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Impervious Area Review Study

City of Takoma Park, Maryland

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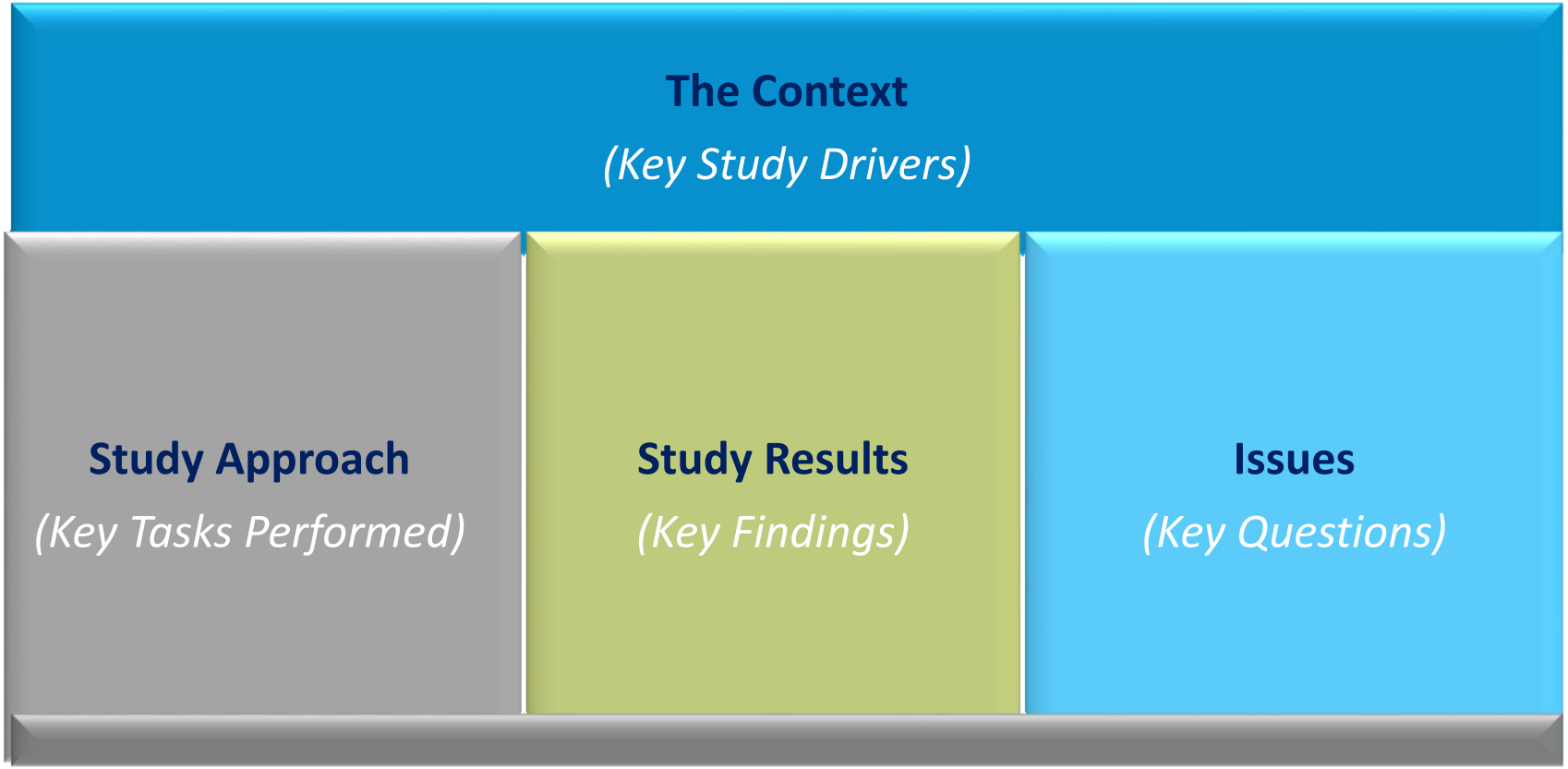
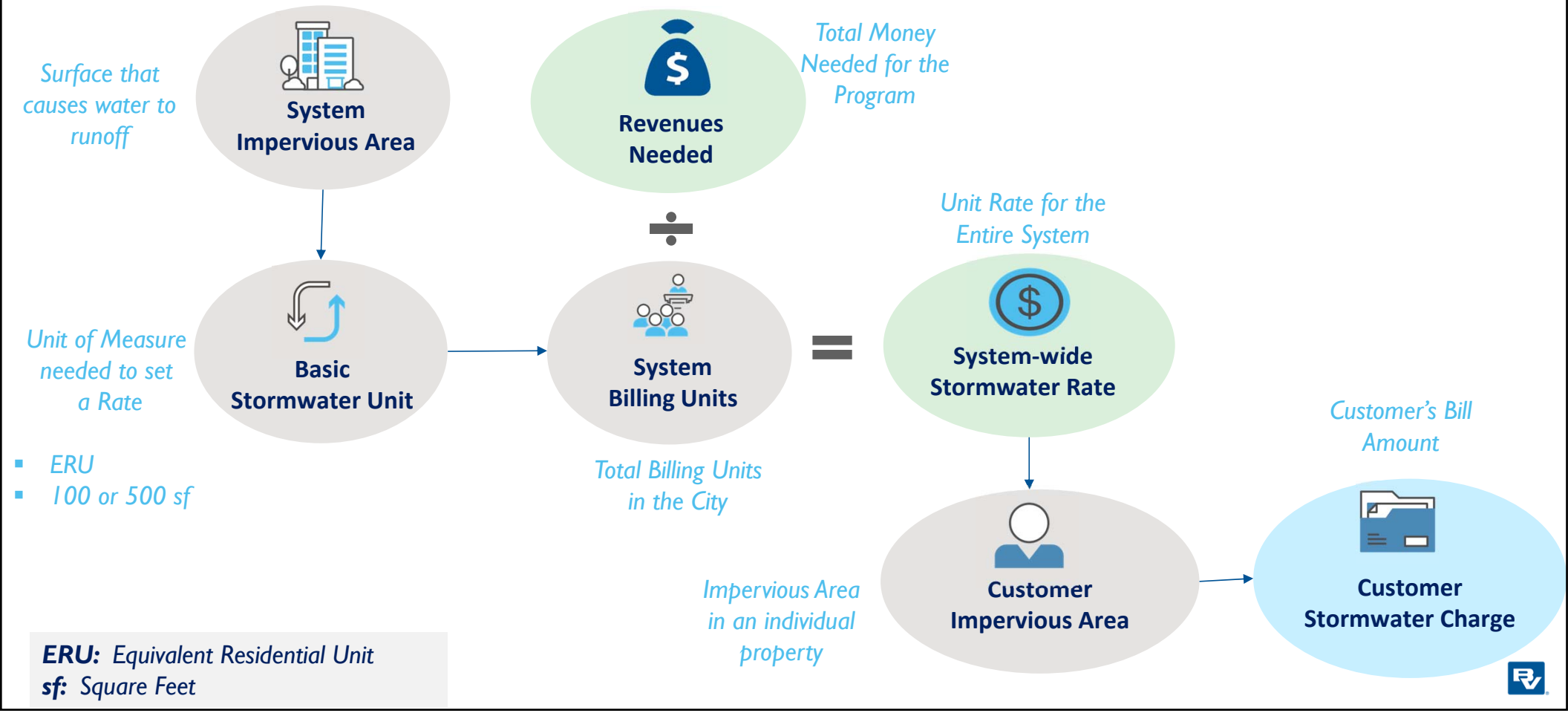
Discussion Overview



The Context

(Key Study Drivers)

The Context: What key terms are pertinent to this study?



ERU: *Equivalent Residential Unit*
sf: *Square Feet*

The Context: Let's define the key terminology

Impervious Area is the basis for the City's stormwater user fee

Equivalent Residential Unit (ERU) is the basic unit for the City's current stormwater rate

What is Impervious Area?

- Refers to a surface that is compacted or covered with material that is resistant to infiltration by water that impedes the natural infiltration of surface water

What is an ERU?

- ERU is a basic stormwater unit used for defining a system-wide stormwater rate; each property's impervious area is expressed in terms of the number of ERUs
- Reflects the "median" Residential impervious area square footage; Current ERU Factor = 1,228 sf

ERU Rate
Rate used to calculate the stormwater charge for a property

Current Rate = $92 per ERU

Residential Annual Charge
Same for every parcel = $92

Non-Residential Annual Charge
Individually Calculated

The Context: What are the key issues with the existing impervious area used for billing?

Impervious Area is dynamic and often changes as development & redevelopment occurs

Impervious Area and the ERU Factor have not been holistically updated in the last 15+ years

Data availability and capture approach impact results

Impact of Not Updating Impervious Area

- Can impact the accuracy of billing and equity of cost recovery among properties
- ERU Factor will not accurately reflect the median value of Single Family Residential impervious area
- Impacts the technical basis for the fee

Study Approach

(Key Tasks Performed)

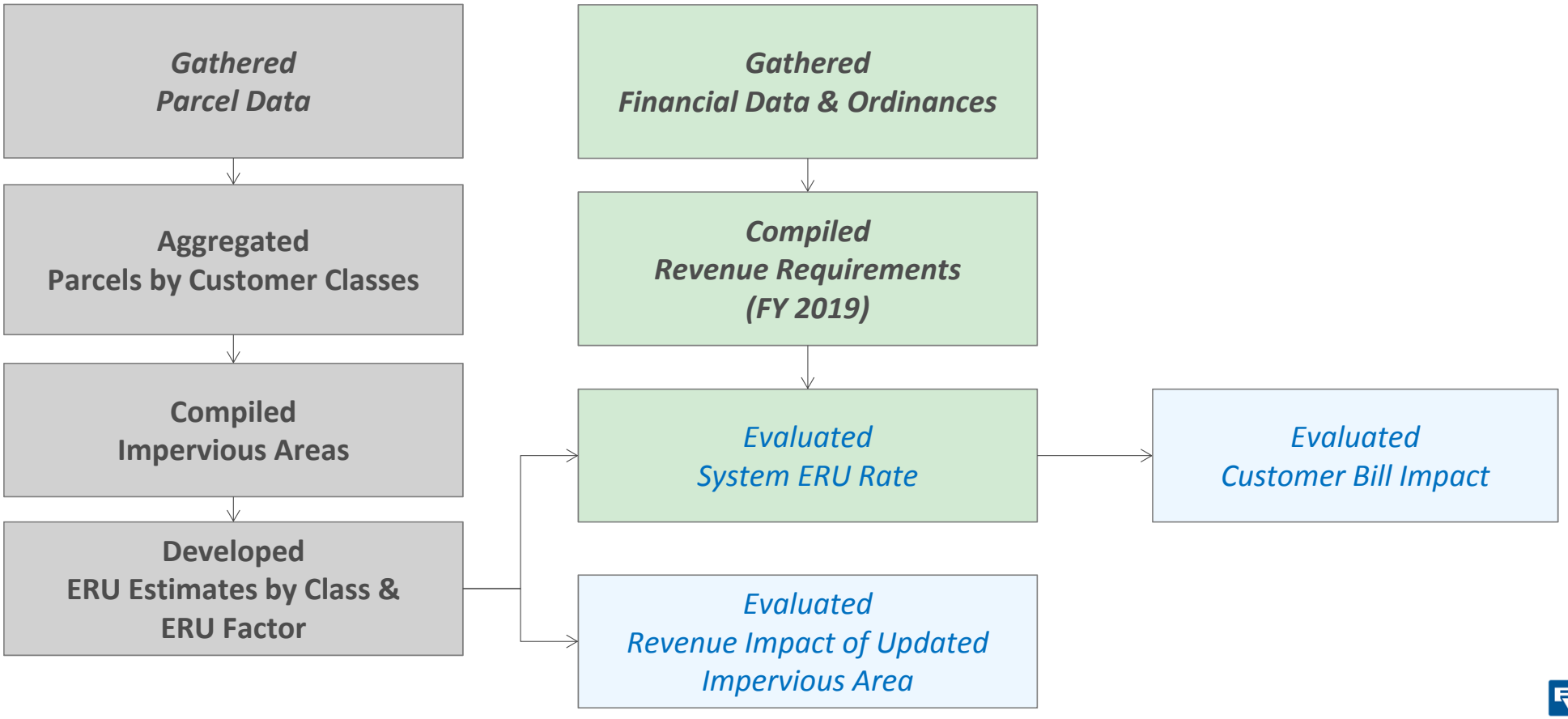
Study Approach: What did the City need to do to examine this impervious area issue?

Conduct an Impervious Area Analysis and ERU Review Study

Study Objectives

- Understand the magnitude of change in Impervious Area since the last estimation
- Understand the magnitude of change in the ERU Factor
- Evaluate potential revenue impact if impervious area is updated (under existing ERU Rate)
- Understand the policy decisions that may be needed and potential solutions

Study Approach: Key Tasks Performed



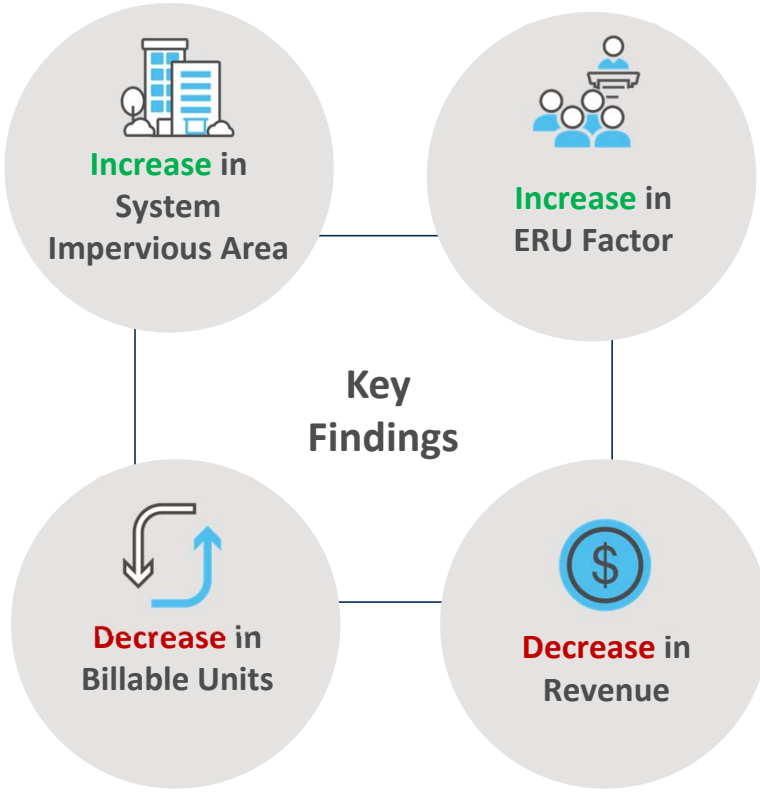
Study Results

(Key Findings)

Study Findings: What did we find through the analysis?

1 Impervious Area Capture Increased

- By 4.9 million sf
- There is diversity in the **Residential** Impervious Area



2 ERU Factor Increased

- Current ERU Factor = 1,228 sf
- Updated ERU Factor = 2,116 sf

3 Total Billable Units Decreased

- Current ERUs = 7,666
- Updated ERUs = 6,453

4 Potential Revenue Decrease

- IF the existing $92 ERU rate is applied to the **updated** billing units

Example - Commercial property with 10,000 square feet of impervious area

- Number of ERUs under Existing ERU Factor = 10,000 sf / 1,228 sf = 8.1 ERUs
- Number of ERUs under Updated ERU Factor = 10,000 sf / 2,116 sf = 4.7 ERUs

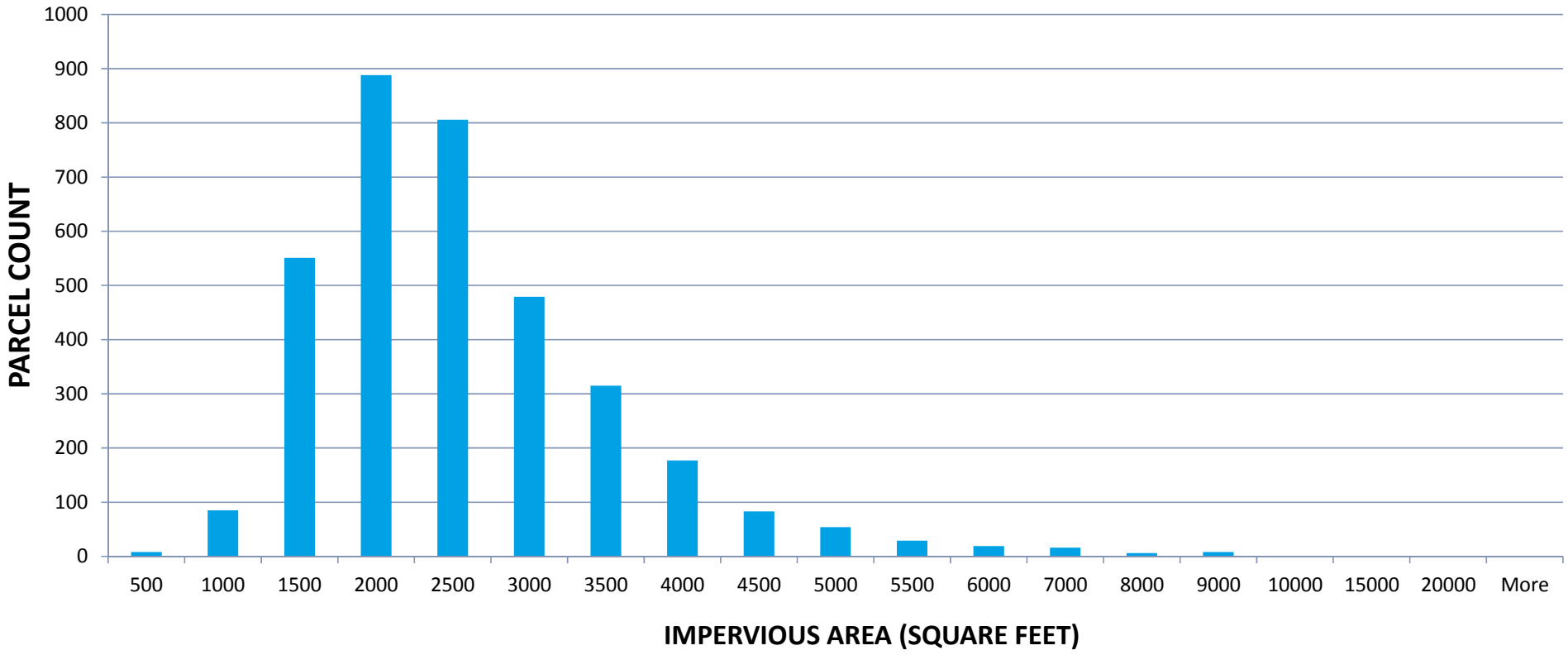
Study Findings: Why did Impervious Area and ERU Factor Increase?

- Increase in development & redevelopment over the years
- Updated IA data includes building footprint, driveways, sidewalks, concrete pads, etc.
  - Updated ERU Factor = 2,116 sf
- Current ERUs based primarily on the building footprint
  - Current ERU Factor = 1,228 sf

Residential Parcels – Gross & Impervious Area Statistics		
	Gross Area	Impervious Area
	sf	sf
Median	7,071	2,116
Average	8,260	2,327

ERU Factor: *Defined based on the Median Value of Single Family Residential Class Impervious Area*

Study Findings: Single Family Residential Impervious Area Distribution



Study Findings: What will be the revenue impact if existing rate is applied to the new estimated billing units (ERUs)?

#	Description	Notes	(1) Existing Data / Current ERU Factor	(2) Updated Data / Updated ERU Factor
Estimated Billable Units				
1	SWBL-R		3,538	3,476
2	SWBL-C		4,128	2,977
3	**Total**		7,666	6,453
Stormwater Utility Fee Revenue Goal				
4	Revenue Goal		$ 700,000	$ 700,000
Revenue Impact Estimate				
5	Current ERU Rate		$ 92	$ 92
6	Estimated Revenue		$ 705,264	$ 593,699

Notes:
Existing Data is based upon information from SW Billing System as provided by the City.
Updated Data is based upon the updated County Parcel Data, Land Use Classifications and the new planimetric dataset.
Stormwater Revenue Goal is based upon City's anticipated multi-year program needs.
The current ERU Factor is 1,228 square feet.
The updated ERU Factor is 2,116 square feet.

RESIDENTIAL

	Previous Data	Updated Data
Impervious Area (sf)	601	1,046.9
Gross Area (sf)	7,256	7,256

Non-residential: HEALTHCARE

	Previous Data*	Updated Data
Impervious Area (sf)	267,813	341,693
Gross Area (sf)	629,554	629,554

*Impervious Area based upon provided SW Account Billing Data
Parcel Area assumed to remain the same

Issues

(Key Questions)

Issue #1: What is the impact of updating the Impervious Area?

Benefits

- Will enhance the equity of cost recovery from each property
- Will enhance the "defensible technical basis" of the stormwater user fee
- Updating Impervious Area is a stormwater utility best practice

Actions

- Will require staff resource and time to validate the impervious area and update the billing system
- Will need adequate public outreach to communicate the change in impervious area and its impacts
- System ERU Rate will need to be changed

Issue #2A: What should the "Basic Stormwater Unit" be?

OPTION 1: Retain "ERU" concept as the "Basic Stormwater Unit"

Benefits

- If overall Impervious Area is updated, then ERU Factor must be updated as well
  - ERU Factor = 2,116 sf
- Will assure alignment between the updated Impervious Area and the increased ERU Factor

Actions

- Update the billing system to reflect the revised ERUs for each "billable" parcel
- System-wide ERU Rate will need to be increased to generate the needed revenue

Issue #2B: What should the basic unit for the Stormwater Fee be?

OPTION 2: Modify "Basic Stormwater Unit" to be 100sf or 500sf

Benefits

- Easier to understand the basis of billing
- Billing units can be expressed in terms of unit area (100sf or 500sf)

Actions

- System-wide rate must be defined as $ per 100sf (OR) $ per 500sf
- "Charge calculation routines" must be modified in the billing system

Issue #3: Should the Residential Rate Structure be changed to a "Tiered Rate Structure"?

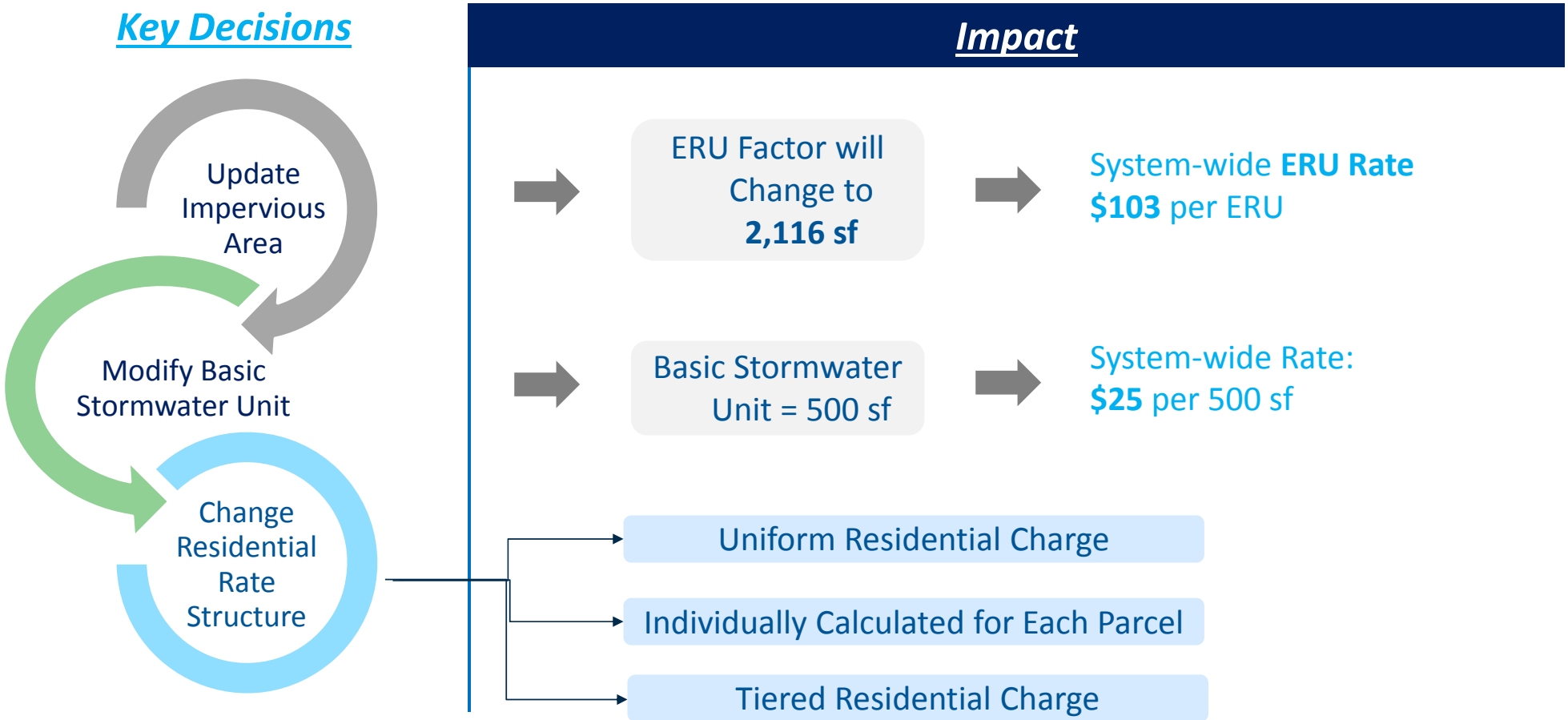
Benefits

- More equitable than a uniform charge
- Properties with larger impervious areas will pay more than properties with smaller impervious areas
- Helps manage customer appeals, while still offering an equitable mechanism for cost recovery

Actions

- "Charge calculation routines" must be modified in the billing system
- May require changes to the bill design
- Consider transitioning to a Tiered Residential Structure concurrent with updating the Impervious Area

What would be the impact of the changes?



Annual Stormwater Charge Impact

Residential Property: 1,047 square feet of impervious area

	Previous Data	Updated Data
Impervious Area (sf)	601	1,046.9
Gross Area (sf)	7,256	7,256
Current ERUs	1	
Current Stormwater Fee	**$92**	

	Billing Units	Estimate Fee
Scenario 1 (Uniform Charge)	1	$108.47
Scenario 2 Individually Calculated ($103 per 2,116 sf)	0.5	$51.50
Scenario 2 Individually Calculated ($25 per 500 sf)	2.0	$50.00

Non-residential: HEALTHCARE

	Previous Data*	Updated Data
Impervious Area (sf)	267,813	341,693
Gross Area (sf)	629,554	629,554
ERU Factor (sf)	1,228	2,116
No. of ERUs	218	161
$/ERU per year	$92	$108.47
Annual Stormwater Fee	$20,056	$17,463

No. of Billing Units (500 sf)	683
Rate per 500 sf / year	$25
Annual Stormwater Fee	$17,084

*Impervious Area based upon provided SW Account Billing Data
Parcel Area assumed to remain the same

Issue #4: Should the definition of "undeveloped land" be modified?

Currently properties with 1/3 of an ERU are deemed undeveloped and not charged a fee

Benefits

- Changing definition will enable all undeveloped land to also contribute their faire share to cost recovery
- Will minimize "cost shifting" to other properties that are currently not exempt
- Will help lower the overall ERU rate if all properties participate in cost recovery

Challenges

- Will impact properties that are currently deemed "undeveloped" and are exempted
- Will require "targeted outreach" to help these properties understand any change in policy

Notes:

- Current threshold is approximately 400 square feet.
- With the new ERU factor, the threshold would increase to roughly 700 square feet (without an ordinance change).
- 28 More properties will qualify for as "Undeveloped" further reducing available billing units.

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