

# STORMWATER UTILITY FEASIBILITY STUDY

MUNICIPALITY OF PRINCETON



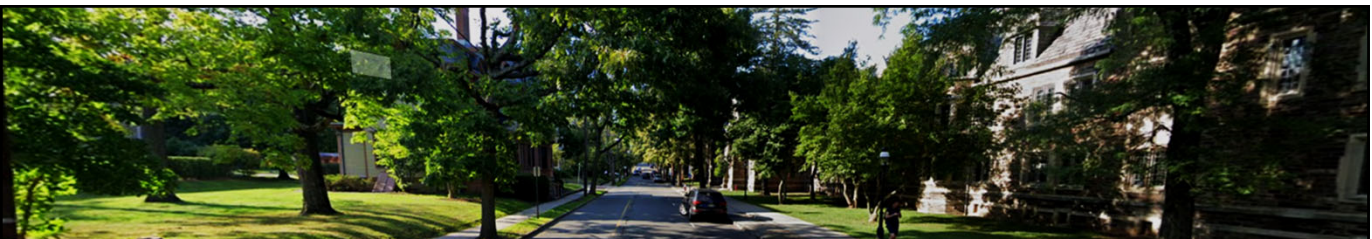
## PRESENTATION TO COUNCIL

October 9, 2023



MUNICIPALITY OF PRINCETON

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## PRINCETON STORMWATER UTILITY FEASIBILITY STUDY:

*A FOUR PHASE APPROACH*

**PHASE 1 - Programmatic Review, Needs, and Data Analysis (CURRENT PHASE)**





PHASE 2- In-depth Analysis of Costs, Rates, Program Plan, Public Education

PHASE 3 - Implementation Plan and Adoption

PHASE 4 - Implementation Support/Public Education and Outreach



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## STORMWATER UTILITY FEASIBILITY STUDY PROJECT TEAM



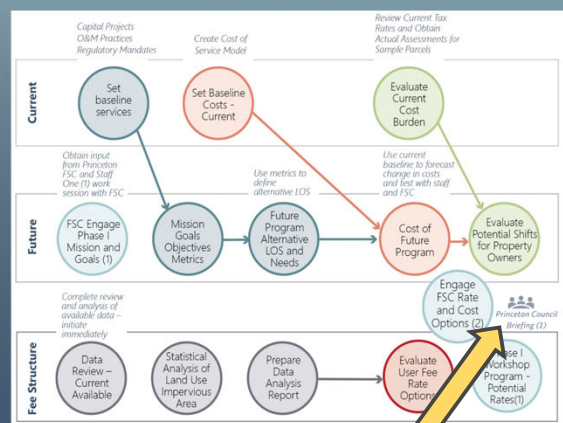
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# WHY ARE WE HERE?

Municipality RFP: Selected in 2022

Phase 1 of 4

- Program & Organizational Review: Capture current program and cost; identify needs
- Map impervious areas & land cover analysis
- Equity of Current Stormwater Costs: Evaluate who currently pays for service and who might pay in a potential user fee system
- Begin Stakeholder Effort
- **Decide to move to Phase II** ←



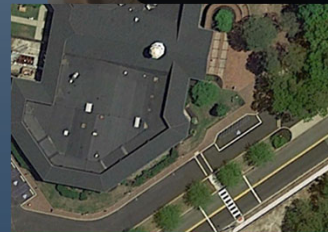
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# HOW DOES A STORMWATER UTILITY WORK?

*Impervious Cover is the primary measure of cost distribution*

- Readily measurable with desktop GIS analysis
- Equitable and easy
- Required revenue (LOS) and total demand for service (impervious cover) are used to set the rate.

$$\text{Rate (\$/SF)} = \frac{\text{Required Revenue (\$)}}{\text{Imp. Coverage (SF)}}$$



Helix Water District



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## STORMWATER UTILITY FEASIBILITY STUDY: PHASE I FINDINGS



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# STORMWATER PROGRAM REVIEW



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## CURRENT SERVICES IN PRINCETON

- Storm inlet and ditch cleaning, maintenance, and replacement
- Street sweeping
- Trash, leaf, brush, and log collections
- Repairing and replacing storm sewer lines and structures
- Infrastructure design and construction
- Responding to flood emergencies
- Public information and communication systems



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## CURRENT EXPENDITURES

### Current expenditures include:

- Mapping costs - mandate of permit
- Engineering – driven by local regulations
- MS4 permit reporting
- Drainage system reactive maintenance such as blockage removal
- Street Sweeping
- Sewer staff support for pipe cleaning

**Estimate ~ \$760,000/year**  
(personnel and operating expenditures)



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## WHAT IS NOT GETTING DONE AND WHAT NEEDS TO BE DONE IN THE NEAR-TERM AND FUTURE?

- Capital funding major maintenance, rehab, reconstruction
- MS4 permit compliance
- Master Plan to provide hydraulic analysis
- New Public Works facility
- Flood reduction and mitigation (e.g., roadway flooding (Quaker Road) & Impaired waterways (Harry's Brook, Stony Brook))
- Integration of resiliency planning
- Shift over time to a more proactive maintenance strategy



Photo courtesy of Princeton Police Department



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**Revenue capacity must increase to address system needs.**

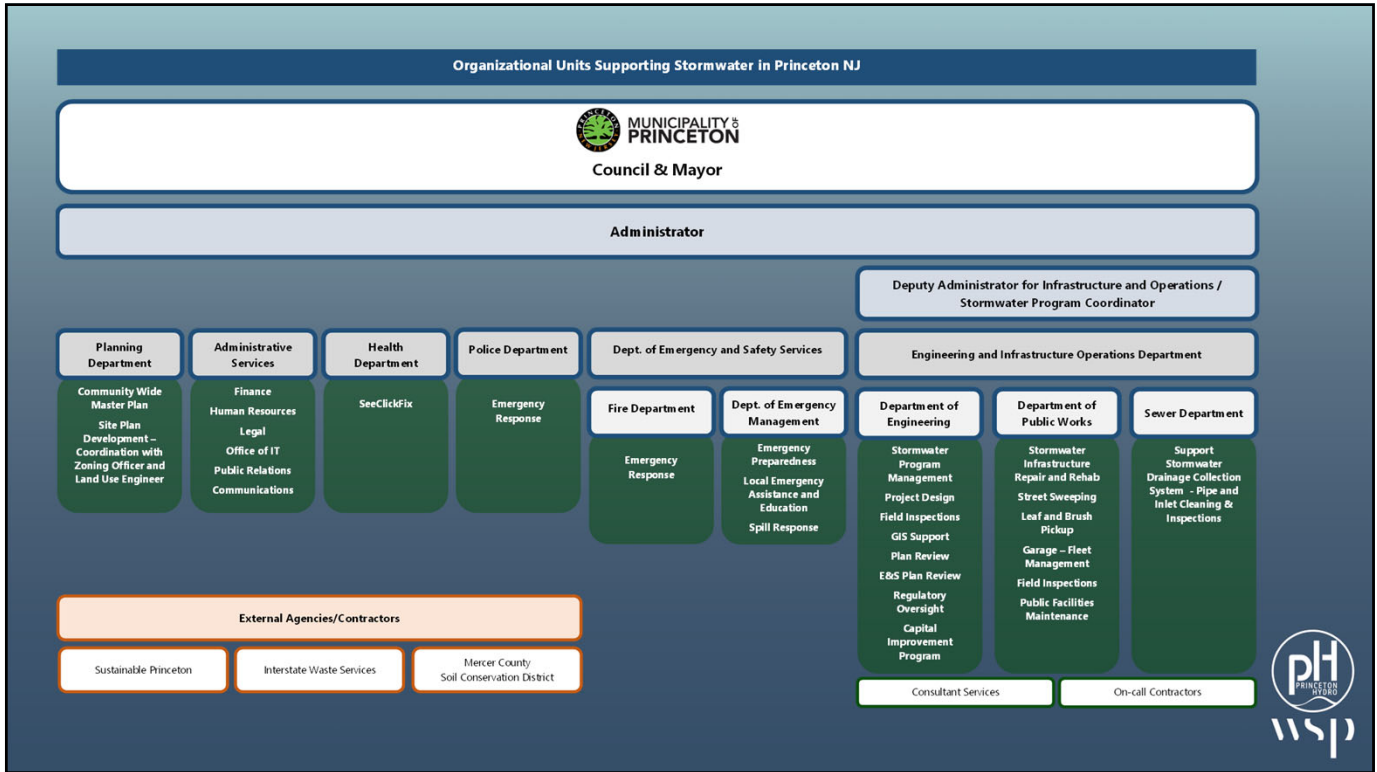


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## **ORGANIZATIONAL REVIEW**



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# ORGANIZATIONAL REVIEW FINDINGS

1. Coordination between all operations to increase effectiveness needs focus
2. Public works facility needs physical improvements
3. Operational standard procedures needed to improve efficiency in meeting mandates
4. Dedicated stormwater field staff to address critical priorities

**PH PRINCETON HYDRO**  
**wsp**

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# POLICY DEVELOPMENT



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# POLICY DEVELOPMENT

Focus of Phase I – identify key policies for utility development

- Cost allocation methodology – impervious area
- Rate structure for various land use categories



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# LAND COVER ANALYSIS

*Looking at land ownership and impervious area contributing to the public drainage system*



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## SINGLE-FAMILY RESIDENTIAL PARCEL



EXAMPLE PROPERTY FROM THE 360-PARCEL SAMPLE



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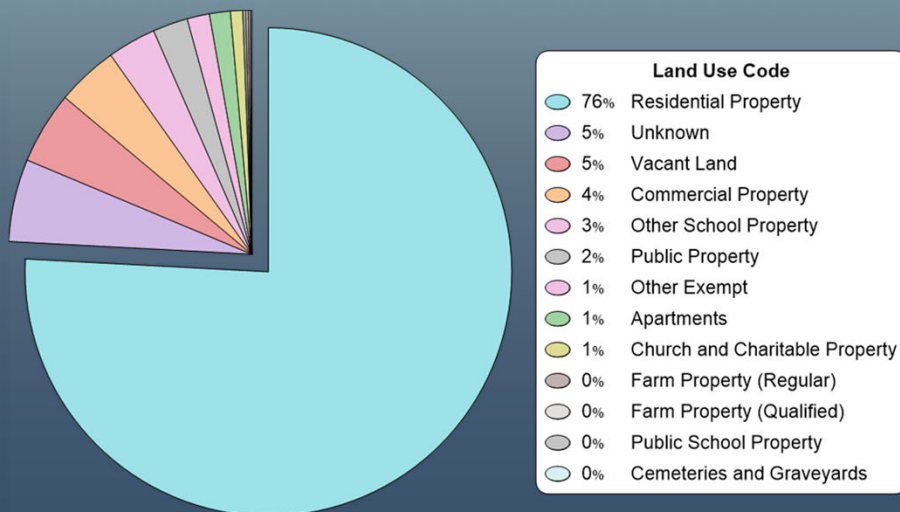
# COMPARATIVE ANALYSIS: THE DATA STORY

*Who currently pays for stormwater drainage and how would this change under a utility?*

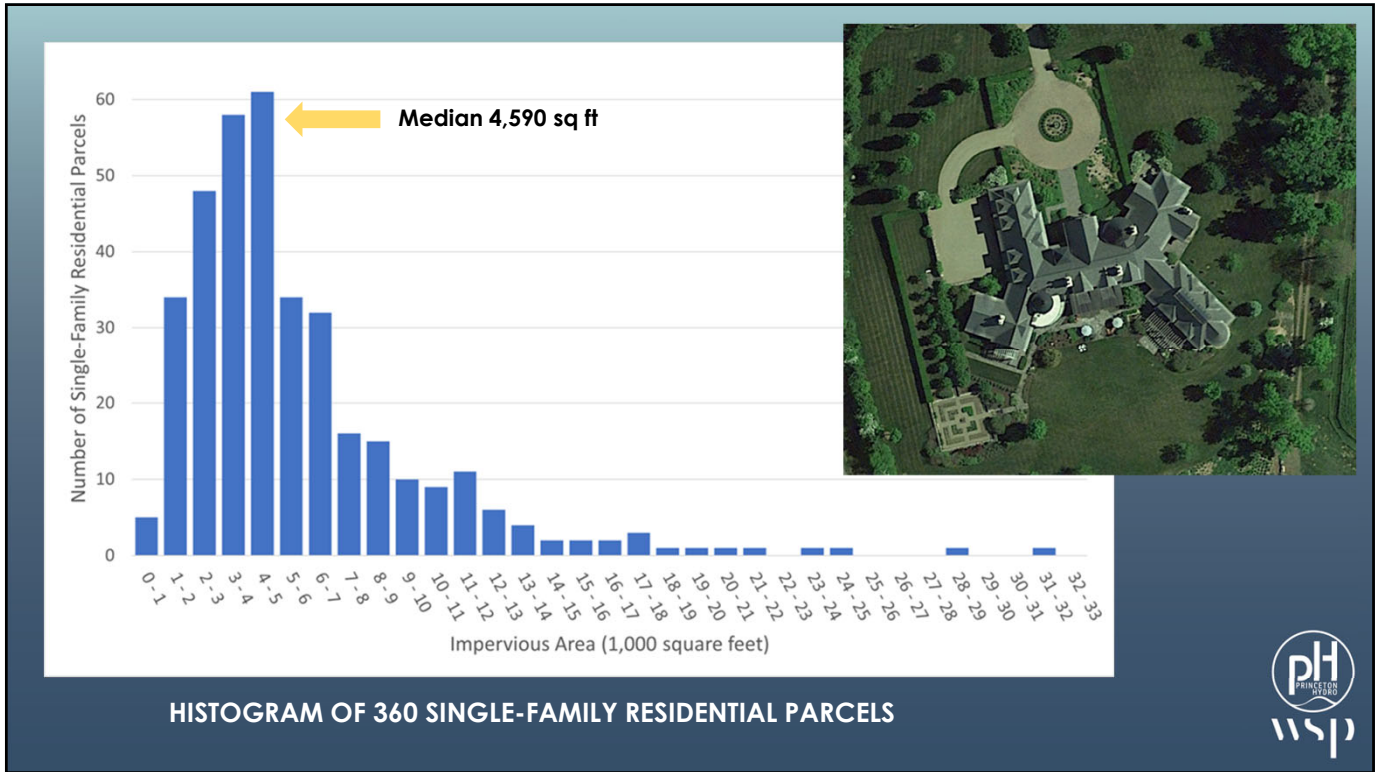


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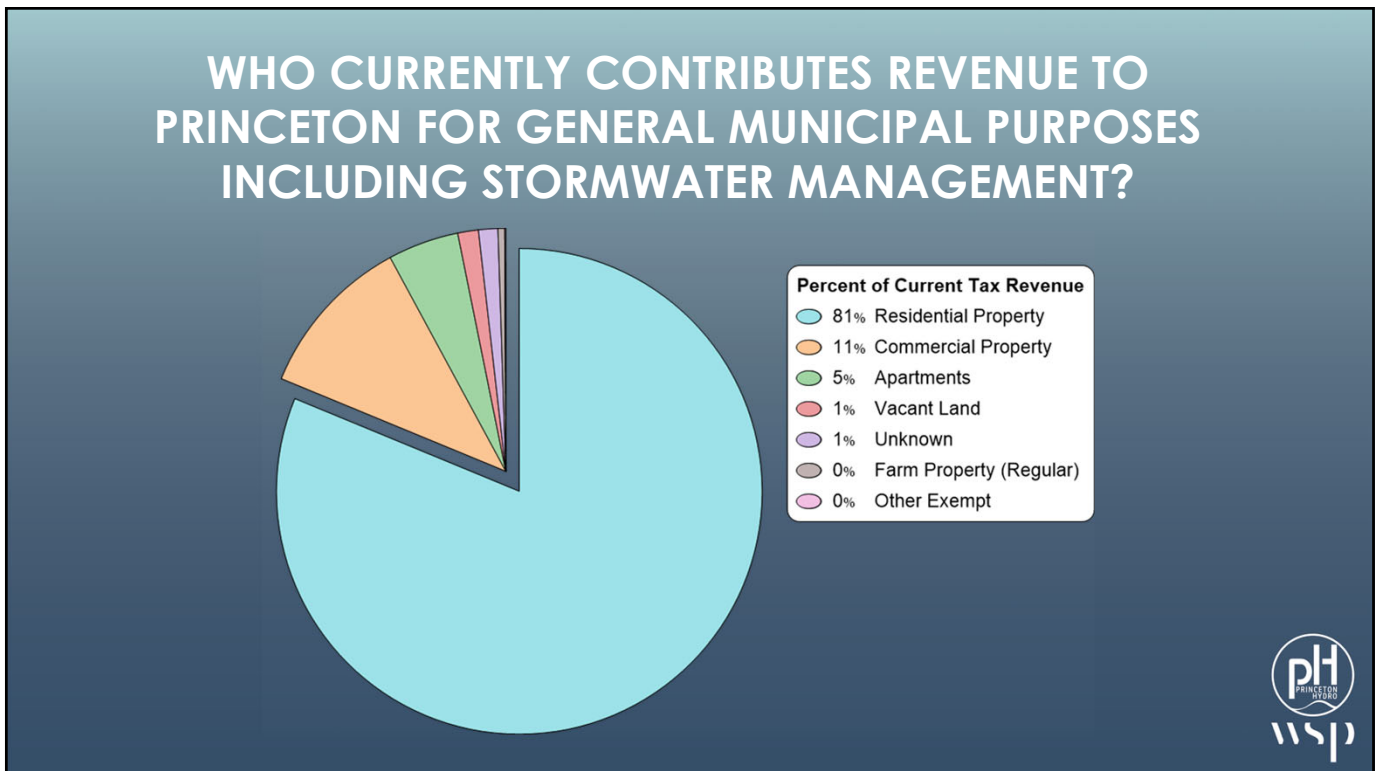
## WHAT IS THE DISTRIBUTION OF LAND USE TYPES IN PRINCETON?



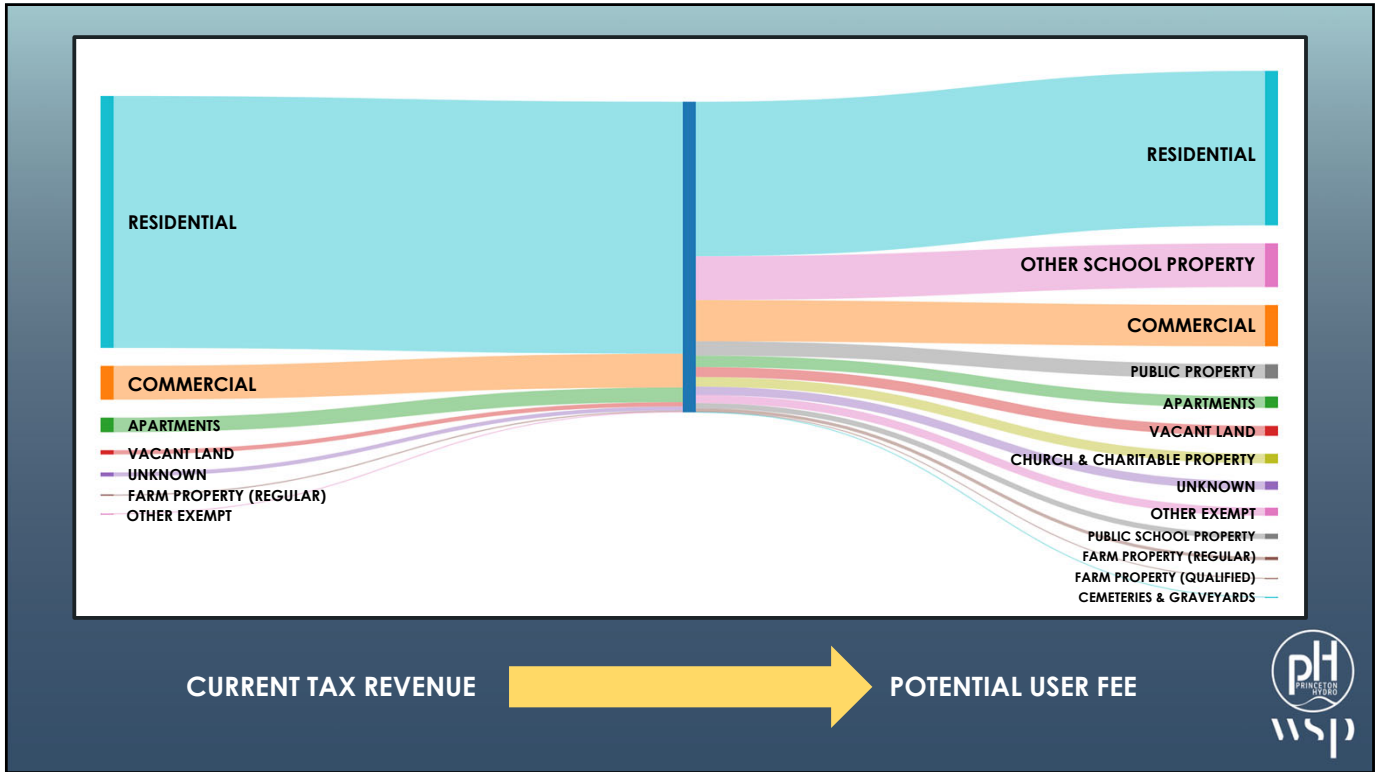
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# STAKEHOLDER ENGAGEMENT

The slide features a white central area with the text 'STAKEHOLDER ENGAGEMENT' in a bold, dark blue font. The top and bottom of the slide are dark blue. The logos for 'pH PRINCETON HUDSON' and 'wsp' are located in the bottom right corner.

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## STAKEHOLDER EFFORT

- **Princeton Stormwater Utility Steering Committee** (*Internal*)
- **Princeton Stormwater Focus Group** (*External*)
  - Representatives from *FSWC, Princeton University, Princeton Housing Authority, HOA Representatives, Friends of Princeton Open Space, The Watershed Institute, The Hun School, local property owners, etc.*
  - *Held two in-person workshops*



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## CONCLUSION & NEXT STEPS



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## IN SUMMARY

- ✓ **Revenue capacity must increase** to address system needs.
- ✓ A **stormwater utility is a more equitable** way for property owners to pay for stormwater use.
- ✓ **Stakeholders engaged** and interested in concept.
- ✓ Phase I is complete.

Phase II will generate requested info:

- Detailed cost of service + **10-year forecast of future investments** in capital and operations.
- Stormwater Utility **Rate Options** with a draft rate model and impact analysis
- **Robust stakeholder engagement**



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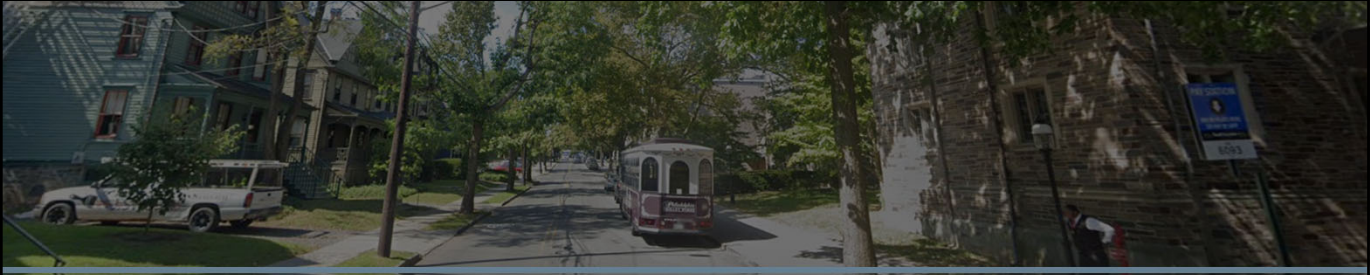
## NEXT STEPS:



**Recommendation for  
Council to move  
to Phase II**



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# QUESTIONS?

