

# Challenges and Proposed Solutions to the City's Coal Tar Pavement Sealant Ban

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August 21, 2019



WATERSHED  
PROTECTION



# Nation's First in 2005: Austin's Coal Tar Pavement Sealant Ban

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- *Ordinance 20051117-070 Ban of Coal Tar Pavement Products*
- Effective January 1, 2006, it is illegal to **use, or permit the use of** coal tar pavement products in the City of Austin
- Violators are subject to a daily fine of up to \$2,000 per day and are required to remediate lots



# Refresher on PAHs—What are they?

Polycyclic Aromatic Hydrocarbons (PAHs) are ever-present in the urban environment

- Form from the heating or burning of carbon (organic) materials
- U.S. EPA designated 16 PAHs as “priority pollutants”:
  - 6 are “probable carcinogens”
  - 1 is a “known carcinogen”
    - benzo[a]pyrene
- Common sources of PAHs:
  - Tire and brake dust
  - Engine exhaust
  - Used motor oil
- Sealant PAHs in the environment:
  - Sealcoat erosion
  - Stormwater runoff
  - Volatilization in the air

(Mahler & Van Metre 2017)





# PAHs and Environmental Health

Varying levels of exposure to PAHs from sealants are toxic to human and aquatic health

- **Aquatic life**
  - “Acutely toxic” to fathead minnows and water fleas
    - (Mahler *et al* 2016)
  - May be linked to tumors in brown bullhead catfish in the Anacostia and Potomac
    - (Pinkney 2013)
  - Probable Effect Concentration (PEC) for PAHs in sediment is 22.8 mg/kg (.00228%)
    - (MacDonald *et al* 2000)
- **Human life**
  - Household dust and elevated cancer risk for children
    - (Mahler *et al* 2016)

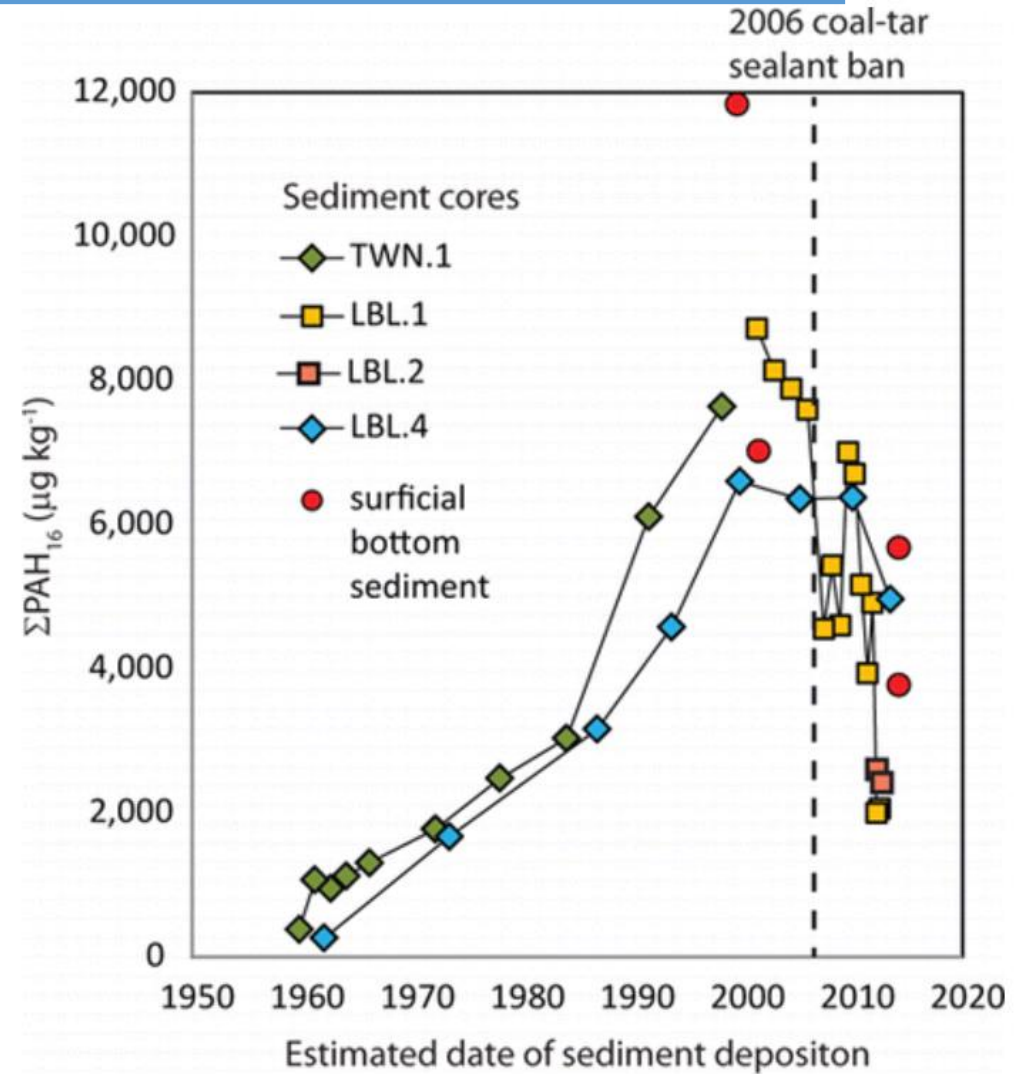


# By 2014 USGS Shows Austin's Ban is Working

## Benefits of coal tar ban

- USGS found a 58% reduction in PAH concentration in Lady Bird Lake sediments (Mahler *et al* 2014)

*However, elevated levels of PAH remain in Austin streams.*



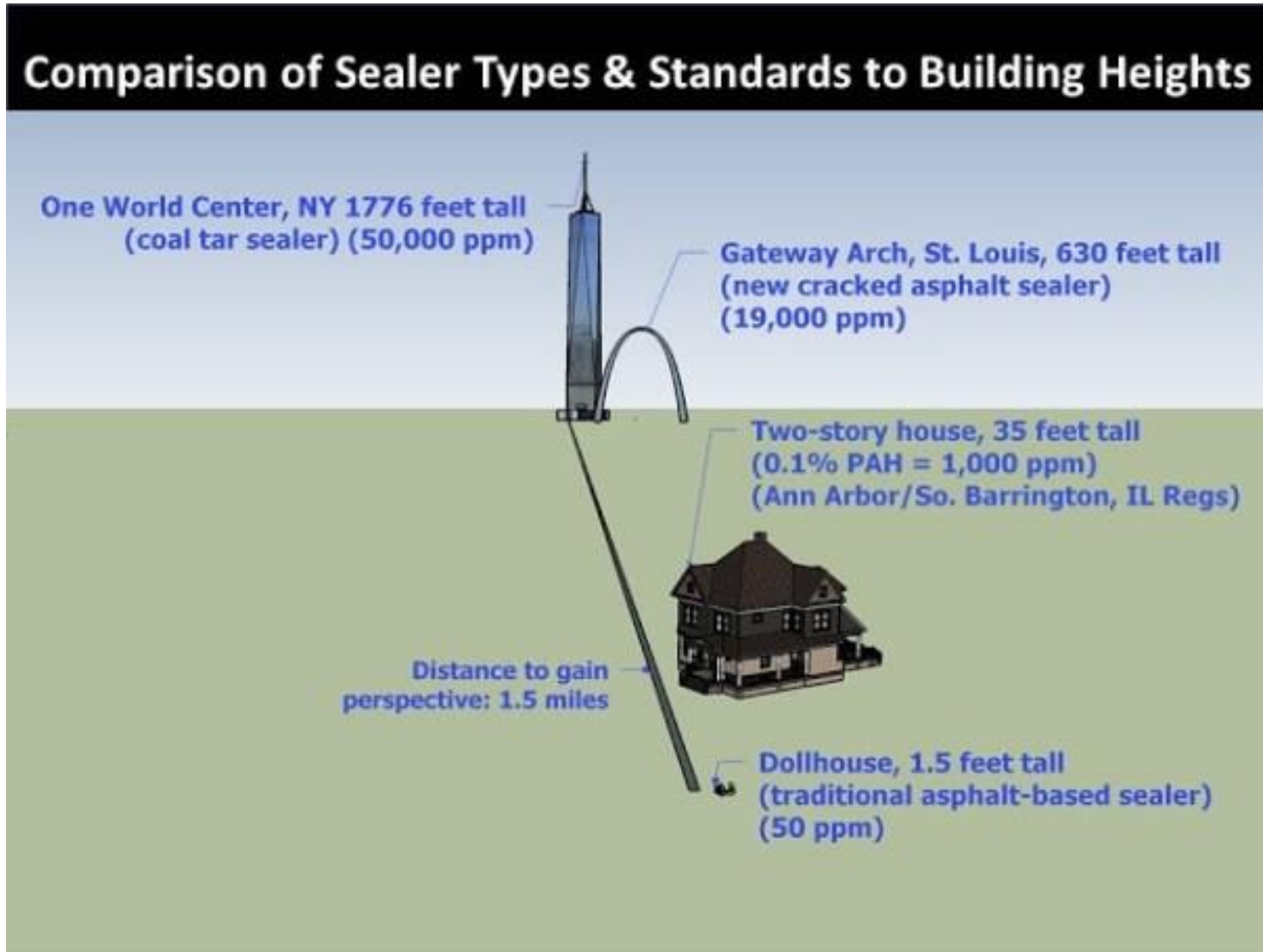
# In 2015 COA WPD Tests New Sealer

National company with local presence submits a sample to the City for testing

- Test shows 1.9% PAH
- Product uses “ethylene cracked residue” or “steam cracked asphalt” and is “coal tar free”
- City adds product to approved website list because it is in compliance with ordinance
- Other manufacturers have added this to their products



## .1% PAH Limit: Another Perspective



# Proposed Solutions: Introduce .1% PAH Limit to Law

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## Why .1%?

- PAH-specific limit protects against the potential for new, non-asphalt/ECR/coal tar, high PAH products to be introduced and used in the City
- Legislative precedent:
  - European Union classifies road waste with .1% PAHs or higher as hazardous waste (Vansteenkiste & Verhasselt 2004)
- Products are currently available with PAH concentrations well below the .1% limit (asphalt-based average is .005%) (Mahler & Van Metre 2017)
- Over 14 products tested and listed less than 0.1% (<https://coaltarfreeusa.com/p/>)





# Notable Sealer Legislation in US

Municipality	Year Passed	Coal Tar or PAH Limit	PAH Threshold
• Austin, TX	2005	Coal Tar	N/A
• District of Columbia	2009, 2019	Coal Tar, PAH Limit	0.10%
• Maine	2019	Coal Tar, PAH Limit	1%
• Milwaukee, WI	2017	Coal Tar, PAH Limit	1%
• Minnesota	2013	Coal Tar	N/A
• Montgomery County, MD	2012, 2019	Coal Tar, PAH Limit	0.10%
• San Antonio, TX	2016	Coal Tar	N/A
• 15 southern Michigan municipalities	2017-2018	Coal Tar, PAH Limit	0.10%
• Washington	2011	Coal Tar	N/A

\*10 states have coal tar bans within their boundaries in addition to 4 states with state-wide bans. Not all bans included on this list.



# Proposed Ordinance Language

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WPD proposes amending the ordinance from 2005 with the following:

- **Adds “High PAH Pavement Products” to the ban, which would include:**
  - Coal tar products
  - Coal tar-related products
  - Ethylene cracker residue (ECR) products and their derived products; and any pavement product over .1% PAH by weight



# TENTATIVE Timelines

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## Proposed Amendments

- Summer 2019: amendments introduced and deliberated
- Fall 2019: amendments passed
- Effective date: January 1, 2020



# Contact Information

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