



PITTSBURGH'S NORTH SHORE CONNECTOR

Allen D. Biehler

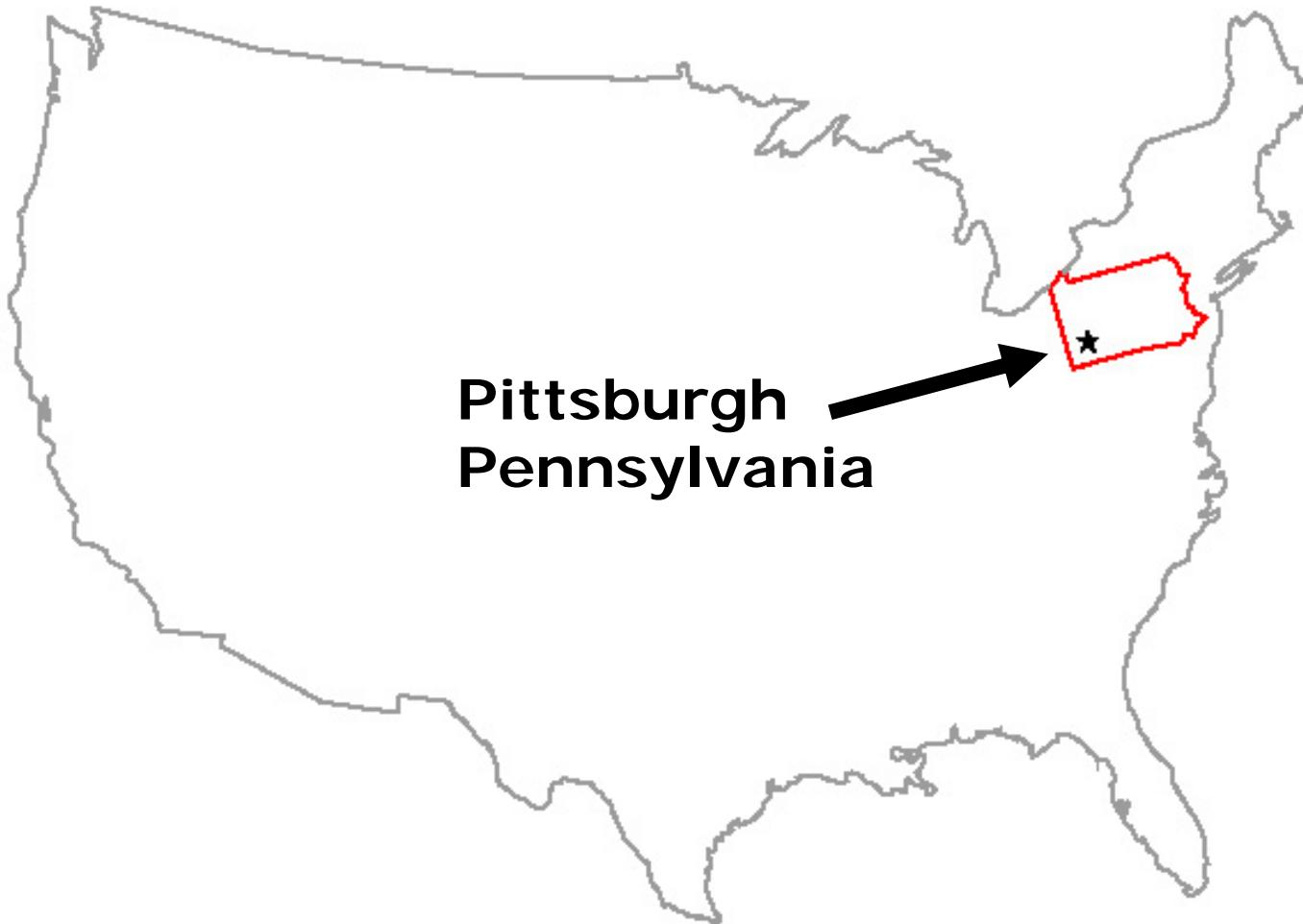
**Pennsylvania Department of Transportation
Secretary**

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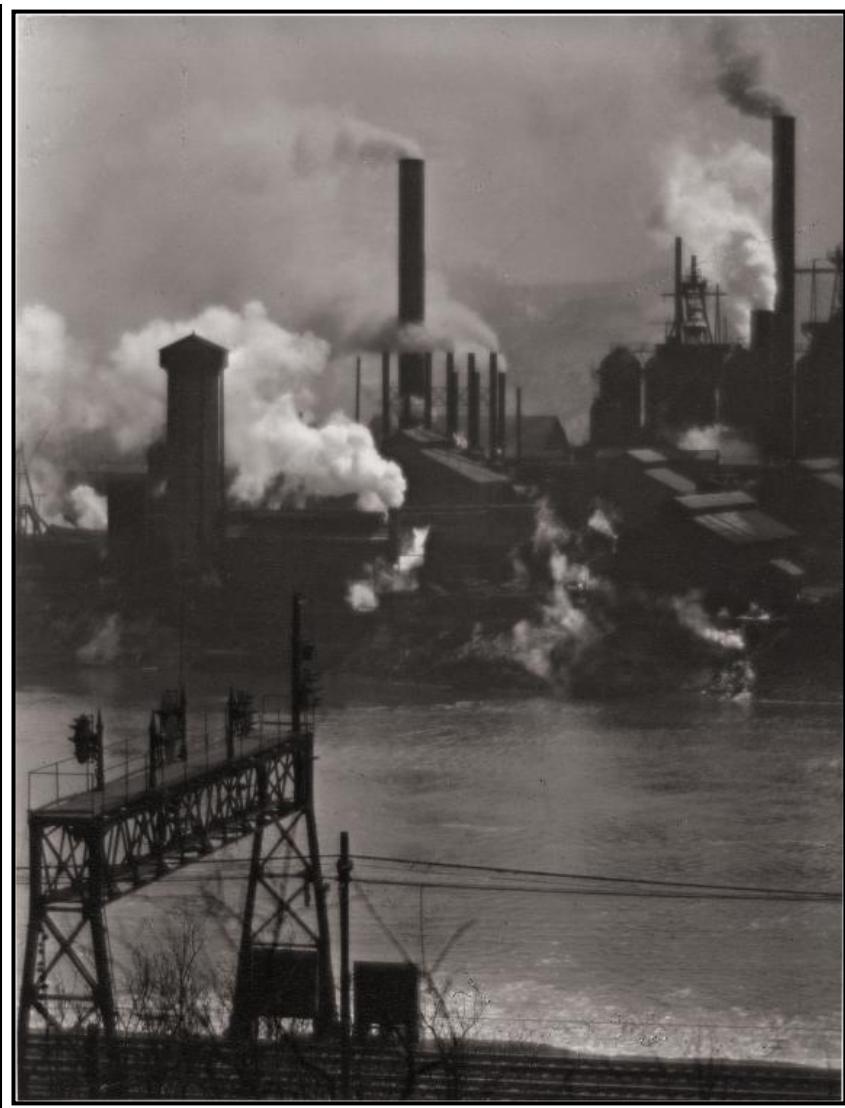
LRT extension project

- Strengthening the region's core.
- Enhancing sustainability and walkability.
- Restoring economic viability.

Community Background



Pittsburgh's History of Steel (1940)



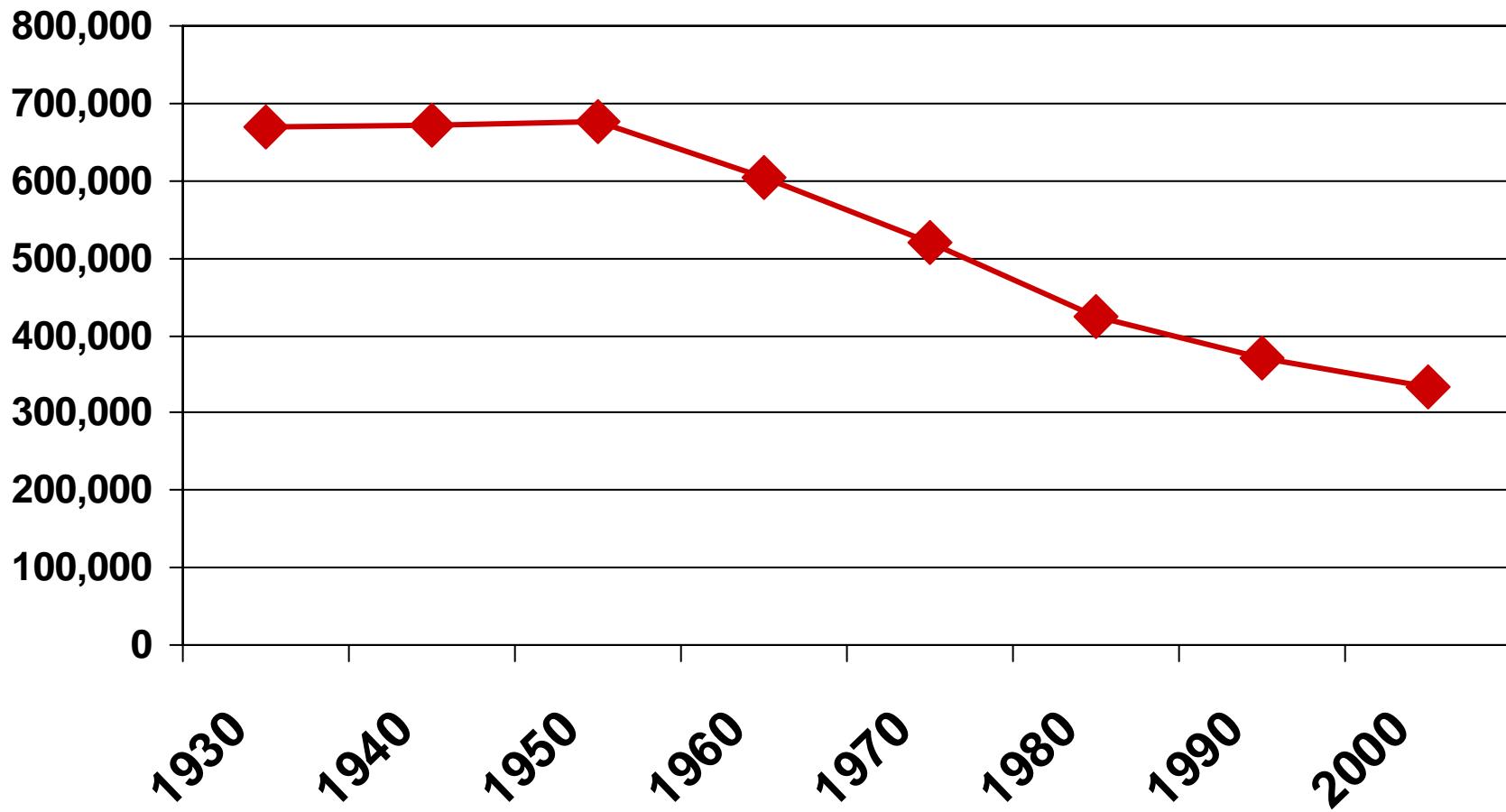
1950



1950



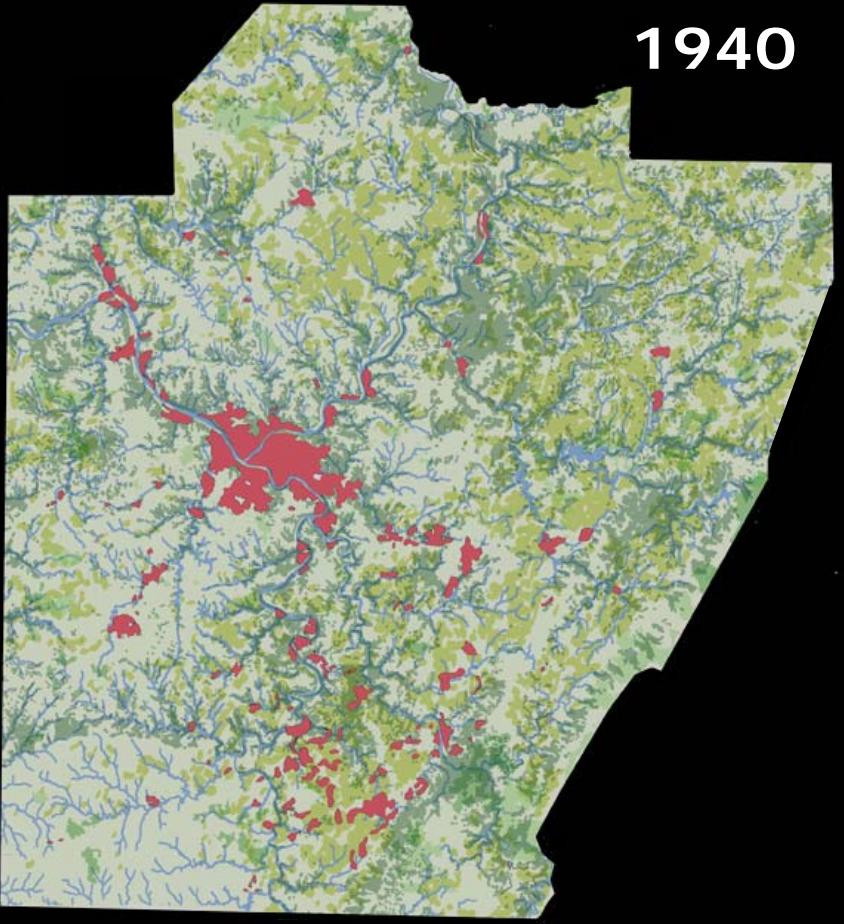
Declining city population



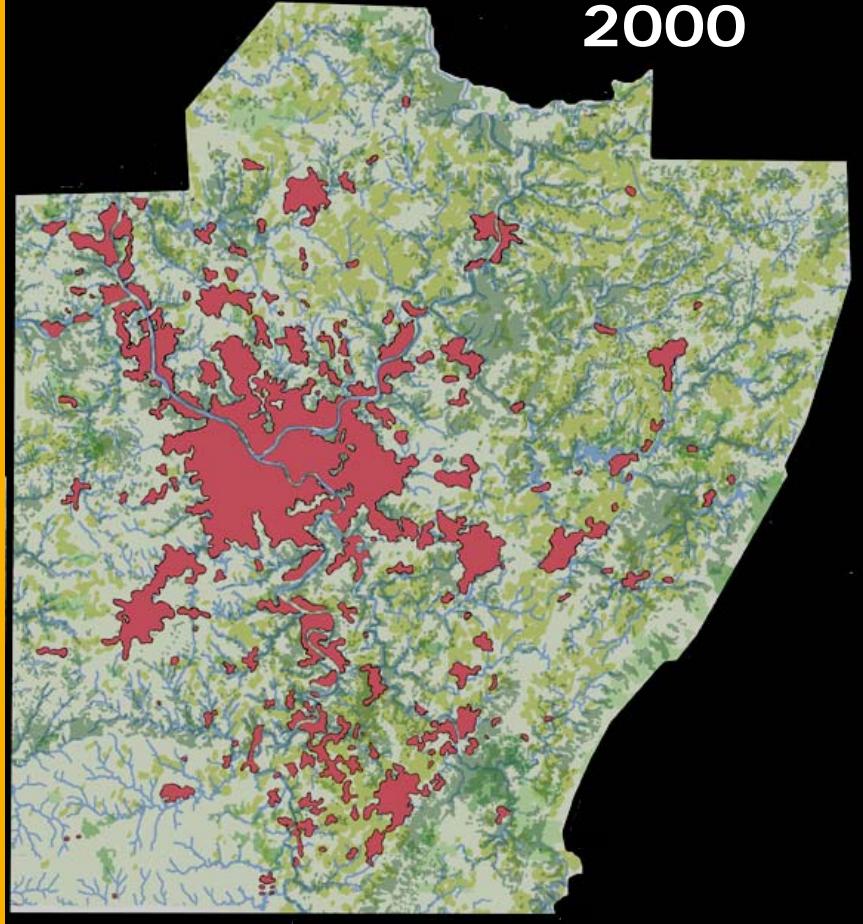
Land Consumption – Greater Pittsburgh Region

Population remained constant at 2.5 Million

1940



2000



1968



1975



2000

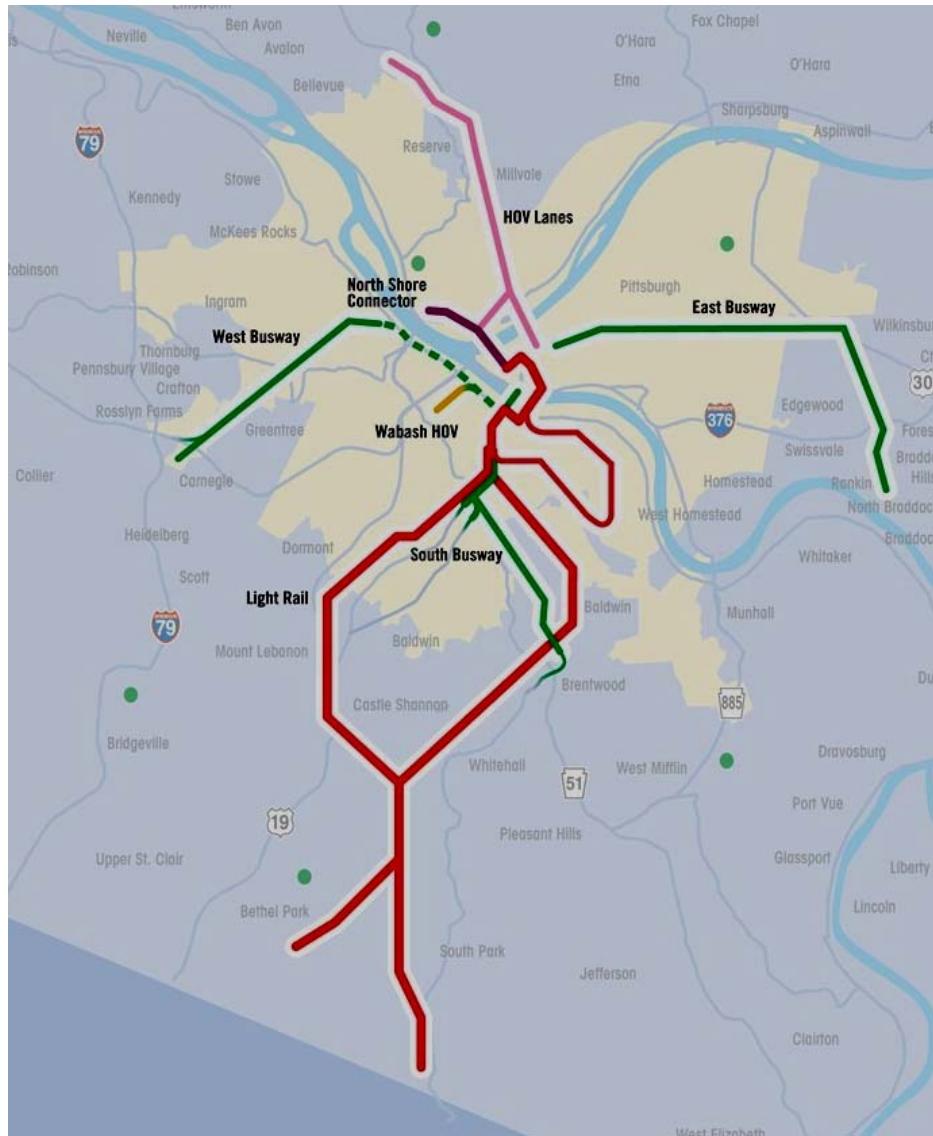


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2003



Pittsburgh's Fixed Guideways





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Martin Luther King Busway



Penn Station



Bon Air Station on the Overbrook Line





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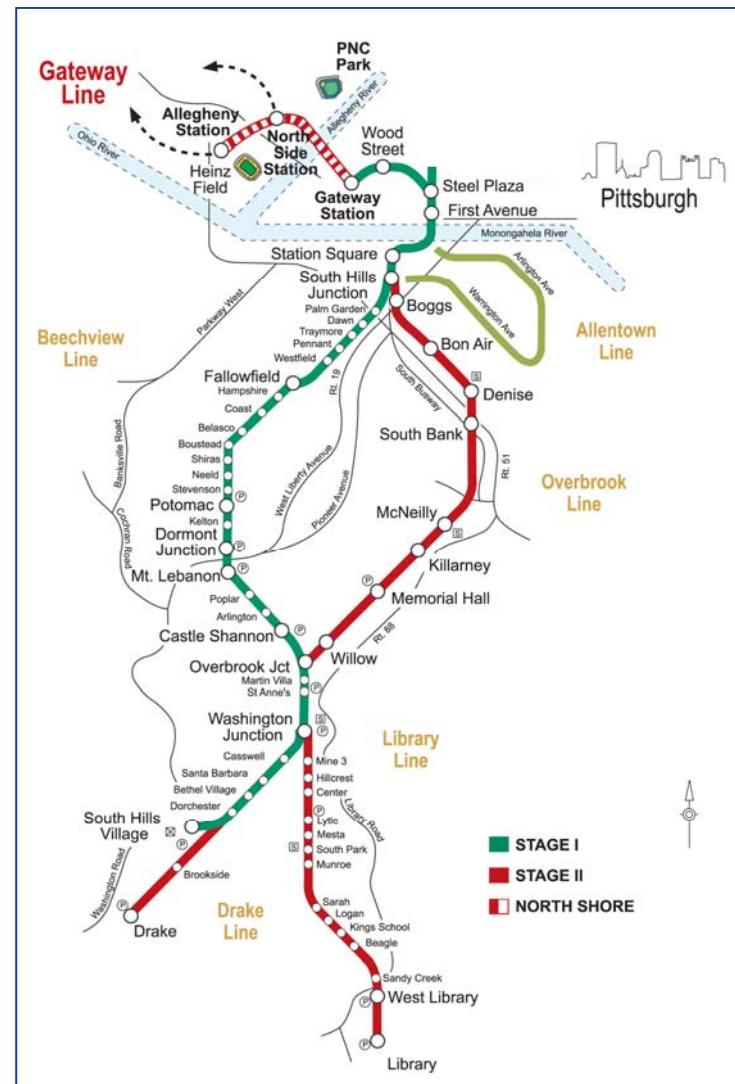


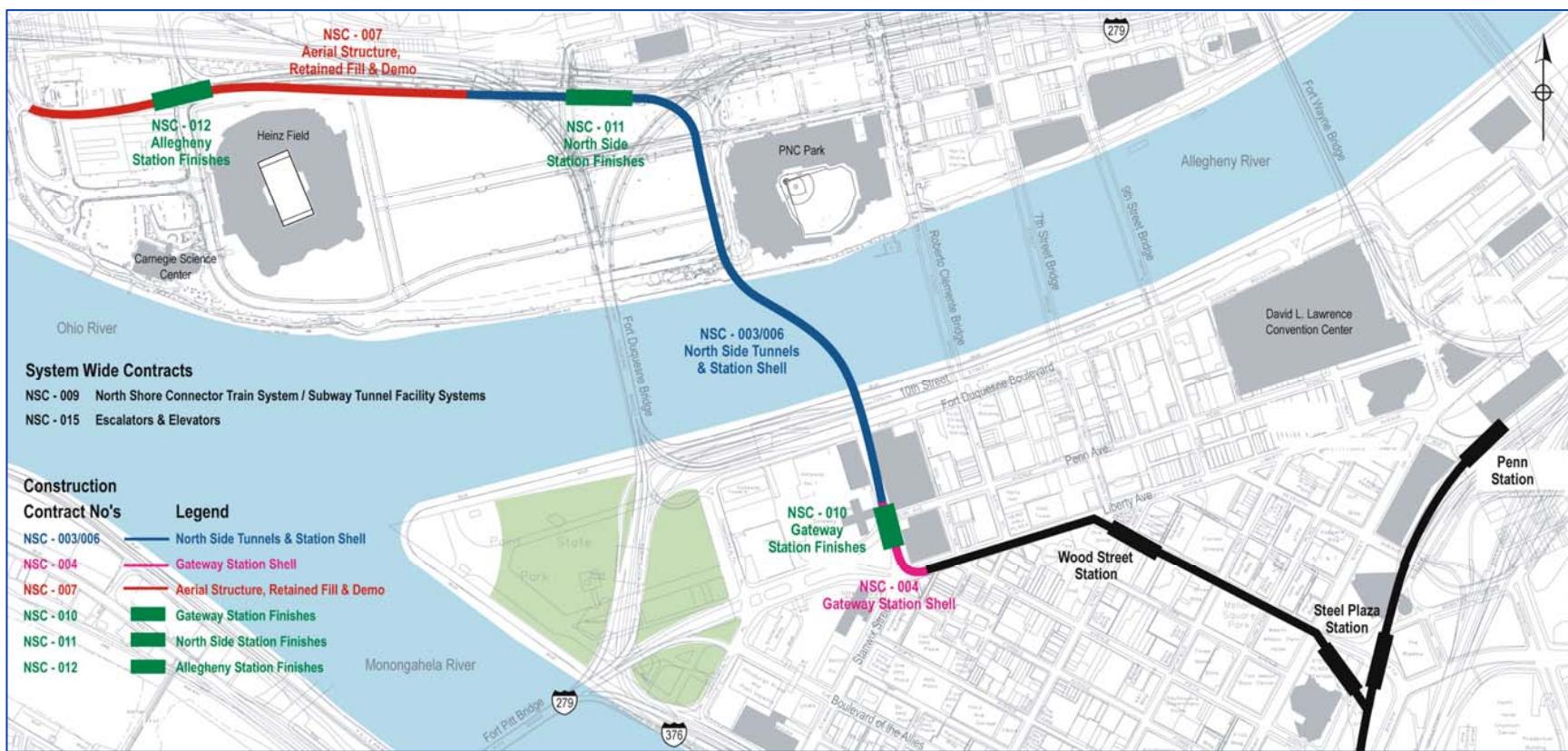
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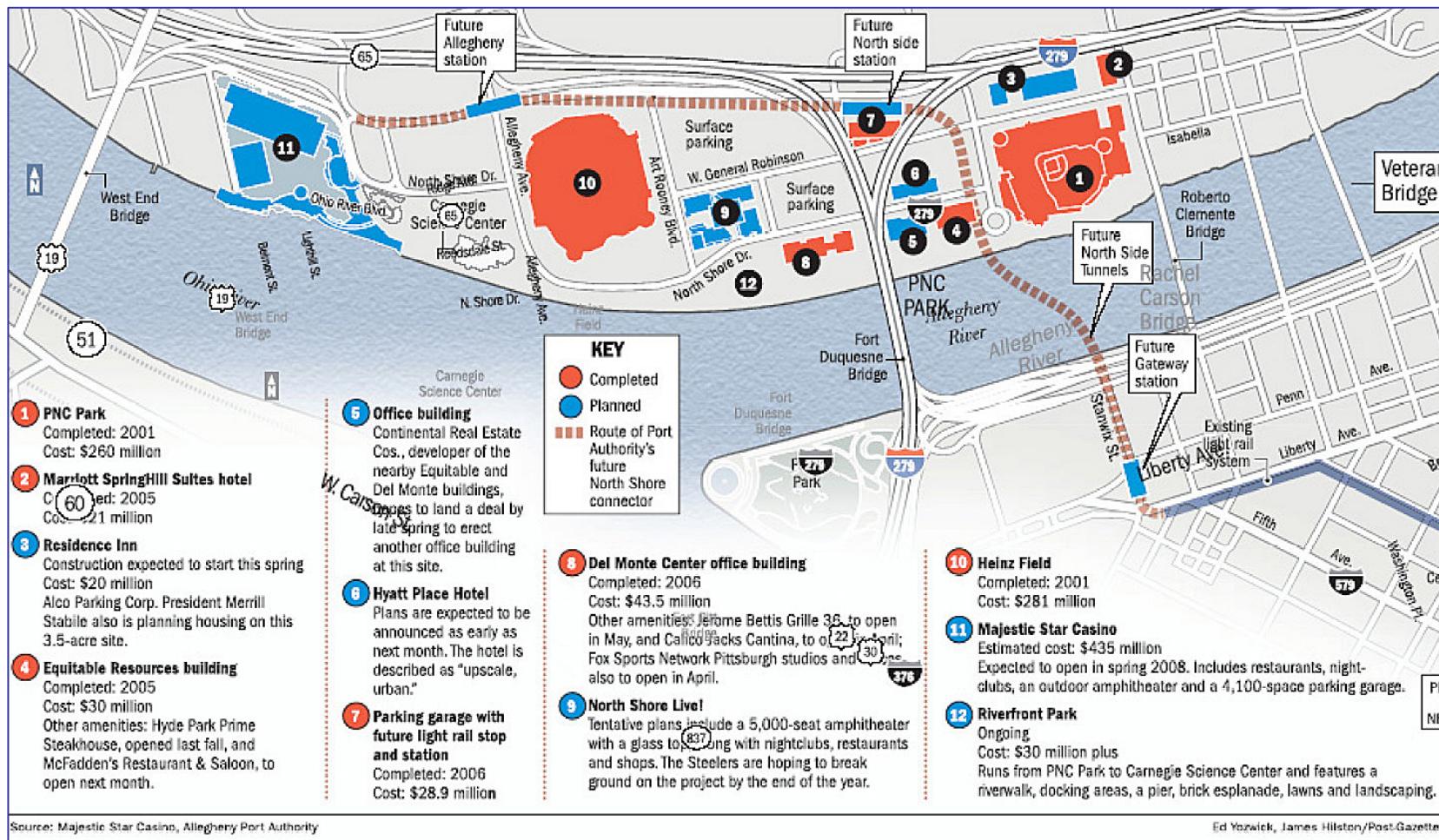
North Shore Connector – Project Overview

- **25 mile light rail system**
- **1.2 mile extension**





Billion Dollar Boom on the North Shore





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Archeological Investigation Pretrenching

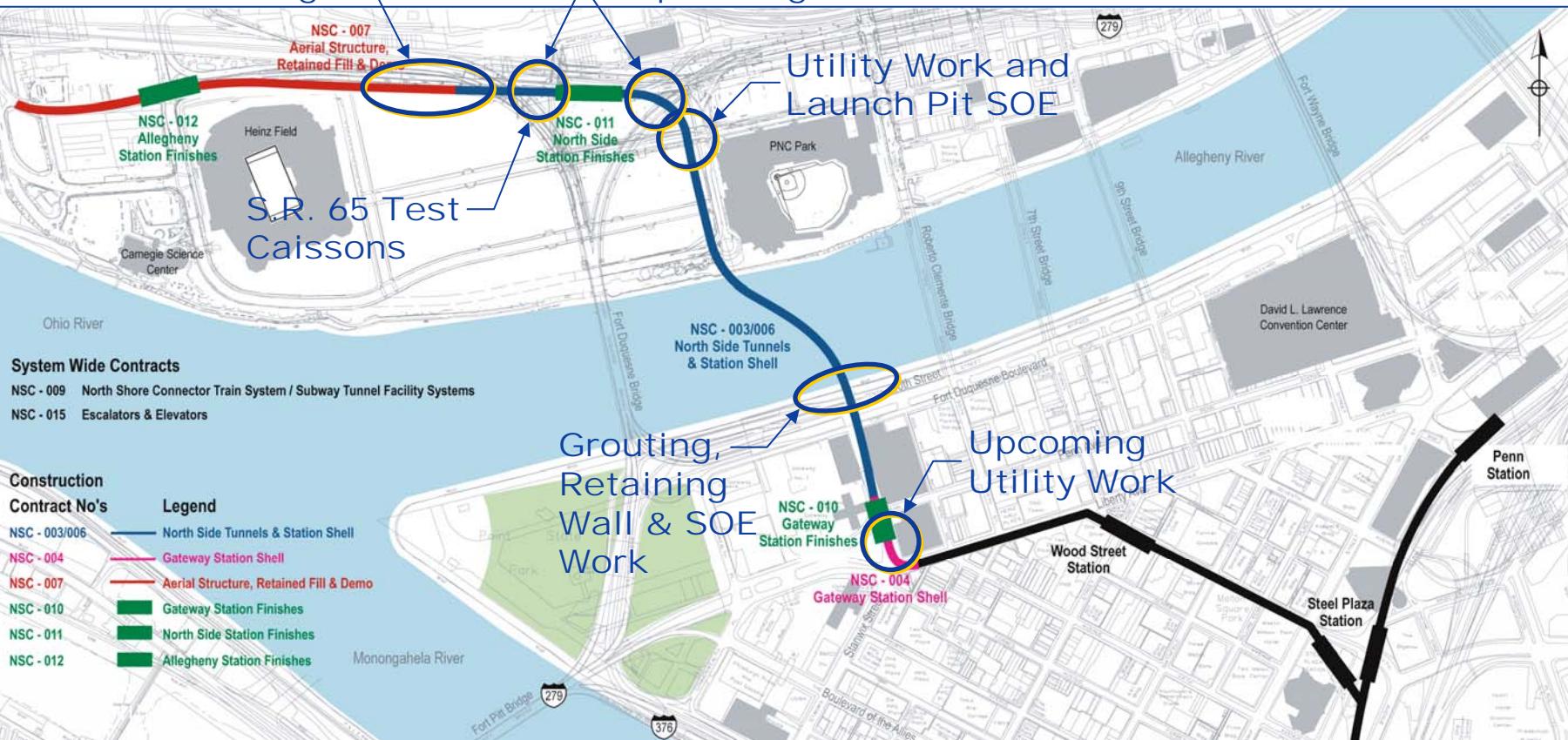
Test Pit Under I-279 and Upcoming Instrumentation

S.R. 65 Test
Caissons

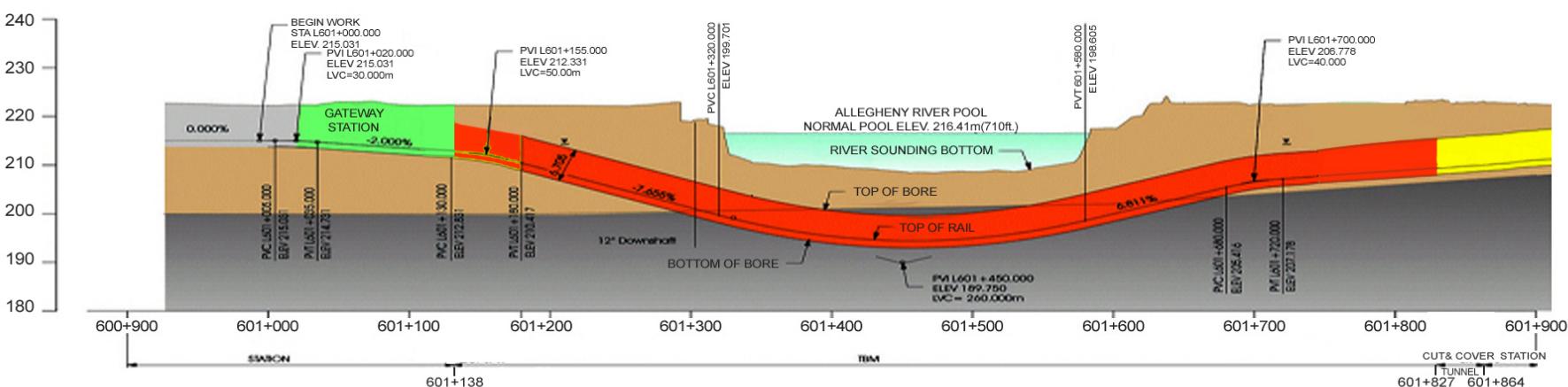
Utility Work and
Launch Pit SOE

Grouting,
Retaining
Wall & SOE
Work

Upcoming
Utility Work



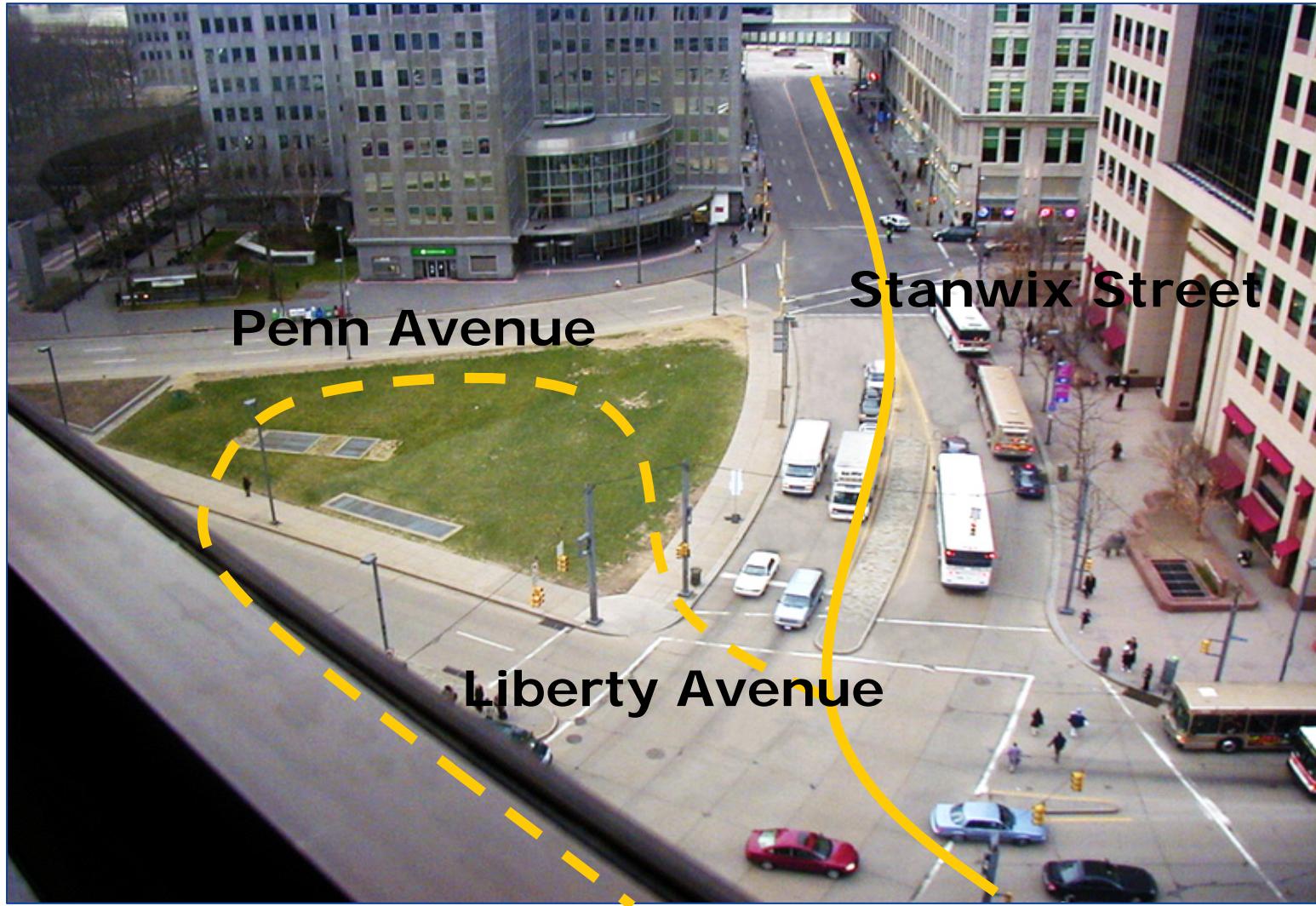
Bored Tunnel River Crossing



Bored Tunnel



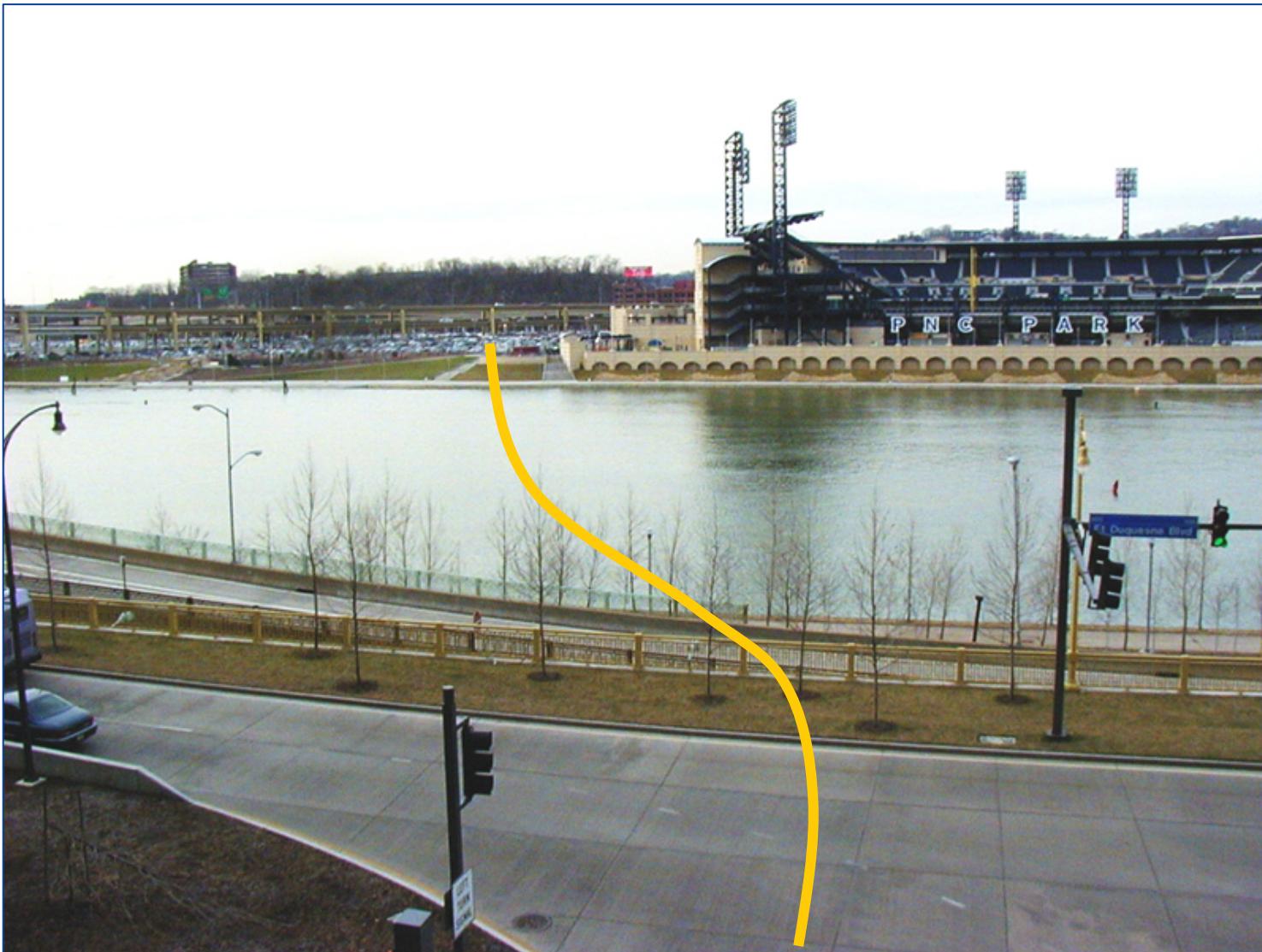
Gateway Square



Gateway Station Rendering



Allegheny River Tunnel Alignment



10th Street Bypass - Retaining Wall Removal



10th Street Bypass Construction



Launch Pit Area



Tunnel Boring Machine



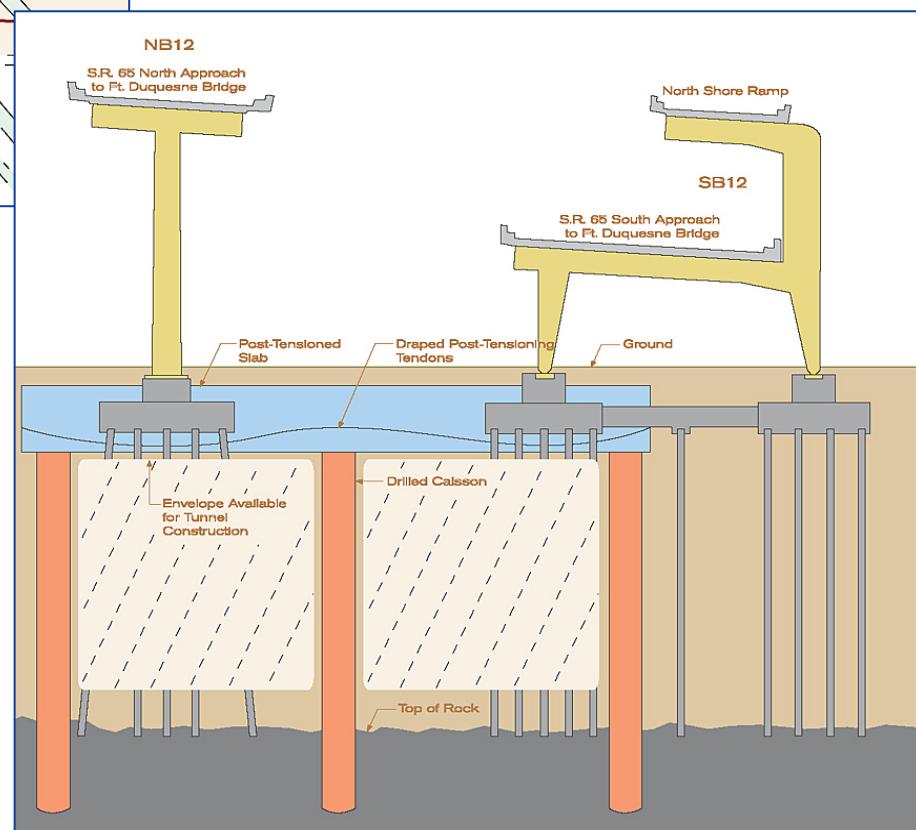
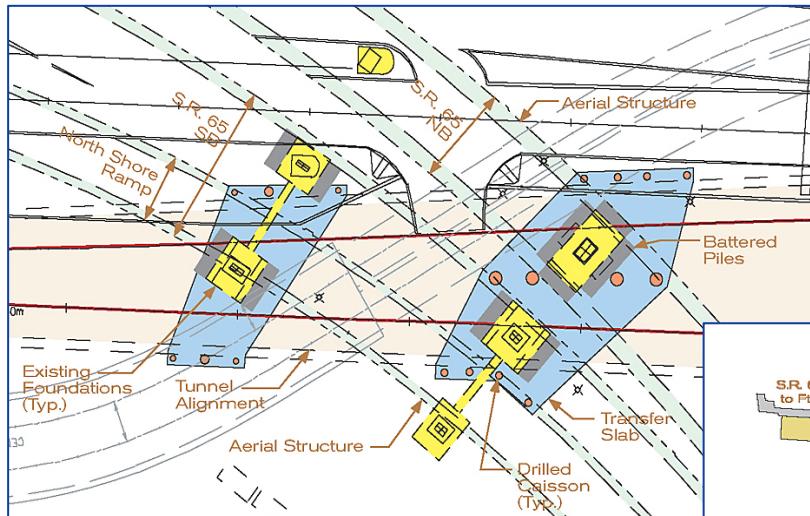
Jet Grouting



Tunnel Alignment Under S.R. 65 Ramp



Underpinning SR 65 Bridge Piers



SITE INFORMATION:

SB12

- 20-12BP74 Piles, Batters are 8 to 1
- Max. Design Load 128 k/pile
- Estimated Pile Tip 680'
- Bottom of Footing EL 722.25'
- 2 Leg Bent
- Approximate Axial Load in Leg 1550 k

NB12

- 20-12BP74 Piles, Batters are 8 to 1
- Max. Design Load 130 k/pile
- Estimated Pile Tip 680'
- Bottom of Footing EL 722.25'
- Single Leg "T" Bent
- Approximate Axial Load in Column 1580 k

SB13

- 12-12BP74 Piles, Batters are 8 to 1
 - Max. Design Load 128 k/pile
 - Estimated Pile Tip EL 681'
 - Bottom of Footing EL 724.00'
 - 2 Leg Bent
 - Approximate Axial Load in Leg 1060 k
- Rock in Area is Typically a Hard Gray Fine Sandy Shale

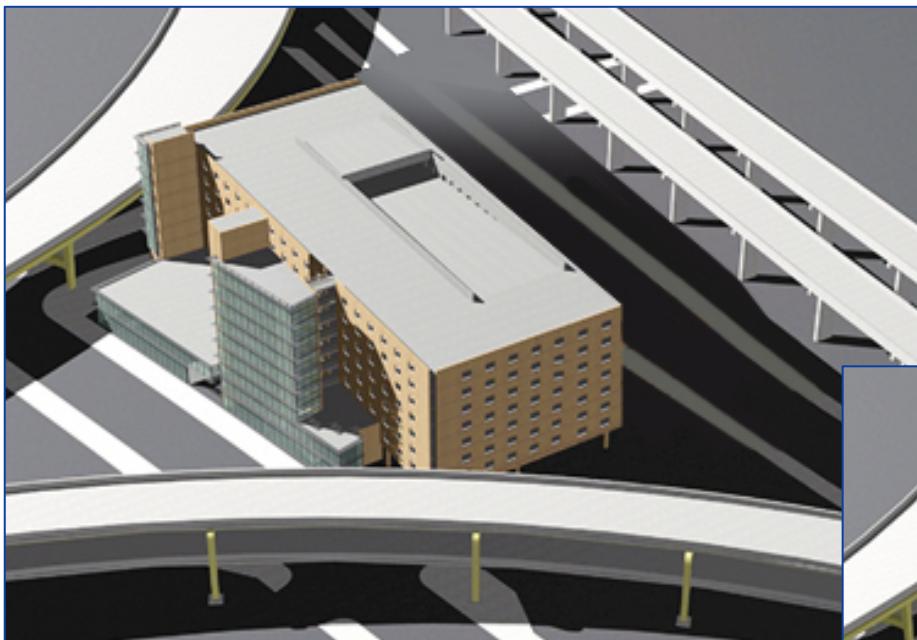
SR 65 Underpinning Shaft



SR 65 Underpinning Beam Installation



North Side Station

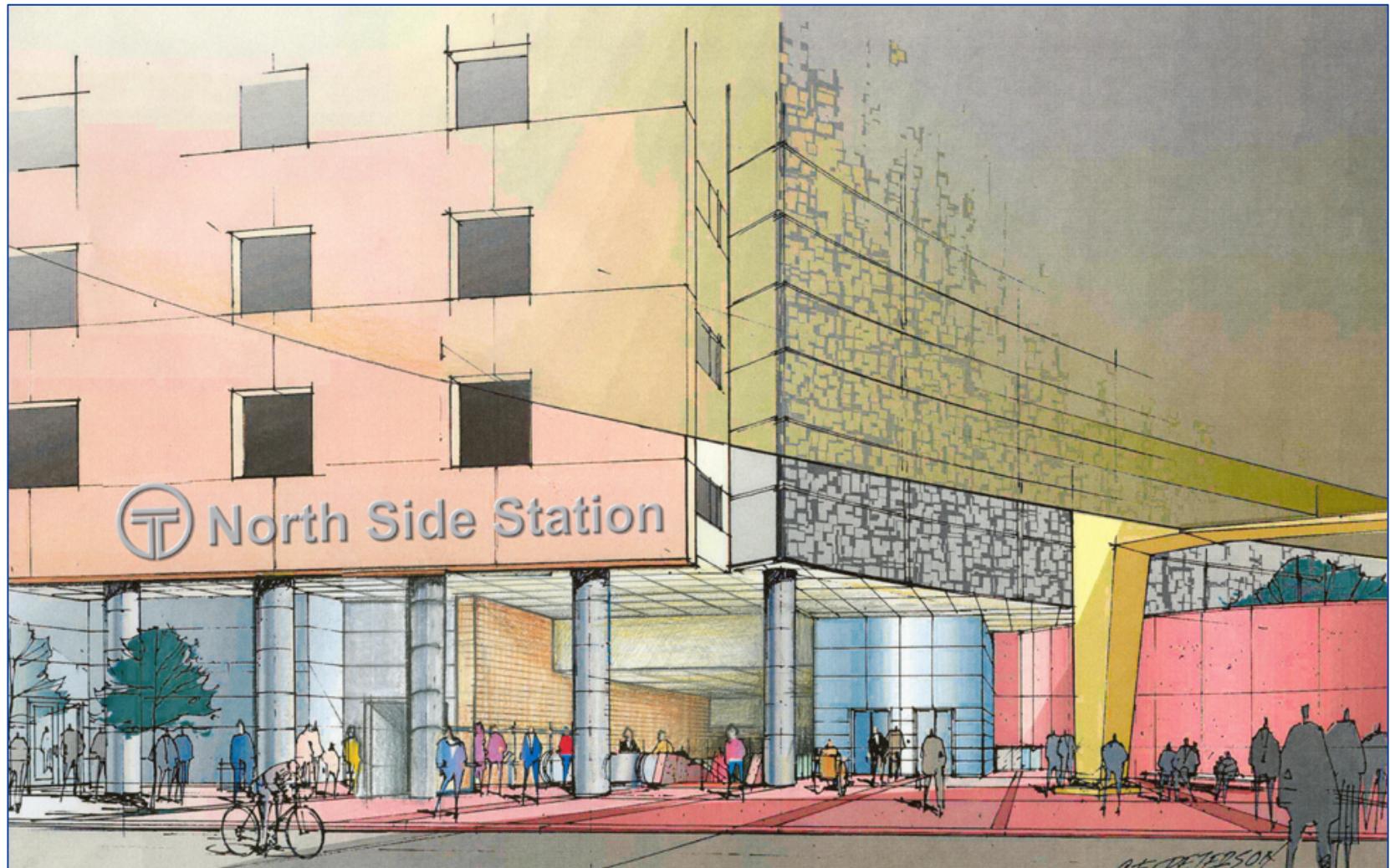


PHASE I SEA GARAGE



PHASE II SEA GARAGE

North Side Station Entrance – Below SEA Garage



Allegheny Avenue Station



Serves New Development



Development Areas	Total
Carnegie Science Center Expansion	90,000,000
PNC Park	259,619,800
Heinz Field	280,818,000
Continental Realty Development	200,000,000
Connelly Property (Estimated)	100,000,000
North Shore Park	48,000,000
ITC Garage at Allegheny Station	29,000,000
Mellon Center	\$110,000,000
Other Development	778,200,000
TOTAL	\$ 1,885,637,800



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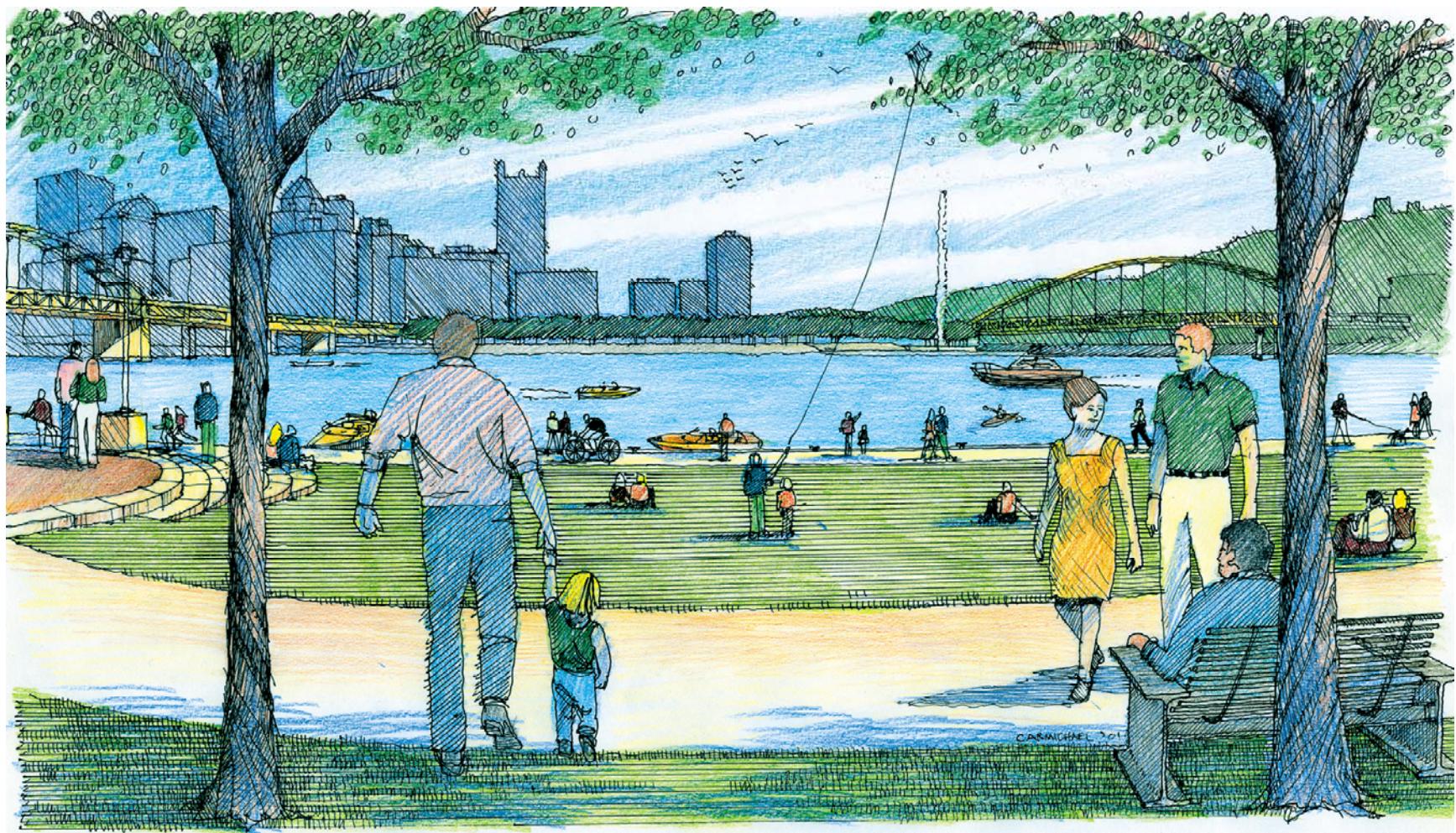
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Aerial Structure by Heinz Field





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