

# MTA CAPITAL PROGRAM 2020-2024

Rebuilding  
New York's  
Transportation  
System

September 2019



NYCT Right of Way

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# MTA Capital Plan Highlights

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## The 2020-2024 Capital Program is:

- The MTA's **largest-ever capital plan** by far – 70% larger than the 2015-2019 Program – making unprecedented investments in the region
- An **unprecedented investment of \$51.5 billion**, revitalizing the system and building on the successful investment of the Subway Action Plan
- **Includes more than \$40 billion for New York City Transit** – more than the entire MTA 2015-2019 Program
- The Program will **deliver major benefits**, including:
  - More frequent and reliable service on 6 line segments, including the Lexington Avenue Line, serving over 50% of riders through modernized signaling
  - 70 new ADA-accessible stations, beginning now. Stations serving over 60% of riders will be ADA-accessible
  - Over 1,900 new subway cars, more than 2,400 new buses and hundreds of new commuter rail cars
  - Full funding for Second Avenue Subway Phase 2 and construction of 4 new Metro-North stations in the Bronx



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# MTA Capital Plan Process

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## The Public Authorities Law provides for:

- The MTA's Five Year Capital Plan to be submitted to the Capital Plan Review Board (CPRB) on or before October 1st of the year before it starts.
- The MTA Board to review and approve new capital plans prior to submission to the CPRB.
- The CPRB includes representatives of the Governor, the Senate, the Assembly and the Mayor.
- CPRB has 90 days to review, veto, request changes or approve. Failure to act is otherwise deemed approval.
- Amendments to an approved capital plan trigger a 30 Day CPRB approval.



# New York Depends on Public Transportation:

**\$1 Trillion**

in assets across agencies

**2 Billion Users**

per year – the largest & busiest transportation network in North America

**97% of NYC**

population lives within a ¼ mile of a bus stop

**71% of NYC**

population lives within a ½ mile of a subway station

**7,300 jobs**

created in NYS for every \$1 billion invested in the MTA Capital Program

**65% of NYC**

suburban residents live within 2 miles of an LIRR or MNR station

**5,000 sq. miles**

served from NYC through Long Island, southeastern NY State, and parts of Connecticut

**23 million**

freight trucks per year use MTA Bridges & Tunnels crossings, supporting the regional economy



# Our investments drive the New York economy:



**\$75 billion**

of estimated statewide economic activity generated by MTA's five year capital program

**350,000 jobs**

estimated to be created over five years in every corner of New York State

**89 percent**

of capital investments are sourced or performed in-state

**\$1 billion**

of capital projects awarded to NYS certified Minority and Women-owned Business Enterprises since 2015

# The region is changing fast.

**16.7 million**

projected population in MTA service region by 2040

**704,000**

projected new jobs in the MTA service region from 2015 to 2040

**52 million**

increase in number of passenger trips using for-hire vehicles from 2013 to 2016

**557,000**

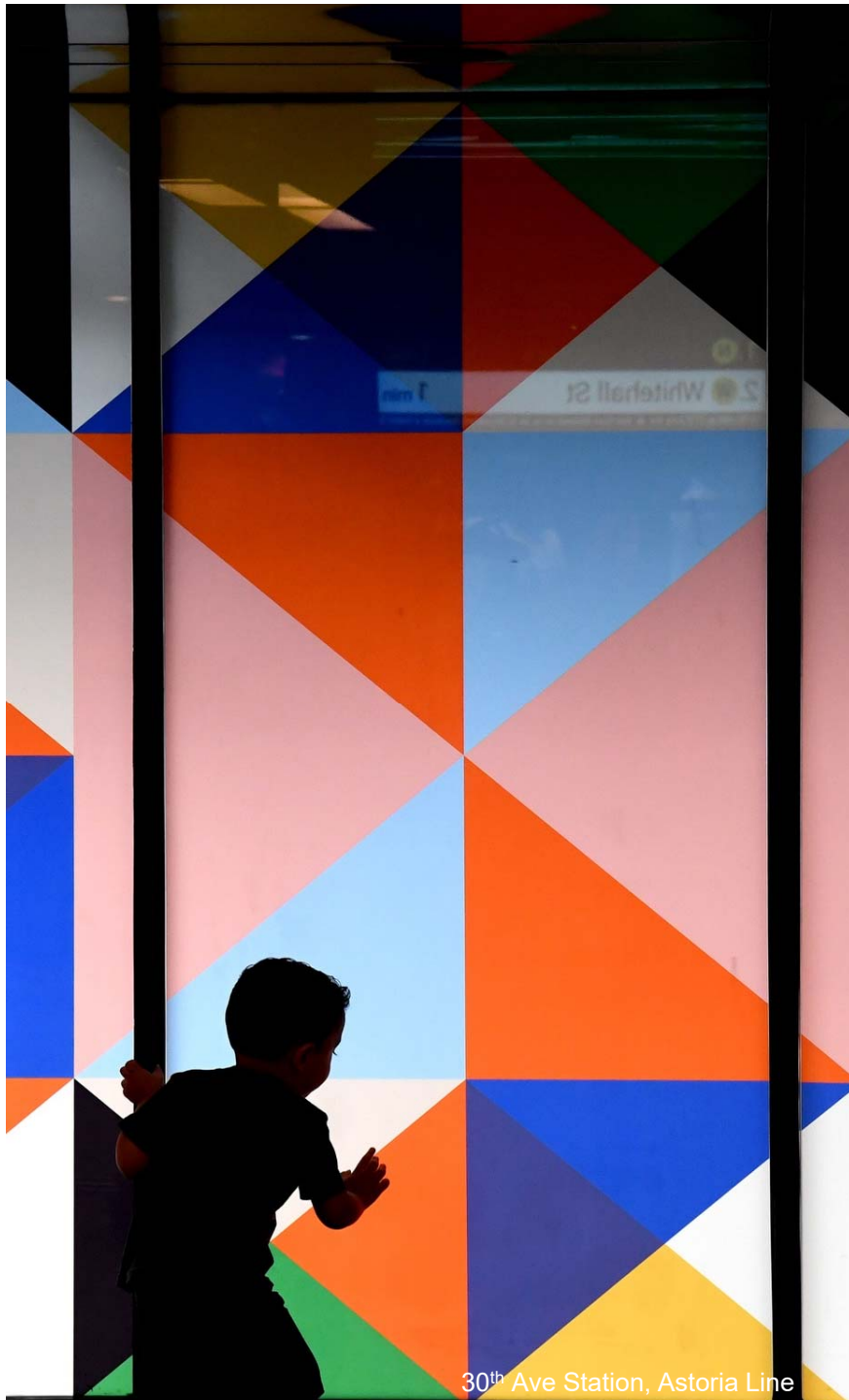
increase in number of daily work trips to an outer borough made by NYC residents since 1980

**39%**

increase in number of subway and bus commuters travelling outside traditional hours over the last 25 years

**11-20 inches**

anticipated rise in sea levels in New York City region by 2050s



30th Ave Station, Astoria Line





# Investment in New York's transportation system has not kept up:

**Ridership**  
Nearly **50%**  
↑  
growth in total ridership in past 20 years MTA-wide

**Investment**  
↓ **8%**  
decline in annualized rate of capital investment over 20 years in constant dollars

Traffic congestion costs the region **\$20+ billion** every year



NYCT Subway

# Customers feel the effects every day:

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**6 subway lines**

operating at or above passenger load capacity in AM peak

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**\$307 million**

annual cost of lost work time due to subway delays

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**32 percent**

decrease in reliability measured by mean distance between failures (MDBF) of subway cars from 2005 to 2018

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**7.4 mph**

average speed of buses in NYC are very low and have been decreasing

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**12.8 minutes**

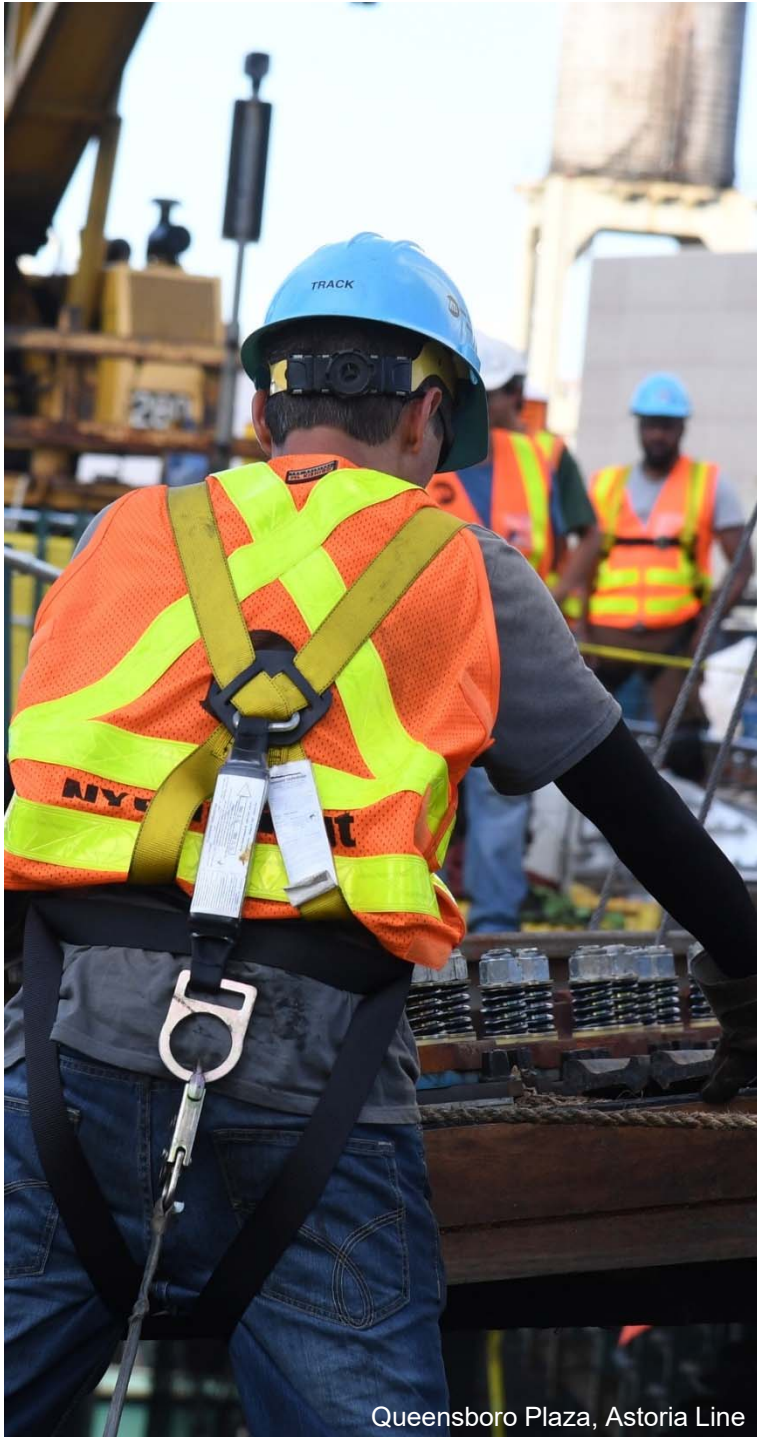
Average delay per late LIRR train in 2018

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**12.6 minutes**

Average delay per late MNR train in 2018





Queensboro Plaza, Astoria Line

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# Rising to the challenge:

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## Subway Action Plan

targeting the root causes of subway delays to arrest the decline of the subway system

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## \$836 Million

new SAP investments that have plugged 4,000 leaks, cleaned drains along 418 miles of track, repaired 20,000 track defects, rebuilt 200 signal stops, repaired 1,000 door control units, and more

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## LIRR and MNR Plans

Along with NYCT, LIRR and MNR are targeting priority areas to improve railroad performance

## August 2019 MTA On-time Performance

as compared to January 2018 for

**Subways: 84%**, up from 58%

**LIRR: 92%**, up from 84%

**MNR: 93%**, up from 92%

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# Time to Reinvest

## 2020-2024 : A New Capital Plan *Building Better, Faster, Cheaper*

In order to help build the system our customers deserve, the 2019-20 New York State Budget significantly changed the MTA, including new funding sources for the next capital program and major reforms of how the MTA operates.

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### Funding Sources

- Thanks to the leadership of Governor Cuomo, Speaker Heastie, and Majority Leader Stewart-Cousins, the NYS Legislature authorized new significant revenue sources to fund the MTA Capital Program, including:
  - Central Business District Tolling Program to ease congestion
  - Elimination of Internet Tax Advantage
  - Progressive Tax on High End Real Estate



Subway Action Plan work on 53<sup>rd</sup> St E/M

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## MTA Transformation Plan

A complete restructuring of the organization will simplify a complex and inefficient organization so the MTA can focus on **providing safe, reliable service for millions of New Yorkers every day.**

The transformation principles of centralize, simplify, standardize, plan and empower are incorporated in the new approach to the Capital Program

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### New Construction and Development Organization responsible for:

- **Planning** – build the right projects establishing MTA-wide vision and priorities to meet regional needs
  - **Development** – build projects the right way by maximizing use of design/build and optimizing project bundling to drive down costs.
  - **Delivery** — build efficiently and effectively with accountable Project CEOs who are involved from preliminary concept to project close out and supported by robust systems to track performance and budgets.
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Track Work, 3 Train Line, East NY

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# Capital Program Forensic Audit

The Public Authorities Law was amended to require an independent forensic audit of the MTA Capital Program, to be completed on or before January 1, 2020.

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## The audit will include:

- A thorough examination and detailed accounting of the authorities capital elements, broken down by agency and asset category
- A review of the proposed 2020-2024 plan and the 2015-2019 plan to determine whether:
  - Asset conditions are accurately documented.
  - Comprehensive capital planning policies and procedures are properly designed and implemented.
  - MTA's capital planning processes are consistent with industry best practices.
  - The mix of investments and cost ranges included in the 2020-24 Five Year Capital Plan are based on sound strategies and analysis
  - Cost overages and/or duplication of projects in the 2015-19 Capital Plan are properly evaluated and documented
  - Any fraud, waste or abuse occurred with respect to the capital planning process.

Recommendations and findings will be incorporated into the 20-24 Capital Program



7 Train, Flushing Line

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# Transformation Builds on Previous Cost-Containment Efforts

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## Strengthening Project Management

- Empowered Project “CEOs” with full control to make decisions over project scope, schedule, and budget
  - Better coordination of work with track outages
  - Increased productivity and “wrench time” when track outages are secured
  - Improved estimates and cost forecasting
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## Reducing Red Tape

- Faster vendor payments
  - Cut change order and submittal processing time
  - Eliminate over-customization, increase performance-based specifications
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## Rebalancing Risk

- All projects over \$25m will be design-build
- More performance-based incentives for contracts
- Expand competition in the market



Right of Way Repairs

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# Here's what New Yorkers will receive:

**A faster, accessible, and more reliable transportation network**

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More frequent service and reduced crowding

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Accelerated program of state of the art subway signal projects

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More stations accessible for people of all abilities

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Improved reliability and faster travel times

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Expanded network capacity to more communities region-wide

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Increased environmental sustainability and resiliency



# MTA NYCT Subways & Staten Island Railway

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6,684  
Subway Cars

493  
Stations

123  
Accessible  
Stations

637 miles  
Mainline track

Fulton Street Transit Center

- **50 percent increase in Subway ridership in the past 20 years** puts increasing strain on system
- **Antiquated signal system, inadequate power and other infrastructure** limits speed and reliability
- **75 percent of stations** are currently inaccessible for those with disabilities
- **Average age** of subway fleet is 23.5 years with 8% (512 cars) beyond their useful life

# NYCT Subways & Staten Island Railway

**2020-2024 Investment**  
**\$37.3 Billion Total**  
(\$32.75B Core | \$4.56B Capacity)

## Priority Initiatives



### Signal Modernization

\$7.1 billion

- 6 new line segments with modernized signaling, including the Lexington Avenue Line, doubling the track miles with modernized signals
- Over 50% of passengers will be served by modernized signals on a total of 11 lines
- New power substations and contact rail to support advanced signaling



### Subway Cars

\$6.1 billion

- Over 1,000 new B-Division and over 900 new A-Division subway cars, equipped for modernized signaling
- Mean Distance Between Failure (MDBF) increases from 65,000 miles for the oldest cars to at least 150,000 miles for new replacement cars, mitigating up to 10% of delays



### Track

\$2.6 billion

- Approx. 60 miles of track replaced and 20 miles of Continuous Welded Rail (CWR) installed
- CWR has a longer useful life, less than half the rate of rail breaks, and creates a quieter, smoother ride
- CWR will reach 90% coverage of all possible locations



### Station Accessibility

\$5.2 billion

- Stations serving over 60% of passengers will be ADA-accessible
- New elevators/ramps at 70 more stations
- 4 of the stations may be accelerated into 2015-2019 Program
- Customers will be no more than 2 stations away from an accessible station



### Station Improvements

\$4.1 billion

- Renewing stations and addressing components in need of critical repair at about 175 stations (37% of system)
- Includes replacement of up to 65 escalators and up to 78 elevators at the end of their useful life



### Second Avenue Subway (SAS) to 125th Street

SAS Phase 2 will add 3 new fully accessible stations, and a connection with Metro-North. Serving 300,000 daily riders together with Phase 1, it will further relieve congestion on the 4/5/6 trains, and strengthen access to jobs and education for Harlem and East Harlem residents. Together with 2015-2019 program funding, the 2020-2024 plan provides the entire \$6.9B project cost, shared approx. 50/50 between federal and local sources.



## NYCT & MTA Buses

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5,771  
Buses in fleet

16,000+  
Bus stops

20  
Select Bus  
Service Routes

100%  
Accessible

NYCT Bus Interior

- **Bus service is critical** to ensure equitable and accessible transit
- **Increased congestion negatively affects** speed and reliability of bus service
- **Significant opportunity to reduce emissions** through purchase of all-electric buses

### Priority Initiatives



#### Replacement Buses

\$2.3 billion

- Replace over 2,200 of the oldest buses throughout the network (39% of current fleet), including electric, hybrid and Compressed Natural Gas buses
- New buses have a Mean Distance Between Failure (MDBF) of 12,700 miles vs. a fleet-wide average of 6,300 miles
- Average age of NYCT fleet will decrease from 5.5 to 5.1 years by 2024; MTA Bus Co. fleet will decrease from 10.5 to 3.4



#### Additional Buses

\$217 million

- Expand fleet by over 175 buses
- Allows network redesign to provide more and better service
- Improves service reliability and ability to increase service



#### Electric Buses

\$1.1 billion

- Purchase 500 All Electric Buses, including some replacement and additional buses
- Begin transition to zero-emission fleet throughout the network
- Reduce greenhouse gases and improve air quality
- After 2029, all purchases will be AEBs
- Modify up to 8 depots for electric bus fleet



#### Improve Customer Experience

\$109 million

- On-board digital information screens to provide real-time service information
- Improved traffic enforcement using bus lane cameras
- Traffic signal priority for faster service



#### Depots

\$880 million

- Reconstruct Jamaica Depot
- Replacement of maintenance equipment keeps more buses in service



# MTA Long Island Rail Road

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1,006

Electric rail cars

124

Stations

108

Accessible Stations

503 miles

Mainline track

Wyandanch Station

- **Since 1990, LIRR ridership has grown by 24 percent**, with the largest percentage increase in off-peak ridership
- **Aging signal system, power equipment, and other infrastructure** limit reliability and is a significant cause of delays
- **16 stations remain inaccessible** for those with disabilities

### Priority Initiatives



#### Signals & Communications

\$364 million

- Replace 32% of switches, 21% of track circuits and 11% of grade crossing equipment at locations with highest maintenance needs
- Upgrade signals and interlockings on 3 branches due to age and technological obsolescence
- Upgrades will improve signal state of good repair by 22%



#### Rolling Stock

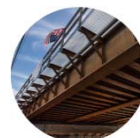
\$487 million

- 160 new electric cars expands fleet by 13% for East Side Access
- Fleet growth allows for at least 25,000 more seats into GCT during AM rush
- Purchase nearly 20 coaches and over 10 locomotives
- New fleet Mean Distance Between Failure (MDBF) performs 6x better than retiring cars, mitigating up to 11% of delays



#### East Side Access (ESA)

Scheduled for completion in December 2022, ESA will allow more than 160,000 daily LIRR customers to travel to Grand Central Terminal, saving commuters up to 40 minutes per day and creating room in Penn Station for MNR service via the Hell Gate Line.



#### Track

\$1 billion

- Install concrete ties and continuous welded rail to increase durability, reliability and customer comfort
- Upgrades and reconfigurations of infrastructure at Jamaica Station will improve reliability and reduce service impacts
- Upgrades will bring over 90% of track assets to a state of good repair



#### Station Improvements

\$910 million

- Up to 7 additional ADA-accessible stations
- 93% of stations, serving 97% of customers, will be accessible
- Component work and upgrades at 20+ stations, including platform, elevator and escalator replacements
- Work benefits up to 50% of riders



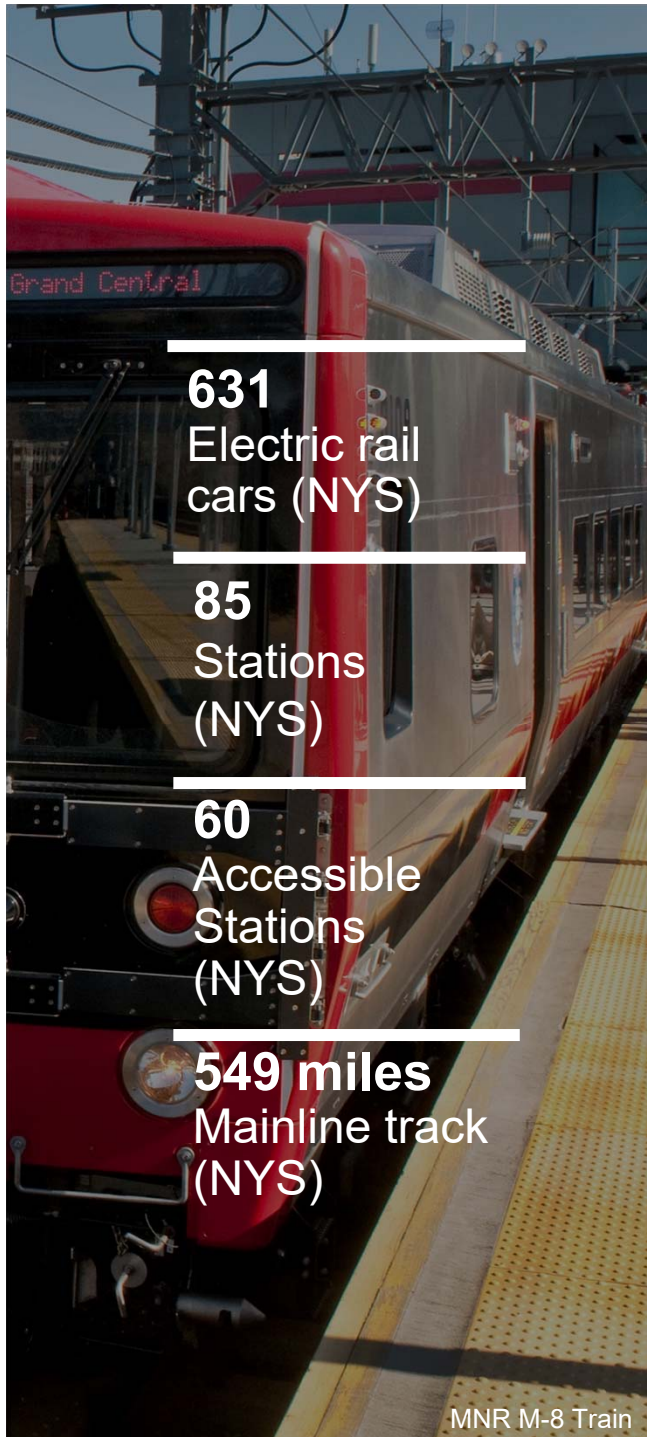
#### LIRR Mainline Expansion

Scheduled for revenue service by December 2022, this project will add a third track on 10 miles of the Main Line corridor, used by 40% of LIRR customers. Along with ESA and Jamaica Capacity Improvements, a 60% increase in reverse commute and a 50% increase in peak service between Manhattan and Long Island will be enabled.

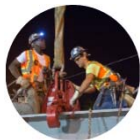
# MTA Metro-North Railroad

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- **Ridership has more than doubled since 1983**, with even greater increase in reverse-commuting to suburban job centers
- **Crowding and capacity constraints at key locations** limiting operational flexibility and planned capital and maintenance work
- **Critical structures, supporting the vast majority of customers, are more than 100 years old**, including the Grand Central Terminal trainshed and Park Avenue Viaduct



### Priority Initiatives



#### Grand Central Terminal Trainshed and Park Avenue Tunnel & Viaduct

\$895 million

- 100+ year old structures used by 700+ trains per day and over 80% of customers
- Phase 1 of replacement of 75-acre GCT Trainshed and 1.8-mile Park Avenue Viaduct, and four new emergency exits in Park Avenue Tunnel



#### Rolling Stock: M-3 Replacement

\$485 million

- Begin replacement of 140 M-3 electric cars
- New electric cars are expected to have a Mean Distance Between Failure (MDBF) of over 150,000 miles, a 100% increase over the existing M-3s to mitigate up to 27% of delays



#### Stations

\$621 million

- 78% of stations will be wheelchair accessible serving 93% of ridership
- Accessibility improvements at up to 4 stations
- Station renewals on the Harlem Line in the Bronx and Lower Westchester
- Priority component repairs at Upper Hudson and Harlem lines
- Stations work will benefit 60% of customers



#### Harlem Line Capacity Improvements

\$184 million

- Progress infrastructure work to improve reliability and support a future third track
- Construct 2 new substations, design 3 more
- Relocate/expand parking at Southeast Station to allow for future Brewster Yard expansion



#### West of Hudson Improvements

\$187 million

- Phased construction of core infrastructure needed to allow reverse-peak and better off-peak service, including state of good repair needs
- Supports potential future increase in daily service of up to 60%



#### Penn Station Access

This new route for the New Haven Line will carry up to 50,000 Metro-North customers directly to Penn Station per day, reducing travel times to Manhattan's West Side. It includes four new stations in the Bronx: Hunts Point, Parkchester/Van Nest, Morris Park, and Co-op City.

# MTA Bridges & Tunnels

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An aerial photograph of the Throgs Neck Bridge, a suspension bridge with two large towers and multiple lanes of traffic. The bridge spans a body of water. Text overlays are placed on the left side of the image, each preceded by a horizontal white line.

7 Bridges

2 Tunnels

240 lane miles  
of crossings

322 million  
vehicle trips  
annually

Throgs Neck Bridge

- **Open Road Tolling** allows more vehicles to proceed over a bridge or through a tunnel with greater efficiency and less delay
- **Toll revenue** funds 100% of B&T's capital program while also providing \$1.1 billion in total support to mass transit annually
- **The CBD Tolling program** will generate approximately \$15 billion for NYCT (80%), LIRR (10%), and MNR (10%) in this Capital Program while easing congestion in Manhattan's Central Business District

### Priority Initiatives



#### Verrazzano Bridge

\$1,127 million

- Approach ramps will be rebuilt and the non-standard left-hand exits will be modernized and reconfigured to right-hand exits
- These approach ramp projects will reduce annual collisions by up to 25%
- Replace and widen 2 miles of the eastbound Belt Parkway



#### Hugh L Carey and Queens Midtown Tunnels

\$99 million

- Rehabilitation of ventilation/service buildings at both tunnels
- Design for the installation of a water mist/fire suppression system in the tunnels, improving safety for the over 137,000 daily weekday customers



#### CBD Tolling

- Design, build, operate and maintain a Central Business District tolling system and infrastructure
- Increasing mobility in the CBD will reduce congestion, improve air quality and enhance quality of life



#### RFK Bridge

\$719 million

- Reconstruct Randall's Island access ramps, and designs for widening the southbound FDR Drive between 125th St. and 116th St. and a new access ramp from the Bruckner to the RFK
- Completed projects will save the 170,000 daily customers 400,000 hours in travel time annually



#### Henry Hudson Bridge

\$135 million

- In combination with the implementation of Open Road Tolling, the continuing reconstruction of the Henry Hudson Bridge will save 73,000 daily customers up to 100,000 hours in annual travel time
- Potential collisions reduced by up to 41%



#### Throgs Neck Bridge

\$241 million

- New fender systems at the suspended span's 2 towers will protect the bridge from accidental marine vessel collisions



# Proposed 2020-2024 Capital Program

*Investing in the future of New York*

Agency Core & Capacity*	(\$m)
NYCT Subways	\$ 37,303
Buses	\$ 3,512
Long Island Rail Road	\$ 5,714
Metro-North Railroad	\$ 4,689
Other	\$ 254
<b>CPRB Capital Program Total</b>	<b>\$ 51,472</b>

Bridges & Tunnels**	\$ 3,327
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\* Includes capacity projects budgeted in MTACC

\*\* B&T does not require CPRB approval

Increase in Agency Core 15-19 vs 20-24	% Change
NYCT Subways	116%
Buses	82%
Long Island Rail Road	31%
Metro-North Railroad	45%



Fulton Street Transit Center

# Funding the Capital Program

*We will deliver the proposed 2020-2024 Capital Program through a combination of State, City, Federal and local resources.*

<b>Program Funding Plan</b>	<b>(\$m)</b>
Capital from Central Business District Tolling	\$ 15,000
Capital from New Revenue Sources	\$ 10,000
MTA Bonds & PAYGO	\$ 9,792
Federal Formula	\$ 7,500
State of New York	\$ 3,000
City of New York	\$ 3,000
Federal New Starts (Second Ave Subway Ph. 2)	\$ 2,905
Federal Flexible	\$ 275
<b>CPRB Capital Program Total</b>	<b>\$ 51,472</b>
Bridges & Tunnels Self-Funded	\$ 3,327

## Capital Generated from New Revenues (\$25B)

- Central Business District (CBD) Tolling (\$15B)
- New Revenues (\$10B)
  - Progressive Tax on High End Real Estate
  - Elimination of the Internet Tax Advantage
- CBD Tolling and New Revenues Apportionment:
  - 80% NYC Transit/Bus; 10% LIRR; 10% MNR

## Federal Funds (\$10.7B)

- Federal Formula & Flex – based on recent levels (\$7.8B)
- Federal New Starts for SAS Ph. 2 – (\$2.9B)

## NYS/ NYC Capital (\$6B)

- State of New York (\$3B)
- City of New York (\$3B)

## MTA Bonds & PAYGO (\$9.8B)

## B&T Self-Funded (\$3.3B)

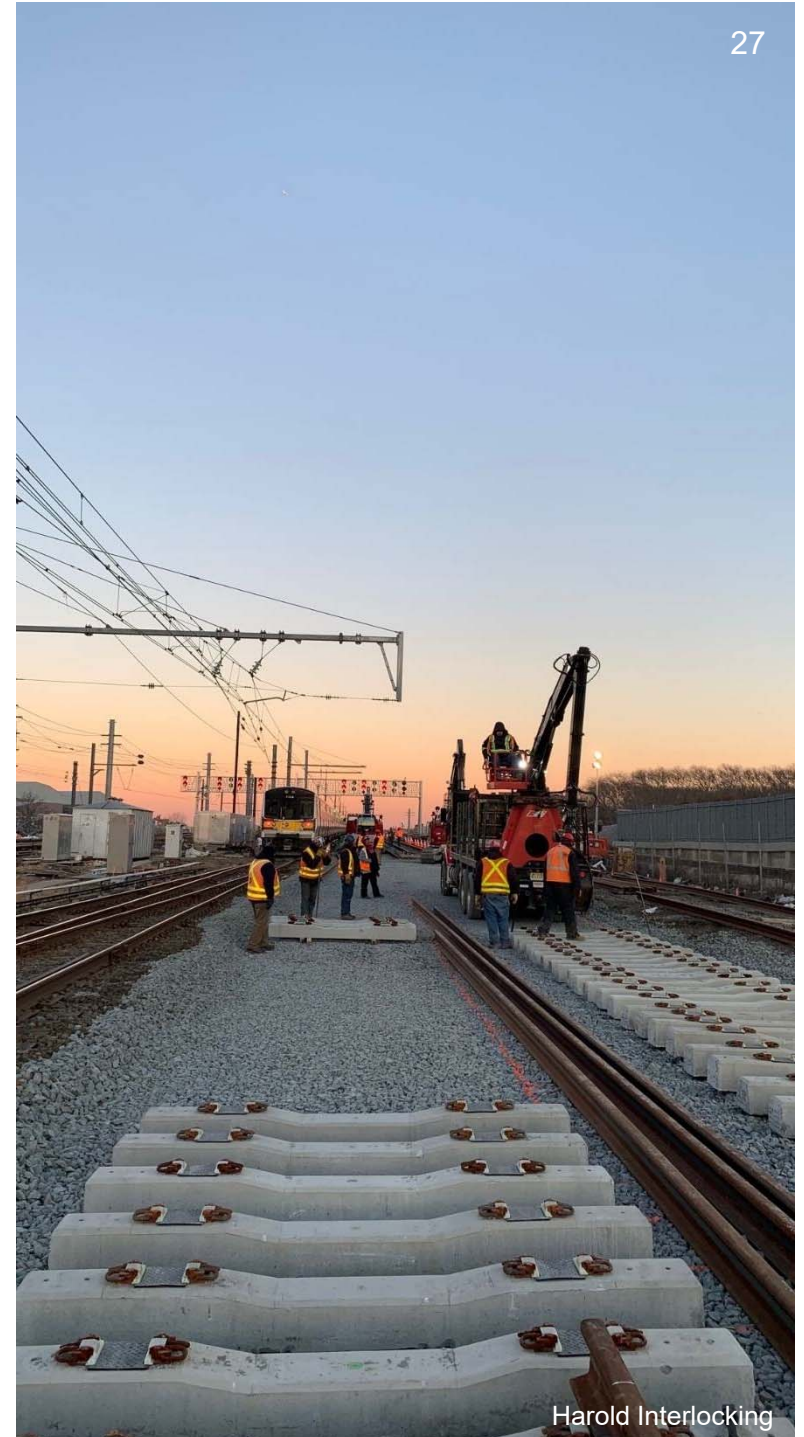
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# Next Steps

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## Plan Approval

- Approved by MTA Board on 9/25
- Plan submitted to Capital Program Review Board (CPRB) on 10/1
- CPRB has 90 days to review, veto, request changes or approve the proposed Capital Plan



Harold Interlocking