EAST BAY MUNICIPAL UTILITY DISTRICT

System Capacity Charge (SCC) Update Workshop

Board of Directors

November 24, 2020

Agenda

- SCC Purpose and background
- Development trends
- Current SCC and application process
- SCC update
- ADU/Micro Unit SCC
- Community benefit SCC
- Next steps

SCC is Key Part of Water Revenues

- SCC largest revenue source after water rates
  - $53M collected in FY20
  - $40M budgeted in FY21
    - Approximately 6% of water rate revenue
  - Part of overall new development fees
  - Governed by Proposition 26 and Government Code § 66013
- Water rates may have to increase if there is a significant reduction in SCC revenue

Purpose of SCC

- To recover cost of infrastructure used by new customers or new water demand
  - District philosophy has been *growth pays for growth*
  - Existing facilities were built with capacity for current and future needs
    - Facilities paid by past ratepayers
    - Recouped through "buy-in" system-wide and regional SCC
    - SCC revenue reduces water rates to current customers
  - Additional water supplies are needed for new demand
    - Recouped through "incremental" Future Water Supply SCC

SCC Background

- Started in 1983
- Originally designed to recover the cost of supplemental supplies for new customers
- Updated in 2007 to include buy-in of all existing water system infrastructure
- Current SCC allocates proportional share of existing water system facilities and supplemental supplies
  - Assessed on estimated annual water use by customer type and SCC region

SCC Methodology – Facility Costs and Estimated Water Use

Two Factors that determine SCC

- Unit cost

  unit cost = Facility costs/Total Demand

- Estimated water use for applicant

SCC Calculation

- New applicants pay the SCC based on the unit cost and estimated water use
  - Water Charge = volume rate x water use
  - **SCC = unit cost x estimated water use**
  - Units $/100 gallons per day

District Has 3 SCC Regions

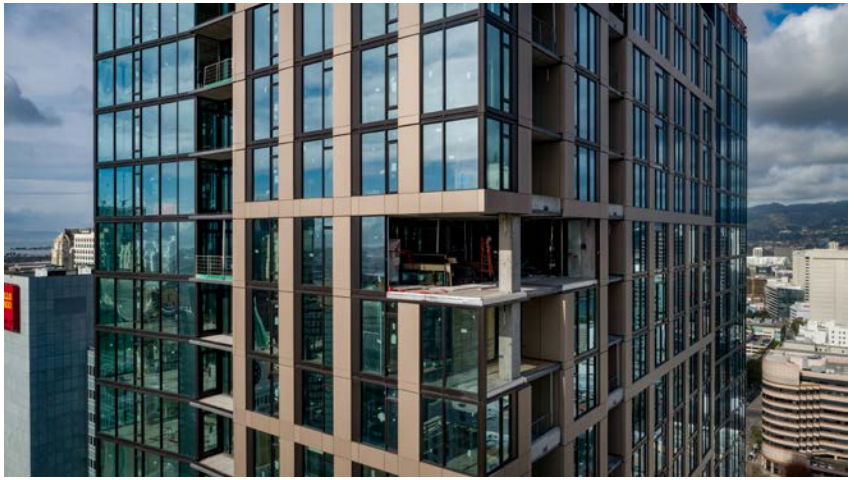
Ten Years Ago Development Was Mostly SFR

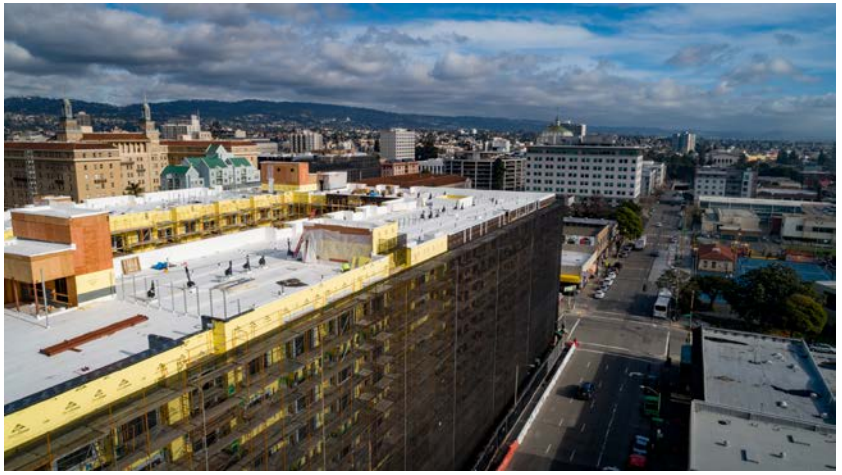
- Development was primarily SFR and mostly in SCC Region 3
- Post recession, SCC revenue was low ~ $20 million
- From FY07 to FY16 average revenue was $33 million

2010 Percent of Total SCC Revenue by SCC Region and Customer Class				
	Region 1	Region 2	Region 3	Customer Class Total
SFR	5%	5%	31%	41%
MFR	10%	2%	13%	25%
COM	15%	16%	3%	34%
SCC Region Total	30%	23%	47%	100%

Recent Development Trends

- Recent development is dominated by MFR and commercial in SCC Region 1
- 2050 Demand Study projections show MFR trend will continue
- Average SCC revenue for FY18 and FY19 was high ($71 million per year)
- FY20 ~ $53 million



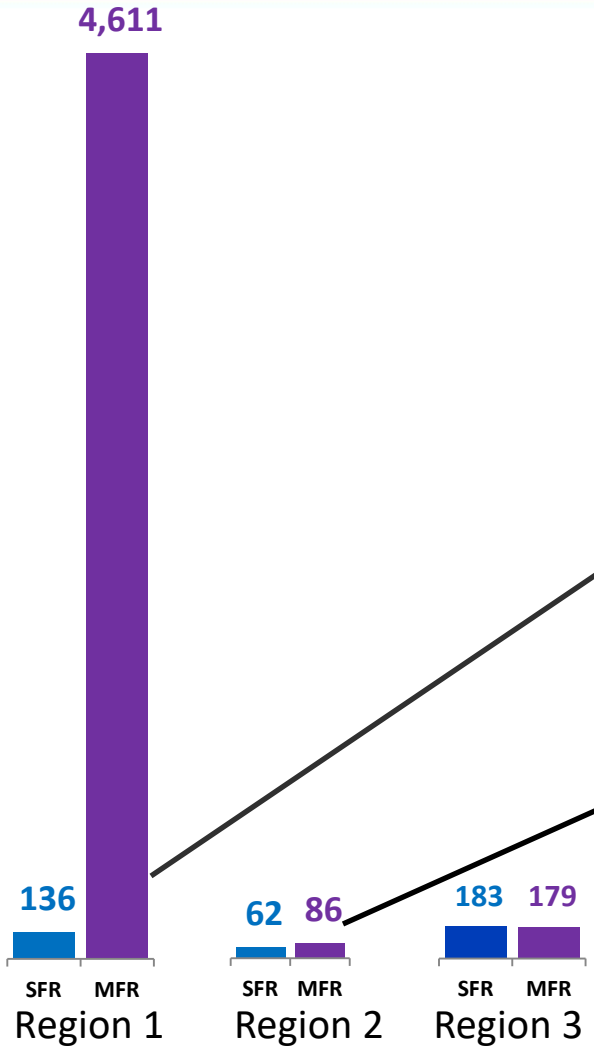


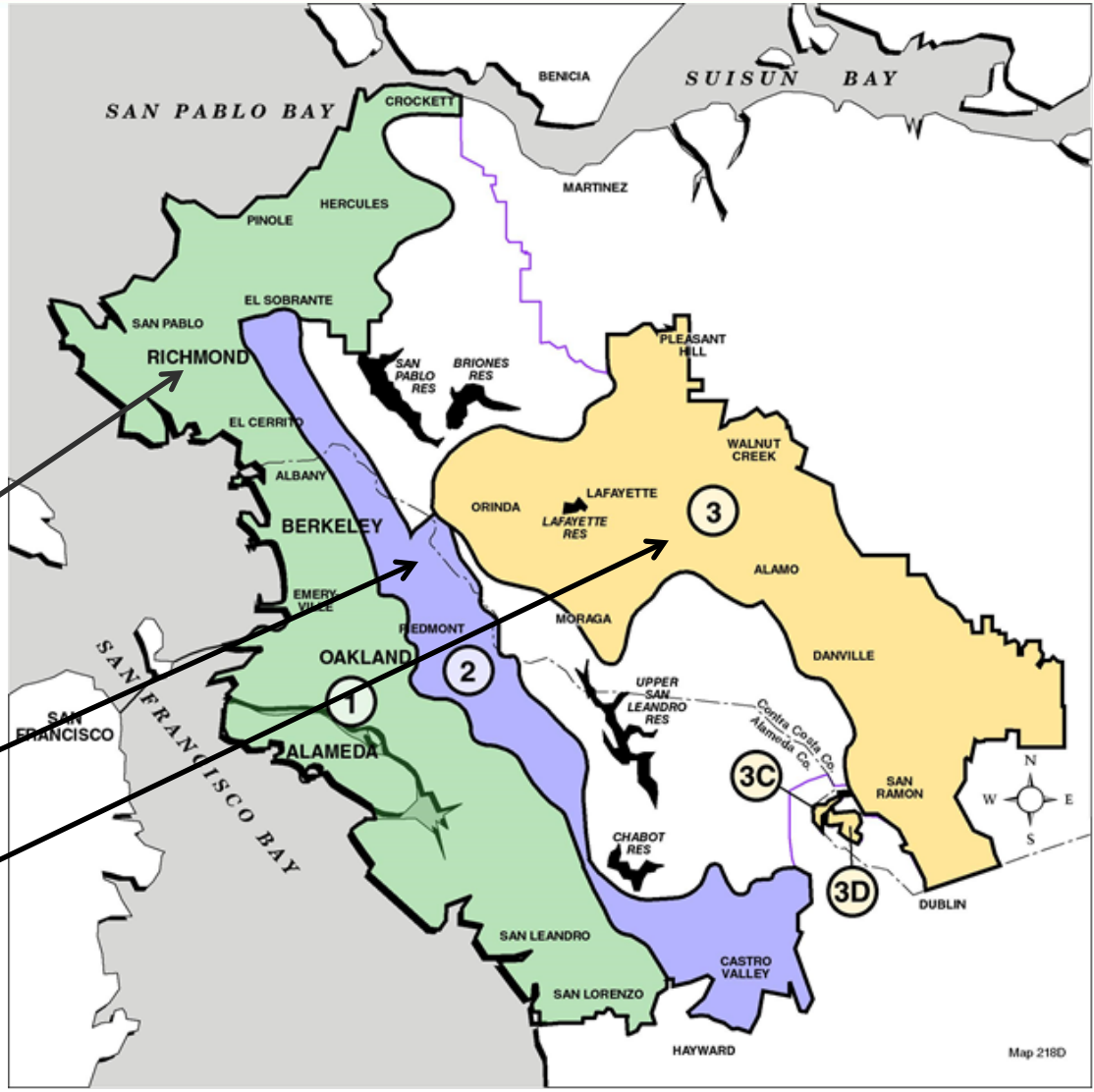
Development Trends and SCC

2010 Percent of Total SCC Revenue by SCC Region and Customer Class				
	Region 1	Region 2	Region 3	Customer Class Total
SFR	5%	5%	31%	41%
MFR	10%	2%	13%	25%
COM	15%	16%	3%	34%
SCC Region Total	30%	23%	47%	100%

2018/19 Average Percent of Total SCC Revenue by SCC Region and Customer Class				
	Region 1	Region 2	Region 3	Customer Class Total
SFR	3%	2%	12%	17%
MFR	57%	2%	3%	**62%**
COM	15%	2%	4%	21%
SCC Region Total	**75%**	6%	19%	100%

Current SFR & MFR Development





Current SCC Schedule & Process

SCC = **unit cost** x **estimated water use**

- Estimated water use by SCC Region by Customer Class
  - SFR: average annual water use of typical SFR house
  - MFR: average annual dwelling unit water use
  - Non-residential: average water use based on meter size and capacity 5/8" – 1-1/2"capacity
- Larger non-residential customers (2" meters and greater) have custom calculations based on estimated water use

Current SCC Schedule & Process
Credit for Existing Meters

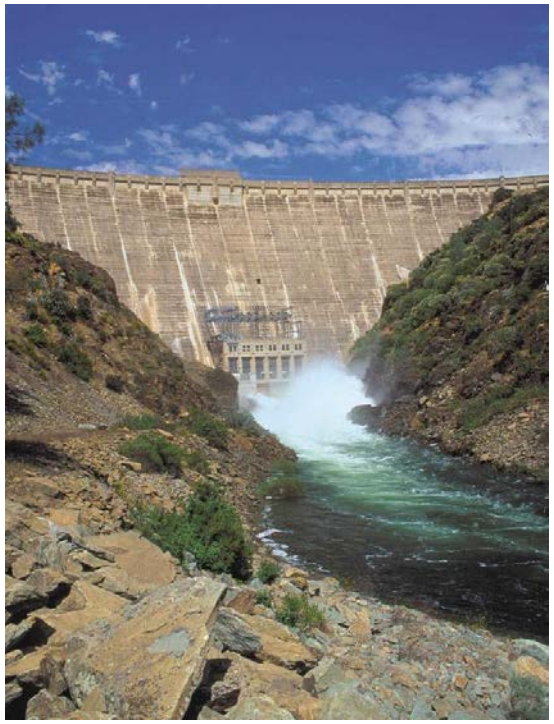
- Credit given when a water meter already exists
  - SCC for the new meter is reduced by the current SCC value of the existing meter
  - District policy is that SCC credit stays with parcel
- Current SCC value of existing meter
  - If an SCC was paid for the existing meter being replaced, use current value of original SCC
  - If no SCC was paid for the existing meter being replaced, use current value based on historic water use (large meters) or current value of meter size/customer class (small meters)
- Recent SCC credit trends

SCC Costs Components
Buy-In and Incremental

- New customers buy-in to a proportional share of existing facilities through
  - System-wide component
  - Regional component
- New customers pay the incremental cost of new facilities* needed to serve their additional water demand
  - Future water supply (FWS) component

*Any required extension of distribution mains are not part of the SCC and are assessed separately. Installation charge for a service lateral and meter is not part of the SCC and is assessed separately.

New Customers Buy-in to System-wide Facilities



Pardee Dam

Freeport Intake*

Mokelumne Aqueducts

*Included in System-Wide Buy-in as part of 2020 SCC Update

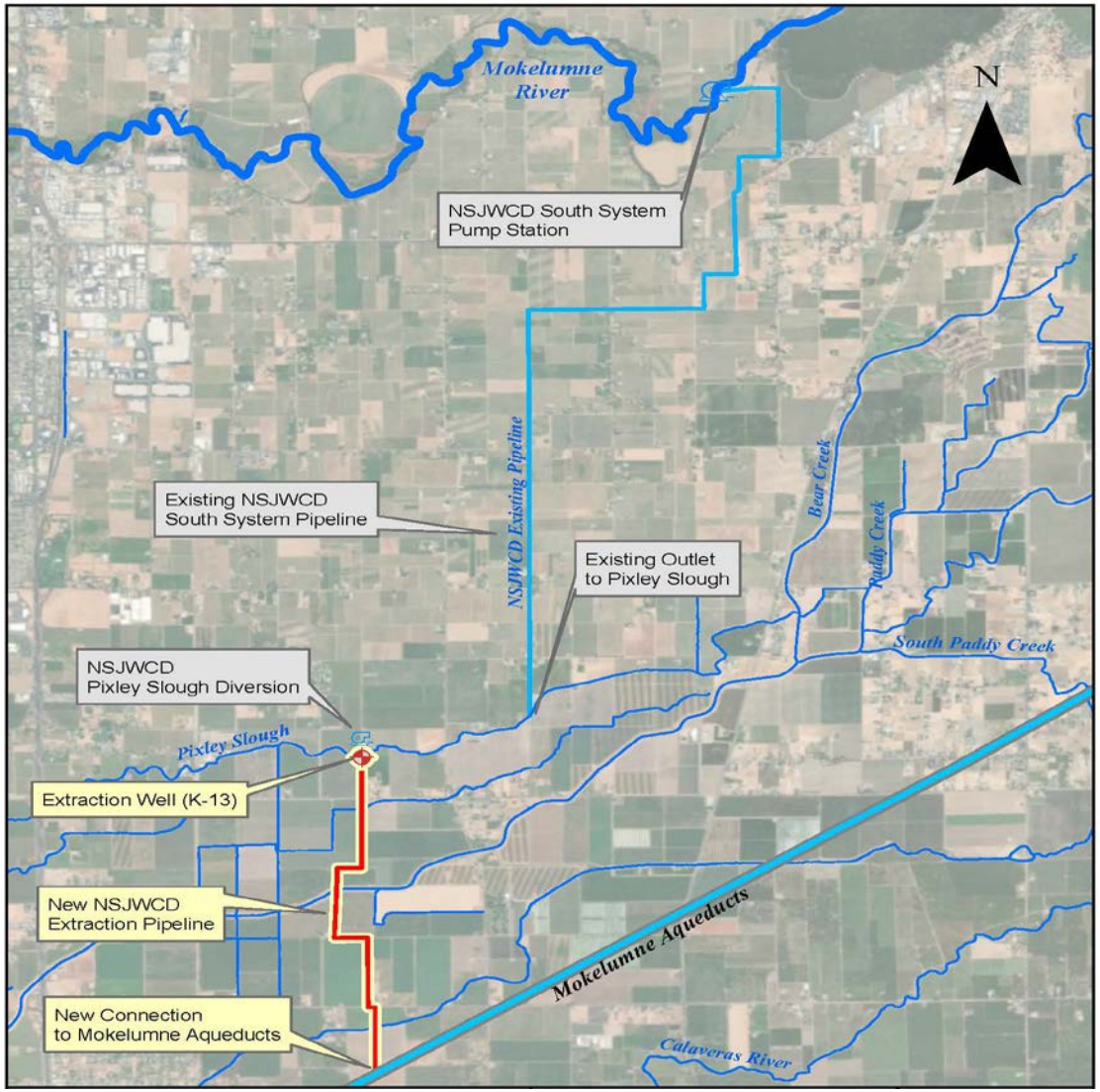
And Buy-in to Regional Facilities

Orinda Treatment Plant

Pleasant Hill Storage Reservoir

Walnut Creek Treatment Plant

SCC Includes Incremental Costs of Future Water Supply Facilities



Example: San Joaquin DREAM Project

SCC Calculated from Component Valuations and Unit Costs

SCC Component	2019 Valuation*	Total Demand at Capacity (MGD)	Current Unit Costs $/100 gpd
System-Wide	$4.6 B	212 MGD	$2,185
Regional	$2.5 B (R1) $1.3 B (R2) $1.7 B (R3)	116 MGD (R1) 30 MGD (R2) 66 MGD (R3)	$2,179 (R1) $4,424 (R2) $2,619 (R3)
Future Water Supply	$1.2 B	54 MGD	$2,099

*Current SCC Methodology uses full replacement value of existing facilities

Current SCC Unit Cost Summary by Region

SCC Region	System-Wide	Regional	Future Water Supply	Combined Unit Cost $/100 gpd
Region 1	$2,185	$2,179	$2,099	$6,463
Region 2	2,185	4,424	2,099	8,708
Region 3	2,185	2,619	2,099	6,903

Current SCC Calculation Based on Unit Costs and Expected Use*

SCC Region	Combined Unit Costs $/100 gpd	SFR Water Use gpd	SFR SCC	MFR Water Use per Dwelling gpd	MFR SCC per Dwelling Unit
Region 1	$6,463	280	$18,100	163	$10,530
Region 2	8,708	360	31,350	168	14,630
Region 3	6,903	580	40,040	199	13,740

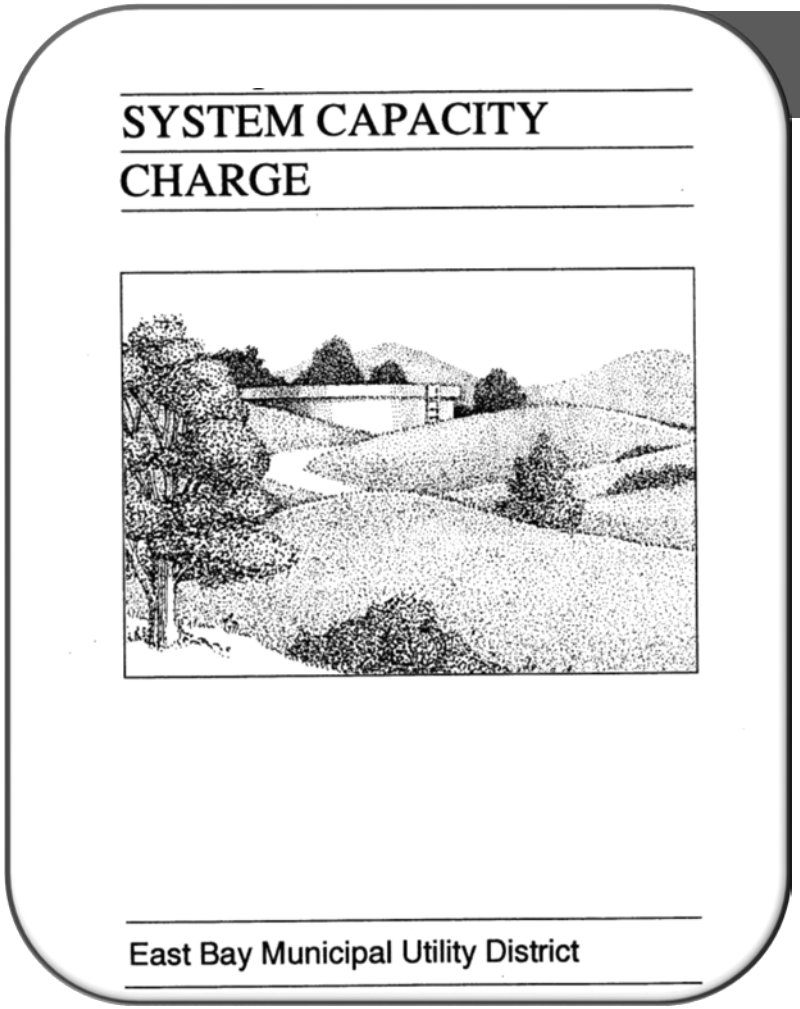
*Does not include Wastewater Capacity Fee for developments located in the EBMUD's wastewater service area.

Current Nonresidential SCC Calculated from Unit Costs and Expected Use*

SCC Region	System-Wide/ Regional/FWS Unit Costs	5/8" Service Non Residential Consumption gpd	Non Residential SCC for 5/8" Service
Region 1	$6,463	400	$25,850
Region 2	8,708	535	46,590
Region 3	6,903	625	43,140

*Does not include Wastewater Capacity Fee for developments located in EBMUD's wastewater service area.

2020 SCC Update Study



Objectives of the Update

- **Incorporate updated**
  - Water demands
  - Need for water analysis
  - Facility values
- **Review**
  - SCC customer classes (SFR, MFR, non residential)
  - Outreach to Developers

SCC Study Preliminary Results

- Significant reductions in customer water demands
- Recommendation for new SCC structure for MFR
  - Reduces SCC for smaller MFR units (under 500 sq ft) based on analysis of water use by MFR dwelling unit size
- Recommend adjusted replacement cost to recover the cost of the extra capacity in the existing system that is used by new applicants

SCC Study Preliminary Results
Generally Lower SCC

Factors that determine SCC

Facility costs/Total Demand = **unit cost ($/100 gpd)**

SCC = **unit cost** x **estimated water use** by customer type

Lower Demand increases the unit cost but also decreases the estimated water use by customer

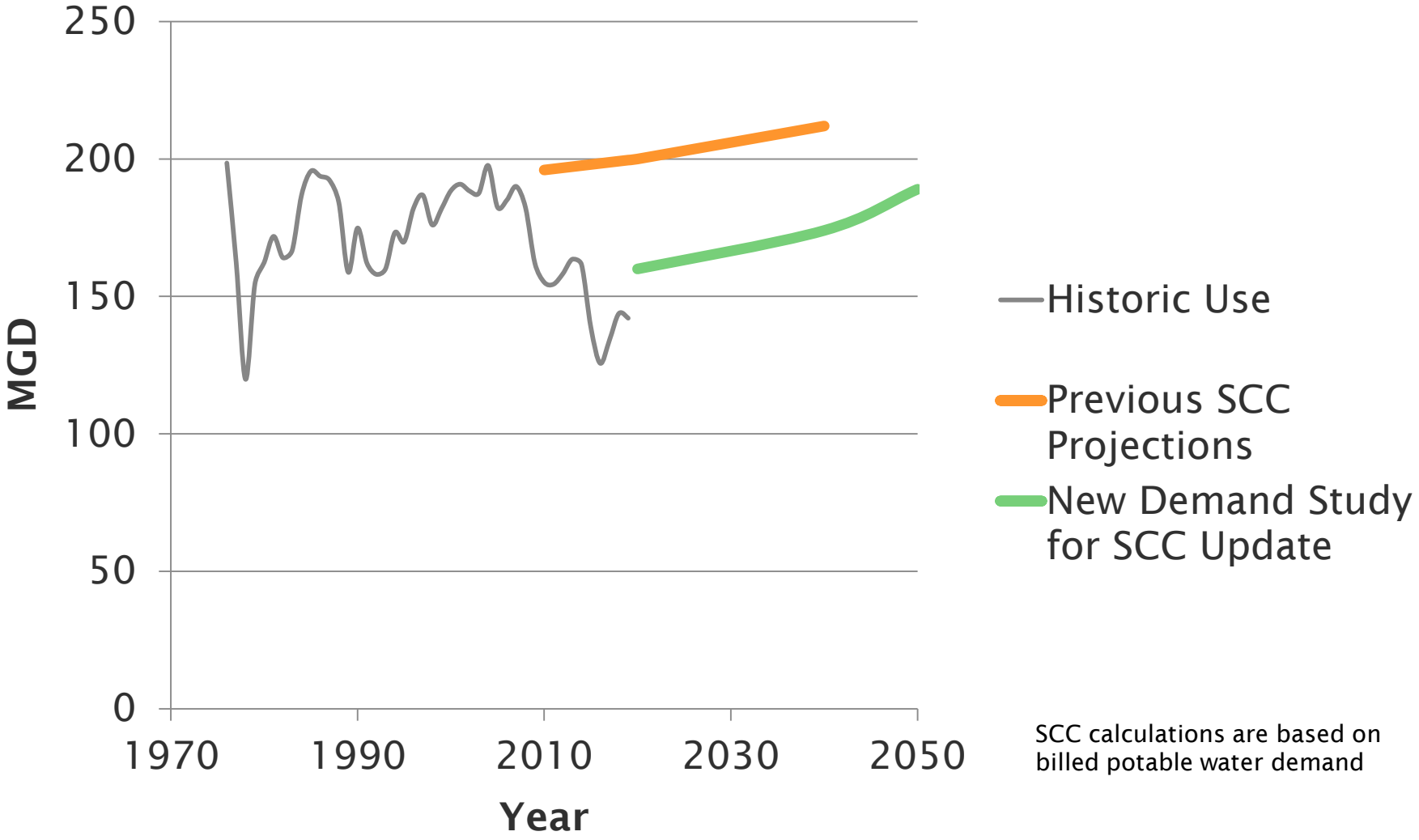
Result: SCC is lower for most customers. Overall SCC revenue is reduced by about 30%.

Updated Demand has Significant Impact on SCC

Future Water Demands Have Decreased

- 2050 Demand Study presented to Board in February 2020
- Overall 2050 demand used to update SCC unit costs
  - Previous 2040 demand used was **212 MGD** billed potable
  - 2050 projected demand is **187 MGD** billed potable (173 MGD for 2040)
  - Reduction in demand increases SCC unit costs by 13%

Water Demand is Reduced in SCC Update



SCC calculations are based on billed potable water demand

SFR Estimated Water Use Has Decreased

SFR Estimated Water Use			
	Region 1	**Region 2**	**Region 3**
Current	**280 gpd**	**360 gpd**	**580 gpd**
Proposed	**190 gpd** (7.7 cf/mo)	**210 gpd** (8.5 Ccf/mo)	**490 gpd** (19.9 Ccf/mo)
Change	-32%	-42%	-16%

MFR Estimated Water Use Has Decreased

MFR Estimated Water Use			
	Region 1	**Region 2**	**Region 3**
Current	**163 gpd**	**168 gpd**	**199 gpd**
Proposed* (Standard)	**120 gpd** (4.9 Ccf/mo)	**120 gpd** (4.9 Ccf/mo)	**120 gpd** (4.9 Ccf/mo)
Change	-26%	-29%	-40%
Proposed* (<500 sq ft)	**95 gpd** (3.9 Ccf/mo)	**95 gpd** (3.9 Ccf/mo)	**95 gpd** (3.9 Ccf/mo)
Change	-42%	-43%	-52%

*Same MFR water use proposed for all three regions; MFR water use is relatively consistent across regions

Non-Residential Estimated Water Use Has Decreased

Non Residential Estimated Water Use			
	Region 1	**Region 2**	**Region 3**
Current	**400 gpd**	**535 gpd**	**625 gpd**
Proposed	**246 gpd** (10.0 Ccf/mo)	**334 gpd** (13.6 Ccf/mo)	**460 gpd** (18.7 Ccf/mo)
Change	-39%	-38%	-26%

Update Value of SCC Facilities and SCC Unit Costs ($ per 100 gpd)

SCC Buy-In for Existing Facilities Benefit New and Existing Customers

- Facilities are designed and constructed with capacity for current and future needs
  - Existing customers benefit from future customers sharing in the cost of facilities
  - Future customers benefit because it is more expensive to wait and build separate facilities for new demand *(economies of scale)*
  - Building extra capacity in anticipation for future demand creates additional costs (capital outlay, financing and opportunity costs)

SCC Facility Valuation Buy-In Approach

- AWWA M1 Manual
  - *Assesses new customers an SCC to approximate the equity or debt-free investment position of current customers based on proportional share of the value of the existing system*
- CA Government Code section 66013 allows for an SCC to be imposed for public facilities in existence at the time the charge is imposed
- CA Proposition 26 requires the SCC not to exceed the reasonable estimated cost of capacity on a proportional basis

SCC Update Uses Adjusted Replacement Valuation for Buy-In Valuation

- Under EBMUD's current SCC, existing facilities are valued at the current-day cost of replicating the existing assets *(replacement cost method)*
- SCC update recommends adjusting the replacement costs for facilities actively being replaced
  - Replacement costs of pipelines, reservoirs, pumping plants, and equipment are adjusted to reflect their existing condition and remaining useful life
  - Current SCC approach did not adjust the replacement costs for existing condition of assets

Updated System and Regional Buy-In with 3 Regions

SCC Component	FY19 Valuation	FY21 Adjusted Replacement Cost
System Wide*	$4.6 B	$6.7* B
Regional	$2.5 B (R1) $1.3 B (R2) $1.7 B (R3)	$2.0 B (R1) $1.0 B (R2) $1.4 B (R3)
Total	$10.1 B	$11.1* B

*System wide buy-in update now includes $1.0 B Freeport, recycled water projects and other supplemental supply projects that are in service which were previously part of the Future Water Supply component

Future Water Supply Projects for New Customers

Supplemental Supplies	Costs (2019)
Water Recycling Projects	$340.0 M
Groundwater – Bayside Phase 2	$33.2 M
Groundwater – San Joaquin Banking Project	$58.4 M
Total	$431.6 M

Proposed Future Water Supply Unit Cost			
SCC Component	FY21 Valuation	Total Demand at Capacity (MGD)	Unit Costs $/100 gpd
Future Water Supply	$432 M	55 MGD	$785

Updated SCC Unit Cost – Largely Unchanged

SCC Unit Cost $/100 gpd		
SCC Region	Current	Updated
Region 1	$6,463	$6,147
Region 2	$8,708	$8,945
Region 3	$6,903	$7,080

SCC Based on Unit Cost and Estimated Water Use

Factors that determine SCC

- Facility costs/Total Demand = **unit cost ($/100 gpd)**
- SCC = **unit cost** x **estimated water use** by customer type

Updated unit cost is about the same as current

Overall impact to SCC also depends on the update to customer estimated water use

Update Estimated Water Use for New Customers

Updated SFR Estimated Water Use

- Current SCC used average new SFR customer water use prior to recent droughts
  - Region 1 - 280 gpd
  - Region 2 - 360 gpd
  - Region 3 - 580 gpd
- Update reviewed recent water use and estimates for new applicant water use
  - Average consumption by SCC Region for SFR use is still an appropriate approach
  - From the demand study, average SFR water has reduced significantly since 2008
  - Average water use continues to be higher in Region 3 compared to Regions 1 and 2

Updated SFR Water Use and SCC

Water Use	Region 1	Region 2	Region 3
Current	280 gpd	360 gpd	580 gpd
Proposed	190 gpd (7.7 Ccf/mo)	210 gpd (8.5 Ccf/mo)	490 gpd (19.9Ccf/mo)
Change	-32%	-42%	-16%

SCC	Region 1	Region 2	Region 3
Current	$18,100	$31,350	$40,040
Proposed	$11,680	$18,784	$34,690
Change	-35%	-40%	-13%

Comparison of Proposed SCC for SFR with Other Agencies

	Region 1	Region 2	Region 3	Considerations
EBMUD Current	**$18,100**	**$31,350**	**$40,040**	**Highly complex system**
EBMUD Proposed	**$11,680 (3/4")**	**$18,784 (3/4")**	**$34,690 (3/4")**	Highly complex system
DSRSD	N/A	N/A	$43,147 (5/8") $64,735 (3/4")	Includes Zone 7 charge
CCWD	N/A	N/A	$21,398 (5/8") $32,097 (3/4")	Retailer/Wholesaler
Livermore	N/A	N/A	$34,048 (5/8") $51,073 (3/4")	Includes Zone 7 charge
ACWD	$7,358	N/A	N/A	Less complex system Purchased and local water supply
Hayward	$6,484 (5/8") $9,730 (3/4")	N/A	N/A	SCC has no supply component High rates
SFPUC	$1,906 (5/8") $2,860 (3/4")	N/A	N/A	Retailer/Wholesaler Highest regional rates

SCC Comparison with Other Agencies

- Factors that cause differences in connection charges
  - Growth pays for growth approach
    - Low connection charge may lead to higher water rates
  - Choice of methodology: buy-in or incremental
  - Including supply costs in charge
    - Wholesalers may or may not assess connection charges
  - Complex systems need more facilities per customer
  - Age of facilities
  - Need to build new capacity for new customers
  - Water use per new connection
  - Amount of future growth

Updated MFR Estimated Water Use

- Current SCC used average MFR per dwelling unit demand by region
  - Region 1 - 163 gpd
  - Region 2 - 168 gpd
  - Region 3 - 199 gpd
- Updated SCC structure for new MFR
  - Water use estimate based on living area using statistical analysis of existing customer use and dwelling unit data
  - Statistical analysis found lower water use for dwelling units below 500 sq ft

MFR Water Use and SCC for Standard Size Dwelling Unit (>500 sq ft)

Water Use	Region 1	Region 2	Region 3
Current – All Sizes	163 gpd	168 gpd	199 gpd
Proposed – Standard	120 gpd (4.9 Ccf/mo)	120 gpd (4.9 Ccf/mo)	120 gpd (4.9 Ccf/mo)
Change	-26%	-29%	-40%

SCC	Region 1	Region 2	Region 3
Current	**$10,530**	**$14,630**	**$13,740**
Proposed	**$7,377**	**$10,733**	**$8,496**
Change	**-30%**	**-27%**	**-38%**

MFR Water Use and SCC for Smaller Dwelling Unit (< 500 sq ft)

Water Use	Region 1	Region 2	Region 3
Current – All Sizes	163 gpd	168 gpd	199 gpd
Proposed – < 500 sq ft*	95 gpd (3.9 Ccf/mo)	95 gpd (3.9 Ccf/mo)	95 gpd (3.9 Ccf/mo)
Change	-42%	-43%	-52%

SCC	Region 1	Region 2	Region 3
Current	**$10,530**	**$14,630**	**$13,740**
Proposed	**$5,840**	**$8,497**	**$6,726**
Change	**-45%**	**-42%**	**-51%**

Example Comparison of Updated MFR SCC Structure to Current SCC

- 110 Multi-family dwelling units
  - 35 apartments are under 500 sq ft
- Current MFR SCC Region 1 - **$1,158,300**
- Proposed MFR SCC = **$757,675 (savings of 35%)**
  - 75 standard DU x $7,377 = $553,275
  - 35 under 500 sq ft DU x 5,840 = $204,400
- $180,439 credit for 3 existing meters being replaced
  - Net SCC with credit = $577,236 /110 dwelling units

=$5,247 per dwelling unit with credit
=$6,888 per dwelling unit without credit

Updated Non-Residential Estimated Water Use

- Previous method used average consumption by meter size (under 2”)
  - Region 1 - 400 gpd (5/8” meter)
  - Region 2 - 525 gpd (5/8” meter)
  - Region 3 - 635 gpd (5/8” meter)
- Update reviewed recent demand and assessed methods to assign water use
- Update found a reduction in non-residential water use

Non-Residential Updated Water Use and SCC for 5/8" meter

Water Use	Region 1	Region 2	Region 3
Current – All Sizes	400 gpd	535 gpd	625 gpd
Proposed – Standard	246 gpd (10.0 Ccf/mo)	334 gpd (13.6 Ccf/mo)	460 gpd (18.7 Ccf/mo)
Change	-39%	-38%	-26%

SCC	Region 1	Region 2	Region 3
Current	$25,850	$46,590	$43,140
Proposed	$15,119	$29,917	$32,559
Change	-42%	-36%	-25%

Summary of Recommended Changes to FY22 SCC

- Update SCC unit costs for adjusted facility valuation and overall water use
- Update SCC consumption by customer class based on recent water consumption analysis
- Introduce reduced SCC for smaller MFR dwelling units based on lower projected water use
- Updated SCC will lower SCC for most customers and reduce SCC revenue about 30% for FY21

Recommended Alternative – Revenue Impacts

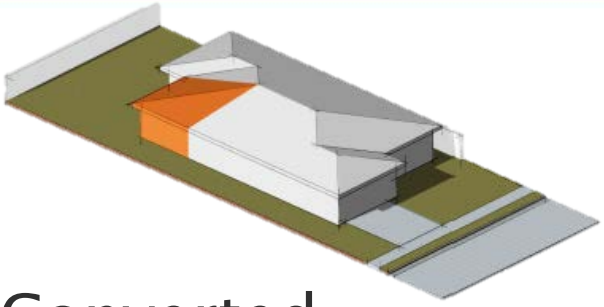
	FY07 to FY16 Avg	FY18	FY19	FY20	Assumed FY22-FY26
Annual SCC Revenue	$33M	$69M	$74M	$53M	$40M

Update Option	% Change from Current SCC Revenue	Impact from $40 M Revenue Projection	Impact from $33 M Revenue Projection
SCC Revenue Impact*	**-30%**	**-$12M**	**-$9.9M**

based on FY21 Rates, FY22 rates will increase slightly due to update for 2020 ENR

Accessory Dwelling Units/Micro Units/Tiny Homes

What are Accessory Dwelling Units (ADU)



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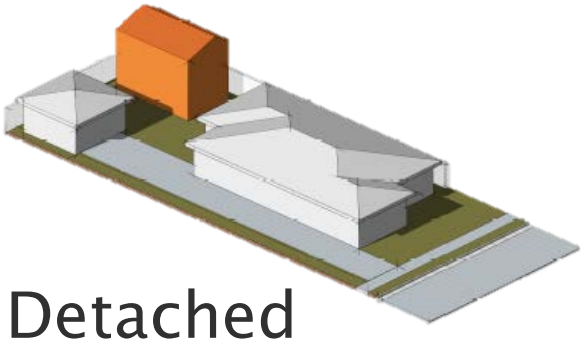

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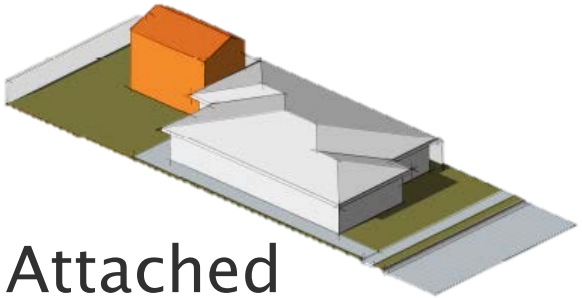


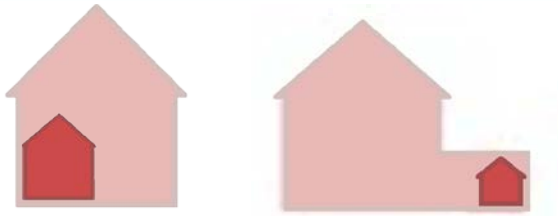
Attached

- ADUs are intended to address the state's housing shortage
- AB-68, AB-881, and SB-13, SB-1030 amended existing laws to reduce barriers for ADU development
- Types of ADU include
  - A converted part of the existing structure
  - New detached structures
  - New structures attached to the existing home

ADU Water Service is Subject to District Review and Approval

- Since January 2020, number of ADU applications increased by 25%
- District review triggers
  - Applicants requesting a second meter to track demand
  - Existing meter needs upsizing to accommodate new demand
  - Requirement of fire sprinklers
  - SCC and WCF assessments due to increase in demand

While most ADUs don't pay an SCC, Certain ADUs are Assessed an SCC



No SCC assessed for most ADU constructed within existing footprint

SCC can be assessed for newly constructed ADU if meter is not sufficient

- New legislation limits when SCC can be assessed for ADUs:
  - Converted ADUs that meet statutory requirements cannot be assessed an SCC
  - Converted existing accessory structure that does not increase square footage beyond 150-square feet for the purpose of ingress and egress
- District assesses ADUs an SCC under the following conditions:
  - Newly constructed SFR with an ADU
  - Newly constructed Detached or Attached ADU
- SCC ensures existing District customers do not bear the burden of new development

Garage Conversion to ADU

Before as garage

After as 1 bedroom ADU

Detached garage converted into an ADU without needing EBMUD to assess additional SCC or increase meter size

Increasing use of Micro Units to Address Homelessness

- Pilot will help study water use within micro units to inform SCC design
  - Micro unit typically smaller that MFRs, with limited occupancy
  - Pilot uses non-residential SCC methodology to assess SCC and WCF
- No participant since implementation and pilot expired
- Housing shortage and homelessness are placing demand on micro units
- Recommend extending pilot to continue study through new projects

2012 Berkeley Way
Berkeley, CA

Fairmont Safer Homes
San Leandro, CA

SCC for Projects with Community Benefits

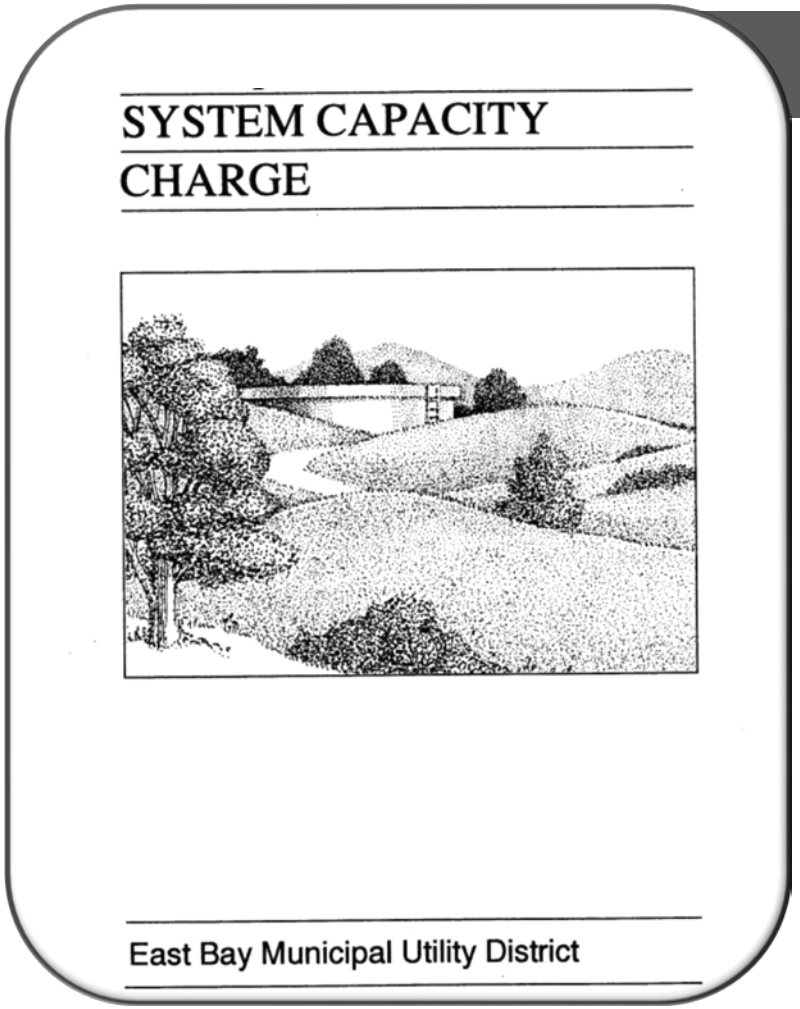
SCC for Projects with Community Benefits – Alternatives Reviewed

Alternative	Consideration
Reduce SCC for all community benefits projects using property tax revenues funding	Impacts use of property tax for water rates
Grant program to select community benefits projects that will reduced SCC using property tax revenue funding	District would have to evaluate and select proposals
Long-term financing of SCC for qualifying community benefits projects	Administer a loan program. Requires further investigation of authority for a loan program.

Next Steps

- Incorporate feedback on proposed SCC changes
- Update SCC calculations for FY22
- Extend micro unit and tiny home pilot study for projects under construction and planning
- Further investigate SCC financing of low income housing
- Outreach with building and developer community on SCC update

SCC Update Schedule



Schedule

- ***Board SCC Workshop November 2020 and Rates Workshop March 2021***
- Outreach on proposed SCC May 2021
- Board Adoption June 2021 for FY22
- FY22 SCC effective date will be July 1, 2021 or possibly later