



# **PUSHING PAST JUST SURVIVAL**

**JEFFREY D. KNUEPPEL, GENERAL MANAGER**

**SEPTEMBER 27, 2017**

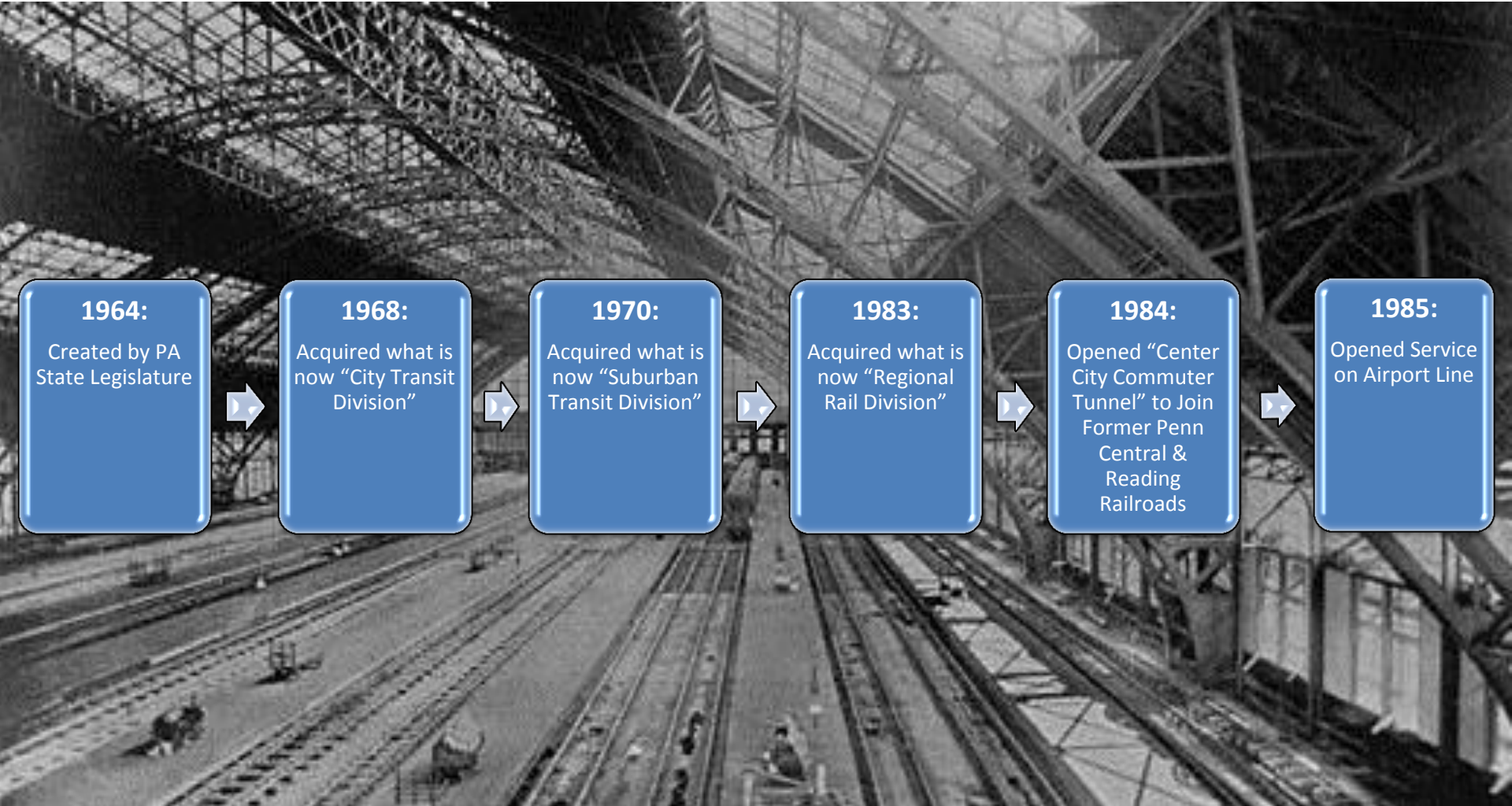
# SEPTA PROFILE

AT A GLANCE



- Multimodal “Legacy System”
- Created by PA State Legislature in 1964
- 6<sup>th</sup> Largest in U.S.
- 1.1 Million Daily Riders (330 Million Annually)
- 2,800 Vehicles
- 9,500 Employees
- \$1.4B Operating Budget
- \$727M Capital Budget





**1964:**

Created by PA State Legislature



**1968:**

Acquired what is now “City Transit Division”



**1970:**

Acquired what is now “Suburban Transit Division”



**1983:**

Acquired what is now “Regional Rail Division”



**1984:**

Opened “Center City Commuter Tunnel” to Join Former Penn Central & Reading Railroads

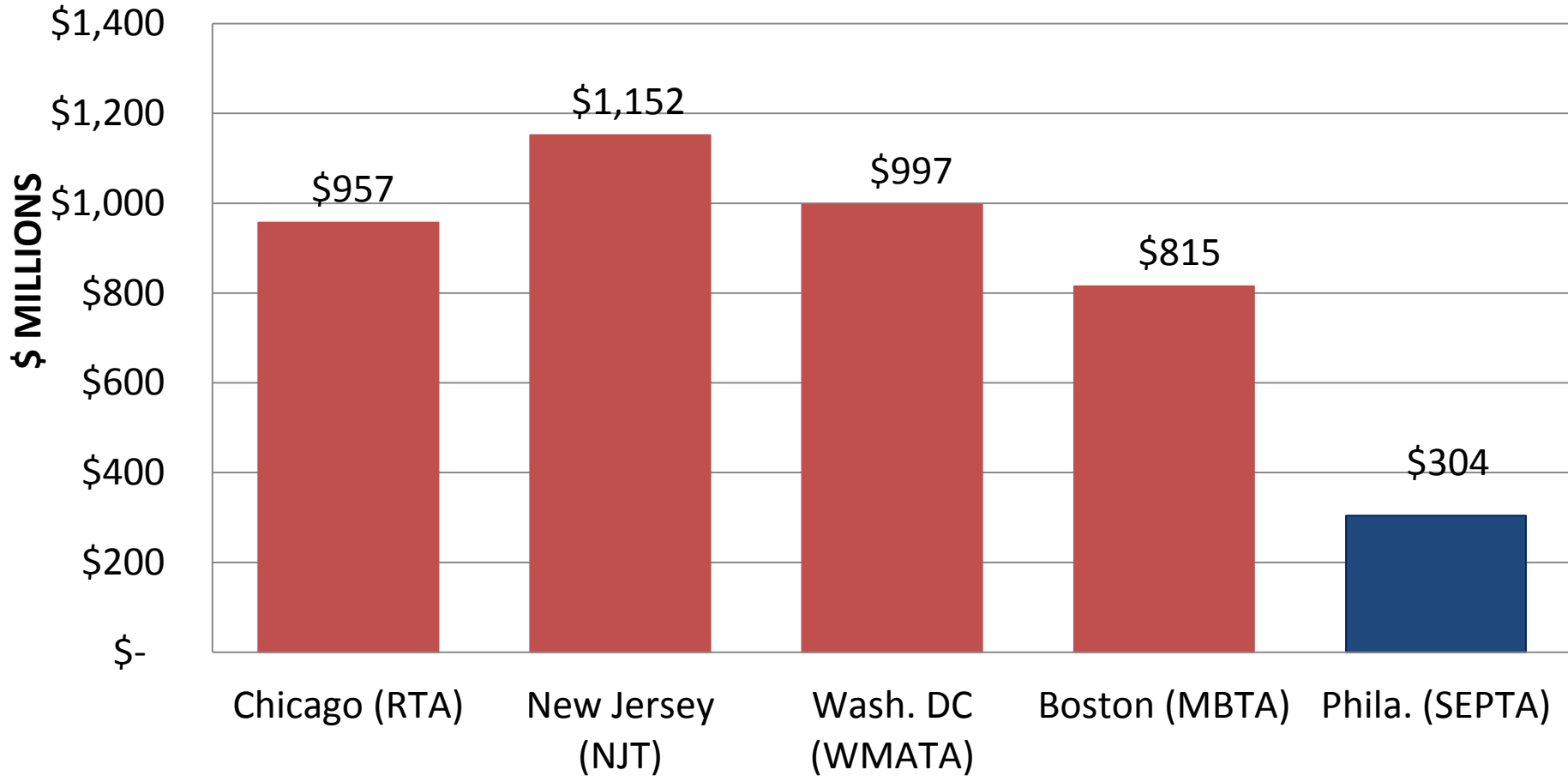


**1985:**

Opened Service on Airport Line



### FY 2013 CAPITAL PROGRAM COMPARISONS

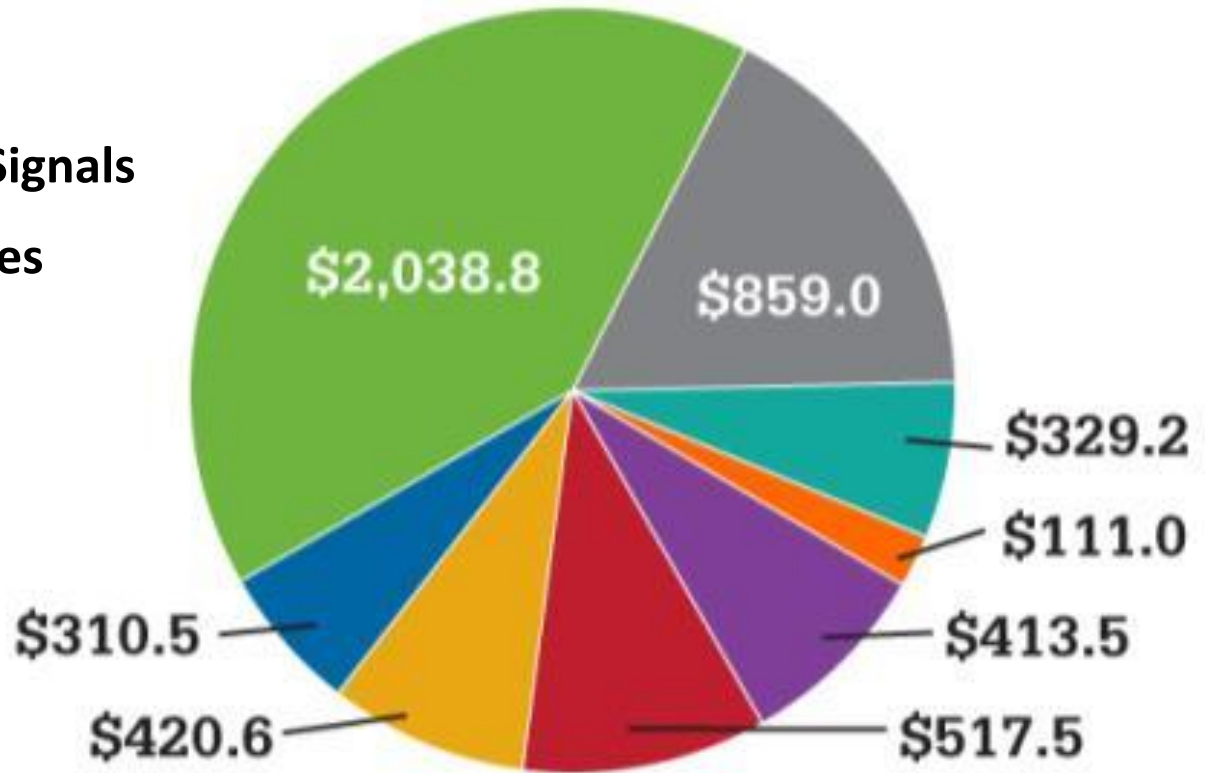


# RESULTING BACKLOG IN CAPITAL REPAIR

\$5 BILLION IN STATE OF GOOD REPAIR (SGR) NEEDS



- Bridges
- Communications & Signals
- Maintenance Facilities
- Power
- Stations
- Track
- Tunnels
- Vehicles



# INFRASTRUCTURE SURVIVAL TACTICS

IN-HOUSE CONSTRUCTION



**WOODLAND/ISLAND AVE.  
TROLLEY TRACK REPLACEMENT**



**COMMUNICATIONS &  
SIGNALS**



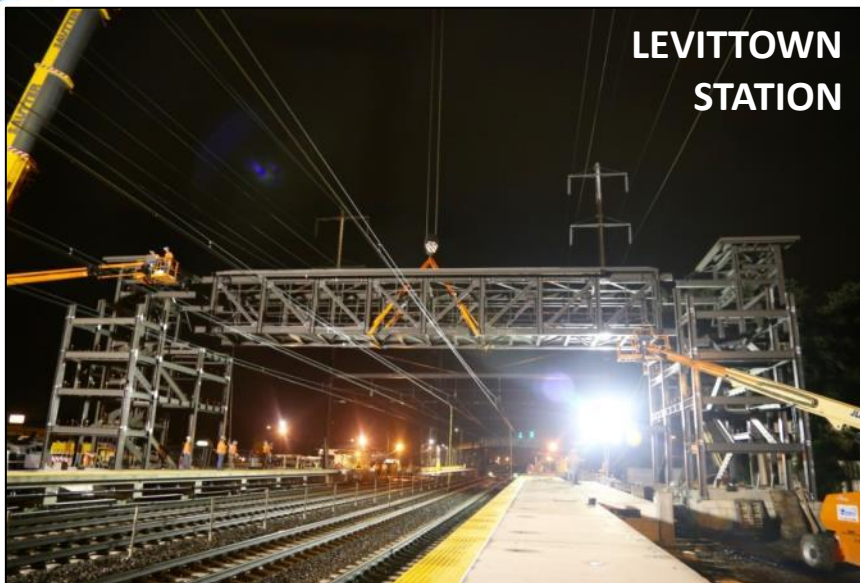
**REGIONAL RAIL  
WIRE REPLACEMENT**



**9<sup>TH</sup> STREET STATION  
(FIRST ADDED  
RAILROAD STATION  
IN 20 YEARS)**

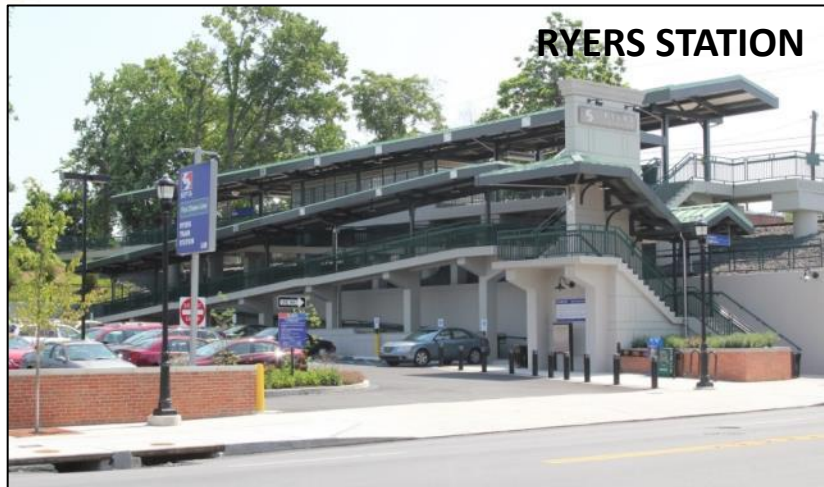
# INFRASTRUCTURE SURVIVAL TACTICS

3<sup>RD</sup> PARTY CONSTRUCTION



# INFRASTRUCTURE SURVIVAL TACTICS

HYBRID APPROACH  
(3<sup>RD</sup> PARTY + IN-HOUSE)





# VEHICLE SURVIVAL TACTICS

## VEHICLE OVERHAUL (VOH) PROGRAM



- Five-Year Overhaul Cycles To Improve Vehicle Performance and Extend Life
- Returns Vehicles To OEM Standards
- Work Performed By SEPTA In-House Forces



# VEHICLE SURVIVAL TACTICS

## TARGETED MAINTENANCE CAMPAIGNS



### TROLLEY FLEET PROFILE

- 141 Kawasaki LRVs  
(Built: 1981, 36 Years Old)
- 18 PCCs  
(Built: 1948, Rebuilt 2000)

### CAMPAIGN FOCUS AREAS:

- Air System Inspections to Reduce Leaks
- Team to Address Chronic Repeaters
- Slider Inspection Program to Address Seasonal Wear

### MDBF IMPROVEMENTS

- +84% Since FY2012



KAWASAKI LRV



PCC TROLLEY



### **BROAD STREET LINE (BSL) FLEET PROFILE:**

- 125 B-IV Cars, Built 1981

### **LIFE-EXTENSION STRESS-TESTING:**

- Structural evaluation & dynamic strain gauge test, including camber measurement
- Crush zone & energy absorption evaluation
- Results: 100% had positive camber unload; no variation in doorway width or shape

# APPROACH TO ARRA STIMULUS

\$191 MILLION  
PROGRAM



- Gambled on Early Start of Design
- “Shovel-Ready” Project Requirement
- Design Submittals Expedited with No Increase in Change Order Rate
- Accelerated Permitting Process
- 32 Projects (54 Contracts) Awarded within One Year of ARRA Approval on February 17, 2009
- All Projects Substantially Completed by June 8, 2012, Only 3+ Years after ARRA Approval



FAST STIMULUS PERFORMANCE  
RESULTED IN SUCCESSFUL FUNDING  
APPLICATIONS UNDER FUTURE  
DISCRETIONARY GRANT PROGRAMS

# STATE FUNDING PROVIDES A FUTURE

PA ACT 89 OF 2013  
TO ADDRESS \$5B BACKLOG



## SEPTA SERVICE REALIGNMENT PLAN PUBLISHED SEPTEMBER 2013



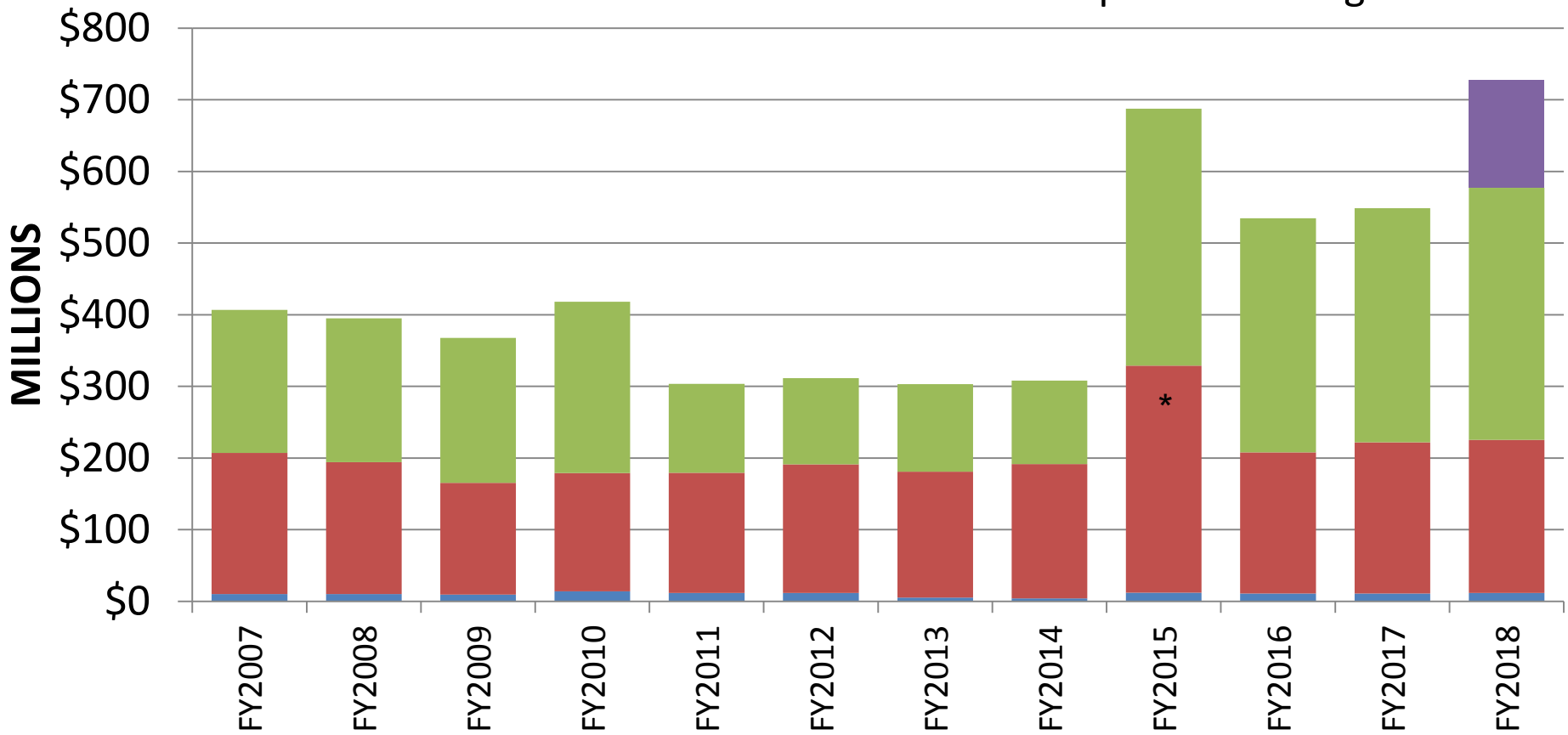
# IMPACT OF ACT 89 OF 2013

DOUBLING OF CAPITAL PROGRAM



## SEPTA CAPITAL BUDGET

Local Federal State SEPTA Capital Financing



\* Includes Resilience Funding from FTA Hurricane Sandy Emergency Relief Program

**20 YEARS TO ACHIEVE A STATE OF GOOD REPAIR**

### 3<sup>RD</sup> PARTY CONSTRUCTION – DESIGN/BUILD

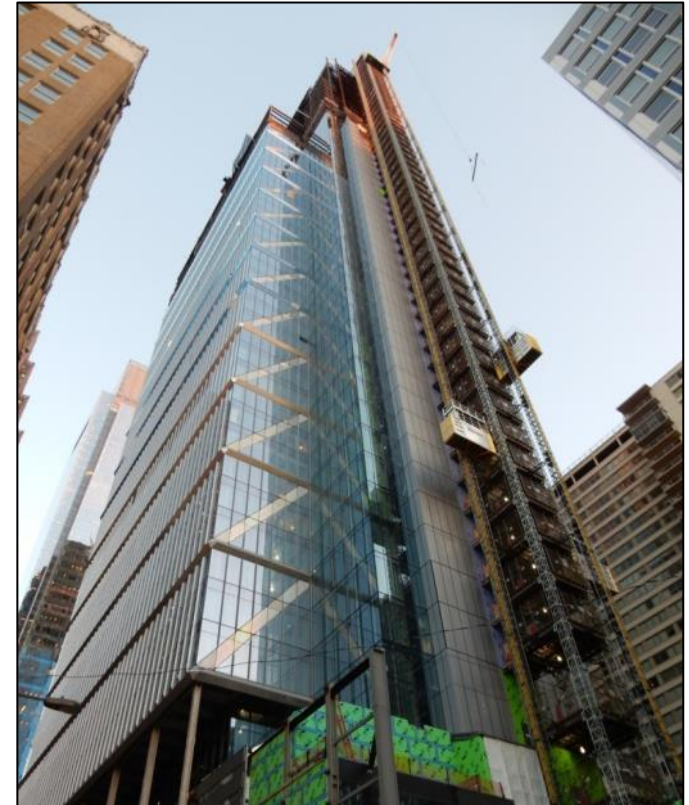


- Original Structure Built 1854; Replaced 1895 – 17 Spans, 975' Long
- 25-Year Life Extension Performed by SEPTA Upon Acquisition in 1983
- Emergency Repairs for Corrosion, Cracks & Bolted Connections in Sep. 2013
- Design-Build Method Resulted in Capital Cost Savings & 1% Change Order Rate
- Demolition & Erection of Superstructure During Summer 2016 Outage
- Project Completed Fall 2016, <3 Years From Passage of PA Act 89

## CENTER CITY BETWEEN 2010 & 2017:

- Development **Eliminated 4,171** Public Parking Spaces
- Employment Growth  
231,873 → 248,807 **(+7.3%)**
- Population Growth  
58,882 → 64,838 **(+10.1%)**
- Center City Philadelphia is now the **Second Densest Downtown** in the U.S.
- Transit Drives Economic Growth  
**(62% of Center/Univ. City Work Trips)**

## COMCAST TECHNOLOGY CENTER



- **1,121-FT SKYSCRAPER** (9<sup>TH</sup> TALLEST IN U.S.)
- **\$1.2 BILLION** COMMERCIAL INVESTMENT
- REPLACED **360-SPACE PUBLIC** PARKING LOT WITH **PRIVATE GARAGE**
- **DIRECT-CONNECT** TO SUBURBAN STATION



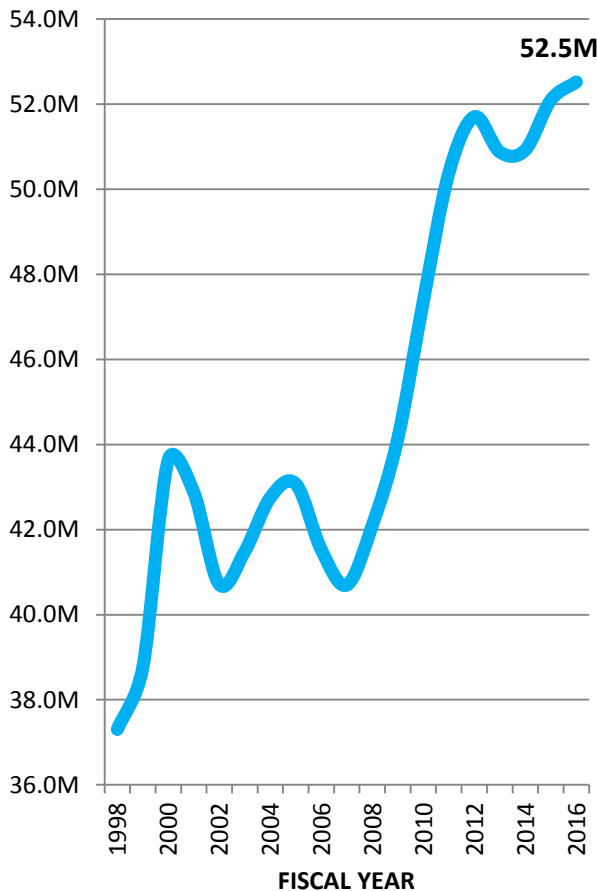
# RAIL RIDERSHIP IS GROWING

ANNUAL INCREASES  
(1998-2016)



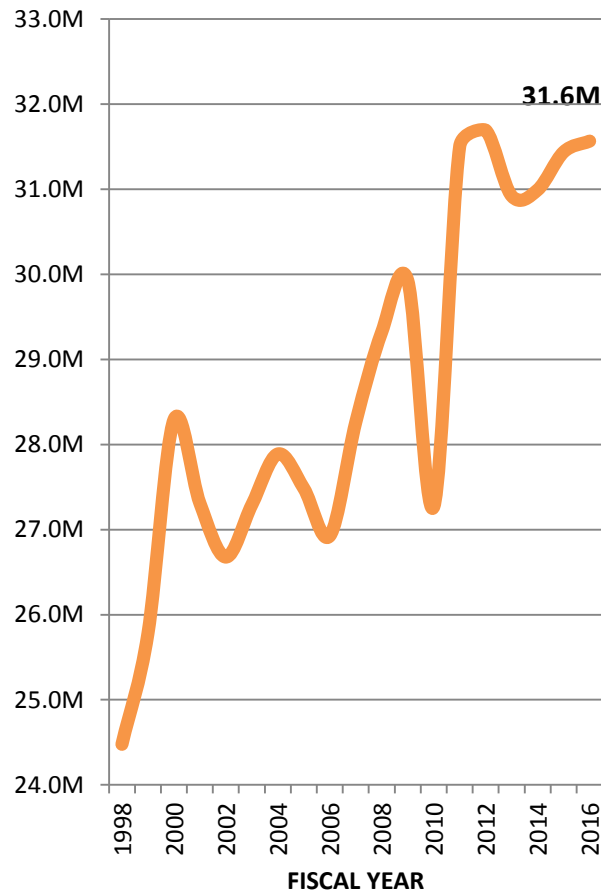
## MARKET-FRANKFORD

**+41%**



## BROAD STREET

**+29%**



## Δ IN POPULATION

YEAR	MFL TRACTS	BSL TRACTS	CITY-WIDE
1970-1980	-14%	-16%	-13%
1980-1990	-3%	-9%	-6%
1990-2000	+1%	-5%	-4%
2000-2010	+6%	+7%	+1%
2010-2015	+7%	+8%	+2%

### CAPACITY ENHANCEMENTS:

- Interior Seating Reconfiguration: **+8%**
- Platform Extensions for 8-Car Trains (Now 6-Cars): **+33%**
- Total Capacity Gain: **+41%**

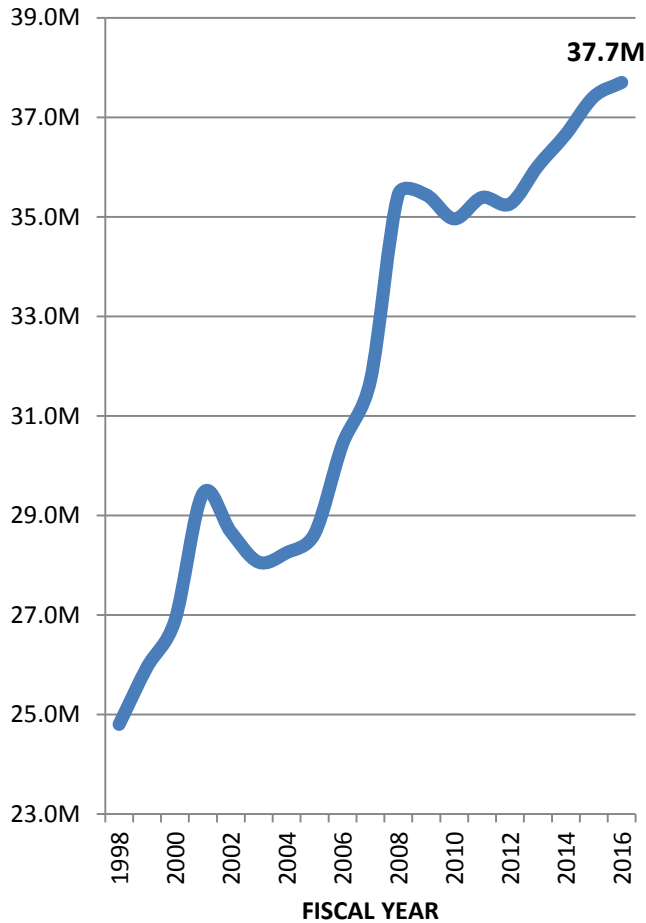


# RAIL RIDERSHIP IS GROWING

ANNUAL INCREASES  
(1998-2016)



## REGIONAL RAIL: +52%



## TRANSIT-ORIENTED DEVELOPMENT



### LOCOMOTIVES



### MULTI-LEVEL RAILCARS



# PREPARING THE FUTURE WORKFORCE

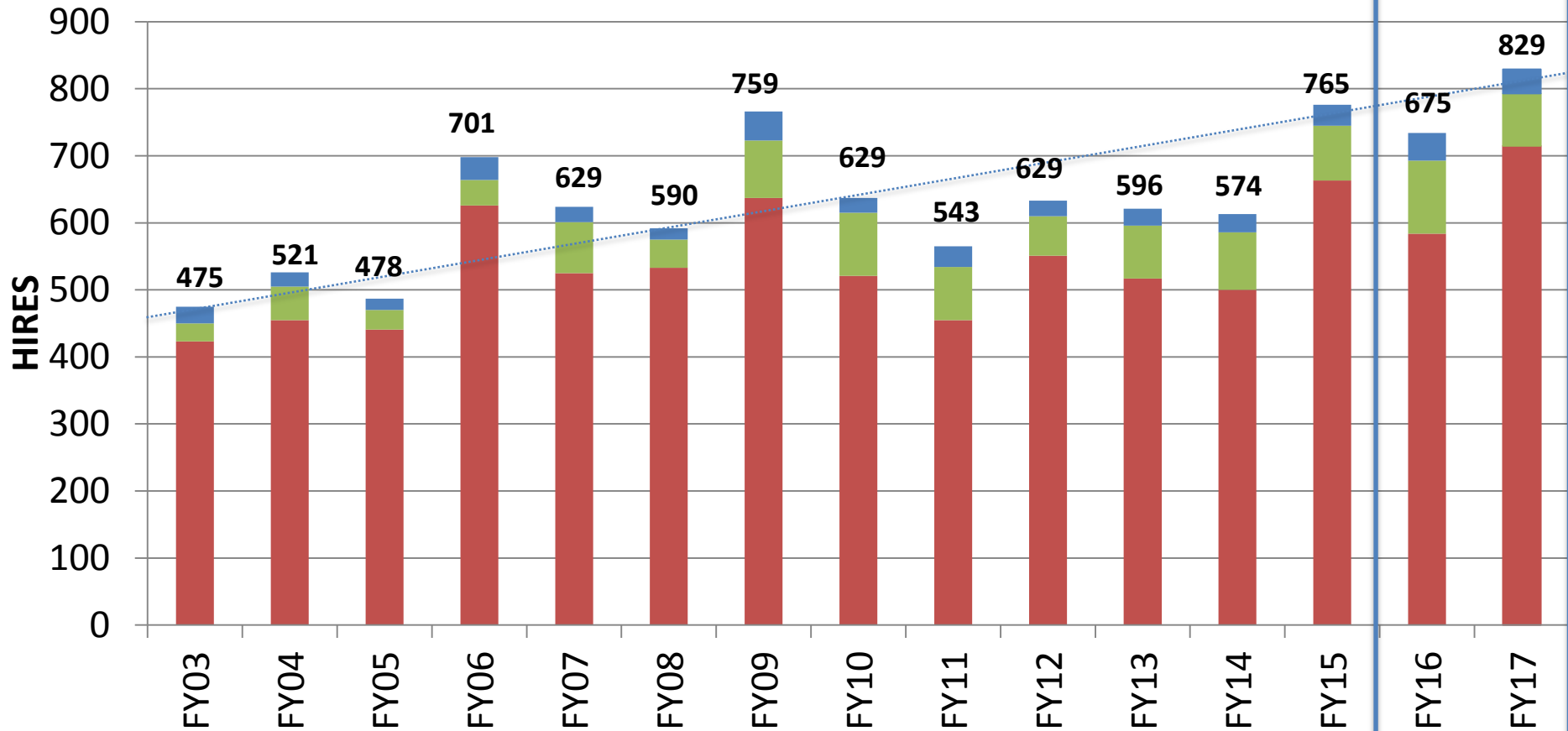
## WAVE OF RETIREMENTS



### ANNUAL HIRES, FY2003-FY2017

Hourly Hires SAM Hires B-Roll Hires

16%  
TURNOVER  
IN 2 YEARS





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