

# Program Assessment for Stormwater Management

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DuPage County Stormwater Management



# Stormwater Plan (1989)

- Objectives and policies outlined in the DuPage County Stormwater Management Plan are:
  - Reducing the existing potential for stormwater damage to public health, safety, life and property;
  - Controlling future increases in stormwater damage;
  - Protecting and enhancing the quality, quantity and availability of water resources;
  - Preserving and restoring existing aquatic and riparian environments;
  - Controlling sediment and erosion near drainage ways, developments and construction sites; and
  - Promoting equitable, acceptable and legal measures for stormwater management.

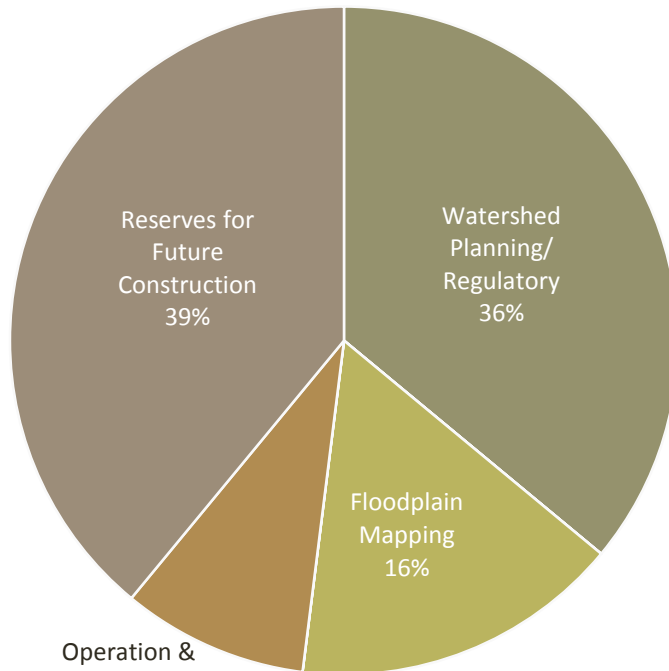
# Funding Projections

- Ten-Year Plan (1992)
  - First funding assessment based on 1989 Stormwater Plan
  - Very accurate at beginning
  - Shows Stormwater Management requiring average revenue of an \$12.4 million per year from 1993-2002
  - Approximately \$18.1 million today
- Five-Year Plan (Current)
  - Average revenue of approximately \$12.7 per year from 2014-2018
  - Average operating budget of \$7.6 million per year from 2014-2018
  - Average of \$7.4 million in bond payments per year
  - Operating at a deficit of an average of over \$2 million per year
  - Creates a projected deficit of \$1 million in fiscal year 2018

# Operating Budget (1992 & 2014)

1992

Does not include \$3.8 million bond payment.

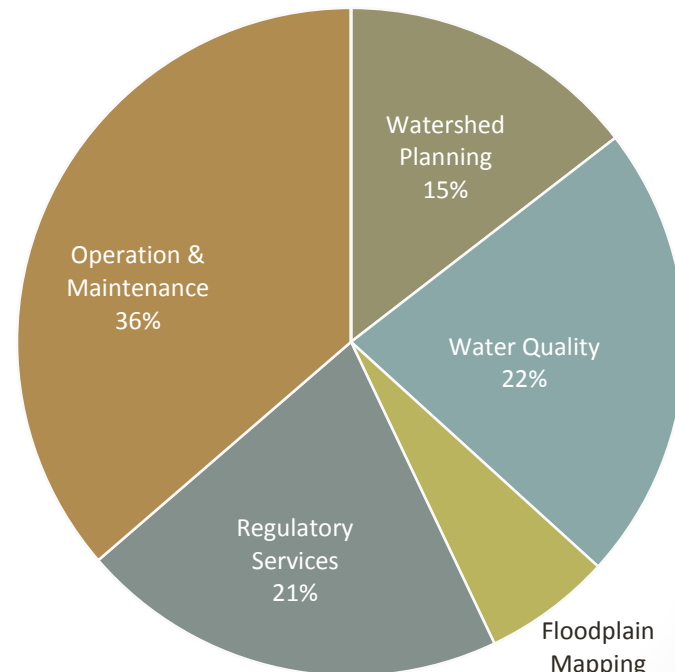


Operation & Maintenance  
9%

Operating Budget - \$9,273,000  
Net Present Value - \$15,397,000  
Reserves - \$42,447,000

2014

Does not include \$7.4 million bond payment.



Operating Budget - \$7,430,000  
Reserves - \$1,400,000  
Operating Deficit - >\$2,000,000

# Program Assessment

- Internal Review of Programs Areas
  - Watershed Management
  - Water Quality
  - Floodplain Mapping
  - Regulatory Services
  - Operation & Maintenance
- Three Tiers of Service
  - Current Level of Service (Tier 1)
  - Fully Funded Level of Service Based on 1989 Stormwater Plan (Tier 2)
  - Enhanced Services & Strategic Initiatives (Tier 3)

# Watershed Management

# Watershed Management

- Current budget is \$1.08 million
- Regional Programs
  - Watershed Planning
    - Identifies flood control and water quality projects on a watershed basis not constrained by municipal boundaries
    - Helps County and municipalities to secure federal and state grants
    - County has secured ~\$48.6 million in grants for projects since 1996
  - Regional Project Design & Construction
    - 16 regional flood control facilities countywide
    - In 1987, floods caused \$308 million in damages in today's dollars
    - In April 2013, floods caused only \$17.65 million in uninsured losses
  - Voluntary Buyout Program
    - With grants, DuPage County has purchased 101 properties
    - Based on average flood damage, an estimated \$26.4 million in property damage was avoided in past five major flood events

# Funding Needs

- Watershed Planning
  - Approximately 40% of DuPage County watersheds studied
  - Requires an estimated \$3.7 million to study remaining 60% of DuPage County
- Regional Project Design & Construction
  - Currently only grant-funded
  - Approximately \$20 million in current, unfunded projects
- Voluntary Buyout Program
  - 223 properties on the buyout list
  - Currently under-funded, relying heavily on federal funds
  - Requires an average of \$300,000 to acquire each property
  - Federal funds typically only allow properties to be returned to open space, but County funds allow for projects in those areas



# Watershed Plans

## Complete

- Willowway Brook
- Ginger Creek
- Lower Salt Creek
- Willow Creek
- Trib #4
- Black Partridge Creek
- Winfield Creek
- Westwood Creek
- Klein Creek
- Sawmill Creek
- Trib #2
- Valley View
- Flagg Creek
- Steeple Run
- Sawmill Creek
- Lower Salt Creek
- West Branch Trib #1
- Addison Creek
- Upper Des Plaines River Tribs
- River-Dumoulin
- Route 53 North
- Springbrook
- West Branch DuPage River
- Brewster Creek

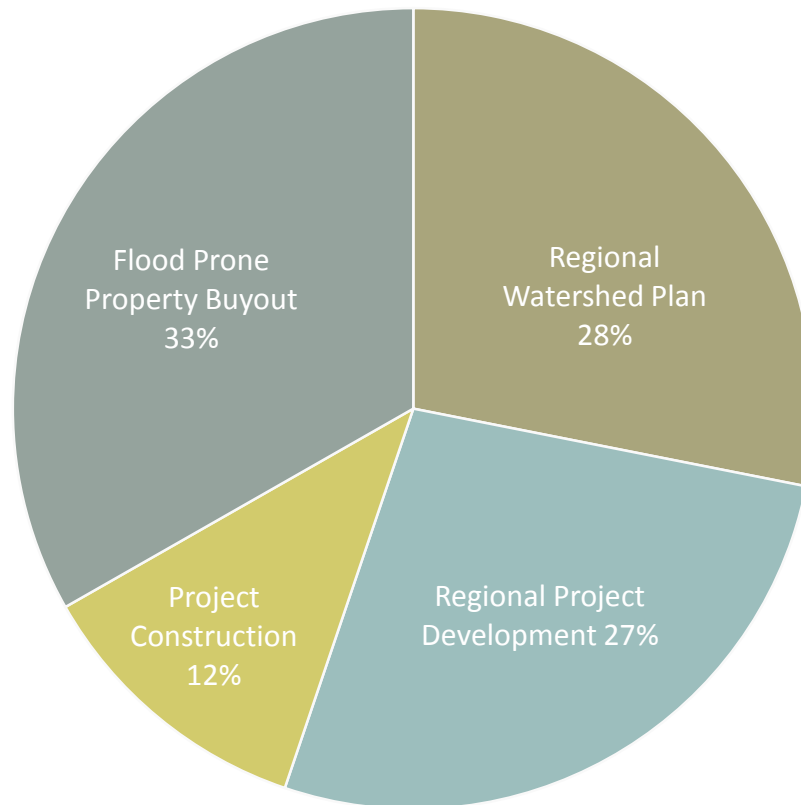


## Incomplete

- West Branch Mainstem
- WB Trib #2
- WB Trib #3
- WB Trib #5
- Spring Brook #1
- Cress Creek
- WB Trib #6
- WB Trib #7
- Winding Creek
- Foxcroft
- WB Trib #8
- Spring Brook #2
- Norton Creek
- Indian Creek
- Waubensee Creek
- Wards Creek
- Lilly Cache
- Devon Avenue Ditch
- Sugar Creek
- Oakbrook Trib
- Bronswood Creek
- East Branch Mainstem
- Swift Meadows
- Army Train Trib
- Armitage Creek
- EB Trib #1
- Glen Crest
- EB Trib #3
- 22<sup>nd</sup> Street
- Glen Park
- Lacey Creek
- St. Joseph Creek
- Prentiss Creek
- EB Trib #6
- EB Trib #7
- Crabtree Creek
- Rott Creek

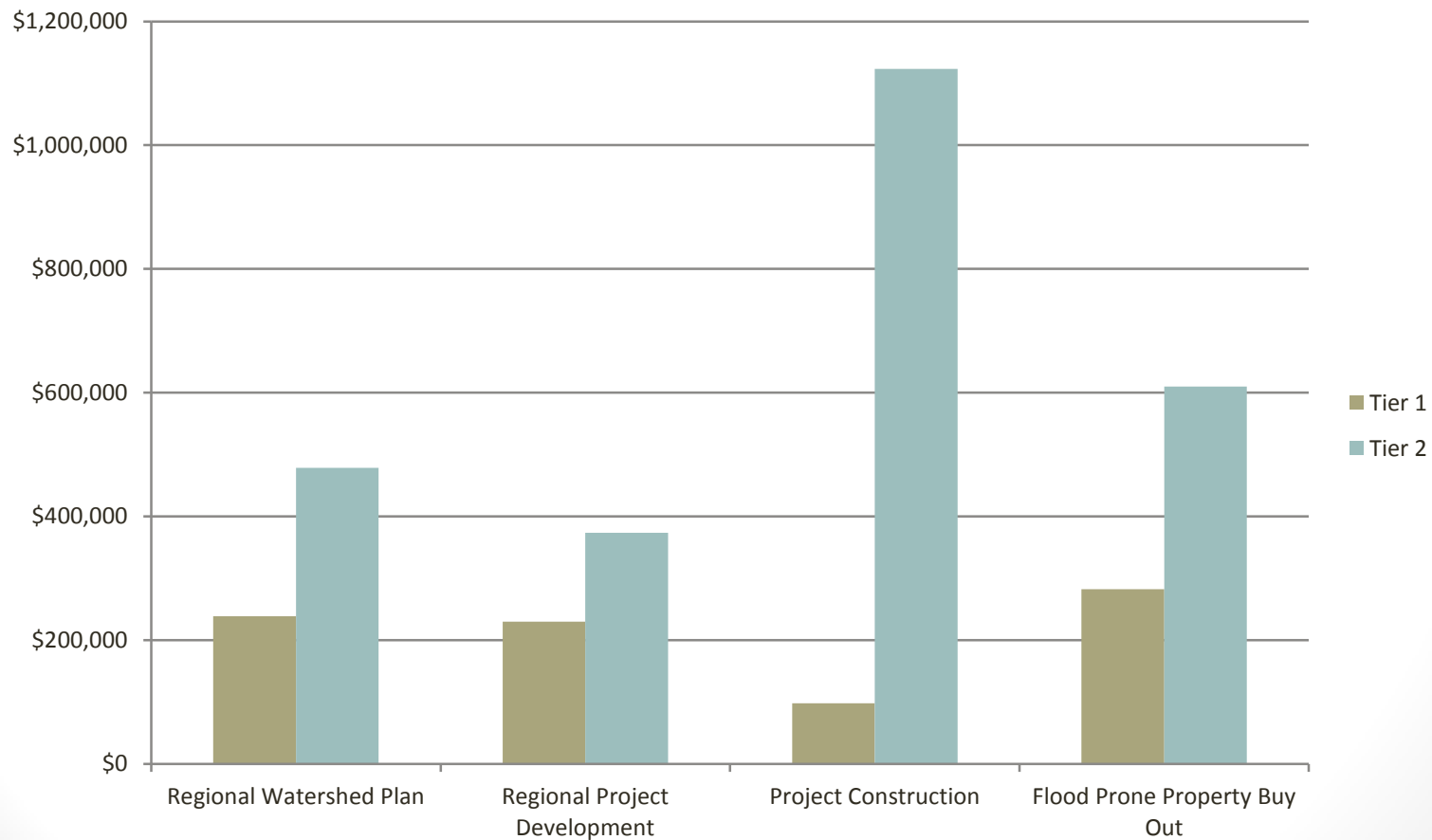
# Current Level of Service (Tier 1)

- Current breakdown of Watershed Management activities



# Fully Funded Level of Service (Tier 2)

- Comparison between current program and Stormwater Plan



# Strategic Initiatives (Tier 3)

- Watershed Planning
  - Complete all watershed plans with flood and water quality projects to allow for additional grant opportunities for County and municipalities
  - Update and maintain older watershed plans to ensure new mandates have been addressed
- Regional Project Design & Construction
  - Re-establish Capital Program for new projects and flood control facilities
- Voluntary Buyout Program
  - Establish stable funding to allocate for buyout program
  - Target specific areas in new watershed plans for projects
- Municipal Flood Control Project Grant Program
  - Offer match share program to assist with municipal project costs

# Water Quality

# Water Quality

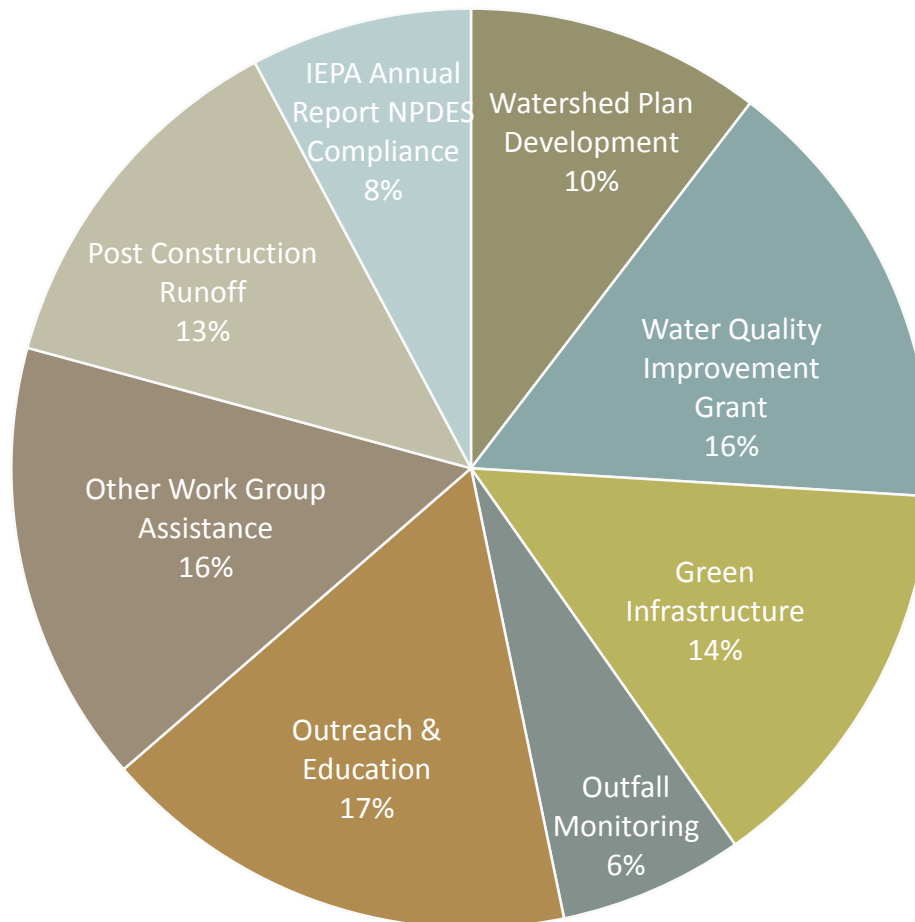
- Current Budget - \$1.65 million
- Programs
  - NPDES Permit Compliance
    - Conducting several measures of the NPDES permit on a regional level saves taxpayers an estimated \$4.5 million
  - Water Quality Improvement Grant Program
    - Provides 25% of cost of regional water quality projects
    - Has awarded 52 projects since in 2003
    - Grants for projects often satisfy half of the local match requirement for federal and state grants
    - Allows municipalities to apply for grants otherwise out of reach
  - Water Quality Projects
    - The \$1.7 million grant-funded Churchill Woods Dam Removal brought that portion of the East Branch DuPage River out of impairment

# Water Quality Funding Needs

- NPDES Permit Compliance
  - Regional programs save significant taxpayer money, but they would require more resources from the County
  - Only 2 of 6 measures are currently regional
  - If out of compliance, the County and municipalities could face a fine of \$25,000 per day per violation could be enforced by IEPA
- Water Quality Improvement Grant Program
  - Existing program is funded at \$300,000 per year
  - However, \$1.7 million in funds were requested for fiscal year 2014
- Water Quality Projects
  - Currently only grant-funded
  - Most water quality projects in watershed plans limited to streambank stabilization & riparian restoration projects
  - Additional projects need to be added to existing and future watershed plans
  - National trend toward green infrastructure projects

# Current Level of Service

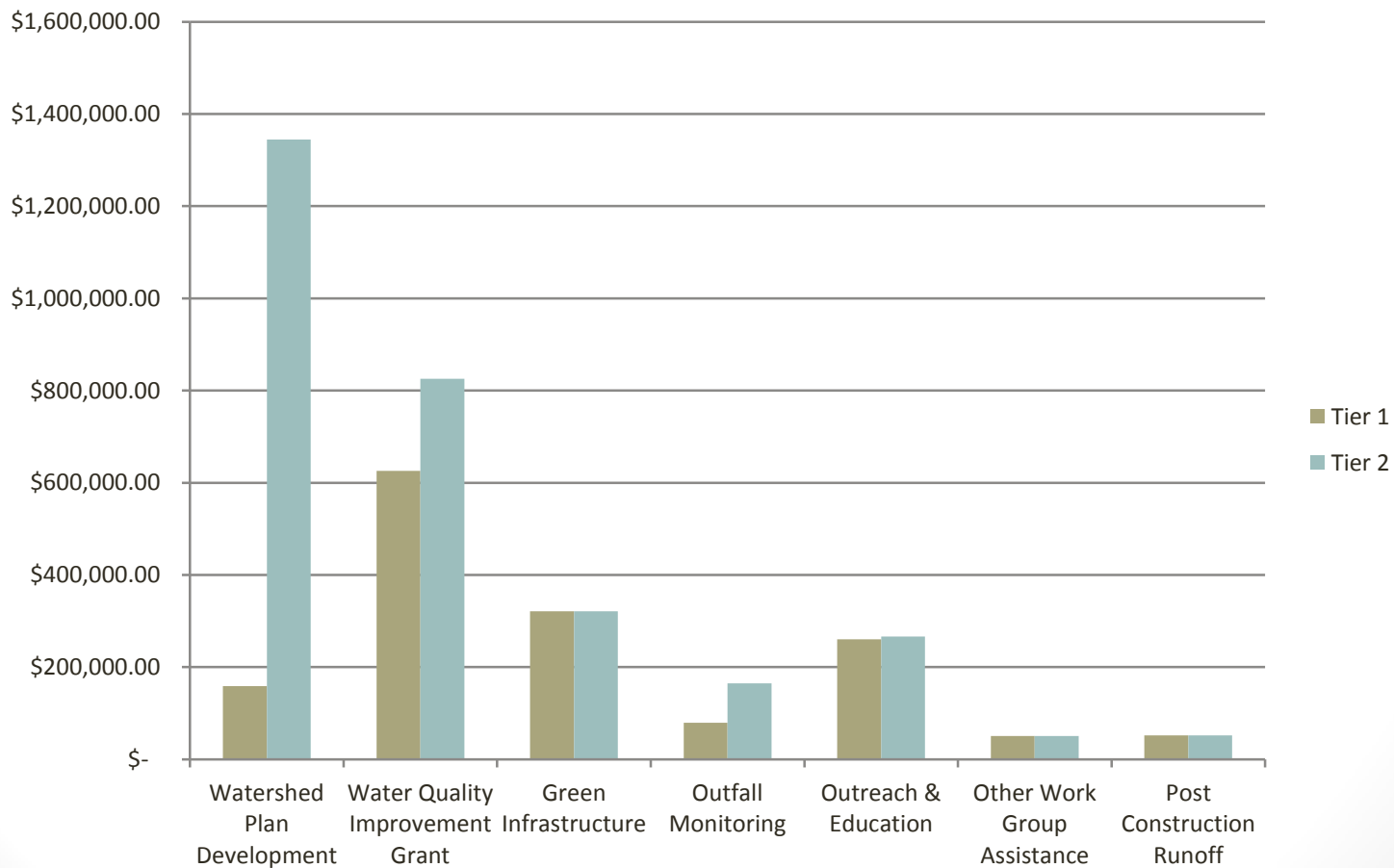
- Current breakdown of Water Quality activities





# Fully Funded Level of Service

- Comparison between current program and Stormwater Plan



# Strategic Initiatives (Tier 3)

- NPDES Permit Compliance
  - Regional Water Quality Program for all NPDES
  - IDDE mapping and GIS database
    - Allows for one database that can track storm sewers across municipal boundaries
- Water Quality Improvement Grant Program
  - Fund projects on a regional basis
- Water Quality Projects
  - Water quality projects identification for each watershed
  - Enables both County & other agencies to apply for state and federal funding assistance
- Stormwater Plan
  - Regular updates to water quality appendices in Plan

# Floodplain Mapping

# Floodplain Mapping

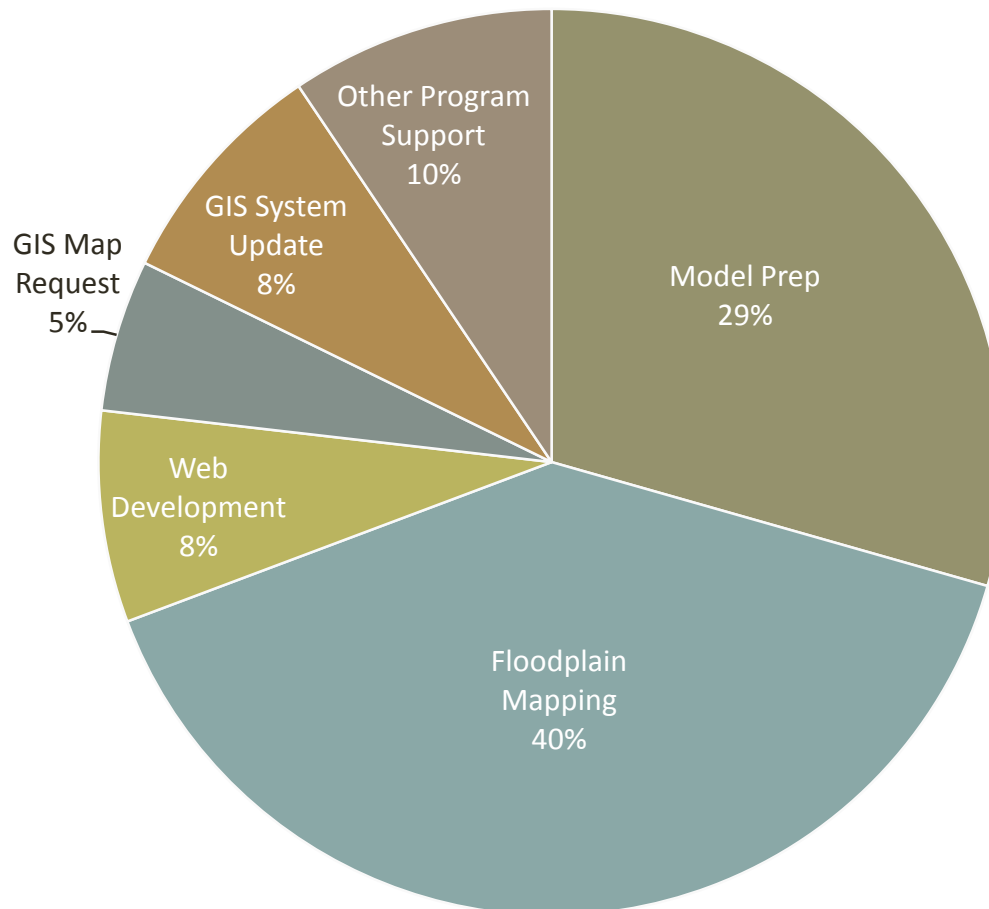
- Total Budget - \$0.51 million
- Programs
  - Floodplain Mapping
    - Work with all local agencies to collect comprehensive data on areas of repeated flooding
    - County received \$2.05 million from FEMA to create floodplain maps
    - Mapping updates save DuPage County homeowners more than \$1.0 million per year in flood insurance premiums
  - Floodplain Determinations
  - Map Revisions
  - Map Maintenance

# Floodplain Mapping Funding Needs

- Floodplain Mapping
  - Cycle updates take 20 years to complete
  - Only have mapping proposed for 25 of 59 watersheds
- Maintenance
  - Current budget does not allow for maintenance of hydrological, hydraulic and water quality models

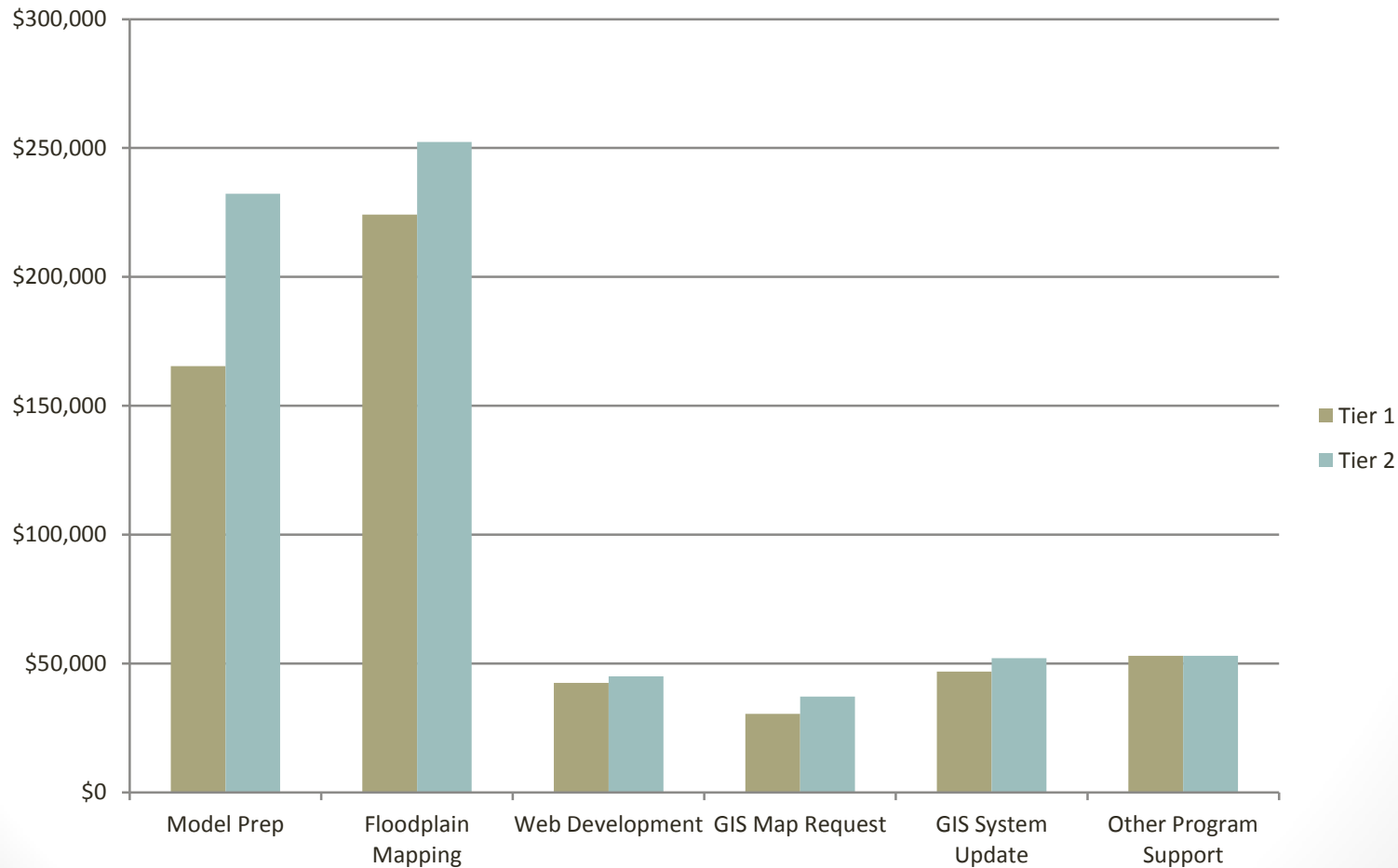
# Current Level of Service

- Current breakdown of Floodplain Mapping activities



# Fully Funded Level of Service

- Comparison between current program and Stormwater Plan



# Strategic Initiatives (Tier 3)

- Floodplain Mapping
  - Reduce the floodplain map cycle to 10 years
- Map Maintenance
  - Implement a regular map maintenance program
  - Maintenance of hydrological, hydraulic and water quality models
    - Incorporate new storm events into floodplain maps
    - Ensure completed projects are accurately reflected on maps



# Regulatory Services

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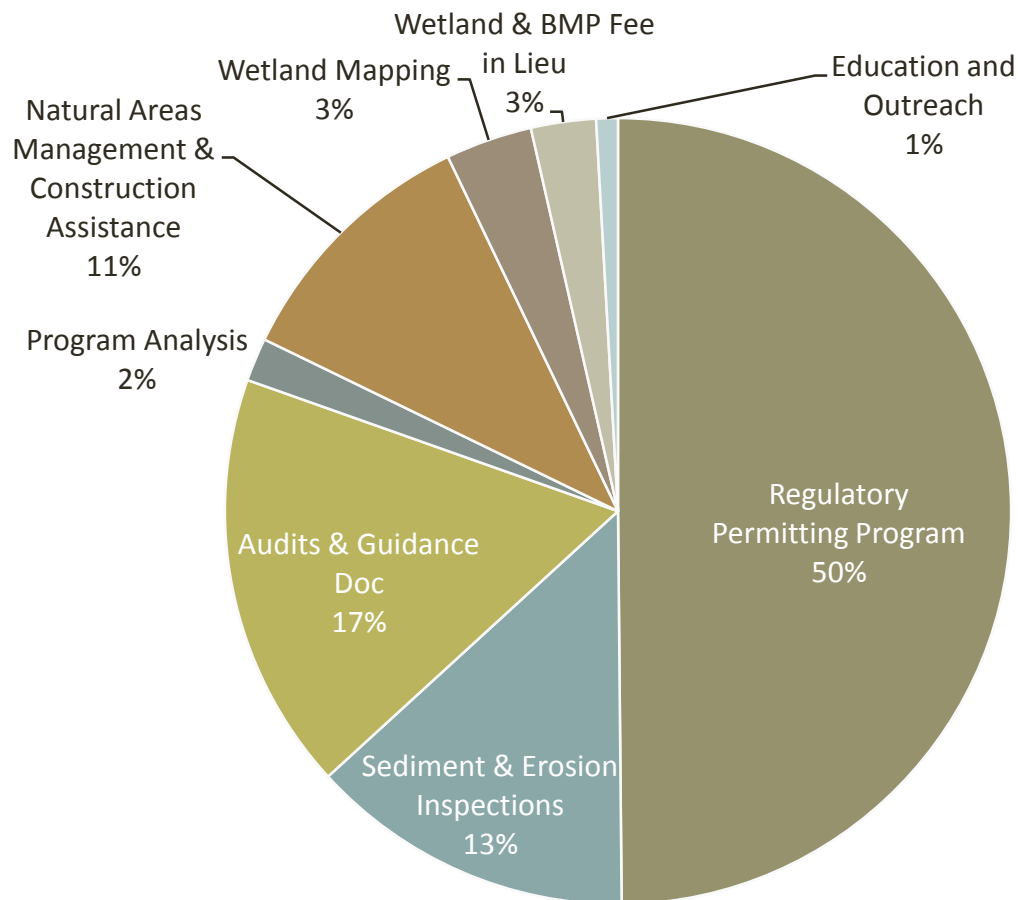
- Total Budget - \$1.51 million
- Programs
  - Permit Review Program
    - Municipalities do not have the means to conduct permit reviews, so they can opt in for the County to do them
    - This saves municipalities on staff and resources
  - Ordinance
    - Promotes effective, equitable, acceptable and legal stormwater management measures countywide
    - Manages and mitigates the effects of urbanization on stormwater drainage throughout DuPage County
    - Protect existing landowners from additional impact due to development
  - Wetland Banking/Mitigation Program
    - Wetlands are protected countywide, but DuPage County takes burden off municipalities for regulation and enforcement
  - Inspections
    - If County or municipalities fall out of compliance with NPDES, strict fines and cleanup costs could be enforced

# Regulatory Services Funding Needs

- Permit Review Program
  - A 20 to 40 workday permit review process
  - Due to budgetary constraints, updates to the permit tracking software have been severely curtailed
- Wetland Banking/Mitigation Program
  - Wetland determinations require 10 to 14 workdays
- Inspections
  - Currently only in unincorporated areas
  - Additional staff would be required if a regional program were created in accordance with NPDES permit compliance

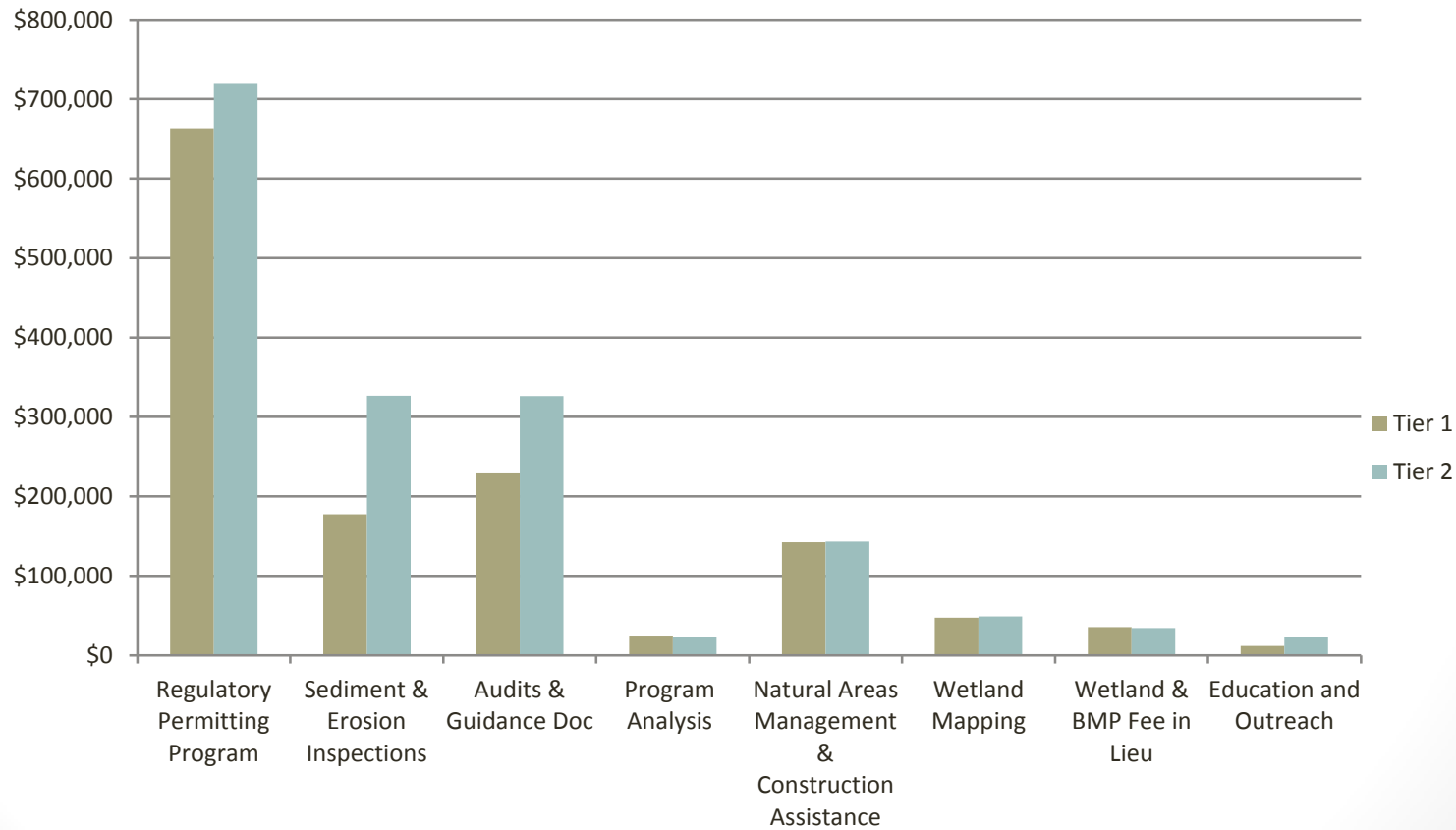
# Current Level of Service

- Current breakdown of Regulatory Services activities



# Fully Funded Level of Service

- Comparison between current program and Stormwater Plan



# Strategic Initiatives (Tier 3)

- Permit Review Program
  - Decrease permit review turn-around time for all permit submittals and expedited resubmittal reviews
  - Development of an electronic permit submittal program that would allow applicants to submit and staff to review permit applications, reports and engineering plans electronically
  - Update permit tracking software for increased functionality for staff and applicants
- Wetland Banking/Mitigation Program
  - Update and maintain wetland maps on a regular basis
- Inspections
  - Increase the number of community audits so each community would be on a regular cycle
- Ordinance
  - Development and maintenance of a Stormwater Ordinance guidance document

# Operations & Maintenance

# Operations & Maintenance

- Total Budget - \$2.69 million
- Programs
  - Operation of Regional Flood Control Facilities
    - County operates 16 flood control facilities during storm events
  - Facility Maintenance
    - Perform routine checks on facilities
    - Regular repair and maintenance on pumps and gates
  - Flood Forecasting Program
    - County operates 66 rain gages and 25 stream gages
    - Hosts 12 cameras on Salt Creek and West Branch DuPage River
  - Stream Maintenance Program
    - County removes large obstructions with single on call contract, saving municipalities and taxpayers money
    - DuPage County spends an average of \$200,000 per year
  - Capital Reserve Fund of \$0.2 million annually

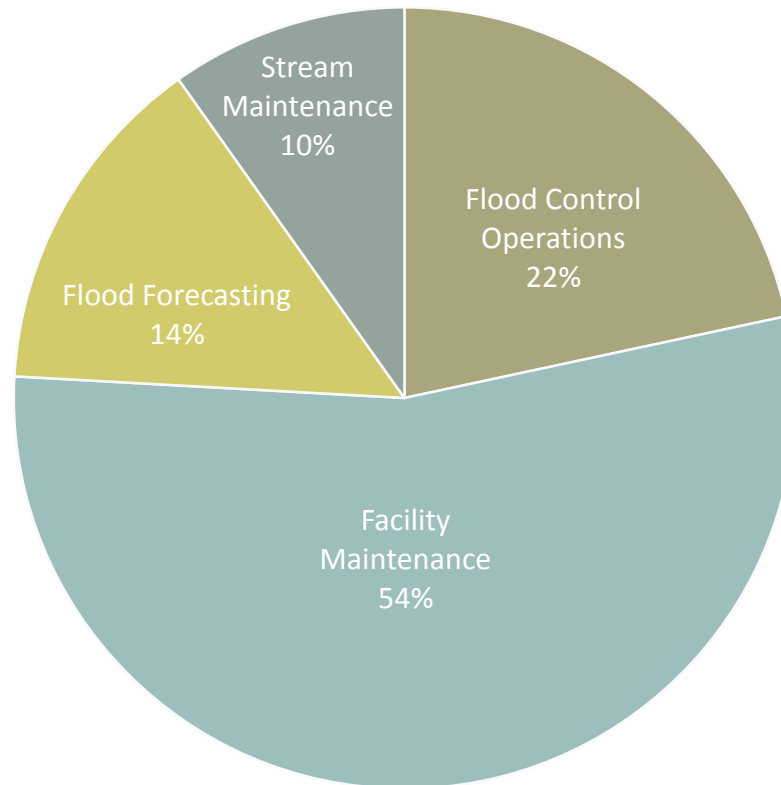


# Operations & Maintenance Funding Needs

- Operation of Regional Flood Control Facilities
  - Other groups currently assist with operations
  - No staff totally dedicated to the program
- Facility Maintenance
  - Capital improvements estimated to require \$11.2 million FY 2024
  - Uses outside contracts to primarily run this program
- Flood Forecasting Program
  - Updated equipment is necessary to ensure accurate operations
- Stream Maintenance Program
  - Funding severely curtailed in past 10 years
  - Currently reactive program
  - No funds for streambank restoration grants
- Capital Reserve Fund
  - In 1992, County had \$42.4 million

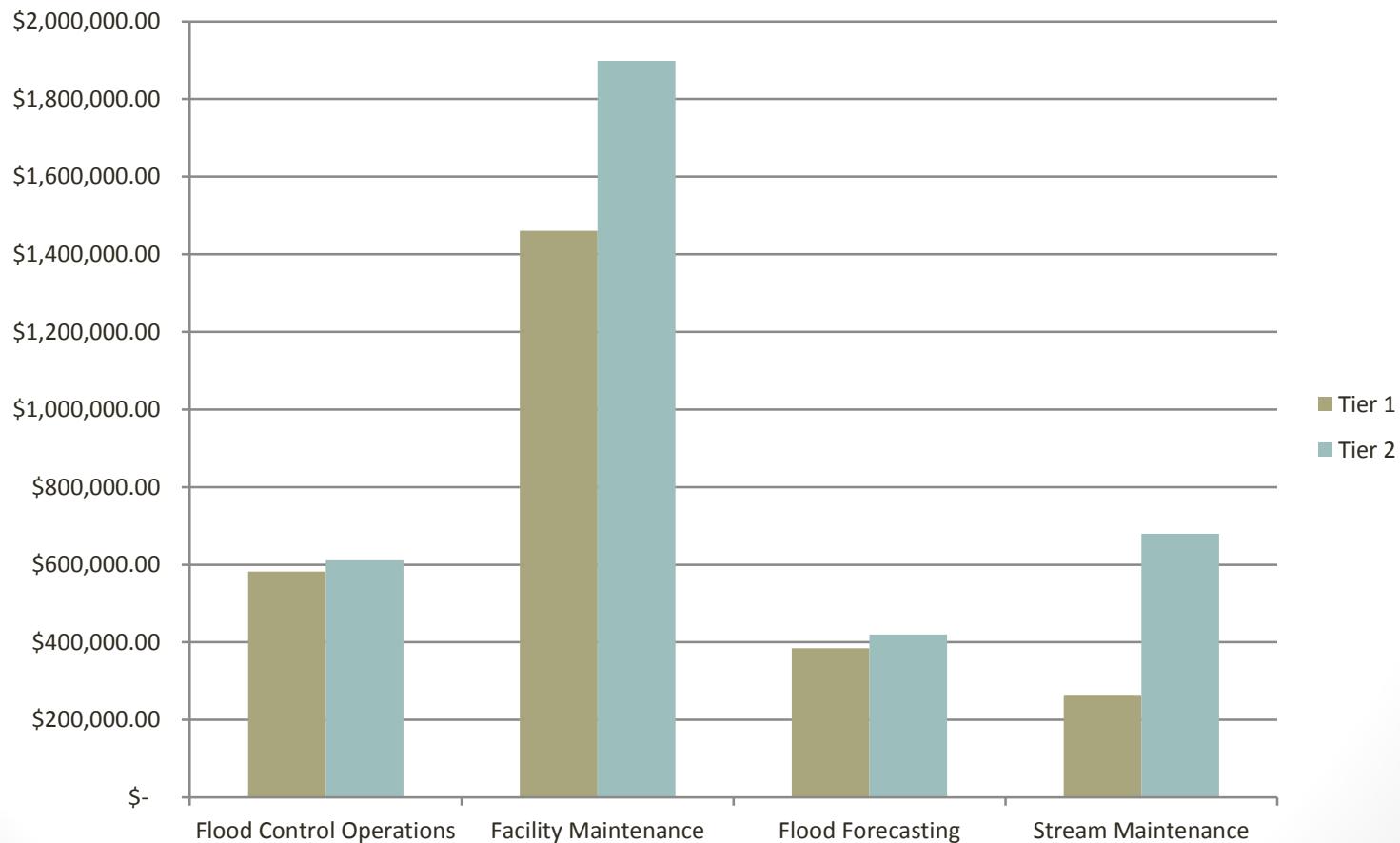
# Current Level of Service

- Current breakdown of Operations & Maintenance activities



# Fully Funded Level of Service

- Comparison between current program and Stormwater Plan

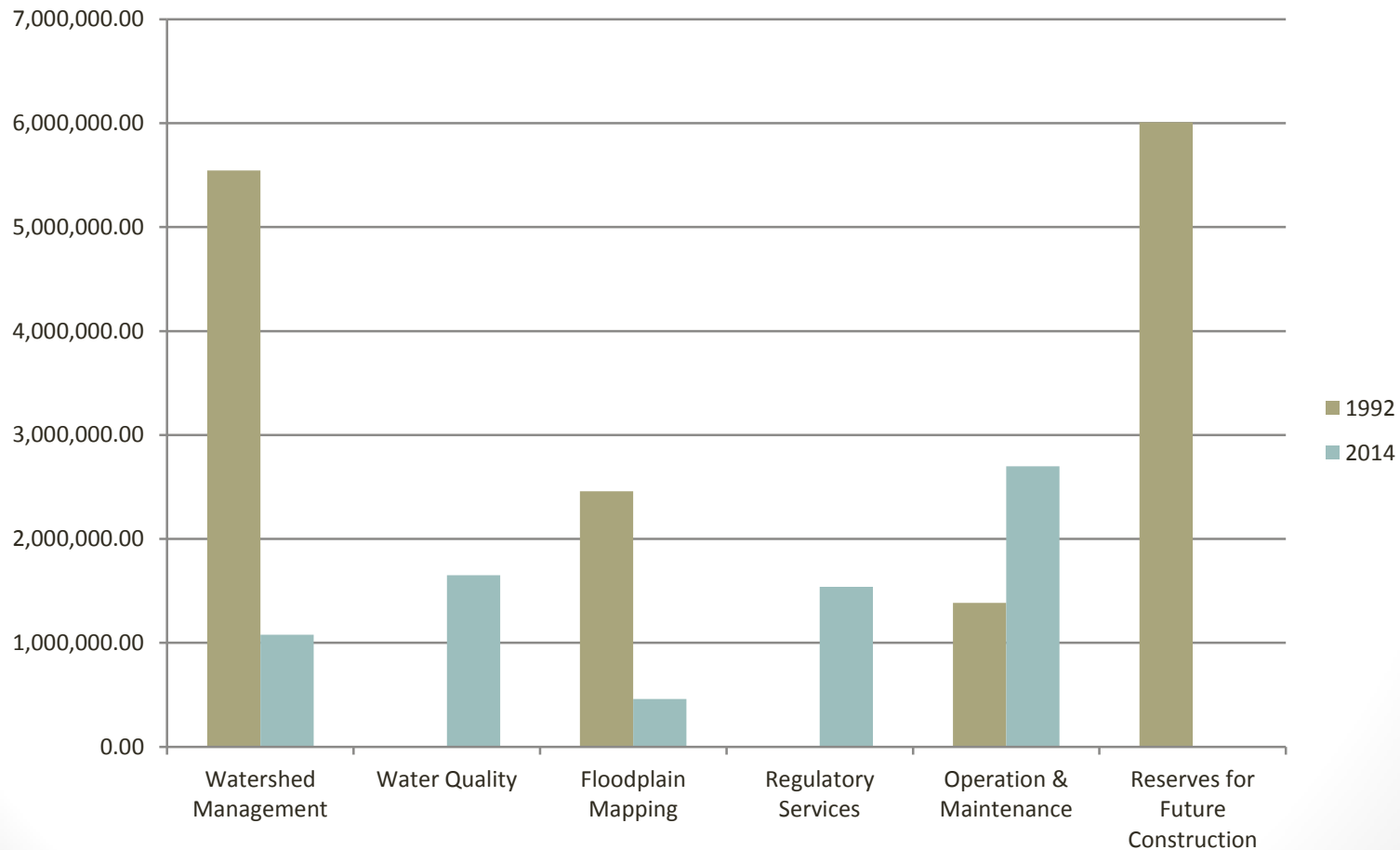


# Strategic Initiatives (Tier 3)

- Facility Maintenance
  - Staff an in-house maintenance crew
    - Reduce long term costs for maintenance of County owned facilities
  - Offer Regional Programs to Municipalities
    - Storm sewer cleaning/jetting @ \$2,660 per 1000 ft.
    - Storm sewer televising @ \$1,197 per 1000 ft.
    - Detention pond outlet cleaning \$2,450 per pond (includes disposal)
- Flood Forecasting Program
  - Update rain and stream gages and cameras
- Streambank Stabilization
  - Create a comprehensive Stream Maintenance Program
  - Including streambank stabilization program
- Detention Pond Maintenance Program
- Enhanced Capital Reserve Fund
- ETC.

# Summary

- Comparison between operating budgets now and in 1992 (NPV)



# Next Steps

- Meeting with County Board Members
  - On a District Basis
- Municipal Interactions
  - Online survey
  - District-based with Stormwater Committee representatives from respective District
  - Compile projects list
- Committee Discussion

# Program Assessment

[www.dupageco.org/EDP/Stormwater\\_Management/45840/](http://www.dupageco.org/EDP/Stormwater_Management/45840/)



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