

Cost of Service Based Water and Wastewater Rates

City of Wichita, Kansas

October 17, 2006

Current Utility Rate Status

- Last Comprehensive Rate Study Completed in 1991
- Across-the-Board Increases since 1993
- Review of Rate Structure in 1999
- Need to review whether existing rates are commensurate with the cost of providing service
- Revenue neutrality

Concepts and Procedures

- Project Approach
 - General
 - Water
 - Wastewater
- Basic Elements of Cost of Service Analysis

Project Approach - General

- Water Rates – AWWA Principles of Water Rates, Fees, and Charges (M1, 5th Edition)
- Wastewater Rates – Water Environment Federation (WEF) Financing and Charges for Wastewater Systems (2004 Edition)
- Guidelines presented in both manuals have been accepted by courts and public utility commissions

Project Approach - Water

- Utility Basis of Rate Design
- Base – Extra Capacity Cost Allocation Methodology
- Special Considerations
 - Wholesale Customers

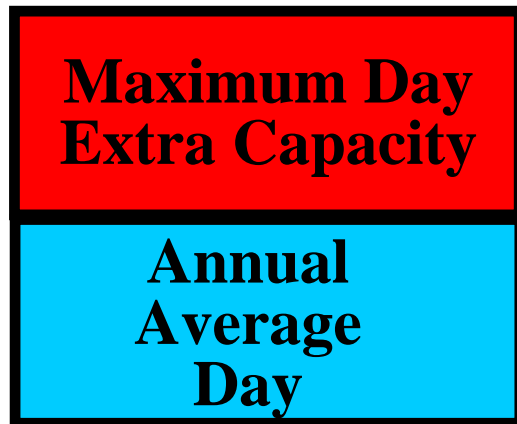
Cash (Budget) Basis vs. Utility Basis

	<u>Cash Basis</u>		<u>Utility Basis</u>
O&M Expense	✓		✓
Normal Improvements	✓		
Debt Service	✓		
Major Improvements	✓		
PILOT	✓		
Depreciation Expense			✓
Return on Investment			✓
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Total Revenue	✓	=	✓
Requirements			

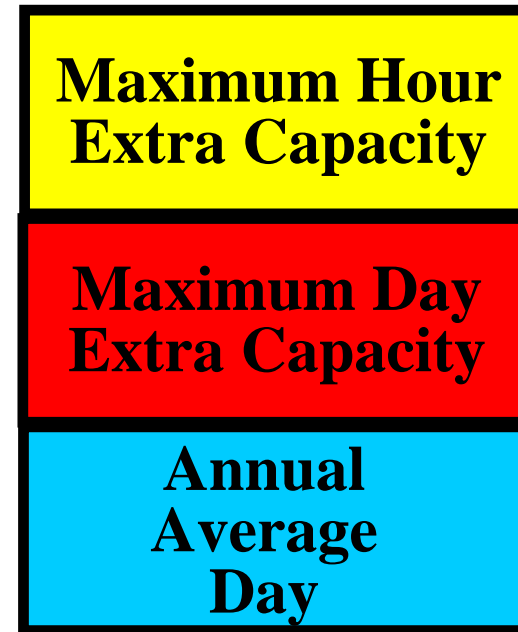
Water Utility – Cost Causative Components

- Base – Average Day Water Use
- Maximum Day – Peak maximum day demand exerted on the system
- Maximum Hour – Peak maximum hour demand exerted on the system
- Customer Requirements
 - Meter Reading & Billing
 - Meters and Services
- Fire Protection

Water Cost of Service Concepts



Treatment Plant



Water Mains

Project Approach - Wastewater

- Utility Basis of Rate Design
- Cost Allocations – Cost Causative
- Excess Strength Surcharges

Wastewater Utility Cost Causative Components

- Volume – Average day wastewater discharge
- Capacity – Peak wastewater discharge
- Wastewater Strength
 - Biochemical Oxygen Demand (BOD)
 - Suspended Solids
 - Grease
- Customer
- Infiltration/Inflow

Project Approach

- Step 1 – Revenue and Revenue Requirements
- Step 2 – Cost of Service Allocations
- Step 3 – Rate Design
- User-Friendly Rate Model

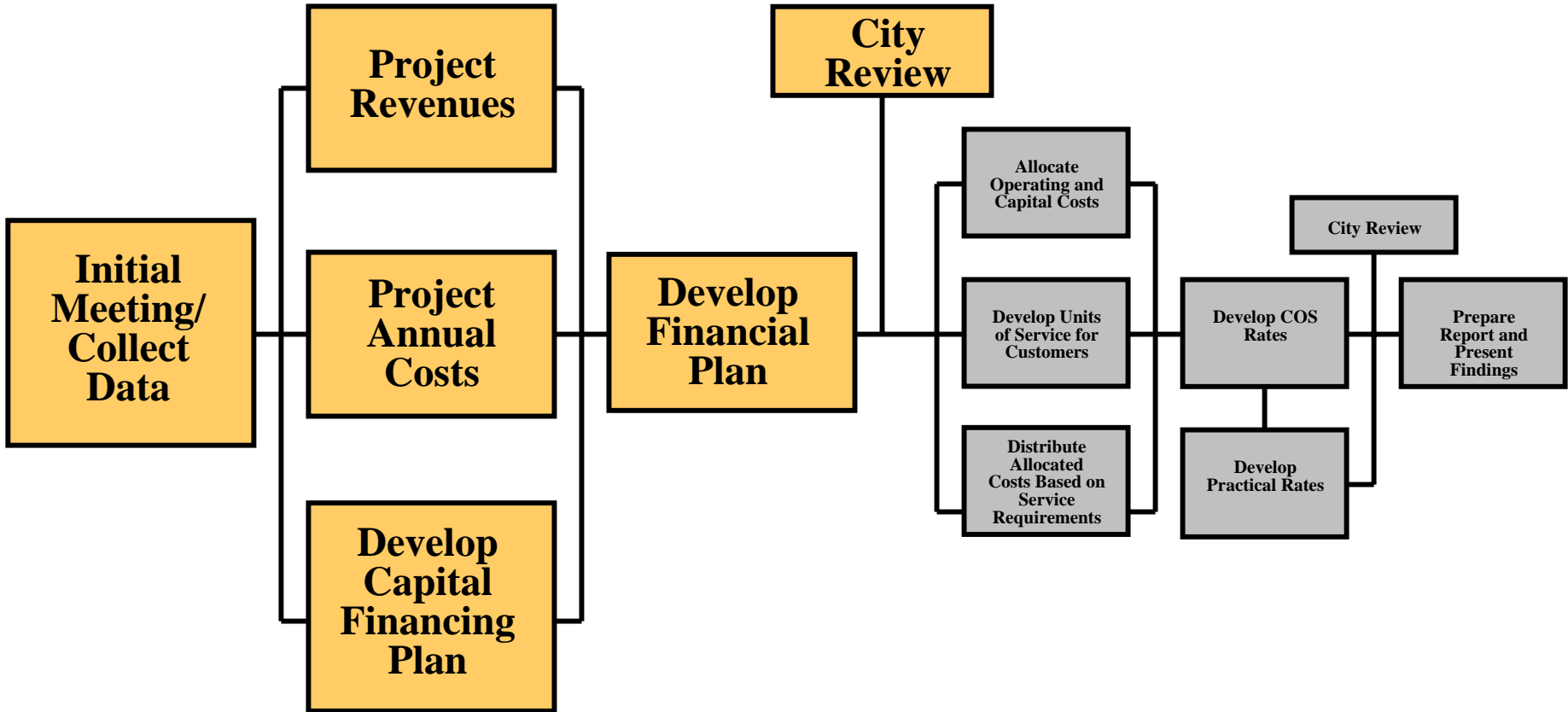


Revenue and Revenue Requirements

- Overall objective is to provide adequate funding of future utility operating and capital program needs with minimum adverse impact on overall level of customer charges



Revenue and Revenue Requirements

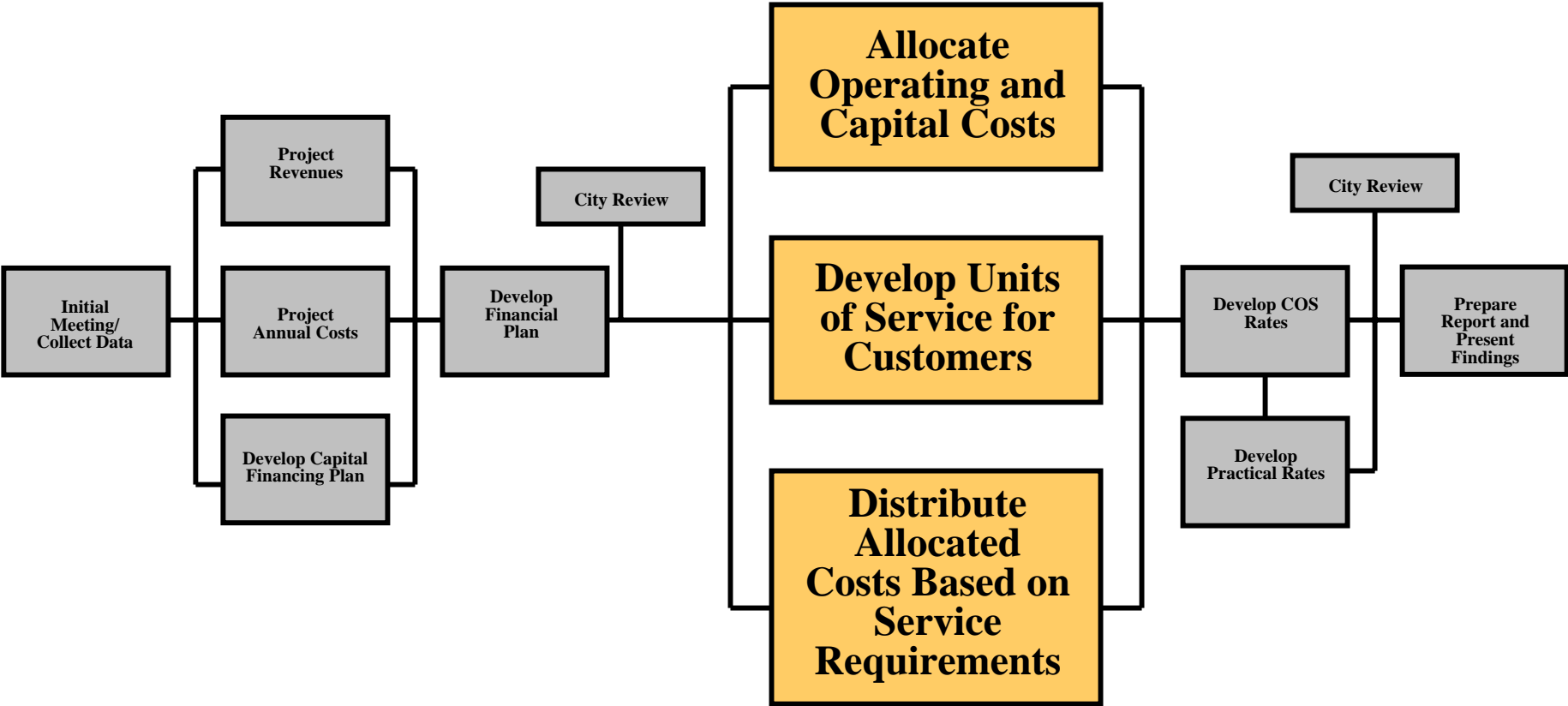


Cost of Service Allocations

- Overall objective is to Provide an Equitable Measure of Costs for the Subsequent Design of Cost Based Rates of Charge



Cost of Service Allocations

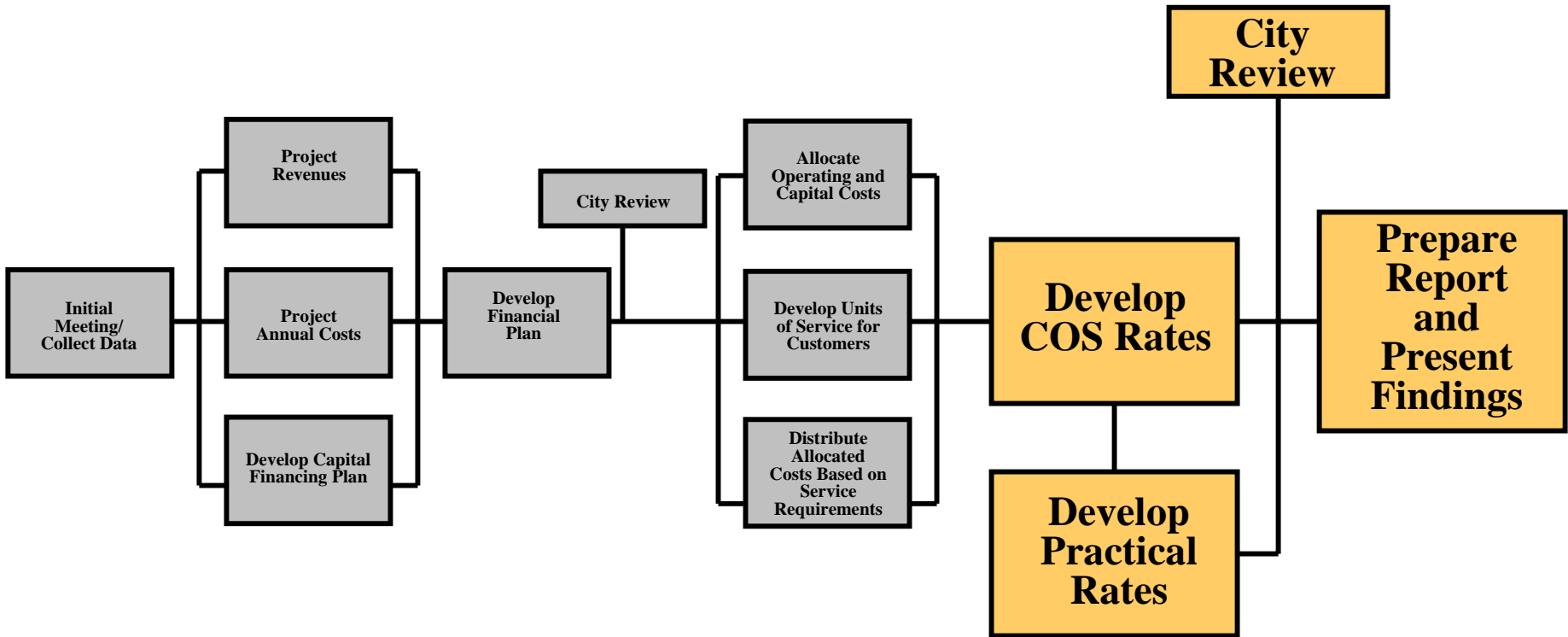


Rate Design

- Overall Objective is to Establish Rates That Recognize Allocated Costs of Service and are Also Understandable and Fair



Rate Design



Current Retail Water Rate Structure

- Base charge varies by meter size (no usage included in base)
- 3-block volume charge based on Average Winter Consumption (AWC)
 - Block 1: Metered consumption through 110% of AWC billed at \$0.78 per 1,000 gallons
 - Block 2: Metered consumption Between 111% and 310% of AWC billed at \$2.82 per 1,000 gallons
 - Block 3: Metered consumption above 310% of AWC billed at \$4.24 per 1,000 gallons

Current Retail Sewer Rate Structure

- Base charge varies by meter size (no usage included in base)
- Uniform volume charge per 1,000 gallons based on
 - AWC or metered water consumption whichever is less for residential customers
 - Commercial and industrial customers charged on basis of actual water consumption or actual metered sewerage discharge

Application of Existing Water Rate Structure

LOW USAGE RESIDENTIAL CUSTOMER

AWC 6,000 gallons
Monthly Usage 6,000 gallons

Base Charge for 5/8" Meter \$5.57

Volume Charge - \$/1,000 gallons

Block 1 (Usage up to 6,600 gallons) 6,000 x \$0.78 = \$4.68

Block 2 (Usage from 6,601 gallons to 18,600 gallons)

Block 3 (Usage over 18,601 gallons)

Total Water Charges \$10.25

Application of Existing Water Rate Structure

MID LEVEL USAGE RESIDENTIAL CUSTOMER

AWC 6,000 gallons
 Monthly Usage 20,000 gallons

Base Charge for 5/8" Meter \$5.57

Volume Charge - \$/1,000 gallons

Block 1 (Usage up to 6,600 gallons) 6,600 x \$0.78 = \$5.15

Block 2 (Usage from 6,601 gallons to 18,600 gallons) 12,000 x \$2.82 = \$33.84

Block 3 (Usage over 18,601 gallons) 1,400 x \$4.24 = \$5.94

Total Water Charges \$50.50

Application of Existing Water Rate Structure

HIGH VOLUME COMMERCIAL IRRIGATION ACCOUNT

AWC 6,000 gallons
 Monthly Usage 100,000 gallons

Base Charge for 2" Meter \$6.67

Volume Charge - \$/1,000 gallons

Block 1 (Usage up to 6,600 gallons) 6,600 x \$0.78 = \$5.15

Block 2 (Usage from 6,601 gallons to 18,600 gallons) 12,000 x \$2.82 = \$33.84

Block 3 (Usage over 18,601 gallons) 81,400 x \$4.24 = \$345.14

Total Water Charges \$390.80

Pricing Objectives

- Equity/Fairness
- Conservation
- Growth Pays for Itself
- Impact on Customers



Discussion