



LFDC Summary for Lead Task Force

November 18, 2021



Lead Free DC Goal: eliminate all lead service lines (LSLs) by 2030.

LFDC Plan Contents:

- Service Line Pipe Material Inventory
- Lead Service Line Replacement
- Planning Level Cost Estimates
- Policy Recommendations
- Funding Opportunities
- Stakeholder Engagement and Community Outreach



- Homeowner owns the entire service line.
- DC Water is responsible for maintaining the portion of the service line in “public space.”
- DC Water uses ratepayer funds for “public-side” service line replacement and water main work (**Figures 1 and 2**).
- DC’s lead law provides funding for “private-side” during DC water’s planned and emergency work (**Figures 3 and 4**).

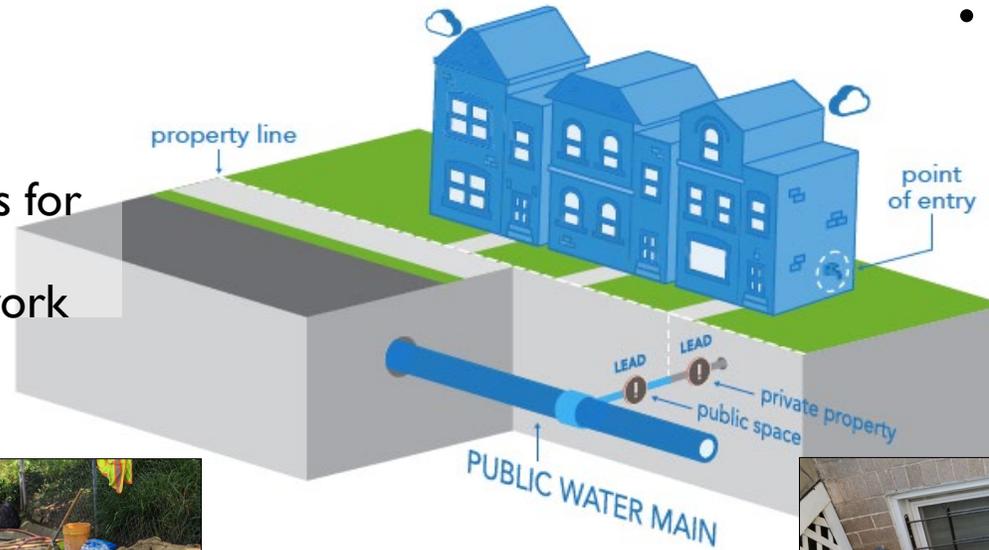


Figure 1



Figure 2



Figure 3



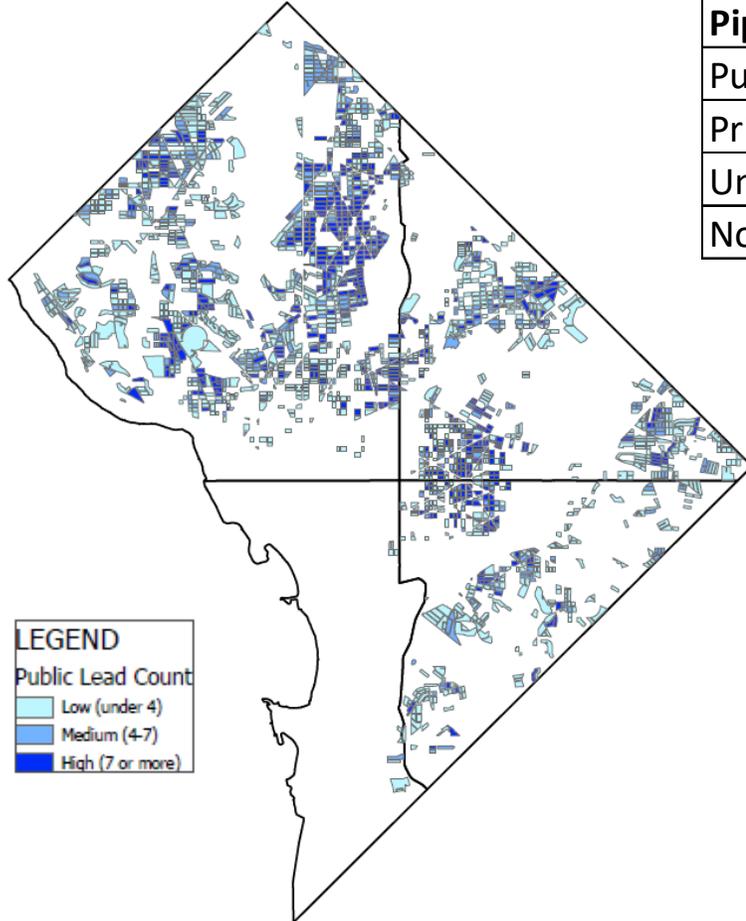
Figure 4

Full Lead Service Lines (10,400)

Total Number of Lead Service Lines (LSLs) in Washington, DC

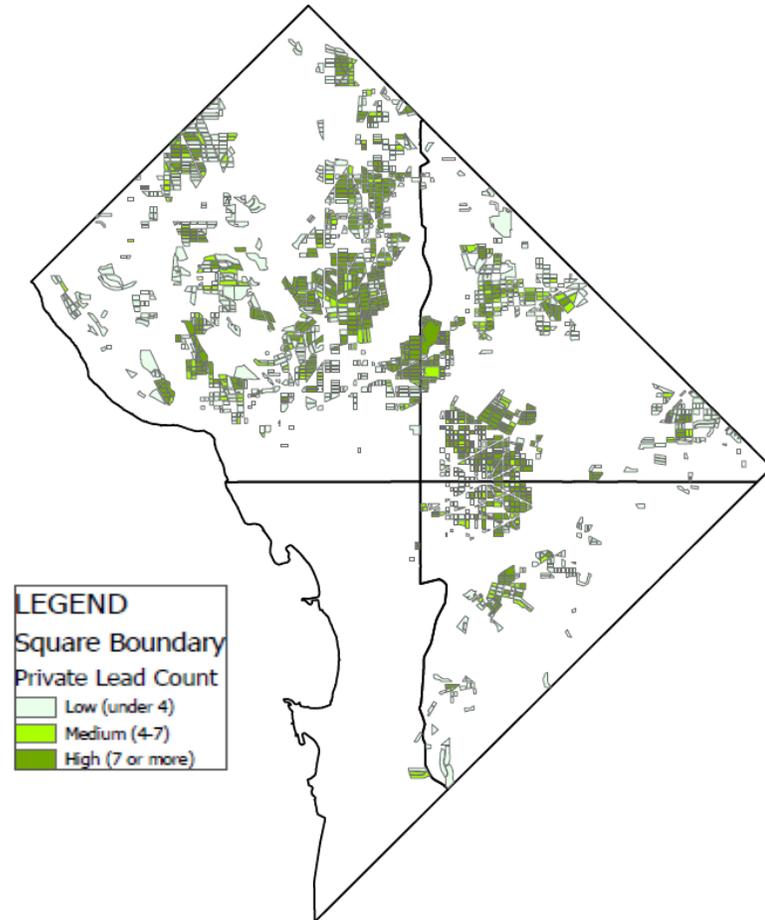
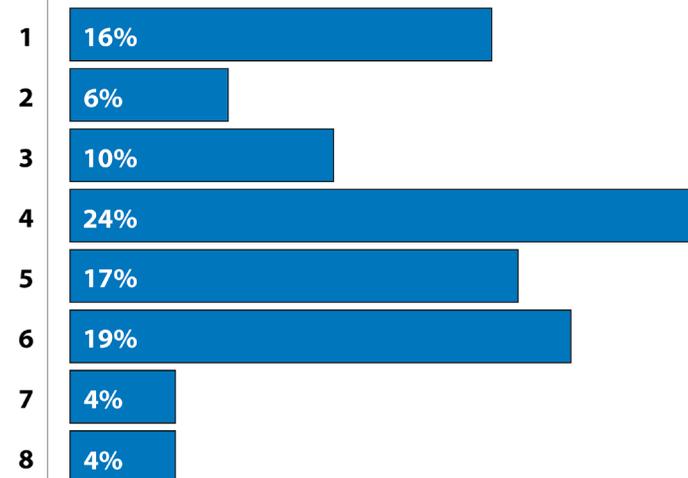
Pipe Material	Number of Service Lines
Public and Private Lead	10,400
Private Side-Only Lead	11,200
Unknown	14,700
Non-lead	101,400

Private-side Only Lead Service Lines (11,200)



LEGEND
Public Lead Count
Low (under 4)
Medium (4-7)
High (7 or more)

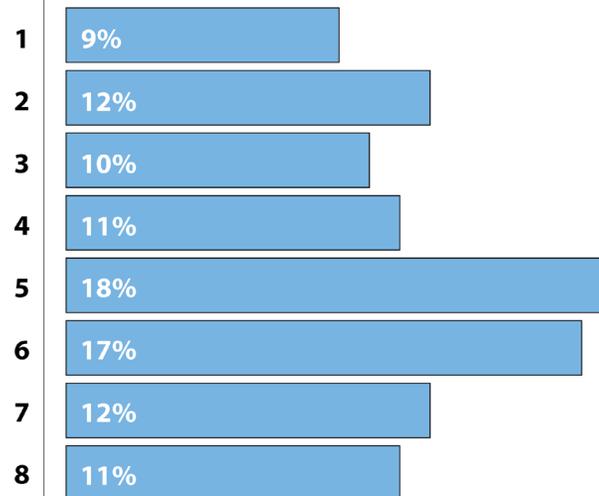
Ward Distribution of Lead Service Lines by Ward



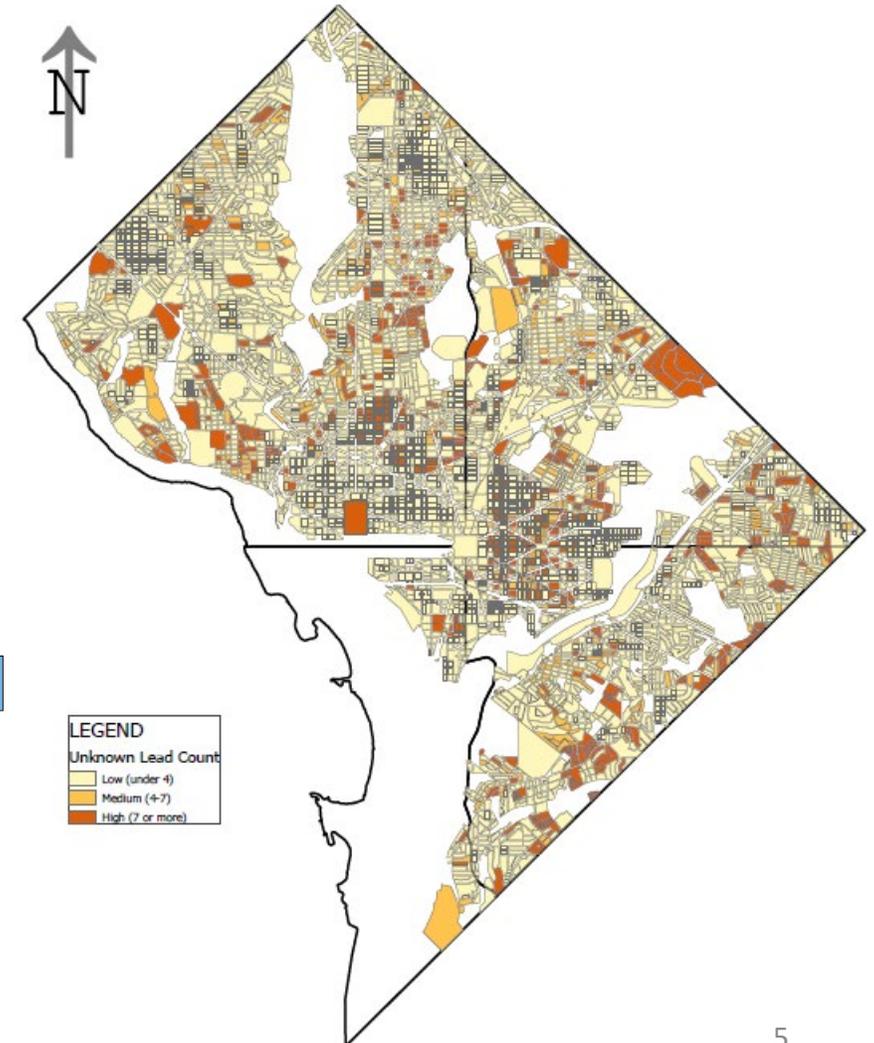
LEGEND
Square Boundary
Private Lead Count
Low (under 4)
Medium (4-7)
High (7 or more)

- A significant number of service lines with unknown material type are in neighborhoods developed since 1980. Because of the development year, these are likely non-lead.
- Service lines with unknown material type are likely lead if they are scattered in areas where identified lead service lines are prevalent.

Ward **Distribution of Service Lines with Unknown Pipe Material by Ward**



Service Lines with Unknown Pipe Material



Activity	Identify Pipe Material	Timeline	Status update (as of Nov 2021)
Desktop Review			
Developer permit applications - Electronic files	1,500	FY21	Ongoing (2,400 updated)
Developer permit applications - Paper records	2,500	FY22	Not started
Water main installation	300	FY21-22	Ongoing (20 updated)
Tap Records	1,000	FY21-22	Completed (975 updated)
Customer Provided			
POE	1,000	FY21-23	Ongoing (100 Lead identified)
WQ testing	500	FY21-24	Ongoing (333 kits delivered; 70% returned; roughly 50% determined likely Lead)
Operations, SDWMR, and By-Block Replacements	7,900	FY21-30	Ongoing (200 updated)

- Developed pipe material instructions and videos
- Mailed to 6,200 residential buildings
- Proposed national study of three non-invasive pipe material identifying technologies (expect to start in 2022)

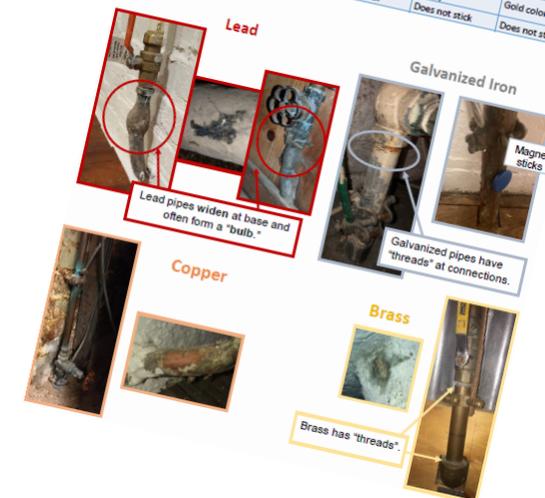


Lead Pipe Scratch Test



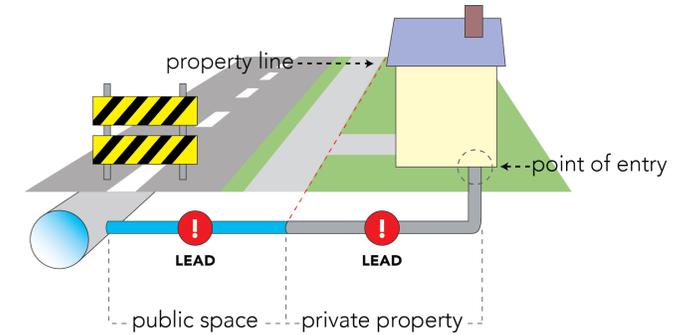
Water Service Pipe Material Identification

	Lead	Galvanized Iron	Copper	Brass
Outer Appearance	Dull gray, bendable; Often curves between wall/floor and valve	Dark gray or black; Straight rigid pipe	Brown; Can have green corrosion spots	Brown; Can have green corrosion spots
Threads at connections	None	Yes	None	Yes
Scratch Test (coin or key)	Shiny silver	Hard to scratch, remains gray	Copper, like a penny	Gold color
Magnet Test	Does not stick	Magnet WILL stick	Does not stick	Does not stick



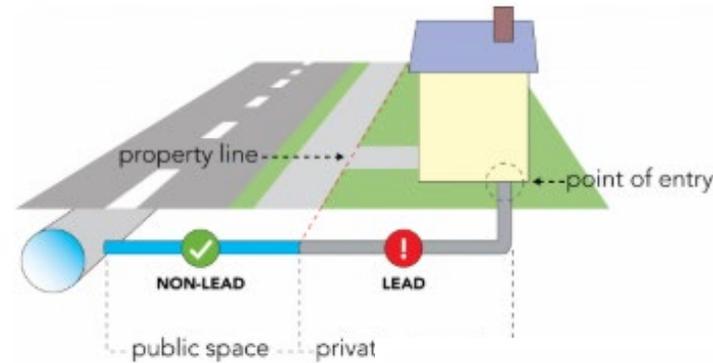
Small Diameter Water Main CIP & Emergency Repairs (CIPERR)

- DC Water-initiated replacements during planned capital improvement work and emergency repairs.
- The District pays for 100% of private-side replacement costs.



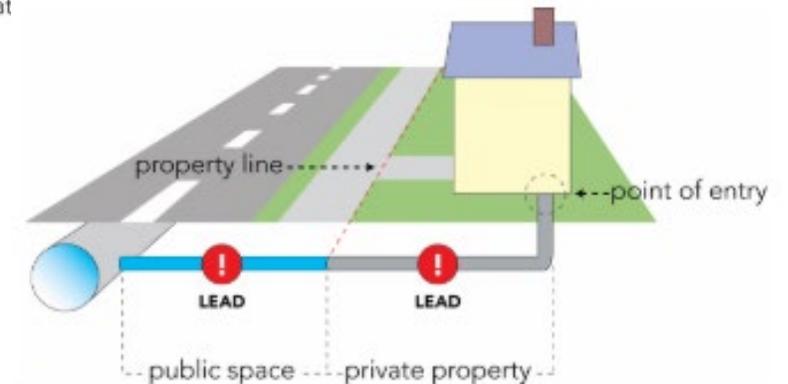
Lead Partial Replacement Assistance Program (LPRAP)

- Customer-initiated replacements where only the private-side is lead.
- The District pays for 50-100% of private-side replacement costs.



Voluntary Full Replacement Program (VFRP)

- Customer-initiated replacements where both the public-side and private-side are lead.
- The homeowner pays for 100% of private-side replacement costs.



- Phase II**

FY22 with block-by-block replacement projects prioritized by equity and water quality

**Construction started Nov 4th, 2021*

By Block

CIPERR:
LSLs and Water Main

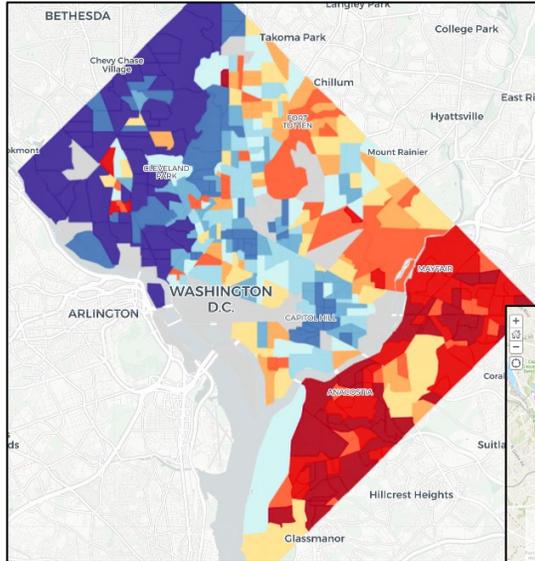
CIPERR:
LSLs



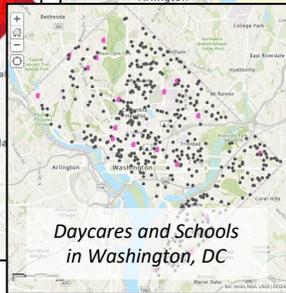
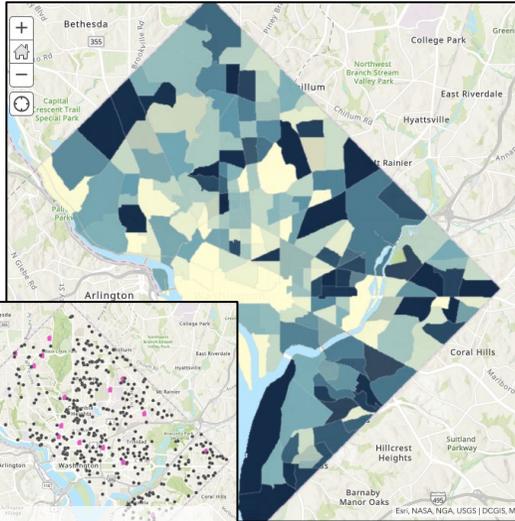
Fiscal Year	CIPERR: By Block & By Premise	VFRP: By Premise: LSL, Full	LPRAP: By Premise: LSL, Private-only	Annual Total LSLs
FY2021	150	400	250	800
FY2022	1693	300	400	2393
FY2023	2324	200	800	3324
FY2024	3157	183	1234	4574
FY2025	3261	183	1234	4678
FY2026	2344	183	1234	3761
FY2027	1398	183	1234	2815
FY2028	1398	183	1234	2815
FY2029	1398	183	1234	2815
GRAND TOTAL	17124	1997	8854	27975

Annual LSL replacements per program area were generated by the Lead Free DC prioritization model which is based on water quality and equity factors. VFRP and LPRAP are customer-initiated programs so LSL rate is dependent on customer participation. These replacements represent an estimated annual distribution.

Area Deprivation Index in Washington, DC



Density of Children in Washington, DC



- Projects executed based on system improvement (water quality) & social impact (equity) of LSL replacement.
- The model prioritizes LSL replacement projects for:
 - **Underserved Areas**, measured by Area Deprivation Index
 - **Vulnerable Populations**, e.g. Children, Schools and Daycares

Water Quality Factors for Priority Score

LOF Category	Weighting
Physical Condition	10%
<i>Main Breaks</i>	10%
Performance	90%
<i>Iron Concentration</i>	27%
<i>Chlorine Concentration</i>	9%
<i>Service Line Material</i>	54%

Equity Factors for Priority Score

COF Category	Weighting
Health/Social Equity	50%
<i>Area Deprivation Index</i>	50%
Vulnerable Populations	50%
<i>Children under 18</i>	20%
<i>Licensed Childcare Facility</i>	30%

- Expanding legal definition of “emergency” under D.C. Law 22-241 will facilitate free private-side replacements for populations at risk (e.g. children, pregnant individuals).



Phased Implementation

- **Phase I:** Replaced 1,400 LSLs through small diameter water main projects and customer-initiated replacement programs in FY20 and FY21 (*data as of Nov 1, 2021*)
- **Phase II:** Ramp up to replacement rate necessary to complete LFDC by 2030; Phase II starts with areas prioritized by vulnerable population and ADI
- **Phase III:** Continue prioritized lead replacement to address lead and water quality
- **Phase IV:** Continue prioritized lead replacements in areas with unknown material types

Timeline of Lead Service Line Replacements

Fiscal Year	CIPERR	VFRP	LPRAP	Annual LSL Total	Phase		
FY2021	150	400	250	800	Phase I		
FY2022	1693	300	400	2393		Phase II	
FY2023	2324	200	800	3324			Phase III design
FY2024	3157	183	1234	4574		Phase II wrap-up	
FY2025	3261	183	1234	4678			
FY2026	2344	183	1234	3761			Phase III
FY2027	1398	183	1234	2815			
FY2028	1398	183	1234	2815			
FY2029	1398	183	1234	2815			Phase III wrap-up
Grand Total*	17124	1997	8854	27975			Phase IV



Phased Implementation

- DC Water’s approved CIP funds \$632 million through 2030 for work that addresses lead.
- Additional **\$500 million is needed to meet 2030 goal.**
- DC Water had requested \$350 million to help close funding gap.
- **Ramping up Replacement Rate in Phase II:**
 - **Block-by-Block:** LSL projects prioritized by equity in addition to ongoing program and CIP projects.
 - Estimated 7000 LSLs will be replaced.

Fiscal Year	CIPERR: By Block & By Premise	VFRP: By Premise: LSL, Full	LPRAP: By Premise: LSL, Private-only	Annual Total LSLs	Rate of Replacement	Annual Total Cost (UNFUNDED)	Phase
FY2021	150	400	250	800	3%	\$ 4,924,249	Phase I
FY2022	1693	300	400	2393	9%	\$ 47,951,840	Phase II
FY2023	2324	200	800	3324	12%	\$ 59,105,589	
FY2024	3157	183	1234	4574	16%	\$ 90,990,931	Phase III
FY2025	3261	183	1234	4678	17%	\$ 93,668,098	
FY2026	2344	183	1234	3761	13%	\$ 70,162,831	Phase IV
FY2027	1398	183	1234	2815	10%	\$ 45,940,237	
FY2028	1398	183	1234	2815	10%	\$ 45,940,237	Phase III wrap-up
FY2029	1398	183	1234	2815	10%	\$ 45,940,237	
GRAND TOTAL	17124	1997	8854	27975		\$ 504,624,250	

Unfunded costs:

- LSL Replacement: \$217M
- Restoration: \$112M
- Water Main Replacement: \$65M
- Program Mgmt: \$111M

Annual LSL replacements per program area were generated by the Lead Free DC prioritization model which is based on water quality and equity factors. VFRP and LPRAP are customer-initiated programs so LSL rate is dependent on customer participation. These replacements represent an estimated annual distribution.

*Annual distribution of LSL replacements by Phase updated 6/01 based on refined project schedule.

Socialization of Lead Free DC Program

- **Enhancing Interagency Coordination**

- Renewed area of coordination for identified planned work
- DCRA & DOEE Data Collection
- Vulnerable Populations Data Share

- **Legislation/Policy Measures**

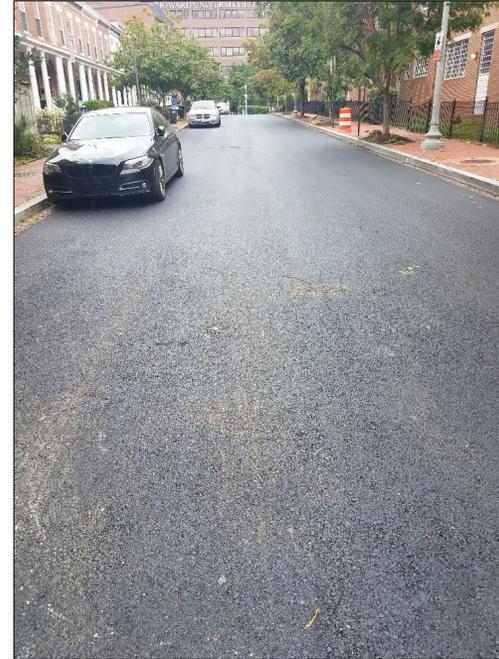
- Emergency Mandate for Lead Removal
- Other legislative action that will facilitate the 2030 lead removal goal

- **Find & Pursue Robust Funding Opportunities**

- Request to District for funding
- Develop Roadmap for federal opportunities

Continue progress made with MOA between DC Water, DDOT, and DOEE for other lead replacement programs:

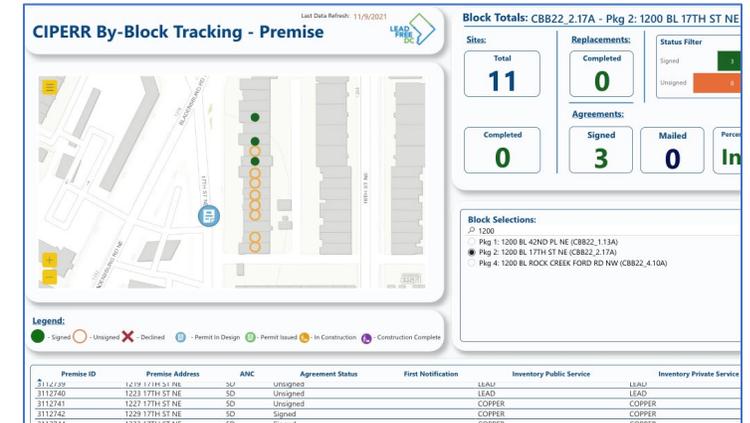
1. Closer Project Coordination
2. Streamlined Permit Application
3. Modified Site Requirements
4. Street Paving Requirements
5. Tree Protection Requirements
6. Coordinated Pursuit of Grant Funding



- DC Council, including Council Office of Racial Equity (CORE)
- Partnership with Agencies
 - DMOI Cluster
 - DMPED, Office of Planning
 - DOEE, DDOT, DCRA
 - DHS, DOH
 - Mayor's Office of Community Relations and Services
 - Council Constituent Services Directors
- Connect with Vulnerable Populations (e.g., *children and pregnant individuals*) and Historically Underserved Communities
 - DC Maternal & Infant Health Initiative, Thrive by Five
 - OSSE, DC Charter School Alliance and DC Charter School Board
 - DOEE (Lead Safe Healthy Homes)
 - Mayor's Office of Racial Equity
- Community Partners – DC Realtors Assoc., Sierra Club, DC Environmental Network, Resilient DC, DC Policy Center, DC Fiscal Policy Institute, Martha's Table and more!



- Revamped website with construction dashboard and videos
- Direct communication and outreach to boost participation:
 - 2,000+ Mail notifications
 - 400+ Phone calls
 - 150+ Emails and text alerts
 - 220+ Door-to-door engagements
 - Yard signs, door hangers and other marketing collateral
 - Presentations at 8 ANC meetings
 - Educating MOCRs and Council Constituent Services Directors
- ~45% of customers on first blocks for construction did not return agreements after multiple engagements (mail, phone, door-to-door) for free private-side work





Questions?