Annual Report Narrative 2018

Submitted as part of the MTA 2018 Annual Report
Pursuant to New York State Public Authorities Law Section 2800(1)
Section 1—Operations and Performance

Performance

NYC Transit (Subways and Buses) • Long Island Rail Road • Metro-North Railroad • MTA Bus Company • Bridges and Tunnels

Section 2—Accomplishments and Initiatives

Customer Service Initiatives

Interagency • NYC Transit (Subways) • MTA Bus Operations (NYCT Department of Buses, MTA Bus Company) • Long Island Rail Road • Metro-North Railroad • Bridges and Tunnels

Operations/Technology Initiatives

Interagency • NYC Transit (Subways) • MTA Bus Operations (NYCT Department of Buses, MTA Bus Company) • Long Island Rail Road • Metro-North Railroad • Bridges and Tunnels

Sustainability/Transit-Oriented Development (TOD) Initiatives

Interagency • NYC Transit (Subways) • MTA Bus Operations (NYCT Department of Buses, MTA Bus Company) • Long Island Rail Road • Metro-North Railroad • Bridges and Tunnels

Safety/Security Initiatives

Interagency: MTA Police Department • NYC Transit (Subways) • MTA Bus Operations (NYCT Department of Buses, MTA Bus Company) • Long Island Rail Road • Metro-North Railroad • Bridges and Tunnels

Cost-Cutting/Revenue Initiatives

Interagency • NYC Transit (Subways) • MTA Bus Operations (NYCT Department of Buses, MTA Bus Company) • Long Island Rail Road • Metro-North Railroad • Bridges and Tunnels
**Section 3—Capital Projects Commitments/Completions**

<table>
<thead>
<tr>
<th>The MTA Capital Programs</th>
<th>61</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Program Progress</td>
<td>62</td>
</tr>
<tr>
<td>Funding Received Through December 31, 2018 • Capital Program Progress, 1982-2018 • Capital Program Progress, 2018</td>
<td></td>
</tr>
<tr>
<td>New York City Transit (Subways)</td>
<td>64</td>
</tr>
<tr>
<td>Major 2018 Commitments • Major 2018 Completions</td>
<td></td>
</tr>
<tr>
<td>MTA Bus Operations (NYCT Dept. of Buses, MTA Bus Company)</td>
<td>71</td>
</tr>
<tr>
<td>Major 2018 Commitments • Major 2018 Completions</td>
<td></td>
</tr>
<tr>
<td>Long Island Rail Road</td>
<td>73</td>
</tr>
<tr>
<td>Major 2018 Commitments • Major 2018 Completions</td>
<td></td>
</tr>
<tr>
<td>Metro-North Railroad</td>
<td>80</td>
</tr>
<tr>
<td>Major 2018 Commitments • Major 2018 Completions</td>
<td></td>
</tr>
<tr>
<td>MTA Bridges and Tunnels</td>
<td>84</td>
</tr>
<tr>
<td>Major 2018 Commitments • Major 2018 Completions</td>
<td></td>
</tr>
<tr>
<td>MTA Capital Construction</td>
<td>87</td>
</tr>
<tr>
<td>Fulton Center • Second Avenue Subway • 7 Line Extension • East Side Access</td>
<td></td>
</tr>
</tbody>
</table>

**Section 4—Description of the MTA and the MTA Board Structure**

<table>
<thead>
<tr>
<th>Description of the MTA and the MTA Board Structure</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers of Employees • Basic Organizational Structure of MTA Operations • Governance of the MTA • Board Members and Committee Assignments • Board Members’ Attendance</td>
<td></td>
</tr>
</tbody>
</table>

**Section 5—Material Pending Litigation Report**

<table>
<thead>
<tr>
<th>Material Pending Litigation Report</th>
<th>97</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Note • The MTA • Transit System • Commuter System • MTA Bridges and Tunnels • MTA Bus • MTA Long Island Bus</td>
<td></td>
</tr>
</tbody>
</table>
The Following Reports and/or Documents Are Attached

Financial Reports • All-Agency and Board Codes of Ethics • Asset and Service Report
2018 • Compensation Schedule and Biographical Information Reports • Bond Rating Reports •
Consolidated Financial Statements • Governance Principles and By-Laws • Grant Report 2018 • MTA
Legislation • Mission Statement and Measurement Report • Management Assessment of the
Effectiveness of Internal Controls • Real and Personal Property Reports with Guidelines • Board
Self-Assessment Report
This section of the Metropolitan Transportation Authority (MTA) Annual Report to the Governor, pursuant to PAL §2800, summarizes ridership and other performance data for the 12-month period ending December 31, 2018. (See also the “2018 Mission Statement, Measurement, and Performance Indicator Report,” PAL §1269-f and §2824-a.)

Total ridership on the subways, buses, and railroads of the MTA was 2.56 billion rides in 2018. This represents a 3.7-percent drop from the previous year and the third annual decline in a row. The decrease came mainly in transit. Subway volume fell to 1.68 billion rides in 2018, down 2.3 percent. Combined ridership on NYCT Bus and MTA Bus fell by 4.7 percent in 2018 to about 690.8 million. Meanwhile, LIRR hit a record high ridership of 89.8 million rides in 2018, while Metro-North fell slightly to 87.1 million rides, just 0.2 percent shy of its all-time record the year before.

To place these data in historical context, total MTA volume has declined by about 5.8 percent from its peak of 2.72 billion rides in 2015—which was, in turn, the highest ridership since the 1940s. Preliminary estimates put the MTA’s total farebox revenue for 2018 at around $6.2 billion. In its first full year of cashless tolling, MTA Bridges and Tunnels hit a record high of 322.3 million paid crossings, generating $1.09 billion in funding support for transit.

**Tough Challenges and a Turnaround**

Over the course of 2018, the MTA wrestled with a number of well-publicized difficulties—in particular, the performance of its century-old subway infrastructure; a declining bus ridership; public uncertainty over the L Train plan; an unfunded 2020-2024 Capital Program; and rising
deficits in the MTA operating budgets. While these problems demand and await comprehensive action on the part of the MTA and its government partners, 2018 performance metrics show signs of a positive turnaround.

By the end of 2018, the first full year of the Subway Action Plan (SAP), weekday on-time performance (OTP) was the highest in four years; delays were the lowest in four years. The agency reached its goal of reducing delays by 10,000 per month in the year’s final four months. Other performance indicators also captured notable gains, as indicated on pages 9 to 12 of this report. Significantly, these indicators employ new, expanded metrics introduced in 2017 and 2018 designed to better reflect the customer’s actual experience and priorities. These indicators are tracked on the Subway Performance Dashboard on the MTA website at www.mta.info.

**Work Moves Ahead Systemwide**

Throughout the MTA network, major capital projects advanced alongside new initiatives. The LIRR completed its Second Track project and broke ground on its Main Line Expansion—two major undertakings that, together with East Side Access (ESA), will completely reshape regional travel. Both LIRR and Metro-North completed their 2018 FRA requirements for implementation of Positive Train Control (PTC). Bridges and Tunnels not only hit record ridership in its first full year of cashless tolling, the agency also finished the enormous job of repairing damage to the Midtown Queens and Hugh L. Carey tunnels wrought by Superstorm Sandy. In August, NYCT launched its reconfigured Staten Island Express Bus Network and is currently redesigning the Bronx bus system—part of the first efforts in half a century to rethink the city’s entire bus network. NYCT and MTACC also moved forward with the preliminary stages of the Second Ave. Subway Phase II.

Under the MTA Capital Plans, the MTA agencies committed a combined $6.282 billion for capital projects in 2018 and completed projects worth $4.845 billion against the year’s goals. Totaling all capital program efforts in 2018, including those with prior-year goals, agencies achieved $9.441 billion in commitments and $6.656 billion in completions for the year. Capital projects are overviewed in Section 3 of this report and reported in detail on the Capital Program
Dashboard at www.mta.info. As part of its 2015-2019 Capital Plan, the MTA continues the massive effort of restoring those assets damaged by Superstorm Sandy in 2012, including new resiliency features to secure the system against rising sea levels and future weather events. By the end of 2018, the MTA had committed $5.2 billion to such projects, about 69 percent of the total repair budget. The MTA plans to submit a 2020-2024 Capital Program to the MTA Board later in 2019.

The MTA’s critical digital infrastructure saw major upgrades as well, including the release of MYmta, a new mobile-ready app that combines all-agency trip planning with the full content of the MTA public website. Currently in beta testing with customers, MYmta has already logged over 1.5 million downloads at the time of this report. Additionally, MTA IT completed a major migration of data to the new PeopleSoft system platform, which included the relocation of the MTA’s disaster recovery site to Albany, outside of the city’s infrastructure and flood zones. Meanwhile, teams across the agencies contributed to the last-stage development of OMNY, the MTA’s new “tap-and-go” fare payments system, which debuted in a pilot launch in March 2019 and will eventually replace the 27-year-old MetroCard.

These and other 2018 efforts, as noted in the Agency Initiatives and Capital Program sections of this report, underlie the many thousands of 24/7 tasks required to maintain, upgrade, and operate the nation’s largest public transportation network.

**Funding and the Unfinished Task**

Faced with looming budget shortfalls and major operational challenges, the MTA implemented an all-agency hiring freeze in November 2018, along with additional cost-cutting measures. This follows a decade-long effort that has reduced the MTA’s annual operating expenses, on an ongoing basis, by more than $2 billion. It was clear by year’s end this would not suffice. On February 27, 2019, MTA Acting Chair Fernando Ferrer announced in a press release additional measures to be undertaken immediately across all MTA agencies, including a mandated $500 million in recurring annual savings, a 10-percent across-the-board cut in contractor and vendor rates, a consolidation of back-office functions, and other organizational cutbacks. At the time of
this report, the MTA Board and senior management are in discussion with the authority’s government partners to consider organizational reforms and secure reliable funding sources for MTA operating and capital budgets.

Guiding many of those decisions is the NYCT “Fast Forward” plan announced by NYCT President Andy Byford in May 2018 and updated regularly at www.mta.info. The plan is a comprehensive blueprint for modernizing the transit system, tackling everything from ADA accessibility and bus lane congestion to subway signal overhauls and new subway fleets. It encompasses projects that are large and farseeing, as well as immediate tasks, many of which are well underway. It also sets out the scope of necessary funding to fully revitalize a transit system that is critical to New York City, to millions of residents and visitors, and to one of the world’s largest regional economies.

The balance of Section 1, below, reports the 2018 performance measurements for each of the MTA agencies providing subway, bus, paratransit, commuter rail, and bridge-and-tunnel crossing services. As part of its public transparency mission, the MTA regularly updates these data on the Performance Dashboards on the MTA website at www.mta.info. Because MTA performance indicators are regularly updated, some of the data reported here may be subject to later adjustment and reconciliation.
New York City Transit—2018 Performance

NYCT Subways
This year marked the first full year of the Subway Action Plan (SAP), first introduced by the MTA chairman in July 2017. The plan addresses declining performance in the agency’s aging subway system—a system that opened in 1904 and today spans 472 stations and 665 miles of track with 24/7 service across four boroughs.

The two-phase plan seeks to stabilize and improve the system, while laying a foundation for full modernization. It addresses the major causes of subway delays, such as signal malfunctions, track issues, failing power infrastructure, water damage, track fires, car breakdowns, and police activity. The first phase targets issues with an immediate impact on daily service, while the second phase introduces long-term goals, such as improved subway cars, a new signaling system and related communications technology. That includes deployment of the most promising transit innovations from the MTA’s Genius Transit Challenge, for which eight winning firms were selected in March 2018 from over 400 entrants worldwide.

The Subway Action Plan is working. By the end of 2018, NYCT Subways was reporting the highest on-time-performance (OTP) and the lowest number of delays in the last four years. In the last four months of the year, the agency achieved its ambitious goal of cutting delays by 10,000 per month on a sustained basis. As part of the SAP, the agency introduced four new performance indicators in 2017, which are now updated regularly on the Subways Dashboard at www.mta.info and identified in the table on page 8 of this report. The new indicators are: (1) “Major Incidents” that delay 50 or more trains; (2) “Service Delivered,” measuring delivery of scheduled service; (3) “Additional Platform Time,” the average added time customers must wait for a train, compared to the scheduled time; and (4) “Additional Train Time,” the average added time customers spend aboard a train due to service issues.

The new metrics were designed to better reflect the customer’s actual experience and priorities. Most of the subway metrics captured visible improvement in 2018. While still below the agency 2018 target of 75 percent, weekday terminal OTP rose 3.7 percent over the prior year to 67.1
percent. Weekday delays fell 7.5 percent from 62,479 per month to 57,774; and by the final quarter of 2018 subway delays had been reduced by 10,000 per month. Weekday service delivered rose 0.3 percent to 94.8 percent; elevator availability improved 0.6 percent to 96.5 percent; and mean distance between failures (MDBF) on the Staten Island Railway (SIR) jumped 18.5 percent to 70,950 miles, 11.3 percent above the 2018 target.

Behind these improvements are the many tasks carried out in 2018 under the SAP and the NYCT’s “Fast Forward” plan, introduced in May 2018, a comprehensive transit modernization plan with immediate as well as long-term goals. These tasks included expediting the repair of 1,700 problematic signals; detecting and eliminating obsolete “slow spots” in the subway system; sealing water leaks; unclogging drains; and removing debris to reduce fire hazards and associated delays. The agency is also tripling its planned installation of continuous welded rail (CWR), which decreases rail-joint failures, and has expanded the number of car overhauls from 950 to 1,100 cars per year, prioritizing car doors, which constitute 40 percent of breakdowns. NYCT Subways performance metrics versus goals for 2018 can be found in the chart on the following pages. More performance-related information can be found in Section II of this report.

**NYCT Buses and Access-a-Ride**

In 2018, NYCT Bus continued to modernize its fleet with clean-energy vehicles and new customer amenities. Nonetheless, ridership for the year slipped by 5.5 percent to 569.3 million riders, with most of the decline on Bronx and Brooklyn routes. In April 2018, NYCT unveiled a comprehensive plan to reimagine New York’s bus system—the first such review in half a century. The plan is redesigning the city’s bus operations, borough by borough, to address changing demographics and customer needs, with the aim of delivering world-class service.

To better guide the plan, NYCT developed new customer-based performance indicators, merging data from NYCT Bus and MTA Bus. They are: (1) “Service Delivered,” measuring the ability to deliver scheduled service; (2) “Bus Speeds,” measuring how quickly buses travel their routes; (3) “Additional Travel Time,” that customers are onboard a bus, compared to the scheduled time; and (4) “Additional Bus Stop Time,” the wait time beyond the scheduled time.
The MTA Access-a-Ride (AAR) system, which is run by NYCT Buses, also introduced a slate of new metrics, along with its own Performance Dashboard. The new dashboard reflects NYCT’s goal of improving accessibility and AAR service systemwide, a key component of the “Fast Forward” plan. In 2018, NYCT hired its first accessibility chief, reporting directly to the NYCT president, and piloted the myAAR app for ride bookings and more. The new AAR indicators are: (1) “On-Time Performance,” within 30 minutes of scheduled pick-up and 5 minutes of drop-off; (2) “Provider No-Show,” per 1000 trips; (3) “Customer Complaints” per 1000 completed trips; and (4) “Call Center” percent and speed of calls answered. All NYCT agency indicators are tracked on the NYCT Performance Dashboard at the MTA public website at www.mta.info.

<table>
<thead>
<tr>
<th>New York City Transit</th>
<th>Performance Key</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At or above target</td>
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</tbody>
</table>

### NYCT Subway Service Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday Major Incidents – Subways (monthly average)</td>
<td>n/a</td>
<td>68.0</td>
<td>n/a</td>
</tr>
<tr>
<td>Weekday Service Delivered – Subways</td>
<td>n/a</td>
<td>94.8%</td>
<td>n/a</td>
</tr>
<tr>
<td>Weekday Terminal On-Time Performance – Subways</td>
<td>75.0%</td>
<td>67.1%</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Weekday Terminal Delays – Subways (monthly average)</td>
<td>n/a</td>
<td>57,774</td>
<td>n/a</td>
</tr>
<tr>
<td>Customer Journey Time Perf. (% within 5 min. of scheduled)</td>
<td>n/a</td>
<td>79.4%</td>
<td>n/a</td>
</tr>
<tr>
<td>Additional Platform Time (average beyond scheduled)</td>
<td>n/a</td>
<td>0:01:18</td>
<td>n/a</td>
</tr>
<tr>
<td>Additional Train Time (average beyond scheduled)</td>
<td>n/a</td>
<td>0:01:19</td>
<td>n/a</td>
</tr>
<tr>
<td>Mean Distance Between Failures – Subways (miles)</td>
<td>150,000</td>
<td>121,116</td>
<td>-19.3%</td>
</tr>
<tr>
<td>Weekday Wait Assessment – Subways</td>
<td>80.7%</td>
<td>70.8%</td>
<td>-9.9%</td>
</tr>
<tr>
<td>Elevator Availability – Subways</td>
<td>96.5%</td>
<td>96.5%</td>
<td>0</td>
</tr>
<tr>
<td>Escalator Availability – Subways</td>
<td>95.2%</td>
<td>93.6%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Total Ridership – Subways</td>
<td>1,756,538,175</td>
<td>1,680,060,402</td>
<td>-4.4%</td>
</tr>
<tr>
<td>Weekday On-Time Performance – SIR 3</td>
<td>95.0%</td>
<td>95.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Mean Distance Between Failures – SIR (miles)</td>
<td>80,000</td>
<td>70,950</td>
<td>-11.3%</td>
</tr>
</tbody>
</table>

Notes:  
1 Revised NYCT Subway service indicators were added as part of the 2017 Subway Action Plan. Some 2017 totals and 2018 targets are not available.  
2 Though Subway OTP fell below goal, it achieved its highest level in four years.  
3 NYCT Subways operates SIR, but does not include SIR in ridership totals.
### Performance Key
- ■ At or above target
- □ Below target by less than 5%
- △ Below target by 5% or more

### NYCT Bus Service Indicators

<table>
<thead>
<tr>
<th>Metric</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Completed Trips – NYCT Bus</td>
<td>99.4%</td>
<td>99.1%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Customer Journey Time Perf. (% within 5 min. of scheduled)</td>
<td>n/a</td>
<td>71.7%</td>
<td>n/a</td>
</tr>
<tr>
<td>Additional Bus Stop Time (average beyond scheduled)</td>
<td>n/a</td>
<td>0:01:47</td>
<td>n/a</td>
</tr>
<tr>
<td>Additional Travel Time (average beyond scheduled)</td>
<td>n/a</td>
<td>0:00:53</td>
<td>n/a</td>
</tr>
<tr>
<td>Bus Customer Wheelchair Lift Usage – NYCT Bus</td>
<td>1,463,078</td>
<td>1,382,447</td>
<td>-5.5%</td>
</tr>
<tr>
<td>Service Delivered NYCT &amp; MTA Bus (% scheduled buses, peak)</td>
<td>n/a</td>
<td>97.0%</td>
<td>n/a</td>
</tr>
<tr>
<td>Bus Speeds NYCT &amp; MTA Bus (average route speed, end-to-end)</td>
<td>n/a</td>
<td>8.0 mph</td>
<td>n/a</td>
</tr>
<tr>
<td>Total Ridership – NYCT Bus</td>
<td>610,190,263</td>
<td>569,361,238</td>
<td>-6.7%</td>
</tr>
<tr>
<td>Mean Distance Between Failures – NYCT Bus (miles)</td>
<td>6,413</td>
<td>6,244</td>
<td>-2.7%</td>
</tr>
<tr>
<td>Wait Assessment – NYCT &amp; MTA Bus</td>
<td>n/a</td>
<td>77.5%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### NYCT Paratransit Service Indicators

<table>
<thead>
<tr>
<th>Metric</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Paratransit Ridership – NYCT Bus</td>
<td>n/a</td>
<td>9,867,498</td>
<td>n/a</td>
</tr>
<tr>
<td>AAR On-Time-Performance:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pick up (30 min.) / Drop off (5 min.)</td>
<td>Pick up: 92%</td>
<td>Pick up: 95%</td>
<td>Pick up: 3%</td>
</tr>
<tr>
<td></td>
<td>Drop off: 90%</td>
<td>Drop off: 91%</td>
<td>Drop off: 1%</td>
</tr>
<tr>
<td>AAR Provider No-Shows (per 1,000 trips)</td>
<td>3.00</td>
<td>2.19</td>
<td>-27%</td>
</tr>
<tr>
<td>AAR Ride Time (% of ride times as scheduled or better)</td>
<td>n/a</td>
<td>75%</td>
<td>n/a</td>
</tr>
<tr>
<td>AAR Call Center (% of calls answered)</td>
<td>95%</td>
<td>96%</td>
<td>1.0%</td>
</tr>
<tr>
<td>AAR Passenger Complaints (per 1000 completed trips)</td>
<td>n/a</td>
<td>Trans: 2.7</td>
<td>n/a</td>
</tr>
<tr>
<td>Transportation Related / Non-Transportation Related</td>
<td>Non-Trans: 1.3</td>
<td></td>
<td></td>
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</table>

### NYCT Safety Indicators

<table>
<thead>
<tr>
<th>Metric</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Injury Rate – Subways (per million customers)</td>
<td>2.82</td>
<td>2.97</td>
<td>5.3%</td>
</tr>
<tr>
<td>Customer Accident Injury Rate – NYCT Bus (per million customers)</td>
<td>1.19</td>
<td>1.51</td>
<td>26.9%</td>
</tr>
<tr>
<td>Collisions with Injury Rate – NYCT Bus (per million vehicle miles)</td>
<td>6.47</td>
<td>6.66</td>
<td>2.9%</td>
</tr>
<tr>
<td>Employee Lost Time and Restricted-Duty Rate NYCT Subways (per 100 employees)</td>
<td>6.62</td>
<td>6.65</td>
<td>0.5%</td>
</tr>
<tr>
<td>Employee Lost Time and Restricted-Duty Rate NYCT Bus (per 100 employees)</td>
<td>5.42</td>
<td>5.67</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Note: 4 New NYCT Bus service indicators and Paratransit service indicators were introduced in 2018. Some totals are not available for 2017. MTA performance data are subject to periodic adjustment. 5 Subways customer injury rate is as of Nov. 2018.
Long Island Rail Road—2018 Performance

LIRR hit a new ridership record of 89.8 million passengers in 2018, up 0.5 percent from the previous year, though a shade below the 2018 goal. These are the railroad’s highest ridership levels since the postwar peak of 91.8 million passengers in 1949. LIRR remains the busiest commuter railroad in North America. A strong local economy and steady growth in non-commutation travel, including trips to entertainment and sports venues, contributed to the high passenger volume.

Though LIRR reported a robust mean distance between failures (MDBF) of 185,217 in 2018, this fell slightly short of the 2018 goal. The shortfall was due largely to a decline in diesel fleet MDBF from a record-high in previous years, as well as obsolescent parts and budget-driven maintenance decisions in 2010 that affected traction motor reliability. This year’s decline follows 18 consecutive years of overall improvement in MDBF. On-time performance (OTP) slipped 3.6 percent below goal, due in part to weather events and the completion of Amtrak repairs at Penn Station. Both elevator and escalator availability were above goal for the year.

The year saw significant advances in LIRR’s modernization program, A Modern LI. The Double Track initiative, completed in summer 2018 ahead of schedule, added 13 miles of new track between Farmingdale and Ronkonkoma. In addition to boosting service and reliability, the project included station renewals and spurred local development along the rail corridor. Service expansions included more connections to the Greenport Scoot; additional stops for two reverse peak trains; and a dual-mode train now originating out of Southampton, providing customers with a one-seat ride to Penn Station.

LIRR’s Main Line Expansion Project, which is adding 9.8 miles of third track between Floral Park and Hicksville, broke ground in September 2018. This major initiative will reduce congestion and delays; enable bi-directional peak-hour service; eliminate seven grade crossings; and generate many other structural, environmental, and service improvements. In addition, the year brought significant progress in the East Side Access (ESA) project, managed by MTA Capital Construction, with a revenue service date slated for 2022. Together with the two LIRR track expansions, the ESA project will completely revamp regional transportation, with positive economic impacts across the area.
## Long Island Rail Road

<table>
<thead>
<tr>
<th>Service Indicators</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Time Performance</td>
<td>94.0%</td>
<td>90.4%</td>
<td>-3.6%</td>
</tr>
<tr>
<td>Elevator Availability</td>
<td>98.0%</td>
<td>99.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Escalator Availability</td>
<td>97.0%</td>
<td>96.9%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total Ridership</td>
<td>89,999,489</td>
<td>89,766,141</td>
<td>0.3%</td>
</tr>
<tr>
<td>Mean Distance Between Failures (miles)</td>
<td>200,000</td>
<td>185,217</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

## Safety Indicators

<table>
<thead>
<tr>
<th>Safety Indicators</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRA-Reportable Customer Injury Rate (per million)</td>
<td>3.78</td>
<td>2.03</td>
<td>-46%</td>
</tr>
<tr>
<td>FRA-Reportable Employee Lost-Time Case Rate (per 200,000 worker hours)</td>
<td>3.26</td>
<td>2.79</td>
<td>-14%</td>
</tr>
</tbody>
</table>

Note: MTA performance data are subject to periodic adjustment. Some data may have been updated subsequent to the 2018 “Mission Statements” PAL §1269-f report and earlier documents.
Metro-North—2018 Performance

Total Metro-North ridership in 2018 was approximately 87.1 million rides, which is 0.2 percent below the 2018 goal and just 145,000 rides shy of the previous year’s ridership. This volume remains within the railroad’s record ridership levels over the previous three years, all of which round off at about 87.1 million.

East-of-Hudson ridership for the year was approximately 84.9 million, down 0.1 percent. Ridership on the Harlem Line was 27.5 million, off 1.5 percent from the previous year. On the Hudson Line ridership rose 1.4 percent to a record 17.1 million rides. The New Haven Line also saw a slight 0.1-percent uptick to 40.3 million rides in 2018.

West-of-Hudson ridership was approximately 1.6 million, 0.7 percent below the previous year. Combined ridership on Metro-North’s three connecting services—one rail link and two ferries—was 580,267 in 2018, down 1.5 percent, with the biggest decline of 8.4 percent on the Newburgh-Beacon Ferries.

Systemwide, Metro-North’s East-of-Hudson on-time performance (OTP) for 2018 was 2.9 percent below goal at 90.1 percent. The Hudson Line performed at 90.0 percent; the Harlem Line at 91.8 percent; and the New Haven Line at 88.9 percent. West-of-Hudson OTP operated 4.8 percent below goal at 90.7 percent. Mean distance between failures (MDBF) fell to 144,017, which is 28 percent below the 2018 goal. The decline was due largely to the implementation of new Positive Train Control (PTC) equipment that generated additional failures. Excluding PTC-related failures, the adjusted MDBF was just 2.3 percent below goal at 195,247.

Apart from the PTC implementations, challenges to service delivery in 2018 included aggressive track inspections and maintenance, which required temporary speed restrictions, and ongoing catenary replacement on the east end of the New Haven Line. Additionally, the railroad experienced four significant weather events in 2018: blizzards in January and March; and tornadoes in May and October.
## Metro-North Railroad

### Performance Key
- Green: At or above target
- Yellow: Below target by less than 5%
- Red: Below target by 5% or more

### Service Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Time Performance (East of Hudson)</td>
<td>93.0%</td>
<td>90.1%</td>
<td>-2.9%</td>
</tr>
<tr>
<td>On-Time Performance (West of Hudson)</td>
<td>95.0%</td>
<td>90.7%</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Elevator Availability</td>
<td>98.0%</td>
<td>98.7%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Escalator Availability</td>
<td>97.0%</td>
<td>94.7%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Total Ridership (includes connecting services)</td>
<td>87,102,431</td>
<td>87,102,432</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Mean Distance Between Failures (miles)</td>
<td>200,000</td>
<td>144,017**</td>
<td>-28%</td>
</tr>
</tbody>
</table>

### Safety Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRA Reportable Customer Injury Rate (per million)</td>
<td>2.25</td>
<td>0.84</td>
<td>-63%</td>
</tr>
<tr>
<td>FRA Reportable Employee Lost-Time Case Rate (per 200,000 worker hours)</td>
<td>2.99</td>
<td>2.46</td>
<td>-17%</td>
</tr>
</tbody>
</table>

Note: MTA performance data are subject to periodic adjustment. Some data may have been updated subsequent to the 2018 PAL §1269-f report and earlier documents. ** Excluding PTC failures, the adjusted MDBF is near goal at 195,247.
MTA Bus Company—2018 Performance

MTA Bus ridership was 121.5 million in 2018, a 0.6 percent decrease from the previous year and 2.4 percent below target. The bus fleet’s mean distance between failures (MDBF) was 7,506 miles in 2018, a slight increase over 2017 and well above target. An over-age fleet continues to pose challenges.

No new buses were delivered to MTA Bus in 2018. The agency expects to take delivery of 53 new articulated buses in 2019 and 2020. These buses will replace the 40 articulated buses loaned by NYCT and used for growth in service requirements. In addition, 257 over-the-road coach buses are expected in 2020 and 2021; and 25 standard diesel buses are expected in 2021 and 2022. The “percentage of trips completed,” which depends on both vehicle and operator availability, fell slightly to 0.3 percent below target.

The agency’s “collisions with injury” rate increased from 3.44 to 4.20 per million vehicle miles. Safety remains a primary focus. NYCT Buses and MTA Bus continued to incorporate relevant accident findings into its safety and training initiatives. These initiatives focus on basic operating procedures in bus stop areas, including scanning mirrors, observing all sides of the bus, pulling in and out of bus stops properly, and positioning the bus correctly in the bus stop.

In 2018, NYCT Buses and MTA Bus delivered Vision Zero III program, an eight-hour training session which emphasizes the current challenges and recent trends when dealing with pedestrians and cyclists. In addition, the agency shifted focus from lagging indicators to leading indicators such as speed-camera violations, red-light violations, cellphone infractions, and customer complaints as part of an enhanced bus operator monitoring program.

In a joint agreement with all labor unions, NYCT Buses and MTA Bus continues its “zero-tolerance” policy on use of cellphones and electronic devices while operating a bus. Additionally, NYCT Buses and MTA Bus worked with the labor partners to establish a process whereby operators who receive speed-camera violations are disciplined and must pay the fine. The agency has also negotiated an “Accident Review System” (ARS), which now extends to bus operators in all labor bargaining units.
## MTA Bus Company

### Service Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Completed Trips</td>
<td>99.4%</td>
<td>99.1%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Bus Customer Wheelchair Lift Usage</td>
<td>84,337</td>
<td>86,501</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total Ridership</td>
<td>124,392,593</td>
<td>121,466,759</td>
<td>-2.4%</td>
</tr>
<tr>
<td>Mean Distance Between Failures (miles)</td>
<td>6,880</td>
<td>7,506</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

### Safety Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Accident Injury Rate (per million)</td>
<td>1.06</td>
<td>1.14</td>
<td>7.5%</td>
</tr>
<tr>
<td>Collisions with Injury Rate (per million miles)</td>
<td>5.51</td>
<td>4.20</td>
<td>-23.8%</td>
</tr>
<tr>
<td>Employee Lost-Time Rate (per 100 employees)</td>
<td>6.67</td>
<td>5.79</td>
<td>-13.2%</td>
</tr>
</tbody>
</table>

Note: New performance indicators introduced in 2018 combine some metrics for MTA Bus and NYCT Bus. For combined metrics, see NYCT performance indicators on pages 7 and 8. MTA performance data are subject to periodic adjustment. Some data may have been updated subsequent to the 2018 PAL §1269-f report and earlier documents.
Bridges and Tunnels—2018 Performance

Bridges and Tunnels set new records in 2018 for both traffic and E-ZPass transactions. Overall traffic on Bridges and Tunnels crossings reached an all-time high of 322.3 million vehicles, well above target and about 4.0 percent higher than last year’s record traffic.

At the same time, the percentage of E-ZPass transactions also hit a record high at 95.2 percent of transactions. This was attributable to Bridges and Tunnels successful conversion to Cashless Tolling systemwide, which was completed in September 2017 on an accelerated schedule. Thus 2018 marked the agency’s first full year of Cashless Tolling, enabling free-flowing traffic at all MTA crossings. Vehicles without E-ZPass are identified by camera and a Tolls by Mail invoice is sent to the vehicle’s registered owner.

The uninterrupted flow of traffic has brought noticeable, sustained improvements in travel times for drivers across the agency’s tolling areas. Along with improved traffic flows and reduced congestion, the transition from toll booths to Cashless Tolling has additional benefits for stakeholders throughout the travel region. It improves overall safety at crossings and reduces motorists’ idling time, thereby saving energy and cutting carbon emissions.

Another accomplishment in 2018 was the completion of restoration work at the Queens Midtown and the Hugh L. Carey tunnels—ahead of schedule by eleven months and nine months, respectively. These major capital projects, largely funded by FEMA, repaired the extensive damage from Superstorm Sandy in 2012. The work at both tunnels included tiles and ceiling panels; replacement of roadway lighting with new energy-efficient LED lighting; and replacement of the tunnels’ traffic control, communication, and drainage systems.

As a result of the year’s record volume, Bridges and Tunnels was able to provide approximately $1.1 billion in support to MTA transit operations in 2018, which was about 3.0 percent below the record funds provided the previous year. The year-to-year difference was due to the inclusion of $119 million in “pay-as-you-go” funding for Bridges and Tunnels’ capital programs, enabling the agency to meet its “state-of-good-repair” needs for 2018, while avoiding the debt service costs of bond financing.
## Bridges and Tunnels

### Performance Key
- ■ At or above target
- ■ Below target by less than 5%
- ■ Below target by 5% or more

<table>
<thead>
<tr>
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<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid Traffic</td>
<td>308,000,000</td>
<td>322,290,330</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

### Safety Indicators

<table>
<thead>
<tr>
<th>Safety Indicators</th>
<th>2018 Target</th>
<th>2018 Actual</th>
<th>Change from Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collisions with Injury Rate (per million vehicles) *</td>
<td>0.94</td>
<td>1.01</td>
<td>7.4%</td>
</tr>
<tr>
<td>Employee Lost-Time Injury Rate (per 200,000 work hours)</td>
<td>7.9</td>
<td>8.0</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Note: MTA Bridges and Tunnels performance data are subject to final audit. Some data may have been updated after the 2018 "Mission Statement" report and earlier documents. *See Section II, Safety/Security Initiatives for more details.
Interagency—Customer Service Initiatives

- Successfully launched MYmta, a new mobile-responsive app for both iOS and Android devices, along with an accompanying marketing and informational campaign. The new app combines all-agency trip planning with the full content of the MTA public website. Currently in beta testing with customers, MYmta has already logged over 1.5 million downloads at the time of this report and is being regularly upgraded and adapted based on thousands of suggestions via customer feedback.

- Developed a station beautification and educational program in partnership with the New York Public Library, placing vinyl wraps on subway station walls to promote local neighborhood history and on construction barriers to inform customers about work being performed to improve stations.

- Developed and implemented several customer-focused marketing campaigns supporting MTA initiatives to improve the customer’s riding experience. These included: continued design and placement of construction site “wallscapes” to beautify stations and inform customers of the benefits of construction projects; MTA’s homeless outreach campaign; and the MTA’s third annual “Subway Reads” campaign in collaboration with Literacy Partners, a nonprofit offering free e-book content to MTA customers.

- Coordinated with NYC Transit on an outreach program aimed at customers and local merchants impacted by the L Train tunnel reconstruction. The ongoing efforts include public open houses with MTA executives and a dedicated a web newsletter to answer questions and update those affected by the project.
- Developed an in-system advertising campaign for MTA Real Estate to promote leasing opportunities at subway and commuter rail stations, designed to generate increased awareness, interest, and lease revenue. Also, collaborated with MTA Real Estate on an “Adopt-a-Station” program to secure third-party funding to offset station cleaning costs. (See also Cost-Cutting/Revenue Initiatives, p. 56.)

- Conducted research among MTA Bridges and Tunnels customers related to the proposed development of a mobile app to facilitate E-ZPass use. The app would help customers better manage their E-ZPass accounts and avoid toll violation fees.

- Expanded the MTA Licensing Program globally through sublicense agreements in Belgium, France, and Japan. The program secures MTA intellectual properties and generates annual revenue through licensing of popular MTA icons, graphics, images, and more.

- Delivered 24/7 MTA news and information to customers, news organizations, and the general public through a variety of media, including the MTA website; press briefings; press releases; press conferences; and real-time feeds to social media, including Twitter, Tumblr, Flickr, Instagram, and Facebook. As of 2018, the MTA’s YouTube Channel archived more than 1,400 service videos on MTA agency initiatives, campaigns and projects.

- Continued to administer projects for MTA Arts & Design’s acclaimed program of commissioned artworks, with 59 art projects currently in planning or fabrication. In 2018, Arts & Design installed several new “Percent for Art” projects at NYCT subway stations in four boroughs and at several LIRR and Metro-North stations. Also in 2018, Arts & Design convened 13 artist selection panels to commission permanent artworks for stations throughout the system.

- Received prestigious national-international arts awards in 2018, including: the “Year in Review” award from Public Art Network/Americans for the Arts; inclusion in the Society of Illustrators and American Illustrator annual exhibitions and publications; and an “Award of Distinction” from Friends of the Upper East Side.

- Presented over 7,500 performances in 2018 through Arts & Design’s popular “Music
Under New York” program; selected 28 new performers to join the program; and presented a new series of poems and artwork through the “Poetry in Motion” program.

- Presented a major new digital artwork, “Skyyys™” by Dave Grebe, through the 52-channel, integrated digital display network extending throughout the Fulton Center Complex.
- Hosted groups, moderated panels, and conducted tours, including: IACCCA Symposium; Arts Advocacy Day – Washington D.C.; Americans for the Arts - Public Art Council; East Japan Railway Company; AIA Conference 2018; Open House New York; and many local college architecture and art student groups/classes. Also in 2018, MTA Arts & Design dedicated the artwork at the reopened Cortlandt Street Station and participated in a related event at the 9/11 Memorial & Museum.

NYC Transit (Subways)—Customer Service Initiatives

- Deployed thousands of mobile phones and tablets to customer-facing personnel in stations and on trains to improve real-time customer communications and direct customer assistance.
- Developed new processes and policies for distributing service updates from the Subways Rail Control Center, explaining disruptions, and offering service alternatives. The new procedures provide customers with more accurate, up-to-date, and uniform service information across the subway system.
- Began rollout of new Outfront Media digital screens in dozens of stations, creating a new flexible platform for alternating revenue-generating advertising with customer-service and emergency messaging. Subway Operations is working with the NYCT Strategy & Customer Experience team to improve customer messaging via the new screens, including train arrival information; details on service changes and disruptions; and other relevant information.
- Installed customer information signs at all Staten Island Railway stations and station houses to provide train arrival information and service change messages.
- Continued the NYCT “Wayfinder Program,” in which over 100 retrained station agents are
designated to provide more ground-level, proactive customer support throughout the subways stations.

- Built a Trip Editor function in I-TRAC to create digital schedules for last minute diversions. This improves the timeliness and accuracy of customer information relating to operating conditions and arrival time, while also enabling more accurate calculations of on-time performance.

- Equipped 75 stations with new P/A technology. Added visual display of information regarding train diversions on NYCT’s millennium trains for the benefit of the hearing-impaired.

**MTA Bus Operations (NYCT Department of Buses, MTA Bus Company)—Customer Service Initiatives**

- Implemented the Staten Island express bus network redesign that shortens trips and increases speeds, benefitting over 35,000 daily riders. Continued adjustments made in response to customer feedback, including 120 more trips and two new routes. Express Bus speeds on some routes showed as much as a 12-percent improvement by the end of 2018.

- Began the process of redesigning the Bronx bus network with borough-wide outreach and information gathering. The agency held six public workshops attended by a total of 450 residents; conducted some 2,000 in-person surveys at 12 key locations; and ran an online survey garnering roughly 750 respondents.

- Launched a pilot to increase the frequency of off-peak service on four bus routes (Q6, Q69, B17, B65) to improve the commutes of customers with non-traditional working hours.

- Implemented Select Bus Service (SBS) on the B82 route in partnership with NYC DOT, including dedicated bus lanes, fewer stops, and off-board fare collection, speeding up service for over 20,000 daily riders along Kings Highway in Brooklyn. This brings the number of SBS routes to a total of 18 routes on 16 corridors.

- Completed improvements to enhance speed and reliability on 12 corridors, in collaboration with NYC DOT. These included: a double-wide bus lane on 5th Ave. in Manhattan; an extended bus lane on Fulton St. in Brooklyn; bus stop rationalization on the
Q22 and B3 routes; signal-timing improvements at the St. George Ferry Terminal; additional roadway capacity to reduce congestion on the Q83 and X64 routes; and the addition of several red bus lanes, boarding islands, and bus-stop crosswalks.

- Increased bus-lane enforcement in collaboration with NYPD. In 2018, NYPD issued 80 percent more bus-lane violations compared with 2017. MTA and NYPD staff conducted over 50 joint enforcement blitzes, including an initiative focused on the express bus approach to the Hugh L. Carey Tunnel in lower Manhattan, improving sustained speed by some 30 percent. NYPD continues to provide focused enforcement on 12 priority corridors selected by the MTA.

- Completed tests of a double-decker express bus and an easy wheelchair entry express. Installed outward opening doors on five buses to assess impact on passenger flow. Began operation of the first compressed natural gas (CNG) articulated buses and tested a next-generation hybrid-electric bus, an ultra-low emission bus.

- Began a pilot program of NYC’s first ever all-electric buses, starting in January 2018. This includes two five-bus fleets: in Manhattan on the M42 and in Brooklyn on multiple routes out of Grand Ave. Depot.

- Launched a new customer-focused Performance Dashboard using newly updated metrics to better reflect actual customer experience and priorities. These include: Customer Journey Time Performance; Additional Bus Stop Time; and Additional Travel Time.

- Improved amenities and accessibility at bus stops, in partnership with NYC DOT, by installing over 100 real-time information signs and accessibility enhancements at 13 stops.

**Access-a-Ride (AAR) Initiatives**

- Launched a new AAR Performance Dashboard to identify metrics that are most valuable for customers. These include indicators for on-time performance for pick up and drop off; provider no-shows; ride time; and the performance of the AAR call center.

- Received delivery of 400 new lift-equipped vans for primary carrier service to replace vehicles that have exceeded their useful life. The new vans are quieter and have higher ceiling clearance, bright LED lighting, digital thermostat controls, and a narrow body design for easier maneuverability.

- Simplified the existing no-show/late cancelation policy for AAR customers. A new point
system allows seven missed or canceled trips per month per customer. Simplified eligibility application and approval for customers with ongoing or permanent disabilities to eliminate regular five-year reassessment.

- Rolled out a pilot version of the myAAR app, based on extensive feedback from paratransit customers. The new app gives AAR customers more control over ride bookings, accounts, and more.
- Delivered a total of 2 million E-Hail trips, providing improved service and convenience for customers through this pilot initiative. In early 2019, MTA announced a further extension of the popular E-Hail program, expanding the use of taxis and for-hire vehicles at the regular NYCT base fare.

**Long Island Rail Road—Customer Service Initiatives**

- Expanded service to the east end of Long Island by providing additional connections to the Greenport Scoot and initiating a new “one-seat ride” to Penn Station using a dual-mode locomotive originating out of Southampton instead of Speonk.
- Completed improvements to the Hicksville Station to support the Town of Oyster Bay’s Hicksville Downtown Revitalization Action Plan. This station project includes the installation of new platforms, platform waiting rooms, canopies, elevators, escalators, stairways, signage, security cameras, Wi-Fi, and USB charging ports.
- Completed the rehabilitation of Wantagh Station. This project replaced the station platform, platform waiting room, canopy, escalator, platform lighting, communications and security systems, and drainage and added a new ADA elevator.
- Advanced the rehabilitation of the Nostrand Avenue Station, which includes: replacement of station platforms, railings, canopy, overpasses, and platform stairs, along with the installation of new elevators, station lighting, electrical and communication systems, CCTV security cameras, and signage. An October 2019 completion date is anticipated.
- Completed improvements to the Stewart Manor Station under the agency’s station renewals program, which included new LED lighting; new USB charging ports; Wi-Fi service; and interactive digital kiosks.
Completed improvements to the Flushing-Main Street Station, including: installation of new hydraulic elevators; platform railings; staircases; lighting; station plaza; tactile warning strips on platform edges; CCTV security cameras; and a ticket office.

**Metro-North—Customer Service Initiatives**

- Launched the public-facing “Way Ahead” plan, which outlines Metro-North’s responses to growing ridership; changing demographics; and evolving customer needs. The plan includes multimedia customer messaging and regular public updates.

- Continued successful expansion of the customer base for MTA eTix®, the railroad’s mobile ticketing app. Preliminary 2018 data suggests MTA eTix® now accounts for about 34 percent of Metro-North’s East of Hudson ticket sales—three times what was anticipated.

- Carried out a number of station improvements agency-wide, including: enhancements at the Bronxville Station; ongoing upgrades at the Fleetwood and Tuckahoe stations; installation of 135 new station recycling centers; installation of “bird-proofing” structures at seven stations; installation of 57 new parking-meter vending machines at 34 parking facilities; and installation of two new elevators at Grand Central Terminal for expanded ADA access.

- Advanced a number of customer-messaging initiatives in 2018, including: installation of wireless LCD monitors with real-time train information at seven stations, bringing the total number of monitor-equipped stations to 62; conversion of legacy ADA electronic signs to real-time train information at 43 stations; and installation of Outfront Media displays for alternate advertising and emergency messaging at Grand Central Terminal and two other stations. (See also Cost Saving/Revenue Initiatives, p. 63.)

- Worked with NYSDOT to implement a new bus service from Rockland County to Metro-North connections at the Suffern, Spring Valley, Tarrytown, and White Plains stations. (See also Sustainability/ TOD Initiatives, p. 41.)

- Continued Metro-North’s “Connect with Us” public forums, in which the agency’s senior management meets informally with customers and area residents to answer questions and elicit suggestions.
• Launched a new Title VI Language Access Plan (LAP) for multimedia customer communication in: English, Spanish, Portuguese, Italian, Chinese, and Hebrew.

• Created a prototype design and public communications campaign for Metro-North stations undergoing major renovation, beginning with a three-year renovation project at the White Plains Station.

• Provided Amtrak service with access to Grand Central Terminal during a bridge replacement in the Bronx, which entailed integrating Amtrak schedules into Metro-North train-tracking and communications systems, along with customer service support by Metro-North personnel.

**Bridges and Tunnels—Customer Service Initiatives**

• Completed the restoration work for Superstorm Sandy damage at the Queens Midtown and Hugh L. Carey tunnels, generating a 9-percent boost in tunnel traffic to 46.4 million vehicles daily in 2018. The customer impact of this major, FEMA-funded restoration project was minimized by integrating it into normal rehabilitation work and the implementation of cashless tolling.

• Completed the agency’s first full year of cashless tolling at all MTA crossings, resulting in faster travel times and less congestion for customers, along with reductions in vehicle idling, fuel consumption, and carbon emissions. (See also, Operations/Technology Initiatives, p.33.)

• Increased the rate of E-ZPass usage by MTA customers to a record 95.2 percent under cashless tolling system, the highest E-ZPass usage rate in the region. Bridges and Tunnels undertook a number of related communications initiatives to educate customers about cashless tolling, payment options, and ways to avoid violations.

• Continued operation of a reversible bus/high-occupancy vehicle (HOV) lane on the Verrazzano-Narrows Bridge, which has reduced peak-hour commute times from Staten Island to the Hugh L. Carey Tunnel by up to 15 minutes. This included a new Bus/HOV ramp connecting the upper deck to the Gowanus Expressway and the Belt Parkway.

• Processed over 1.1 million transactions for Staten Island resident customers using the
carpool tag. The tag enables them to use any lane on the Verrazzano-Narrows Bridge and receive the discounted carpool rate, provided they have three or more occupants in an eligible vehicle.

- Increased cash replenishments for the MTA Reload Card to over 21 percent, with $3.8 million reloaded in 2018. The agency also increased the number of E-ZPass Pay Per Trip accounts to nearly 139,000 and exchanged 27,234 expired E-ZPass tags to ensure a high rate of scanning performance.

- Completed several customer-facing reconstruction projects in 2018, including the lift-span mechanical and electrical upgrades at the Marine Parkway-Gil Hodges Memorial Bridge and reconstruction of the Bronx Plaza roadway at the Robert F. Kennedy Bridge. Also, advanced work on the foundation rehabilitation and reconstruction of the lower-level plaza roadway at the Henry Hudson Bridge.
Interagency—Operations/Technology Initiatives

- Upgraded over 1300 desktops across all MTA agencies, representing 52 percent of targeted upgrades. The initiative migrated systems from Windows 7 to the Windows 10 OS and Office 2016/Thin Client, including the Office 2016 suite of applications (Word, Excel, PowerPoint, Skype for Business, OneDrive, and OneNote). Also, migrated 70 percent of targeted desktop devices to Thin Client.

- Reached a 94-percent completion stage on the Next Generation Network (NGN) upgrade to new Cisco hardware for NYCT and kicked off Phase II of the upgrade project, replacing routers and upgrading bandwidth for the LIRR, Metro-North, and Bridges and Tunnels.

- Continued to improve the MTA’s all-agency cybersecurity capabilities, carrying out a number of cybersecurity projects in 2018 based on a “defense-in-depth” approach to online hazards. These included ongoing risk assessments of key financial and transportation assets; educational efforts to train employees in safe online behavior; and live intranet tests to assess and monitor employee responses.

- Expanded use of the SolarWinds software to ensure 24/7 year-round monitoring of B Division beacon countdown clocks. The SolarWinds tool enables IT to monitor temperature, memory utilization, disk space, and other system data in real time, identify problems before they can cause system outages. MTA IT extended SolarWinds monitoring to over 1000 countdown clocks in 2018 and to all remaining beacon-driven clocks by March 2019.

- Relocated PeopleSoft Disaster Recovery (PSDR) from its previous location at 130 Livingston Street to the NY State Data Center in Albany, establishing a recovery site at a safe distance from the city. The system at 2 Broadway was upgraded and synchronized with the new PSDR system in Albany, so that data can be updated on a real-time basis. This duplication also creates an auto failover, which can be used when the system is brought down for maintenance.
- Advanced the MTA’s enterprise-wide initiative to upgrade fare-payment processing by moving the AFC credit-debit processing at Bank of America to Chase Paymentech. AFC, which has over 2400 ticket-vending machines, processes over 200,000 transactions daily for NYCT, PATH, and Air Train. The LIRR and Metro-North also updated their payment processors to Chase for onboard ticketing and ticket-selling machines.

- Developed and deployed “Insights,” a new workforce mobile app that allows MTA bus and subway personnel to directly access information on schedules, vacation time, and sick leave via the Unified Timekeeping System (UTS). By March 2019, the Insights app was being used by approximately 25,000 MTA personnel.

- Deployed more than 100 new countdown clocks along 2nd Avenue Subway Line in 2018, bringing the total number of subway countdown clocks to 1800 systemwide. This highly popular customer information system includes the Bluetooth-enabled beacon countdown clocks developed by MTA IT for those subway lines without direct, hardwired signal capacity.

- Supported the security enhancement, interfacing, and migration of data from the MTA’s all-agency public website at www.mta.info to MYmta, the MTA’s combined all-agency trip planner and website. Currently in beta testing, this mobile-enabled app is being regularly updated with new features based on customer feedback.

**NYC Transit (Subways)—Operations/Technology Initiatives**

- Launched the subways “Save Safe Seconds” campaign, with the aim of eliminating 10,000 subway delays per month. This initiative includes weekly reporting on delay targets and direct messaging to employees via senior leadership and managers. The campaign has been highly successful in raising employee awareness, changing delay-causing behaviors, and improving operating conditions, exceeding the monthly goals for four consecutive months at the end of 2018.

- Created a SPEED Unit to evaluate speed-restrictions as part of the “Save Safe Seconds” campaign. The unit identifies “slow spots” within the subway system where historical factors have led to speed restrictions well below the safe levels for today’s trains and track geometry. At the time of this report, the unit has reviewed over 665 miles of track, tested
over 2,000 timer signals, and fixed over 250 slow signals, in addition to safely upgrading the speed limit at multiple locations across all boroughs.

- Combined two train-tracking databases to create a single incident-and-delay reporting system directly tied to digitized information on train movements throughout the subway system. The new database enables NYCT to improve its categorization, reporting, and analysis of subway delays.

- Launched a new management structure within the Division of Stations, which introduced four new District Customer Service Managers (DCSMs) and 26 new Group Stations Managers (GSMs) to oversee all aspects of station management. Each GSM provides a single point of contact for a group of stations in each of the four main districts. They are accountable for all aspects of station operations, including safety and security, cleaning and maintenance, information, signage, accessibility, and customer service. This streamlined structure gives GSMs the combined resources needed to improve the station experience for customers, while cutting the levels of management involvement. (See also, Cost-Saving/Revenue Initiatives.)

- Launched a stations “deep cleaning initiative” under the Subway Action Plan (SAP). This new, intensive approach to cleaning uses outside contractors that can provide new equipment and techniques to improve station environments, with 100 station cleanings currently scheduled through 2019.

- Successfully piloted an Enterprise Asset Management System (EAM) initiative in 2018 to better disseminate information on station defects to all levels of the organization, improving response times and overall operational effectiveness.

- Continued implementation of an EAM system to better manage the inspection, maintenance, and repair of myriad assets across the subway system. Among the 2018 projects was a system to document reports of signal trouble using a uniform coded system for recording signal failures, causes, and actions taken. The system is helping to identify the root causes of subway signal failures with the aim of mitigating failures over time.

- Deployed mobile devices to over 400 track and signal personnel, enabling them to capture data directly during inspections and synchronize with a central database. This direct data-gathering allows NYCT to better analyze trends, diagnose failures, communicate between personnel, and repair infrastructure more quickly and safely.
• Completed the installation of Passenger Station Local Area Network (PSLAN) infrastructure in 472 subway stations. The PSLAN enables the use of internet-based IP applications and equipment at subway stations, including fare-payment systems; “Help Point” emergency intercoms; workstations; and station intercoms, phones, and cameras linked to NYCT’s wide area network.

• Hired an internationally renowned signaling expert to lead the comprehensive modernization of New York City’s subway signal system.

• Completed communication-based train control (CBTC) for the entire Flushing Line. This project implemented a new CBTC system between the Main Street Station in Flushing and the new 34th St./Hudson Yards Terminal, while also modernizing the 1st Ave. and Times Square interlockings and outfitting the Flushing Line fleet with onboard CBTC equipment.

• Began a new program of routine track grinding, which extends the life of subway rails, improves service reliability, and provides a safe and secure right-of-way. Completed the grinding of over 105 track miles in 2018.

MTA Bus Operations (NYCT Department of Buses, Paratransit, MTA Bus Company)—Operations/Technology Initiatives

• Expanded the Intelligent Vehicle Network (IVN) project, which uses onboard computers with wireless links to depots to monitor bus components, identify potential failures, and provide information used in accident investigations. The IVN system has now been installed on 4,176 buses in 28 depots.

• Activated Transit Signal Priority (TSP), in collaboration with NYCDOT, on the B35 Bus Route in 2018, bringing the total TSP activation to 11 corridors—or 12 routes with 548 intersections. The TSP technology now enables buses to hold a green light or shorten a red light, with bus speed improvements of up to 15 percent. The agency is working with NYCDOT to develop an aggressive roll-out of this initiative.

• Retrofitted 624 buses with digital information screens, offering audio-visual information on routes, next stops, service advisories, transfers, and more. This program aims to retrofit a total of 1,461 buses with digital information screens, which also have the potential to generate new revenue through geo-specific advertising.
Received over 400 “new-look” buses, including 105 New Flyer articulated compressed natural gas (CNG) buses out of an order of 110. These are the first GNC articulated buses in the MTA fleet. Also purchased 10 New Flyer standard hybrid buses equipped with the latest safety and customer service technologies, including digital information screens, pedestrian turn warnings, automatic passenger counters, advanced camera systems, and more. (See also Capital Projects, 2018 Completions, p.77.)

Awarded paratransit contracts for a new “Real-Time Scheduling and Computer-Aided Dispatch” system and a new “Automatic Vehicle Location Monitoring” system. These systems will improve the effectiveness and flexibility of MTA paratransit services and will be phased into operations beginning in early 2019.

**Long Island Rail Road—Operations/Technology Initiatives**

- Advanced LIRR’s investment in the Enterprise Asset Management (EAM) initiative. EAM provides the combined planning, training, and technology to optimally manage the railroad’s equipment and infrastructure. The EAM program, which encompasses a number of projects, is providing management with more timely, accurate, useful information regarding the costs, condition, performance, and reliability of agency assets.

- Accomplished a number of EAM initiatives in 2018 for enhanced digital asset tracking, including: the development of a regulatory driven transportation asset-management plan; the digitization of several regulatory and non-regulatory LIRR inspections; and increased registration of physical assets in a newly configured information management system.

- Continued LIRR’s implementation of a Positive Train Control (PTC) system. By the end of 2018, LIRR succeeded in meeting all statutory requirements for PTC compliance under a substitute criteria, submitted to the FRA as a risk-mitigation measure. Compliance included the following: (1) Acquired all spectrum necessary to implement PTC. (2) Completed all required hardware installations. (3) Completed staff training to support lines in Revenue Service Demonstration (RSD). (4) Received conditional RSD approvals and initiated RSD on the Port Washington Branch. (5) Finalized and submitted an alternative schedule with the railroad’s revised PTC Implementation Plan. (6) Submitted written notification to the FRA confirming that LIRR will achieve full PTC implementation by Dec. 31, 2020.
- Completed the 2018 LIRR Annual Track Program, which included the following: replaced 20,931 mechanized ties on the Montauk and Port Jefferson branches; installed 10,802 concrete ties on the Main Line; installed 64,027 feet of Continuous Welded Rail (CWR) on the Port Jefferson Branch; replaced four switches on the Main Line and Babylon branches; renewed 21 grade crossings on the Montauk, Main Line, and Port Jefferson branches; completed 1,005 field welds; undertook 92 miles of tracksurfacing; and performed surfacing on 55 switches.

- Provided a new option for students through the LIRR’s popular Mail&Ride program, which launched a pilot in December of 2017 for the January 2018 commutation month. The Mail&Ride Department enlisted Chaminade High School in Mineola to participate in this pilot, in which students receive tickets by mail instead of purchasing them at the ticket windows. The school’s first monthly tickets via Mail&Ride were mailed out in December 2017. The Mail&Ride Department is anticipating opening this pilot to other schools during the second quarter of 2018.

**Metro-North—Operations/Technology Initiatives**

**Operations/Track**

- Continued Metro-North’s implementation of a Positive Train Control (PTC) system. By the end of 2018, Metro-North succeeded in meeting all statutory requirements for PTC compliance under a substitute criteria, which was submitted to the FRA as a risk-mitigation measure. Compliance included the following: (1) Installed PTC equipment on 903 passenger cars and 50 locomotives. (2) Implemented the Advanced Civil Speed Enforcement System II (ACSES II) on all lines with revenue service using ACSES-equipped rolling stock. (3) Completed installation of all required wayside, onboard, and back-office hardware. (4) Acquired all spectrum necessary to implement PTC. (5) Commenced PTC Revenue Service Demonstration (RSD) on the Hudson Line from Tarrytown to Croton-Harmon. (6) Submitted the request for an alternative schedule to the FRA for commissioning of PTC on remaining line segments and interoperability with tenant railroads, along with written notification confirming that Metro-North will achieve full PTC implementation by Dec. 31, 2020.
• Implemented a pilot program to increase service at the Tremont and Melrose stations on the Harlem Line from two-hour to hourly service during off-peak and weekends, while also extending the service day. As a result, ridership at the two stations increased by 67 percent on weekdays and by 100 percent on weekends. The extended service was made a permanent part of the Harlem Line schedule.

• Advanced Metro-North’s track work initiative, a systemwide effort ongoing over the last four years. In 2018, the railroad replaced 40,537 ties; replaced 6.7 miles of continuous welded rail (CWR); replaced 31 switches; renewed seven railroad crossings; surfaced 105 miles, undercut 2.6 miles, and welded 2,057 rail joints.

• Supplemented visual track inspections with advanced technologies, including: (1) a specialized inspection car that measures rail profile, track geometry, lateral strength clearance, and more; (2) a specialized car operated by Sperry Rail Service that detects internal rail defects; (3) a specialized car operated by GREX that measures rail-end alignment and grades ties; (4) a track-loading vehicle that measures the lateral strength of the track, track ties, fasteners, and ballast; and (5) three revenue cars with newly installed inspection equipment to perform continuous track geometry measurements along their regular service routes.

• Progressed the installation of a CCTV security system that includes forward-facing, “cab-view” cameras for all Metro-North rolling stock. By the end of the year, 25 percent of the agency’s fleet was equipped with the new “in-cab” and “cab-forward” CCTV systems.

• Continued to upgrade the railroad’s locomotive fleets. One GP35 locomotive was overhauled in 2018, bringing the total number of overhauled GP35s to seven, with one new additional unit scheduled for 2019. Crews also carried out the second Reliability Centered Maintenance (RCM) overhaul for the P32 fleet and performed major component changes in the new Croton-Harmon locomotive facility.

Technology

• Introduced a number of upgrades to Metro-North’s customer-facing applications, providing more accurate, timely information on schedules, train status, and other service information. Also, completed a redesign of the agency’s intranet pages, with cleaner interface and updated department information.
Deployed a new weather emergency management system to track and manage snow-clearing operations at all passenger stations systemwide.

Implemented IT modifications to the Train Information Management System (TIMS) that will help improve train maintenance and scheduling. The enhanced system will also reduce train delays and potentially cut overtime costs by eliminating the breaking up and reassembling of train sets.

Completed a new Fire/EMS record-management system for the Fire Brigade at Grand Central Terminal. The system streamlines the tracking of fire safety data, EMS incidents, occupancy levels, inspections, and other safety related information. It will allow for better resource allocation, while also increasing safety for customers, employees, and the general public.

**Bridges and Tunnels—Operations/Technology Initiatives**

- Completed the agency’s first full year of cashless tolling at all MTA crossings, resulting in faster travel times and less congestion, along with reductions in vehicle idling, fuel consumption, and carbon emissions. The changeover also increased the rate of E-ZPass usage by MTA customers to a record 95.2 percent, the highest E-ZPass usage rate in the region. (See also, Customer Service Initiatives)

- Completed the construction of a new Operation Command Center (OCC) at Special Operations Building 104 on Wards Island. The new OCC, which opened on March 1, 2018, is designed to accommodate the agency’s expanded operational role in the New York Crossings Project. Along with the OCC and its new security and control systems, the operations building houses the Bridges and Tunnels Training Academy, the Special Operations Highway Unit, the Central Operations Notification Unit (CONU), and the Multi-Agency Coordination Center (MACC), which includes representatives from the New York State Police and National Guard. The OCC operates 24/7, 365 days a year.

- Continued to employ License Plate Recognition (LPR) technology at all Bridges and Tunnels crossings, as well as in patrol vehicles. The LPR technology, whose data can be distributed to state and local law enforcement agencies, is used by Bridges and Tunnels for toll violation enforcement and identification of persistent violators. The LPR system interdicted
over 1,050 persistent toll violators with suspended registrations in 2018 and contributed to the collection of $4.4 million in tolls and fees over the year. Additionally, the agency, in collaboration with the New York State Police, issued more than 7,500 summonses for covered or obstructed license plates in 2018. (See also, Cost Cutting/Revenue Initiatives)
Sustainability/Transit Oriented Development (TOD) Initiatives

Interagency—Sustainability/TOD Initiatives

- Partnered with the New York Power Authority (NYPA) to carry out energy-efficiency projects throughout the MTA system. Around $19.5 million dollars’ worth of projects were completed in 2018, including: (1) Phase 5 of the remote-controlled third-rail heaters project; and (2) Comprehensive energy equipment upgrades at the Grand Avenue Bus Depot and Central Maintenance Facility, including ventilation systems, pumps, motors, and building-management controls.

- Compiled all 2018 data regarding MTA’s energy usage and increased efficiency in accordance with the New York State Executive Order 88 (EO88).

- Compiled all 2018 data regarding MTA’s greenhouse gas emissions (GHS), and reported all energy usage in accordance with the Greenhouse Gas Protocol. Data regarding energy usage have been third-party verified and reported to The Climate Registry. The MTA’s energy usage profile for prior years are publicly available through The Climate Registry website. Also, preparing to submit the “2018 GHG Emission” brochure for internal and external use.

- Continued to collect regional climate adaptation information and case studies from the MTA agencies as an ongoing overview of the MTA’s resiliency initiatives and strategies. In conjunction with this information-gathering, MTAHQ coordinates the agency-wide MTA Climate Adaptation Task Force, supporting climate-related initiatives for all MTA operating agencies.

- Launched a Solar Feasibility Study for MTA facilities with Pace Global, an energy-consulting services company, to provide a survey and analysis of facilities appropriate for solar installations. The survey started in February 2018 and is using geographic information systems (GIS) tools to assess the roof space of NYCT facilities for potential solar photovoltaic installations.

- Reported data and information for New York State Executive Order 166, which was issued by Gov. Andrew Cuomo in June 2017 as a response to the U.S. withdrawal from the Paris
Climate Agreement. Its goals are to reduce statewide greenhouse gas emissions from 1990 levels by 40 percent by 2030 and 80 percent by 2050. As part of this statewide effort, the MTA plans to implement a number of clean energy projects in the next Five Year Capital Program.

**NYC Transit (Subways)—Sustainability/TOD Initiatives**

- Awarded major capital projects to mitigate flooding at three critical subway yards: the Coney Island, 207th Street, and 148th Street yards. Each yard will be protected by a perimeter flood wall. In addition, power and communication cables will be relocated to elevated cable bridges at Coney Island; deployable flood curtains will be installed at the 207th Street tunnel portal; and deployable flood logs will be installed at the 148th Street tunnel portal. The agency also continued its street-level flood mitigation efforts in 2018, installing marine doors, mechanical vent closure devices, and watertight hatches. (See also Capital Program Commitments/Completions, p. 68.)

- Published NYCT Subways first Heat Emergency Response Plan, summarizing all operational responses in the event of extreme and sustained high temperatures in the NYCT travel region. The plan incorporates activities from all NYCT Subways operating divisions to ensure continuity of operations and to minimize customer and service disruptions during heat waves.

- Continued systemwide recycling and reclamation programs. In 2018 an average 31 tons of passenger refuse was removed from stations each day. Over the year, 11,116 tons of station refuse were processed, 50 percent of which were recycled, one of the highest recycling rates in the U.S. In addition, the MTA’s asset recovery program reuses, sells, and recycles scrap, waste, and disposed materials from MTA worksites, yards, fleet operations, and other facilities. In 2018, out of a total of 85,364 tons of material removed from MTA properties by asset recovery programs, 61,429 tons were diverted from landfill, for an overall diversion rate of 72 percent.

- Advanced resiliency projects to secure the system against rising sea levels and extreme weather events. Projects continued in 2018 include installation of: 1013 mechanical closure devices that are located inside ventilation bays and can be rapidly manually closed
against water intrusion and quickly reopened when the storm passes to allow the air movement; 77 flood doors to critical rooms that can prevent damage to equipment inside in the events of small flooding; 14 bulk-head doors that are manually closed and completely watertight; 40 flex gates that are embedded in-situ and allow rapid manual sealing subway station entrance stairs; 38 stop-log systems that are stored near the deployment site and are manually installed ahead of a storm event to prevent water intrusion.

- Continued the ISO 14001 certification program under NYCT Capital Program Management. The certification program ensures that every NYCT project in the MTA Capital Plan fulfills the requirements of the agency’s Environmental Sustainability Policy.

**MTA Bus Operations (NYCT Bus, MTA Bus, and AAR Paratransit) Sustainability/TOD Initiatives**

- Advanced a three-year pilot program utilizing 10 leased all-electric buses (AEBs). Five AEBs from New Flyer operate in Manhattan on the M42 and M50 routes, and five AEBs from Proterra operate in Queens and Brooklyn on the B32 and B39 routes. The pilot program uses three on-street charging stations and eight depot chargers. Data on these pilot routes is being compiled towards future AEB procurements. Also, awarded a contract for 15 New Flyer all-electric articulated buses, which reduce GHG emissions.

- Began delivery of 918 new clean-energy and fuel-efficient buses, including: 110 New Flyer XN-60 articulated CNG buses; 367 New Flyer standard clean diesel buses; 10 New Flyer hybrid buses; 251 Nova clean diesel standard buses; 108 New Flyer clean diesel articulated buses; and 72 Nova clean diesel articulated buses. (See also, Capital Projects, Commitments, p. 76.)

- Advanced construction throughout 2018 on the new NYCT and MTA Bus Command Center in East New York, Brooklyn, which is incorporating energy-efficiency innovations, including natural lighting, a “green roof,” and a rainwater-collection system to manage storm runoff.

- Continued to implement a comprehensive plan to comply with New York State
Executive Order 88 (EO 88), which mandates a 20-percent reduction of building energy consumption from 2010 levels by 2020. The order affects a total of 32 NYCT and MTA bus facilities. The work in progress is based on an aggressive schedule of 14 energy audits and seven retro-commissioning audits.

- Initiated capital design and construction for HVAC upgrades at various bus depots, including the Manhattanville, Zerega CMF, Queens Village, Fresh Pond, and East New York depots. In addition, design for the emergency generator replacement at the Yukon Bus Depot is currently in progress.

- Developed a master plan for incorporating energy-efficient measures into the rehabilitation of building envelopes at three NYCT bus depots and three MTA Bus depots, including installation of energy-efficient windows; roof replacements with white roofs to reduce the “heat island” effect. Roof replacements were completed at Spring Creek and East New York depots in 2018.

- Continue the “Bike and Ride” program, expanding it to the Q50 and Bx23 routes in 2018. The Q50 traverses the Bronx-Whitestone Bridge, while the Bx23 is the Co-op City circulator and serves Pelham Bay Park. Bike racks were installed on all 25 local buses at Eastchester Depot, which operates the two routes. Customers can use the racks at no additional charge on a first-come basis.

**Long Island Rail Road—Sustainability/TOD Initiatives**

*Sustainability*

- Reported the 2018 prior-year metrics for LIRR’s annual recycling program. In calendar year 2017 the agency recycled: 50.71 tons of office paper; 10.98 tons of nonautomotive batteries; 22.44 tons of motor oil; 2,704 tons of scrap metal; 11.91 tons of electronics; and 3.4 tons of fluorescent bulbs. The LIRR recycling program also sends all small office refrigerators and air conditioners for Freon recovery to avoid releasing the refrigerants into the atmosphere.

- Completed a number of storm resiliency projects along the LIRR’s Long Beach Branch, including new elevated signal huts and substations to protect vital communications and power infrastructure in flood-prone areas.
• Completed the purchase of 22 emergency diesel-powered electrical generators, including both mobile and fixed units, to be deployed across the LIRR system, particularly in flood-prone areas. An additional eight generators are being purchased and at the time of this report to complete this emergency-support initiative.

• Carried out flood-mitigation and drainage improvement projects at the Atlantic Avenue tunnels, including elevation of air vent grates along the Atlantic Avenue roadway median and replacement of sump pumps.

Transit-Oriented Development

• Continued participation with many Long Island communities to pursue mixed-use development centered around LIRR stations. These included station enhancements and/or TOD planning efforts in the villages of Hempstead and Port Jefferson, the Town of Huntington, the City of Glen Cove, as well as the hamlets of East Farmingdale, Copiague and Hicksville.

• Completed the new state-of-the-art Wyandanch Station in the Town of Babylon in 2018, with pedestrian overpass, ADA-compliant elevators, and expanded parking facilities, providing a significant increase in commuter parking along the LIRR Main Line. The work is part of “Wyandanch Rising” project, a transit-friendly revitalization plan that will also support future ridership projections associated with East Side Access.

• Continued a number of long-term initiatives to support mixed-use, transit-friendly development along LIRR rail corridors and around LIRR station improvement projects. Notable projects advanced in 2018 include the Town of Oyster Bay’s “Hicksville Downtown Revitalization Action Plan;” partnerships with the Town of Brookhaven and the Town of Islip to transform the area around the Ronkonkoma Station into a mixed-use, TOD zone; and Nassau County’s “Downtown and Commercial Corridor Resiliency Study,” whose goal is TOD and downtown revitalization in the area around LIRR’s Baldwin Station.

• Continued work to support two Bus Rapid Transit (BRT) initiatives along LIRR rail corridors. The first will provide north-south transit access along Route 110, Long Island’s largest job center. It will connect the LIRR Babylon and Ronkonkoma branches, alleviate traffic congestion, and spur TOD initiatives along the corridor. The second BRT will provide north-south transportation along Nicolls Road in Suffolk County. This will connect job centers
between Stony Brook and Patchogue; link three LIRR branches; support LIRR’s double track initiative; alleviate traffic congestion; and spur associated TOD initiatives.

**Metro-North—Sustainability/TOD Initiatives**

**Sustainability**

- Continued implementation of the ISO 50001 Energy Management System framework to guide the agency’s energy use. This effort involves many energy conservation and fuel metering initiatives aimed at cutting greenhouse gases (GHGs) while reducing energy and fuel costs. Metro-North is the first railroad in North America to receive ISO-50001 certification, which was issued in September 2018. The certification program was supported by an employee-facing multimedia campaign and survey to train and educate agency personnel. The first surveillance audit is currently scheduled for the second quarter of 2019.

- Continued to progress the installation of an Energy Management System (EMS) software platform that will capture all utility data, enabling Metro-North to track energy cost and consumption for traction and non-traction electricity, propulsion and non-propulsion diesel fuel, steam, heating fuel, water and gas. The EMS will also provide historical data for benchmarking and budgeting future energy costs. The EMS is slated for commissioning in the first quarter of 2019.

- Completed installation of the Fuel-Monitoring and Leak-Detection System at Harmon Yard, adding to those already installed at the Brewster and North White Plains yards. The system monitors diesel and heating fuel consumption, detects leaks, and reports back to an enterprise EMS, with the aim of helping the agency monitor and manage fuel consumption. The installations were supported by employee training and an electronic key to regulate fuel withdrawals in the field. Similar systems are planned for five additional Metro-North locations. (See also Cost Cutting/Revenue Initiatives, p. 60.)

- Began the replacement of 307 older 1,000-watt high-mast yard lighting fixtures with new 500-watt LED fixtures at yards across Metro-North properties. This project is expected to save 153,500 kWh annually and will reduce the agency’s high-mast yard lighting energy
consumption by 50 percent. Completion is slated for the end of the first quarter of 2019, and the project is projected to fully pay for itself in energy and maintenance savings within five years. (See also Cost Cutting/Revenue Initiatives, p. 61.)

- Initiated plans to install a wayside energy storage system (WESS), a four-megawatt (4MW) battery on Metro-North’s Upper Harlem Line to stabilize voltage and correct voltage sags on the third rail. The WESS is designed to maintain voltage during peak load requirements, prevent propulsion reductions that cause train delays throughout the Harlem Line, and to solve voltage sags between White Plains and Brewster due to the limited number of substations available.

Transit-Oriented Development

- Obtained MTA Board approval for the proposed Harrison Station Transit-Oriented Development on a 3.3-acre MTA property. The project will construct a mixed-use, residential-commercial area around the Metro-North station and will nearly double rail customer parking. The design was 90 percent complete by the end of 2018 and groundbreaking is expected in 2019.

- Began receiving RFP submissions for redevelopment of MTA-owned and city-owned properties around Metro-North’s Poughkeepsie Station. The ultimate aim is to modify the Poughkeepsie Station building in order to increase activity and catalyze future development around the station.

- Closed on property in Croton Falls to construct a new Metro-North parking facility near the Croton Falls Station. The new facility will add approximately 200 parking spaces, new lighting, and new crosswalks for rail commuters, while helping to eliminate unauthorized parking along local roads.

- Worked with NYSDOT to plan and implement its Lower Hudson Transit Link (LHTL), a bus service that crosses Governor Mario Cuomo Bridge to connect residents of Rockland County to Metro-North’s Tarrytown Station on the Hudson Line, White Plains Station on the Harlem Line, and other locations in Westchester County.

- Continued work with local partners to advance a number of station and TOD planning efforts at the Harriman, Spring Valley, Nanuet, Tarrytown, University Heights, Taconic
DDSO, Pawling, White Plains, Scarsdale, Wakefield, Melrose, Port Chester, and Harlem-125th St. stations, along with plans for four new Metro-North stations in the Bronx relating to the railroad’s Penn Station Access project, an MTA megaproject managed by MTA Capital Construction.

**Bridges and Tunnels—Sustainability/TOD Initiatives**

- Provided $1.089 billion in total support for the MTA’s regional transit operations in 2018, which in turn helps the 13 million New Yorkers in the MTA service area lead carbon-efficient lives, making New York the most carbon-efficient state in the nation.

- Initiated an LED lighting retrofit of the Bronx-Whitestone Bridge service building in cooperation with the New York Power Authority (NYPA). Currently, LED fixtures for both the interior and exterior perimeter lighting of the facility are being evaluated. An estimated 30-percent energy savings is anticipated to be achieved when the project is completed in 2019.

- Continued to upgrade conventional roadway lighting at all facilities to high efficiency LED lighting fixtures. As of the end of 2018, Bridges and Tunnels has upgraded 82 percent of its roadway lighting to LED.

- Reduced peak-hour commute times from Staten Island to Manhattan by up to 15 minutes through the operation of the new reversible bus/high-occupancy vehicle (HOV) lane on the Verrazzano-Narrows Bridge, thereby benefiting 8,600 daily bus passenger. This initiative provides a direct connection between the bus/HOV lanes on the Staten Island and the Gowanus Expressways.

- Completed a $64-million design-build contract for long-term flood mitigation at both of the agency’s tunnels in 2018. This work provides protection of all vulnerable tunnel entry points to the FEMA 500-year flood elevation. As part of this contract, Bridges and Tunnels installed a total of eight tunnel floodgates at each portal. Each of these 40,000-pound gates is large enough to cover an entire tube portal create a water-tight barrier when closed prior to a storm.
Safety/Security Initiatives

Interagency—Safety/Security Initiatives

Safety/ Emergency Management

- Prepared the MTA’s annual updates for agency emergency planning, including: safety/security planning—with drills, exercises and after-event analyses—for weather-related emergencies; biological incidents; terrorist attacks; crowd-control; customer evacuations; and other emergencies. The planning is coordinated with local, state, and federal agencies. Special programs in 2018 included: active-shooter simulations and training; rail safety training for first responders and communities; and dissemination of all-agency emergency weather guidelines.

- Contributed statewide preparedness efforts as part of the Governor’s Disaster Preparedness Commission, which develops NYS disaster plans and disaster response exercises and interagency coordination.

- Developed 2 Broadway Flood Emergency Response Program (FERP), outlining a course of action when weather conditions threaten potential flood conditions for operations at HQ.

- Advanced the fire / life safety program at MTA HQ / 2Broadway: Coordinated CPR /AED and active shooter training classes for floor warden team members; detailed the roles and responsibilities during quarterly Fire/EAP drills and emergencies for team.

- Implemented enhanced 911 reporting from 2 Broadway. Visual strobes, now installed at fire command and security operations center, will alert security personnel of 911 notifications requiring immediate response.

- In cooperation with NYCT Capital Program Management and MTA Real Estate, undertook a housekeeping initiative at 2 Broadway from March through August that resulted in the removal of 110 tons of excess combustible paper, decreasing the fire load, and mitigating egress concerns.
The Safety and Emergency Management Office (HQ) coordinated a number of safety-related events, including HQ Safety Day and four meetings of the MTA Board’s Safety Committee.

Continued facilitation and monitoring of a multi-agency obstructive sleep apnea (OSA) screening, testing, and treatment for train operators and other critical personnel. It was the first OSA program in the country and remains the largest.

Continued participation on the interagency Wellness Council to coordinate wellness messaging and promote wellness activities and events for the MTA’s 70,000+ employees.

Facilitated an all-agency “Safety Barometer Survey” for all MTA employees, in collaboration with the National Safety Council (NSC). The survey allows the agencies to acquire employee feedback that is collected anonymously and analyzed by the NSC. These data will be used to develop and expand safety initiatives based on actual ground-level observations by employees in all fields and agencies.

Conducted bi-weekly, new-hire safety orientations, tracked MTAHQ workplace injuries and illnesses, maintained HQ OSHA (Occupational Health & Safety Administration) log, continued oversight of HQ “injured on duty” (IOD) reporting and investigation program.

Security

Provided system-wide policing through the MTA Police Department (MTAPD), which has a workforce of over 800 officers and civilian employees. Its jurisdiction, which focuses on LIRR, Metro-North, and SIR, extends across the MTA travel region to 14 counties in two states. Following 9/11, MTAPD significantly expanded its counter-terrorism capabilities, adding K-9 and emergency service officers.

Completed active shooter training for all MTPD officers in 2018. The department has trained a total of 69 officers in the Active Shooter Course I and 58 officers in the Active Shooter Course II. All members of the ESU attended Active Shooter and Advanced Active Shooter courses at the State Preparedness Training Center.
MTAPD 2018 Crime Statistics
Number of reported crimes at LIRR, Metro-North, and Staten Island Railway

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<td>Grand Larcenies</td>
<td>160</td>
<td>146</td>
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</tr>
<tr>
<td>G.L.A.</td>
<td>10</td>
<td>3</td>
<td>-70%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>271</strong></td>
<td><strong>237</strong></td>
<td><strong>-13%</strong></td>
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</tbody>
</table>

- Completed MP5 Re-Qualification Course for MTAPD officers in 2018. The Department has requalified 74 officers. Also, trained six service members at Texas Engineering Extension in enhanced incident command.
- Began issuing Tasers to the MTAPD service members. Seven officers were trained as instructors on the use and handling of Tasers. A total of 13 classes were conducted with a total of 94 members were trained. This encompassed members of K9, Homeless Assistance Unit (HAU), Emergency Service Unit (ESU), Highway Unit (HWY), and to officers assigned to District #8, due to the district’s single car patrols. A total of 148 Tasers were purchased in 2018.
- Updated 276 department vehicles in 2018 due to a carbon monoxide recall. Also, outfitted 22 department vehicles with Window Armor inserts.
NYC Transit (Subways)—Safety/Security Initiatives (2018)

- Continued installation and upgrading of “Help Point” devices, with more than 2,900 units installed in 464 subway stations. The highly visible, “blue-lighted” units put customers in contact with the Rail Control Center (RCC) for emergencies and with the Travel Information Center (TIC) staff for directions and other service information. Some 5,800 incident reports were filed via units and some 400,000 information requests made in 2018.

- Implemented a new cleaning system through the acquisition of one new vacuum train, now in service, with two more trains to arrive in 2019. A new systematic schedule for vacuum train use ensured increased footage cleaned per train and the reduction of visible trash in stations and along the track right-of-way.

<table>
<thead>
<tr>
<th>Category</th>
<th>2017</th>
<th>2018</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>Murder</td>
<td>0</td>
<td>1</td>
<td>--</td>
</tr>
<tr>
<td>Rape</td>
<td>7</td>
<td>2</td>
<td>-71%</td>
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<tr>
<td>Robbery</td>
<td>450</td>
<td>484</td>
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<tr>
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<tr>
<td>Burglary</td>
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<tr>
<td>Grand Larcenies</td>
<td>1652</td>
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<tr>
<td><strong>Total</strong></td>
<td>2474</td>
<td>2568</td>
<td>3.8%</td>
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NYPD 2018 Subway Crime Statistics

Subway crime statistics are reported by the New York Police Department (NYPD) Transit Bureau, which is responsible, along with other agencies, for patrolling the NYCT Subway system.

- Continued the FASTRACK program, which provides a safer working environment for maintenance and repair crews by curbing train operations in work areas. NYCT completed 22 FASTRACK programs in 2018.

- Increased the number and quality of subway service announcements aimed at customer safety. These followed an increase in the customer injury rate, which included incidents of people struck by trains or falling between cars. New and revised announcements caution against: walking between subway cars; holding or leaning on doors; et al. Poster, audio, and
digital media security announcements include: random police inspections; reporting unwanted sexual conduct; and sick passenger assistance.

- Decreased the rate of employee “lost time and restricted duty” accidents in 2018 to 2.84 per 100 employees from an adjusted rate of 2.88 in 2017. The expanded employee safety program includes regular safety communications, safety audits, employee safety training, and detailed accident investigations.

**MTA Bus Operations (NYCT Buses, MTA Bus Company, AAR Paratransit)—Safety/Security Initiatives**

- Expanded the bus camera security system to a total of 3,573 buses, with additional installations ongoing. Also, successfully negotiated the implementation of operator-compartment-facing cameras with all bus operator labor unions. Cameras will be retrofitted to 1,667 buses by the end of 2019. Operator-compartment-facing cameras are a critical tool in incident reporting, crime prevention, and improved safety for both bus operators and customers.

- Continued the annual cycle of Vision Zero safety training programs. In 2018, the agency delivered the Vision Zero III program. Each iteration of the Vision Zero curriculum is updated and varied to increase bus operator awareness and cover recent collision trends and types.

- Expanded the deployment of the pedestrian turn warning (PTW) safety technology, a technology that alerts pedestrians to a bus making a right or left hand turn via automated external audio announcements. The MTA installed PTW on 288 buses as part of the pilot testing, and over 300 new buses were delivered with this technology enhancement in 2018.

- Conducted a two-bus pilot project to add a backup camera, which allows the operator to view images from the rear of the bus. The mirror will be designed to incorporate an embedded monitor while the bus is engaged in reverse. Bus manufacturers will deliver new buses equipped with this safety technology beginning in the third quarter of 2019.
• Launched Phase V of the MTA’s security awareness training, a joint initiative with the MTA Office of Security for bus operators, front-line managers, and supervisors with direct customer contact. The program is ongoing, and some 1,588 agency personnel have received the Phase V training, as of this report.

• Continued the Security Red Letter Drill Program for field security personnel. The drills simulate actual emergencies, providing security staff with a chance to utilize their training in the field, while enabling the agency to evaluate preparedness and continually improve security training and policies.

• Continued the MTA’s random undercover observation program, carrying out over 10,000 undercover check rides in 2018. This program focuses on directly evaluating and reinforcing the safety habits of bus operators, while also providing bus operators with positive feedback for every observed ride, as warranted.

• Completed security upgrades at the Baisley Park and Far Rockaway depots, including card reader access, new perimeter fencing, security cameras, video analytics, and video management systems. Neared completion of security upgrades at the Spring Creek and JFK depots, with completion projected for August 2019. Also, instituted a “meet and greet” with local law enforcement to review depot-specific security concerns.

• Conducted a required Risk Management Seminar for all MTA Paratransit carriers. The seminar covered safety trends, security issues, and best practices for improving customer and vendor safety. The agency also tested an app for GPS tracking of MTA-owned Paratransit vehicles and plans to roll out the app to all carriers in 2019.

Long Island Rail Road—Safety/Security Initiatives (2018)

• Conducted quarterly “Safety FOCUS Days” across LIRR, attended by approximately 4,000 employees each. The president and vice president of corporate safety met quarterly with frontline supervisors and managers to discuss safety issues in the field.

• Continued Confidential Close Call Reporting System (C3RS), a collaborative effort between management, labor, and the Federal Railroad Administration (FRA) which enables
employees to confidentially report “close calls” that could have caused operating and safety incidents. Peer Review Team representatives met several times a month to review reports, discuss mitigations, and recommend corrective actions for implementation.

- Continued work with MTAHQ, NYSDOT, Nassau and Suffolk counties, and local government authorities to improve safety measures at railroad grade crossings. As part of LIRR Forward, installed delineators and pavement markings at all 296 grade crossings. Additionally, LIRR partnered with the GPS-app WAZE to alert drivers on track location.

- Implemented a new Enterprise Safety System (ESS) to replace LIRR’s existing mainframe-based Accident Control System (ACS). Beyond functioning as the official repository of accident and incident data for the LIRR, ESS’s robust business intelligence functionality provides trend analysis to improve decision-making affecting safety performance.

- Continued expansion of “safety management systems” (SMS), endorsed by the FTA, the FRA, and the federal DOT, which compliments an engineering-centered process by paying added attention to the “human element,” data sharing, and measurements of safety performance.

- Progressed Customer Safety Awareness Days in partnership with New Jersey Transit, Amtrak, and New York City Transit at Penn Station, using “Let’s Travel Safely Together” messaging, which highlights customer behavior that helps reduce accidents and injuries.

- Continued Labor Management Partnership Committees at the corporate and department levels to exchange information and review safety issues specific to the various Metro-North departments.

- Expanded the Roadway Worker Field Compliance Division (RWFC), which comprises full-time employees in the field. RWFC managers conduct observations and testing to ensure employees and contractors are abiding by all FRA regulations and LIRR On-Track Safety Rules.

- Continued installation of inward- and outward-facing cameras in the cabs of all rail fleets. Outward-facing cameras record track and wayside activities; inward-facing cameras record the engineer’s control area when train is operating. In response to a NTSB recommendation, new passenger-area cameras offer crime deterrence and can provide forensic investigative capability.
- Completed the multiple security projections throughout the system: installed high-security electronic gates and fencing and “hardened” security at LIRR yards; installed video management systems, intrusion detection, and access-control devices at many LIRR stations and/or facilities. New cameras have been added on station platforms and at crossings, yards, ticket offices, and facility buildings.

- Continued design review of security elements in the projects: East Side Access; Moynihan Station/West End Concourse; Penn Station renovation; Enhanced Station Initiative locations; and Main Line/3rd Track.

- In addition, security initiatives continued with various security design updates and progressed work regarding electronic data storage, review, and analytics.


**Safety**

- Continued the confidential “close call” reporting system (C3RS) for Metro-North’s transportation, mechanical, and engineering departments. Developed with Labor, the FRA, NASA, C3RS gives workers a confidential means to report potential safety hazards or breaches of procedures. Metro-North has received more than 3,937 reports over the last three years via C3RS.

- Continued to implement the National Transportation Safety Board (NTSB) recommendations, while working with both the NTSB and other MTA agencies to ensure the coordination of the industry’s best practices.

- Continued the agency’s Obstructive Sleep Apnea (OSA) program, which began in 2015 with the screening of all of Metro-North’s locomotive engineers. OSA screening for conductors began in 2017; 63 percent of all conductors have been screened and are being monitored for compliance with treatment.

- Fully implemented Cority, an enterprise safety database solution system, which provides a centralized repository for track, trend, and other safety data.

- Implemented a safety management system (SMS), endorsed by the FTA and the FRA. SMS supplements an engineering-centered process with increased attention to the “human
element,” data sharing, and measurements of safety performance.

- Initiated or continued a number of public safety outreach efforts. These include TRACKS (Together Railroads and Communities Keeping Safe) to promote grade-crossing awareness and rail safety to communities, schools, and others; and a new series of social media safety posts, along printed safety promotions.

- Participated in the 2nd Annual U.S. Rail Safety Week, Sept. 24-30, promoting rail and grade-crossing safety at stations and grade crossings and launched Customer Safety Day in Grand Central Terminal, reaching an estimated 7,400 individuals.

- Partnered with WAZE, a community-based GPS navigation app, to add Metro-North’s grade crossings into the app’s automatic alerts for drivers.

- Provided classroom and field training for police, fire and EMS workers, training 2,047 first responders. With FDNY, Metro-North and MTAPD, conducted a full-scale joint-emergency preparedness exercise in the Park Avenue Tunnel that simulated the derailment and evacuation of a passenger train.

- Conducted bi-annual Metro-North safety clean-up days to remove debris and clutter in seven yards and at Grand Central Terminal; held quarterly safety focus days to discuss: safe practices and employees’ safety concerns; employee and department safety excellence awards; and a newly revised, comprehensive set of safety rules.

Security

- Completed outfitting the agency’s entire revenue fleet with inward-facing and forward-facing onboard video systems, for a total of 925.

- Scored 99.4 percent on the Transportation Security Administration’s “Baseline Assessment for Security Enhancement.” This voluntary security assessment of national mass transit and passenger rail systems by TSA’s security inspectors informs development of risk-mitigation priorities and TSA resource allocations.

- Revised operating rules and protocols to distinguish between “unattended” and “suspicious” items left onboard trains. The new rules allow an immediate response to suspicious packages, while minimizing the disruption of revenue service. Also, partnered with Corporate and Public Affairs for print and digital promotions to raise customer awareness of the problems caused by left bags.
Implemented VALOR, a security-incident tracking and analysis system, which records management and mobile data modules in a cross-platform environment. VAOLOR’s management of case evidence and investigations; field reporting; and incident mapping will ensure both better record keeping and trend analysis, including cost per security incident.

Developed rapid security camera and Help Point deployment for ten stations. This is part of the MTA-wide video surveillance and customer help points, the blue light intercom kiosks that allow customers to press a big red button and call MTAPD when help is needed.

Established a Grand Central Terminal Neighborhood Security Consortium, comprising all security directors for neighboring properties in the midtown/GCT area, to establish relationships in advance of a possible future crisis. Group includes intelligence and info sharing.

Implemented Right of Way Task Force operation in conjunction with the Maintenance of Way department with dedicated Security and MTA Police. Security now has a full-time employee dedicated to patrolling the Right of Way and security infringements, such as fence damage, vandalism, and homeless encampments, and high-trespasser crossings.

Implemented a number of other employee-centered security programs, including a quality assurance program to test vigilance and adherence to rules at guard stations and yards; recertification of approximately 2,000 retired employee transportation passes; and initiated transportation pass distribution to NYC Transit Workers Union (TWU) employees in accordance with their new contract agreement.

**Bridges and Tunnels—Safety/Security Initiatives**

**Employee Safety**

Responding to a slight 2018 increase in employee “lost-time accidents,” Bridges and Tunnels undertook the following safety initiatives:

- Conducted training in safety protocols and accident prevention across the agency,
including Traffic Incident Management, which covers responder safety, initial scene response, emergency traffic control, and scene management.

- Intensified case management of injuries on duty (IOD) to minimize lost work time and to discourage abuse.
- Renewed a focus on incident investigations and condition audits to determine and address the root causes of safety issues.
- Revised and updated agency “Policies and Procedures” as part of a safety management system for all Bridges and Tunnels facilities.
- Achieved a 7.4-percent reduction in the rate of contractor injuries in 2018, despite an unprecedented volume of accelerated construction, through accident program management and prevention.
- Identified issues, such as ergonomics, that are major contributors to lost-time injuries, and mitigated them through a range of initiatives, including the development of a new wellness program.

Customer Safety
Addressing a slight increase in the “collisions with injury” rate from 0.99 per million vehicles to 1.04 per million vehicles in 2018, Bridges and Tunnels undertook the following safety initiatives:

- Conducted bi-weekly collision task force meetings with facility management to analyze collision information, as well as quarterly authority-wide reviews by the interdepartmental Collision Reduction Team.
- Intensified customer safety strategies by identifying collision-prone locations, improved their physical characteristics, and utilized targeted enforcement to reduce unsafe driver behaviors.
- Issued more than 384,117 summonses and effected more than 795 arrests in 2018, in collaboration with New York State Police. This includes 12 percent more arrests than the prior year. The largest increases involved unsafe lane changes, disobeying traffic control devices, and cellphone-related violations.
- Integrated a number of new customer-safety improvements and safety-related projects into the development of Bridges and Tunnels’ 2020-2024 Five-Year Capital Plan.
Interagency—Cost Cutting/Revenue Initiatives

While this report lists selected agency cost-cutting and revenue initiatives for calendar year 2018, it is important to note that the year saw an agency-wide hiring freeze and ended with significant and well-publicized fiscal challenges. Addressing these issues, MTA Acting Chair Fernando Ferrer announced in a press release on Feb. 27, 2019, a number of cost-cutting measures to be undertaken across all MTA agencies, including a mandated $500 million in recurring annual savings, a 10-percent cut in all contractor and vendor rates, a consolidation of back-office functions, and other organizational reductions. On the revenue side, the MTA Board adopted new fare and toll rates, announced in a separate Feb. 27, 2019, press release, along with ongoing efforts to secure additional, regularized funding sources. (See also, Section 1. Performance, p. 3.) Other 2018 interagency initiatives include:

- Implemented an enterprise-wide hiring freeze for all nonessential employees in 2018, which included the formation of an executive committee to determine that every vacant MTA job is essential before that job can be refilled.

- Continued a decade-long, enterprise-wide effort to consolidate functions, institute operational efficiencies, improve procurement procedures, and implement recurring annual savings at all MTA agencies. These efforts have led to recurring annual savings of over $2 billion since 2010.

- Continued the all-agency Six Sigma Certification program as part of the MTA’s Enterprise Asset Management (EAM) initiatives. First developed for large-private sector firms, the Six Sigma methodology trains executive-sponsored employees across the agencies in project design, data analysis, and project implementation. The aim is to identify operational efficiencies and cost savings, generally within existing resources. Projects developed in the first three rounds of training identified potential savings of approximately $19.55 million and are currently in various stages of approval and implementation. The upcoming fourth round of projects includes 79 newly sponsored employees and encompasses three levels of basic to advanced training.
- Developed an in-system advertising campaign for MTA Real Estate to promote leasing opportunities at subway and commuter rail stations, designed to generate increased awareness, interest, and lease revenue. Also, collaborated with MTA Real Estate on an “Adopt-a-Station” program to secure third-party funding to offset station cleaning costs. (See also Customer Service Initiatives, p. 17.)

**NYC Transit (Subways)—Cost-Cutting/Revenue Initiatives (2018)**

- Generated $3.4 billion in NYCT Subways farebox revenue in 2018, along with $926 million from NYCT Buses. The figures are final 2018 estimates from the MTA 2019 Adopted Budget, February Financial Plan, 2019-2022. In addition, the MTA Board adopted new transit fares in February 2019, in keeping with the MTA policy of gradual, regularized increases. The new rates retain the transit base fare of $2.75, but eliminate certain MetroCard bonus discounts.

- Implemented an agency-wide hiring freeze on all nonessential personnel in 2018. This requires that any vacant NYCT position cannot be refilled unless deemed essential by agency executives.

- Reduced operating expenses by $8.4 million and headcount by 91 positions annually through the revamping of the terminal car-cleaning program, the cleaning procedures carried out on subway cars at the end of a line. Cleaning can occur at either one or both terminals on a given line. The reduction was made where cleaning occurred at both terminals, as well as adjustments in overnight staffing at other locations.

- Economized rail service supervision and tower operations, resulting in a reduction of eight positions and a recurring annual savings of $900,000. This savings was achieved in part by reducing the need for supervision of probationary conductors and by reevaluating the need for tower operators in certain areas of the transit system.

- Developed a new automated track inspection program, which is launching in 2019. The program covers 28 sections of mainline track, or about one third of the entire system. Using video-based inspections, the program will reduce the frequency of manual inspections from twice weekly to once per week. The automated inspections will mean $5.7 million in annualized savings and a reduction of 53 positions. Additionally, the rollout
of continuously welded rail (CWR), which minimizes rail defects, is further reducing the need for manual inspections.

- Reduced subways station headcount through the implementation of the new Group Station Manager (GSM) program, saving approximately $3.5 million in 2019 and about $7.0 million annually thereafter. The program introduced four new District Customer Service Managers (DCSMs) and 26 new Group Stations Managers (GSMs) to oversee all aspects of station management. In addition to better resourcing, efficiency, and accountability, the program streamlines management oversight, bringing a net reduction of 68 positions by July 2019.

- Approved the implementation of a new automated workforce, timekeeping, and task management system. The new system will replace the existing layers of manual paperwork, resulting in increased efficiency, accuracy, and productivity, along with associated time and cost savings systemwide.

**MTA Bus Operations (NYCT Buses, MTA Bus Company, AAR Paratransit)—Cost-Cutting/Revenue Initiatives**

- Implemented an agency-wide hiring freeze on all nonessential personnel in 2018. This requires that any vacant NYCT position cannot be refilled unless deemed essential by agency executives.

- Changed the registrations of our AAR’s 1,895 operating vehicles and outfitted them with official plates. This will reduce registration and insurance costs for the agency, with recurring annual savings.

- NYCT Bus and MTA Bus developed a major initiative that is significantly reducing bus maintenance costs. The new plan transitions the Central Maintenance Shop Overhaul Program from 4-year and 8-year overhauls to 6-year overhauls, starting with all newer buses. This is in line with practices at other major transit agencies and is not expected to impact bus reliability. It leverages EAM analyses, along with data from vehicle monitoring systems that allows the early tracking of failures and more accurate component replacement cycles. The initiative not only puts in place a more efficient maintenance strategy, it also helps normalize the centralized maintenance shop program workload.
Long Island Rail Road—Cost Cutting/Revenue Initiatives

**Revenues**

- Achieved the railroad’s second-highest paid ridership since the 1940s, 89.8 million customers, a 0.7-percent increase over the previous year, or a 0.5-percent increase when adjusted for the same number of calendar workdays.

- Continued to promote and expand customer volume for LIRR travel to entertainment and sports events at the Barclay’s Center, Belmont Park, and Flushing Meadows, as well as for LIRR special deals, packages, and vacation getaways.

**Cost Cutting**

- Implemented an agency-wide hiring freeze on all nonessential personnel in 2018. This requires that any vacant LIRR position cannot be refilled unless deemed essential by agency executives.

- Achieved the agency’s budget-reduction target of $330.0 million over the five year financial plan (Operating Budget), through various targeted cost-saving efforts related to administration and maintenance/operations, along with efficiencies in the delivery of customer service/amenities and service support.

- Reduced rolling-stock running repair, fleet modification costs, and several Reliability-Centered Maintenance (RCM) programs, based on fleet performance. Also, introduced more effective management of the railroad’s state-of-good-repair program, result in fewer material needs for maintenance activities.

- Began an extensive review of how to integrate LIRR’s existing service with new service to Grand Central Terminal on a more cost-effective basis. This included a cost-driven evaluation of operational staffing, administrative staffing, training, fleet maintenance crew staffing, and other personnel needs under the East Side Access (ESA) plan. This initial review has identified a number of payroll and non-payroll savings.

- Advanced the agency’s “LIRR Forward” plan by identifying more efficient ways to utilize existing resources. In particular, new approaches to both customer service and fleet and
station cleaning are reducing costs, while at the same time improving cleanliness and the customer experience.

- Carried out major, long-term improvements to existing infrastructure along the Main Line as part of the Double Track Project between Farmingdale and Ronkonkoma and the Main Line Expansion Project, which should result in significantly lower maintenance and material costs in the future.

- Placed tighter controls on non-payroll funding. The LIRR continues to subject all areas of the budget to intensive review, specifically non-payroll-related operational costs, overtime, inventory, and administration.

**Metro-North—Cost-Cutting/Revenue Initiatives**

**Revenues**

- Generated 1,327 group trips and over $908,000 in ticket revenue through Metro-North’s 2018 group travel program and about $900,000 through the getaway program, with its regional tourism partnerships. The agency also added new getaway promotions for both riders and employees. The agency also created a new “Rail Rewards” program for Metro-North customers, which launches in 2019 in a joint promotion with Zip Car.

- Generated about $12.1 million in 2018 through the MTA contract with Outfront Media for ad displays in Grand Central Terminal and other agency venues. The concession is also investing in new digital displays, which will allow the MTA to use the displays alternately for customer messaging.

- Advanced a licensing agreement, approved the prior year, with a consortium of wireless providers for a wireless network in Grand Central Terminal and the Park Avenue Tunnel. The agreement provides the MTA with both licensing revenues and an emergency communications backup network at no cost, for revenues and cost savings worth some $24.0 million over 20 years.

- Carried out a number of additional revenue-generating agreements in 2018, including: roughly $326,000 from soda and snack vending machines; a five-year license agreement with Zipcar, in which Zipcar will pay $600 per parking space annually, plus the permit cost;
licensing for ATM machines on agency properties; and about $85,000 in rentals for audio tours of Grand Central Terminal.

Cost Cutting

- Implemented an agency-wide hiring freeze on all nonessential personnel in 2018. This requires that any vacant LIRR position cannot be refilled unless deemed essential by agency executives.

- Reduced 2018 operating subsidies by $15.1 million through cost-cutting measures, while continuing the strategic, long-term investments needed to ensure safe, secure and reliable transportation services. Beginning in 2019, the agency is instituting additional cost-saving efforts to save a total of approximately $49.0 million on a recurring annual basis.

- Completed installation of a Fuel-Monitoring and Leak-Detection System at Harmon Yard, the third of eight planned locations. This system provides more cost-effective fuel management by monitoring fuel consumption, detecting leaks, and reporting back to an enterprise energy management system. (See also Sustainability/TOD Initiatives, p. 40.)

- Began the replacement of more than 300 high-mast yard lighting fixtures with high-efficiency LED fixtures at four different Metro-North yards. This project will reduce the agency’s high-mast yard lighting energy consumption by 50 percent, reduce maintenance costs, and improve workforce safety. The LED replacements are expected to be complete in the first quarter of 2019. (See also, Sustainability/TOD Initiatives, p. 40.)

Bridges and Tunnels—Cost Cutting/Revenue Initiatives

- With a record-high 323 million paid crossings in 2018, Bridges and Tunnels achieved a total net operating income of $1.501 billion for the year, or 4.6 percent above the original budget estimate. This enabled the agency to provide $1.089 billion in support for MTA transit operations in 2018. Note: The inclusion of $119 million in Pay-As-You-Go (PAYGO) funding in 2018 for the agency’s capital programs resulted in a year-to-year decline in mass transit support. By applying this operating funding toward capital needs, the agency was able to meet its state-of-good-repair goals for 2018, while avoiding bond financing and additional debt service costs.
• Continued an ambitious design-build program, which now accounts for approximately 24 percent of Bridges and Tunnels’ current Capital Plan projects. The design-build approach allows for faster, more efficient delivery of projects, while achieving the best value in implementation costs for the agency.

• Continued to advance the agency’s Enterprise Asset Management (EAM) program, which aims to maximize the efficient use of capital assets. Bridges and Tunnels is implementing a “top to bottom” EAM framework for more transparent, data-driven investment and operational decisions. It is enabling the agency to make better use of resources; justify funding requirements; improve safety and reliability; and lower the cost of maintaining assets in a “state of good repair.”

• Maintained the savings achieved through prior budget reduction programs, which have enabled Bridges and Tunnels to achieve millions of dollars in savings through in-depth organizational assessments and structural modifications.

• Achieved a 95.2 percent market share for E-ZPass toll collections in December 2018. Since E-ZPass is the least expensive method for the agency to collect tolls from motorists, increasing this percentage is an important cost-containment strategy.

• Developed a comprehensive approach to address the critically important issue of toll collections, revenue recovery, and violation enforcement. The agency utilizes the resources of its Operations Force and the New York State Police, which enforces state registration suspensions for violators and exclusion orders for out-of-state vehicles.

• Entered into a reciprocity agreement with the New York State DMV and the Massachusetts DOT to pursue revenue recovery from toll violators through holds on vehicle registrations. This is the first of several reciprocity agreements that the New York State DMV will be pursuing with other states on behalf of Bridges and Tunnels.

• Accelerated the billing cycle for first-time Tolls by Mail customers and added functionality to the Tolls by Mail website that now enables customers to search for and pay tolls by license plate.
The MTA Capital Programs

In 2018, the MTA agencies achieved capital commitments of $6.282 billion and capital completions worth $4.845 billion against 2018 goals. A total of $9.441 billion in commitments and $6.656 billion in completions was achieved in 2018 when the value of prior year slips is included into an adjusted total. Since the MTA Capital Program began in 1982, the MTA has made capital commitments of $127.272 billion, capital expenditures of $108.524 billion, and capital project completions of $93.721 billion—investments enabling the New York regional economy to grow and thrive over those decades.

The following is an overview of the development of the MTA’s current 2015-2019 Capital Program. The plan was approved by the MTA Board on April 20, 2016, and by Capital Program Review Board (CPRB) on May 23, 2016. The approved program totaled $29.5 billion, nearly 10 percent less than the Board’s original plan. It includes $21.6 billion in core investments for MTA subways, buses, and railroads; $5.0 billion for network expansion projects, including the Second Avenue Subway, East Side Access (ESA), and Penn Station Access; and $2.9 billion for MTA Bridges and Tunnels (B&T). The B&T portion of MTA capital funding is not subject to CPRB approval.

During 2017, the MTA Board approved several amendments and actions affecting both the 2015-2019 Capital Program and the 2010-2014 Capital Program, through which a number of ongoing capital projects are funded—in particular, the MTA’s agency-wide Superstorm Sandy recovery and resiliency projects. In February 2017, the Board amended the current program to increase station investments, which shifted some funds within the NYCT portion of the program and added $119.4 million to the LIRR portion of the program. With CPRB approval in March 2017, this increased the total program value from $29.456 billion to $29.575 billion.
A second amendment to the 2015-2019 Capital Program was approved by the Board in May 2017, increasing the program total to $32.457 billion. The CPRB portion of the amendment was approved in July 2017. Key portions of this increase included: updates to stations renewals and other core programs; work related to expansion of the LIRR Main Line; funding required for the Second Avenue Subway, Phase 2; and the accelerated Open Road Tolling (ORT) program at B&T. On December 13, 2017, the MTA Board approved an amendment to the Capital Program, adding $0.349 billion to incorporate the NYC Subway Action Plan.

In April 2018, the MTA amended the 2015-2019 Capital Program resulting in a $33.270 billion total capital program. Program changes included updates to timing and cost estimates of existing projects, identified new needs at the agencies and budget reallocations of the East Side Access and Regional Investment programs which are included in MTACC’s Network Expansion program. At the time of this report, the MTA plans to submit a 2020-2024 Capital Program to the MTA Board later in 2019.

Unless otherwise indicated, the agency commitments and completions listed in this Section 3 of the 2018 Annual Report reflect only those set as 2018 goals by the MTA Board. For maximum transparency, all projects in the 2015-2019 Capital Program, the 2010-2014 Capital Program, and the 2005-2009 Capital Program are identified in detail and updated regularly on the MTA Capital Program Dashboard under “Transparency” on the MTA website at www.mta.info.
## Capital Program Progress, 1982-2018 ($ millions)

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<td>849</td>
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<td>Other*</td>
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<tr>
<td><strong>MTA Total</strong></td>
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<td>108,524</td>
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* Includes funds for World Trade Center recovery, Superstorm Sandy, planning and customer service projects, and security. Numbers may not total due to rounding.

## Capital Program Progress, 2018 ($ millions)

<table>
<thead>
<tr>
<th>Commitments</th>
<th>Expenditures</th>
<th>Completions</th>
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<tr>
<td>New York City Transit</td>
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<td>Long Island Rail Road</td>
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<td>Metro-North Railroad</td>
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* Includes funds for security and MTAPD. Numbers may not total due to rounding.
** Commitments and completions include funds for Superstorm Sandy, planning and customer service projects, and security.
*** Values include amounts achieved in 2018 that were included as prior year commitment and completion slips and results will therefore vary from amounts reported to MTA’s CPOC at year’s end.
Major 2018 Commitments

Stations

- Awarded several station capacity-enhancement projects: A station-capacity improvement project at Marcy Avenue on the Jamaica Line will alleviate congestion as the result of the Canarsie Line tunnel rehabilitation and widening the outbound platform and two stairways. Gun Hill Road Station on the Dyre Avenue Line and Bedford Park Boulevard Station on the Concourse Line will receive new Americans with Disabilities (ADA) elevators and ramps, and other ADA modifications. Broadway Junction on the Jamaica Line will receive station capacity enhancements via added stairs and widened stairs and more. L Line will receive capacity enhancements and platform structural repairs at 14th Street-Union Square. Lastly, 12 traction elevators will be replaced at 168th Street; 181st Street; and 191st Street stations on the Broadway-7th Avenue Line for improved elevator reliability and availability. ($214.9 million)

- Awarded six ADA: Greenpoint Avenue Station on the Crosstown Line; Astoria Boulevard Station on the Astoria Line; Eastern Parkway-Brooklyn Museum Station on the Eastern Parkway Line; Chambers Street Station on the Nassau Loop Line; 59th Street Station on the 4th Avenue Line; and Canarsie-Rockaway Parkway Station on the L line. At Greenpoint Avenue, three elevators will be installed: one from the street to the mezzanine and two from the mezzanine to each platform. Other ADA improvements include: modifications to the fare arrays and gates; ADA boarding areas at platforms; platform edge warning strips; and rubbing boards. Astoria Boulevard includes: the installation of four new hydraulic elevators; the aforementioned ADA treatments; and the repair or replacement of deficient conditions at the columns, girders, column bases, platform windscreens, and canopies and station rooms as required. At Eastern Parkway-Brooklyn Museum, three elevators will be installed and other ADA improvements will be made. The project at Chambers Street includes: two new elevators and ADA improvements to boarding areas. Improvements to 59th Street include three ADA elevators and other ADA elements in boarding areas, and other station reconfigurations for ADA compliance. The Canarsie-Rockaway Parkway
Station also will receive modifications for ADA compliance, including in the control house, station rooms, and the agent booths. ($277.4 million)

- **Awarded replacement of six traction elevators on the 8th Avenue Line.** Three elevators will be replaced at both 181st Street and at 190th Street stations. The work will include replacement of the existing elevator cars and other extensive equipment upgrades include the establishment of Ethernet connection between status monitors and the elevator & escalator control center. ($40.8 million)

- **Awarded platform component replacement at four locations on the L Line.** The stations that will receive investments are Morgan Avenue, DeKalb Avenue, Halsey Street, and Bushwick Avenue-Aberdeen Street. Components such as edges, rubbing boards, tactile warning strips, and concrete at column bases will be repaired or replaced as required. Station painting will also occur at DeKalb Avenue. ($17.4 million)

- **Awarded station ventilator reconstruction at six locations in the Bronx and Brooklyn.** Ventilators are placed at sidewalk level to circulate air in or out of the system and to channel away water intrusion using a drip pan. This project will repair structural elements and eliminate water leaks in ventilators that are in disrepair. The stations that will receive ventilator replacement or repair are 205th Street and East 143rd Street-St Mary’s Street in the Bronx; and 36th Street; Grand Army Plaza; President Street; and Winthrop Street in Brooklyn. ($13.8 million)

**Rolling Stock**

- **Awarded the purchase of R211 railcars.** The base order will be 440 closed-end B-Division cars; 75 Staten Island Railway (SIR); and 20 Open Gangway prototype cars—with the option to purchase up to 1,612 cars in all. The R211s will replace aging cars in the B-Division fleet with the next generation of subway cars that feature: advanced technologies for optimal performance and efficiency; improved customer accessibility features, such as door indication lights and flexible customer service information signs; and the capacity to manage projected ridership growth. ($1.7 billion)

- **Awarded the purchase of 15 articulated electric buses and depot chargers.** These buses will be housed at the MJ Quill Depot in Manhattan, and the chargers will be installed there. The electric buses will incorporate the latest in safety technology, environmental
sustainability, and customer service amenities. Bus features include a pedestrian turn warning system; improved driver visibility; digital information screens with route and next-stop information; Wi-Fi and USB charging ports; and traffic signal priority technology. ($32.9 million)

**Signals, Line Structures, Line Equipment and Track**

- Awarded the rehabilitation of the Forsyth Street Fan Plant in Manhattan. The project will construct new fan chambers, fans, electrical distribution, and control rooms with related equipment. The capability for local and remote supervisory control from the Rail Control Center (RCC) will also be established. The fan plant will enhance passenger safety in its adjacent tunnel segments in the event of fire or smoke conditions in tunnels by directing heat, smoke, and noxious fumes away from passengers and evacuation routes. ($84.4 million)
- Awarded projects to replace mainline tracks, yard tracks, and switches at locations throughout the system. ($462.7 million)

**Shops & Facilities**

- Awarded replacement of the roofing assembly and component repair at the 207th Street maintenance and overhaul shop in Manhattan. The project will replace or repair roofing drainage; roof access hatches; flashing/fascia; gutters/leaders; parapet; exterior wall masonry; windows; and coping elements to prevent leaks and bring the roofing system to a state of good repair. ($57.5 million)

**Technology**

- Awarded Integration Service Information and Management (ISIM-B) Module 3. This project develops a rail traffic management system that utilizes train location information collected under Module 1 to provide schedule-based train tracking and other functions for use by RTO service managers. The software will provide external interfaces to current and future RTO and customer information systems (including PA/CIS and CBTC). Module 3 includes workstations and portable display devices for the Rail Control Center (RCC); Backup Command Center (BCC); and field locations that incorporate the ISIM-B driven software
improvements. Real-time monitoring and control will improve the quality, accuracy, and timeliness of service information for customers as well as better and faster decision making and better operational planning and scheduling by staff. ($98.5 million)

- Awarded the purchase of paratransit technology investments. An upgraded replacement of the existing Automatic Vehicle Location Monitoring (AVLM) system will improve the Paratransit Division’s ability to track the location of vehicles and provide customers with reliable estimated times of arrival based on vehicle speed and direction. New Real-Time Scheduling and Computer-Aided Dispatch (RTS/CAD) software engine will be procured and integrated with the new AVLM system to incorporate real-time traffic conditions, allowing Paratransit to react more quickly to emergencies and avoid potential delays. It also will record mileage and passenger pick-ups and drop-offs with greater accuracy. The improved systems will allow Paratransit to schedule up to 50,000 trips on weekdays, provide improved customer service and produce more efficient schedules. ($26.7 million)

**Superstorm Sandy Repair and Resiliency**

- Awarded the long-term flood protection of the Hammels Wye facility on the Rockaway Line. The area, which houses a power substation and signal tower, is vulnerable to the flooding and system disruptions like those that occurred during Superstorm Sandy. The project will make improvements to storm water drainage and will install a perimeter wall around the area to provide Sea, Lake and Overland Surges from Hurricanes (SLOSH) Category 2+3’ flood protection. These mitigation improvements are designed to ensure that the protection of the facility’s critical assets during future storm events. ($22.1 million)

- Awarded repair of Superstorm Sandy damage and long-term resiliency protection at the Coney Island Yard. Flood water from Superstorm Sandy damaged yard equipment, such as power and communication cables, and these will be repaired to allow the yard to operate at the performance levels from pre-storm damage. In addition, long-term resiliency measures in the Coney Island Yard will include perimeter flood protection walls; drainage system improvements; deployable pumps; and the installation of debris shields. ($483.1 million)
Awarded repair of Superstorm Sandy damage and long-term resiliency protection at the 148th Street Yard. Flood water from Superstorm Sandy damaged yard equipment such as power cables, which will be repaired to allow the yard to operate at performance levels that preceded the storm damage. In addition, long-term resiliency improvements will include: perimeter flood protection walls; drainage system improvements; and the installation of a stop log gate system at the portal. ($88.6 million)

Awarded Superstorm Sandy repair and mitigation projects at the 207th Street Yard. Repairs will be made to critical yard assets such as the signal system, power cables, track, and switches. The yard also will receive flood mitigation enhancements such as a perimeter wall; deployable gates; and a flood door for the yard tunnel portal to protect against storm surges. The 207th Street Yard is the main storage facility for the rolling stock on the 8th Avenue Line, so these repairs and mitigation enhancements will minimize local disruptions in service future storms. ($603.8 million)

**Major 2018 Completions**

**Stations & Yards**

- Completed Americans with Disabilities (ADA) accessibility and renewal projects at Ozone Park-Lefferts Boulevard Station on the Liberty Line. The ADA work provided two-stop elevators from the street to the above mezzanine and an accessible travel route; gap reduction in platforms; ADA warning strips; and modifications to gates and booth windows. This work also included painting; repair or replacement of street stairs; mezzanine-to-platform stairs; mezzanine floors, doors, windows, interior, and exterior walls, and canopies as required. ($27.6 million)

- Completed station improvement projects at nine stations on the Culver Line. Seven stations--Ditmas Avenue; 18th Avenue; Avenue I; Bay Parkway; Avenue P; Avenue U; and Avenue X, received renewal enhancements. The projects addressed deficient conditions by repairing or replacing: street stairs, platform surfaces, edges, columns and stairs, windscreens in public areas, and walls, roofs, doors and windows. Component repairs on Avenue N and Kings Highway stations addressed deficient conditions on platform stairs, floors, columns and edges, and the mezzanine ceiling and walls, as required. Painting was
completed at all stations. ($150.9 million)

- Completed the B-Division beacon train arrival system. Countdown clocks, which utilize a fiber network and beacon/Bluetooth technology on the train cars to provide real-time train arrival data to customers, have now been deployed at all B-Division stations. This project required installing a minimum of one double-sided LCD customer information screen (CIS) in the center of each station platform and one single-sided LCD CIS per full-time control area for each station. ($83.4 million)

**Rolling Stock**

- Completed the purchase of 231 articulated buses. These buses replace older articulated buses in the city-wide fleet, providing the latest safety and customer service technologies in the industry. The buses will be equipped with USB chargers, Wi-Fi and digital information screens with route and next-stop information, as well as pedestrian turn warning (PTW) technology, an announcement audible outside the bus when the bus turns. On-bus cameras and exterior cameras; hi-vis windows and a reconfiguration in the front shell will improve security and safety. Traffic Signal Priority (TSP) technology will allow communication with traffic signals to shorten red lights or extend green lights in coordination with the New York City Department of Transportation (NYC DOT). Using sensors at each door, automatic passenger counters (APC) will record all boardings and alightings for better management of service. ($247.5 million)

- Completed the purchase and acceptance of 114 R179 cars for the B Division. This procurement will allow for the retirement of R32 and R42 cars, and provide a modern fleet with improved customer amenities and operational and performance efficiencies. ($301.0 million)

**Shops & Facilities**

- Completed structural remediation at the East 180th Street maintenance shop in the Bronx. The project made structural repairs to the retaining wall/corridor and the walkway, that will enable the facility to continue its vital role providing maintenance for—and extending the useful life of—the subway car fleet. ($4.5 million)
Signals, Line Structures, Line Equipment and Track

- Completed the modernization of four interlockings: at Union Turnpike and 71st Avenue on the Queens Boulevard Line; the 34th Street interlocking; and the West 4th Street interlocking on the 6th Avenue Line. The existing mechanical interlockings were replace with new conventional relay-based interlockings and new relay rooms were constructed to house all associated equipment. This project will improve reliability on both lines and facilitate their conversion to Communications-Based Train Control (CBTC). ($662.1 million)

- Completed the Myrtle Line viaduct rehabilitation and track replacement. Replacement of the elevated, open-deck steel structure and supporting concrete wall piers was necessary to bring the structure into a state of good repair. Work also included the installation of a new drainage system; replacement of track; and the replacement of the thru-span bridge over the New York & Atlantic Railroad Right-of-Way. ($161.2 million)

- Completed a new ventilation plant at 46th Street-Northern Boulevard on the Queens Boulevard Line. Work included constructing the new fan chamber, electrical distribution room, and control room to accommodate new fans and a control system. The new ventilation plant also has communication links for remote control and monitoring. Fan plants and fans enhance passenger safety in the event of fire or smoke in tunnels, directing heat, smoke, and noxious fumes away from evacuation routes. ($78.8 million)

- Completed replacement projects for mainline tracks, yard tracks, and switches at locations throughout the system. ($329.2 million)

Superstorm Sandy Repair and Resiliency

Completed projects to repair equipment and facilities damaged by flooding from Superstorm Sandy, while hardening the system against future storm damage. Projects included:

- Completed the installation of coastal storm mechanical closure devices (MCDs) at the Whitehall Street, Old South Ferry, Bowling Green, and Rector Street stations in the lower Manhattan flood zone. Superstorm Sandy demonstrated the need to make stations more resistant to flooding through ventilation grates, manholes, and other openings. The installation of MCDs in sidewalk gratings allows for a temporary, watertight seal when a storm is imminent. ($10.4 million)
## MTA Bus Operations (NYCT Dept. of Buses, MTA Bus Company)

### Major 2018 Commitments

#### Depots/Facilities

- Awarded a contract to rehabilitate 7 elevators at 5 Depot facilities ($20.2 million, NYCT Bus)
- Awarded a contract to address flooding and storm resiliency at 3 depots – MJ Quill, Casey Stengel and Castleton ($20.7 million, NYCT Bus)
- Awarded a contract to replace the HVAC system at the College Point Depot ($8.5 million, MTA Bus)
- Awarded a contract for the security system at the JFK and Spring Creek Depots ($8.5 million, MTA Bus)

#### Information Systems

- Awarded a contract for the Bus Digital Information Screens (DIS) system. ($7.5 million, MTA Bus)

#### Rolling Stock

- Committed to purchase 72 articulated buses from Nova Bus ($65.8 million, NYCT Bus); 15 articulated 60-foot all-electric buses from New Flyer ($32.9 million, NYCT Bus). These buses will replace older buses in the fleet and provide the latest safety and customer service technologies in the industry, including digital information screens, Wi-Fi, USB charging ports, pedestrian turn warning (PTW) technology and traffic signal priority (TSP) technology.
- Awarded the purchase of 53 replacement Articulated buses, that will be used for some of the service on the Q52/Q53 Select Bus Service (SBS) routes. ($50.2 million, MTA Bus).
**Major 2018 Completions**

**Rolling Stock**
- Completed delivery of 139 New Flyer articulated 60-foot buses as well as 92 articulated 60-foot buses from Nova ($120.2 million and $84.2 million respectively. NYCT Bus), which will replace older buses in the city-wide fleet and provide the latest safety and customer service technologies in the industry, such as digital information screens, Wi-Fi, USB charging ports, pedestrian turn warning (PTW) technology and traffic signal priority (TSP) technology.

**Depots/Facilities**
- Completed the replacement of the roof at Gun Hill Depot and Kingsbridge annex. ($11.3 million and $3.2 million respectively, NYCT Bus)
- Completed the rehabilitation of the Far Rockaway Depot after it sustained damage during Hurricane Sandy. ($11.0 million, MTA Bus)
Major 2018 Commitments

Stations

- **Station Initiatives Phase 1 (8 Stations):** A design-build contract was awarded, to complete the design and undertake construction for station enhancements at eight LIRR stations. The Design-Build contractor will provide design, engineering, and construction services at Deer Park, Brentwood, Merrick, Stony Brook, Syosset, East Hampton, Bellmore and Farmingdale stations, with the goal of enhancing the appearance, function, safety, and customer experience. The overall project work is dependent on each station’s needs, with the work in general including platform renewal, interior and exterior station building renovations, site work, and enhancements such as Wi-Fi, USB charging ports, CCTV cameras, and digital LED information screens. ($94 million, total project budget)

- **Station Initiatives Phase II (6 Stations):** A design-build contract was awarded to provide design, engineering and construction services for station improvements at six stations. Project work includes interior and exterior renovations to Northport station, and station amenities at Northport, Great Neck, Valley Stream, Baldwin, Bayside, and Ronkonkoma, including Wi-Fi, USB charging ports, CCTV security cameras, and LED information screens. ($24 million, total project budget)

- **Moynihan Train Hall—LIRR Space Fit-Out:** A design contract was awarded for the design and technical specifications for fit-out of the designed LIRR ticketing and back-of-house (BOH) areas in the Moynihan Train Hall, located in the James A. Farley Post Office on Eighth Avenue, across from Penn Station. The fit-out spaces are on both the Concourse level and the Level 2 of the Moynihan Train Hall and will service LIRR customers and multiple LIRR departments. The Moynihan Train Hall Project will convert the Farley Post Office into a modern transportation hub with customer access to the platforms in the existing Penn Station. ($114 million, total project budget)

- **East Yaphank Station:** A consultant contract for preliminary design and environmental review was awarded. The consultant will assist the LIRR in the selection of potential sites and the identification of a preferred location for a new East Yaphank Station, east of the
existing Yaphank Station. The project will be progressed in two phases. Phase 1 will provide for selection of a site and development of the 30 percent design. Phase 2 will be the design-build effort which will include decommissioning of the existing Yaphank Station. This project is part of the railroad’s initiatives to meet current and future transit demands associated with the commercial and residential economic development in central Suffolk County. ($20 million, total project budget)

**Track**

- **Great Neck Pocket Track Extension:** A contract for the design and fabrication of a signal hut and equipment for the Great Neck Pocket Track Extension was awarded. The existing pocket track’s length accommodates one 12-car train which limits the ability to turn additional trains. When complete, the new extension will include a new switch that will permit train movement in/out of the extended pocket track and will enable the LIRR to turn two 12-car trains independently mid-branch during peak periods, to increase peak commuter service. ($25 million, total project budget)

**Line Structures**

- **Lynbrook and Rockville Centre Viaducts:** A design contract was awarded for the rehabilitation of the Lynbrook and Rockville Centre Viaducts on the Babylon Branch in Nassau County. The final designs for the structural rehabilitation will address repair of concrete spalls and cracks; repair of handrails, joints replacement; repair of the existing utilities; and improvements to the existing drainage systems. ($6 million, total project budget)

- **Springfield Boulevard and Union Turnpike Bridges:** A construction contract for rehabilitation of two Queens County bridges was awarded. For Springfield Boulevard Bridge, a single span 4-track bridge on the Main Line at Queens Village station, work includes replacement of passenger platforms, and repair of girders, platform support structures, and parapet concrete. For Union Turnpike Bridge, a single span, 2-track bridge on the Lower Montauk Branch, work includes bearing rehabilitation, removal and rebuilding of a partial bridge seat and pedestals, and repair of the back wall. ($7 million, total project budget)
Signals

- **Centralized Train Control–Theater Fit-Out:** A construction contract for architectural fit-out of the Centralized Train Control (CTC) facility in Jamaica was awarded. The fit-out and construction of the Jamaica Central Control (JCC) Theater and relocation of the LIRR’s Movement Bureau, Signal Desk, Engineering Systems Operations, and Incident Command Center to the JCC Building are critical elements in the railroad’s strategy to advance centralized train control. ($18 million under project L60502LF and $10 million under project L70205LQ).

Shops & Yards

- **Hillside Facility / Upper Holban Improvements:** A design consultant contract was awarded for the rehabilitation and replacement of aging elements at various LIRR employee facilities. The design consultant will provide 100 percent design for various items, including replacement of windows and doors; asphalt and concrete renewal of driveways and sidewalks; improvements to facilities drainage and storm water drainage sewer tie-ins; replacement of stairwells and ADA ramps; improvements to HVAC systems; and other facility-specific tasks. ($3 million, total project budget)

Power

- **Substation Replacements:** A contract to furnish and install a prefabricated traction power substation to replace the Meadowbrook substation in Freeport on the Babylon Branch was awarded. The contractor will design, fabricate, deliver, install, integrate, and test the modular substation, including the building enclosure, equipment, cabling, and supervisory control systems. The contractor will also be responsible for all site construction, including foundations, duct banks, conduits, high security fencing, platforms, stairs, and equipment racks. ($23 million, total project budget)

- **Substation Components:** As part of the substation components project, a contract for traction power transformers was awarded. This project provides for the renovation and improvement of the existing LIRR power substation equipment and substation buildings that are in need of equipment upgrades. With this contract, the replacement of transformers and associated equipment will address specific locations where the equipment is near the end of its useful life. ($39 million, total project budget)
Major 2018 Completions

Stations

- **Hicksville Station Improvements**: Completed the Hicksville Station Improvements project. This project addressed replacement of the platforms and station components at platform level and included demolition and replacement of two 12-car elevated platforms; canopy roof system and drainage; heated platform waiting rooms; new elevators, staircases; escalators; lighting, communications, CCTV security cameras and signage. In addition, updates and enhancements to the plaza and grade-level areas were undertaken. ($74 million, total project budget)

- **Flushing Main Street – New Elevators**: Completed the installation of two new elevators and associated equipment at Flushing Main Street station. This project facilitated elevator service and ADA accessibility from the street level to each of the two platforms. Site and platform level improvements undertaken as part of the project included new platform access stairs, canopies, platform extensions, railings, lighting, shelter sheds, signage, CCTV cameras, tactile edge warning strips, a new more accessible ticket office, and a new western station entrance and plaza area. New station amenities include information totems and MTA Help Points. ($25 million, total project budget).

- **Wyandanch Rehabilitation**: The rehabilitation of Wyandanch station on the Main Line in Suffolk County has been completed. Work included construction of two new 12-car platforms with a snow melt system, a pedestrian overpass with elevators, new stairs, new canopies, and new platform shelters. The interior of the new ADA-accessible station building features new terrazzo tile floors, a wood paneled ceiling, and chandeliers. The station area provides customer amenities including benches, bike racks, digital signs, MTA Help Points, USB charging stations, and free Wi-Fi. ($47 million, total project budget)

- **Wantagh Station Platform Replacement**: The replacement of the 12-car center island platform and associated canopy stairs and escalator at Wantagh Station on the Babylon Branch has been completed. The project included the installation of an automated snow- and ice-melt system; repairs to the platform understructure; a new elevator between the station and platform level; a new center staircase; refurbishment of four staircases; new heated platform waiting room; energy-efficient platform lighting; new signage and public address system. ($23 million, total project budget)
- **Enhanced Station Improvements:** Modernized station buildings at Brentwood, Deer Park, and Farmingdale on the Main Line and Northport on the Port Jefferson Branch were opened. Brentwood and Deer Park station buildings were each fully renovated and upgraded with new ADA-compliant restrooms; architectural finishes; and terrazzo floors; wood ceilings; exterior brick decorative walls new lighting; and a new information wall and signage. At the historic Farmingdale station, the façade was fully restored to its original brick architecture. Interior upgrades include an ADA-accessible restroom, terrazzo floors, tile and wood finishes, and systems upgrades.

  Further upgrades to these three stations are progressing and platform improvements construction continues into 2019. Additionally, Northport station on the Port Jefferson Branch was opened, following the completion of the restoration of the station building. The station upgrades include new ADA-compliant restrooms; architectural finishes and terrazzo floor; wood ceilings; lighting; and a new information wall and signage.

- **LIRR Mets-Willets Point Station:** The preliminary design of a new LIRR Mets-Willets Point station, which will be integrated with a new LaGuardia Airport AirTrain Overbuild, is complete. The design addressed the total replacement of the current LIRR station with a new intermodal LIRR – AirTrain station, while minimizing interruptions to service and station operations during construction. The new LIRR Mets-Willets Point hub will include infrastructure upgrades to support year-round train service and connection to the future AirTrain facility that will provide access from the LIRR to LaGuardia Airport. This new station will also serve LIRR customers using Mets Citi Field stadium and the Arthur Ashe Tennis Center, while fostering future development of the Mets-Willets Point area. ($28 million, total project budget, including L50601YF $18 million and L70204UG $10 million)

**Track**

- **Great Neck Pocket Track Extension:** Completed the design of the new signal system for the Great Neck Pocket Track. The existing pocket track, east of Great Neck Station, is being extended to accommodate a second 12-car train consist, which will enable LIRR to turn additional trains mid-branch. The new longer pocket track and associated signal, switch and third rail work will provide operational flexibility and improved service levels along the Port Washington Branch, to meet future East Side Access service needs. ($25 million, total project budget)
Main Line Double Track: In September of 2018, the second track on the LIRR’s Main Line between Farmingdale and Ronkonkoma officially entered service. The full second track eliminated the limitations of a single track operation on the busy Ronkonkoma corridor, thereby facilitating service reliability and on-time performance, and allowing the LIRR to provide frequent east and westbound off-peak service. ($431 million, total project budget, including $137 million in Phase 1 and $294 million in phase 2)

2018 Annual Track Program: The annual life cycle replacement and upgrade of select track components for 2018 has been completed. The LIRR Annual Track Program’s planned major component renewals and replacements include 64,027 linear feet of continuous welded rail (CWR); 20,931 mechanized ties and 10,802 concrete ties; 19 grade crossings; surfacing of 55 interlocking switches; 92 miles of track surfacing; 1,005 field welds; and 4 switch installations. The cyclical renewal of the track infrastructure facilitates the railroad’s efforts to maintain a state of good repair systemwide and provide reliable service. ($74 million, total project budget)

Line Structures

Buckram Road Bridge: In October 2018, the new Buckram Road Bridge on the Oyster Bay Branch went into service. This bridge carries the LIRR’s Oyster Bay Branch over Buckram Road / Oyster Bay Road between Locust Valley and Oyster Bay stations. The new bridge was built off-site, moved into position, and affixed in place. This project improves train service by raising the bridge clearance to the 14-foot standard, thereby reducing truck strikes and also improving roadway sight lines. ($18 million, total project budget).

Signals

Positive Train Control (PTC): The installation and testing of approximately 35,000 linear feet of cable in the Atlantic Avenue tunnels has been completed. These cables and the associated hardware will provide PTC communication capabilities. The Atlantic Avenue cable work supports the overall Positive Train Control project as the LIRR installs and integrates PTC throughout the railroad system. ($166 million, total 2015-2019 PTC project budget)
Power

- **Port Washington Substation Replacement:** Replacement of the Port Washington Substation and associated equipment has been completed. The new prefabricated modular substation houses pre-installed AC and DC switchgear, rectifiers, control cabinets, and related equipment. New transformers were installed outside the modular building. ($26 million, total project budget)

Superstorm Sandy Projects

- **Long Beach Branch Substation Replacements:** Completed the replacement of three power substations on the Long Beach Branch that were damaged during Superstorm Sandy. At Oceanside and Oil City, prefabricated modular structures, which housed new pre-installed AC switchgear, transformers, and associated equipment, were installed. At Long Beach Substation, a new substation building with new AC switchgear was installed, and new transformers were placed external to the new building. ($50 million, total project budget)

- **Atlantic Avenue Tunnels Mitigation:** Completed the infrastructure improvements to the Atlantic Avenue Tunnels to mitigate rain / flooding infiltration and address drainage deficiencies. The project work included elevation of the existing air vent grates along the Atlantic Avenue median (to reduce water infiltration from the street); replacement of the existing sump pumps and installation of SCADA (Supervisory Control and Data Acquisition) monitoring equipment; and an upgrade to the downspout system with more resilient and higher quality fiberglass piping. ($10 million, total project budget).
Major 2018 Commitments

Rolling Stock
- Ordered an additional six M-8 cars for the New Haven Line—from an up to 34-car option—in June 2018, bringing the total of additional M-8 cars to 66. That is, 33 “A” Cars and 33 “B” Cars have been added to the 405 M-cars previously purchased. ($1.4 billion total project budget; comprised of $472.3 million from MTA and $936.2 million from the Connecticut Department of Transportation (CTDOT))

Stations
- Awarded a contract in March for Metro-North’s 50-percent share of design and industrial engineering services for a trash handling facility on Track 115 in GCT. This will serve Metro-North and LIRR customers. ($20.1 million, total project budget)
- Awarded a contract in September, through the Small Business Development Program, for expansion of joint repairs at 13 stations along the Hudson and Harlem Lines. The project will replace existing expansion joint materials and include concrete spall and crack repairs at adjacent repair areas. ($11.9 million, total project budget)
- Awarded a design contract in December for station enhancements at Port Jervis, Purdy’s, Beacon, and Southeast stations. Work at Port Jervis includes two car lengths of high-level platform and one car length of canopy. The project at Purdy’s includes design of new elevator for access from Route 116. Beacon will undergo enhanced station elements, platform repair, tunnel rehabilitation, and north stair tread repair. Southeast Station will see platform repairs and amenities with canopy wood soffit liner, a new shelter, and integration of customer service elements. ($29.5 million, total project budget)

Infrastructure
- Awarded a contract in January for the furnishing and installation of a new Bronx-Manhattan power cable-tie system to provide back-up power to be incorporated to the Harlem River Lift Bridge’s existing power control system between the two sides of the bridge. ($7.7 million, total project budget)
Awarded a contract in January for consultant engineering services for the design of the rehabilitation of four undergrade railroad bridges and replacement of the superstructure of one undergrade bridge on Metro-North’s Port Jervis Line west of the Hudson River. Additionally, will investigate 13 single-track, undergrade railroad bridges on the Port Jervis Line to determine if restoration will enable the bridges to accept a second track. ($24.7 million, total project budget)

Awarded a construction contract in February for the installation of communication fiber optic and copper cable on the Hudson Line from CP 33 located south of Croton-Harmon Station to the northerly limits of the Metro-North-owned territory in Poughkeepsie, N.Y. (CP 75.8), which has reached the end of its useful life. ($567.7 million, total project budget)

Awarded a contract in March for wayside communication and signal system infrastructure improvements on the Harlem Line from CP 112 located south of Woodlawn Station to CP 154 located north of Southeast Station (approximately 41.8 miles). ($63.8 million, total project budget)

Awarded a contract in April for the installation of Positive Train Control on-board equipment on the remaining 100 railcars in the Metro-North M-3 fleet. ($480.6 million, total project budget)

Awarded a contract in June, through the Small Business Development Program, for an on-call paving contractor to perform work which includes milling and paving; installation of new asphaltic roadway; striping and minor drainage system repairs; and improvements at Croton-Harmon Yard, Spring Valley Station and Brewster Yard access road. ($439.6 million, total project budget)

Awarded a design-build contract in October for Part 5, Stage II, of the complete replacement of Metro-North's Harmon Yard Main Shop to provide a new running repair and support shop building in Croton-Harmon, N.Y. ($439.6 million, total project budget)

Awarded a contract in November for the construction of a new substation at Milepost 35, between Chappaqua and Mount Kisco stations on the Harlem Line, at the "City Water" site. ($24.8 million, total project budget)

Awarded a contract in November to complete the environmental review, property acquisition, and preliminary engineering in anticipation of constructing the new Mid-Point
Yard on the Port Jervis Line. ($26.1 million, total project budget)

- Awarded a contract in December for inspection and design of the Harlem River Lift Bridge which includes inspection of all underwater substructure units and Manhattan’s fender system, inspection and design of the localized deterioration found at the Manhattan and Bronx Towers, as well as other related inspections. ($10 million, total project budget)

Superstorm Sandy Restoration and Resiliency

Metro-North continues to repair equipment and facilities damage due to flooding and related effects from Superstorm Sandy, while also advancing mitigation and resiliency projects to better prepare the system for future weather-related events. Major repair and resiliency efforts in 2018 include the following:

- Continued the multi-phase restoration and resiliency work on Hudson Line power and communications and signals (C&S). In 2018, design-build work on Phase I advanced from Greystone (CP 19) to Croton-Harmon (CP 35). Phase II design, from Mott Haven (CP 5) to Greystone (CP 19), progressed concurrently. Work includes: design finalization by design-builder; communications and signals (C&S); trough and signal power duct bank along the Right of Way, as part of the installation of critical power and communications cable replacements; and, as well as the construction of various elevated steel platforms to house power/C&S critical equipment system components. ($189.1 million, total Phase I project budget; $135.0 million, total Phase II project budget).

Major 2018 Completions

Rolling Stock

- Completed the M9 Specification Development project in March. Metro-North's option for the M9 cars was not exercised based on the 2015-2019 Capital Program Rolling Stock strategy. Metro-North has reached an agreement with LIRR for it to participate in the new M9A car procurement with an option for up to 200 cars in the anticipated 2020-2024 Capital Program to replace the M-3 EMU Locomotive fleet. ($2.5 million, total project budget)
**Stations**

- Completed the GCT Leaks Remediation Phase II project in September for repair of water leak infiltration from surrounding buildings, streets, and sidewalks into the GCT complex which is vulnerable to water leakage from rain, melting snow, and subsurface water sources. This project also improved the one-hundred-year-old waterproofing protection system. Work completed includes the following five elements: Park Avenue Viaduct; Vanderbilt Avenue and Sidewalks; North Sidewalk and Lane of 42nd Street along GCT; Vanderbilt Avenue Traffic Signal /Street Light Infrastructure Improvements; and Rehabilitation of Northbound and Southbound Bridges over 45th Street. ($33.2 million, total project budget)

**Infrastructure**

- Completed the Bridge Walkways Installation project in March under the 2010-2014 Capital Program for the installation of approximately one-third of total employee walkways attached to underground bridges in New York State. This project was a continuation of the 2005-2009 Capital Program and will continue under the 2015-2019 Capital Program. ($0.8 million, total project budget.)

- Completed the Cyclical Track Program in June, with the installation of approximately 22,630 ties and 4.5 miles of rail; surfaced 36 miles of track; and performed 2,001 welds for continuous welded rail (CWR) along the Hudson, Harlem, and New York State portion of the New Haven Line. ($23.6 million, total project budget.)

- Completed the West of Hudson Undergrade Bridges Replacement/Renewal project in September for the design of repairs to seven underground bridges located on the Port Jervis Line.

- Completed the Bronx Stations Capacity Improvement project in October for installation of five #20 tangential crossovers to accommodate 60-MPH speeds: along with all the switch machines and associated hardware between Fordham Station and Botanical Garden Station on the lower Harlem Line in the Bronx. ($10.5 million, total project budget.)
Major 2018 Commitments

- The agency continued its commitment to maintain its facilities in a state of good repair, B&T’s major projects in 2018 included: replacement of grid decks on the suspended span at the Throgs Neck Bridge, rehabilitation of the Hugh Carey Tunnel ventilation system, replacement of the fender systems at the Cross Bay and Marine Parkway Bridges, rehabilitation of the tunnel controls at the Queens Midtown Tunnel, tower pier rehabilitation and construction of mooring platform and rehabilitation of the tower elevators and anchorage and pier rehabilitation and sealing at the Verrazzano-Narrows Bridge. B&T committed a total of $730.5 million to Capital Program projects in 2018. The following are additional details about B&T’s major 2018 commitments:

Cross Bay and Marine Parkway Bridges

- Awarded the design-build contract for Replacement of the Fender Protection Systems at both bridges and Installation of Scour Protection at the Cross Bay Bridge ($52.6 million, contract award; $65.9 million, total project budget).

Hugh Carey Tunnel

- Awarded the design-build contract for the Rehabilitation of the Tunnel Ventilation System. ($70.8 million contract award, $88 million, total project budget)

Queens Midtown Tunnel

- Awarded the design-build contract for the Rehabilitation of the Tunnel Controls and Communications system. ($28.8 million contract award, $39.1 million, total project budget)
Throgs Neck Bridge

- Awarded the construction contract for the Replacement of Grid Decks on the Suspended Span, including structural painting, at the Throgs Neck Bridge. ($249.6 million contract award, $336 million, total project budget)

Verrazzano-Narrows Bridge

- Awarded the construction contract for the Rehabilitation and Sealing of the Anchorages and Piers at the Verrazzano-Narrows Bridge. ($36.6 million contract award, $48.9 million, total project budget)

- Awarded the design-build contract for the Tower Pier Rehabilitation, Construction of Mooring Platform and Rehabilitation of the Tower Elevators and Sealing of the Anchorages and Piers at the Verrazzano-Narrows Bridge. ($34.7 million contract award, $44.2 million, total project budget)

**Major 2018 Completions**

B&T completed a total of $1.38 billion in Capital and Sandy Program projects in 2018, an all-time high for B&T. With the completion of the tunnel restoration and mitigation projects at both the Queens Midtown Tunnel and the Hugh Carey Tunnel, and the replacement of electrical equipment at the Marine Parkway and Cross Bay Bridges, all planned Sandy restoration and resiliency projects are now complete. Highlights of 2018 project completions include the following:

**Bronx-Whitestone Bridge**

- Completed the miscellaneous structural rehabilitation and painting and Main Cable and Suspender Rope Investigation at the Bronx-Whitestone Bridge. ($59.8 million, total project budget).
Hugh Carey and Queens Midtown Tunnels

- Completed the major tunnel restoration projects at both tunnels. These projects restored the interior of the tunnels and replaced systems damaged by Superstorm Sandy. ($377.5 million, Hugh Carey Tunnel total project budget, $326.4 million, Queens Midtown Tunnel total project budget).

- Completed the design-build project for the Hugh Carey and Queens Midtown Tunnel Sandy Mitigations under which floodgates were installed at all 8 tunnel portals, perimeter flood protection was increased, and the Governor’s Island Ventilation Building seawall was extended to above the FEMA 500 flood level. ($96.3 million, total project budget).

Marine Parkway and Cross Bay Bridges

- Completed the design-build project to replace all Sandy damaged electrical equipment at the Marine Parkway and Cross Bay Bridges. ($32 million, total project budget).

- Completed the structural rehabilitation, painting and rehabilitation of the lift span mechanical systems at the Marine Parkway Bridge. ($102.8 million, total project budget).

Robert F. Kennedy Bridge

- Completed the deck replacement on the Bronx Plaza Structure at the Robert F. Kennedy Bridge. ($252.6 million, total project budget).

- Completed the Interim Repairs of the Manhattan Plaza Deck at the Robert F. Kennedy Bridge. ($52.9 million, total project budget).

Throgs Neck Bridge

- Completed the installation of Anchorage Dehumidification and Structural Painting at the Throgs Neck Bridge. ($51.8 million, total project budget).
MTA Capital Construction

MTA Mega Projects

Second Avenue Subway, Phase 1

- As of December 2018, $4.469 billion had been committed to the Second Avenue Subway, Phase 1, out of a current total project budget of $4.601 billion, of which federal funding accounts for $1.374 billion. To date, all contracts for the project have been awarded. The systems contract achieved substantial completion in July 2018. The four final stations contracts were substantially completed in 2017. Second Avenue Subway Phase 1 began revenue service January 1, 2017.

Second Avenue Subway, Phase 2

- As of December 2018, $141 million has been committed to the Second Avenue Subway, Phase 2. Initial funding for this project is $1.735 billion to address environmental work, design, real estate, project support, and preliminary construction work. Additional funding will be added to the project in future capital programs. Work on the environmental and design phases of this project is ongoing.

7 Line Extension

- As of December 2018, $2.429 billion has been committed to the 7 Line Extension out of a total project budget of $2.430 billion, of which funding from New York City accounts for $2.378 billion. The 7 Line Extension project opened for revenue service in September 2015. The final contract, for a secondary entrance, was substantially completed in December 2018.

East Side Access

- As of December 2017, $9.632 billion has been committed to the East Side Access (ESA) project, out of a current project budget of $10.178 billion, plus a rolling stock reserve of $463 million. Federal funding for the project is expected to total $2.699 billion. Total
third-party construction executed to date is over $5.6 billion. In 2018, ESA executed approximately $479.3 million worth of construction. The ESA project underwent an extensive budget review, and updated the estimate for completion to $11.133 billion. The revenue service date is forecast for December 2022.

- Two major ESA contracts were completed in 2018. In April, the Grand Central Concourse & Facilities Fit-out Early Work contract was declared substantially complete at a cost of $60 million. This included fit-out of the south end of the new Long Island Rail Road concourse located in the lower level of GCT, construction of south sub-station facility, construction and fit-out of Terminal Management Center (TMC), and construction of certain rooms adjacent to south substation and TMC. In August 2018, ESA substantially completed the Track A Cut and Cover Structure contract at a cost of $42 million. This contract carried out heavy civil work in Harold Interlocking and Sunnyside Yard to connect the existing mainline tracks with one of the four previously bored ESA tunnels. Work included excavating and constructing a 900-foot cut and cover structure, installing utilities, demolishing structures, and fabricating and installing 14 new catenary structures.

- During 2018, ESA awarded three major contracts to advance work for the Manhattan Tunnel signal systems and for the Harold Interlocking. In September, the Tunnel Systems Package 2 – Signal Installation contract was awarded. This contract will install, test, and commission the East Side Access (ESA) tunnel signaling system, install signal signage for the ESA tunnels, plan and execute integrated system tests for signal installation. In April 2018, ESA awarded the Track A Cut and Cover Structure for $36.4 million to remove and replace existing tracks with new of track and special track work in Harold Interlocking. In October 2018, the $73.5 million Harold Structures B/C Approach project was awarded to construct the B/C Approach structure, including underpinning under 39th St. Bridge, as well as carrying out miscellaneous demolition, catenary and track work in the Harold Interlocking.

**Cortlandt No. 1 Line Station Reconstruction**

- As of December 2018, $167 million has been committed to the Cortlandt No. 1 Line Station Reconstruction project, out of a current project budget of $182 million. The station, renamed WTC Cortlandt, was opened to the public in September 2018. This project is locally funded. The current forecast for substantial completion is March 2019.
Penn Station Access

- As of December 2018, $14 million has been committed to the Penn Station Access project, out of $695 million in the 2015-2019 Capital Program. Environmental review is forecasted to be complete by mid-2019. The General Engineering Consultant contract was advertised in January 2018, and the contract was awarded in January 2019.

LIRR Expansion Project

- As of December 2018, the base value of the design-build contract and the project-management contract, totaling $1.7 billion, had been committed to the LIRR Expansion Project, out of $2.050 billion in the 2015-2019 Capital Program. Additional funding will be requested in future Capital Programs. Project completion is forecast for mid-2023.

- The full Notice to Proceed was awarded to the Design Builder in October 26, 2018. The NTP marks the beginning of the four-year heavy construction period. The design-build contract is to construct approximately 10 miles of third track on the Main Line; remove seven street-level grade crossings, and provide grade-separated vehicular and pedestrian crossings at five locations. Options are available for additional work to provide up to five parking garages.
2018 ANNUAL REPORT—SECTION 4
Description of the Metropolitan Transportation Authority and the MTA Board Structure

Submitted as part of the MTA 2018 Annual Report
Pursuant to New York State Public Authorities Law Section 2800(1)(a)(11)

The Metropolitan Transportation Authority (“MTA”), a public benefit corporation of the State of New York (the “State”), has the responsibility for developing and implementing a unified mass transportation policy for The City of New York (the “City”) and Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk and Westchester counties (collectively with the City, the “MTA Commuter Transportation District”).

MTA carries out these responsibilities directly and through its subsidiaries and affiliates, which are also public benefit corporations. MTA and its subsidiaries, are listed by their legal names and estimated number of employees (full-time and full-time equivalents) as indicated in the MTA 2018 Adopted Budget February Financial Plan 2019 – 2022 (February 2019):

<table>
<thead>
<tr>
<th>Legal Name</th>
<th>Number of Employees</th>
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<tbody>
<tr>
<td>MTA Headquarters</td>
<td>3,073 employees</td>
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<tr>
<td>The Long Island Rail Road Company</td>
<td>7,690 employees</td>
</tr>
<tr>
<td>Metro-North Commuter Railroad Company</td>
<td>7,134 employees</td>
</tr>
<tr>
<td>Staten Island Rapid Transit Operating Authority</td>
<td>356 employees</td>
</tr>
<tr>
<td>MTA Bus Company</td>
<td>3,981 employees</td>
</tr>
<tr>
<td>MTA Capital Construction Company</td>
<td>181 employees</td>
</tr>
</tbody>
</table>

The following entities, listed by their legal names, are affiliates of MTA:

<table>
<thead>
<tr>
<th>Legal Name</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triborough Bridge and Tunnel Authority</td>
<td>1,497 employees</td>
</tr>
<tr>
<td>New York City Transit Authority, and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority</td>
<td>50,783 employees</td>
</tr>
</tbody>
</table>
MTA and the foregoing subsidiaries and affiliates are collectively referred to herein, from time to time, as the “Related Entities.” Throughout this document, the Related Entities are referred to by their popular names, as indicated below.

Certain insurance coverage for the Related Entities is provided by a New York State-licensed captive insurance public benefit corporation subsidiary of MTA, First Mutual Transportation Assurance Company (“FMTAC”).

MTA and its subsidiaries are generally governed by the Metropolitan Transportation Authority Act, being Title 11 of Article 5 of the New York Public Authorities Law, as from time to time amended (the “MTA Act”).

Triborough Bridge and Tunnel Authority is generally governed by the Triborough Bridge and Tunnel Authority Act, being Title 3 of Article 3 of the New York Public Authorities Law, as from time to time amended (the “MTA Bridges and Tunnels Act”).

The New York City Transit Authority and its subsidiary are generally governed by the New York City Transit Authority Act, being Title 9 of Article 5 of the New York Public Authorities Law, as from time to time amended (the “MTA New York City Transit Act”).

Due to the continuing business interrelationship of the Related Entities and their common governance and funding, there are provisions of each of these three acts (the MTA Act, the MTA Bridges and Tunnels Act, and the MTA New York City Transit Act) that affect some or all of the other Related Entities in various ways.

Description of Basic Organizational Structure for MTA Operations

MTA Headquarters (Including the Business Service Center)

MTA Headquarters includes the executive staff of MTA, as well as a number of departments that perform largely all-agency functions, including information technology, security, audit, budget and financial management, capital programs management, finance, governmental relations, insurance and risk management, legal, planning, procurement, real estate, corporate compliance and ethics, and treasury. In addition, MTA maintains its own Police Department with non-exclusive jurisdiction over all facilities of the Related Entities.

MTA 2018 Annual Report to the Governor, PAL §2800
Transit System

MTA New York City Transit and its subsidiary MaBSTOA operate all subway transportation and most of the public bus transportation provided within the City (the “Transit System”).

Commuter System

MTA Long Island Rail Road and MTA Metro-North Railroad operate commuter rail services in the MTA Commuter Transportation District (the “Commuter System”).

MTA Long Island Rail Road operates commuter rail service between the City and Long Island and within Long Island.

MTA Metro-North Railroad operates commuter rail service between the City and the northern suburban counties of Westchester, Putnam, and Dutchess; from the City through the southern portion of the State of Connecticut; through an arrangement with New Jersey Transit, the Port Jervis and Pascack Valley commuter rail services to Orange and Rockland Counties; and within such counties and the State of Connecticut.

MTA Bus

MTA Bus operates certain bus routes in the City formerly served by seven private bus operators pursuant to franchises granted by the City (the “MTA Bus System”).

MTA Long Island Bus

Pursuant to a lease and operating agreement with the County of Nassau (“the County”), MTA Long Island Bus formerly operated bus service in the County. MTA Long Island Bus operations ceased as of December 31, 2011, the date the lease and operating agreement terminated.

MTA Staten Island Railway

MTA Staten Island Railway operates a single rapid transit line extending from the Staten Island ferry terminal at St. George to the southern tip of Staten Island.

MTA Bridges and Tunnels

MTA Bridges and Tunnels operates all nine of the intra-State toll bridges and tunnels in the City.
MTA Capital Construction

MTA Capital Construction is responsible for the planning, design, and construction of current and future major MTA system expansion projects for the other Related Entities, including East Side Access (bringing MTA Long Island Rail Road into Grand Central Terminal), system-wide capital security projects, and the Second Avenue Subway.

The legal and popular names of the Related Entities are as follows:

<table>
<thead>
<tr>
<th>Legal Name</th>
<th>Popular Name</th>
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<tbody>
<tr>
<td>Metropolitan Transportation Authority</td>
<td>MTA</td>
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<tr>
<td>New York City Transit Authority</td>
<td>MTA New York City Transit</td>
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<tr>
<td>Manhattan and Bronx Surface Transit Operating Authority</td>
<td>MaBSTOA</td>
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<tr>
<td>Staten Island Rapid Transit Operating Authority</td>
<td>MTA Staten Island Railway</td>
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<td>MTA Bus Company</td>
<td>MTA Bus</td>
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<tr>
<td>Metropolitan Suburban Bus Authority</td>
<td>MTA Long Island Bus</td>
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<tr>
<td>The Long Island Rail Road Company</td>
<td>MTA Long Island Rail Road</td>
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<tr>
<td>Metro-North Commuter Railroad Company</td>
<td>MTA Metro-North Railroad</td>
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<tr>
<td>MTA Capital Construction Company</td>
<td>MTA Capital Construction</td>
</tr>
<tr>
<td>Triborough Bridges and Tunnel Authority</td>
<td>MTA Bridges and Tunnels</td>
</tr>
</tbody>
</table>
Pursuant to statute, MTA’s Board consists of a Chairman and 16 other voting Members, two non-voting Members and four alternate non-voting Members, all of whom are appointed by the Governor with the advice and consent of the State Senate. The four voting Members required to be residents of the counties of Dutchess, Orange, Putnam, and Rockland, respectively, cast only one collective vote. The other voting Members, including the Chairman, cast one vote each (except that in the event of a tie vote, the Chairman shall cast one additional vote). Members of MTA are, ex officio, the Members or Directors of the other Related Entities and FMTAC.

In accordance with legislative amendments enacted in 2009, the MTA Board Chair (“Chair”) is also the Chief Executive Officer of MTA and is responsible for the discharge of the executive and administrative functions and powers of the Related Entities. The Chief Executive Officer of MTA is, ex officio, the Chair and Chief Executive Officer of the other Related Entities. Currently, the MTA has an Office of the Chairman composed of a Managing Director, MTA President, and MTA Chief Development Officer who are charged with the day to day administrative, as well as managerial and executive functions allocated to the CEO.

As of December 31, 2018, the following Committees of the Board assist the Chair and the Board in discharging their responsibilities: (1) the Audit Committee; (2) the Finance Committee; (3) the Committee on Operations of the New York City Transit Authority, the Manhattan and Bronx Surface Transit Operating Authority, the Staten Island Rapid Transit Operating Authority, and the MTA Bus Company; (4) the Committee on Operations of the Metro-North Commuter Railroad; (5) the Committee on Operations of the Long Island Rail Road and the Metropolitan Suburban Bus Authority; (6) the Committee on Operations of the Triborough Bridge and Tunnel Authority; (7) the Capital Program Oversight Committee; (8) the Diversity Committee; (9) the Corporate Governance Committee; and (10) the Safety Committee.

Board Members are assigned by the Chair to serve as chairperson or as a member of several
The following chart sets forth the Chair and Committee Assignments for each MTA Board Member as of December 31, 2018.

<table>
<thead>
<tr>
<th>MTA BOARD MEMBERS</th>
<th>Audit Committee</th>
<th>Corporate Governance Committee</th>
<th>Diversity Committee</th>
<th>Finance Committee</th>
<th>Capital Program Oversight Committee</th>
<th>B &amp; T Committee</th>
<th>LIRR Committees</th>
<th>MNR Committee</th>
<th>NYC Transit/MTA Bus Committee</th>
<th>Safety Committee</th>
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<td>Fernando Ferrer (Acting Chair) 1</td>
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1 Fernando Ferrer serves as Acting Chair as of November 8, 2018.
2 Joseph Lhota was named Chair on June 21, 2017 and resigned on November 8, 2018.
3 John J. Molloy resigned on June 8, 2018.
4 Jamie Vitiello resigned on October 18, 2018.
5 Carl Wortendyke resigned on November 19, 2018.
The MTA Board held eleven (11) meetings in 2018. The following chart sets forth the meetings of the MTA Board and the attendance of each Board Member at those meetings.

<table>
<thead>
<tr>
<th>2018 BOARD MEMBER ATTENDANCE</th>
<th>At Regular and Special Meetings of the MTA Board</th>
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<tbody>
<tr>
<td>Joseph J. Lhota Chairman/CEO</td>
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<td>Fernando Ferrer Vice Chairman</td>
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<td>Andrew Albert *</td>
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<td>Norman E Brown *</td>
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<td>Randolph Glucksman</td>
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<td>Ira R. Greenberg *</td>
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<td>David Jones</td>
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<td>Susan G. Metzger (1/4)</td>
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<td>Charles G. Moerdler</td>
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<td>John J. Molloy</td>
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<td>Mitchell H. Pally</td>
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<td>Scott Rechler</td>
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<td>John Samuelsen *</td>
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<td>Andrew Saul</td>
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<td>Lawrence Schwartz</td>
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<td>Vincent Tessitore Jr. *</td>
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<td>Polly Trottenberg</td>
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<td>Veronica Vanterpool</td>
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<td>Carl V. Wortendyke, (1/4)</td>
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<td>Neal Zuckerman ^ (1/4)</td>
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X Absent
(1/4) Casts One Collective Vote
* Non-Voting Member
Period during which individual was not a member
^ Appointed voting member 6/17/2016
Material Pending Litigation Report

Litigation

General

The MTA and its affiliates and subsidiaries maintain extensive property, liability, station liability, force account, construction, and other insurance, which is described in the Annual Disclosure Statement for the MTA’s Combined Continuing Disclosure Filings. Monetary claims described below may be covered in whole or in part by insurance, subject to the individual retentions associated with such insurance.

The Related Entities also provide accruals in their financial statements for their estimated liability for claims by third parties for personal injury arising from, among other things, bodily injury (including death), false arrest, malicious prosecution, and libel and slander, for property damage for which they may be liable as a result of their operations, and advertising offense, including defamation, invasion of right of privacy, piracy, unfair competition, and idea misappropriation. The estimated liabilities are based upon independent actuarial advice obtained by the Related Entities. However, except in special circumstances and except for the annual judgments and claims budgeted amounts, additional cash reserves are not generally established in an amount equal to the full amount of the accrual.

MTA

*Lockheed Martin Transportation Security Solutions v. MTA Capital Construction and MTA.* The MTA is a defendant, along with MTACC, in an action brought in April 2009 by Lockheed Martin Transportation Security Solutions (“Lockheed”) in federal district court in Manhattan.
Lockheed Martin Transportation Security Solutions. v. MTA Capital Construction Company and Metropolitan Transportation Authority.) Lockheed initially sought a judgment declaring that MTA and MTACC were in breach of its contract for furnishing and installing an integrated electronic security (“IESS”) program, and an order terminating Lockheed’s obligations. Following MTA’s termination of its contract, Lockheed amended its complaint to seek damages for delay and disputed work items ($80 million, later revised to $93 million) or, alternatively, for the alleged “reasonable value of work performed” by Lockheed ($137 million, later raised to $149 million), exclusive of pre-judgment interest, based on its claim that MTA wrongfully terminated the contract. MTA and MTACC are vigorously contesting Lockheed’s claims for money damages and counterclaimed, alleging that Lockheed materially breached the contract and seeking damages which were estimated to be $205,909,468, exclusive of pre-judgment interest. Following the completion of discovery, in July 2013, both MTA and Lockheed moved for partial summary judgment in connection with various claims.

By decision dated September 16, 2014, the court granted in part and otherwise denied each party’s respective motion. With respect to the MTA’s motion, the Court dismissed Lockheed’s claim under a quantum meruit theory, thereby reducing the MTA’s exposure by roughly $50 million, to approximately $94 million (exclusive of pre-judgment interest). Trial commenced on October 6, 2014 and concluded on November 14, 2014. Based on the trial record, MTA reduced its damages claim to $189 million, exclusive of pre-judgment interest. Lockheed’s claim for damages remained the same. Post-trial papers were submitted on November 24, 2014 and the final reply papers were submitted on December 5, 2014. The parties now await the decision of the Court. The outcome of this action cannot be determined at this time.

In July 2009, Lockheed’s performance bond sureties on the contract commenced a related action in federal district court in Manhattan against Lockheed and the MTA defendants, alleging that they are unable to conclude that the conditions to their obligations under the bond have been satisfied. They seek a declaration of the rights and obligations of the parties under the bond. (Travelers Casualty and Surety Company et. al v. Metropolitan Transportation Authority,
MTA and MTACC answered and counterclaimed against the sureties, seeking damages in connection with the sureties' violation of their bond obligations in an amount to be determined at trial. The matter was consolidated with the *Lockheed* action above. In October 2013, the sureties moved for partial summary judgment on their exposure, seeking a reduction of their potential obligation by $5.4 million to account for a progress payment issued by MTA to Lockheed post-default. By decision dated September 15, 2014, the Court denied that motion. The final outcome of this action must await the outcome of the underlying action (*Lockheed v. MTA*, discussed above), and cannot be determined at this time.

**Actions for Personal Injuries/Property Damage/Workers’ Compensation.** As of December 31, 2018, there were approximately 40 actions and tort claims pending against the MTA. These include claims for damages for personal injuries sustained while on duty, including actions under the Federal Employers’ Liability Act (“FELA”), no-fault cases, and other torts. Also, as of that date, there were approximately 241 pending Workers’ Compensation cases.

**Transit System**

**Actions for Personal Injuries/Property Damage.** As of December 31, 2018, MTA New York City Transit and MaBSTOA had an active inventory of 9215 personal injury claims and lawsuits and 1,663 property damage matters arising out of the operation and administration of the Transit System. In addition, with respect to the Access-A-Ride (Paratransit) program, as of December 31, 2018, there was an active inventory of approximately 1045 personal injury cases and approximately 182 property damage cases arising out of the operation of vehicles leased to outside vendors that provide Access-A-Ride service. Such Access-A-Ride claims are covered by a commercial automobile policy which in 2017 had policy limits of $3 million per occurrence, subject to a $1 million deductible.

As of December 31, 2018, MTA Staten Island Railway had a pending inventory of 19 claims and lawsuits relating to personal injury and property damage arising from the operations of MTA Staten Island Railway.
Workers’ Compensation and No-Fault. As of December 31, 2018, MTA New York City Transit and MaBSTOA had an active inventory of approximately 13,836 Workers’ Compensation cases and approximately 2,169 no-fault cases. As of December 31, 2018, there were 29 Workers’ Compensation cases for MTA Staten Island Railway, 16 of which, involve employees who have been classified as permanently disabled, entitling the claimants to continuing monthly benefits and payment of future related medical expenses, as well as two death cases.

Actions Relating to the Transit Capital Program. MTA New York City Transit has received claims from various contractors engaged in work on various Transit Capital Program projects. The aggregate amount demanded by all such claimants, if recovered in full, could result in an increase in the cost of the capital projects that are the subject of such disputes. The capital program contemplates the payment of such claims from project-specific and general program contingency funds, as well as other available monies pledged for capital purposes. We note that, in late April 2017, two purported class actions relating to subway system accessibility were filed against NYCTA and the MTA by a number of individuals and advocacy organizations on behalf of persons with disabilities that prevent them from using the stairs in the subway system. The plaintiffs in both cases seek declaratory and injunctive relief, not money damages. The City of New York was also named as a defendant in both cases but was voluntarily dismissed, with a tolling agreement, from the federal class action. In the federal lawsuit brought in the United States District Court, Southern District of New York, plaintiffs allege, among other things, that defendants inadequately maintain the existing elevators in the subway system, provide insufficient notice to elevator users about outages, and provide insufficient alternative transportation during elevator outages. Said alleged deficiencies are claimed to constitute discrimination in violation of Title II of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and the City Human Rights Law for remedy of which injunctive relief is sought. Fact discovery is completed and the period for expert discovery will close in March 2019. There is no trial date set. The same plaintiffs have also sued in state court (Supreme Court, New York County). That lawsuit asserts that defendants, by not having installed elevators in all subway stations in the system, have discriminated against plaintiffs on the basis of their disabilities in violation of the New York City Human Rights Law. Plaintiffs seek
injunctive relief that would require implementation of a program to make all subway stations accessible to people who cannot use the stairs due to a disability. Defendants have moved to dismiss the state court case on the grounds that plaintiffs’ claims are preempted by New York Public Authorities Law §1266(8) and Transportation Law § 15-B, non-justiciable and time-barred. That motion was argued in March 2018. The court deferred a decision on the motion to dismiss while undertaking court-ordered settlement conferences. The negotiations have not resulted in a resolution and the parties have now asked the Court to decide the motion. The outcome of these two matters cannot be determined at this time.

In addition, as previously reported, a lawsuit was commenced in 2016 relating to a specific capital project, captioned Bronx Independent Living Services, et al. v. MTA, et al., challenging the lack of elevator accessibility at Middletown Road Station. MTA and NYCT are sued by two disabled rights advocacy organizations and two named individual plaintiffs in federal court (United States District Court, Southern District of New York), in a matter alleging violation of the Americans with Disabilities Act (ADA) and other legislation, for proceeding with certain construction work at the station without including, in the scope of such work, the installation of an elevator or ramp. The complaint seeks declaratory and injunctive relief; no claim for monetary relief is asserted. MTA and NYCT answered the complaint in September 2016, and denied any asserted violation of applicable law. In March of 2018, the federal government was granted leave to join the action, and filed an intervenor-complaint, which defendants answered in April of 2018. Fact discovery has been conducted and Plaintiffs’ motion for partial summary judgment was granted by the court in March of 2019. The court held that the alterations made at the Middletown Road station affected the “usability” of the station, thereby triggering the application of the federal DOT regulation set forth in 49 C.F.R. Section 37.43(a)(1). Expert discovery will now proceed relating to the defendants’ principal defense in the action, that installation of an elevator or ramp at the Middletown Road Station as part of a larger renewal project was “technically infeasible” within the meaning of the federal DOT regulations and hence not required. The outcome of the litigation cannot be predicted at this time. It should be noted that were plaintiffs to prevail in obtaining an injunction requiring installation of an elevator or ramp at the Middletown Road station, the costs associated with such an injunction would fall within the coverage of the NYCT capital plan, which, as noted above, contemplates
the utilization of project and program contingency funds, as well as other available monies pledged exclusively for capital purposes under bond resolutions, as the means of addressing such claims and related expenses.

Other Litigation. As of December 31, 2018 the General Law and Contracts Division had an inventory of approximately 539 cases, consisting of federal and state court plenary litigation actions and special proceedings as well as administrative matters pending before various state, federal and local administrative agencies.

Commuter System

Actions for Personal Injuries/Property Damage. As of December 31, 2018, MTA Metro-North Railroad had an active inventory of approximately 543 personal injury claims and lawsuits arising out of the operation and administration of the MTA Metro-North Railroad, of which 304 were the result of claims filed by employees pursuant to the FELA, and approximately 239 were claims filed by third parties. Also, as of that date, there were 5 pending property damage cases. With respect to claims for personal injury arising from the December 1, 2013 derailment of a southbound MTA Metro-North Railroad train north of the Spuyten Duyvil station in the Bronx, MTA Metro-North Railroad has exhausted its self-insured retention of $10 million and FMTAC has reimbursed MTA Metro-North Railroad $50 million. Amounts incurred in excess of the $10 million self-insured retention with respect to such Spuyten Duyvil claims are covered under an all-agency excess liability policy insured by FMTAC for $50 million per occurrence. Additionally, MTA maintains $350 million in liability coverage through the commercial insurance markets that is in excess of the $50 million coverage layer provided by FMTAC.

An incident occurring on February 3, 2015, when an MTA Metro-North Railroad Harlem Line train struck an automobile in a highway-rail grade crossing between the Valhalla and Hawthorne stations, has resulted in assertion of personal injury claims against the railroad. The driver of the automobile and five passengers on the train were killed. A number of passengers, and the train engineer, were injured. The National Transportation Safety Board (NTSB) adopted its report on the causes of the accident on July 25, 2017, finding that the probable cause of the accident was the driver of the automobile, for undetermined reasons, moving the
vehicle on to the tracks while the Commerce Street highway-railroad grade crossing warning system was activated, into the path of Metro-North Railroad train. Contributing to the accident was the automobile driver: (1) stopping beyond the stop line, within the boundary of the highway-railroad grade crossing, despite warning signs indicating the approach to the grade crossing; and (2) reducing the available time to clear the grade crossing by exiting the vehicle after the grade crossing warning system activated because the driver’s attention was diverted by the grade crossing warning system crossing gate arm striking her vehicle. Contributing to the severity of the accident was the third rail penetrating the passenger compartment of the lead passenger railcar and the post-accident fire. While there is no indication from the NTSB’s findings that MTA Metro-North Railroad was at fault in connection with this incident, 37 lawsuits have been filed to date against MTA Metro-North Railroad, many of which name other defendants as well. Notwithstanding MTA Metro-North Railroad’s position that it has no responsibility for this incident, if plaintiffs are successful in their claims against MTA Metro-North Railroad, damages could exceed the self-insured retention and impact the FMTAC and excess layers of insurance.

As of December 31, 2018, LIRR had an active inventory of approximately 1,913 personal injury claims and lawsuits arising out of the operation and administration of the LIRR, of which 1,296 were the result of claims filed by employees pursuant to FELA, and approximately 617 were claims filed by third parties. Also, there were approximately 61 pending property damage matters.

On October 8, 2016 while LIRR was conducting track work east of the New Hyde Park Station on track placed out of service, a piece of track equipment derailed fouling live track and was struck by a train carrying passengers, causing the passenger train to derail. Numerous passengers and several employees were injured due to this accident. The FRA along with MTA/LIRR conducted investigations into this matter. There has been a total of 72 claims to date related to this accident: 57 were passenger injuries, 8 were employee injuries and the remaining are property damage claims. At this time, 31 lawsuits have been filed against MTA/ LIRR. The majority of the claims appear to be soft-tissue, with a few fractures and PTSD claims. The most seriously injured claimant allegedly sustained two fractured legs, requiring five surgeries to
date. That claim has a reserve of $8 million. The current total outstanding reserves are $10,600,000. The derailment caused damage to three passenger cars, the track area and the track equipment involved. The LIRR was paid $5,500,000. The FRA has concluded an investigation, and a report has been issued. Based on information available to date, if all of the injury claims resulted in litigation, and were determined in a manner adverse to LIRR, the liability exposure, in the aggregate, could exceed the agency’s Force Account insurance limit of $11,000,000 and may impact the ELF.

Martens v. LIRR; Town of Brookhaven v. MTA, et al. LIRR previously reported that in October 1992, LIRR employees discovered a suspected contamination site in Yaphank while attempting to install a switch for freight operations. In 2002, LIRR and the New York State Department of Environmental Conservation ("NYSDEC") entered into a Voluntary Compliance Agreement (VCA) with respect to the site, and in 2014 NYSDEC approved a Remedial Action Work Plan under which LIRR would progress a Capital Project to remediate the site by creation of a cap and other measures, at a cost estimated at $8.8 million. In July 2014, MTA received from the Town of Brookhaven (within which the site is located) a Ninety-Day Notice of Intent to commence an action against LIRR under the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §6972(a)(1)(B), to compel a full remediation and removal of contaminated soils and hazardous materials at the Yaphank site. This has resulted in two actions being filed on or about March 11, 2015; one by NYSDEC against LIRR, filed in Supreme Court, Queens County, and a second hybrid action and proceeding under Article 78 of the CPLR brought by the Town of Brookhaven against MTA, LIRR, and NYSDEC, in Supreme Court, Suffolk County. In August 2015, the Supreme Court, Queens County decided motions to consolidate the two lawsuits and ordered their consolidation for purposes of trial in Suffolk County. Argument on the Article 78 portion of the Suffolk County action occurred on October 22, 2015 and February 10, 2016. On May 18, 2016, a partial judgment was entered by the Clerk of Suffolk County. The partial judgment included a statement on the plaintiff’s proffered proposed judgment allowing NYSDEC to enter into a Brownfield Cleanup Agreement with LIRR.

In compliance with the partial order, NYSDEC placed Yaphank Yard on its “Registry of Hazardous Waste Sites” pursuant to ECL Section 27-1305(1) and as a Class 3 site (a site that does not present a significant threat to public health or the environment) and LIRR submitted its
application into the Brownfield Cleanup Program (“BCP”) on November 22, 2016. On November 29th, the Town of Brookhaven filed an Article 78 Petition against LIRR and NYSDEC, requesting the court to overturn NYSDEC’s classification on the State’s Registry of Inactive Waste Sites, assign a Classification of 1 or 2, and require a complete remediation and removal of all contaminated soils as demanded in the Town’s original Article 78 petition. It is anticipated that because LIRR submitted a BCP application, the court may find that DEC and LIRR are in compliance with the court’s prior order. On February 13, 2017, LIRR and the NYSDEC submitted their Answers and Memoranda of Law and on March 3, 2017, the Town of Brookhaven submitted its reply. On October 23, 2017, the Town of Brookhaven filed an Order to Show Cause seeking to amend its Article 78 Petition, and seeking a preliminary injunction and Temporary Restraining Order to enjoin and restrain NYSDEC from granting the Brownfield application and from approving a remediation plan. On December 14, 2017, Supreme Court Judge Luft denied the TRO application and set a briefing schedule on the motion for a preliminary injunction and motion to amend the petition. NYSDEC and LIRR submitted their opposition papers on January 16, 2018. The Town of Brookhaven’s reply papers were submitted on January 29, 2018. On July 24, 2018, Supreme Court Judge Luft denied the Town of Brookhaven’s motion for a preliminary injunction and motion to amend the petition. On August 16, 2018, the Town of Brookhaven filed a Notice of Appeal with the Appellate Division. If the action is not withdrawn, LIRR intends to vigorously defend the case and the outcome cannot be determined at this time.

*Actions Relating to the Commuter Capital Program.* From time to time, LIRR and MTA Metro-North Railroad receive claims relating to various Commuter Capital Program projects. In general, the aggregate amount demanded by all such claimants, if recovered in full, could result in a material increase in the cost of the capital projects that are the subject of such disputes. The capital program contemplates the payment of such claims from project-specific and general program contingency funds, as well as other available moneys pledged for capital purposes.

**MTA Bridges and Tunnels**

*Actions for Personal Injuries/Property Damage.* As of December 31, 2018, MTA Bridges and Tunnels had an active inventory of approximately 139 personal injury claims and lawsuits
(including intentional torts such as false arrest) and approximately 20 property damage matters arising out of the operation and administration of the MTA Bridges and Tunnels facilities (including construction).

Workers’ Compensation and No-Fault. As of December 31, 2018, MTA Bridges and Tunnels had an active inventory of approximately 485 Workers’ Compensation cases and no no-fault cases.

Actions Relating to MTA Bridges and Tunnels’ Capital Program. From time to time, MTA Bridges and Tunnels receives claims relating to various MTA Bridges and Tunnels’ Capital Program projects. In general, the aggregate amount demanded by all such claimants, if recovered in full, could result in a material increase in the cost of the capital projects that are the subject of such disputes. The capital program contemplates the payment of such claims from project-specific and general program contingency funds, as well as other available moneys pledged for capital purposes.

Other Litigation.

Farina, et al. v. MTA, TBTA, et al. – A putative class action lawsuit (Farina v. MTA, TBTA, Transworld Systems, Inc., and Conduent, Inc.) was filed in the U.S. District Court for the Southern District of New York on February 16, 2018 and assigned to U.S. District Judge Naomi Reice Buchwald. TBTA and MTA were served on February 21, 2018. The representative plaintiff in the Farina case alleged that the $100 violation fee allegedly imposed for each toll violation at TBTA bridges and tunnels is excessive and that the fee policies, practices, and collection methods are illegal and unconstitutional. Putative class action lawsuits were also filed by the same plaintiffs’ counsel in the same federal court on February 20, 2018 (Gardner v. MTA, TBTA, The Port Authority of New York and New Jersey, AllianceOne Receivables Management, Inc. and Conduent) and on March 5, 2018 (Troiano v. MTA, TBTA, The Port Authority of New York and New Jersey, New York State Thruway Authority, Transworld Systems, Inc., AllianceOne Receivables Management, Inc. and Conduent). TBTA and MTA were served in Gardner on March 6, 2018 and in Troiano on April 6, 2018. The allegations regarding TBTA and MTA were substantially the same in all three actions, except that Gardner and Troiano also alleged that $50 violation fees are excessive and improper. On April 16, 2018, the court consolidated the three cases into one case and on April 30, 2018 plaintiffs filed one consolidated complaint.
(Farina, Gardner, Troiano, Ritchie, and Rojas v. MTA, TBTA, The Port Authority of New York and New Jersey, New York State Thruway Authority, Transworld Systems, Inc., AllianceOne Receivables Management, Inc., Linebarger Goggan Blair & Sampson, LLP and Conduent, Inc.). The consolidated complaint includes plaintiffs Farina, Gardner, and Troiano as well as two additional plaintiffs, whose alleged claims also arise from the assessment of $50 and $100 violation fees.

On July 26, 2018, Judge Buchwald granted the defendants’ request seeking leave to move to dismiss plaintiffs’ consolidated amended class action complaint. On September 13, 2018, the Court granted a Stipulation between plaintiffs and Conduent, Inc. substituting Conduent, Inc. for the correct party, Conduent State & Local Solutions, Inc. On August 30, 2018, plaintiffs dismissed their claims against Transworld Systems, Inc., AllianceOne Receivables Management, Inc., and Linebarger Goggan Blair & Sampson, LLP, as well as certain causes of action against the remaining defendants. On September 14, 2018, TBTA and MTA filed their Motion to Dismiss; in their October 22, 2018 Opposition, plaintiffs voluntarily dismissed all claims against MTA. The remaining defendants have also filed Motions to Dismiss and briefing on the motions was completed on November 16, 2018. On January 7, 2019, we received notice that the case was being reassigned from Judge Buchwald to Judge P. Kevin Castel. The Motions to Dismiss remain pending before the Court, the Court has not scheduled oral argument, and there are no forthcoming deadlines in the case. TBTA is vigorously defending the consolidated action.

Vincent Feliciano, et al. v. MTA and TBTA - This putative class action, alleging violations of the Fair Labor Standards Act (“FLSA”) by TBTA and MTA, was brought by Bridge and Tunnel Sergeants and Lieutenants Vincent Feliciano, Diana Longa, Greg Devaney, Peter Roness, and Carlo Tagliavia, on behalf of themselves and others similarly situated. They allege that they regularly perform pre-shift and post-shift work without compensation; there is a time-shaving policy that automatically rounds officers’ check-in times up to their scheduled tour; supplemental pay, including differentials and bonuses, are not included in the regular rate of pay when calculating overtime; and that the payment of overtime and other wages is delayed. TBTA has filed an answer with appropriate affirmative defenses. On July 3, 2018, TBTA participated in a mandatory settlement conference at the Southern District Court of New York before Magistrate Judge Barbara Moses. The parties were unable to reach a settlement but
agreed to exchange limited information regarding damages calculations for one of the claims and to continue discussions. On July 11, 2018, TBTA sent its understanding of damages calculations to Plaintiffs’ counsel. On August 17, 2018, U.S. District Court Judge Vernon Broderick certified a collective of all current and former TBTA Sergeants and Lieutenants from three years prior. Fact depositions must be completed by March 31, 2019, and the deadline to complete all fact discovery is June 28, 2019. All discovery, including expert discovery, must be completed by August 30, 2019. TBTA and MTA are vigorously defending this action.

MTA Bus

As of December 31, 2018, MTA Bus had an active inventory of approximately 820 personal injury claims and lawsuits, approximately 923 property damage matters, approximately 421 no-fault cases arising out of the operation and administration of the MTA Bus System, and approximately 917 Workers’ Compensation cases.

Metropolitan Suburban Bus Company

Matter of Adams v. MTA et al. This pending Article 75 petition by almost 200 former LI Bus employees who were members of TWU Local 252 seeks to compel arbitration pursuant to various "Section 13(c) agreements" attached to grants that were used for LI Bus. (See 49 U.S.C. §5333(b) ("Employee protective arrangements"), which provides that such agreements shall be entered as a condition of certain federal financial assistance and shall provide, inter alia, "the protection of individual employees against a worsening of their positions related to employment.") The petition, which was filed in June 2013, names MTA, LI Bus, Nassau County and Veolia Transportation, which is now running bus service for Nassau County, as respondents and claims that the petitioners were either dismissed on the termination of the Lease and Operating Agreement between LI Bus and Nassau County or hired by Veolia at lower pay and therefore are entitled to arbitrate their claims and to Section 13(c) displacement benefits, which extend for six years from the time of displacement. MTA and LI Bus answered the petition, asserting various defenses. By decision filed October 27, 2014, the court granted petitioners’ motion to compel final and binding arbitration before the American Arbitration

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(1) The MTA subsidiary Metropolitan Suburban Bus Authority discontinued its provision of transportation services at the end of 2011. Its activities are limited to the winding up of its affairs.
Association. Respondents MTA and LI Bus appealed. By decision and order dated August 1, 2017, the Appellate Division, First Department upheld the lower court’s decision. We cannot determine the final outcome of the matter at this time.

*Actions for Personal Injuries/Property Damage.* As of December 31, 2018, MTA LI Bus had an active inventory of 15 personal injury claims and lawsuits, and 0 property damage matter arising out of the operation and administration of MTA LI Bus.

*Workers’ Compensation and No-Fault.* As of December 31, 2018, MTA LI Bus had approximately 34 Workers’ Compensation cases and 1 open no-fault claims.