



RATES, FEES AND CHARGES

IN THE POST-PROPOSITION 13, 218 AND 26 ERA IN CALIFORNIA

A Compendium on Water, Wastewater, Recycled Water and Stormwater Rates,
as well as User, Regulatory and Development Impact Fees

 NBS

com·pen·di·um \kem-'pen-dē-əm/

noun

plural noun: compendia; plural noun: compendiums

a collection of concise but detailed information about a particular subject.

Source: Oxford dictionary

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This Compendium will cover most of the substantive puzzle pieces of rates, fees and charges, including development impact fees. Importantly, it will also discuss the underlying cost allocation process, and will demonstrate the inter-connectedness of these pieces and their relevant position within the financial puzzle.

This Compendium will not cover taxes, including property and sales or use taxes, nor bonding, leasing, and other financing techniques. Those are important tools of municipal finance but out of the purview of this publication. Please see our other NBS publications, including one entitled, *“Special Financing Districts: An Introduction to Special Assessments and Special Taxes,”* for a discussion of those financial tools.

The impact of Propositions 13, 218 and 26 have had, and will continue to have, a significant effect on such rates, fees and charges. This topic is complex, and covered extensively in other publications. We encourage anyone who is not familiar with these constitutional amendments to do so, and seek advice and counsel as needed.

A fiscally-literate municipality (this generally means a city, town, county, special district or municipal utility; for simplicity, we will often use the term “municipality” designation for all of these entities of local government, and we hope that no one is offended!) has to assemble many financial puzzle pieces into a cogent picture of financial sustainability. Aside from general and special taxes, the primary pieces of this financial puzzle are often summarized as “rates, fees and charges.” These include everything from water and

sewer rates to planning and inspection fees. It is important to note that these non-tax revenues will account for a significant portion of overall revenues for any municipality, ranging from 25% to over 50% of total revenues.

Among the many fiscally-challenging situations we have recently seen, the following stand out in this realm of rates, fees and charges:

- A sophisticated and savvy city is found to have no park-related development impact fees for new development. This means there are no funds for the acquisition of new parks and open spaces as development flourishes, and the population increases. The end result is a diminished standard of living for the new and existing residents, and a drain on overall resources. (A relatively-low park impact fee would have a similar, though less dramatic, impact.)
- A generally well-run municipal utility does not capture enough replacement costs in its rate structure, and finds itself with a daunting and very costly basic infrastructure problem.
- A flourishing county doesn’t understand the specific and very long range fiscal impacts that cost allocation and cost recovery policies mean. Each year, millions of dollars are literally lost, forever.

If any of these stories have a familiar feel to them, please read on. The bottom line is that a fiscally-literate municipality should be solvent and well functioning, resulting in a desirable community.

Introduction

Contrary to the scenarios just mentioned, here are a few enlightening case studies which apply to the points discussed within this Compendium:

CASE STUDY 1: Water rate re-structuring saves millions in interest costs

A water district has to navigate rough waters when it needs to improve its infrastructure. At the time, a large California irrigation district, which had a combination of suburban and historical agricultural customers, had not completed a rate study in more than 10 years. To help fund an important yet expensive capital improvement program, the district needed to re-fund its existing debt and issue new debt. Completing and adopting new, restructured water and sewer rates was a critical part of this re-funding, and would save the district several million dollars per year in interest costs.

Working closely with district staff, a Cost-of-Service Committee, and board members over 18 months, an extensive cost-of-service rate study was completed. A key part of this study was developing 12 "Principles for Guiding the Rate-Setting Process" at the beginning of the study to establish answers to key policy issues. This included using "postage-stamp" rates – or rates that are uniformly applied throughout the service area rather than rates based on the facilities actually serving customers in various areas in the district. After numerous public workshops and a final public hearing, the board adopted re-structured, multi-tiered

water rates, including landscape and agricultural rates, as well as new sewer and recycled water rates. The district successfully refunded its debt-structure to effectively reduce annual interest costs by millions.

CASE STUDY 2: Robust community input for rate setting process

It's not uncommon for cities to ignore the need for rate increases, when the city council is concerned about a multitude of policy issues in addition to political issues, including getting re-elected. A moderate-sized city had not completed a comprehensive rate study for its water, sewer and solid waste agencies in more than 15 years. Current city staff had never participated in this type of process, but they knew it was necessary to update both ongoing rates as well as the capacity/connection/impact fees in order to accommodate the cost of new growth, as well as the necessary utility rate increases to maintain and operate the systems.

NBS completed an extensive and highly visible rate and capacity fee study for the water, sewer, and solid waste utilities. This study also established new policy guidelines and overall objectives in developing rate structure alternatives for the city to consider. A key part of this study was working with a city council appointed Citizens Advisory Group that reviewed rate alternatives and provided recommendations to the council. This group functioned as both a sounding board and community input vessel on behalf of the council and staff. The key tasks

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included preparing financial/rate setting policies, financial plans, projecting net revenue requirements, cost-of-service analyses, and alternative rate designs.

The result was a well-vetted plan which the city council could feel good about approving.

CASE STUDY 3: Recession-affected city discovers cost recovery opportunities

Due to the national and State economy, State take-aways, and the end of the Redevelopment Agency, a moderate-sized California city had been substantially reducing its budget. This resulted in reduced expenditures, personnel layoffs, reduced services and staff shortages. The city was in need of a comprehensive citywide review and evaluation of all city revenues, including user fees and charges, excluding water, sewer and stormwater fees. The city wanted to determine that it was collecting all taxes, fees and charges legally entitled for collection. Fees included in the citywide analysis stemmed from the following broad categories: administration/governmental, building and safety, engineering, fire prevention, land development, planning and land use, and police. Key consulting tasks included development of a deliverable cost of service model justifying fully-burdened hourly rates and activity/service unit costs, a master fee schedule identifying the maximum fee amount justified, documentation of cost recovery and pricing objectives, and market comparison

of all fees. In addition, NBS provided the city with a proactive approach for a number of new revenue options.

The analysis yielded interesting results. The city was not fairly recovering its costs in a number of areas, and notably many of which demanded full cost recovery. The adoption of new user fees for full cost recovery would yield over \$1.7MM annually to the city's general fund. The recommendation was to selectively adopt up to full cost recovery, which yielded \$1.3MM annually. In addition, NBS identified a number of revenue enhancement opportunities, including various special financing district options, totaling well over \$1MM annually towards critical needs for public safety, stormwater, and general community facilities.

Financial/Fiscal
Knowledge is power

**THIS BOOK
INTENDS TO SERVE
AS A COMPENDIUM**
*on cost allocations,
rates, fees and charges*

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utility rates and charges (water/sewer/storm)

*When water is priced appropriately, it will be put to use in the most valuable and efficient uses.
"Sound rate making policy is a policy of reasonable compromise among partly conflicting objectives."*

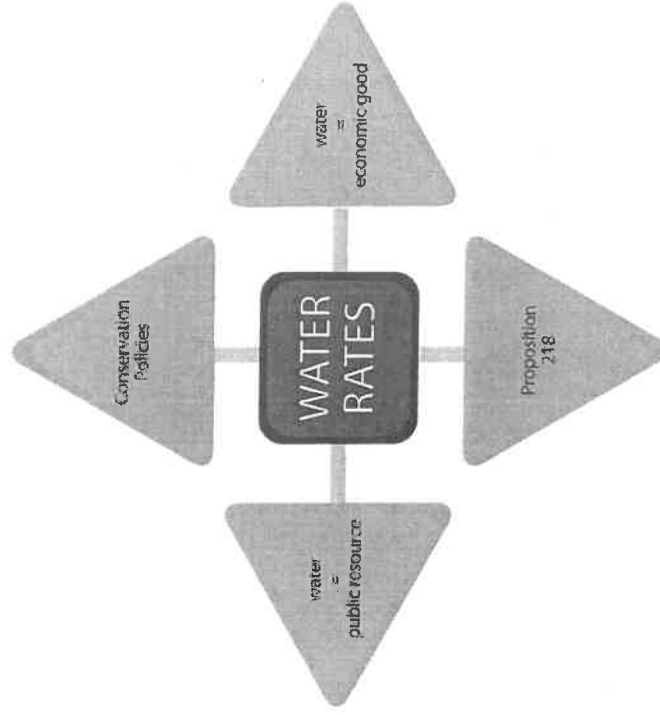
INTRODUCTION

It is important for a municipality's financing plans and resulting rate and fee strategies to be current. There are many topics critical to a utility's successful provision of real-time, on-demand, and perpetual service to its customers.

Rates must be set to achieve intergenerational equity, have well-defined and adopted fiscal policies and meet the agency's pricing policies. Above all, utility rates must be set within an overall public policy framework: Discussions are required which should lead to a very deliberate approach to the analysis.

For example, when setting water rates, there are a number of sometimes conflicting policy goals, "mandates" and realities to address, before commencing the technical analysis. As seen in Diagram 1 to the right, there are many dynamic forces to consider when setting these rates in California. Among many, there are discussions of the nature of water as a public resource and an economic good, as well as the "mandates" of Proposition 218 (the voter-approved California constitutional change from 1996 which deals with rates, fees, charges, etc.) and an overall statewide desire for water conservation.

Diagram 1. Water Rate Dynamics in California



WATER RATES: FAIRNESS, EQUITY AND “SOCIAL JUSTICE?”

Introduction

Numerous recent lawsuits concerning water rate designs underscore the importance of addressing “fairness and equity” in water rates. Unfortunately, these terms mean different things to different people. So, as a water utility manager, how can I be sure my new rates are on solid technical and legal grounds? Here are some concrete questions that you can and should focus on when considering rate increases, particularly when changing your rate design:

- Are my new rates defensible?
- Are my cost allocations reasonable?
- How do I balance revenue stability against conservation goals?
- Do my water rates reflect “social justice?”

Are my new rates defensible?

Regardless of the actual defensibility of the rates, legal experts have emphasized the importance of establishing an administrative record that supports the newly adopted rates. Assuming there is an adequate administrative record, other key action items to address include:

- **Follow industry standards** – three basic components of a rate study should be included, as documented in various publications, which are¹:

- o *Revenue requirements analysis* – This defines the annual revenue the utility needs to collect from ratepayers.

- o *Cost-of-service analysis* – Results in equitable and fair allocations of revenue requirements to each customer class; this is a critical aspect of meeting Proposition 218 mandates for “proportionality.”

- o *Rate design analysis* – Defines the rate structure, or the means by which rate revenue is collected from each customer class.

- **Understand recent court rulings** – Proposition 218 has had numerous twists and turns in the legal system, and it continues to provide new guidelines for whether rates comply with the State Constitution and statutes.² These rulings often establish precedence for specific rate issues, and help you avoid making the same mistakes others have made.
- **Prepare a comprehensive rate study** – Proposition 218 requirements do not apply until an agency either adopts new rates or makes changes that result in some customers paying more than they currently pay. Therefore, changing rate structures, adopting rate increases, or changing how costs are allocated between customer classes should be accompanied by a well-documented and comprehensive rate study.

¹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012. Also see Principles of Public Utility Rates, James C. Bombright, Albert L. Daniels and David R. Kamerschen, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

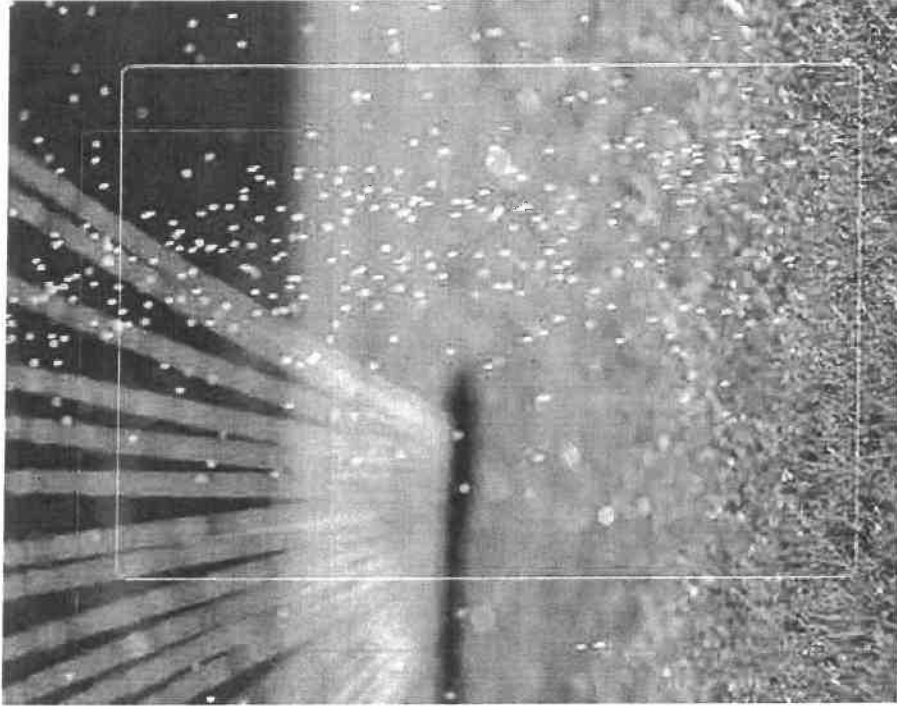
² See *City of Palmdale vs. Palmdale, W.D. S.C. Taxpayers vs. San Juan Capistrano, and Yolo Ratepayers vs. City of Davis*.

utility rates and charges (water/sewer/storm)

Are my cost allocations reasonable?

Three basic categories of cost allocations require examination:

- **Cost allocations between customer classes** – This process is intended to reflect the differences between customer classes, for example residential and commercial classes. Differences typically reflect their peaking requirements (i.e., their highest summer demand), total annual water consumption, and differences in their costs of billing, customer services and administrative expenses.
- **Cost allocations within customer classes** – While the “correct” amount of rate revenue may be collected from a customer class as a whole, the revenue collected from individual customers can and does differ dramatically. For example, consider the monthly bills paid by low-water vs. high-water users under 100% fixed charges (where they would both pay the same) compared to rates which are primarily volumetric.
- **Cost allocations between fixed and variable charges** – On one hand, cost-of-service principles should dictate the total percentage of rate revenue collected from fixed vs. volumetric charges. On the other hand, these allocations have dramatic impacts on a utility’s revenue stability, conservation objectives, and customer bill impacts. Finding the “just right” allocation is the real challenge.



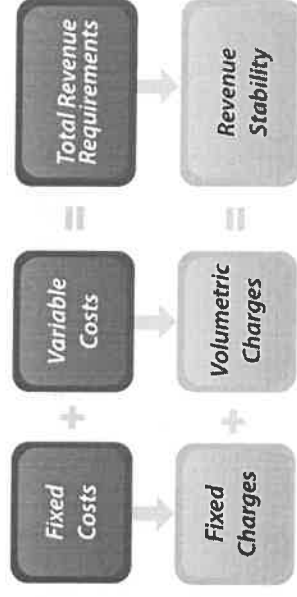
Other basic principles in allocating costs include:

- Changes cannot be more than the actual cost-of-serving each customer. Although Proposition 218 refers to “parcels” (not customers), recent court rulings have made it clear that cost-allocations and equity standards are applied on a customer class basis, not a parcel-by-parcel basis.³
- Using a cost-basis that develops functional unit costs and determines how many of those “units” each customer class uses.
- Non-discriminatory rates mean there cannot be disproportional rates for customers or customer classes which are not supported by a cost-basis. This often applies more to subsidies between customer classes than customers within a class.

How do I balance revenue stability against conservation goals?

Let’s compare a rate design that emphasizes revenue stability to one that emphasizes conservation goals:

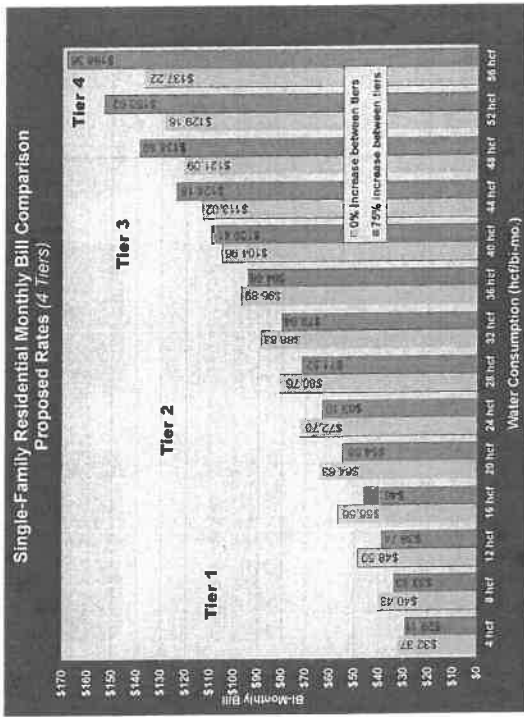
Rate Design for Revenue Stability – As shown in the following figure, a rate structure with a high degree of revenue stability would collect fixed costs from fixed charges and variable costs from volumetric rates. This rate design should always generate the expected revenue so that the agency would be indifferent to whether they sell more or less than the projected amount of water.



Rate Design for Conservation – The more revenue collected from volumetric rates, the greater the conservation incentives. That is, a customer who uses a lot of water under this rate structure will have a significantly higher bill than under a “revenue stability” type rate design, thus increasing their price elasticity response to higher bills. The Figure on the following page illustrates the differences in monthly bills for a more aggressive rate design compared to one with “uniform” volumetric rates (i.e., where all customers pay the same rate per unit of water).

³ This was a specific finding in Yolo Ratepayers for Affordable Public Utility Services and John Munn vs. City of Davis, California, January 22, 2014. Also see Griffith vs. Pajaro Valley Water Management Agency, 2013.

utility rates and charges (water/sewer/storm)



There is a counter-argument that a highly conservation-oriented rate structure (i.e., one with large increases from lowest to highest tiers) provides a **disincentive** for low-water use customers. While this has theoretical merit, the greatest reductions are clearly going to come from high-water use customers. There are limited opportunities for conservation savings from low-consumption customers.

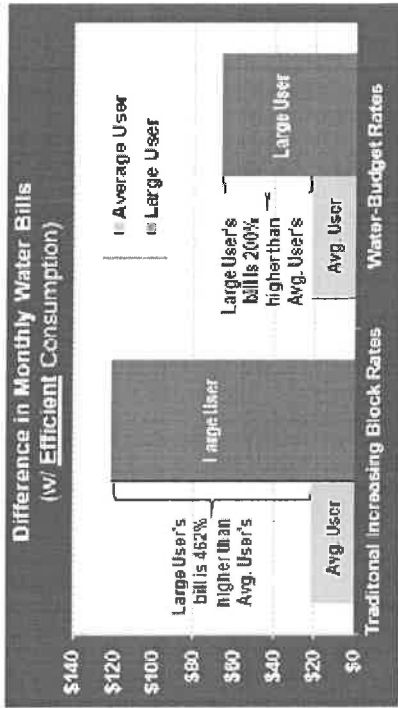
Do my water rates reflect “social justice”?

There has been an interesting concept of “social justice” creeping into the debate over the last few years about the fairness of water rates. Fairness and equity within cost-of-service principles are relatively well-established. However, it’s not clear how proponents of social justice define this term, although it seems to imply a superior approach to fairness and equity. Unfortunately, it relies more heavily on “non-cost based” concepts rather than well-accepted cost-of-service principles.

The following two examples illustrate this social justice concept. Example #1 indicates there is a social justice component imbedded in water-budget based rates. Example #2 summarizes a social justice argument recently used in debating what constitutes the “fairest” rate structure.

Example #1 – In this example, the following two figures compare similar residential customers under traditional tiered rates (i.e., all residential customers are subject to the same tier breakpoints and rates), vs. water budget rates (where tiers are adjusted to each customer based on their larger landscape watering needs). These two customers differ only in that one has an average-size yard (and average water demands) and the other has a larger-than-average yard (and therefore larger water demands).

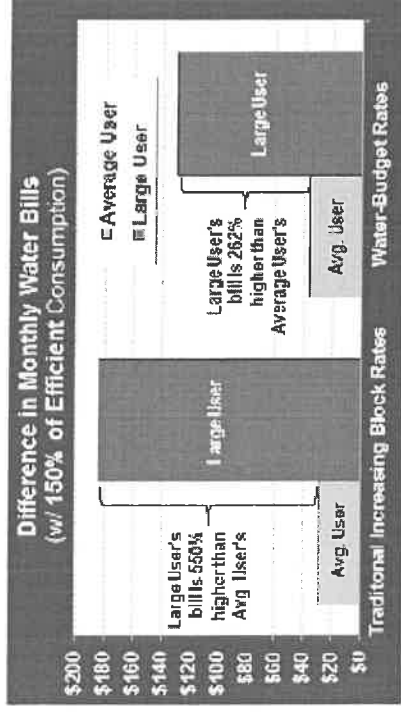
utility rates and charges (water/sewer/storm)



This first figure highlights the differences in the respective monthly water bills under a traditional three-tiered vs. a water-budget rate design. A crucial factor in this figure is that both customers use water *efficiently* (i.e., they only use as much as needed to adequately water their yard).

As seen here, while the average user pays the same under both rate structures, the larger user pays significantly less under water budget rates. This is because he has a greater amount of consumption in the lower tiers (since his tier breakpoints are raised to supply his larger landscaping needs).

The second figure presents the same comparison except that both customers are assumed to use water *inefficiently* (defined as using 50% more than needed). Again, the larger user pays significantly less under water budget rates than traditional tiers.



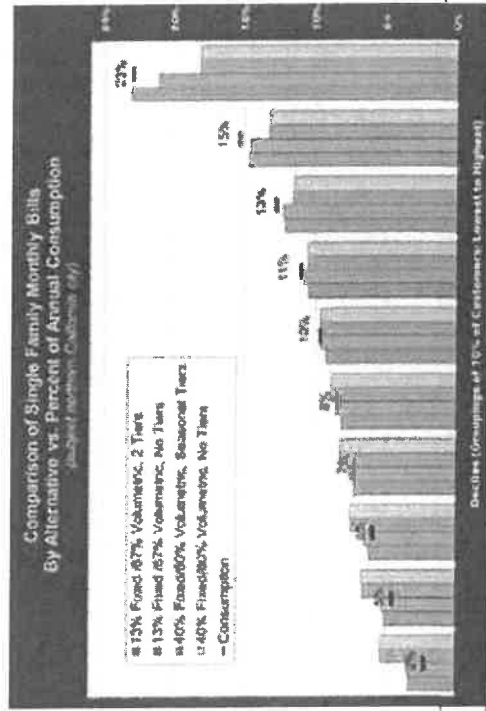
What are some takeaways from these two figures?

- Customers with larger than average consumption will have smaller bills under water budget rate structures than under traditional tiered rates.
- These larger consumers also pay a lower average price for their water than they would under traditional tiers (since more of their water is in lower tiers).

utility rates and charges (water/sewer/storm)

- Traditional tiers encourage reductions in total water use, regardless of whether you are using it efficiently or not, and are more punitive towards larger users than water budget rates.
- Proponents of water budget rates believe that “people should be provided sufficient water to meet their needs at reasonable prices (without penalties) as long as they are using it efficiently.” This reflects a significant social justice component for how customers should pay for water.

Example #2 – This is a direct social justice argument: In a city in Northern California, during lengthy discussions of what water rate structure the city should adopt, the figure below was presented numerous times with the assumption that it serves as a measuring stick for social justice in water rates.



Proponents of a previously adopted consumption-based fixed rate (CBFR⁴) were promoting either a 100% volumetric rate or one that collected only 13% from fixed charges and 87% from volumetric rates. They argue that collecting revenue that most closely reflected their percentage of water consumption was inherently, maybe even obviously, more fair.

Despite statements from the rate consultant that there is a significant fixed cost of the city’s water system⁵, or a “readiness-to-serve” cost, the social justice argument was largely unchallenged. The critical underlying assumption in this social justice argument is that it assumes the most fair rate structure is one that is 100% volumetric. A few problems with this assumption include:

- It entirely ignores the massive fixed charges and sets up a substantial conflict with basic cost-of-service principles (i.e., the “fixed costs should be collected from fixed charges” principle noted above).
- It decreases revenue stability. Collecting 100% of rate revenue from volumetric rates has a greater degree of uncertainty (e.g., weather patterns, economic factors, and customer consumption patterns).
- While the courts have generally provided for a reasonable balance between cost-of-service and conservation goals, 100% volumetric rates may exceed the limits of reasonableness.

⁴ This rate structure was previously adopted by the city and included a fixed charge of about 40% of residential rate revenue that was tied to a “six-month look-back”, in which previous summer consumption are the basis for each customer’s share of these fixed costs. Claiming this rate structure was unfair, it was successfully overturned by an initiative process.

⁵ The city’s cost-of-service rate study concluded that fixed costs, at least from an accounting perspective, were more than 80% of total annual costs, largely due to the significant annual debt service costs for the City’s new treatment plant.

Conclusions

A few parting thoughts on this topic:

- **Basic guidelines** – In considering adoption of a new rate structure, the safest path is to follow generally accepted industry standards, particularly those that align with the principles cited in recent court rulings. This still allows substantial leeway for communities to incorporate other objectives: "...a utility may create cost-based rates that reflect distinct and unique characteristics of that utility and the values of the community."⁶

- **The importance of an administrative record** – Regardless of the type and characteristics of your rate structure, it is important to establish an administrative record which fully documents the cost-basis, underlying principles, and data used in developing that rate structure.

- **Tradeoffs in conservation vs. revenue stability** – There is an unavoidable tension between promoting water conservation through higher volumetric rates and cost-of-service principles. This tension is embedded in the State Constitution and statutes. Strict cost-of-service principles would, for most utilities, result in a relatively small percentage of rate revenue being collected through volumetric rates (e.g., 30 to 50%). Communities that collect an exceptionally high percentage of revenue from volumetric rates may risk legal challenge if a customer or customer class has the motivation and resources to initiate a legal challenge.

- **“Social justice”: the new criteria?** – Many rate economists are uncomfortable establishing water rates based on something other than a cost-basis and fundamental economic and financial principles. Basing water rates on social justice criteria has, so far, proven to be both controversial and subjective. It will be interesting to see how this debate develops over the next few years, especially if the courts get involved through legal challenges.

There will very likely be continued upward pressure on water rates for the foreseeable future for a number of reasons: continuing drought-related supply shortages; costly capital improvements to meet more stringent water quality standards; and repair and replacement costs are just a few. In light of this, water agencies will need to keep up with both the technical and legal challenges involved in updating rates, such as those briefly summarized in this article. ■

**Municipalities Need \$300B in Sewer, Water Work
The Associated Press**

“EPA found that the nation’s 53,000 community water systems and 21,400 not-for-profit, non-community water systems will need to invest an estimated \$334.8 billion between 2007 and 2027,” stated the federal Drinking Water Infrastructure Needs Survey and Assessment, which is updated every four years. The National Association of Counties’ 2008 report estimated the need for water and sewer upgrades at \$300 billion to \$450 billion nationwide and the federal stimulus project provided just a fraction of that as the recession reduced local governments’ revenues.

⁶ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, MI, AWWA, page 5, sixth edition, 2012.

THE CALIFORNIA CONUNDRUM: IS WATER A PUBLIC RESOURCE, AN ECONOMIC GOOD, OR A TAX?

Summary

Depending on the beholder's viewpoint, water has been called a public resource, defined as an economic good, and categorized as a "tax," subject to the rigors of California's electorate under the rules of Proposition 218. In a local government setting, are water rates set artificially low for short-term political gains in today's post tax revolt California? Or are they determined by sound analysis on a foundation of "good" public policy choices, such as addressing environmental concerns, fiscal prudence, and fairness?

The positive news from the results of my recent study is that it appears water rates are generally set by good public policy decisions. In addition, over half of the respondents had a water conservation-based rate structure. Fiscally prudent policies ranked highest in the survey, followed by fairness and environmental concerns. However, rate tension and political pressures were also present, especially when a conservation rate structure is in use. In addition, there is a concern that conservation mandates have had the unintended consequences of decreasing the public's sentiment for conservation, and its commensurate price tag, while undermining overall revenue stability for local water agencies.

Background and Discussion

Are local water rates set artificially low for short-term political gains? Or are they determined by sound technical analysis on a foundation of "good" public policy choices? This research study (a cross-sectional quantitative survey of local water agencies in California, augmented by qualitative interviews) sought to understand this timely question by performing background and literature research as well as directly surveying local public water suppliers in California. For the study, good public policy criteria were defined as addressing environmental concerns, fiscal concerns, and fairness.

Amidst these water policy discussions, the anti-tax movement must be considered. Local governments in California have been embroiled in the anti-tax movement since the 1970's. This was remarkably demonstrated by the voter-approved fiscal constraint measure known as Proposition 13 in 1978. In 1996, Proposition 218 was approved; this established further limitations on local governments' abilities to raise revenues. The anti-tax revolt became a significant problem for local water agencies in the most recent decade, as the California Supreme Court concluded in 2006 in the Bighorn-Desert View Water Agency vs. Verjil case that water rates were subject to the initiative powers granted, perhaps unintentionally, by Proposition 218.

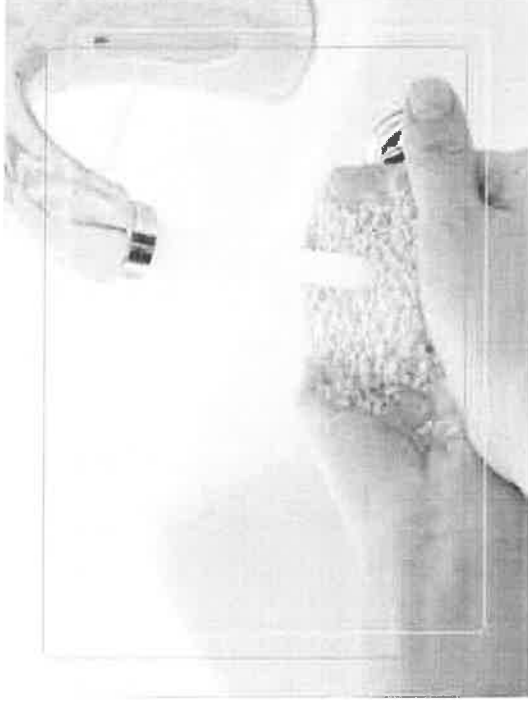
Proposition 218 was in many ways a successor initiative to Proposition 13, with its express intent being to limit local governments' revenue abilities. Was the intent also aimed at the cost of water provision, given that water is an economic good subject to market pricing?

The Findings and Declarations of the so-called “Right to Vote on Taxes Act” states: “This measure protects taxpayers by limiting the methods by which local governments exact revenue from taxpayers without their consent.”¹ The California Supreme Court appears to have taken the measure’s language to the extreme.

General Background

The availability of water is a basic need in society. The pricing of water is a fundamental public policy issue in our quest for environmental sustainability, in California and in the rest of the World. As to potable water, it was not uncommon in the past to provide water at practically no cost to users. It was considered to be a cheap resource and a basic necessity. This is no longer the case today, and water pricing is an important management tool.

Water management is also an important tool. Water, which includes potable water, wastewater, recycled water, and storm water, should be viewed and managed in a holistic manner. Water is a “common pool item” and as such, “government’s role is to develop policies to ensure their [its] continuance or sustainability.”² This is especially true in California where water is precious, and increasingly in short supply. Unfortunately, the panoply of public and private agencies are not always in sync in terms of public policy and general management of the resource, and pricing thereof.



Previously thought of as a public good, water was declared an “economic good” in 1992 under the Dublin Water Principles³ and in other forums, an economic good being subject to the market rigors of price and demand. The United Nations Agenda 21 incorporates sustainable development as a way to mitigate poverty and environmental degradation.⁴ Water availability, efficiency, and pricing are seen as supportive of these global goals.

¹ California Legislative Analyst’s Office. (1996) Understanding Proposition 218.

² Kraft, Michael E. and Scott R. Furlong. (2007) Public Policy – Politics, Analysis and Alternatives. Third Edition. CQ Press: Washington DC.

³ Rogers, Peter, de Silva, Radhika, and Bhatia, Ramesh. (2002) Water is an Economic Good: How to use prices to promote equity, efficiency, and sustainability. Water Policy 4, 1-17. Retrieved from Waterpolicy.net.

utility rates and charges (water/sewer/storm)

When water is priced appropriately, it will be put to use in the most valuable and efficient uses. "Sound rate making policy is a policy of reasonable compromise among partly conflicting objectives."⁵ From a social perspective, equity is a consideration. With the consideration of equity, politics becomes a force to reckon with. To complicate matters, politicians always have two goals: a policy goal on whatever program they would like to see accomplished, and a political goal. The paradox is that in gaining or preserving their power, they may lose perspective on the policy decisions.⁶

Regardless of whether or not policy or political goals were paramount, in the early twentieth century days of public administration, public or municipal entities provided an increasing share of potable water, but not always correctly. As noted by Harry Baker in 1917, "there is probably no greater field of discrimination and unfair rates than among the municipally-owned utilities." There was clearly some room for improvement in rate discussions.

The California Environment

A variety of water rate structures are in use today by public water agencies in California for a host of economic, public policy, and practical reasons. These structures range from flat (or fixed) rates to metered rates to conservation-based tiered or block rates. More recently, water-budget rates (or customer-specific allocation based rates) have become technically feasible in California, and elsewhere. A water budget rate is "an increasing block rate structure in which

the block definition is different for each customer based on an efficient level of water use by that customer."⁷ In the recent past, water budget rates linked with an increasing block rate structure have been implemented successfully in more than 20 utilities.⁸ However, detractors of water-budget rates have concerns about equity with such a rate scheme, and the motivational structures they can foster (to build a larger home, for example).

Type of Rate Structure	Description	Considerations
Flat/Fixed Rate	Flat or fixed charge.	Simplicity, no conservation incentive, often metered consumption
Uniform Rates	Uniform volumetric charges.	Simplicity, minimally conservation oriented, <i>least have water meters</i>
Inclining Block Rates	Rates increase with consumption.	Multi-tiered, conservation oriented.
Declining Block Rates	Rates decrease with consumption.	Economic or business oriented, uncommon today.
Water-Budget Rates	Customer specific allotments, typically with inclining fees.	Requires detailed monitoring and billing systems.

The current environment in the State of California reflects mandated water conservation and the passage and implementation of Proposition 218 and other law, which has had an effect on water rate implementation. There is also a continuation of the demand to maintain or reduce fees for such services, especially when provided by a local government. On top of this is the generally accepted premise that our collective water infrastructure is in a state of decline, and

⁵ Bonbright, James Cummings. (1961). *Principles of Public Utility Rates*. Columbia University Press: New York.

⁶ Sone, Deborah. *Policy Paradox: The Art of Political Decision Making*. In *Classics of Public Administration*. Edited by Jay Shafritz and Albert C. Hyde. Thomson Wadsworth: Boston, 2007.

⁷ Mayer, Peter W. (2008) *Water Budgets and Rate Structures: Innovative Management Tools*. American Water Works Association Research Foundation: Denver, Colorado.

⁸ *Ibid.*

it needs costly and significant repair and replacement.⁹ Additionally, conservation rates bring up technical problems when viewed from the cost of service mindset. “Often such [conservation] rates raise questions about the need to maintain cost of service principles in rate design that avoid the subsidization of any customer by another customer.”¹⁰ The paradigm of conservation rates and the principles of cost of service may be difficult to reconcile.

The Public Policy Institute of California recently published a white paper entitled *Water and the California Economy*. This paper discussed a wide range of water-related issues at stake in California today. This included economic concerns, climate change, and many other perspectives. However, the number one priority listed for action was to modernize water measurement and pricing.¹¹

In general, calculating and implementing water rates has become more complicated and technically challenging within the California environment. In addition, Propositions 13 and 218 have added a level of politics and complexity. “Over the course of 34 years, California’s law of local utility fees has been transformed. An earlier era of legislative discretion and deferential judicial review meant disputes over rates were more often resolved by political means than lawsuits.”¹² Clearly, the environment of policy decision making on water rate structures has changed.

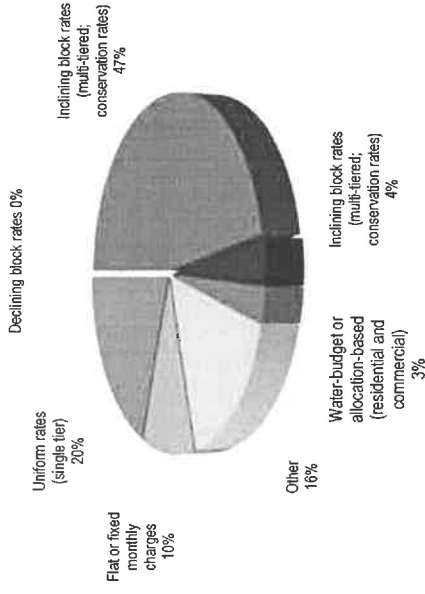
Moreover, the relationship with the public at large has changed significantly, requiring a whole new paradigm of public education and engagement. This was discussed at length at a recent nationwide

forum of water leaders: “The inevitable raising of rates will require trust, clarity, and understanding. Consumers need to understand the full implications of not raising rates. They need to understand the drivers of rates and rate increases. For many utilities, effectively communicating these messages will require professional help.”¹³

Study Results

Over half of the survey respondents had some type of conservation-oriented rate structure (inciling block or water-budget rates) in place. This would generally be expected given the conservation-minded goals and policies in use in California.

Table 2 – Types of Water Rate Structures



⁹ American Society of Civil Engineers (ASCE), (2013) *Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future*. Consmat, C.W. Editor. (2010) *Water Rates, Fees and the Legal Environment*. American Water Works Association. Second edition.

¹⁰ Hanak, Ellen, (2012) *Water and the California Economy*. Public Policy Institute of California.

¹¹ Colummonio, Michael G. Esq., (2012, May) *A History of Rates-Setting Under California Law: Proposition 13 through Proposition 26*. Presented at the Association of California Water Agencies, Monterey, CA.

¹² National Water Rates Summit, (2012) *Declining Water Sales and Utility Revenues – A Framework for Understanding and Adapting*. Alliance for Water Efficiency, and The Johnson Foundation. Racine, Wisconsin. August 2012.

utility rates and charges (water/sewer/storm)

Notably, it appears from the quantitative data that water rates are generally set by good public policies, most notably those policies classified as fiscally prudent. These top public policy motivations, as distinguished by level of importance (marked on a Likert scale as important, very important, or extremely important), were in the following ranked order:

1. Revenue stability.
2. Repair and maintenance.
3. Basic costs are covered.
4. Fairness/equity in rates.
5. Managing a finite supply.
6. Ease of implementation.
7. Conservation goals.
8. Political pressure/Proposition 218.

Goal numbers one through four above had importance scores in the 80-90 range, five and six in the 60-70 range, and seven and eight in the 50-60 range. Economic development and Intergenerational concerns (nine and 10 in the list) were mostly categorized as neutral.

However, palpable tension and political pressures were at work, especially when a conservation rate structure is in place – even more so at smaller water agencies. This was evidenced by Chi square and Gamma relationship statistical tests, which in particular showed a moderate relationship between political pressure and conservation and fiscal policy goals. In addition, concerns were raised that conservation mandates have had the unintended consequences of

decreasing the public's sentiment for conservation while at the same time undermining revenue stability.

Conclusions

What this study means for local water districts is a continued and increased need for rate-making diligence, including the development perhaps of an entirely new form of rate structure or even a new paradigm of ways for charging for water. In addition, water providers should enhance the transparency in rate setting and enliven the public dialog on the needs for water conservation and relevant rate structures in order to sustain the effort to manage the aging water infrastructure assets for the long-term benefit of Californians.

In the future, developing a deeper understanding of water rate making policy decision criteria and the practical implications thereof should include a discussion of these areas:

- **Use of conservation rates:** It would be valuable to obtain a better understanding of the use of conservation rates and their relationship to overall water conservation. Given the advancement of many water efficiency fixtures and usage procedures, there has been a significant reduction in the use of water in many communities, so much so that revenue stability has emerged as an issue.
- **Evolution of water rates:** The types of water rate structures have evolved over the past 100 years, at least in most communities.

However, further discussion and research and development into other manners of water rates would be interesting. In particular of course, conservation rates are an area to monitor. While water budget rates have become a more common fixture, they are not used widely, perhaps due to their complexity. Will fixed rates no longer be used? Will conservation rates stand the test of time?

- **Fixed vs. variable costs:** The relationship of fixed to variable costs in water purveyance is an issue to understand better. Although AWWA standards¹⁴ and current procedures advocate assigning a large share of water rate revenue to variable costs in order to induce conservation, the largest share of the costs to run a water system and, importantly, provide for the maintenance and replacement of infrastructure are fixed type costs. How can this be reconciled?
- **Revenue stability:** The overlapping issues of fixed vs. variable costs, improved water conservation, and increased weather variability due ostensibly to global climate change have caused revenue instability for water providers. How can water providers maintain a fiscally-sound service given these challenges?
- **Engaging the public:** Lastly, the best practices of community engagement seem to be a critical component of the process of water purveyance and the pricing thereof. Further efforts on how to increase public participation and education on the issues and the evolution of practices would be a valuable endeavor. ■

Fiscal (fis·cal)

- noun:* 1. *of or relating to taxation, public revenues, or public debt <fiscal policy>.*
 2. *of or relating to financial matters.*

Source: Merriam Webster dictionary

PRICING ALTERNATIVES FOR RECYCLED WATER

Introduction

As of 2014, California is entering its third straight year of drought conditions and facing severe statewide emergency water restrictions. This underscores the growing need for recycled water supplies and emphasizes the challenges facing water and wastewater agencies with existing water reuse systems. One of those challenges is how to appropriately price recycled water, particularly in light of recent court decisions that have effectively placed new restrictions on pricing alternatives.

This short paper is intended to provide a brief discussion and general guidance on pricing principles and mechanisms that water agencies may want to consider when establishing rates for recycled water customers. Two topics are addressed:

- **Industry Practices** – Recycled rate structures and pricing methodologies that other California agencies are currently using, and
- **General Principles** – An overview of pricing methodologies and practices.

Industry Practices: Rate Structures and Pricing Methodologies

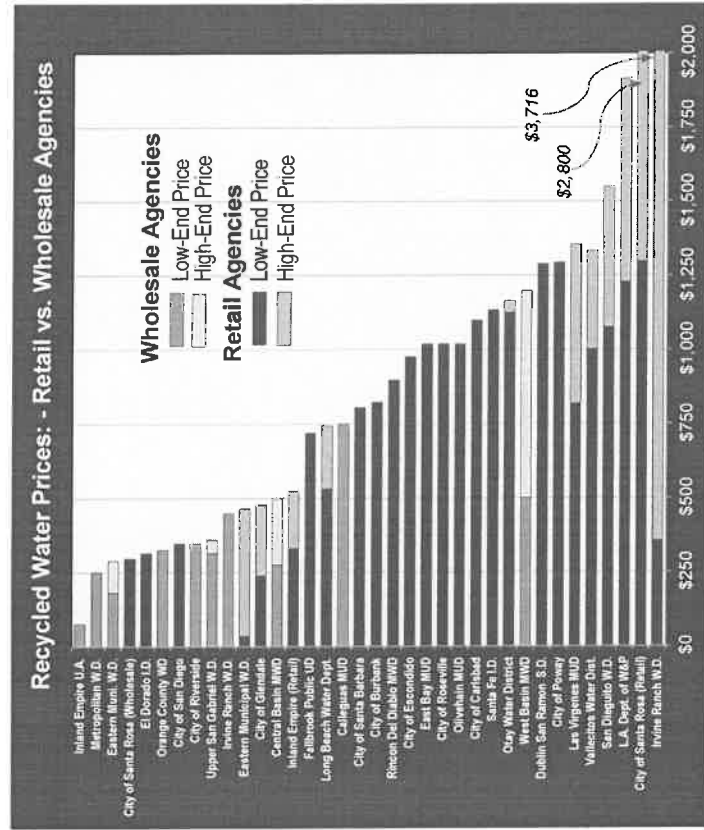
Understanding the recycled water pricing methodologies and approaches used by other agencies can provide a useful background and guidance on current industry standards and approaches to rate structures. These results are grouped into Southern and Northern California agencies. While this data is always being updated, it still provides an overview of market pricing.

Figure 1 and Tables 1 and 2 summarize some of the key recycled water characteristics of California agencies. Rates are organized by wholesale vs. retail agencies and by Northern vs. Southern state. The following are a few general observations about this data:

- **Retail vs. Wholesale Rates** – Retail rates are typically higher than wholesale, primarily because of the more extensive transmission and distribution costs and level of service that retail customers receive.
- **Northern vs. Southern California** – Recycled water rates for retail agencies are fairly similar in both Northern and Southern California.
- **Range of Costs** – Wholesale rates vary significantly, ranging from MWD's almost free rate to Upper San Gabriel Water District's highest tier rate of more than \$1,551/acre foot, but are generally in the \$300 to \$500/acre foot range.

- **Tiered Recycled Rates** – Southern California retail recycled rates generally include more tiered rate structures. For example, Irvine Ranch Water District (IRWD) has a wholesale base rate of \$449/AF compared to retail rates that exceed \$3,700/AF¹ for a fifth tier.

Figure 1 – Summary of Recycled Water Pricing Data



¹ This fifth tier represents “wasteful” landscape irrigation based on IRWD’s water budget rate structure.

utility rates and charges (water/sewer/storm)

Table 1 - Recycled Water Rate Data, Northern California Agencies (WHOLESALE and RETAIL)

Agency	Wholesale/ Retail	Managing Utility	Pricing Structure	Consumption Rates	Other Comments
Northern California					
City of Roseville	Retail	Wastewater	50% of Potable water	\$1,019/AF ¹	Full costs are not recovered through rates. Plan to go to 80-90% of potable rate.
City of Santa Rosa	Retail	Wastewater	Fixed mo. charge is by meter size. RW tiers based on water budgets.	Tier 1 = \$1,298/AF Tier 2 = \$1,868/AF Tier 3 = \$2,800/AF	RW costs are split 60/40 between sewer/water. Primary purpose for RW is vvv discharge limits. Wholesale RW to City, retail to Rohnert Park.
City of Santa Rosa	Wholesale	Wastewater	Base rate	\$297/AF ^{1,2}	Price includes 10% pass-through of SCWA costs.
Dublin San Ramon Services District	Retail	Water	90% of Potable water	\$1,289/AF	Philosophy of "Water is water". Resid Tier 1 is \$1,307/AF. Purchase wholesale water at \$900/AF. Their cost to produce RW is \$700/AF. RW is treated to secondary level.
East Bay MUD	Retail	Water	Single tier, higher rate than for Tier 1 of residential.	\$1,019/AF vs. potable Tier 1 rate of \$937/AF	Tertiary Treated RW used for Chevron cooling towers. Also used for commercial irrigation.
El Dorado Irrigation District	Retail	Wastewater	SFR fixed mo. charge is \$21.00 w/3-tier rates, non-resid. fixed charge by meter size, w/uniform tier.	Resid. = \$264-672/AF ² Comm./Landscape = \$361-429/AF	SFR tiers as % of potable rate is 90% (tier 3), 70% (tier 2) and 50% (tier 1).

RW = Recycled Water. SFR = Single-family residential.

¹ Information for these districts provided by El Dorado Irrigation District in 2011.

² EID website.

utility rates and charges (water/sewer/storm)

Table 2 - Recycled Water Rate Data, Southern California Agencies (WHOLESALE)

Agency	Wholesale/ Retail	Managing Utility	Pricing Structure	Consumption Rates	Other Comments
Southern California					
Calleguas Municipal Water District	Wholesale	Water	Base rate	\$750/AF	1
Central Basin Municipal Water District	Wholesale	Water	Tiered rates	Tier 1 = \$275/AF Tier 3 = \$497/AF	1
Eastern Municipal Water District	Wholesale		Tiered rates	\$181 to \$288/AF	1
Inland Empire Utilities Agencies	Wholesale		Base rate	\$75/AF	1
Irvine Ranch Water District	Wholesale	Wastewater	10% less than Potable	Base rate \$449/AF	1
Metropolitan Water District	Wholesale		Tiered rates	\$0 to \$250/AF	1
Orange County Water District	Wholesale	Water	Base rate per AF	\$326/AF	1
Upper San Gabriel Water District	Wholesale	Water	Various agreements with different customers	\$315 to \$360/AF	1
West Basin Municipal Water District	Wholesale	Water	Tiered rates	\$501 to \$1,195/AF	1

Indicates advanced treatment or outside vs. inside customers were considered in setting rates.

¹ Regional Recycled Water Program, Inland Empire Utilities Agency, January 2010 Update.

utility rates and charges (water/sewer/storm)

Table 2 - Recycled Water Rate Data, Southern California Agencies (RETAIL)

Agency	Wholesale/ Retail	Managing Utility	Pricing Structure	Consumption Rates	Other Comments
Southern California					
City of Burbank	Retail		Base rate	\$823/AF \$414/AF	> Recycled Water Service > School Recycled Water Service
City of Carlsbad	Retail		Base rate	\$1,098/AF	
City of Escondido	Retail		Base rate	\$976/AF	
City of Glendale	Retail		Tiered rates	\$238 to \$475/AF	
City of Poway	Retail		Base rate	\$1,294/AF	
City of Riverside	Retail			\$348/AF 4" meter charge \$483/mo	Outside customers have surcharge of 50% RW supply is limited to availability.
City of San Diego	Retail		Base rate	\$348/AF	
City of Santa Barbara	Retail		Varies w/type of use (63% of Potable Tier 1 rate) ¹	\$805/AF \$784/AF	
Eastern Municipal Water District	Retail		Rates vary by meter size and treatment level	\$34 to \$464/AF	District provides secondary and tertiary treated RW.
Fallbrook Public Utility District	Retail		Base rate	\$719/AF	
Inland Empire Utilities Agencies	(Member agencies are Retail)		Member agency average cost is \$250 / AF (\$100 / AF for capital, \$150 / AF for O&M)	Chino Hills* = \$523/AF Cucamonga Valley WD = \$488/AF Ontario* = \$475/AF Monclair Vista WD = \$411/AF Chino = \$331/AF	Rate stabilization and replacement reserves are being established. Property taxes are allocated to debt service. * Average of tiered rates.

□ Indicates advanced treatment or outside vs. inside customers were considered in setting rates.

¹ Regional Recycled Water Program, Inland Empire Utilities Agency, January 2010 Update.

² Agency websites.

utility rates and charges (water/sewer/storm)

Table 2 Continued - Recycled Water Rate Data, Southern California Agencies (RETAIL)

Agency	Wholesale/ Retail	Managing Utility	Pricing Structure	Consumption Rates	Other Comments
Southern California					
Irvine Ranch Water District	Retail	Wastewater	5-Tier Water Budgets plus fixed Mo. charge by Meter size (e.g., 1" meter = \$19,45, 4" Compound = \$342,20)	Non-Ag Landscape = \$48 to \$515/AF Comm / Ind. = \$44 to \$344/AF	RW developed for conservation and to reduce the District's wastewater discharge costs. Separate rates for irrigation, comm./indust., and "Toilets/Cooling Towers".
Los Angeles Dept. of Water and Power	Retail		Tiered rates	\$1,227 to \$1,913/AF	
Las Virgenes Municipal Water District	Retail		Tiered rates	\$818 to \$1,355/AF \$510 to \$1,446/AF	> Las Virgenes Valley Zone > Western/Calabasas Zone
Long Beach Water Department	Retail		Non-peaking and peaking rates	\$531 to \$744/AF	
Olivehain Municipal Water District	Retail		Base rate	\$1,019/AF	
Otay Water District	Retail		Three tiers. RW Tier 1 is 23% higher than the single-family potable Tier 1	Tier 1 = \$1,124/AF Tier 3 = \$1,163/AF	
Rincon Del Diablo Municipal Water District	Retail		Base rate	\$897/AF	
Santa Fe Irrigation District	Retail		Base rate	\$1,133/AF	
San Dieguito Water District	Retail		RW is 85% of Non-Residential Potable rates.	\$1,076 to \$1,550/AF (by customer type)	RW rates are less than Tiers 2-4 of residential potable rates, but RW is single-tier.
Vallecitos Water District	Retail		3 Ag tiers, 80-90% of potable. No RW per se. Meter service charges are the same for all.	Tier 1 = \$1,002/AF Tier 2 = \$1,176/AF Tier 3 = \$1,333/AF	Water rates for potable and Ag water are the same; MWD and San Diego CWD rates provide the decrease in Ag rates.

¹ Regional Recycled Water Program, Inland Empire Utilities Agency, January 2010 Update.

² Agency websites.

These data illustrate the wide variety of pricing mechanisms and methodologies currently used today in California. We have also highlighted a few cases of interest with respect to advanced treatment and outside customer rates. General pricing concepts are discussed in more detail below.

General Principles: Overview of Recycled Water Pricing

Methodologies and Practices

Discussions with various water and wastewater agencies that provide recycled water indicate there is no consistent approach with regard to the rate philosophy, methodology, or actual pricing mechanisms used in California. The following discussion provides a brief overview of general concepts, historical pricing practices, American Water Works Association (AWWA) and other pricing methodologies, followed by a discussion of alternative recycled water rate structures.

General Concepts

Although public utilities are not allowed to "make a profit", recycled water rates should, at minimum, cover the costs for any new recycled water facilities. Ideally, this means recovering all fixed costs, thereby guaranteeing that non-recycled water customers will not be subsidizing recycled water customers. Additionally, all variable recycled water costs should be recovered through variable rates (i.e., volumetric charges). In other words, the recycled water agency should hypothetically be indifferent to how much recycled water it sells because (1) they will not lose money and (2) the fixed and variable recycled water prices are fully recovered. Ideally, the resulting

recycled water rates are also agreeable to recycled water customers. As a matter of policy, an agency should give priority to customers within its service area. Any new recycled water project, particularly those serving outside customers, should not only be financially feasible, but should also provide long-term benefits to customers inside their service area. These benefits might be in the form of lower potable and/or recycled rates. Recycled water customers that are outside the service area can, and probably should be charged based on their willingness to pay and/or on a contractual basis, rather than strict cost-of-service principles.

Historical Recycled Water Pricing Practices

Many agencies initially developed recycled water systems as a means to either reduce wastewater disposal costs, particularly in light of increasing discharge standards and costs, or because they provide non-potable supplies for landscaping where potable supplies were limited. Other reasons for developing recycled water facilities include (1) meeting additional and/or seasonal water demand with lower-cost, non-potable supplies, and (2) delaying or eliminating additional costs of potable treatment, storage, and/or delivery costs.

Recycled water has also been used to offset the loss of potable supplies. For example, the City of Ripon lost several potable groundwater wells due to contamination and, rather than adding wellhead treatment or constructing new potable wells, they constructed new "non-potable" distribution lines for landscape irrigation as a means of offsetting the loss of potable water.

Recycled water rates have historically supported the initial capital cost of developing “backbone” transmission and pumping facilities, and this usually required an agreement, memorandum of understanding, or some form of contracting with larger customers such as golf courses or industrial and commercial users that required larger volumes, but did not require potable quality water. As a result, water and wastewater agencies have typically offered “discounts” to make recycled water more attractive as a long-term source.

There has also been increasing efforts to build “green” attributes into new residential projects in order to gain approval from city councils, planning commissions, and the public in general. As an example, a large residential development in El Dorado Hills (in the service area of El Dorado Irrigation District) constructed a recycled water system to provide landscape irrigation water for 3,900 dual-plumbed homes. This system, along with 165 commercial and recreational turf recycled customers, resulted in reduced wastewater disposal costs and avoided capital costs for additional potable water treatment capacity.

However, reduced and avoided potable water system costs are not always easy to incorporate into recycled water rates if agencies take a strict “cost-of-service” approach. Additionally, recycled water, along with conservation programs, has become a critically needed and favorable “new” water supply in recent years. Due to drought issues and greater scarcity of new potable supplies, one agency notes that recycled water is “the lowest cost of new water supply in California.”²

Recycled Water Pricing Methodologies

Since there is no over-arching pricing methodology used by California agencies in establishing recycled water prices, in many cases recycled water pricing is market-based, similar to many wholesale potable contracts. That is, two parties agree to a certain price tied to predetermined stipulations (capacity, limits/guarantees on delivery, quality). However, the increasing scarcity of potable supplies has encouraged a general trend towards using a tiered pricing approach as well as developing a better cost basis and rationale for how recycled water is priced.

The following is a summary of pricing principles from (1) the AWWA regarding standards in water and wastewater rate setting, and (2) pricing concepts recommended by the Economic Regulation Authority in Western Australia, where a long-term drought has resulted in the accelerated development of recycled water as a major component in water supply portfolios.

AWWA Standards - AWWA Manual M1³ and other AWWA publications are typically well accepted as some of the most definitive and reliable sources for cost-of-service rate analysis. Unfortunately, they have minimal information about recycled water rates other than providing a solid foundation for cost-of-service rate practices in general. This can be attributed to the relatively new field of pricing recycled water.

² Recycled Water Status Report and Proposed Rate Increase, FY 2010/2011, Inland Empire Utilities Agency, February 2010.
³ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices (M1), AWWA, Fifth Edition.

Most water and wastewater utilities consider the overall cost-benefit when they decided to develop recycled water supply systems. The primary concern typically is covering short-term costs. However, recycled water facilities can also be justified by their avoided costs of wastewater effluent disposal. For example, the City of Santa Rosa, which has severe restrictions on summertime "in-river" disposal of effluent, developed an extensive effluent conveyance system in order to inject recycled water into the geothermal energy fields at The Geysers Project. The City also evaluated other approaches such as reducing collection-system infiltration and inflows, re-injection wells, seasonal storage, and percolation ponds. Two of the City's more cost-effective alternatives included using recycled water for landscaping and agricultural irrigation. The City has continued to expand these over time.

In light of the lack of AWWA standards, most California utilities are still searching for rational policies and approaches to pricing their recycled water. As discussed below, the Australian government has developed recommendations for this purpose.

An Australian Approach - The Economic Regulation Authority in Western Australia (ERAWA) prepared a report that evaluated a number of recycled water principles in an attempt to establish a consistent approach to the development and pricing of recycled water supplies.⁴

Among other purposes for this report, the ERAWA wanted to promote conditions in which (1) resources for recycled water are distributed to those who value them the most, (2) there is "robust competition" between alternative providers, and (3) there are strong incentives to achieve least-cost provision of wastewater activities. This report recommended the inclusion of three cost components in pricing recycled water, as follows⁵:

1. *Incremental Delivery Costs* - There should be a charge associated with the cost of delivering recycled water to a customer, including incremental costs for achieving specific levels of treatment required by individual customers.
2. *Avoided Cost Discounts* - There should be a "negative adjustment" in the price to account for avoided costs that result from selling wastewater rather than disposing of it. However, this discount should not exceed the direct cost of the recycled project.
3. *Scarcity Premium* - If the amount of wastewater available for recycling is less than total demand, a premium should be added to reflect its relative scarcity. This premium should be determined by a neutral third party.

Another important concept included in this report's final recommendations is that recycled water pricing should not include contributions towards "joint costs" of wastewater

⁴ Inquiry into Pricing of Recycled Water in Western Australia, Final Report, Economic Regulation Authority of Western Australia, February 6, 2009.
⁵ Ibid, pages iv and v.

treatment. In other words, to the extent that recycled customers are willing to pay, wastewater entities typically seek to recover at least some wastewater facility costs. The basis for this recommendation is that recycled water customers should not have to pay for wastewater facilities which they did not cause to be constructed.

Pricing Concepts for "Inside" vs. "Outside" Customers - While the "cost-of-service" provides the basis for setting recycled water rates for customers inside the agency's service area, it should be considered the floor of recycled water prices for outside customers. That is, outside customers should never be charged less than the full cost-of-service. Additionally, inside customers should never incur financial risks for providing services to outside customers, at least not without a corresponding benefit, such as lower long-term rates for inside customers, whether they are potable, recycled, or wastewater customers.

In providing facilities and services to customers outside the service area, an agency should consider using a pricing philosophy more typical of a contract, and could include the three principles identified in the Australian approach noted above (covering incremental delivery costs, avoided-cost discounts, and incorporating a premium based on the relative scarcity of recycled water).

Alternative Recycled Water Rate Structures

When developing a recycled water rate structure, in general an agency should consider a broader range of financial factors than just the direct cost of facilities and operations. They should also consider how recycled water fits into the agency's broader mandates and objectives. Rate structures might consider the following options:

- *Base Rates* - This can refer to a single tier, or uniform rate, for volumetric charges, usually combined with some form of fixed charge. These fixed charges are often based on capacity requirements and therefore tied to meter sizes. Base rates can also be specific to customer classes (agriculture, commercial, landscape).
- *Tiered Rates* - This approach most logically goes hand-in-hand with some form of water budgets, which define the irrigation needs of large landscape customers (golf courses and parks), such as those used by IRWD. Other forms of tiered rates can be tied to meter sizes, such as those used by the Oray Water District.
- *Surcharges for Outside Customers* - Many agencies have a policy of adding a surcharge for service to potable and recycled water customers outside their service areas. This reflects the additional costs of serving customers farther from service centers, the lack of initial investment in capital facilities by outside customers, and the fact that outside customers do not carry the same liability and/or financial burden of debt service payments or other risks.

utility rates and charges (water/sewer/storm)

- *Contracted Services* – recycled water service to new customers, particularly those with larger volumetric demands, can be provided on a contractual basis whereby the agency and customer develop an agreement for the level of service, specified deliveries of recycled water, and payment of capital costs. This arrangement typically means that recycled water service is outside the normal constraints of the agency's obligations to serve municipal customers within its service area. These agreements are not typically subject to Proposition 218 requirements, since the agreement is voluntarily entered into by both parties.⁶

Proposition 218 and Recycled Water Rates

Although recycled systems are categorically different than potable systems, they are still subject to the same legal requirements as potable water rates, including Proposition 218. However, recent court rulings have raised concerns over pricing methodologies and rate structures.⁷ In particular, the San Juan Capistrano decision specifically prohibited the City's practice of spreading recycled water costs to those not having immediate access to recycled water.

As shown in the tables above, many recycled water rate structures either use a tiered rate structure or are tied to a tiered potable rate. Unfortunately, this may be a much more limited option in the future. As a recent legal article commented, "*If the Court of Appeal agrees with the [San Juan Capistrano decision], then traditional tiered rate structures may be soon be a thing of the past.*"⁸

This raises two immediate concerns for recycled water pricing mechanisms: (1) tiered recycled water rates would require very specific cost justification to support a tiered structure (as would potable tiered rates), and (2) recycled water rates must carry the full cost of their services, and can only be paid for by customers directly receiving or having immediate access to recycled water service.

Bearing the full costs of recycled facilities and operations can be a significant difficulty for many recycled water systems, since recycled costs don't always compare favorably with the costs of potable water as evidenced in cases where discounts are offered in an effort to sell the available supply of recycled water. This would be true even in cases where the overall costs paid by potable water customers would decrease as a result of the recycled water system, which is what the City argued in the San Juan Capistrano case.

Conclusions

As California's limited storage capacity and cyclical droughts continue to constrain water supplies, the growing need for recycled water will continue to offer new challenges for water and wastewater agencies providing recycled water.

In light of these challenges, determining the recycled water pricing mechanism and rate structure that best fits your utility is not an easy task. It will require a thorough understanding of the current and future role of both potable and recycled water, the future demands and types of customers they each serve, and a careful evaluation of an agency's recycled water policies.

⁶ This is not intended to provide legal advice; each water agency should consult legal counsel.

⁷ Capistrano Taxpayers Association v. City of San Juan Capistrano, County of Orange – Central Justice Center, August 6, 2013, and City of Palmdale v. Palmdale Water District, et al., Los Angeles County Superior Court, 8/9/11.

⁸ Upgrading Conservation Pricing, Proposition 218, Smart Meters and the Step Beyond Tiered Rates, Barnhart and Anderson Smith, California Water Law & Policy Reporter, p. 35, January 2014.

utility rates and charges (water/sewer/storm)

The key factors that will play important roles in shaping and defining recycled water pricing mechanisms will include:

- The feasibility of various pricing mechanisms.
- The limitations of those mechanisms.
- The relationship between the utility (supplier) and recycled customers.
- The political and legal forces affecting rate design and industry practices. ■



utility rates and charges (water/sewer/storm)

THE PENDING STORM IN MEETING AND FUNDING NPDES REQUIREMENTS

The proverbial bar in storm drain management is being raised – again. California communities, already burdened by aging systems and existing standards, are facing dramatically increased requirements for storm drainage efforts as required by the conditions of the National Pollutant Discharge Elimination System (NPDES) as administered by the State Regional Water Quality Control Boards.

The new requirements for eliminating trash and pollutants from the storm drain systems are arduous, and very expensive. Along with these water quality requirements, California's storm drain systems are aging, the population is increasing, the climate is changing, and the demands on our systems are higher than ever. A well vetted and technically appropriate storm drain master plan is needed.

Planning and Engineering: Storm drain management requires proactive planning, the right infrastructure, along with regular operations and maintenance. Developing, or updating, a storm drain master plan is a good place to start, and contemplate the needs, design requirements, and unique attributes of your community. For many years in many communities, storm drain management has been low on the priority list, until recently. With more population and increased impervious surface area due to development, storm drain management, with significantly increasing water quality standards, is moving up to high priority.

The requirements for the NPDES permit in the San Francisco Bay Area, for example, will require many communities to dramatically capture sediment, trash and metals in their storm drain system. By 2022, trash down to 5mm in size (roughly the diameter of a cigarette butt) will be required to be removed from storm water. This alone will require a lot of planning and maintenance effort.

Funding: After the technical issues have been addressed, it is necessary to formulate strategies to fund both capital improvements as well as ongoing maintenance and operations. The history of funding storm drain projects in the Western United States is technically complex, and politically charged. The State of California has many unique facets curbing the creation of storm drain utilities as is done in Washington and Oregon.

The passage of Proposition 218 is the greatest hurdle to communities in establishing storm drain funding sources. Proposition 26 does not appear to have effect in this context. A few bills have been introduced which would allow local governments to establish property related fees for storm drain costs, in the same manner (i.e., the fee can be approved as long as there is not a majority protest after notice has been provided) as currently allowed for water, sewer, and trash. However, this would be a constitutional amendment and it has yet to occur (as of mid 2014). It will require a vote of the people if it finally passes through the legislature.

Storm drain funding can be accomplished via a number of elements, including:

- *Development Impact Fees* – one time fees to fund capital only, no maintenance.
- *Regulatory Fees* – fees that can fund specific requirements.
- *Property-related Fees* – property owner or voter approved measure to fund capital or maintenance or both.
- *General Obligation Bonds* – voter-approved bonds to fund capital.
- *Special Taxes/CFDs* – voter-approved (or landowner approval in the case of undeveloped land) mechanism to fund capital or maintenance or both.
- *Assessment Districts* – property owner approved district/area to fund capital or maintenance or both.
- *Grants and Other Sources* – various sources.
- *The General Fund* – the last recourse when all of the above don't meet the need (a very challenged fund for many, and likely the current source of storm drain funding).

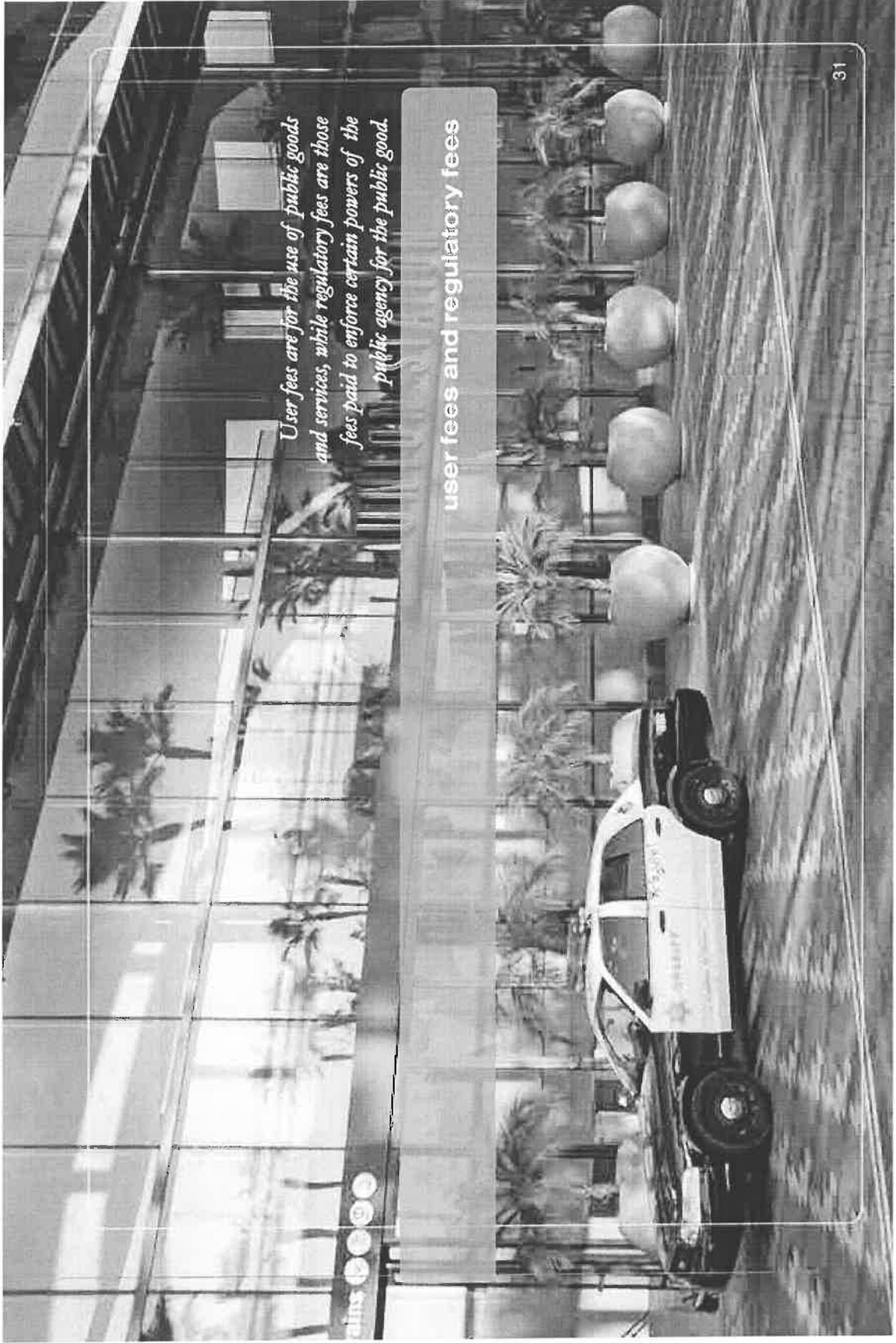
These are the funding alternatives that can be implemented to generate funds for storm system improvements, operation and maintenance in your community.

Summary

There are a handful of cities and counties that have a robust funding toolset, including those who have successfully passed storm drain fees. Others have failed. Establishing a multi-disciplined team, including staff, community leaders and specialists in engineering, financial and public outreach, is the key to success. Reaching out to the public early and often in the process and maintaining a focused approach can improve the chances of successfully creating a suite of funding tools that will allow your agency to get over the “raised bar.” ■

*“Don’t tax me, and don’t tax thee;
tax that man behind the tree.”*

– Senator Russell Long,
Source: *Money*, Robert F. Taft III, *Legislation Politics*



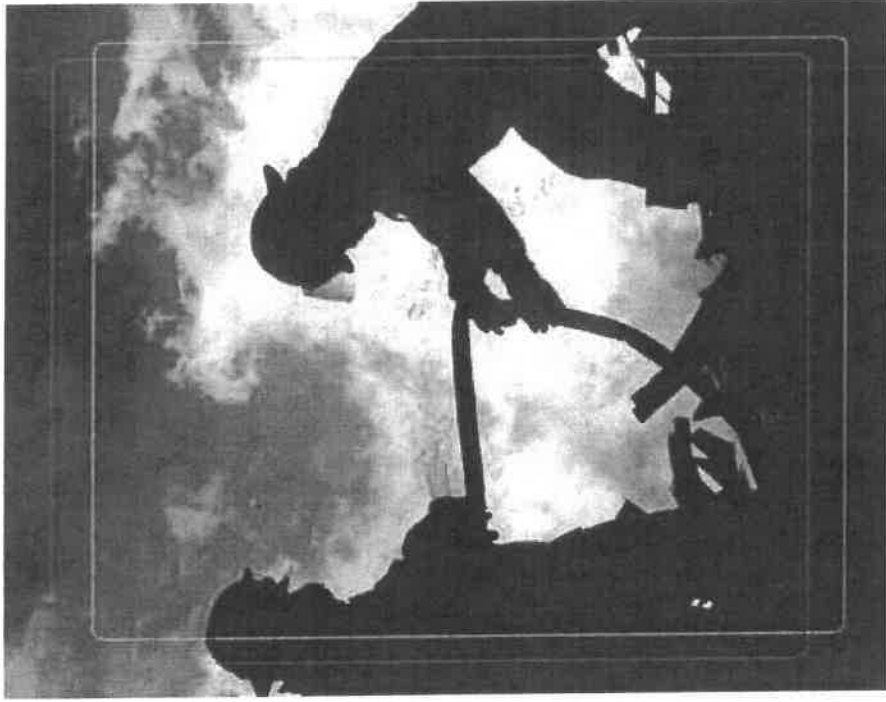
User fees are for the use of public goods and services, while regulatory fees are those fees paid to enforce certain powers of the public agency for the public good.

user fees and regulatory fees

user fees and regulatory fees

INTRODUCTION

User fees are for the use of public goods and services, while regulatory fees are those fees paid to enforce certain powers of the public agency for the public good. It is important to have a strong overall understanding of an agency's cost structure before designing such fees, and then to have a dialogue about cost recovery for those fees. NBS guides public agencies through these processes with in-depth analysis and recommendations. Compiling all fees into a Master Fee Schedule is a good goal to have.



COST ALLOCATION PLANS FOR OVERHEAD COSTS

Effective cost recovery policies and procedures must come from an initial understanding of the true costs of providing services. Many local government agencies are aware that indirect administrative costs can be quantified and recovered from various funds, grants, fees, and charges. However, agency staff are often unsure of the best method of assigning these costs and, most importantly how to go about effectively recovering these costs, which can be substantial. In many cases, hundreds of thousands or even millions of dollars are “left on the table,” annually, due to ineffective cost recovery.

An Overhead Cost Allocation Plan is an analysis, accompanied by supporting documentation, which distributes the indirect support services costs of an organization to the direct services and activities provided in a fair and equitable manner. In the words of the Office of Management and Budget (OMB):

“Indirect costs means those costs incurred for a common or joint purpose benefitting more than one cost objective, and not readily assigned to the cost objectives specifically benefitted, without effort disproportionate to the results achieved. To facilitate equitable distribution of indirect expenses to the cost objectives served, it may be necessary to establish a number of pools of indirect costs. Indirect cost pools should be distributed to benefitted cost objectives on bases that will produce an equitable result in consideration of relative benefits derived.”¹

These costs are typically referred to as “overhead” costs. Most overhead costs are those expenditures that provide indirect support services, such as legislative, managerial, financial, administrative, legal, human resources, technology, facilities maintenance, and risk management activities.

Common uses for the results of a Cost Allocation Plan (CAP) are:

- Application in the cost basis for governmental fees and charges
- A component in the derivation of fully-burdened hourly rates for personnel
- Indirect cost recovery for support provided to Enterprise Fund, Utility Funds, Internal Service Funds or Other Special Revenue
- Indirect Cost Recovery from external funds such as grants or agreements with other agencies

Preparation of an overhead CAP encompasses a number of analytical steps, including the compilation of an organization’s cost data, expression of costs according to the primary types of support services provided, and assignment of a statistical basis for allocating costs. The results of the CAP provide information on the total assigned indirect cost to each program, department, or direct service area of the organization. The assigned costs can be expressed as an annual dollar amount, or as an overhead rate.

Expenditure information is the most significant source of information affecting a CAP’s results. Aside from accurately reflecting an organization’s indirect costs, the most important step in preparing a CAP is the selection of allocation statistics. These

¹ Office of Management and Budget Code of Federal Regulations, Title 2, Part 200.

user fees and regulatory fees

data sets should represent the quantified workload of the support service cost allocated or a reasonable and generally accepted means of apportioning benefit for that support service.

When preparing a CAP, either internally, or with a consultant, it is important to first identify and articulate the intended use of the Plan's results. There are two common versions of CAPs prepared by agencies and consulting firms, which are more or less restrictive in their application of important published federal and State guidelines regarding CAPs.

One version, commonly termed as an "OMB A-87" Cost Allocation Plan, complies with the stipulations of *Title 2, Code of Federal Regulations, Part 225, Cost Principles for State, Local, and Indian Tribal Governments* (formerly known as OMB A-87). The primary use of this type of CAP is to obtain reimbursement of overhead costs associated with State and federal grants. Only costs identified as recoverable by Title 2 are considered in the analysis, and the allocation statistics and mathematical method of apportioning costs adheres strictly to Title 2 requirements. Effective Fiscal Year ending December 31, 2015, the Title 2 document will be known as *Part 200 CFR – Code of Federal Regulations*.

A second version, commonly termed as a "Full" CAP, allocates all reasonably identifiable indirect costs to receivers of support services within an organization. All costs, whether acceptable for federal or State reimbursement purposes or not, are included in the results of this type of CAP. Organizations typically employ this type of CAP

when its intended use is as an internal budgeting tool to identify full costs for municipal programs and services, for inter-fund indirect cost recovery, or as an application toward cost recovery in fully burdened hourly rates, fees and charges. A Full CAP however still closely follows the general guidelines provided by the published Federal and state documents for CAPs.

The following are important questions and considerations for any agency to address to ensure effectiveness and efficiency regarding overhead cost recovery:

- Does your agency have a current CAP? When was it last updated?
- Is the CAP prepared to identify the maximum indirect cost recovery potential?
- Is the right kind of Cost Allocation Plan in place for its intended use (OMB A-87 v. Full Cost version)?
- Does the Plan need to be prepared in accordance with Federal guidelines?
- Are there additional options for recovery of indirect costs that could be pursued to enhance revenue recovery?
- Are there unintentional subsidies provided to programs and services by not considering their indirect costs, thus causing undue burden on the general fund?

California State laws Proposition 218 and 26 state that local government agencies may not recover more than the "estimated reasonable cost" of providing services. The burden of proof is on the local government agency, so it is an imperative to know your full cost structure. ■

COST RECOVERY AND THE MASTER FEE SCHEDULE

User and regulatory fees represent cost recovery opportunities entirely within a local government agency's control. Fees can be implemented or modified upon public hearing, without further public process or approval. A Proposition 218 process is not required, nor are they covered by the strict guidelines of the Mitigation Fee Act.

There is a difference between a user fee and a regulatory fee. User fees are charges collected for a service provided or required due to the request or voluntary action of an individual/entity, while regulatory fees are those imposed to recover costs associated with a local government agency's power to govern certain activities. Examples of common types of fees charged include: development review; inspection, and approval (planning, engineering, and building); recreational classes and community sports programs; and public safety services, such as fingerprinting or a California Fire Code or hazardous materials permit. In most cases, the only legal limitation on the establishment of user and regulatory fees is that they may not exceed the *estimated* and *reasonable* costs incurred to provide the service for which the fee is charged.

To determine the maximum *estimated* and *reasonable* cost eligible for recovery as a fee, a thorough cost analysis is recommended, and arguably required. These efforts identify the full cost of service eligible for recovery from fees and translate those costs into a fee structure for various programs and services. Determination of the full cost of service is commonly an analytical exercise combining

expenditure and organizational information with time-tracking data, time estimates, and/or workload information. The full cost of service should be derived for each service or activity, and include labor, services or supplies, and various types of operational overhead costs.

Additionally, fees should be structured for fairness and equitability in the amount charged to the fee payer. Examples of common fee structures include flat fees, where the fee amount is the same regardless of the size of the project or request; variable fees, where the fee amount is "tiered" or "scaled" according to the size of the project or request; and deposit-based fees where an initial amount is collected from the fee payer, and the amount of time and materials required to accomplish the request are expensed against the deposit. It is important to reflect an economy of scale in the fee amount as a project's size or service request increases. It is also critical that fee structures are properly designed to collect revenue in direct relationship to the cost of the service performed. State law prohibits the structuring of fees that would require one category of fee payers to pay more than their fair share to make up for a discount provided to another category of fee payers receiving the same service. Providing a subsidy to reduce a fee is allowed; however, an alternate revenue source to cover that subsidy must be identified, such as the general fund or grant funding.

Compiling all individual fees across multiple departments or service areas into a single Master Fee Schedule document is also recommended. In this way, all fees are reviewed at the same time,

user fees and regulatory fees

and both staff and the public have a single point of reference for fee amounts.

In summary, the benefits of re-aligning user fees include:

- Reduction in general fund subsidies
- Realization of revenue for services that have been reduced or eliminated
- Ensuring departments are funded efficiently with adequate staffing
- Continued provision of necessary and basic municipal services

Structuring fees properly, and understanding the full cost of providing services helps management and policy makers allocate available financial resources effectively. Ensuring that fees are calibrated to the costs of providing service provides an opportunity for the municipality to optimize revenue sources, and ensures compliance with State law that requires fees to be set at the estimated and reasonable cost of providing each service. ■



EFFECTIVE COST RECOVERY POLICY FOR FEES

Translating costs of service into either new fee(s) or an updated fee structure often generates significant policy discussion for a municipality, particularly with respect to the optimal use of revenues available for public services. Setting cost recovery goals for fees should involve the discussion and/or development of a Cost Recovery Policy. Important considerations for policy development will include:

- Matching available funding sources to the public and private benefits achieved through an individual service. Public benefits are typically linked to use of general fund resources, while private benefits can be funded by fees charged to the individual requesting services.
- Broad public health and safety goals enhanced or impacted by an increase or decrease in fees for service.
- Cohesiveness or conflict with local government goals or priorities, such as economic development or community wellness.
- Compliance achievement with law, local regulations, and/or local government policy.
- Level of service, service access and affordability to resident citizens, groups, and businesses.

Often a municipality is aware that the full cost of providing a service is higher than the amount or “price” for the service that the local community can bear. Therefore, for the variety of reasons mentioned, municipalities sometimes adopt fee amounts at lower than the full cost amount eligible for recovery.

NBS routinely recommends that each municipality develop a formalized Cost Recovery Policy, unique to their operational and political environment. Such a policy document has a number of advantages, the greatest of which is an agency-specific benchmark for establishing, reviewing, and updating fee amounts in the future. Effective cost recovery policies are best organized by major service area. For example, the policy may indicate that building plan check and permit related services should try to recover 100% of their full cost of providing services (with a few minor exceptions), as property owners make their individual decisions and benefit directly therefrom. Another department, such as fire prevention inspections, might have a recovery goal of 50% to encourage best safety practices. A city may want to promote teen recreation services as a policy goal, and therefore may subsidize such services, or provide them at no user cost at all.

When considering how to “price” their services, decision makers often find it helpful to conduct a survey of fees and fee amounts charged by surrounding agencies. While this is a useful exercise in establishing the “market” or neighboring jurisdictions’ rates for various services, comparative surveys can be misleading. Neighboring jurisdictions have varying cost recovery policies and potentially drastically different service delivery systems and practices. Such surveys are best complimented by an overhead cost allocation plan study and a full cost of service (fee) analysis, and should be understood from this perspective. There would be a significant difference between a comparison which looks at the full cost of providing various services across neighboring jurisdictions, to a comparison which compares

user fees and regulatory fees

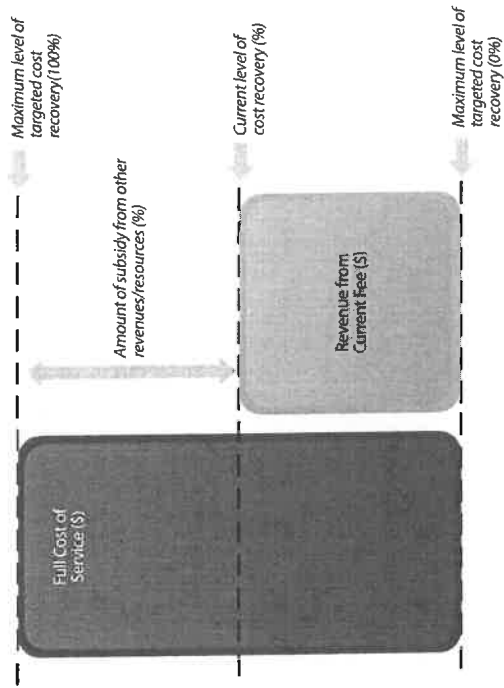
the “prices” set for services as shown on each publicly adopted fee schedule.

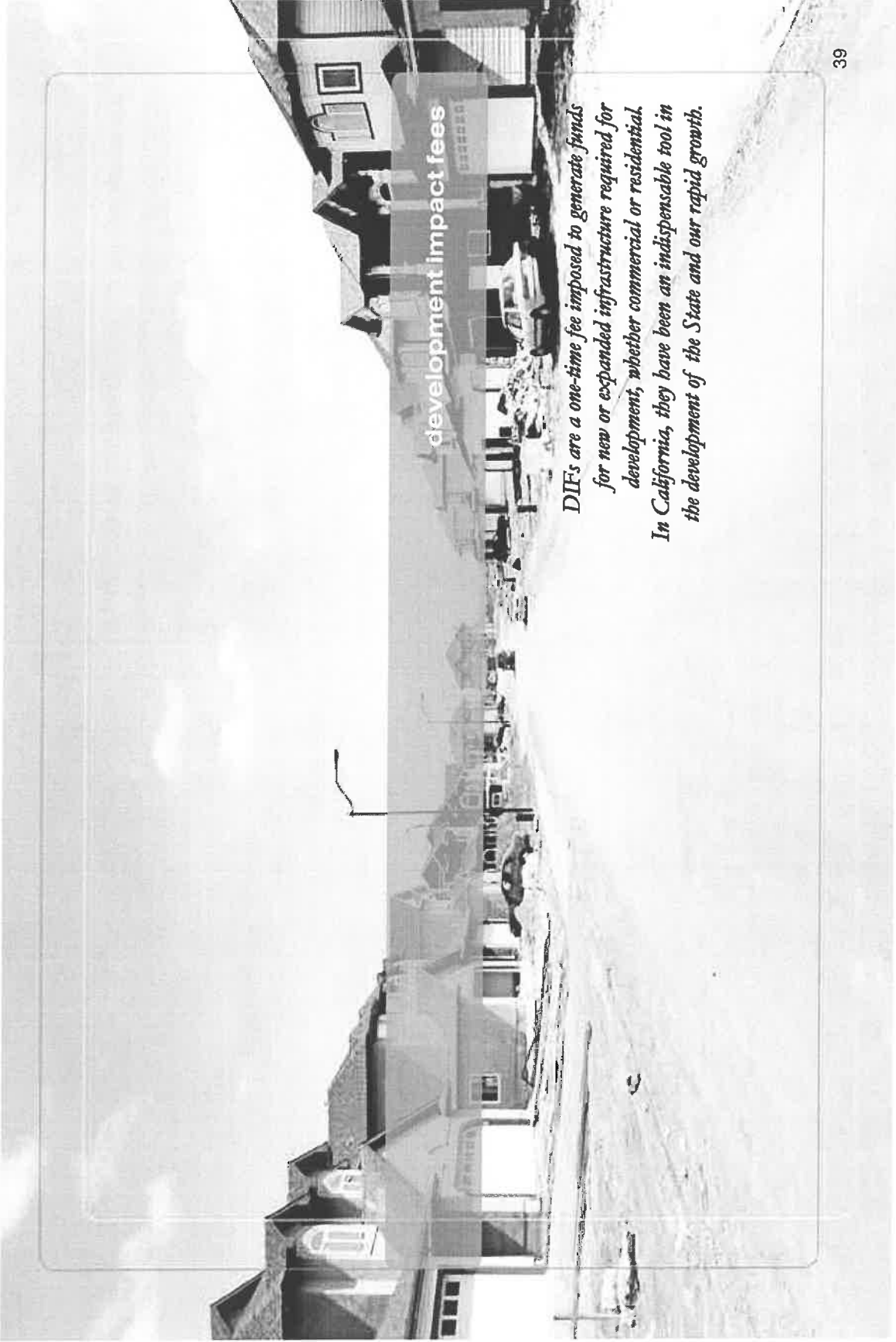
Development of a cost recovery policy is a fundamental component of a community’s financial stability plan. While it may be useful to consider pricing for services in similar agencies, the discussion and decision by local policy makers regarding how, why, and to what degree any particular fee-related service should be subsidized is key.

Ultimately, it is important to quantify and communicate the impacts of cost recovery policy decisions when reviewing fees. As shown in Figure 1, when any fee amount is adopted at less than 100% of its full cost, a subsidy is provided by the municipality’s other revenue sources. This can amount to a significant dollar amount, and recurs annually. In most cases, the primary impact falls on the general fund. Understanding the impacts of policy decisions can assist in making difficult choices when faced with limited financial resources.

A robust policy discussion of community goals and priorities, bolstered by the basic facts and figures of costs, fee structures, competitive fees, and the ultimate subsidies provided will translate into fully-informed decision making. Such decision making will lead to fiscally-sustainable actions, and hopefully a level of service and service delivery which aligns with the broader community and its desires. ■

Figure 1. Cost vs. Price: Illustration of Cost Recovery in Fee-Setting





DIFs are a one-time fee imposed to generate funds for new or expanded infrastructure required for development, whether commercial or residential. In California, they have been an indispensable tool in the development of the State and our rapid growth.

AN OVERVIEW OF DEVELOPMENT IMPACT FEES

Definition of Impact Fee: a charge to developers for the cost of off-site capital improvements needed to serve new development. Impact fees provide up-front financing for the expansion of public facilities, such as water and sewer treatment facilities or arterial roads, needed to serve a new development.¹

Development Impact Fees (DIF) are a one-time fee, a type of exaction, imposed to generate funds for the new or expanded infrastructure required because of development, whether commercial or residential. They are generally not to be used for ongoing operations and maintenance needs.

Development impact fees have been a very useful fiscal tool throughout the United States. They are currently in use by local governments across the US, authorized by local police power to protect basic health, safety, and welfare. State-enabling legislation is also in place in 24 of the 50 States.² Moreover, their use has increased as exemplified by a survey showing 25% of cities using such impact fees in 2002 versus 39% in 2006.

In California, DIFs have been an indispensable tool in the development of the State and our rapid growth, and they are used extensively today. There are impact fees for a wide-range of items: The more “traditional” infrastructure items financed with impact fees include:

- Water provision facilities
- Sewer treatment facilities
- Storm drain systems
- Streets and arterials
- Parks, trails and open space areas

In addition, the law in California has allowed some more creative uses of DIFs, including:

- Child care facilities
- School facilities
- Public art
- Cemetery infrastructure
- Community centers
- Affordable housing

Note that a utility connection or capacity charge based on the voluntary act of a landowner to connect to a utility system is technically not a DIF, nor is it a tax.

The adoption of impact fees is both a policy and fiscal choice, and discussion and due diligence are required. Conceptually, development is a privilege, not a right, and with that privilege comes a cost. This cost can be paid with a DIF, and that DIF is not a tax. In 1971, the California Supreme Court upheld these general DIF concepts in the case of *Associated Home Builders v. City of Walnut Creek*. Of course there were other lawsuits and cases heard, but in the end we have the Mitigation Fee Act (Act): California Government Code Section 66000 – 66025.

¹ Robert L. Bland, Professor, University of North Texas.

² Larry L. Lawhon, Kansas State University.

development impact fees

This Act codifies some generally-accepted practices and uses of municipal police power in the world of DIF. The most important tenets of this Act are as follows:

- Must show nexus, or connection between impact and regulation
- Rough proportionality, in that costs must be documented and reasonably proportional
- Procedures for adopting and protesting impact fees
- Requires fee to be reasonable and have relationship between fee and actual impact

To establish and maintain a DIF program, a municipality must adhere to the Act's provisions as discussed above. DIF revenues must be strictly segregated and only used for the purposes allowed. An annual report must be filed by the municipality, detailing projects completed and beginning and ending fund balances.

PARKS: The Quimby Act has long been used by municipalities to develop parkland and recreational facilities, as a fee on landowners as a condition of public approval. In 2013, Assembly Bill 1359 loosened certain location requirements, generally allowing land acquisitions in areas other than the landowner's subdivision.

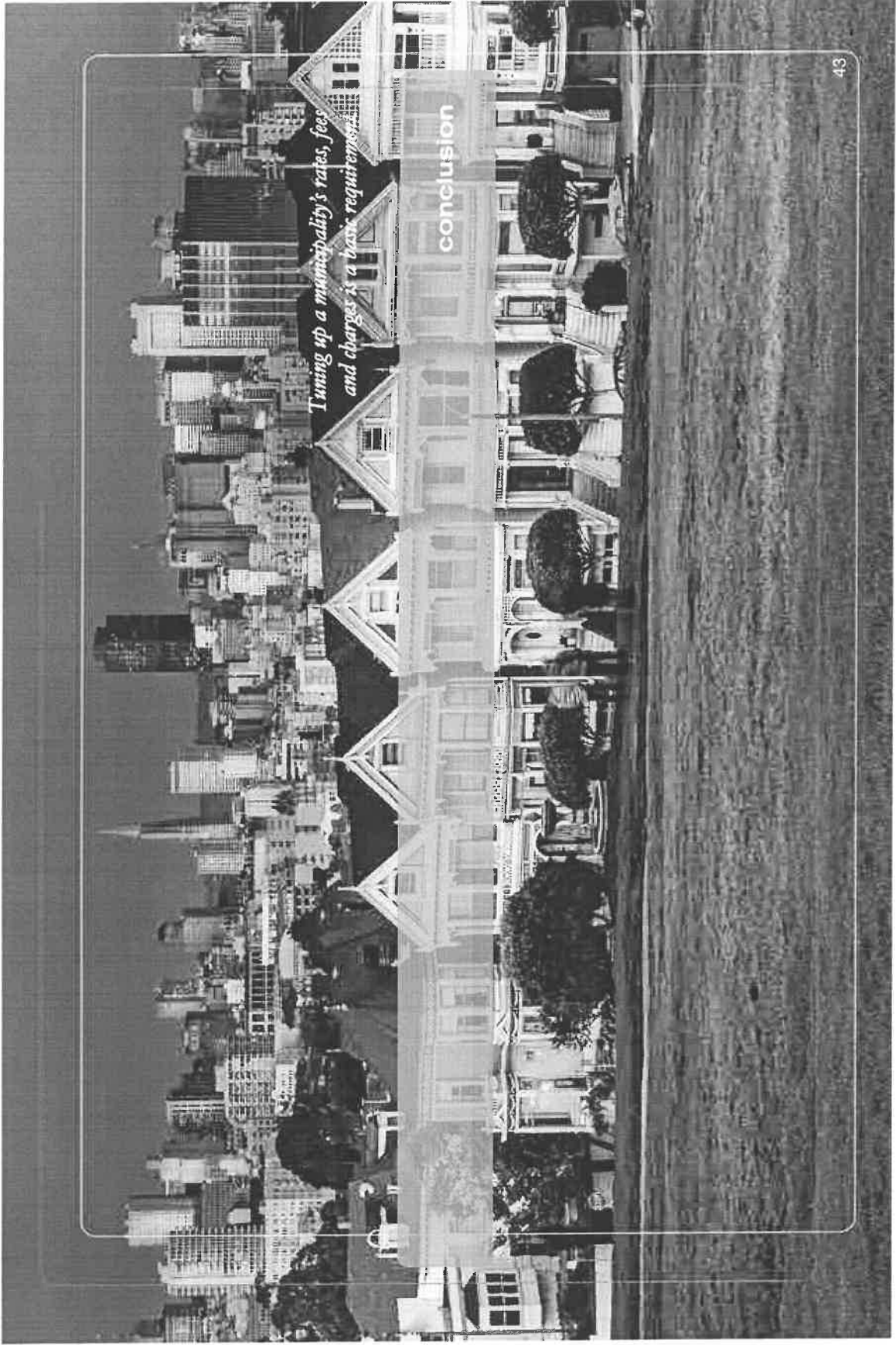
SCHOOLS: Education Code Section 17620 allows for a school district to levy a fee to mitigate the impacts on schools for both residential and commercial development. Government Code Section 65995 dictates a complicated process for levying such fees, which are indexed every two years. The most recent increase in January 2014 increased the Level I fees to \$5.36 per square foot for residential and \$0.54 for commercial square feet. This process was articulated in Senate Bill 50 back in 1998. The Bill limited the amount of school impact fees which may be charged and set procedures for adopting such fees.

The California Government Code, Section 66001 (excerpt), is as follows:

- (a) *In any action establishing, increasing, or imposing a fee as a condition of approval of a development project by a local agency, the local agency shall do all of the following:*
- (1) *Identify the purpose of the fee.*
 - (2) *Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement plan as specified in Section 65403 or 66002, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged.*

development impact fees

- (3) Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.
- (4) Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.
- (b) In any action imposing a fee as a condition of approval of a development project by a local agency, the local agency shall determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.
- (c) Upon receipt of a fee subject to this section, the local agency shall deposit, invest, account for, and expend the fees pursuant to Section 66006.
- (d) (1) For the fifth fiscal year following the first deposit into the account or fund, and every five years thereafter, the local agency shall make all of the following findings with respect to that portion of the account or fund remaining unexpended, whether committed or uncommitted:
- (A) Identify the purpose to which the fee is to be put.
 - (B) Demonstrate a reasonable relationship between the fee and the purpose for which it is charged.
- (C) Identify all sources and amounts of funding anticipated to complete financing in incomplete improvements identified in paragraph (2) of subdivision (a).
- (D) Designate the approximate dates on which the funding referred to in subparagraph (C) is expected to be deposited into the appropriate account or fund. ■



*Tuning up a municipality's rates, fees
and charges is a basic requirement*

conclusion

conclusion

Douglas Ayres, retired City Manager from Sedona, Arizona and author of the book *Consumer Government – via the Art of Full Disclosure*, recently stated in an article for the International City/County Management Association:

“It has become clear that greater diversification must be achieved to resuscitate government revenues. Otherwise, essential services will continue to be reduced and lesser-value activities all but eliminated. [Revitalizing] Old and new revenue streams could be the answer.”¹

It seems clear to us that tuning up a municipality's rates, fees, and charges is a basic requirement, and the addition of thoughtful new charges for desired community services and facilities is often a good idea. We hope that this Compendium will be been useful for your municipality. ■

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about the authors

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Greta Davis is an Associate Director at NBS in the Financial Consulting Group, specializing in Cost Allocation Plans and Fee Studies. Ms. Davis offers over 25 years of experience in all facets of government financial, organizational and operational consulting for local government clients. A dedicated professional and industry professional with a solid track record of implemented results in assisting public entities recover additional revenue to fund programs and services. Recent projects include working with local agencies to become financially stable by re-aligning fees and increase service delivery of reduced or eliminated programs and community services. Ms. Davis continues efforts in evaluation of cost of service delivery

of services and programs and establishment of realistic fee recovery policies to assist local governments with the organizational strategic and business goals and objectives. Greta has a Bachelor of Arts in Social Science and has often been a presenter at the League of California Cities Annual Conferences as well as the NBS University seminars. Greta lives with her husband and two sons in Orange County.

Nicole Kissam is a Director at NBS in the Financial Consulting Group, specializing in cost allocation plans and fee studies. She has over 10 years total work experience in public sector consulting, city government, marketing, and public relations.

Nicole has been a financial and management consultant to local government for the majority of her career, specializing in cost allocation plans, and user fee and rate studies for California agencies. She also spent several years performing management audits to improve the operational efficiency of various municipal services, including wastewater, community development, public works, recreation and human resources. Ms. Kissam has participated in, managed, and completed more than 100 separate consulting engagements throughout her career, from small jurisdictions, to large jurisdictions such as the City/County of San Francisco's Building Inspection Department and City of Los Angeles' Planning and Fire Departments. Nicole Kissam lives in Venice Beach with her musically talented husband.

Dan Schaaf, PE (*guest author - NPDES article*) is a registered civil engineer with the firm of Schaaf & Wheeler. He has over 15 years of project experience encompassing the areas of flood control and drainage, surface water hydrology, physical and numerical modeling, water supply and distribution. He is skilled in open channel hydraulics, coastal and estuary processes, HEC-RAS modeling, floodplain mapping and storm drain master planning. His GIS experience encompasses distribution systems, water quality, environmental habitat, volumetric and spatial analyses, numeric model coupling and Web-based GIS creation. Dan lives and works in San Francisco.

Tim Seufert is Managing Director of NBS, and works with many local public agencies in California. Tim has been in the world of finance for over 25 years. He spent a decade in the corporate Fortune 1000 private sector world, and over 15 years in the local government public finance arena. He has addressed various groups on financing topics including the League of California Cities, the California Special District Association, the California Municipal Treasurers Association, and the California Society of Municipal Finance Officers. He has a Bachelor of Science degree in Finance from the University of Southern California and a Master of Public Administration from San Francisco State University. When he is not working, Tim can be found roaming in San Francisco with his wife, or chasing around their two young sons, or perhaps skiing and hiking in the mountains.

About NBS

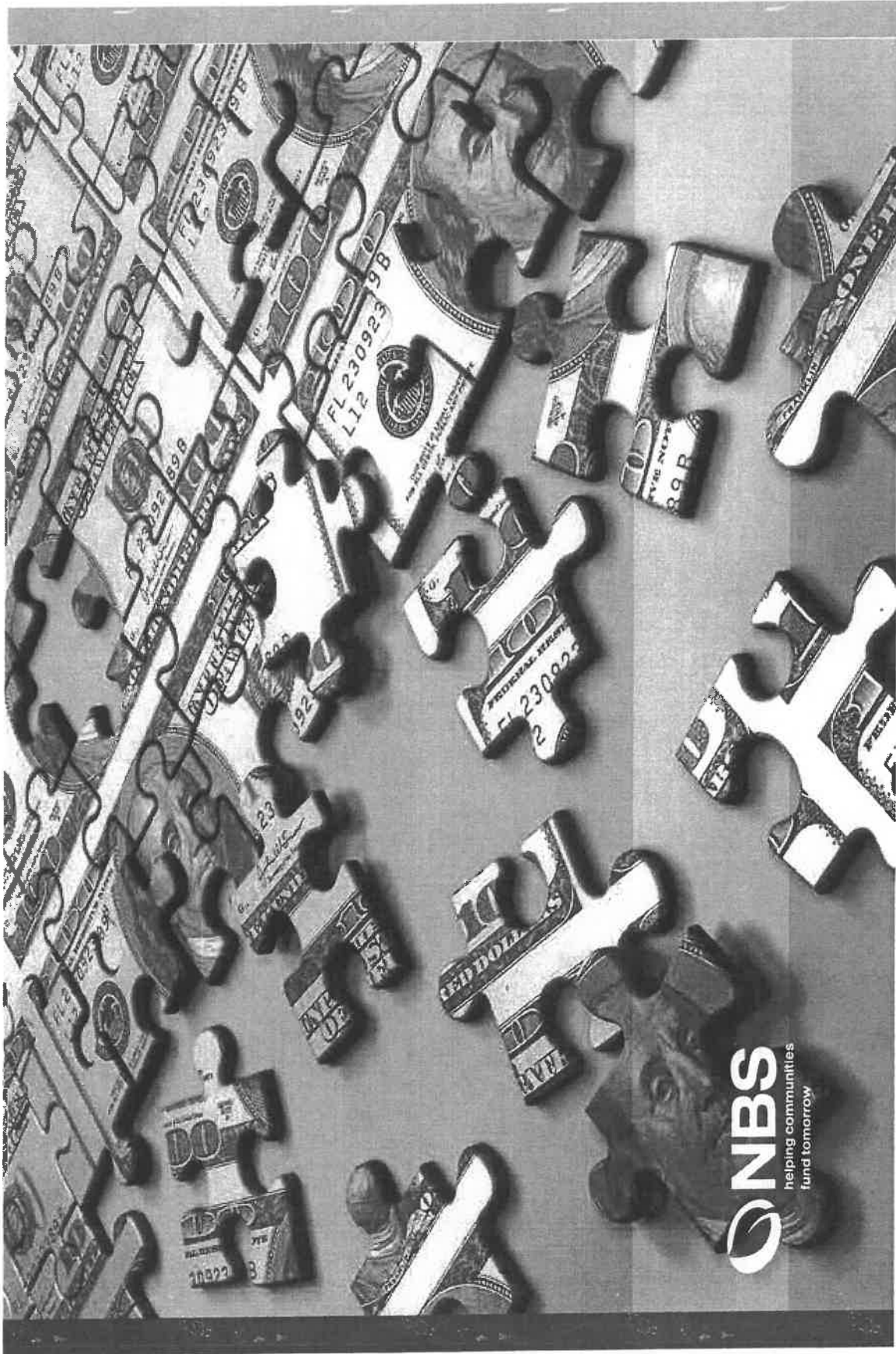
NBS is a private and independent firm that provides consulting and services to local government agencies across California, as well as outside the Golden State. NBS has offices in Davis, Irvine, Temecula and San Francisco.

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