



# LCA Pretreatment Plant (PTP)

*Board Update  
February 23, 2026*

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1980s Goal: Centralize pretreatment & support growth in region

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Constructed by County of Lehigh in 1990

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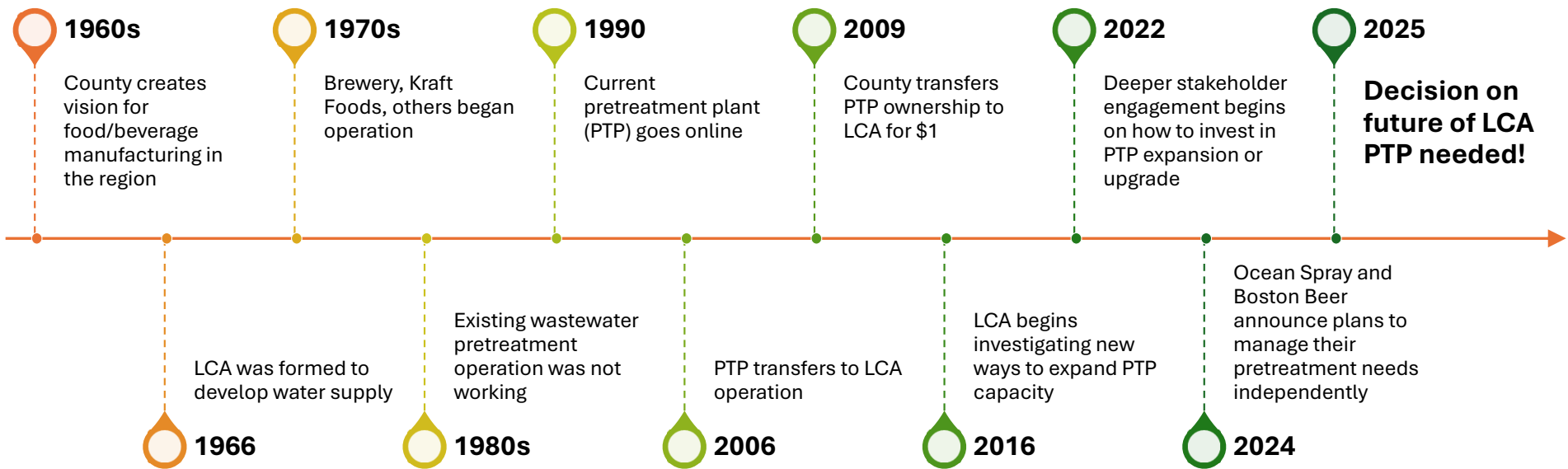
Transferred to LCA in 2009 debt-free

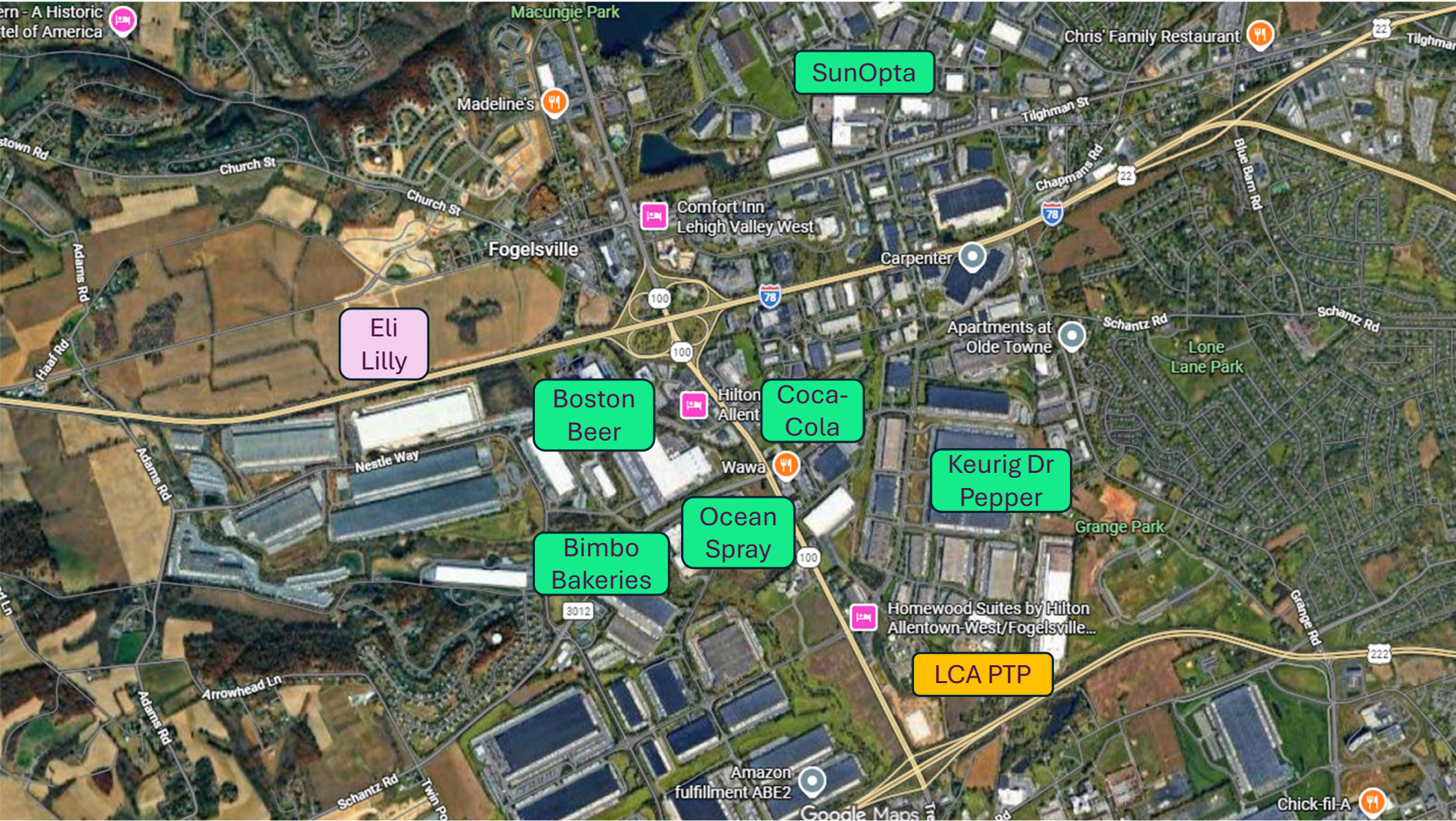
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Viewed as a significant community investment!



# Quick History





SunOpta

Eli Lilly

Boston Beer

Coca-Cola

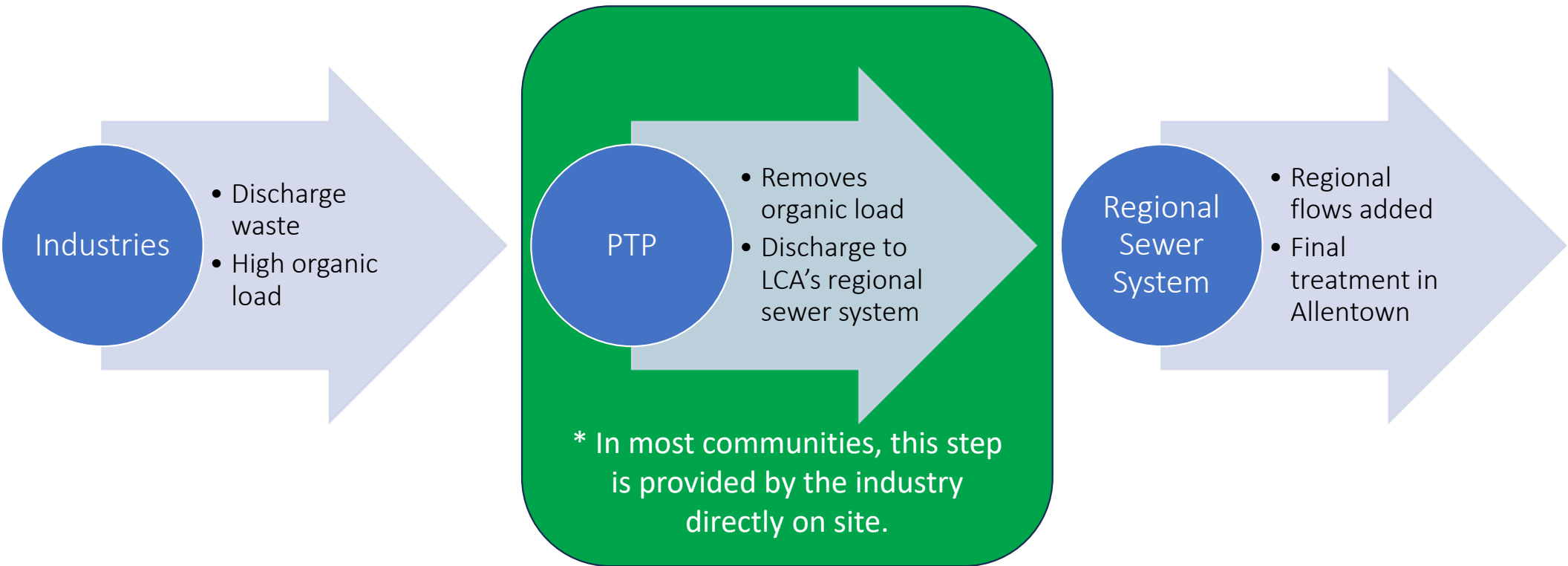
Keurig Dr Pepper

Ocean Spray

Bimbo Bakeries

LCA PTP

# How it works



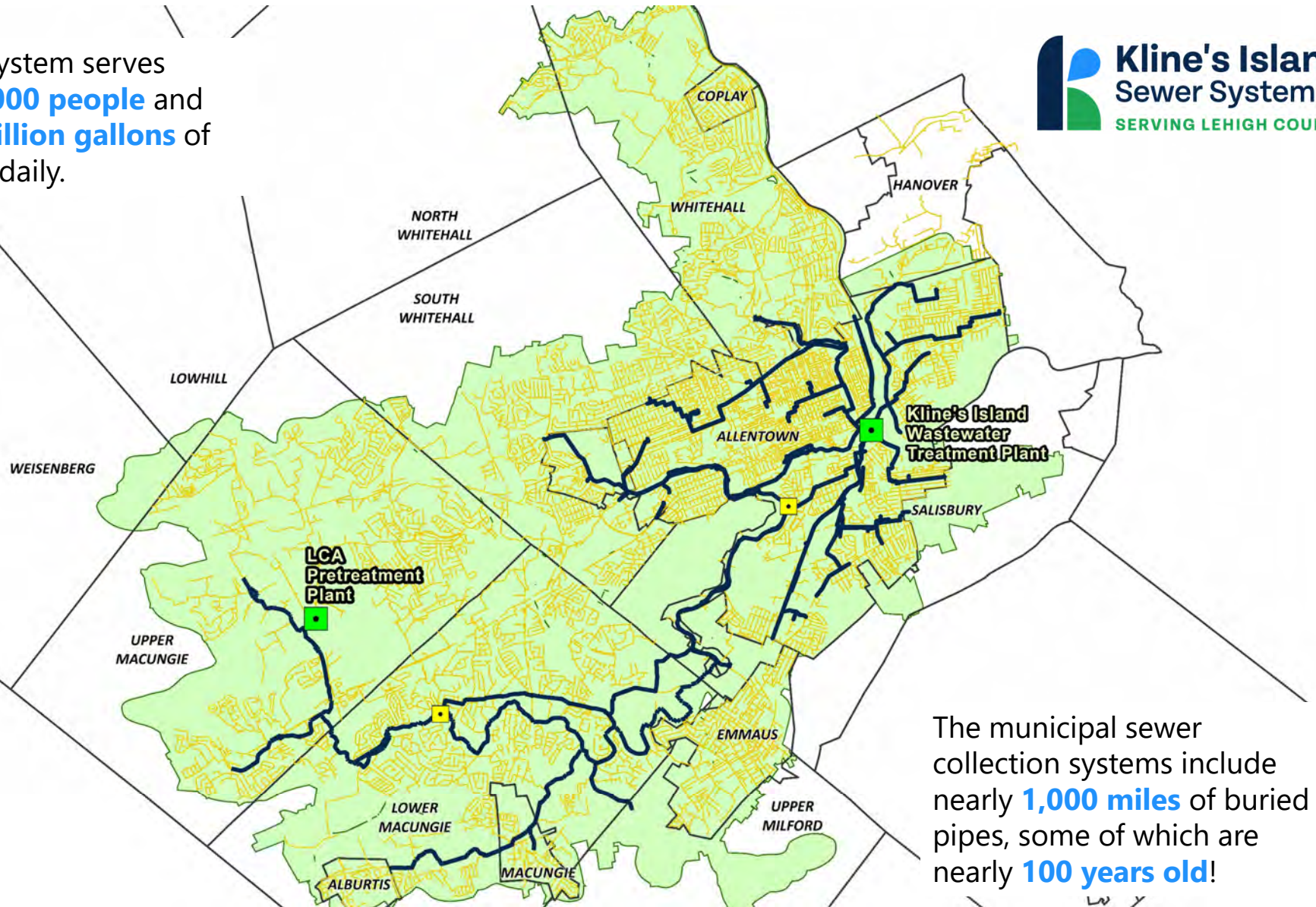
Final discharge to Lehigh River

# Current Pretreatment Performance

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- + Average Incoming Flow = 5 million gallons per day
- + Biological Oxygen Demand (BOD) Incoming = 1,040 milligrams/Liter\*
  - \* Domestic Strength BOD = 210 milligrams/Liter
- + ***BOD After Treatment = 25 milligrams per Liter***

The sewer system serves about **270,000 people** and treats **32 million gallons** of wastewater daily.



The municipal sewer collection systems include nearly **1,000 miles** of buried pipes, some of which are nearly **100 years old!**

# Three major challenges



Pretreatment Plant at end of its useful life – major replacement needed



Limited / no remaining capacity available for new industrial growth



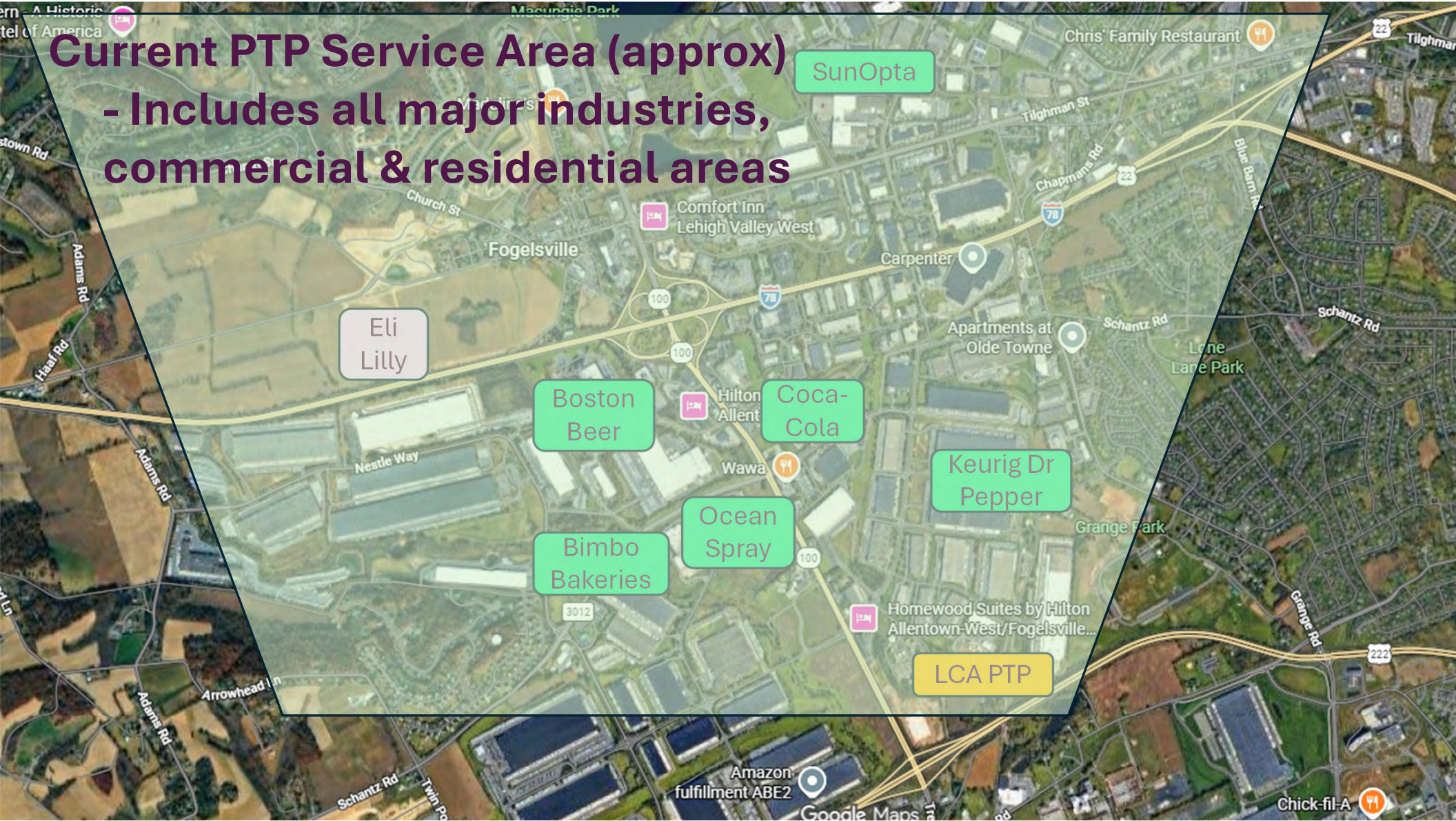
No financial mechanism currently in place to capture capital costs

# Engineering Evaluations Completed



- Pretreatment Plant Master Plan (Jacobs, April 2023)
- Review of Critical Upgrades & Future Alternatives (Technical Advisory Group, 2024)
- PTP Assessment of Hauled Waste Direct to Digesters (AECOM, June 2024)
- Hauled Waste Treatment Evaluation (Mead & Hunt | Symbiont, September 2024)
- Aerobic Granular Sludge Feasibility Investigation (HDR, October 2024)
- PTP Hauled Waste Market Assessment (AECOM, November 2024)
- PTP 2.0 Evaluation, Post-BB Recommendations (AECOM, September 2025)

**Current PTP Service Area (approx)**  
**- Includes all major industries,**  
**commercial & residential areas**



SunOpta

Eli Lilly

Boston Beer

Coca-Cola

Keurig Dr Pepper

Ocean Spray

Bimbo Bakeries

LCA PTP



## PTP 2.0

### Refurbish Existing Facility and Convert from HPO to Surface Aeration



# Future Pretreatment Performance

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- + Average Incoming Flow = 1.7 million gallons per day
- + Biological Oxygen Demand (BOD) Incoming = 1,280 milligrams/Liter\*
  - \* Domestic Strength BOD = 210 milligrams/Liter
- + ***BOD After Treatment = 25 milligrams per Liter***

# PTP 2.0 Project Phasing & Future Costs

## CAPITAL COST ESCALATION

<u>Project Description</u>	<u>Year</u>	<u>Cost (2025\$)</u>	<u>TOTAL (future \$)</u>
Hauled Waste Receiving Station	2027	\$ 4,820,000	\$ 5,213,312
Conveyance Modifications UMT West & Middle	2027	\$ 640,000	\$ 692,224
Solids Handling System (Including Electrical)	2028	\$ 13,900,000	\$ 15,635,610
Electrical Package #1	2028	\$ 7,760,000	\$ 8,728,945
Electrical Package #2	2032	\$ 10,830,000	\$ 14,251,541
Aeration Basin	2032	\$ 5,340,000	\$ 7,027,076
Influent Pump Station and Headworks (Including Electrical)	2034	\$ 3,570,000	\$ 5,081,223
Primary Sedimentation Tank	2035	\$ 840,000	\$ 1,243,405
RAS, WAS, Pump Station Building	2036	\$ 420,000	\$ 646,571
<b>TOTAL</b>		<b>\$ 48,120,000</b>	<b>\$ 58,519,906</b>

## Financial Challenge:

Limited capacity for  
capital investment



Boston Beer as direct customer (near-term, moving to on-site pretreatment by 2028)



Other industries are indirect customers via Township



Waste hauler program driven by market price



Should residential customers help pay?

# Debt Service Costs – No Municipal / County Support

## Assumptions:

- 20-year Pennvest loan financing (2.18% interest)

<b>A - Annual Financing Cost</b>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>
2027 Projects	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269	\$ 369,269
2028 Projects		\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499	\$ 1,523,499
2029 Projects			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2030 Projects				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2031 Projects					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2032 Projects						\$ 1,330,537	\$ 1,330,537	\$ 1,330,537	\$ 1,330,537	\$ 1,330,537
2033 Projects							\$ -	\$ -	\$ -	\$ -
2034 Projects								\$ 317,725	\$ 317,725	\$ 317,725
2035 Projects									\$ 77,749	\$ 77,749
2036 Projects										\$ 40,430
<b>ANNUAL PTP 2.0 DS</b>	<b>\$ 369,269</b>	<b>\$ 1,892,768</b>	<b>\$ 1,892,768</b>	<b>\$ 1,892,768</b>	<b>\$ 1,892,768</b>	<b>\$ 3,223,305</b>	<b>\$ 3,223,305</b>	<b>\$ 3,541,031</b>	<b>\$ 3,618,780</b>	<b>\$ 3,659,209</b>
Existing DS - PTP Critical Upgrades	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000
Debt Service Coverage (15%)	\$ 123,340	\$ 351,865	\$ 351,865	\$ 351,865	\$ 351,865	\$ 551,446	\$ 551,446	\$ 599,105	\$ 610,767	\$ 616,831
<b>TOTAL ANNUAL FINANCING COST</b>	<b>\$ 945,609</b>	<b>\$ 2,697,633</b>	<b>\$ 2,697,633</b>	<b>\$ 2,697,633</b>	<b>\$ 2,697,633</b>	<b>\$ 4,227,751</b>	<b>\$ 4,227,751</b>	<b>\$ 4,593,135</b>	<b>\$ 4,682,547</b>	<b>\$ 4,729,041</b>

# Debt Service Costs – With Municipal/County Support

## Assumptions:

- Project costs offset by \$10 Million in potential municipal capital contributions
- 20-year Pennvest loan financing (2.18% interest)

<b>A - Annual Financing Cost</b>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>
2027 Projects	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623	\$ 56,623
2028 Projects		\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852	\$ 1,210,852
2029 Projects			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2030 Projects				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2031 Projects					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2032 Projects						\$ 1,330,537	\$ 1,330,537	\$ 1,330,537	\$ 1,330,537	\$ 1,330,537
2033 Projects							\$ -	\$ -	\$ -	\$ -
2034 Projects								\$ 317,725	\$ 317,725	\$ 317,725
2035 Projects									\$ 77,749	\$ 77,749
2036 Projects										\$ 40,430
<b>ANNUAL PTP 2.0 DS</b>	<b>\$ 56,623</b>	<b>\$ 1,267,475</b>	<b>\$ 1,267,475</b>	<b>\$ 1,267,475</b>	<b>\$ 1,267,475</b>	<b>\$ 2,598,012</b>	<b>\$ 2,598,012</b>	<b>\$ 2,915,737</b>	<b>\$ 2,993,487</b>	<b>\$ 3,033,916</b>
Existing DS - PTP Critical Upgrades	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000	\$ 453,000
Debt Service Coverage (15%)	\$ 76,443	\$ 258,071	\$ 258,071	\$ 258,071	\$ 258,071	\$ 457,652	\$ 457,652	\$ 505,311	\$ 516,973	\$ 523,037
<b>TOTAL ANNUAL FINANCING COST</b>	<b>\$ 586,066</b>	<b>\$ 1,978,546</b>	<b>\$ 1,978,546</b>	<b>\$ 1,978,546</b>	<b>\$ 1,978,546</b>	<b>\$ 3,508,664</b>	<b>\$ 3,508,664</b>	<b>\$ 3,874,048</b>	<b>\$ 3,963,460</b>	<b>\$ 4,009,954</b>

## PTP Revenue Summary (2024) & Future Changes (2028)

Hauler Program	\$ 2,832,438	Continues
Municipal Revenues	\$ 2,893,492	Reduces
Brewery	\$ 3,401,056	Disappears
Miscellaneous Revenues	\$ 393,192	Continues
<b>Total 2024 PTP Revenues</b>	<b>\$ 9,520,178</b>	
<b>Est. 2028 PTP Revenues</b>	<b>\$ 3,935,408</b>	

# PTP Projected Total Cash Flow:

## Excluding Proposed Municipal Capital Contributions

### Assumptions:

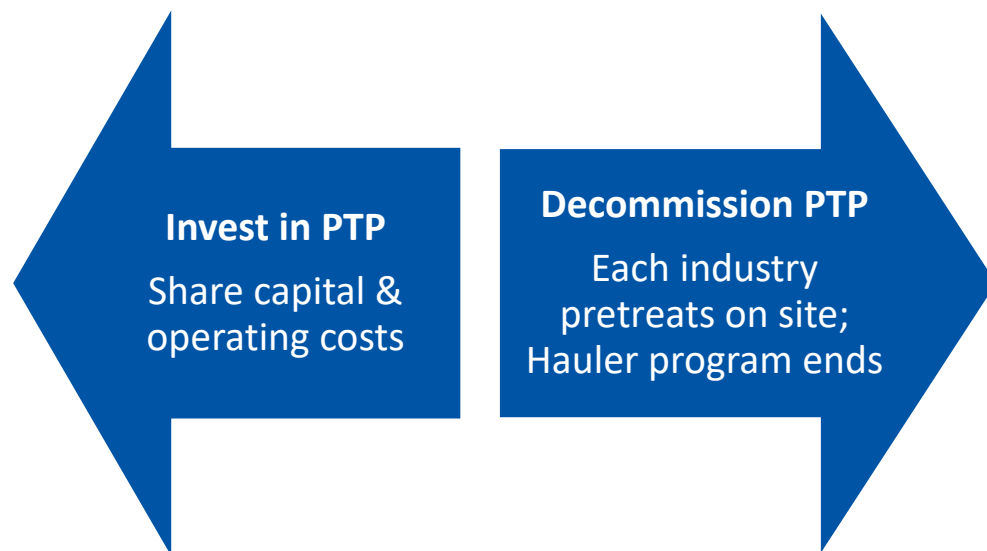
- Reduction in O&M costs in 2028 due to lower flows/loads & less intense treatment process
- Significant boost in annual repair & replacement budget to ensure proper plant upkeep

<u>Total Annual PTP Cost</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
Operating Cost Projection	\$ 9,138,475	\$ 9,412,629	\$ 4,177,463	\$ 4,302,787	\$ 4,431,871	\$ 4,564,827	\$ 4,701,772
Annual Repair & Replacment	\$ 600,000	\$ 600,000	\$ 1,639,091	\$ 1,688,263	\$ 1,738,911	\$ 1,791,078	\$ 1,844,811
Debt Service	\$ 452,902	\$ 945,609	\$ 2,697,633	\$ 2,697,633	\$ 2,697,633	\$ 2,697,633	\$ 4,227,751
<b>Total Annual Costs</b>	<b>\$ 10,191,377</b>	<b>\$ 10,958,239</b>	<b>\$ 8,514,187</b>	<b>\$ 8,688,684</b>	<b>\$ 8,868,415</b>	<b>\$ 9,053,539</b>	<b>\$ 10,774,334</b>
Operating Revenue Projection	\$ 10,099,956	\$ 10,402,955	\$ 3,935,408	\$ 4,014,116	\$ 4,094,399	\$ 4,176,287	\$ 4,259,813
Deficit must be covered via new cost-sharing approach			\$ (4,578,779)	\$ (4,674,567)	\$ (4,774,016)	\$ (4,877,252)	\$ (6,514,521)

# We are at a crossroads

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- + PTP needs significant investment
  - + Few funding options to consider
  - + Today's cost-sharing approach doesn't work
  - + Decision is time sensitive
- + ***What is the regional impact of doing nothing?***



# PTP Customers Key Industries and Concentrations

Employment in industries served by PTP is concentrated in Lehigh County at higher rates than the national average.



Breweries

**6x** national average

**\$84k**



Soft Drink Manufacturing

**5x** national average

**\$80k**

**Core PTP Industry Sectors**



Bottled Water Manufacturing

**33x** national average

**\$75k**



Refrigerated Warehousing and Storage

**9x** national average

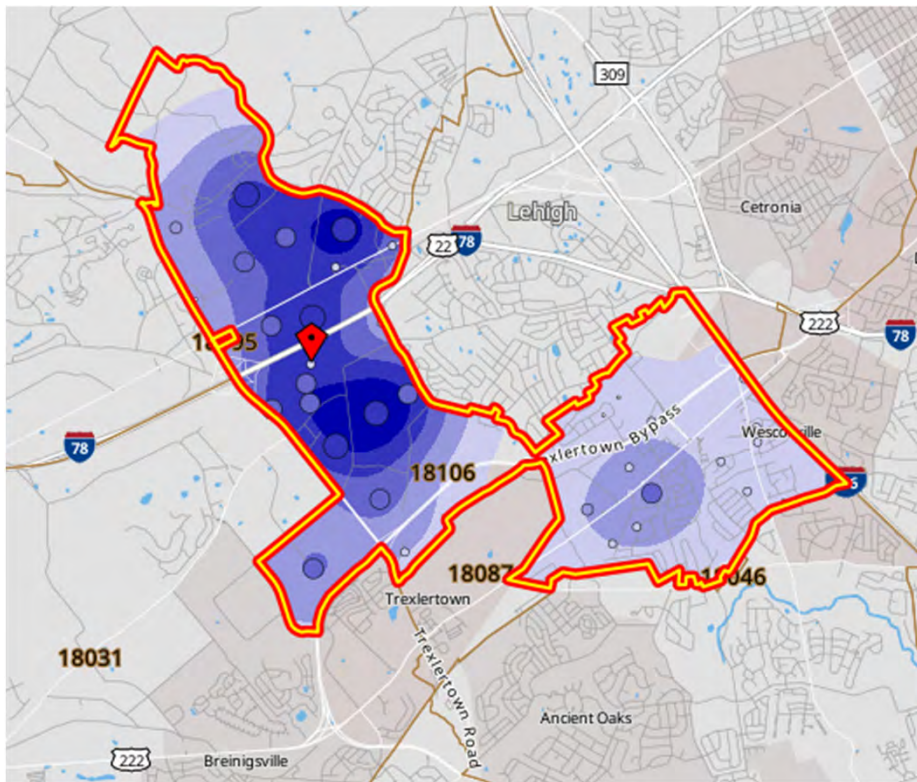
**\$60k**

**Related/Ancillary Industry Sectors**

**Job concentration:**

**Average Annual Wage (2023):**

# Who's working here?



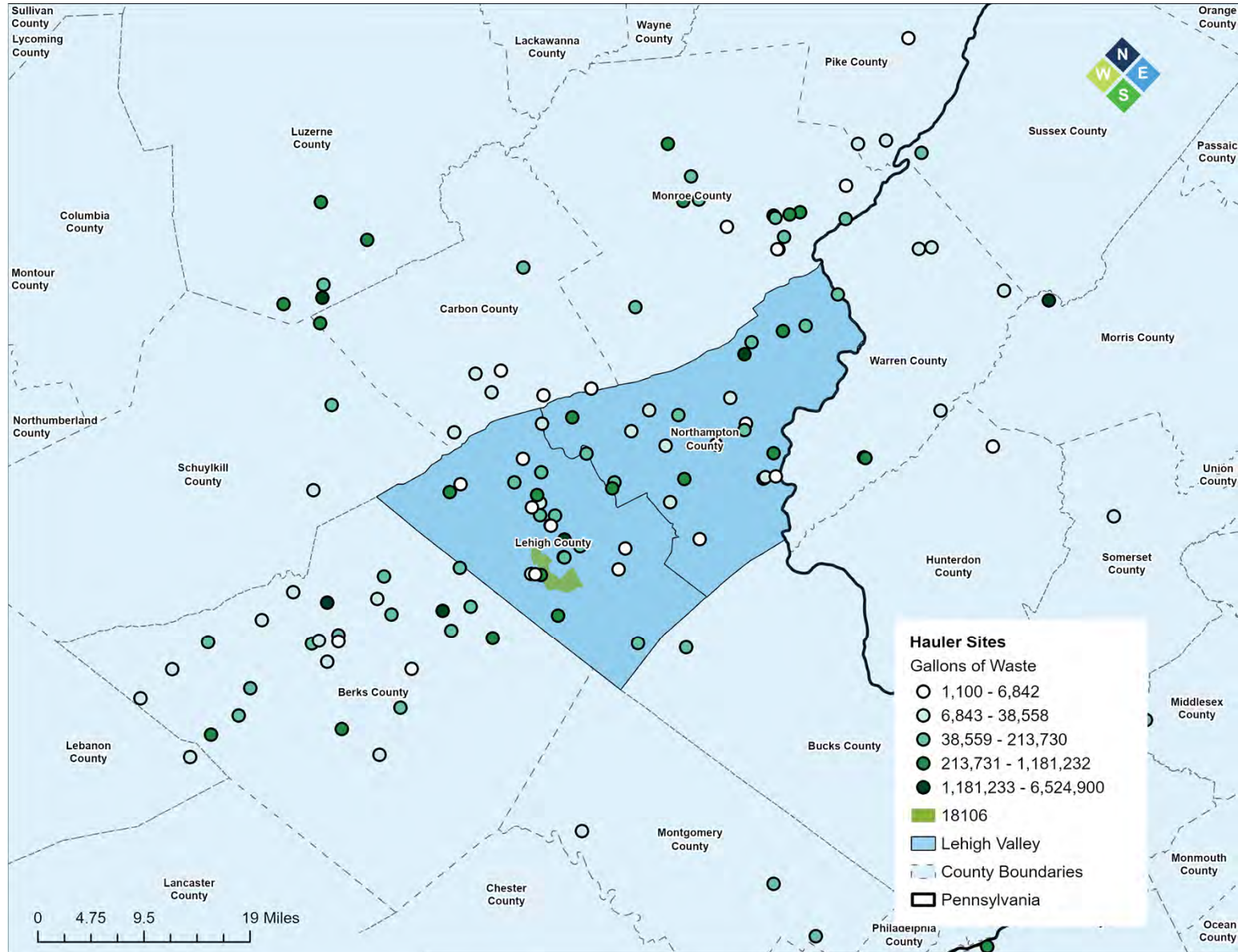
## NAICS Industry Sector

	2023	
	Count	Share
<a href="#"><u>Agriculture, Forestry, Fishing and Hunting</u></a>	0	0.0%
<a href="#"><u>Mining, Quarrying, and Oil and Gas Extraction</u></a>	1	0.0%
<a href="#"><u>Utilities</u></a>	0	0.0%
<a href="#"><u>Construction</u></a>	955	20.7%
<a href="#"><u>Manufacturing</u></a>	3,665	79.3%
<a href="#"><u>Wholesale Trade</u></a>	0	0.0%
<a href="#"><u>Retail Trade</u></a>	0	0.0%
<a href="#"><u>Transportation and Warehousing</u></a>	0	0.0%
<a href="#"><u>Information</u></a>	0	0.0%
<a href="#"><u>Finance and Insurance</u></a>	0	0.0%
<a href="#"><u>Real Estate and Rental and Leasing</u></a>	0	0.0%
<a href="#"><u>Professional, Scientific, and Technical Services</u></a>	0	0.0%

Source: <https://onthemap.ces.census.gov/>

# Hauler Program Extent

- 260 Haulers
- 1,266 Loads/Mo.
- 67M Gallons/Yr.



# Funding Options Explored

## Examples of Discarded Ideas:

- Individual industry financing agreements
- Regional sewer rate adder
- Third-party design / operate
- Inflation Reduction Act credits
- RACP grant funding

## Still on the Table:

- Municipal / County partnerships for upfront capital
- Regional surcharge program & other cost-sharing approaches
- Partnering on state grants
- Combination – all of the above!
- ***No partnership, facility decommissioned in 3-5 years***



Lehigh County Authority

**Discussion?**