

CAPACITY CHARGE RATE STUDY – WORK GROUP RECOMMENDATIONS

MWPAAC Rates & Finance Subcommittee

August 1, 2019

CAPACITY CHARGE BACKGROUND

- Same rate structure since 1990
- Residential charge based on Residential Customer Equivalent (RCE)
- Commercial charge based on Fixture Unit Count plus additional flows

WHY STUDY?

- Equity concerns - Homeowners and Developers
 - Variation within Single-family
 - Variation within Multi-family
- Administrative burden – esp. Commercial
- No evaluation of rate structure since 1990

WORK GROUP CHARTER

- Evaluation of equity of current system of assessing charge to different customer classifications
- Consideration of possible improvements – for new connections only
- Focus on Equity and Administrative Feasibility
- NOT:
 - Revenue requirement
 - Charge amount

Revenue

Neutral

KEY QUESTION

- “How to best define a target basis for the capacity charge that can be applied uniformly across the diverse service area”
- Regardless of basis used, it must be:
 - ✓ Administratively workable
 - ✓ Based on available information
- FCS Group study

DEFINITIONS

Equity

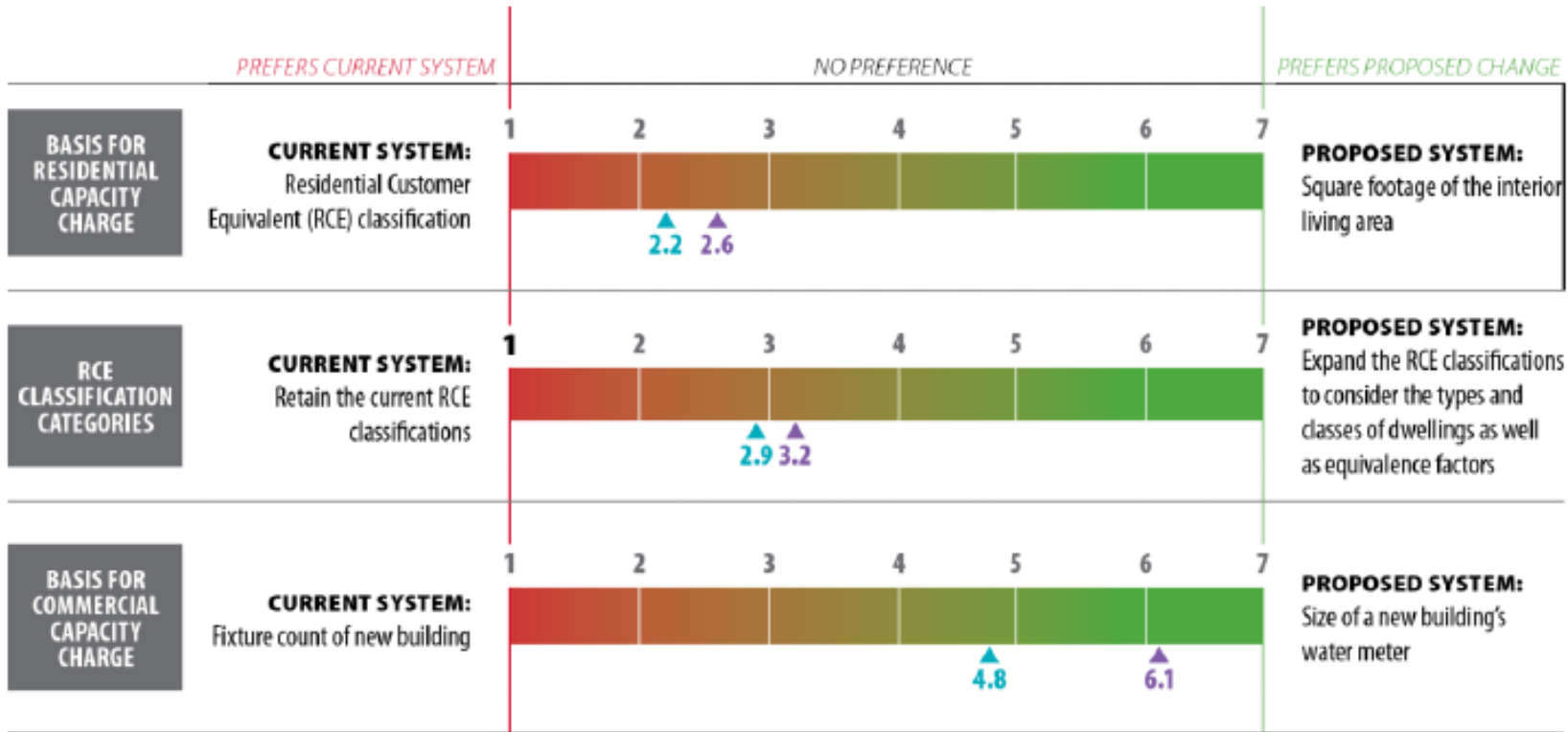
“the unit basis of the charge should be related to winter average water usage”

Administrative Feasibility

“the charge must be workable for the Wastewater Treatment Division, developers, and the 34 local sewer agencies”

SURVEY RESULTS

Exhibit 47: Preferences of Local Agency Survey Respondents



KEY: ▲ Average preference ranking of cities ▲ Average preference ranking of special purpose districts

RESIDENTIAL REVIEW – OPTION I

Status Quo (based on RCE)

Pros	Retains RCE System, avoids migration
	Water use close to RCE factors

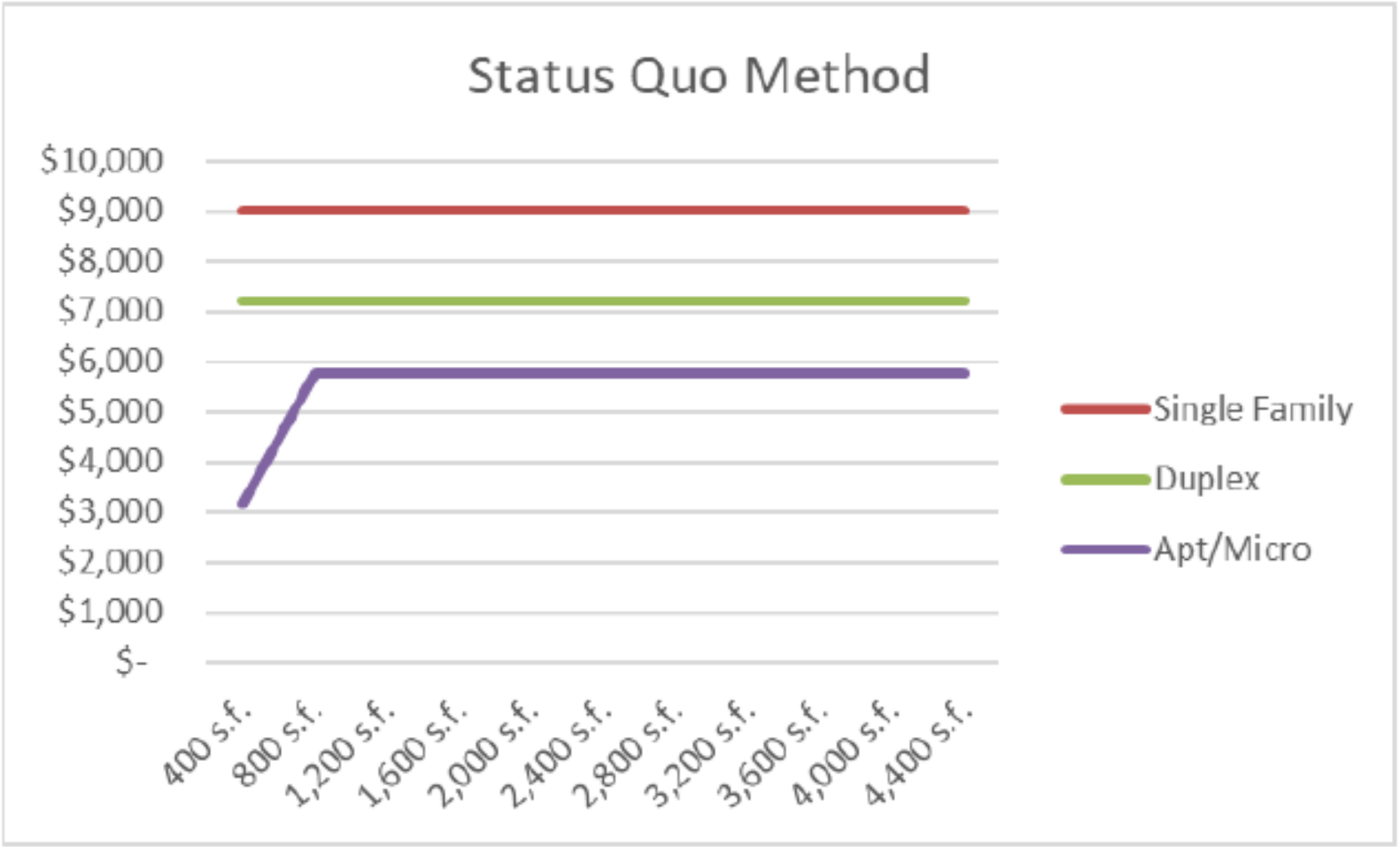
Cons	Doesn't address equity as well as other options
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Current Up-Front Costs

Category	RCE/unit	Charge
Single Family	1	\$9,021
Duplex - Fourplex	0.8	\$7,217
Apartment (5+ units/bldg)	0.64	\$5,773
Micro	0.35	\$3,157

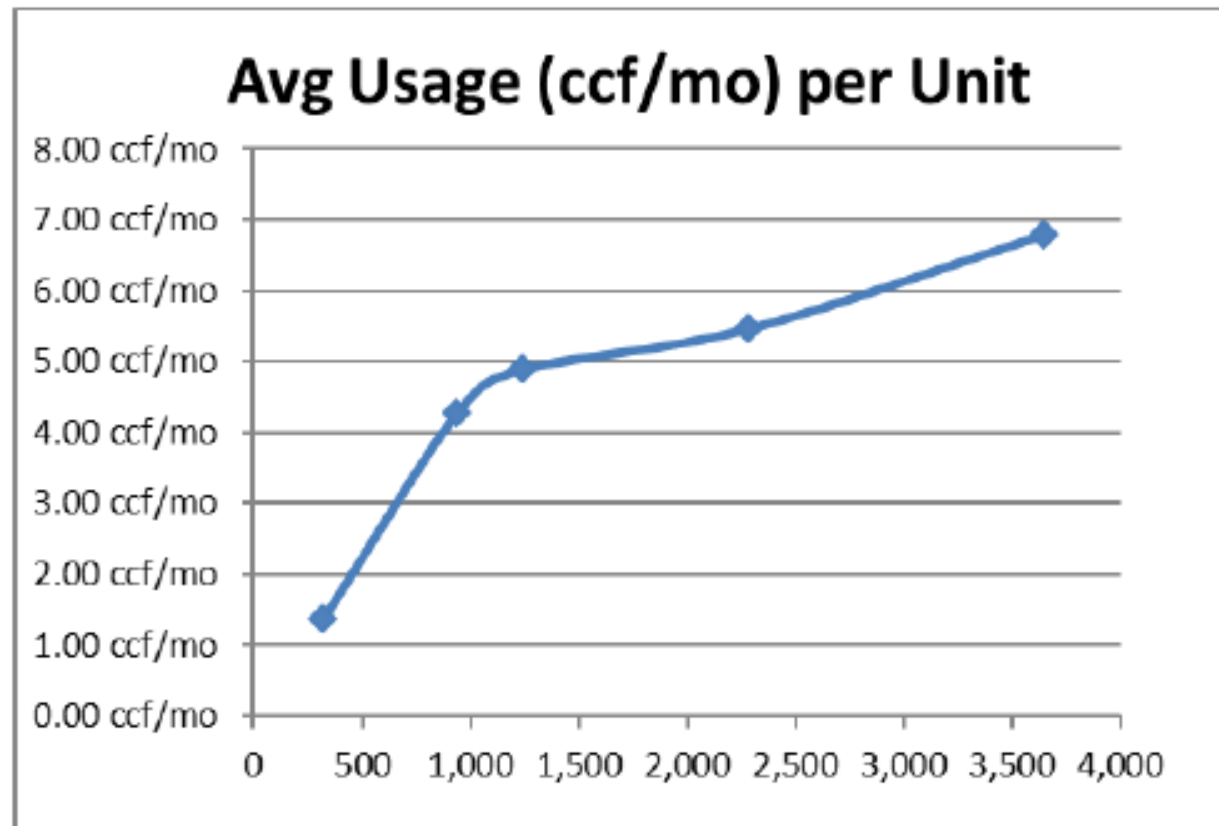
* "Charge" is the capacity charge if paid up-front

OPTION
I



SQUARE FOOTAGE AND WATER USE

Exhibit 1: Water Usage by Square Foot of Residential Units



RESIDENTIAL REVIEW – OPTION 2A

Revise RCEs based on square footage
TIERS – Small SF and MF *grouped together*

Pros	Retains RCE System
	Like charges for homes of similar size

Cons	Tiers create boundary issues
	Administrative difficulty– sq. ft. data

Example Up-Front Costs

Category	Assumed Sq. Ft. per unit	RCE	Charge
Large Single Family	3,000 +	1.25	\$9,548
Medium Single Family	1,500 - 3,000	1	\$7,638
Small Single Family	501 - 1,500	0.85	\$6,493
Duplex	All	0.85	\$6,493
Triplex / Fourplex	All	0.85	\$6,493
Apartment (5+ units/bldg)	All	0.85	\$6,493
Micro-unit	Up to 500 Sq. Ft.	0.25	\$1,910

* “Charge” is the capacity charge if paid up-front

RESIDENTIAL REVIEW – OPTION 2B

Revise RCEs based on square footage
TIERS - SF and MF *separated*

Pros	Retains RCE System
	Like charges for homes of similar size

Cons	Tiers create boundary issues
	Administrative difficulty– sq. ft. data

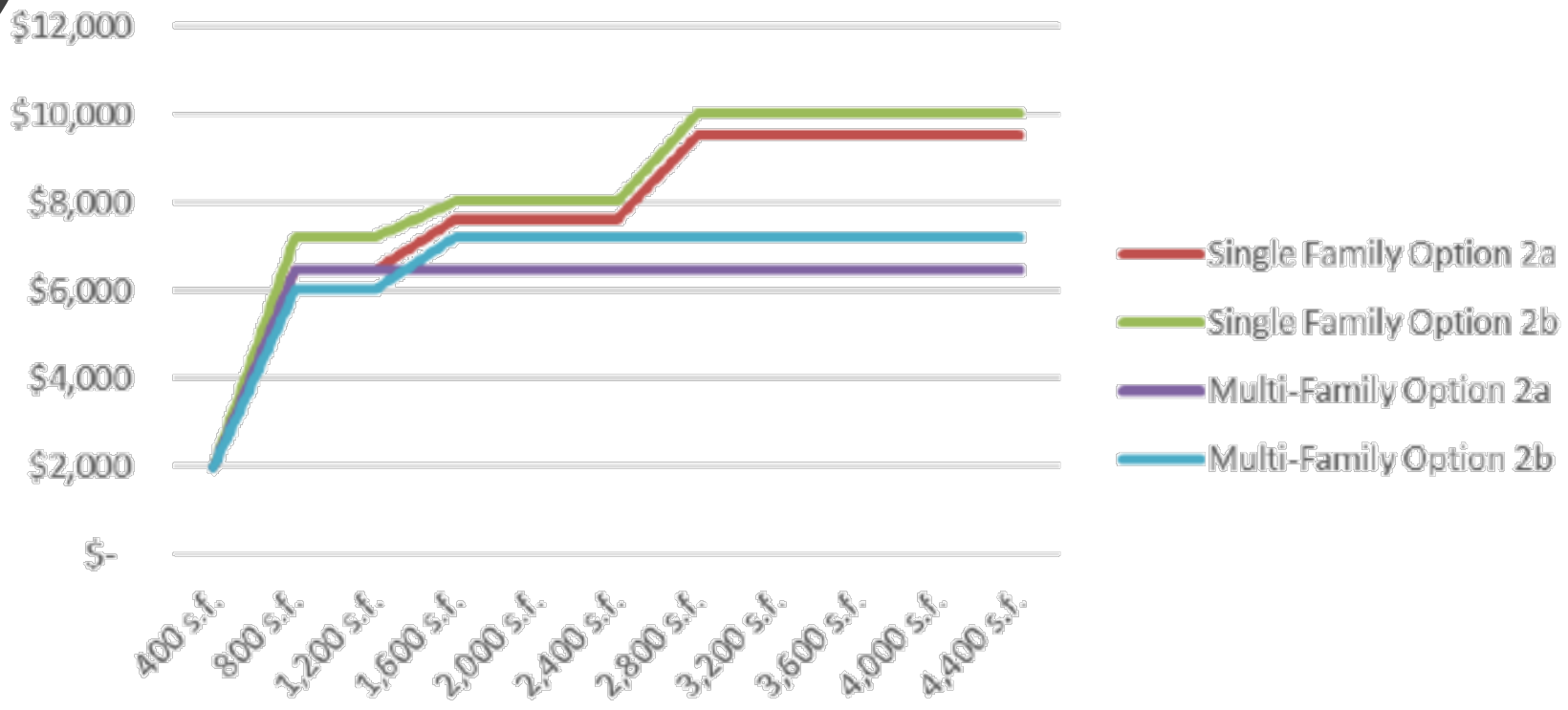
Example Up-Front Costs

Category	Assumed Sq. Ft. per unit	RCE	Charge
Large Single Family	3,000 +	1.25	\$10,033
Medium Single Family	1,500 - 3,000	1	\$8,027
Small Single Family	501 - 1,500	0.9	\$7,224
Large Multi Family	1,500 +	0.9	\$7,224
Standard Multi Family	501 - 1,500	0.75	\$6,020
Micro-unit	Up to 500 Sq. Ft.	0.25	\$2,007

* “Charge” is the capacity charge if paid up-front

OPTION
2A / 2B

Revised RCE Options



RESIDENTIAL REVIEW – OPTION 3A

Uniform Charge per Square Foot

Pros

Allows differentiation - equitable

Simple to understand and explain

Cons

Administrative difficulty– sq. ft. data

Would require true-up – Assessor data

All Residential Types

\$3.93 per Square Foot

**The above number is the capacity charge per square foot if paid up-front*

RESIDENTIAL REVIEW – OPTION 3B

Block Rate + Incremental based on Square Footage

Pros

- More equitable than 3A
- Accounts for declining per-sq-ft water use

Cons

- Administrative difficulty– sq. ft. data
- Block rates difficult; tiers = boundary issues

Category	Square Footage	Price per Sq. Ft.
All Residential	First 1,000 Sq. Ft.	\$6.45
All Residential	Increment above 1,000 Sq. Ft.	\$1.23

**The above prices are the capacity charge per square foot if paid up-front*

RESIDENTIAL REVIEW – OPTION 3C

Uniform Charge per Square Foot capped at 3,000 sq. ft.

Pros	Equitable, as 3B
	Avoids block rate structure

Cons	Administrative difficulty– sq. ft. data
	Would require true-up – Assessor data

Category	Square Footage	Price per Sq. Ft.
All Residential	First 3,000 Sq. Ft.	\$4.20
All Residential	Increment above 3,000 Sq. Ft.	\$0.00

**The above prices are the capacity charge per square foot if paid up-front*

RESIDENTIAL REVIEW – OPTION 3D

Uniform Charge per Square Foot capped at 2,400 sq. ft.

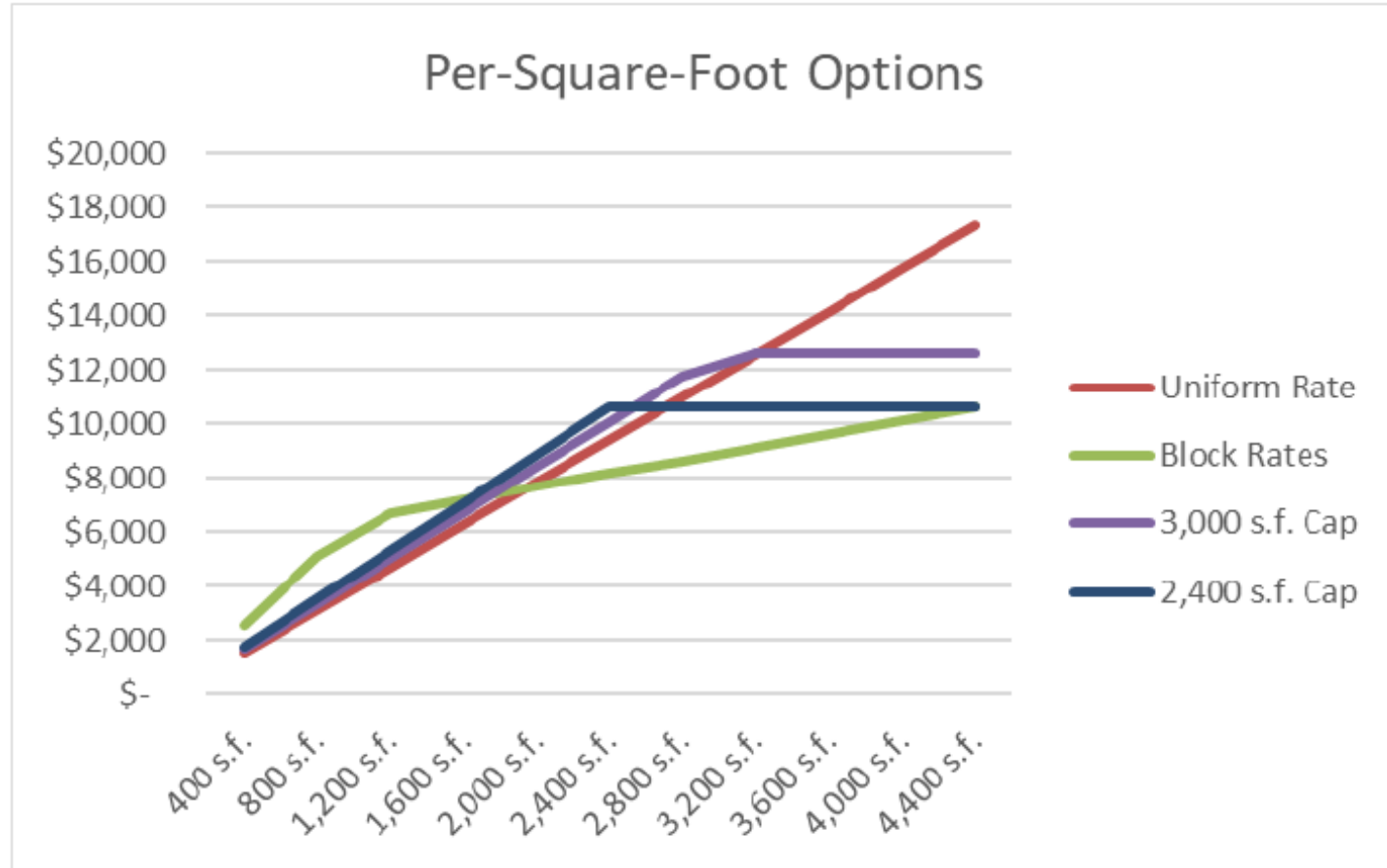
Pros	Equitable, as 3B
	Avoids block rate structure

Cons	Administrative difficulty– sq. ft. data
	Would require true-up – Assessor data

Category	Square Footage	Price per Sq. Ft.
All Residential	First 2,400 Sq. Ft.	\$4.43
All Residential	Increment above 2,400 Sq. Ft.	\$0.00

**The above prices are the capacity charge per square foot if paid up-front*

OPTIONS
3A -3D



WORK GROUP RECOMMENDATION - RESIDENTIAL

- Modification of Status Quo
- Set RCE Factors based on Avg Household Size by household type (SF, Duplex, 5+Unit, e.g.)
 - Data from American Community Survey (ACS)
 - New data is available every year
- Add new categories for:
 - ADU & DADU and SEDU

RESIDENTIAL RECOMMENDATION – CONT'D

Classification	Existing RCE: Status Quo	RCE if based on Average Water Consumption (FCS Sample)	RCE if based on Weighted Average People per Household (ACS)	Proposed Recommendation: “Modified Status Quo”
Single-Family	1.0	1.0	1.0	1.0
Multi-Family 2-4 Unit	0.8	0.78	0.83	0.80
Multi-Family > 5-Unit	0.64	0.77	0.66	0.64
ADU & DADU	0.6	N/A	0.51	0.51
SEDU	Fixture Unit Count	0.25	0.37	0.37

COMMERCIAL REVIEW – OPTION I

Status Quo based on Fixture Unit Count + Additional Flows

Pros

- Well-known system is retained
- Adaptable across many types of buildings

Cons

- Administrative difficulty
- Fixture types and counts often not known

Kind of Fixture	Fixture Units per Fixture	
	Public	Private
Bathtub and shower	4	4
Shower, per head	2	2
Dishwasher	2	2
Drinking fountain (each head)	1	0.5
Hose bibb (interior)	2.5	2.5
Clothes washer or laundry tub	4	2
Sink, bar or lavatory	2	1
Sink, Clinic flushing	8	8
Sink, kitchen	3	2
Sink, other (service)	3	1.5
Sink, wash fountain, circle spray	4	3
Urinal, flush valve, 1 GPF	5	2
Urinal, flush valve, >1 GPF	6	2
Water Closet, tank or valve, 1.6 GPF	6	3
Water Closet, tank or valve, >1.6 GPF	8	4

COMMERCIAL REVIEW – OPTION 2

Meter Size

using a factor such as the **Meter Capacity Equivalent (MCE)**

Pros

Simple to administer

Possibly more equitable for smaller meters

Cons

Meters above 2" – inaccurate / complex

How to treat mixed-use buildings?

Meter Capacity Equivalents (MCEs)

Meter Size	MCEs
5/8" x 3/4"	1.00
3/4" x 3/4"	1.50
1"	2.50
1.5"	5.00
2"	8.00
3"	16.00
4"	25.00
6"	50.00
8"	80.00
10"	115.00
12"	156.00
16"	252.00
20"	366.00
24"	495.00

WORK GROUP RECOMMENDATION - COMMERCIAL

- Status Quo for now
- Sample Size of 212 commercial buildings - Small
- More analysis needed on conversion factor of
20 Fixture Units = 1 RCE

CONCLUSION

Residential Recommendation: Modified Status Quo

- RCE based on household size from ACS

Commercial Recommendation: Status Quo