option. Trees and bushes are dying and lawns are turning brown. It is sad to behold.

I read the Tempe City Council Strategic Priorities that is on the City's website. I found only two cryptic entries having to do with the visual appearance of the neighborhoods.

Those were:

- Achieve a citywide 25% tree and shade canopy by 2040.

Baseline: 13% Target: 25%

- Achieve the Council adopted water conservation goal of less than or equal to 110 gallons of residential water use per capita per day (GPCD).

Baseline: 111 GPCD Target: 110 GPCD by 2020

I was surprised that the Council Priorities seem to be largely silent on the physical appearance of neighborhoods. Any discussion of rates should necessarily consider the cost to provide water service, but there are important consequences that will derive from increasing rates. As a former administrator in a large and complex organization, It seems to me that a healthy exercise for the Council would be to take a comprehensive, comparative and collective look at the City's resources and commitments. Such an approach—as opposed to blindly making each service self-sufficient—would give the City far greater flexibility in expressing its priorities and reaching its goals. If such an approach is taken one can use the budget as a document that empowers the organization rather than constraining it.

Again, I would be happy to discuss this with members of the Council, the Mayor, and those in the administrative and management structure that serve the community in this important area.

Gary

As you stated in your comment card “any discussion of rates should necessarily consider the cost to provide water service”. Our objective will continue to be execution of a comprehensive cost of service or rate study, conducted in accordance with principles and methodologies established by the American Water Works Association, which is water industry standard in the United States, with a cost-based allocation methodology and development of rates and charges that are Just and Reasonable, per State law, and legally defensible. The consideration of aesthetic factors that you’ve pointed out falls outside the scope of industry accepted principles and methodologies for setting water and wastewater rates. If policy decisions were made to set rates on that basis, the City may be open to legal challenge.

Laura,

Sorry to keep bothering you; I hope this is my last note to you.

A neighbor of mine (Bob Kawa) who has been very active in City issues asked me to compare just the water usage and charges from 2003 and 2020. In my earlier note I gave the overall utility bill, which included service charges, taxes, water treatment, garbage disposal, etc.

Here are the figures.

For my home—similar summer periods.

July 2003 (the year I retired)

Water use 108,400 gallons

Water charge \$114.58

2020 (late July and early August)

Water use 73,000 gallons

Water charge \$299.27 (and this would be higher except there is no Level 5 charge as I am on the Water Smart Program)

Change

Water use was reduced by 35,400 gallons

Water use was reduced by 33%

Water charge increased by \$184.69 from \$114.58 to \$299.27

Water charge is 262% higher than in 2003

Summary: the reward for decreasing use of water by 1/3 was to have the charge increase 2.6 times of what I paid in 2003.

Gary

The City certainly appreciates and agrees that the cost of providing water and wastewater services continues to rise at a much faster pace than the consumer price index for the normal annual inflation of goods and services. Unfortunately, that trend is estimated to continue as utilities around the nation are responding to added regulatory requirements and aging infrastructure that requires rehabilitation or replacement. Your efforts to work with our Water Conservation staff to be more efficient with your water use is appreciated. It's important to note, the 35,400-gallon reduction you pointed out in your monthly summertime water use did save you \$178.50 on your water bill.

Thank you, again, for your questions and your engagement in our 2020 Water and Wastewater Rate Study process. Rest assured, your input, concerns and customer-specific circumstances will be shared with Mayor and Council so they may consider your input as part of their consideration of proposed water revenue increases.

Please feel free to contact me with any additional questions.

Stephen White, Municipal Utilities Business Manager



Stephen White

City of Tempe, Municipal Utilities Department

Municipal Utilities Business Manager

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stephen.white@tempe.gov

Gary Krahenbuh sent the following email response to Steve White on September 27, 2020 at 5:44 p.m.:

Steve,

Thank you for the thoughtful and thorough response to my questions. This information helps me understand the many issues and constraints that you deal with. I was hoping there might be some way to give relief to homeowners living on large lots that committed to lawns and lush shrubbery long ago when rates were considerably lower. It seems that such an outcome is

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unlikely. As you know, I suspect the long-term outcome of these conditions, which are probably unavoidable, is the loss of lawn areas from some of Tempe's larger residential properties.

I have studied and collected data on my own watering habits and needs, so if you need a resource that is better informed than most, please feel free to contact me.

Gary

September 28, 2020 – Nancy Schmehl

Nancy Schmehl sent the following email to Council Communicator on September 28, 2020 at 8:37 p.m.:

All,

I've just recently found the latest water rate study information and the noticed that the due date for public comment (the "survey") is listed differently in two locations. Which one is correct?

On this webpage:

<https://www.tempe.gov/government/municipal-utilities/utility-rate-information/2020-utility-rate-study>,

in the right hand column, there is a link to the survey for feedback and it says the comment period closes on October 2.

When you go to the survey page which takes a couple more clicks

https://www.tempe.gov/government/communication-and-media-relations/tempe-forum#peak_democracy,

that page says the deadline is October 14.

Which one is the correct deadline? Most people are still unaware of the study even being out. I only heard about the last public meeting last week (but after it has already been held).

Thank you,
Nancy Schmehl

Alex Chin (Council Aide) sent the following email response to Nancy Schmehl on September 29, 2020 at 9:56 a.m.:

Hello Nancy,

Thank you for contacting the Mayor and Council regarding the Water Rate Study feedback. Please be assured the Mayor and Council are copied on this reply.

The deadline is Oct 14 @ 11:59 pm on the Tempe forum. The date on the right column has been updated to reflect Oct 14.

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The second public meeting on Sept 22 was recorded and is viewable online for your convenience. Here is the YouTube link: <https://youtu.be/n1T-uacugAg> if you need it.

Please let me know if I can be of further assistance.

Alex Chin

Council Aide

City of Tempe

Phone: (480)350-8545

Email: alex_chin@tempe.gov

September 30, 2020 – Jordan Lavezzari

Jordan Lavezzari sent the following email to Terry Piekarz (Municipal Utilities) on September 30, 2020, at 2:27 p.m.:

Hello Mr. Piekarz,

My name is Jordan Lavezzari and I am a journalism student at ASU's Walter Cronkite school and I have been following the water/wastewater updates at the Tempe city council meetings.

I am writing a feature story on this rate study for one of my classes and I was hoping to ask you a few questions to incorporate into my story.

I was also interested in seeking out a comment on this revenue increase from members of your committee. Is there a way for me to get in contact with them or do they remain anonymous?

Are you available tomorrow morning/early afternoon for a Zoom meeting or phone call?

Thank you for your time and consideration!

You can reach me at jlavezza@asu.edu or 

Terry Piekarz (Municipal Utilities) sent the following response on September 30, 2020, at 4:03 p.m.:

Hi, Jordan,

I'm available to meet tomorrow at 11:00 a.m. or 11:30 a.m., if that works for you? I'd like to also include our Public Information Officer, Shannon Reed. Via Zoom or Teams is fine for us. If you could please send us an invitation, that would be great. Regarding our community stakeholder group, our Neighborhood Services Specialist is going to reach out to the group, individually, to see if they would be interested in providing comment. If they are, we'll put them in contact with you. Finally, if you'd like, feel free to send me your questions and I will make sure we have answers to all of them tomorrow.

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Thanks,

Terry



Terrance Piekarz, Director
City of Tempe, Municipal Utilities
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Tempe, AZ 85281
Cell - (602) 722-0571

Jordan Lavezzari sent the following response to Terry Piekarz (Municipal Utilities) on September 30, 2020, at 4:27 p.m.:

Thank you very much, Mr. Piekarz!

I look forward to chatting with you and Ms. Reed.

11am works for me. Here is the zoom information and link for tomorrow.

Topic: Water/Wastewater rate study Zoom Meeting

Time: Oct 1, 2020 11:00 AM Arizona

Join from PC, Mac, Linux, iOS or Android: <https://asu.zoom.us/j/88680301606>

Or Telephone:

Dial (for higher quality, dial a number based on your current location):

US: +1 602 753 0140 or +1 971 247 1195 or +1 213 338 8477 or +1 253 215 8782 or +1 346 248 7799 or +1 669 219 2599 or +1 669 900 6833 or +1 720 928 9299 or +1 786 635 1003 or +1 267 831 0333 or +1 301 715 8592 or +1 312 626 6799 or +1 470 250 9358 or +1 470 381 2552 or +1 646 518 9805 or +1 646 876 9923 or +1 651 372 8299

Meeting ID: 886 8030 1606

International numbers available: <https://asu.zoom.us/j/88680301606>

Or iPhone one-tap (US Toll): +16027530140,,88680301606# or +19712471195,,88680301606#

I sincerely hope to hear from the group.

I have a few questions mapped out so far. If I come up with any others, I'll be sure to send them your way.

So far they are as follows:

What have Tempe residents said in response to the proposition of a 5.5 percent revenue increase for the next ten years?

On September 22nd, you mentioned that "this year is unique." Clearly COVID-19 has impacted people's physical and economic wellbeing. Can you explain how an increase

of water and wastewater costs will be beneficial in the long run? What about the short term effects? Would these costs pose as a detriment for Tempe residents?

-Jordan Lavezzari

On October 1, 2020, Shannon Reed (Communications and Media Relations), Terry Piekarz (Municipal Utilities) and Tara Ford (Municipal Utilities) interviewed with Jordan Lavezzari. The feature story is expected to be published in the November 2020 Edition of [The Wrangler](#).

Below is a copy of the story.

When the city of Tempe planned to increase the rates for water and waste water services by 5.5%, they never anticipated having to do so during a global pandemic.

The municipal utilities department has been conducting a rate study showing that an increase in funds for the next ten years is necessary for the sake of the city.

The director of municipal utilities, Terry Piekarz, shared that the revenue garnered from the 5.5% rate increase will be stored in a reserve fund.

The fund serves to purchase equipment, manpower and other tools necessary for both foreseen projects and “unforeseen circumstances.”

Things such as damaged pipelines or servicing local wells are all financed by this reserve fund.

The revenue increase seems simple: accumulate money in case of emergencies. However, one thing that the utilities directors have had to sincerely consider is the state of economic crisis that the United States is currently facing as COVID-19 continues to spread.

According to the Maricopa Association of Governments, the largest percentage of unemployment have been in and around Tempe due to pandemic closures and cutbacks.

According to a map from the Arizona Department of Economic Security, there have been over 3,000 unemployment claims in Tempe.

It is a very tough time for the city of Tempe to be asking for higher utility rates from their residents.

Piekarz admits that this increase “may be hard for those already struggling” during this time, but assures that if this rate increase is postponed, the reserve fund would be depleted in case of emergencies.

“The city has a policy at what level the reserve fund is maintained, so the impact of potentially postponing the rate increase would result in having to make up the difference between what you’re not collecting from your revenue by using what’s in the reserve fund balance.”

In an effort to ensure that the city was getting proper input from their residents before bringing this rate study to the Tempe city council, the municipal utilities directors have expanded their outreach.

The city’s public information officer Shannon Reed said that their online outreach began to take off in 2017 but they’ve taken another step to finding representation from their residents.

“For this rate study, we added the stakeholder group to get more feedback.” We want the most people to be exposed to what we’re doing so we can get as many comments as possible.”

Reed remained positive that the pandemic “created new opportunities to spread the word” through online meetings.

“As technology has improved with the fact that people are working from home, we have different opportunities than we’ve had before. For example, Zoom meetings, or Webex meetings are used so people can just watch from the comfort of their home.”

Since almost all residents are working from home, there are plenty of ways for community members to provide their opinions through online surveys or join virtual meetings.

Deputy director of municipal utilities Tara Ford has explained that their outreach has changed for the better with COVID-19 regulations modifying how they can get public opinion during rate studies.

“The outreach that we’re doing now is extensive and it covers all of the customer classes.”

The city has a site for the ‘2020 Water and Wastewater Rate Study’ that provides viewers with past reports and webinars that are pertinent to the rate increase as well as linking a survey that will compile all feedback for the directors before October 14th.

“We have provided several online avenues for residents to provide comment and question. We look at every single comment and question and we respond to them very thoroughly, and for that, our residents are happy with the feedback we give them,” Ford said.

“Our mayor and council prioritizes outreach and input from the community,” said Piekarz.

“We want to make sure that the community and elected officials that will be impacted or are reviewing this rate study can have a high level of confidence that we are doing everything that we can to be subjective, especially during this time.”

The council will vote on December 3rd to either delay or implement the rate increase.

If the recommendation is adopted as scheduled, the rate changes would go into effect January 4, 2021.

October 6, 2020 – Gary Krahenbuhl

Gary Krahenbuhl sent the following email to Tina Sleeper (Municipal Utilities) and Steve White (Municipal Utilities) on October 6, 2020 at 12:19 p.m.:

Tina and Steve,

This note follows up on a virtual meeting between Tina Sleeper and me earlier this morning. I said I would provide additional feedback based on that conversation.

1. Flood Irrigation. I assume that the practice of providing flood irrigation at far less than cost to some subdivisions dates to a time when much of Tempe was agricultural and farmers raising cotton or citrus needed inexpensive water for profitability. Virtually all of that farmland is now gone and crop production can no longer be the reason that flood irrigation is provided at 50% of

its cost. A point of flexibility in managing water rates might be to bill flood irrigation at something closer to its cost. This would provide modest relief in rates for other areas of water services.

2. To assume that water use in single family homes during December, January and February is 70% of total water use is a fallacy. For those who have over-seeded large lots the actual figure is closer to 30%. Capping the water treatment charge at 12,000 gallons helps, but the subsequent charge continues to penalize those with large winter lawns. Although cumbersome, the discontinued practice of making a case-by-case adjustment for those with winter lawns would be fairer than using a flat formula for all single family properties.

3. In response to my inquiry about considering the beauty and landscape variety of the City of Tempe and the observation that the Water Rate Study makes no mention of aesthetics, the response was: **“The consideration of aesthetic factors...falls outside the scope of industry accepted principles and methodologies for setting water and wastewater rates.”** Does that make it right or is this a convenient response? To take the extreme example, what would it mean if water rates reached a point where homeowners let their trees die and their lawns turn to weeds? Would city leaders care? Part of what makes the Phoenix metropolitan area attractive is the variety in landscaping and the presence of trees and shaded lawns. (The evaporation and shade from the plants also almost certainly results in a cooler microclimate than one would find over unshaded pavement and dirt.). I would hope our leaders considered how the city looks as imperative to the quality of life in the City, even if such considerations *fall outside the scope of industry accepted principles and methodologies for setting water rates.*

4. In a typical yard with automatic sprinklers that have been properly installed, water is fairly evenly distributed across the lawn areas. Inevitably, however, a number of variables will cause the need for water to be uneven. Areas taking direct heat of the day sun will require more water than areas taking only morning or evening sun. Sloped areas with runoff will need more water. Sloped areas facing north or east will require less water than those facing west or south. In such instances, to get enough water to the “hot spots” means overwatering everywhere else. There is a new product on the market that improves water retention in hot spots, thereby reducing the need to overwater everywhere else. It is called **AquaSmart Pro** (see attached images). It improves water retention and reduces overall water needs when applied in hot spot areas. It may be widely available, but I know they have it in stock at Ewing Irrigation stores in the Valley.

I hope these observations are helpful.

Gary



Steve White (Municipal Utilities) sent the following response on Wednesday, October 14, 2020, at 2:39 p.m.:

Mr. Krahenbuhl,

Thank you for your continued participation and engagement in the 2020 Water and Wastewater Rate Study. Your feedback from your email below will be shared with Mayor and Council as they consider adoption of recommended water revenue increases at the December 3, 2020, City Council meeting. I've also shared your concern regarding the discontinuance of sewer fee adjustments for single family residents with Tom Duensing, Internal Services Deputy Director of Finance. Mr. Duensing oversees the operations of Tempe's Customer Services Division which previously processed the sewer fee adjustment applications prior to the adoption of the 12,000 gallon sewer cap in January 2018.

Lastly, I appreciate your lawn care advice as I struggle with "hot spots" in my back yard as well. Any new products on the market that reduce water use and keep my turf green is great information to have. Please let me know if you have questions or additional feedback.

Thanks,
steve



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Municipal Utilities Business Manager
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October 11, 2020 – Erin O'Grady

Erin O'Grady sent the following email to Councilmember Lauren Kuby on October 11, 2020, at 2:51 p.m.:

Dear Lauren,

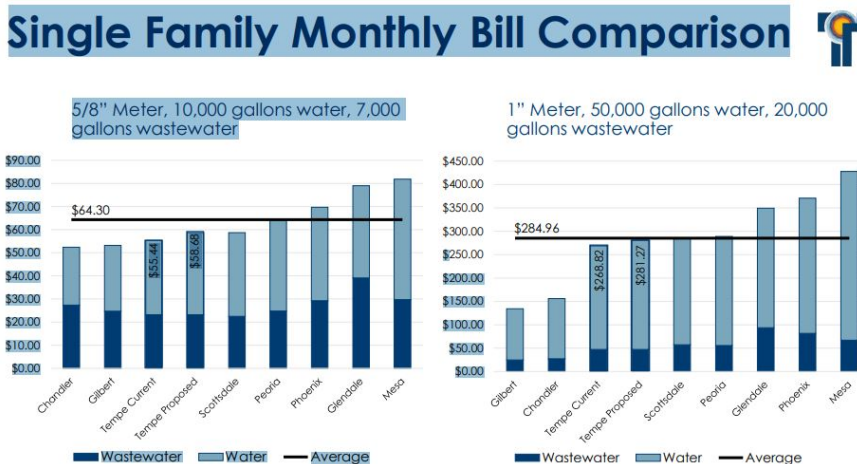
I recently became aware of the Water Rate study that was conducted for the City of Tempe for the next ten years of water planning. If the city needs to raise rates by 5.5% every year for ten years, the current Tiered Water Rate Structure needs to change as it puts too much of a burden on those with larger green areas on their property. I read on the City of Tempe Website that this

“Tiered Structure” was set up by the City Council to send a “stronger message of water conservation” to the community, however, I do not think that this plan was well thought out. To charge someone more per gallon simply because they want to provide a natural green space for their children, grandchildren, and/or pets to play is unfair. Large families are being punished for not purchasing plastic grass which burns children’s feet in the summer and is not sanitary for pet owners, or gravel which similarly takes play spaces away, and coats the area in pesticide repeatedly to keep weeds away making the area unsafe for children, pets, and native wildlife. Every time I listen to a water meeting over the years, feedback from the residents of Tempe has repeatedly shown that people are unhappy with this structure when they are directly affected by it.

Furthermore, this structure is also unfair because owners of larger properties are already charged more on their property taxes for their larger properties, and a portion of those fees directly benefits the City of Tempe. So with the additional tiered water structure, it is like we are being taxed twice for a larger property. Do you realize after the ten years of 5.5% increases, some residents’ water bills will increase by thousands of dollars per year due to the Tiered Structure? Should we let our yards die because we can’t afford our water? Should we be forced to ruin play spaces for our children because the City Council doesn’t value what green spaces do for the health and well-being of children and adults? Communal play spaces for children are not even readily accessible or safe right now due to COVID-19, but even so, should families have to use communal play spaces because the City government values those over private property green spaces?

Please consider removing or amending the Tiered Water structure in order to remedy these concerns, and I look forward to new positive changes to come in the future.

Thank you,
 Erin O’Grady



Councilmember Lauren Kuby sent the following email response on October 11, 2020, at 3:31 p.m.:

Erin, my sausage fingers sent this email off too early! Here is what I meant to send:

I'd be happy to speak with you in detail about the tiered water rate structure, wherein residents pay for the cost of service for each tier (If you are in Tier V, for example, you pay the cheaper rates for Tier 1-IV and then only that amount of water that is above Tier V is charged Tier V pricing.

We do have incentive programs for those in your situation. If you have a large lot and go above Tier V regularly, you can drop down to Tier IV pricing if you participate in our WaterSmart program, have a free water audit and consultation, and sign up to view your water use on our Water Smart portal)? We also rebate the full cost of a irrigation controller (valued at more than \$350). More info on the Water Efficiency Certification (WEC) Pilot Program is here: <https://www.tempe.gov/government/municipal-utilities/water/water-conservation/residential>

[Water Conservation - Residential | City of Tempe, AZ](#)

Saving water at home starts with knowing where your water goes. Up to 70% of your home water use may be currently used in your landscape, but there are ways to increase efficiency while maintaining or improving the health of your landscape plants. Inside your home, efficient or innovative plumbing could save you money and water, every time you use the restroom or wash your clothes.

www.tempe.gov

There were surprising discoveries that came out of our Water Rate study:

<https://www.tempe.gov/government/municipal-utilities/utility-rate-information/2020-utility-rate-study>

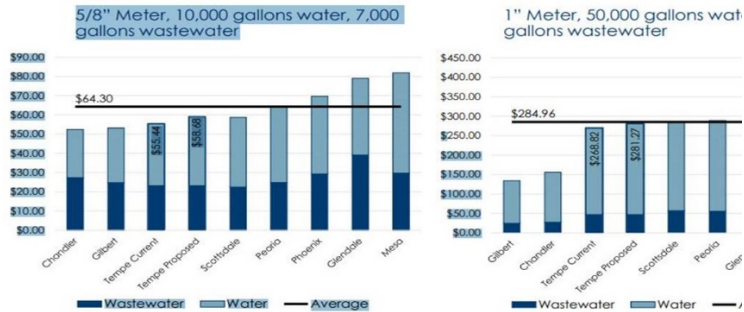
[2020 Water and Wastewater Rate Study | City of Tempe, AZ](#)

Tempe's water and wastewater infrastructure is essential to the quality of life in our community. This largely unseen network of treatment facilities, pipes and valves requires effective management, efficient operation, routine maintenance and emergency repair, rehabilitation and investment.

www.tempe.gov

Did you know, for example, that apartment dwellers actually pay disproportionately more for their water than large water users (Slide 10 of the Sept 17) presentation to Council? Or that we are in the lowest grouping of water rates among other East Valley cities? We are the third cheapest of 8 cities and after this rate increase, we will still be the third cheapest. See chart:

Single Family Monthly Bill Comparison



We cannot take from the General Fund to pay for water consumption. The costs of the water must, by law, be paid for by those who use the water and the tiered system, which almost every city in the SW uses to calculate water rates, is fair because people pay for the true costs of their water use. Different customer types use the system functions differently and, as a result, the cost to serve these customer types vary.

I'm throwing alot at you and would love to discuss over the phone, if you have the time. Like, you, I hate plastic grass and worry about the health impacts on our kids. I think there are ways we can pay for our water use that discourages waste and encourages conservation.

bBst,

Lauren Kuby
 Councilmember, City of Tempe
 Pronouns: She/Her
 480-313-8451
 Facebook: Lauren Kuby, Councilmember of Tempe, AZ
 Twitter: @LaurenKuby
 Instagram: @LaurenKuby



Erin O'Grady sent the following email response to Councilmember Lauren Kuby on October 12, 2020, at 4:48 p.m.:

Hi Lauren,

Thank you for your response to my email, and I appreciate the fast feedback that you provided to my concerns. I guess my question to you now is this: How do the Cities of Chandler and Gilbert finance their water systems so adeptly since their highest Tiers only charge \$3.27/gallon (Chandler) and \$2.06/gallon (Gilbert) respectively? This is so much cheaper than our City's \$5.10/gallon. Can our city look into doing what they are doing to provide some relief to Tempe residents?

Erin

Kristin Gwinn (Council Aide) sent the following email response on October 14, 2020, at 4:39 p.m.:

Erin,

Thank you for contacting the Tempe City Council with your questions on water rates. Please be assured that the Mayor and Council have received your email and are copied on this reply. I also forwarded your concerns to our Water staff for their consideration and the response below is from Terry Piekarz, Director of Municipal Utilities. Please let me know if there's anything else I can do for you.

Dear, Ms. O'Grady,

Thank you for your inquiry and interest in the 2020 Water and Wastewater Rate Study. In answer to your specific questions, I offer the following:

Each customer classification has unique water demand characteristics and thus places different demands and costs on the water system. In addition to the cost to satisfy the average day water demand of our customers, costs are additionally and significantly impacted by peak water demands since the water system is designed, built, operated and maintained to meet these peak water demands at all times. Water mains, booster pump stations and water storage tanks, for example, are sized to meet these specific customer water demands when they occur. This is why peak demands are a significant factor in cost of service calculations in our rate studies and why we recover costs, proportionally, from the customer classes creating these peak demands, i.e., customers with higher peaking factors are assigned higher charges, while customers with lower peaking factors are assigned lower charges. Using 2019 AMI data, the proportion of meters, base capacity and extra capacity by customer classification were determined and system cost components were proportionally allocated to each respective customer classification, in accordance with the principles and methodologies of the AWWA M1 Manual (base plus extra capacity process), which is water industry standard in the United States.

Unlike the other customer classifications, the Single Family Residential customer class includes groups of customers with similar water use and water demand characteristics. These similarities allow for more precise proportional allocation of the cost of providing water service, within the class, by establishing an inclining block rate or "tier" structure. The cost per billable unit of water is determined utilizing this modern rate setting approach and ensures that the price of water, by tier, reflects the underlying cost of providing the service to those customers receiving water in each respective tier. Higher tiers have greater allocations of maximum day and peak hour costs due to their relatively larger contributions to the Single Family Residential customer class peak demands, based on observed demand characteristics and patterns from 2017-2019. The result of the proportional cost allocation is the inclining block rate or "tiered" rate structure. This structure provides cost-based, proportional allocation of costs to customers, based on the cost to provide service to that customer.

Regarding water rates and charges in Chandler and Gilbert, both Chandler and Gilbert experienced tremendous growth over the last 20 years. As such, a large portion of each city's underground and above ground utility infrastructure (assets) are "new" and were paid for with system development fees; i.e., newer cities finance (bond fund) new infrastructure of pipelines, water and wastewater treatment plants, pumping stations, etc., and use the revenue from system development fees to re-pay debt. This means that monthly charges for water and wastewater services are paying, primarily, for only operating expenses and not for debt service on capital improvement program infrastructure investments. In Contrast, Tempe, including its water and wastewater infrastructure, has been mostly "built out" for many years. As water and wastewater infrastructure ages, older cities must rehabilitate or replace these assets to ensure water system reliability. These capital improvement projects are not for new infrastructure and, as such, Tempe

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Public Involvement to Date
October 26, 2020

must repay associated finance charges (bond debt) from the monthly service charges each customer pays. As Chandler and Gilbert's water and wastewater infrastructure ages, their monthly service charges will almost certainly increase as they address the capital costs related to rehabilitation and replacement of aging infrastructure.

Thank you, again, for your questions and your engagement in our 2020 Water and Wastewater Rate Study process. Your questions and input provide valuable insights and help us make better, more informed decisions. Please feel free to contact Stephen White, Municipal Utilities Business Manager, or me, with any additional questions.

Regards,

Terry

Erin O'Grady sent the following email response on October 15, 2020 at 7:07 p.m.:

Thank you for your time, the detailed information thus far on the water system, and for sharing what the associated costs are to partake in this system. I just see one problem with all this. I was told if I join the Water Smart Program, and have "Government Big Brother" audit my house and have me jump through a bunch of hoops to prove I am not incompetent in my water management, then suddenly I will qualify for Tier 4 Water Rates for a year, even if my water usage stays exactly the same. Is my understanding of this correct? If so, this doesn't really seem to only be about the cost of my water usage on the system. It seems unfair and not very intelligent to treat large property owners like they don't know how to manage their own water usage simply because they live on a large lot. After all, large property owners were responsible enough to purchase and maintain the large property along with pay all the associated bills of that large property, but you all really think we need a city auditor to tell us how to manage our water? Wouldn't it be more equitable to charge residents higher rates when their water usage is disproportionate to their property size, rather than suggest audits need to occur when a larger lot size uses more water? It is obvious that larger lots will use more water.

Also, after being part of the Water Smart Program for one year, what are residents supposed to do? As it stands now, large lot owners either have to be charged at an unfair rate even if their water conservation efforts are better than residents on smaller lots, or they have to make the choice to get rid of beneficial green spaces because they can no longer afford the water. Our city generates a lot of revenue in multiple ways by maintaining the beauty of large property neighborhoods in Tempe. Is a bunch of plastic lawns with leaves stuck all over them and birds ingesting the plastic really what the city wants? Do we want our city to look like Sun Lakes in our landscaping with brown gravel everywhere being coated with pesticide all the time? I see these things happening in my neighborhood as people try to combat the ever increasing water prices. I find it hard to believe that there is no solution to help bring water relief to large property owners other than convincing them to get rid of their grass. Please help us preserve our green spaces for the health of our children, pets, and native wildlife.

Erin O'Grady

Kristin Gwinn (Council Aide) sent the following response on October 21, 2020, at 3:48 p.m.:

Erin,

Thank you for your follow up questions. The response below comes from Terry Piekarz, Municipal Utilities Director.

Thank you for sharing your questions, comments and observations regarding the Water Efficiency Certification (WEC) Pilot Program and concerns over the cost of water for large lot owners. Your feedback is appreciated and will be included in the public input summary submitted to Mayor and Council for the 2020 Water and Wastewater Rate Study. Your feedback will also be included when results of the WEC Pilot Program are presented at a Council Issue Review Session meeting in the Spring of 2021. At that time, it will be determined if we will be modifying, continuing or discontinuing the WEC Pilot Program.

In 2019, City Council requested staff investigate the impacts of Tempe's water rate structure on large-volume residential customers. While it would have been easy to say Tempe's rate structure does not impact large-volume customers any more than many other cities' water rates impact their customers, staff looked more closely at how Tempe's rate structure aligns with the City Council's priorities and established performance measures. The City Council has approved two performance measures related to water efficiency, which are to increase the City's tree canopy and to reduce per-capita water consumption.

While these two performance measures might seem a bit conflicting, the City has been able to advance both measures over the past few years. We continue looking for ways to improve water-use efficiency and decrease total per-capita water consumption in Tempe, while contributing to an increased tree canopy. In striving to achieve these two worthy goals, the City works to partner with its residents, not penalize them, to achieve efficient water use, which contributes to the achievement of our shared goals.

Based on this approach, staff developed recommended changes to current policies and practices. The recommendations were:

- 1. Maintain the current cost-based, proportional cost allocation rate structure, which is based on established industry practices and consistent with surrounding communities' rate structures.*
- 2. Consider a policy change (WEC) that would enable large-volume residential customers to avoid being billed at Tier 5 ("discretionary use") rates by demonstrating water-efficiency efforts that contribute to the City Council's priorities.*
- 3. Enhance outreach efforts to large-volume residential customers to offer opportunities to implement water efficiency improvements and, thereby, reduce their water consumption*

We believe this approach has helped develop partnerships with our water customers and resulted in greater water efficiency, and water conservation, and has reduced water bills for all residents, including large-volume residential customers. Water Utilities staff has significantly increased their consultation efforts to educate customers on water-efficiency strategies. Staff believes the required improvements are realistic and not overly-burdensome to customers, yet provide real opportunities to improve water efficiency and potentially conserve water. Examples of actions customers can take include registration on the WaterSmart Customer Portal and commitment to implementation of one or more efficiency measures specifically recommended by water conservation staff.

The objective of the WEC Pilot Program is to assist customers in using water more efficiently on their irrigable landscaping, thereby potentially lowering their water use and water bill. Offering the Tier 4 rate for a 12-month time period is used as an incentive for customers to join the WEC pilot program. For example, if Customer A typically used 70,000 gallons of water in the summertime, and now can maintain the same landscaping using 50,000 gallons of water in the summertime after going through the WEC pilot program, that is a savings to the customer of over \$100 per

summer month. If Customer A did not make any water efficiency adjustments or was already using water efficiently and continued using 70,000 gallons of water per month in the summertime, they would see a savings of \$14.90 per month, since they would be billed at the Tier 4 rate for Tier 5 usage. Hopefully, each customer participating in the program is able to implement measures to use water more efficiently, while maintaining their current landscaping. Our objective is to advance the City's water use per capita goals, preserve and improve the City's tree canopy goals and help customers use water more efficiently and save money in the process.

The recommended rates for each Single Family tier are allocated proportionally, based on the demand characteristics (peaking factors) for water use in each tier, as observed in Tempe's advanced metering infrastructure data. This cost-based, proportional cost allocation rate structure is based on established industry practices and consistent with surrounding communities' rate structures.

Thank you, again, for your questions and your engagement in our 2020 Water and Wastewater Rate Study process. Your questions and input provide valuable insights and assist us in making informed decisions. Please feel free to contact Stephen White, Municipal Utilities Business Manager, or me, with any additional questions.

Regards,

Terry

Kristin Gwinn

Council Aide

Pronouns: She/Her/Hers

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Appendix A: Sustainability Commission, Water Subcommittee Recommendation to Mayor and Council – February 12, 2018

Following the 2020 Water and Wastewater Rate Study presentation to the Sustainability Commission, Braden Kay (Office of Sustainability) provided Municipal Utilities with a copy of the Water Subcommittee's recommendation for reference. This effort coincided with the previous rate study process in 2017 and the revenue adjustments in 2018.

The recommendation is included in the follow four pages.

Memorandum

Date: February 12, 2018
Subject: Water Subcommittee Recommendation
From: Sustainability Commission,
City of Tempe
To: Mayor and Council,
City of Tempe

The Water Subcommittee of the Sustainability Commission (hereafter referred to as “the Subcommittee”) was formed on April 17th, 2017 for the purpose of advising City Council on policy decisions that impact the social and environmental nexus of water in Tempe. Serving in this capacity, we have outlined a roadmap and strategic vision as tools that we believe encompass Tempe’s unique and diverse community while advancing a proactive water conservation agenda that resilience in the desert southwest requires.

The Subcommittee believes the way water is used should accurately reflect the true cost and interconnectivity of water in our community. Tempe and Arizona have a rich history of innovation and smart water planning, which support life and growth in the desert. However, in the face of drought and shortage this legacy must continue to keep Tempe resilient. As such, we support the following strategies that embody efficiency, livability, and wise water management, including:

The Roadmap

Tempe should take the following actions to promote the Sustainable use of water:

- Plan
- Devote staff and/or develop partnerships for data collection, analysis, stakeholder engagement, and evaluation of emerging water-optimization technologies
 - Continue to invest in staffing and technologies that support sophisticated tracking of Tempe’s water as well as to analyze the nexus of water and water-related energy use
 - Perform an analysis of standards and strategies used by other cities
 - Prioritize the most effective strategies

-
- For each user class, create user-friendly guides on the most effective strategies and technologies to transition customers to sustainable use and expand on synergies between water and energy conservation (e.g. for residential users, guidance on water controls, low use fixtures, landscaping changes and laundry to landscape)
 - Create programs committed to risk analysis & mitigation against water shortages, extreme heat, water quality problems, etc.
 - Adopt building codes, engineering codes and low impact development codes that support the efficient use of water and assure sustainable property development (e.g. rainwater harvesting that supports urban tree canopy)
 - Sponsor pilot projects such as garden tours, grey water, rainwater harvesting, food forests, carbon sinks, or bioswales, which have the potential to help Tempe reach its conservation targets and support the city's strategic vision concerning water conservation
 - Develop citywide performance measure and programs for landscaping that balances shade, cooling, food production, carbon sequestration and water efficiency
 - Create a Water Citizen's Academy to educate people on how water arrives at the tap and to foster champions for water optimization in the community
 - Develop conservation targets based on evidence-based assessments for Tempe's long-term sustainability and resiliency needs
 - Create sub-targets for each user class or a mechanism(s) that supports water conservation across each user group
 - Monitor the impact of policies and programs and provide clear justification for the conservation impacts of all funded programs

This roadmap expands upon the spirit that guided the Council's progress when they adopted the 2018 tiered rate structure. It is also intended to leverage the in-progress implementation of the automated metering infrastructure (AMI) which will raise awareness and drive results. We hope these strategies can also be incorporated into consideration as part of the next water rate study. In conjunction with the Office of Sustainability, these strategies will be aligned with the city's climate action plan and strategic management plan.

Water is a precious resource in the desert southwest – it is crucial that Tempe develop robust programs and policies that reflect an equitable and transparent assessment of water use for Tempe’s ecosystem, including both human and environmental stakeholders. The Subcommittee recommends City Council advances and embeds the goals, values, and guiding principles presented with this memorandum along with the roadmap recommended above to ensure that Tempe leads Valley cities and the region in optimizing water use. From the members representing the Tempe community on the Tempe Sustainability Commission, we would like to thank the Mayor and Council for your continued commitment to the advancement of sustainability in Tempe, and strategic water initiatives specifically. We are dedicated to supporting your efforts.

Sustainability Commission Members

- Commissioner John F. Kane (Chair)
- Commissioner Kendon Jung (Vice Chair)
- Commissioner Leah Gibbons
- Commissioner Anne Gill
- Commissioner Corey Hawkey
- Commissioner Stephanie Milam-Edwards
- Commissioner Alix Monty
- Commissioner Gretchen Reinhardt
- Commissioner Colin Tetreault
- Commissioner Arnim Wiek

Staff Assisting the Committee Members:

- Don Bessler, Public Works Director
- Grace Delmonte Kelly, PW Supervisor
- Marilyn DeRosa, Deputy PW Director – Engineering
- Braden Kay, Sustainability Manager
- Carla Sidi, Executive Assistant

Strategic Vision for Water and Tempe

| Goals | Values | Guiding Principles |
|--|---|--|
| Democratic Governance | We value the fair distribution of the benefits and costs of water, | Therefore, all of our actions must: <ul style="list-style-type: none">• be transparent• give balanced consideration to all stakeholders• base decisions on sound data at a macro and granular level |
| Ecosystem | We value water as vital to the integrity of the ecosystem, | Therefore, all of our actions must: <ul style="list-style-type: none">• maintain surface waters and recharge the aquifers• uphold the quality of all water resources |
| Equity | We value the affordability and accessibility of safe water for all, | Therefore, all of our actions must: <ul style="list-style-type: none">• provide for the quantity and quality of water sufficient for the livelihood of all populations, including underserved populations• account for intra-generational and inter-generational equity |
| Interconnectivity | We value the leadership of Tempe in sustainable water management, | Therefore, all of our actions must: <ul style="list-style-type: none">• recognize opportunities with local and regional partners• coordinate and plan with stakeholders throughout the watershed and/or the groundwater basin• elevate Tempe among local, regional and national leaders |
| Livability | We value the role that water plays in the quality of life in our community, | Therefore, all of our actions must: <ul style="list-style-type: none">• improve community shared spaces or enhance the economic livelihood, social stability, educational opportunity, and cultural or recreation possibilities in Tempe |
| Resilience & Adaptability | We value the need to plan for multiple futures, | Therefore, all of our actions must: <ul style="list-style-type: none">• prepare for the changing needs of the community and the evolving constraints of the ecosystem• consider the possibility of water shortages, water quality disasters, or other shock events• connect water management with mitigating climate change and the urban heat island effect |
| Resource Efficiency | We value the wise use of water, because it is a limited resource, | Therefore, all of our actions must: <ul style="list-style-type: none">• reduce water use, promote water reuse, and/or support the efficient use of water |