# Street Sweeping Study

Scientific Studies Program Fiscal Year 2025-2026 Watershed Areas: Upper Los Angeles River Project Lead: City of Los Angeles (LASAN) Presenter: Jon Ball

## **Study Overview**

The Street Sweeping Study will collect information to enhance street sweeping, increase pollutant removal, and improve water quality.

- The Street Sweeping Study will support:
  - Sweeping with the most effective technologies for pollutant removal
  - Sweeping where pollutant accumulation is highest
  - Sweeping at the optimum frequency and at the most effective times of year







- SCW Funding Approved:
  - Central Santa Monica Bay
  - South Santa Monica Bay
- Seeking SCW Funding:
  - Upper Los Angeles River
- Sampling locations will be located throughout these watersheds



- <u>Study Lead</u>: LASAN Watershed Protection Division (WPD)
  - Jon Ball, Environmental Affairs Officer
  - Miller Zou, Environmental Supervisor II
  - Bryan Truong, Environmental Supervisor II
- <u>Study Partner</u>: StreetsLA
  - Coordinating on work plan development, study implementation, and results interpretation
- <u>Study Support:</u> LWA
  - Prior experience in street sweeper testing
  - Supported LASAN in completing first phase of Study







- Street sweeping can play a key role in meeting water quality challenges
  - Removes pollutants before they enter stormwater.
  - More cost-effective than structural projects
  - Avoids challenges of designing, building, and maintaining infrastructure
  - Provides additional benefits (e.g., cleaner streets)
- Enhanced street sweeping can maximize these advantages
- Local data are needed to support enhanced street sweeping



## Study Details – Relationship to Other Studies

- Previous studies demonstrate the potential for improved pollutant removal via street sweeping
  - City of San Diego (2008-2014), Cities of Burbank and Glendale (2011)
- Ongoing studies quantifying the benefits of street sweeping
  - SMC, Santa Barbara microplastics study
- The Street Sweeping Study builds on these studies with a focus on implementation









# Study Details: Objectives and Outcomes

	STUDY QUESTIONS	EXPECTED OUTCOMES		
How to Sweep?	<ul> <li>Which sweeper is most effective?</li> <li>What operating speed is most efficient?</li> </ul>	<ul><li>Inform sweeper procurement</li><li>Inform operations protocols</li></ul>		
Where to Sweep?	<ul> <li>Where is pollutant loading highest?</li> </ul>	<ul> <li>Prioritize high load areas</li> </ul>		
When to Sweep?	<ul> <li>How frequently should we sweep?</li> <li>When would street sweeping yield the greatest water quality benefit?</li> </ul>	<ul> <li>Identify most efficient sweeping frequency</li> <li>Prioritize sweeping at particular times of year</li> </ul>		



### HOW WILL THE STUDY ANSWER THESE QUESTIONS?

### Completed w/ City Funds

# Requested

**SCWP** Funding

03

#### **Controlled Environment Sweeper Effectiveness Testing**

01

Comparison of sweepers under controlled conditions

#### Real Street Sweeper Effectiveness Testing

02

Comparison of sweepers under real-world condition

### Accumulated Street Dirt Sampling

Characterize street dirt and pollutant accumulation throughout the City



# Cost & Schedule

Phase	Description	Cost	Completion Date	
1	Task 1: Compilation of Existing Data + Work Plan Development	\$30,000	Complete	Phase 1
	Task 2.1: Controlled Environment Sweeper Effectiveness Testing	\$70,000	Complete	Subtotal: \$105,000
2	Task 2.2: Real Street Sweeper Effectiveness Testing	\$400,000	11/1/2026	
	Task 3: Street Dirt Characterization	\$467,000	11/1/2027	Phase 2
	Task 4: Reporting	\$93,000	9/30/2028	Subtotal: \$975,000
	Task 5: Project Management	\$20,000	9/30/2028	
Total Study Cost		\$1,080,000		
Total ULAR Funding Request		\$668,350		



WASC	Year 1	Year 2	Year 3	Total
ULAR	\$20,000	\$20,000	\$648,350	\$688 <i>,</i> 350

\* Additional \$411,650 provided by matching City of LA funds and approved funding from CSMB and SSCM WASCs



- Support enhancements to street sweeping programs
  - Potential to inform other agencies
- Better leverage street sweeping to meet water quality challenges
- Generate data on street pollutant loads that can support other stormwater program elements:
  - Selection, design, and placement of BMPs
  - Water quality modeling









os powiels handa sh roba Lagae?

2 Mal

Jon Ball e-mail