

US EPA Stormwater Program's Webcast Series



Financing a Municipal Stormwater Program

Andy Reese
AMEC Earth & Environmental, Inc.

andrew.reese@amec.com

NAFSMA basis for this course

GUIDANCE FOR MUNICIPAL STORMWATER FUNDING

Prepared by National Association of Flood and Stormwater
Management Agencies

Under Grant Provided by Environmental Protection Agency

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- David Burchmore of Squire, Sanders and Dempsey L.L.P.
- Hector Cyre of Water Resource Associates
- Susan Gilson, NAFSMA
- Doug Harrison
- Andrew Reese of AMEC Earth & Environmental
- Scott Tucker

<http://www.nafsma.org/Guidance%20Manual%20Version%202X.pdf>

Short Historical Perspective

What is driving this?

Historical Paradigm Shifts

1. “Run it in ditches”
2. “Run it pipes”
3. “Run it in stormwater pipes”
4. “Keep it from stormwater pipes”
5. “Just don’t cause a flood”
6. “Oh... and don’t pollute either”
7. “It’s the ecology stupid!”
8. “Water is water is water...shed”
9. “Green & bear it”

Various Approaches

- Low Impact Development
- Multi-objective Corridors
- Integrated Site Design
- Better Site Design
- Green Infrastructure
- Conservation Design
- Green Building
- Green Technology
- Sustainable Development
- Smart Growth
- Eco-Friendly Design
- Zero Discharge
- Smart Site Development
- New Urbanism
- LEED designs

There's more coming...

- Eventual TMDL implementation
- Wet weather standards
- Water scarcity
- Air-emission TMDL integration
- Quantity as a pollutant
- Maintenance of 10^6 rain gardens

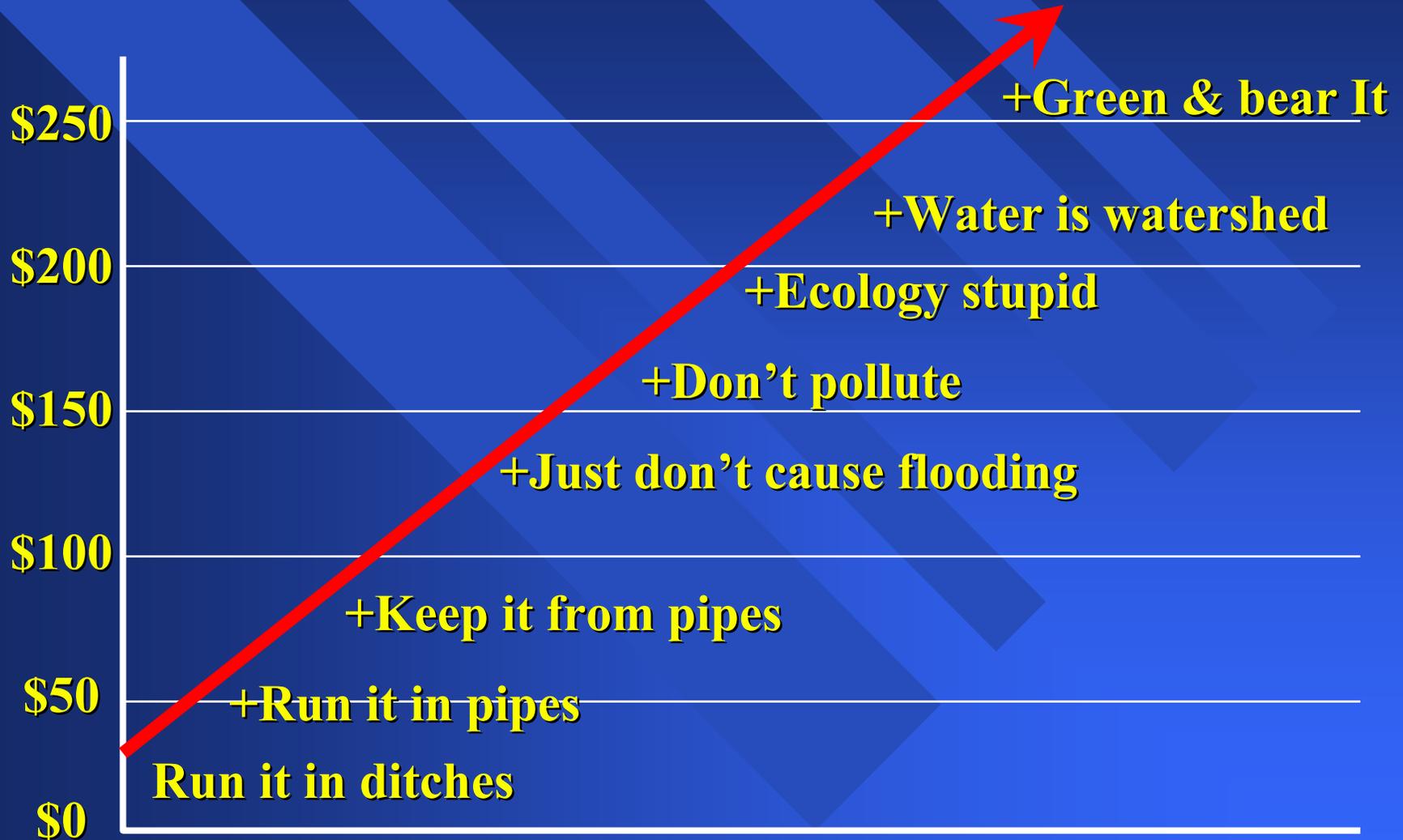
All these paradigms lead to specific drivers for stormwater programs:



- ✓ Flooding problems
- ✓ Aging infrastructure
- ✓ Development pressures
- ✓ Erosion of channels & creeks
- ✓ Water quality & ecology
- ✓ Regulatory mandates
- ✓ Lawsuits
- ✓ Quality of life & aesthetics
- ✓ Preservation of property value

“Typical” SW Program Costs

\$\$/Developed Acre/Year



Its Not Just About Utilities

How is stormwater paid for?

1. *There are about 125 funding methods and variations for local governments... some better than others...*

2. *There is a big difference between "resources", "money" and "revenue"*



Resources, Money & Revenue

- Resources – free, non-monetary, donated, volunteer, goods and services
 - Your neighbor's lawnmower
- Money – one-time, unpredictable, undependable, episodic, limited
 - You buy your own lawn mower
- Revenue – regular, predictable, money, budgeted, cash flow
 - You hire a landscape firm to mow your lawn

How much of this program can you cover with money and resources?

1. Administration

General Administration
Gen Prog Planning & Dev
Interlocal Coordination
Grants Program

4. Technical Support

GIS Applications
Database Management
Mapping & Imagery
General Data Collection
Web & Customer Support

7. Capital Improvements

Major Capital Improvements
Minor Capital Improvements
Land, Easement, And ROW

2. Billing And Finance

Billing Operations
Customer Service
Financial Management
Indirect Cost Allocation
General Government Support

5. Engineering & Planning

Des Criteria, Stds And Guidance
Field Data Collection
Quantity Master Planning
Quality Master Planning
Design, Field & Ops Engr
Retrofitting For Water Quality
Hazard Mitigation
Zoning Support
Multi-objective Planning Support

8. Regulation And Enforcement

Code Dev & Enforcement
General Permit Administration
Drainage Sys Insp & Reg
Zoning & Land Use Reg
Special Inspection Programs
Flood Insurance Program
Multi-Obj Floodplain Mgmt
Erosion Control Program
Pest, Herb & Fertilizer
Used Oil & Toxic Materials
Spill Response & Clean Up
Illicit Con & Illegal Dumping
Groundwater & Drinking Water
Watershed Assessment & TMDL
Septic & I&I Program
Industrial Program
Monitoring

3. Public Ed & Involvement

Public Awareness
SW Qual Ed & Reporting
Public Involvement
Citizen's Advisory Group
Non-profit Integration
Media Relations
Risk Communications

6. Operations & Maintenance

General Maintenance Mgmt
General Routine Maintenance
General Remedial Maintenance
Emergency Response Maint
Infrastructure Management
Public Assistance

Building Blocks for Funding

Resource	User Fee	Volunteers	Fines
Impact Fee	Bonding	General Fund	Tax Assessment
Shared Costs	Inspection Fees	Grants	Special Sales Tax

“Funding” Methods

- ✓ Modify local programs

- Local PR resources
- Mapping and GIS
- Current inspection programs
- Current design criteria
- Current field forces modifications

“Funding” Methods

- ✓ Modify local programs
- ✓ Share costs with neighbors or region/state-wide
- “Models”
 - brochures
 - ordinances
- “Joints”
 - criteria
 - PR programs
- “Bulks”
 - bulk orders on PR
 - bulk mapping
 - printing

“Funding” Methods

- ✓ Modify local programs
- ✓ Share costs with neighbors or region/state-wide
- ✓ Free stuff on the web
- Ordinances
- Brochures
- Criteria manuals
- Video clips
- Inspection Checklists
- Slide shows
- Educational materials
- BMP lists
- Contacts

“Funding” Methods

- ✓ Modify local programs
- ✓ Share costs with neighbors or region/state-wide
- ✓ Free stuff on the web
- ✓ Partner with non-profits
 - Lots of 501(c)(3) grants
- Free or mostly free
- Dedicated smart people
- Trusted more than you !
- May reduce lawsuit exposure
- Ownership of watersheds
- New funding source

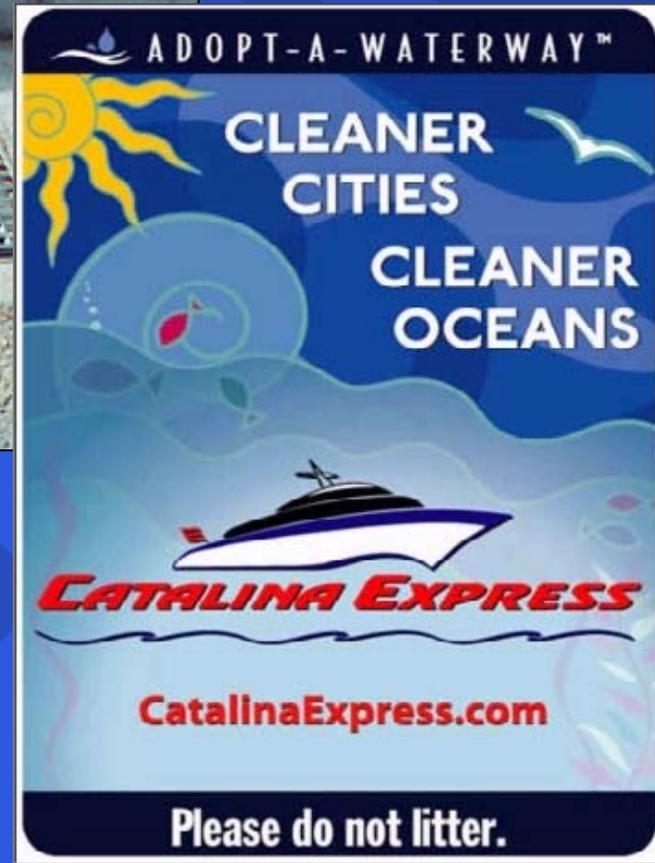
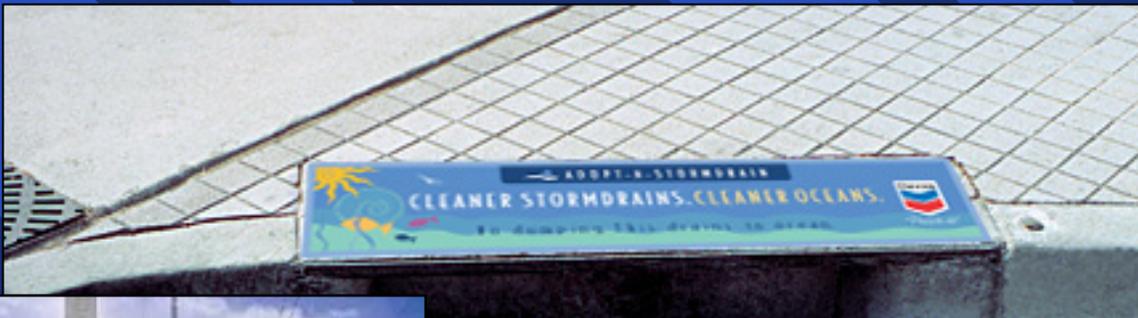
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- ✓ Modify local programs
 - ✓ Share costs with neighbors or region/state-wide
 - ✓ Free stuff on the web
 - ✓ Partner with non-profits
 - Lots of 501(c)(3) grants
 - ✓ Federal Programs:
 - Funding
 - “consulting”
- COE
 - HUD
 - EPA
 - USGS
 - NRCS
 - TVA
 - F&W
 - FHWA
 - FEMA
 - DA

“Funding” Methods

- ✓ Modify local programs
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- ✓ Free stuff on the web
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 - Lots of 501(c)(3) grants
- ✓ Federal Programs:
 - Funding
 - “consulting”
- ✓ Corporate Sponsorship
 - Advertising
 - Environmental association
- Sponsor events
- Provide materials or donations
- Adopt a watershed
- Public-private partnerships
- Scholarships and internships
- Adopt-a-storm-drain

Adopt-a-Stormdrain or Waterway



“Funding” Methods

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 - Lots of 501(c)(3) grants
- ✓ Federal Programs:
 - Funding
 - “consulting”
- ✓ Corporate Sponsorship
 - Advertising
 - Environmental association
- ✓ State/Regional Grants:
 - Revolving loan and State bond fund
 - 319 non-point
 - Tea-21 funds
 - 604(B) – WQ Planning
 - 104(b)(3) - Wetlands
 - NOAA & Coastal Pollution Remediation Grants
 - Wellhead Protection
 - Source Water Protection

“Funding” Methods

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- ✓ Fees for service & Innovation

Fees For Service & Other Innovation

- Plans review fees
- Stormwater “tap” fee
- Oversize latecomer fees
- Penalties and clean up charges
- Environmental impact fees
- Water, sewer or solid waste fee surcharge for surface water
- Hot spot or other “special use” inspection fee
- Environmental “check off” on electric, phone or other bill
- Redevelopment agency for “water quality urban blight”
- Community Facilities District

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- ✓ Fees for service & Innovation
- ✓ The usual culprits:
 - General Fund, Sales Tax
 - Franchise Fees, Income Tax

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- ✓ Fees for service & Innovation
- ✓ The usual culprits:
 - General Fund, Sales Tax
 - Franchise Fees, Income Tax
- ✓ Stormwater utility user fees



We need to remember that different funding methods match different program needs:

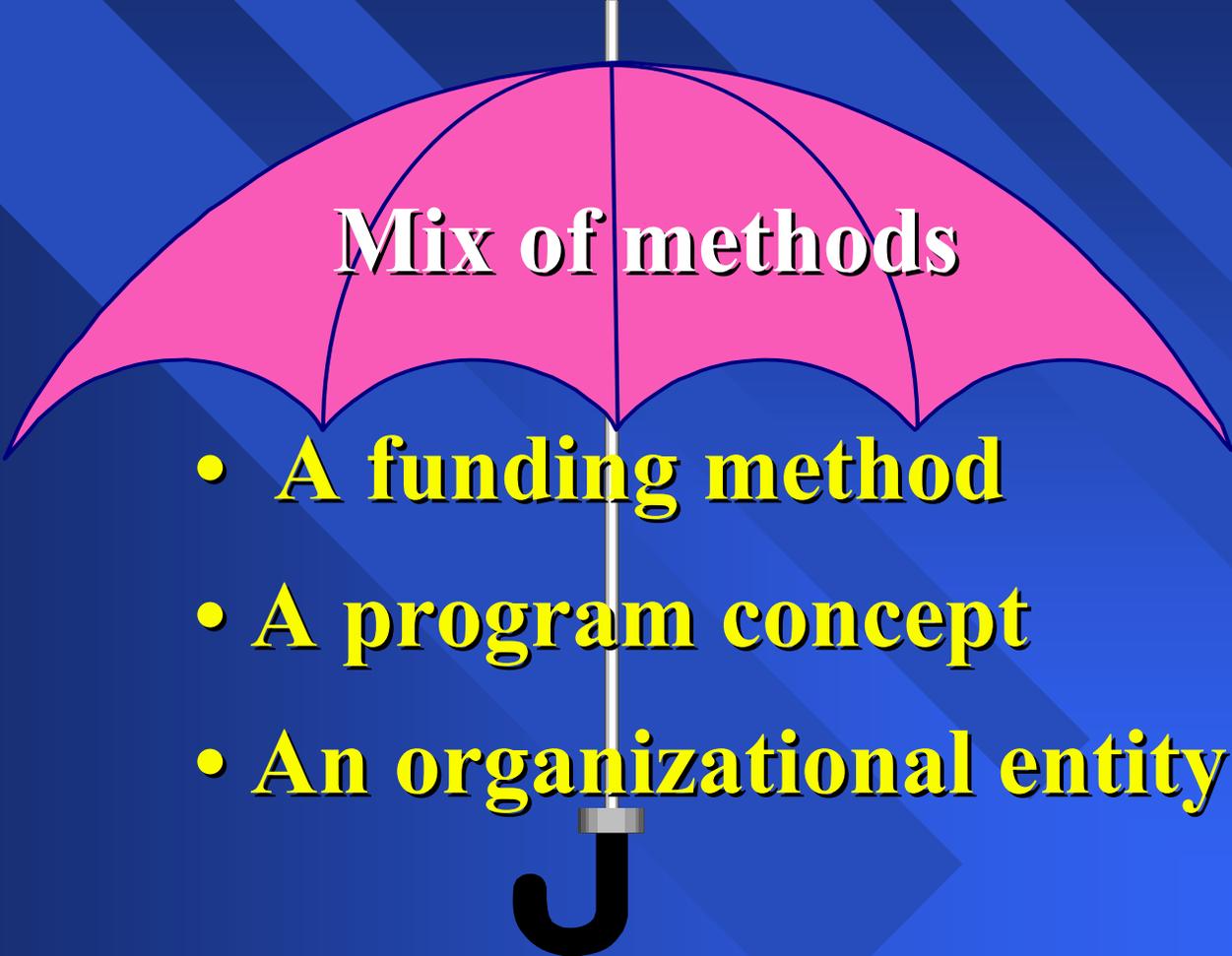
- You cannot live off of grants and loans
- There is a large human effort cost in "free" sources
- Long-term operations make up half our program
- ergo: you need a mix of sources matched to the program components AND
- you can sometimes match a program to funding

Question and Answer Break

Stormwater Utilities

What makes it “better”?

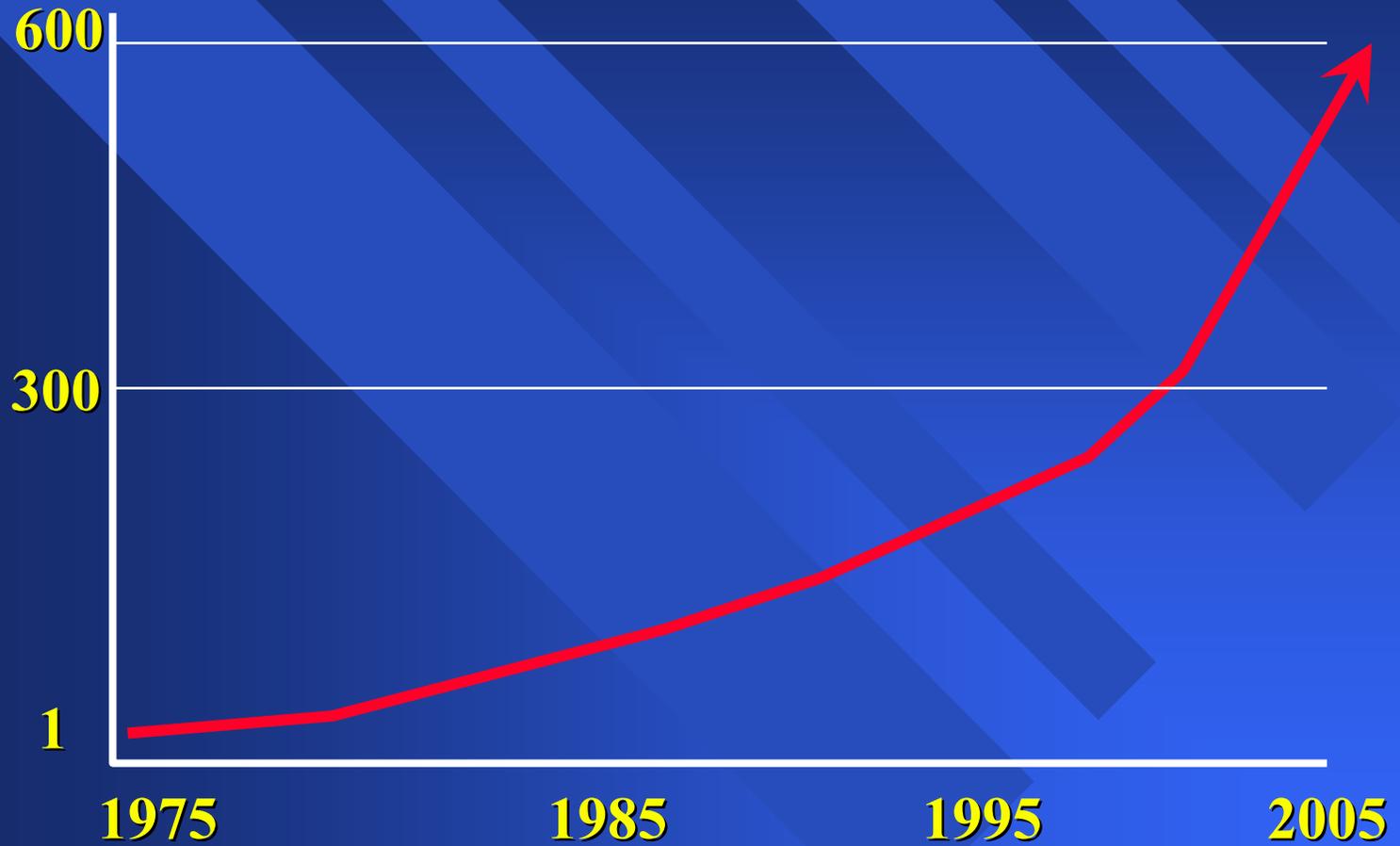
What is a Stormwater Utility?



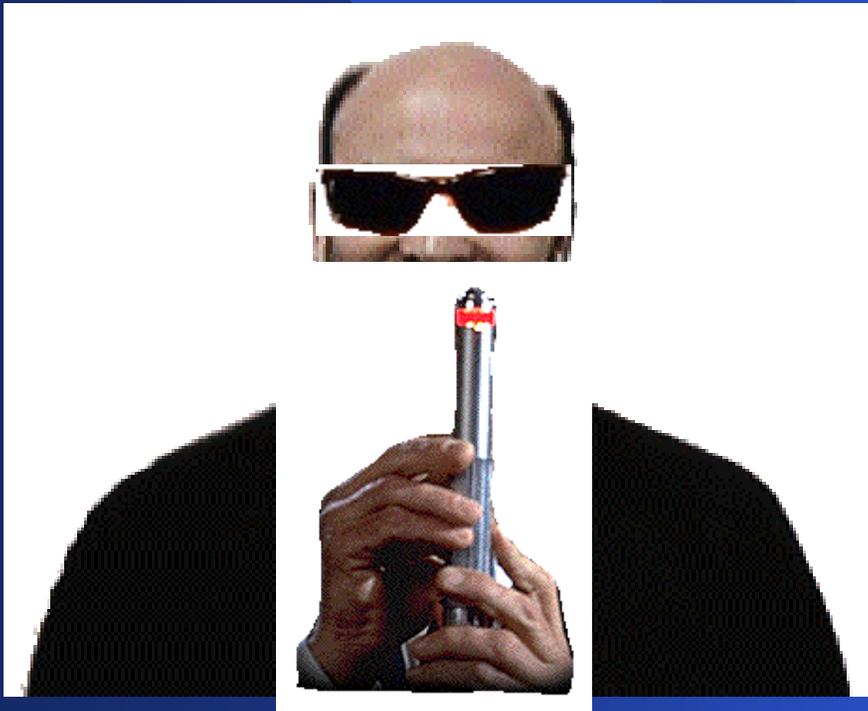
Mix of methods

- **A funding method**
- **A program concept**
- **An organizational entity**

Growth of Utilities



Advantages of a Stormwater Utility to Support Programs



nt here
taxes”

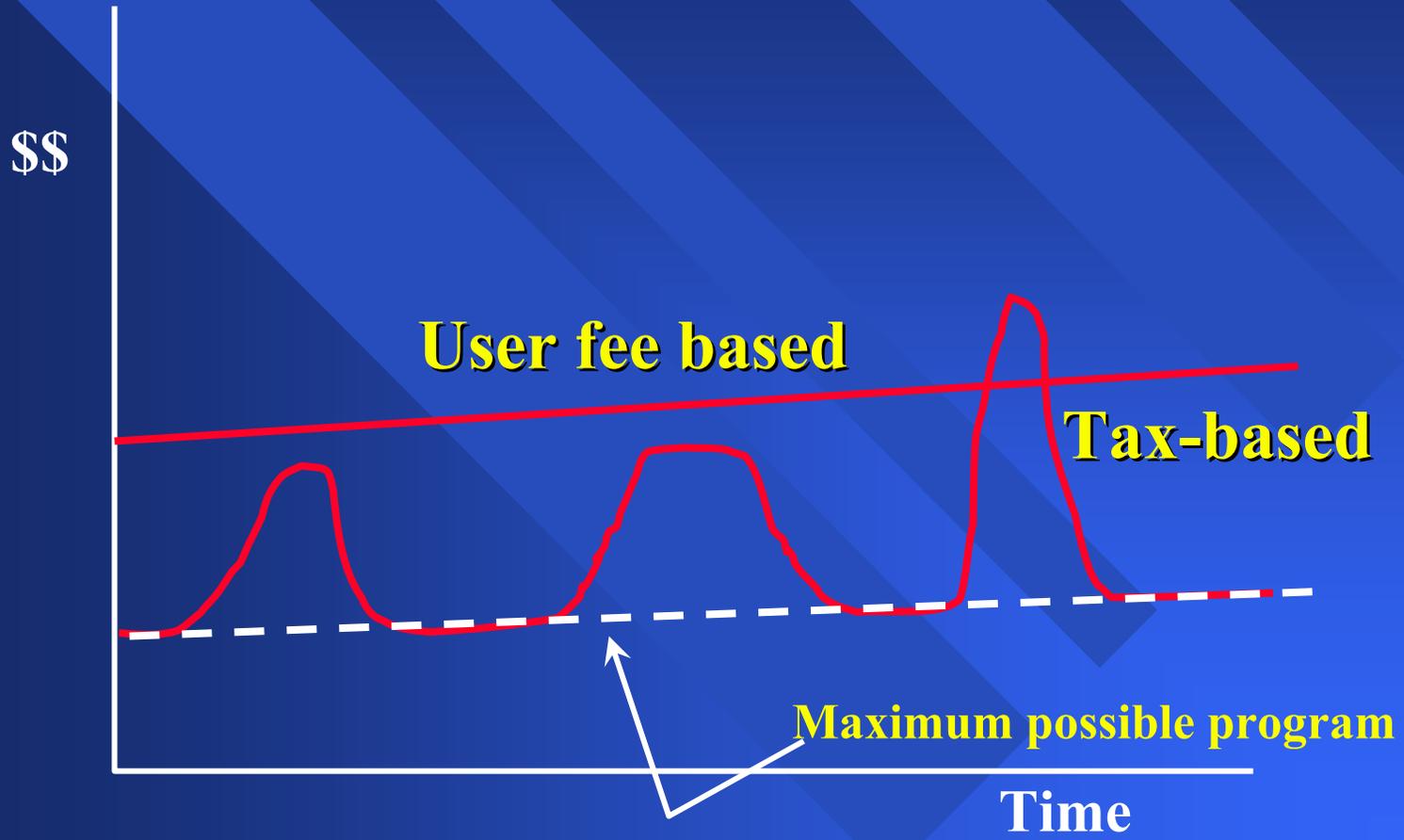
Stable

Adequate

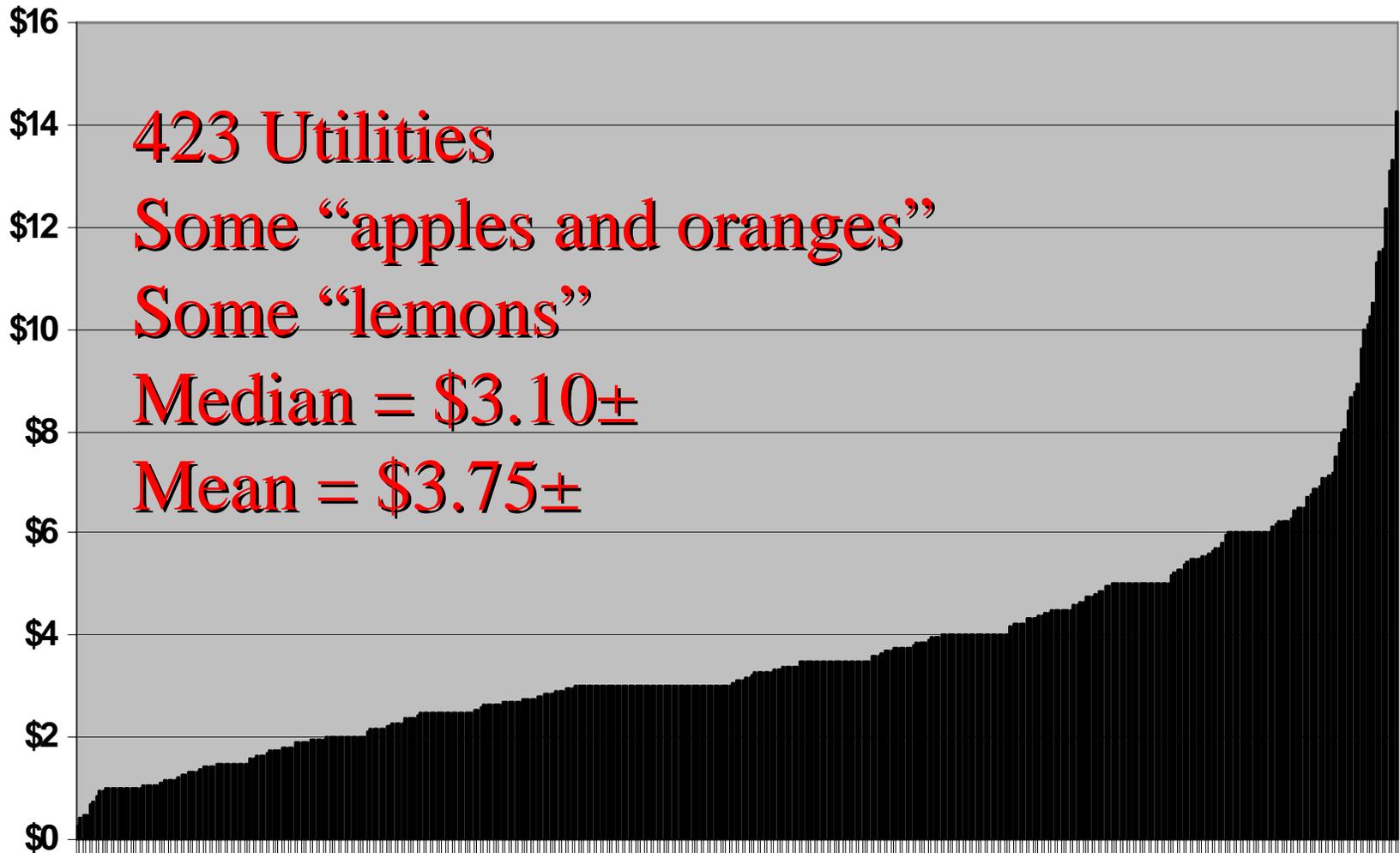
Flexible

Equitable

Stable Utility vs. Tax Funding

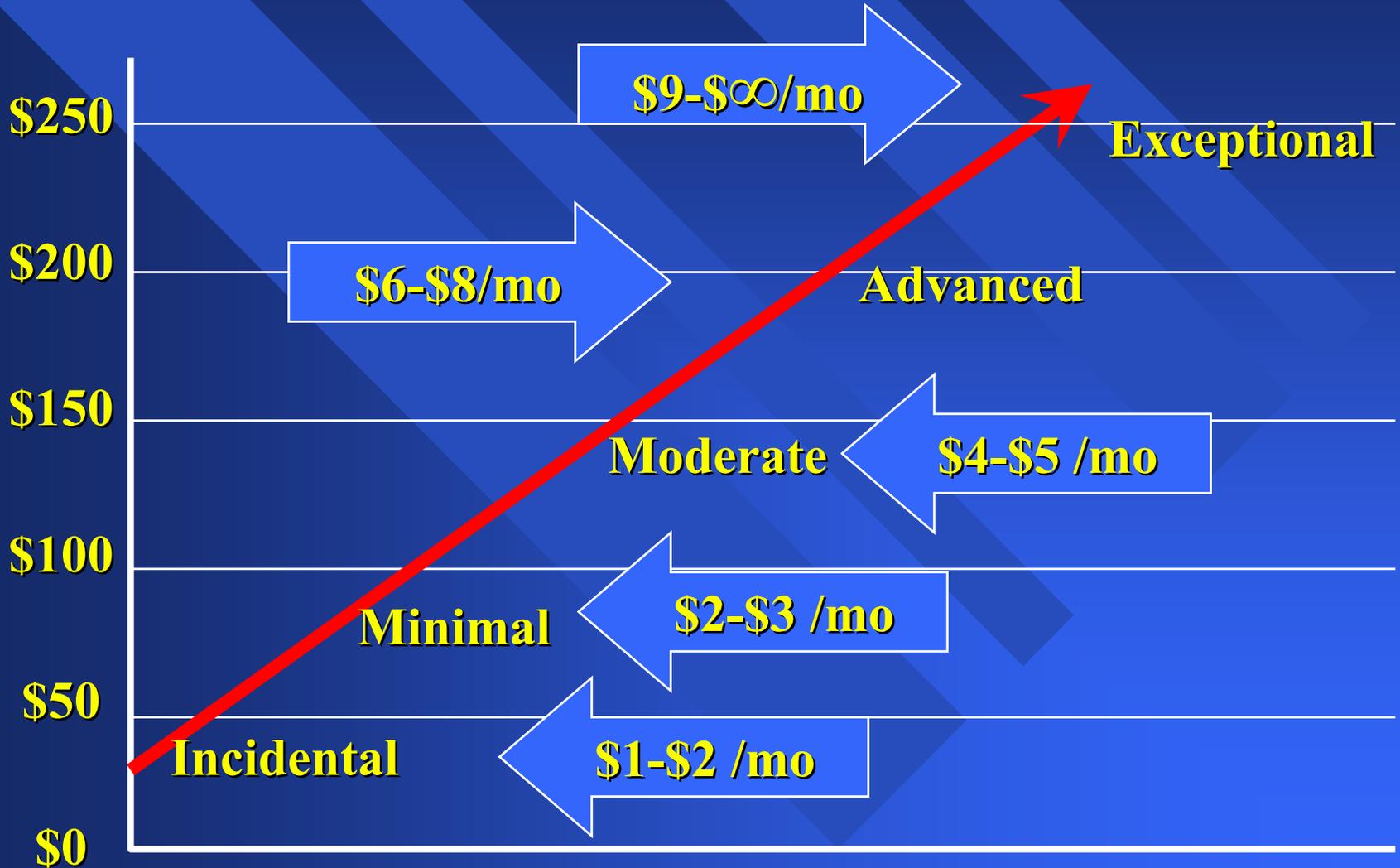


Adequate



Typical Stormwater Program Costs

\$/Dev. Acre/Year



Flexible

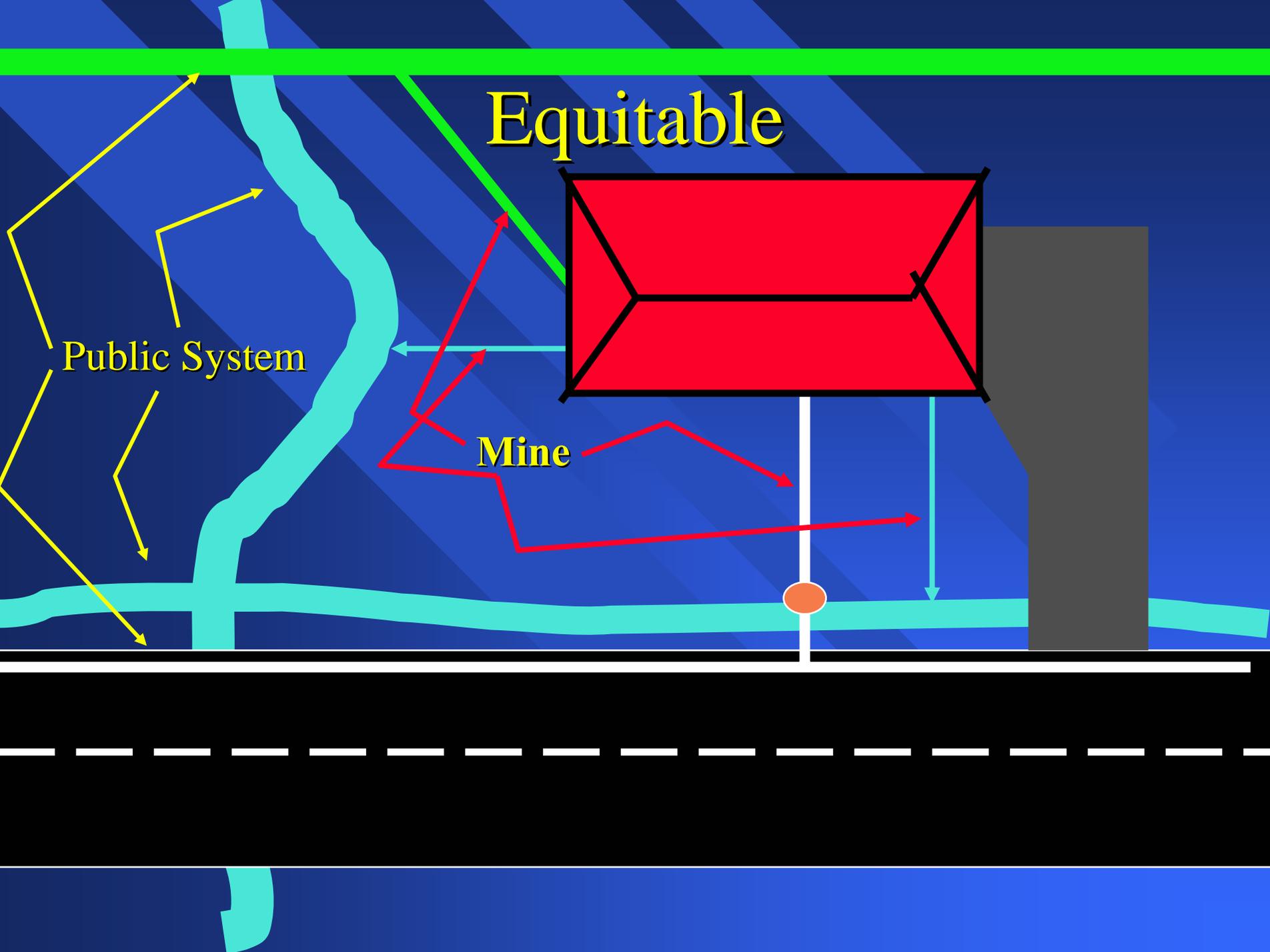


- Primary source for the whole program
- Other fees to enhance equity
- Credits to encourage good performance
- Can be geographically based
- Can take into account environmental costs

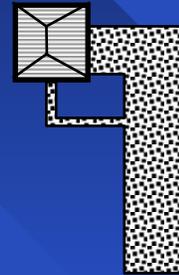
Equitable

Public System

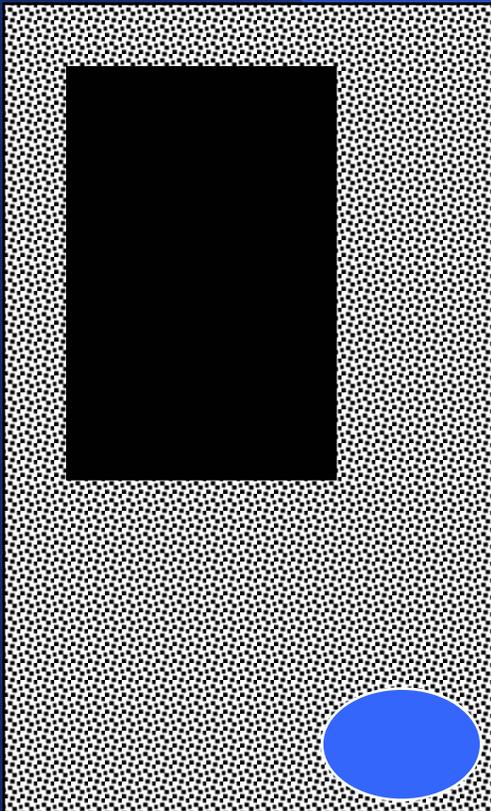
Mine



Equitable: How a Fee is Calculated



= 1 ERU



= 40 ERUs less credit

Law Suits

Who will come after you, and how?

Who will not like the concept?

- tax exempt properties
- people with large paved areas with cheap buildings
- fixed income
- sometimes developers don't like it
- **Maybe everybody !!**



Categories of Municipal Revenue

✓ Taxes

- Primary revenue generator
- No mandatory association with specific activities

✓ Exactions

- Approval or privilege to us
- e.g. Franchise fee

✓ Assessments

- Direct and special benefit
- Often one time capital construction

✓ Service Charge

- Tied to objective or program
- Fee level based on provision of goods & services
- Partially voluntary

Every state is different

Supreme Court Challenges

- Montana – 1966
- Colorado – 1986 & 1993
- Kentucky – 1989 & 1996
- Ohio – 1990
- Oregon – 1992 & 1993
- Kansas – 1994
- Florida – 1995, 1998 & 2003
- Washington – 1997
- Virginia – 1998
- Tennessee – 1998
- Michigan – 1998 & 2001
- North Carolina – 1998 & 1999
- South Carolina – 1999
- Alabama – 2001
- California – 2002
- Georgia – 2004
- Illinois – 2005

Seven different types of challenge to plan for

Question and Answer Break

Implementation of a Stormwater Utility

How is a utility set up?

There is nothing more difficult and dangerous, or more doubtful of success, than an attempt to introduce a new order of things in any state.

For the innovator has for enemies all those who derived advantages from the old order of things, while those who expect to be benefited by the new institutions will be but lukewarm defenders.

Niccolo Machiavelli

Bringing About Change

$$\text{Change} = D \cdot V \cdot P$$

- D = Dissatisfaction (or desperation) with the status quo
- V = an attractive Vision for the future, a model of the way it can be
- P = a logical step-by-step Plan of action to bring about the change

The power of multiplication !!

A question of “due diligence”

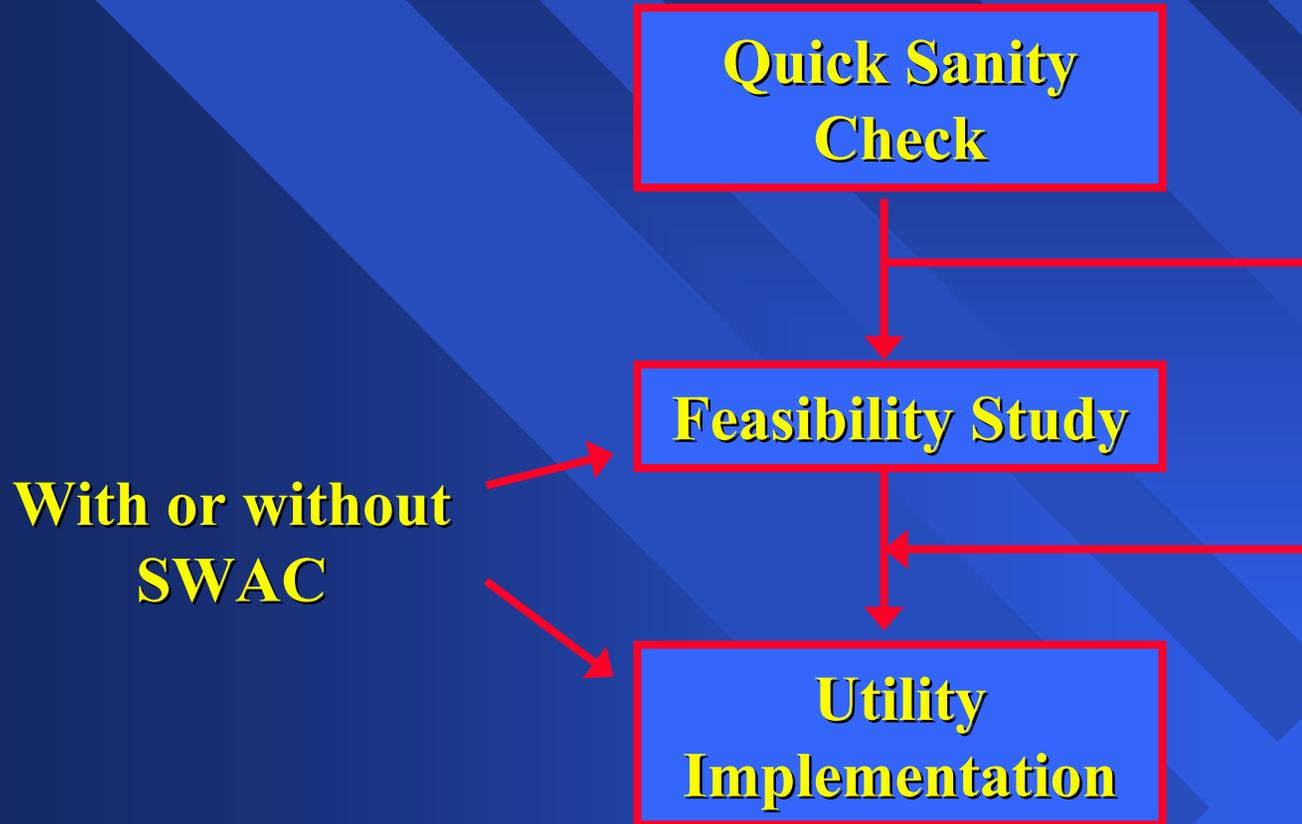
Establishing a
successful
stormwater utility
requires that you
pay attention to
five key areas of
due diligence:

A question of “due diligence”

Establishing a successful stormwater utility requires that you pay attention to five key areas of due diligence:

1. Governance and inter-municipal consensus
2. Program concept and the compelling case
3. Public and political education and support
4. Financial policies and documents
5. Database development & accuracy and customer service

2 or 3 Step Process



Advisability Study

DIMS (does it make sense...at all)

A DIMS study takes quick and dirty look at whether it is advisable to begin the process of stormwater utility development and outlines a general roadmap, costs, and approach.

It answers the question, “does this make sense at all?”

Feasibility Study

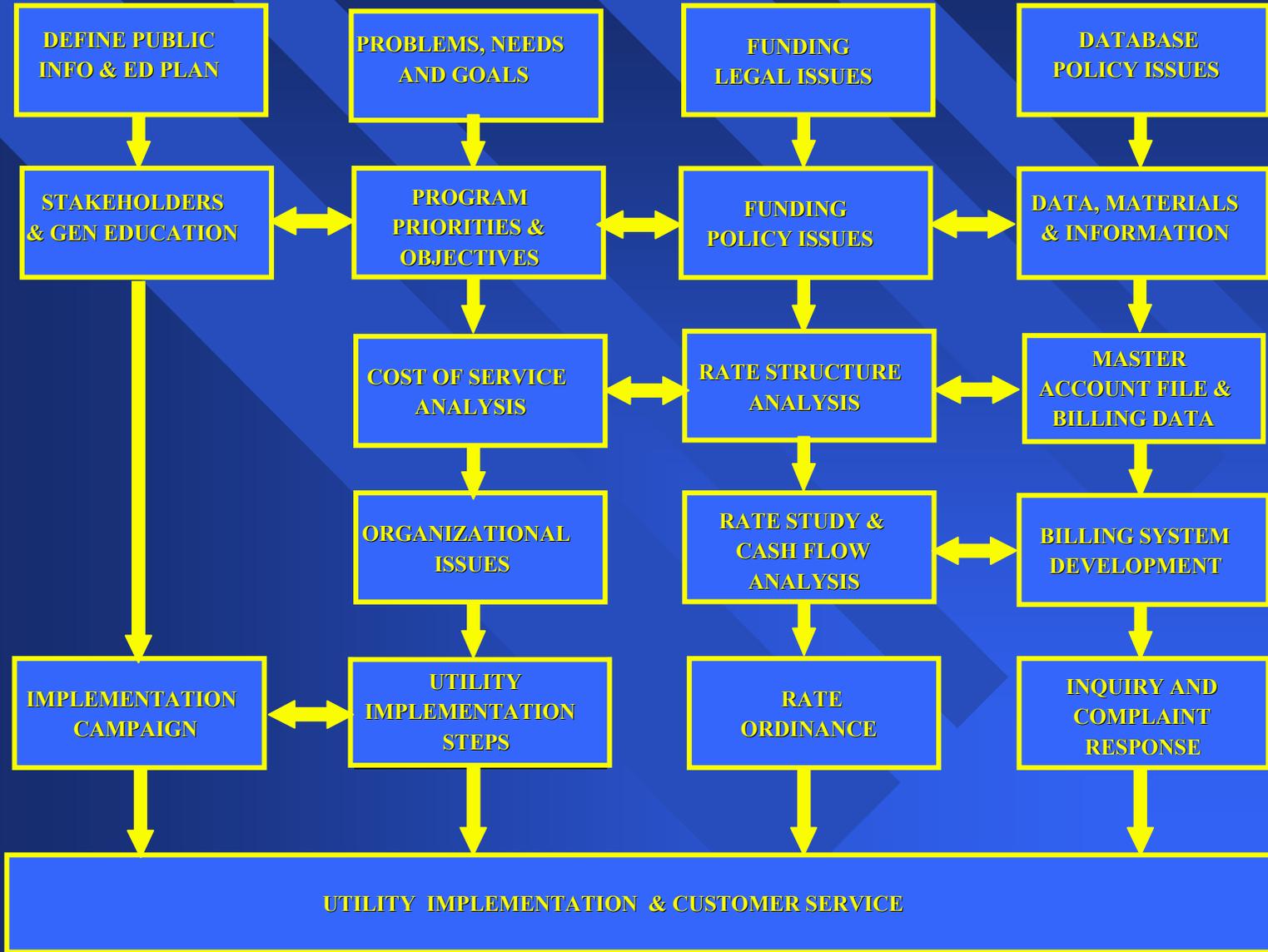
- **What are we spending and doing now in stormwater?**
- **What are the significant problems, issues and needs we face?**
- **How have others solved them?**
- **How should we solve them?**
- **What will it cost?**
- **How should we pay for it?**

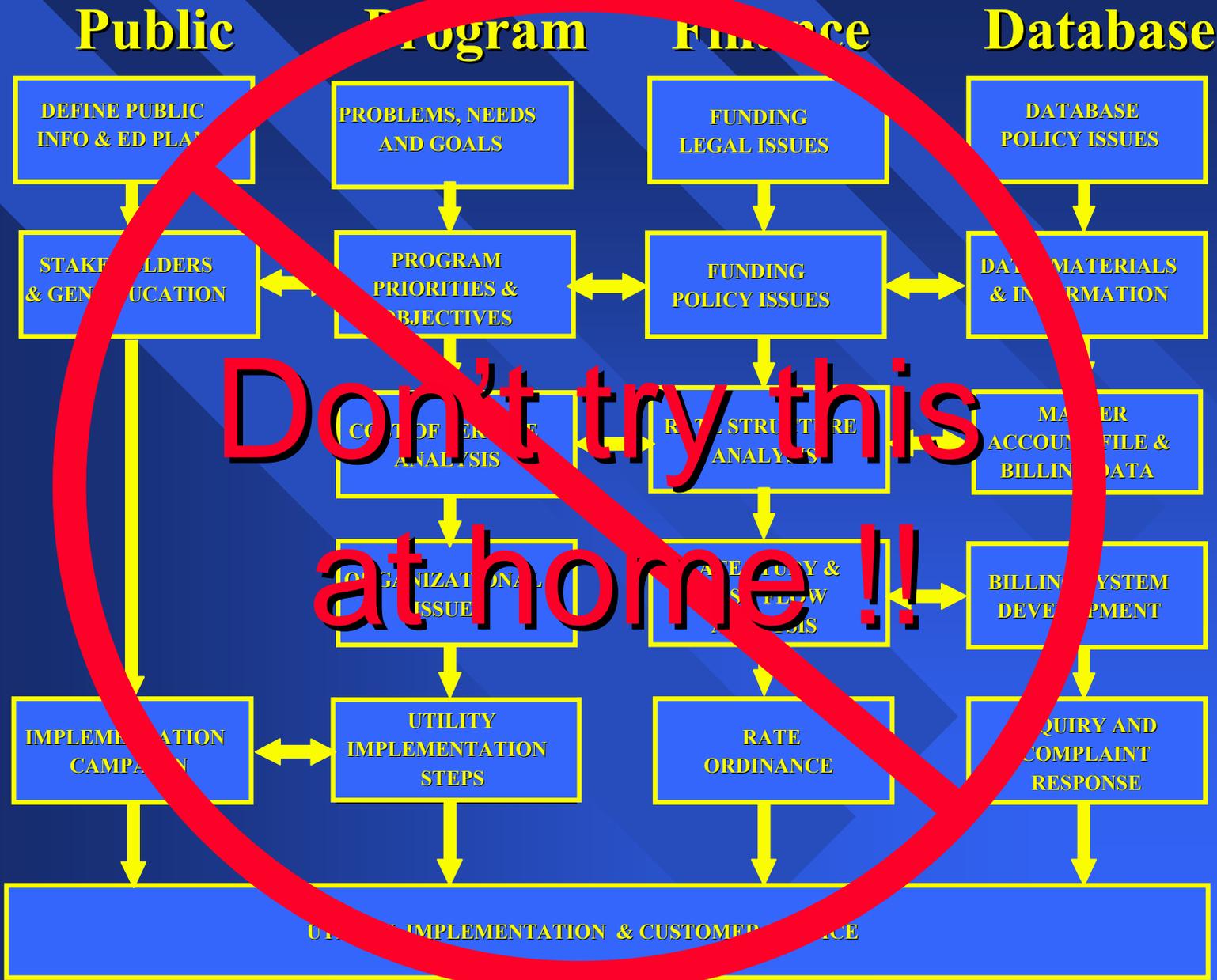
Public

Program

Finance

Database





Don't try this at home !!

How to fail flawlessly...

How is a stormwater utility not set up?

Really, it would have worked, but

- We didn't understand the process.
- We didn't involve the community early enough or in the right ways.
- We couldn't explain our program and funding strategy or rates.
- We didn't prepare our elected officials for vocal complaints.
- We did it the convenient and inexpensive way, not the right way.



Question and Answer Break

Keeping Our Head Above Water

The Charlotte, NC Story

**Jeb Blackwell
City of Charlotte**





Charlotte Before the Utility



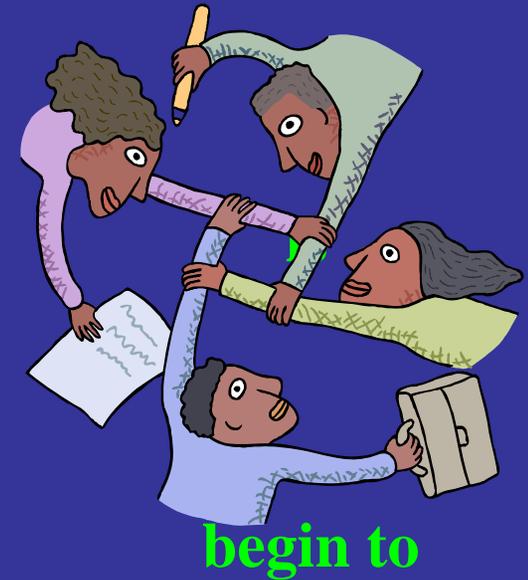
- General Fund paid for projects in City right-of-way.
- Private property owners could participate through watershed assessment.



October, 1989

The Tides Begin to Turn

- Charlotte City Council approved development of a proposal for a utility supported by a fee
- Citizen Task Force appointed
- Staff and Consultants begin to collect data





Public Opinion Survey

Survey of 500 Registered Voters

- **98%: Protecting Water Quality should be a high priority**
- **76%: Drainage systems do not get the attention they need**
- **40%: Drainage problems in my neighborhood**
- **18%: Drainage problems on my property**
- **60% Willing to pay a service charge for storm water programs**



Extrapolations About Infrastructure



Basis: One 6-square-mile basin

- 2,400 miles of storm drainage
- 170,000 storm drains
 - 10,000 were >80 years old
 - 50,000 were >30 years old
 - 2,500 were broken
 - 9,700 were blocked
- Replacement will cost between \$100 and \$500 million



Charlotte Storm Water Fee Model



Assumptions

- Growth in imperviousness, operating costs, capital needs assessment
- Interest rate, borrowing rate

Basic Data

- Current imperviousness & # accounts, current operating costs, current capital program appropriations
- Service of existing debt
- Other revenues

Calculations

- Fee per Equivalent Residential Unit (ERU), total fee revenue, City fee payment
- Interest revenue
- Revenues available to capital; bond revenue needed
- Additional debt service



The Fee vs. Tax Illustration

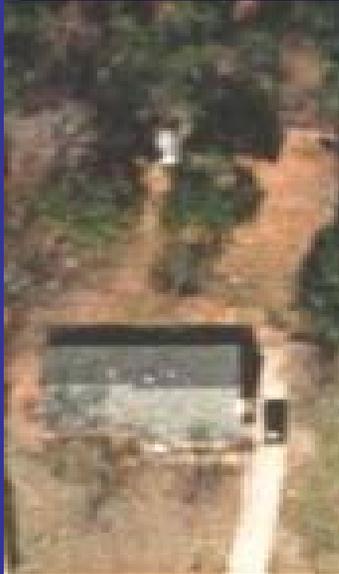


Commercial/Industrial Accounts @ Variable Impervious Square Footage

<u>Customer</u>	<u>Monthly Fee</u>	<u>\$.06 Property Tax Increase</u>
Nationsbank (1.9 acres)	\$ 120	\$15,000
Eastland Mall (78 acres)	\$4,800	\$ 2,900



The Fee vs. Tax Illustration



Single Family Residential
@ 2500 Sq Ft Impervious

\$.06 Property

Tax Value

Monthly Fee

Tax Increase

\$ 71,000

\$3.55

\$3.55

\$ 50,000

\$3.55

\$2.50

\$150,000

\$3.55

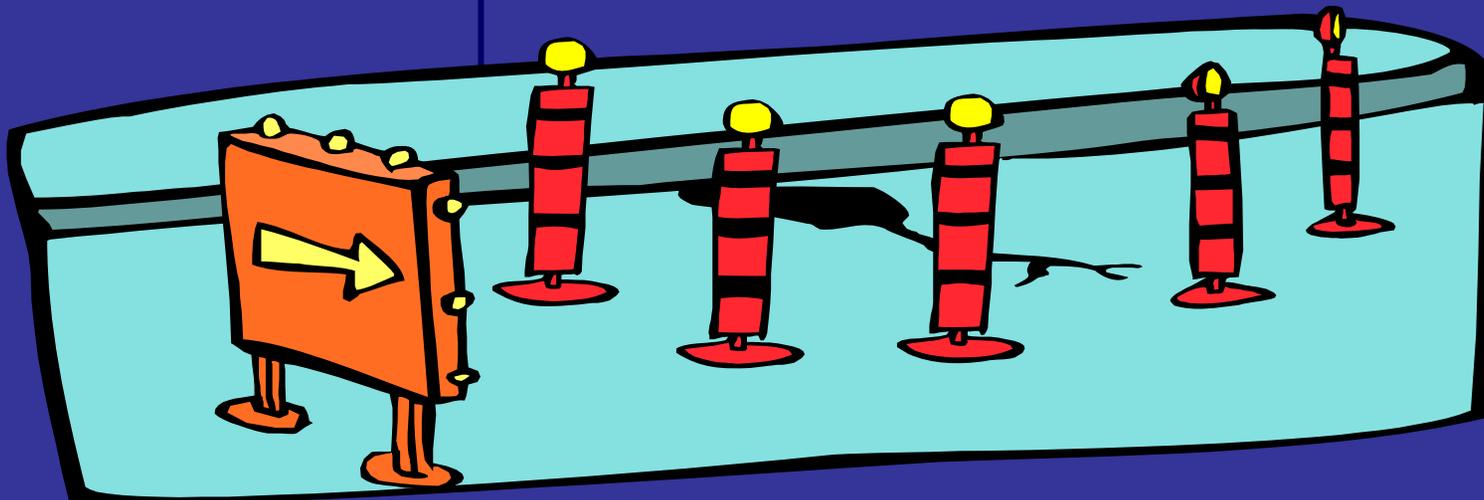
\$7.50





Holes in the Impervious Approach

- Potentially regressive
- Charging ourselves for public property
- The implication of charging the state for its roads





Storm Water Task Force Key Policies

**Adopted by
Council March
23, 1992**

- **Fund Storm Water Services (SWS) with SWS revenues**
- **Distribute cost to rate payers in accordance to their contribution to the problem (impervious area)**
- **Address backlog of remedial repairs within 10 years**
- **Complete master planning in 5 years; prepare for capital bond issue**
- **Meet NPDES requirements; improve water quality**



Editorial – June 15, 1992

The Storm-Water Solution

Council's Historic Decision Establishes Fair Plan for Correcting a Major Deficiency and Preventing its Recurrence

The Charlotte Observer Comments

“On an evening when council members were indulging in embarrassingly petty debates about trivial budget proposals – ‘counting the paper clips,’ as one member put it – the storm-water utility decision was monumental.”





Program Goals

First 10 Years

- Solve the worst problems first (public safety, flooding of structures)
- Prioritize and construct large capital projects
- Address backlog of remedial repairs within 10 years
- Improve water quality



Lessons

Learned

- **Gather allies**
- **Develop Key Policies/Principles**
- **Gather infrastructure data early and stay flexible**
- **Expect the unexpected**
 - *Construction expenses have risen dramatically.
 - *Requests for service calls were and still are much higher than expected



Lessons Learned

- **Think long-term. Make no short-term budgetary decisions with negative long-term consequences**
- **Build solid financial modeling that adapts to changes**
- **Develop a program with lots of “winners”; build in quick wins**
- **Provide options and show impacts**



- *Implement Balanced Portfolio of storm water capital strategies*
- Prioritize and construct large capital projects
- Address backlog of remedial repairs within 10 years
- Improve water quality
- *Reactive* *Proactive*
- *Support Community Goals* →

*Adjusted Program
Goals 1996*



Balanced Portfolio Capital Strategy



Infrastructure

- Flood Control
- Repairs to Storm Drains
- Channel Projects

Collaboration

- Neighborhood Projects
- Transportation Projects
- Transit
- Economic Development

Water Quality

- Pollution Control
- Stream Restoration



Balanced Portfolio Capital Strategy



Infrastructure

- **Flood Control**
 - > 52 projects complete
 - > 35 projects in progress
 - > \$113.4m expended to date
 - > Average cost of a project increased 83% from 2004 (\$3m) to 2006 (\$5.5m).
- **Repairs to Storm Drains & Channel Projects**
 - > 25,189 Request for Service (RFS) resolved
 - > 6,243 RFS open
 - > \$91.1m expended to date
 - > Average cost of a point repair has increased 25% from 2004 (\$16,125) to 2006 (\$20,192)



Balanced Portfolio Capital Strategy



Water Quality

- **Pollution Control**
 - > 13 projects complete
 - > \$2.5m expended
- **Stream Restoration**
 - > 5 projects complete
 - > \$5.8m expended



Balanced Portfolio Capital Strategy

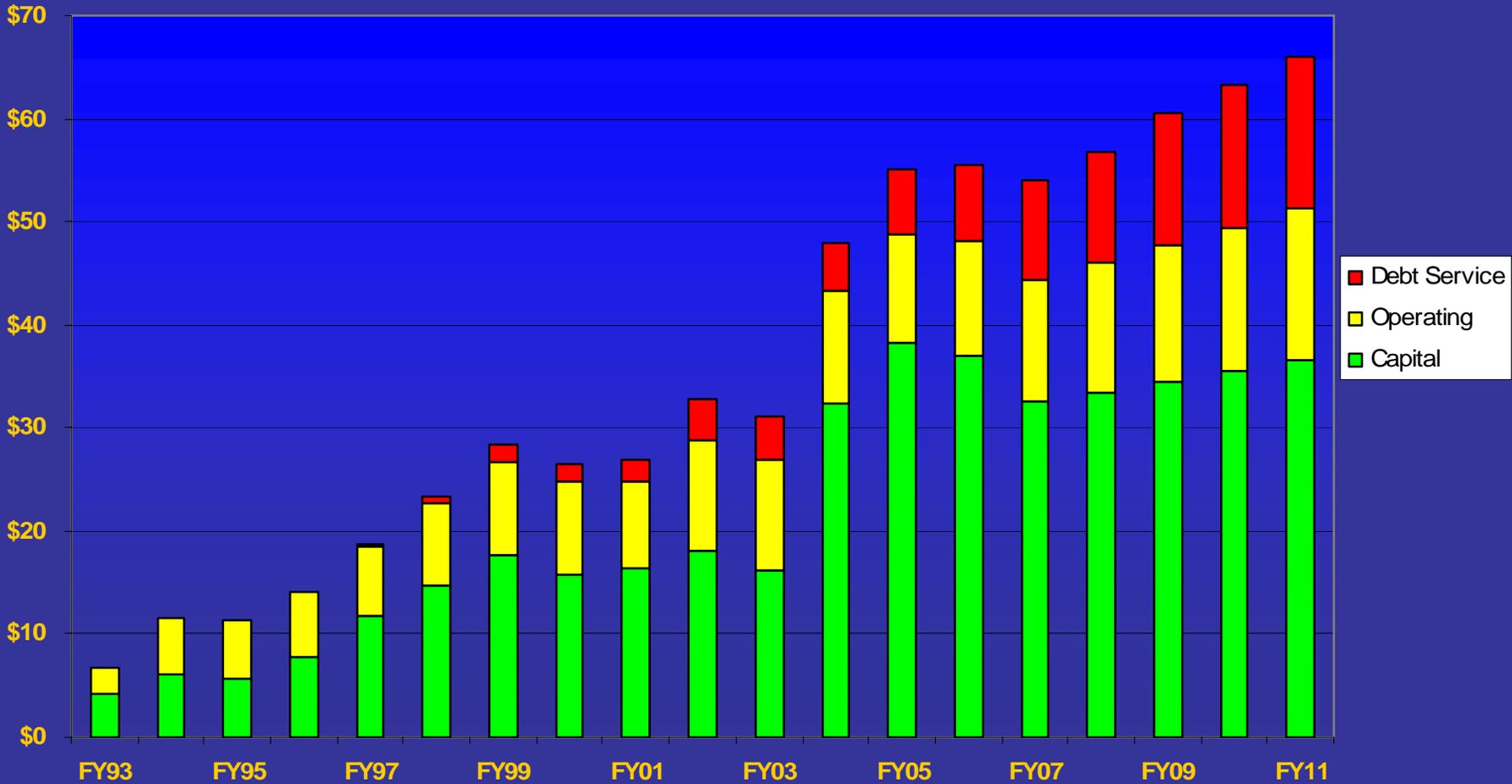


Collaboration

*Community initiatives co-funded with other
City departments*

- **Neighborhood Projects**
 - > 35 projects complete
 - > \$5.8m expended to date
- **Transportation Projects**
 - > 10 projects complete
 - > 4 projects in progress
 - > \$0.7m expended to date
- **Transit**
 - > 1 project complete
 - > 2 projects in progress
 - > \$4.5m expended to date
- **Economic Development**
 - > 5 projects in progress
 - > \$3.2m expended to date

Cash Expenditures

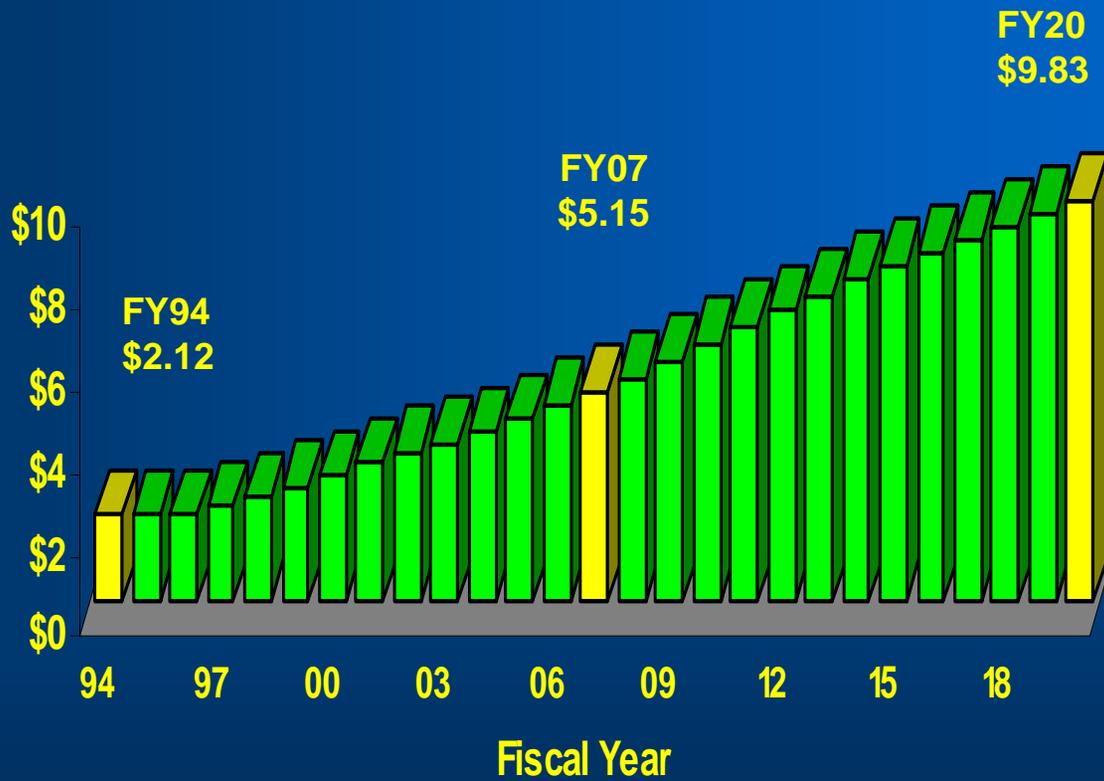


Long Term Fee Plan

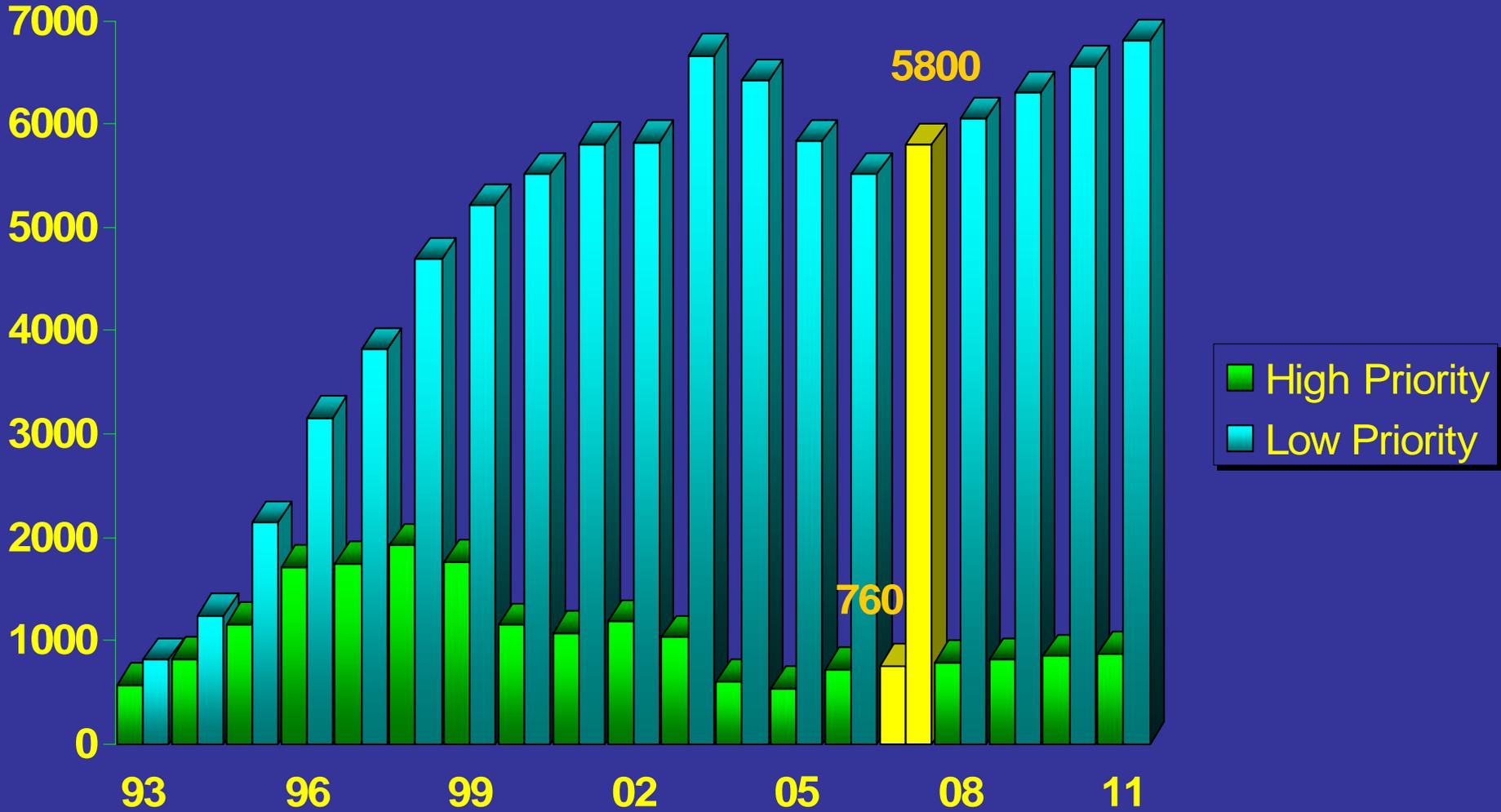


Monthly Fee

Single Family Residential > 2,000 sf



Request for Service Backlog 1993 - 2011





Redefining Future Success



Programmatic Goals:

- Reduce unresolved high priority requests to a manageable and timely effort
- Become proactive versus reactive
- Meet federal mandates
- Collaborate on community initiatives

Financial Goals:

- Match funding to expenditure needs
- Steadily decline reliance on revenue bonds to become PAYG-supported
- Fee increases = inflation

Question and Answer Break