ALC-42 locomotive, which entered Amtrak service in February 2022, flanked by Siemens Venture coaches under construction for Amtrak state partners.

Equipment Asset Line

As of the start of the current fiscal year, Amtrak operated an active equipment fleet of 286 locomotives, 1,335 railcars and 20 high-speed trainsets (which include motive power and passenger cars), plus 244 locomotives and railcars owned by its state partners. Amtrak's fleet generally consists of custom-built equipment nearing the end of its useful service life, much of which was built by manufacturers who are no longer in business.

Most passenger railcars operating in North America are retired after 30 to 50 years of service. Globally, most high-speed trainsets are replaced after significantly shorter lifespans.

To address this issue, Amtrak has embarked on a comprehensive, multiyear strategy of initiatives to modernize its locomotive and passenger car roster. Amtrak has placed base orders for at least 101 new trainsets and 125 diesel locomotives, all to be manufactured in the United States. These orders include options for up to 140 additional intercity trainsets (ICT) and up to 50 additional diesel locomotives. Amtrak intends to complete its re-fleeting with a procurement for new long-distance railcars, to be placed within the five-year timeline of this plan.

Amtrak's Equipment Asset Line Plan (Equipment Plan) is an ambitious one, requiring the execution of several major equipment acquisition programs in relatively quick succession. However, the benefits of such a program will be enormous.

An Aging Fleet

35 years

The average age of an Amtrak-owned or leased railcar.

24 years

The average age of an Amtrak-owned diesel locomotive.

22 years

The average age of an Amtrak-owned trainset.

20 years

The average age of a state-owned locomotive or railcar operated by Amtrak.

9 years

The average age of an Amtrak-owned electric locomotive.

Overview

Amtrak's Equipment Asset Line Plan supports the current and planned product mix and service structures of each service line. For example:

The Northeast Corridor (NEC) Service Line

The NEC Service Line's plan to increase *Acela* capacity and service and provide an enhanced customer experience is supported by the forthcoming launch of next-generation *Acela* trainsets and the ICT procurement.

The State Supported Service Line (SSL)

The SSL plans to increase ridership and revenue by developing new and expanded corridors, acquire new fleet, and maximize operational efficiencies to reduce costs funded by state partners. The ICT procurement initiative is integral to all three goals.

The Long Distance Service Line (LDSL)

The LDSL identifies acquisition of new equipment that will improve operational and financial performance, enhance customer satisfaction, and reduce greenhouse gas emissions as one of its major strategic goals. The strategic initiative to refresh long-distance Superliner and Viewliner I equipment in this plan supports the LDSL's goal of near term product improvement.

Pacific Surfliner

New ALC-42 Charger #300 on Train 6, the *California Zephyr*, being delivered.

Asset Line Goals

The Equipment Plan initiatives support the following Amtrak FY 2022 goals:

Serve with Safety

This plan includes replacement of legacy equipment with new equipment that includes modern safety features allowing Amtrak to take advantage of nearly 50 years of design innovations in railcar safety.

Grow the Business

New, modern equipment with up-to-date features and increased capacity will attract new riders and provide space to accommodate them. Amtrak's comprehensive re-fleeting will bring a more modern product to nearly all routes within the next decade. Amtrak's fleet procurements include options to allow for substantial growth where demand warrants, and the introduction of dual-power (diesel and electric) propulsion and double-ended consists on *Northeast Regional* will allow Amtrak to operate more trips with a given number of trainsets than it can today.

Launch the Future

The initiatives in this Equipment Plan represent a key component of Amtrak's pivot from survival towards an aggressive program of building for the future. They will provide the additional capacity and modern customer amenities necessary for the significant expansion of Amtrak service contemplated by the recently enacted Infrastructure Investment and Jobs Act (IIJA) This plan also includes the construction and/or retrofit of maintenance facilities to support new maintenance practices that will improve the reliability and performance of Amtrak's equipment fleet of the future.

Project Milestones

Amtrak began its second half century last year with several exciting fleet milestones accomplished or coming soon. In addition to the ICT trainset order, during FY 2021 Amtrak received the last of the 130 Viewliner II long-distance railcars and the first new ALC-42 diesel locomotives, which entered service on Amtrak's long distance network in early FY 2022. Also debuting during early FY 2022 were the first of 137 state-owned, Amtrak-operated Siemens Venture cars on Midwest state corridor routes. Amtrak also looks forward to progressing through testing, commissioning, and crew training activities for its new high-speed next-generation *Acela* fleet as Amtrak prepares for a 2023 service launch.

Asset Inventory

Amtrak's Fleet Today

Amtrak's Equipment Asset Line includes its fleet of passenger locomotives, railcars, and trainsets, as well as the facilities to maintain this fleet. The equipment is used to carry customers on the railroad's three intercity rail passenger service lines: Northeast Corridor, State Supported and Long Distance.

At the start of FY 2022, Amtrak's fleet of active owned and leased passenger train equipment includes the units listed below. Due to the COVID-19 pandemic and related storage of some equipment, the number of active units listed here may differ from the combined active and inactive (including stored) fleet quantities listed elsewhere in this document.

General Electric P-40/P-42 diesel locomotives (174 units) and P32ACDM dual-mode locomotives (18), built from 1993-2001. P-40/42 locomotives are used nationwide on long-distance and State Supported routes, while P32ACDM units are used on services between New York City (where their ability to use electric power is required to access Penn Station) and Albany-Rensselaer, NY, Niagara Falls, NY and Rutland, VT. Amtrak's fleet of 17 P32-8 locomotives, generally used in terminals but also capable of road operations, is approaching 30 years of age.

Siemens ACS-64 electric locomotives (66), built between 2013 and 2016, are used to haul *Northeast Regional*, *Keystone Service* and other corridor and long-distance trains that operate in electrified territory on the NEC.

Amfleet I (435) and ex-*Metroliner* (16) railcars, built 1975-1977 (1967 for the ex-*Metroliner* coaches), which are the workhorses of *Northeast Regional,* Northeastern state corridor and some Midwestern corridor routes.

Amfleet II coaches and lounge cars (134), built 1981-1983, are used on all long-distance routes that serve New York City (where clearances preclude operation of bi-level Superliners), as well as the State Supported *Adirondack*, *Maple Leaf* and *Pennsylvanian*.

Superliner I railcars (227), built 1979-1981 and **Superliner II railcars (163)** built 1993-1995 are used on all long-distance routes except those which serve New York City, as well as several State Supported routes.

Horizon railcars (65), built 1989-1990 are used on Midwest, Amtrak Cascades, and California state corridors. These units will soon be displaced from their current routes by state-owned Siemens Venture equipment and will become available for re-deployment on corridor routes experiencing ridership growth.

Viewliner I (38), and Viewliner II (117) railcars, including sleeping and dining cars used primarily on long-distance routes serving New York, and baggage/baggage-dorm cars used nationwide. Viewliner I cars were built 1995-1996 by Morrison-Knudsen, while Viewliner II cars were built between 2014 and 2021 by CAF USA.

***Acela* trainsets (20),** built 1999-2001, which will be retired following the delivery of the new *Acela* trainsets.

Surfliner cars (39), built in 1999-2001 for *Pacific Surfliner* service. Amtrak also operates an additional ten Surfliners are owned by Caltrans, its California state partner.

***Auto Train* Auto Carriers (77),** built in 2006 by the Johnstown Corporation of America, are used to haul passenger automobiles on *Auto Train*.

Amtrak's Active Fleet of Operated Passenger Equipment, Start of FY 2022 (October 1, 2021)

Active counts based on October 2021 query of Amtrak's Operations Maintenance Systems (OMS) and subsequent review by System Operations and Finance.

Fleet Type	Ownership Status	Active Fleet	Avg. Yr. Built	Avg. Unit Age (Yrs)	Notes
AMTRAK-OWNED/LEASED LOCOMOTIVE FLEETS					
ALC-42	Amtrak-owned	0	2021	0	First trainsets undergoing testing, not yet active for revenue service.
GE P-42-8 Diesel	Amtrak-owned	174	1998	23	
GE P32-8 Diesel	Amtrak-owned	17	1991	30	
P32ACDM Dual Mode	Amtrak-owned	18	1996	25	
GE P40-8 Diesel	Amtrak-owned	11	1993	28	
Siemens ACS-64 Electric	Amtrak-owned	66	2014	7	
HHP-8 Electric	1 unit leased, 14 owned	15	2000	21	In reserve status.
AMTRAK-OWNED/LEASED RAILCAR FLEETS					
Heritage	Amtrak	5	1954	67	
Amfleet I	Amtrak	435	1976	45	
Amfleet II	Amtrak	134	1982	39	
Ex-Metroliner	Amtrak	16	1967	54	
Horizon	Amtrak	65	1989	32	
Superliner I	47 leased, 180 owned	227	1980	41	As of Dec. 2021, 47 units remain under lease; remaining Superliners are owned.
Superliner II	Amtrak	163	1995	26	
Viewliner I	Amtrak	38	1996	25	
Viewliner II	Amtrak	117	2015	6	
NPCU (former F40PH)	Amtrak	19	1977	44	F40PH locomotives built 1977 and rebuilt into NPCUs.
Auto Carrier	Amtrak	77	2005	16	
TRAINSET FLEET OWNED/LEASED BY AMTRAK					
First-Gen Acela	2 sets leased, 18 owned	160	1999	22	Does not include Acela Inspection Car (non-passenger equipment).
Next-Gen Acela	Amtrak	0	2021	0	First trainsets undergoing testing, not yet active for revenue service.
STATE-OWNED FLEETS OPERATED BY AMTRAK					
California Cars	California	91	1996	25	Most cars are California I built in 1996, also includes Comets (1968) and California II (2002).
Talgo	Oregon	33	2013	8	Amtrak, WSDOT trainsets no longer active; Active trainsets are ODOT-owned.
Oregon NPCU Units	Oregon	2	1977	44	Subfleet of Amtrak NPCU fleet with an average build date as F40PHs in 1977.
NCDOT Railcar	NCDOT	20	1961	60	
NCDOT F59/F59PHI	NCDOT	9	1991	30	
F59PHI / P32-8 (Caltrans)	California	14	1996	25	
Siemens SC-44 Charger	WSDOT, IDOT, California	65	2017	3	Of 63 total units, 8 are owned by WA, 20 owned by CA, 33 owned by IDOT.
TRAINSET AND RAILCAR FLEETS WITH OWNERSHIP SPLIT BETWEEN AMTRAK AND STATE PARTNERS AT THE UNIT LEVEL					
Surfliner	Amtrak, California	49	2000	21	Amtrak owns 39 units, California owns 10 units.

Unit Summary	# Units	Avg. Age
Total Amtrak-Operated Units:	**2,040**	**29.7 years**
Amtrak-owned railcar fleets:	1,296	35.0 years
Amtrak-owned trainset fleets:	160	22.0 years
Amtrak-owned/leased diesel locomotive fleets:	220	24.0 years
Amtrak owned/leased electric locomotive fleets:	81	9.6 years
State or split-ownership fleets:	283	20.3 years

A full inventory of passenger fleet assets, including unit-level in-service status and ownership as of the start of FY 2022, is included within the Equipment Appendices.

Amtrak's Fleet Today, continued

The age and condition of Amtrak's equipment is a continual challenge. Insufficient equipment has caused some state partners to look elsewhere for cars and locomotives to support ridership growth. Road diesel locomotives suffer from mechanical challenges due to their age and accumulated years of wear and tear, which can cause train delays resulting in passenger inconvenience and dissatisfaction. Other drawbacks include the lack of expected modern amenities such as manufacturer-installed Wi-Fi, and even baby changing tables on many routes. The small windows and limited toilet retention tank capacity of Amfleet I cars also negatively impact the customer experience. Furthermore, the dated layout of restroom modules on Amfleet and Superliner equipment hinders Amtrak's ability to keep cars clean, further degrading customer satisfaction.

Much of Amtrak's current equipment fleet does not reflect modern propulsion technologies and operating practices that enhance efficiency. Equipment operating over the electrified NEC is not dual-powered, so time-consuming engine changes between electric and diesel locomotives are required on trains that operate over both the NEC and connecting unelectrified lines. Most Amtrak trains are not dual-ended (equipped to operate in either direction), which significantly increases turnaround time at terminals.

Superliner I Sleeping Car

Now Arriving: Fleet Renewal and the IIJA

Amtrak has historically found railcars to have a useful commercial life of 30 years, and 20-25 years for locomotives. The key factors that limit useful commercial life include:

- **Maintainability.** Cost of routine maintenance on equipment (which rises over time, due to wear and component obsolescence).
- **Availability.** Quantities and types of cars required to meet evolving service needs.
- **Technical capability.** Capacity to meet service requirements.
- **Customer acceptance.** Appeal of the equipment to passengers.
- **Capital availability.** Ability to fund fleet replacements, which may not exist when the outermost limit of useful or commercial life is reached.

By any of these measures, much of Amtrak's fleet needs replacement. As new equipment typically takes four or more years from contract award to when the first unit enters service, Amfleet and Superliner I equipment will have operated for approximately 50 years, and P-40/P-42 diesel locomotives approximately 25-30 years, by the time replacements are manufactured, tested, and delivered.

In the next five years, Amtrak expects to receive 28 new high-speed *Acela* trainsets, 125 new ALC-42 diesel locomotives, and the first new ICTs. Options for additional diesel locomotives and trainsets provide Amtrak with the ability to increase orders to support future growth. Amtrak also plans to order new long-distance railcars during that period to replace the bulk of its aging long-distance railcar fleet. We also plan to complete the refresh of legacy equipment to improve short-term customer amenities.

The new procurements will include Technical Services and Spares Supply Agreements (TSSSAs) with the equipment manufacturers to ensure long-term support and parts availability for the new equipment. We also plan to assess and modify our mix of capabilities at shops and terminals to support new trainsets on order and dispose of aged equipment to fundamentally improve overall efficiency, quality, reliability, and availability of our rolling stock.

By the end of 2027, all first-generation *Acela* trainsets, many P-40 and P-42 diesel locomotives and all Talgo equipment we operate will be retired, and the complete replacement of Amfleet I equipment with the ICTs will be well underway. These acquisitions will materially reduce the average age of Amtrak's fleet. Further deliveries, including the remainder of the Intercity Trainset procurement and our planned order for new long-distance rolling stock will continue after the period covered by this plan. We anticipate the complete retirement of our P-40/P-42, Amfleet I and II and Superliner fleets by the early 2030s.

Amtrak's fleet initiatives present several excellent opportunities for effective uses of IIJA funding. We expect to the IIJA will fund large portions of our transformative fleet strategy for which other funding has not been secured, including Amtrak's $7.3 billion ICT procurement which includes both fleet acquisition and facilities upgrades. Another candidate project for IIJA funding can be found in Amtrak's order for ALC-42 locomotives; an option for 50 additional units to supplement the base order of 75 was approved by Amtrak's Board of Directors in January 2022.

Amtrak also intends to use IIJA funds to begin replacing most of its 744-unit fleet of long-distance railcars with new equipment. Renewal of long-distance locomotive and railcar fleets will allow Amtrak to provide a more modern, efficient rail service across its National Network, which serves the majority of rural and underserved communities on its system and will allow Amtrak to operate a uniformly modern and efficient fleet of equipment nationwide.

Equipment Asset Line Plan Leadership

Equipment initiatives are managed through close coordination among teams. Mechanical work, from refresh through heavy overhauls and wreck repair, and the development of specifications for equipment acquisitions, is managed by Chief Mechanical Officer George Hull. Fleet planning work, including route/service needs and fleet and repair facility sizing needs, are managed under Amtrak's planning organization, led by Executive Vice President Dennis Newman. New equipment acquisition initiatives, including Requests for Proposal (RFPs), Financial and Technical evaluation work, are conducted by a cross-functional team under Chief Procurement Officer Mark Vierling. Implementation initiatives following contract award are led by the Capital Delivery team under EVP Laura Mason.

Amtrak's Mechanical Facilities and Capabilities

Amtrak maintains the facilities to provide various levels of car, locomotive, and trainset maintenance on a national basis, and manages a maintenance program that includes facilities operated by contractors or owned by State Partners.

Work ranges from simple overnight or midday turnaround of equipment between trips to restoration of wreck-damaged equipment and heavy overhauls on equipment that is no longer supported by the original manufacturer.

Between now and the FY 2027 horizon of this plan, Amtrak plans to spend approximately $2.5 billion on capital work to maintain Amtrak's fleet in a state of good repair through overhauls, wreck rebuilds, refreshes and other key projects, in addition to costs related to upcoming fleet replacements and facility needs.

Facilities Overview

The fleet is maintained in over 60 locations nationwide, ranging from rail yards where basic cleaning and light servicing work is done to back shops where heavy overhauls and rebuilds of wrecked equipment are performed. All high-speed trainset maintenance for *Acela* trainsets takes place at three purpose-built facilities in Boston, New York, and Washington.

Three major "backshops" deal with conventional equipment in Wilmington, Delaware (specializing in locomotives), Bear, Delaware (specializing in Amfleet I equipment) and Beech Grove, Indiana (specializing in equipment which operates predominantly outside the Northeast). Other programmed mechanical work and repairs take place in over a dozen other facilities located throughout the country, while servicing work between trips takes place at approximately three dozen field locations where trains terminate (or, for long distance trains, where they reach a mileage requirement); this work is sometimes performed by contractors at small end-point locations. Please refer to Equipment appendices for tables which provide information on all Amtrak mechanical facility locations and the work performed at each.

Maintenance Capabilities

Turnaround and Layover Servicing

The most basic type of train maintenance is turnaround and layover servicing. Typical servicing tasks include daily federally mandated inspections of equipment; emptying toilets; refueling, restocking paper goods and other consumables; and rectifying minor mechanical issues that may develop over the course of a train's route (minor bad order repairs). More extensive repairs can typically be carried out at the larger turnaround end point facilities, of which most routes have one, although such extensive repairs often require equipment to be taken out of service for several days.

Periodic Inspections, Preventive and Corrective Maintenance

Every piece of equipment in revenue service is maintained on a periodic inspection schedule to address regulatory requirements and mechanical issues. This work may also be supplemented with preventive maintenance.

Equipment is taken out of service and deadheaded to a facility for work when it is due, which typically takes several days to a week. Tasks during a periodic inspection include a deeper cleaning of equipment than is typical for revenue service, repair of critical and non-critical issues that may require additional tools or staff time/expertise to rectify, application of small-scale modifications to equipment, and mandatory periodic regulatory inspections.

For *Acela*, a different continuous maintenance approach called Reliability Centered Maintenance (RCM) has allowed up to 17 trainsets (of a fleet of 20) to operate in revenue service on a given day, reducing the spare ratio (the percentage of equipment units that are expected to be out of service for maintenance at any given time) for the fleet and increasing revenue for the service. This approach has also been adapted for the ACS-64 fleet, which spreads the traditional periodic regulatory inspections and preventive maintenance tasks into weekly or bi-weekly blocks. All units receive the same work tasks over the course of each set of blocks as they would through the periodic regulatory inspections.

The enhanced fleet availability that comes from Amtrak's shift away from the historic maintenance practices and towards continuous maintenance with vendor support through a TSSSA has yielded measurable results. Enhanced *Acela* fleet availability, for instance, allowed the operation of additional frequencies to meet travel demand and increase revenue.

As a result, Amtrak plans to migrate towards a continuous maintenance approach for its new equipment, including the ICTs currently on order; facilities will be designed around continuous, fragmented maintenance cycles as opposed to the traditional periodic regulatory inspection cycles for the locomotives and railcars they replace.

Overhauls

The centerpiece of the heavy mechanical work program for Amtrak's existing fleet is the three-level overhaul cycle (see sidebar at right).

This will change as Amtrak transitions its fleet towards RCM. Rather than performing all heavy maintenance work on a locomotive, railcar, or trainset in an extended outage once every four years, components are evaluated and replaced individually on rotating schedules aligned with periodic inspections or other maintenance periods to better match the replacement cycles of individual parts based on failure rate experience or OEM recommendations.

For P-42 locomotives, Amtrak entered into a Life Cycle Preventive Maintenance (LCPM) agreement with the original equipment manufacturer, General Electric, to perform larger component replacement work as part of the routine preventive maintenance inspections which occur four times each year, reducing the need for heavy four-year overhauls. Amtrak is committed to this new approach with the ACS-64 locomotives and will implement similar programs with the new *Acela* high speed trainsets and the ICTs as they enter service.

Amtrak's Overhaul Cycle

Level I (Every 4 years)

The lightest overhaul includes complete rebuilding of trucks, HVAC units, brake valves, door operators and system critical components as well as heavy cleaning of carpeted surfaces and seat cushion replacement.

Level II (Every 8 years)

A Level I overhaul plus a complete replacement of all major components such as seats, diaphragms, windows and 480V trainline cabling.

Level III (As needed)

A Level II overhaul plus a complete interior upgrade or reconfiguration, including bathroom modules and any required modifications.

Modifications and Field Alterations (Including Refresh)

Since FY 2018, Amtrak has refreshed over 700 Amfleet I, Amfleet II, ex-Metroliner and Horizon railcars, along with 20 *Acela* trainsets. Refresh of Amtrak Superliner and Viewliner I fleets is currently underway. Refresh elements include new seat cushions, new carpets, restroom air fresheners and other soft goods changes.

Rebuild

The Beech Grove and Bear shops perform restorations of damaged equipment that is deemed economically repairable and convert equipment from one configuration to another as business needs evolve. Restoration of wreck-damaged equipment is critical to the continuation of current Amtrak service levels, since replacements for Amtrak's predominantly custom-built equipment, are usually unobtainable. Specific quantities of cars and locomotives to be repaired in a given year fluctuate depending upon funding, the number of restorable equipment units, and the widely varying scope of work necessary to rebuild each one.

Strategy

Amtrak's Fleet Recovers From the Pandemic

In FY 2020, the COVID-19 pandemic affected Amtrak significantly. Nationwide ridership and revenue declined by nearly half when compared to FY 2019, with some months experiencing declines in excess of 95 percent. As the outcome of emergency funding legislation was uncertain at key decision-making points during the pandemic, Amtrak was forced to temporarily reduce its levels of service across the Northeast Corridor and long-distance routes. On state-supported routes, many state partners requested reductions or suspensions to their services, and these were incorporated in tandem with the reductions in NEC and long-distance frequency and capacity.

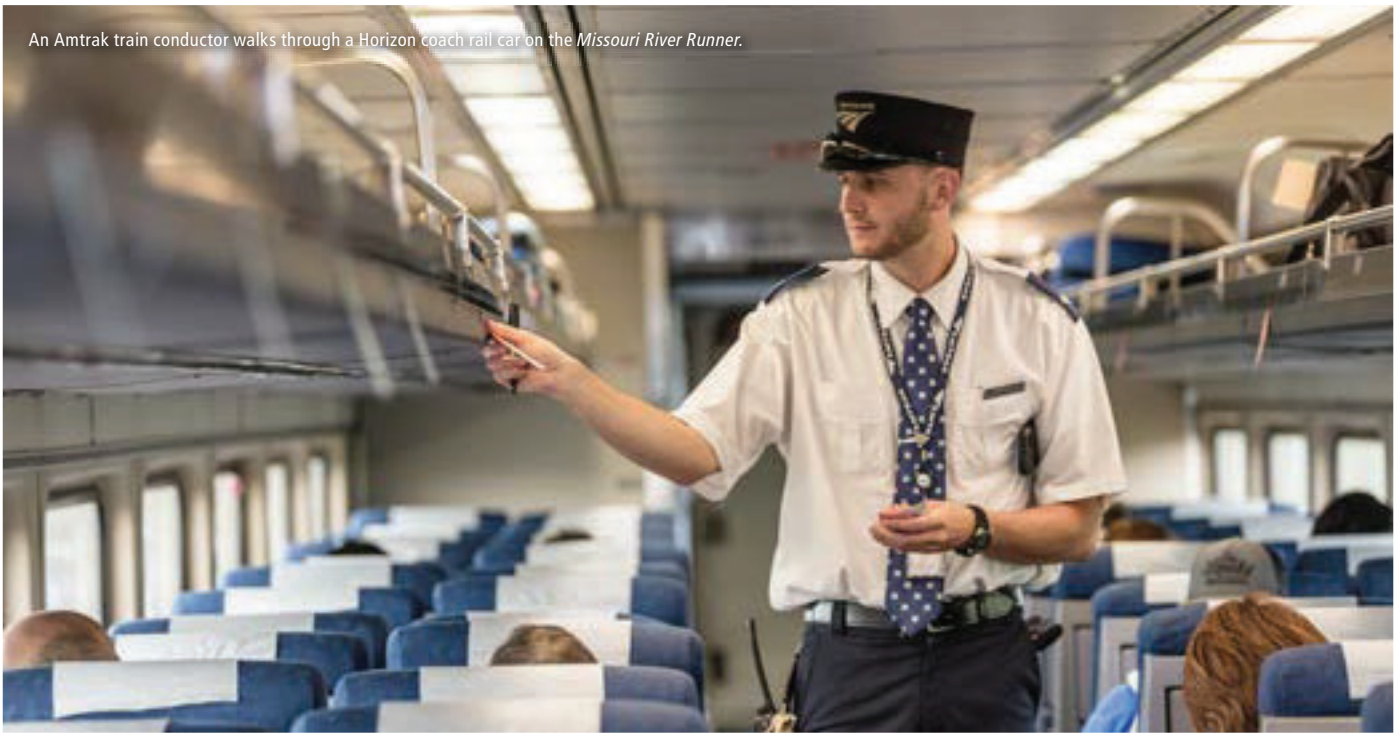
At the beginning of FY 2021, Amtrak placed some 144 passenger railcars into storage. Railcars chosen for this program were those due for Federally-mandated servicing and overhauls This maximized the immediate reduction in cash expenses necessary to weather COVID-19 driven reductions in revenue and uncertainty regarding future federal funding.

As of the end of FY 2021, some 129 railcars and eight locomotives in Amtrak's intercity fleet were in storage.

During FY 2022, Amtrak has been working to restore stored equipment to service, including performing the necessary overhauls and federally-mandated servicing. At this time, the plan is to restore all Viewliner, Superliner, Amfleet I and II cars to service by FY 2023. Specific timelines for restoration will depend upon:

- Future state-supported expansion;
- Passenger demand recovery;
- Availability of sufficient mechanical staff to perform work to restore equipment to service and to maintain it thereafter, and of sufficient employees to staff trains utilizing restored equipment.

Food service and baggage car restorations are also contingent upon forthcoming product decisions regarding checked baggage, Amtrak Express and food service formats by route. No target has been set for returning the 27 stored Horizon cars to service since Siemens Venture cars are replacing Horizon equipment on the Midwest routes on which most Horizon cars operate and there is not an immediate need for the stored Horizon cars.



An Amtrak train conductor walks through a Horizon coach rail car on the *Missouri River Runner.*

New ALC-42 locomotives at Ivy City Yard, Washington, DC.

Now Arriving: ALC-42 Long Distance Diesel Locomotives

In late 2018, Amtrak placed an order for 75 diesel electric locomotives from Siemens. Dubbed the ALC-42 (for Amtrak Long-distance Charger, 4,200 horsepower), this base order of 75 units will begin replacement of General Electric P-40/P-42 diesels used in long-distance service. In January 2022, Amtrak's Board approved the execution of options for 50 additional locomotives, bringing the future fleet total to 125. The P-40 and P-42 locomotives, in long-distance Amtrak service since the 1990s, are nearing the end of their useful service lives.

Revenue service has recently commenced, and All 75 units are scheduled to enter service by early 2025. The base order total cost is $850 million, which includes the purchase price, warranty, technical support, and spare parts through a multi-year TSSSA. Unit acquisition for this base order is funded through a combination of Amtrak's cash reserves and its National Network grant, while ongoing TSSSA work is split between operating expenses (funded by passenger fares and annual grants) and LCPM capital costs.

Amtrak's contract with Siemens includes the ability to acquire up to 100 additional ALC-42 units as options. The 50 additional ALC-42s for which options have recently been exercised will complete the replacement of P-40/P-42 motive power on Amtrak's long-distance network. Remaining Amtrak P-42s in shorter-distance service have either been replaced by state-owned SC-44 Charger locomotives in Amtrak Midwest service or will be displaced by the ICTs. Therefore, we anticipate the complete retirement of the P-40/P-42 fleet over the next decade.

ALC-42 Benefits

Better Performance

The ALC-42 represents a significant generational enhancement over current power. The ALC-42 can operate at speeds up to 125 MPH (15 MPH faster than the P-42) and accelerate 30 percent faster. While both unit types are rated at 4,200 horsepower, the ALC-42 generates head-end power (HEP) for onboard lights, climate control and appliances more efficiently via inverters. This allows an ALC-42 locomotive to provide HEP to more passenger cars than the current P-42, which could facilitate operation of additional Superliners on Auto Train to increase capacity and revenues. Fuel range will improve over both the P-42 and SC-44 Charger ordered by Amtrak's state partners, with the ALC-42's 2,200 gallon fuel tanks give it greater range than P-40/P-42s and SC-44 Chargers.

Environmental Benefits

The ALC-42s will meet EPA Tier IV standards for emissions, with reductions of up to 90 percent in various emission types versus the Tier 0 P-42 units they replace. The units will also be about 10 percent more fuel efficient, helping Amtrak reduce its carbon footprint.

Safety and Reliability Benefits

The ALC-42 features several reliability improvements over the P-42. Scheduled maintenance will require two events per year instead of four, reducing the time cars are out of service for maintenance. The ALC-42s will feature onboard diagnostics which will allow both Amtrak's mechanical team and Siemens technical staff to monitor and diagnose unit conditions in real time. The ALC-42's TSSSA provides stiff penalties for Siemens if the new units do not achieve significant reductions in both the frequency of enroute failures and the time necessary to receive spare parts.

The ALC-42s will also contain several enhancements over the SC-44 Charger locomotives, including enhanced winterization/weatherproofing and a bolt-on nose cone for easy replacement in the event of a grade crossing accident. All units will come equipped with necessary equipment for Positive Train Control.

Now Testing: New *Acela* Trainsets

In 2016, Amtrak ordered 28 next-generation high-speed trainsets to modernize *Acela* service on the Northeast Corridor (NEC). These new trainsets will replace 20 first-generation *Acela* trainsets built in the late 1990s. Alstom, their manufacturer, has built many of the latest-generation European high-speed trainsets. The new trainsets are being manufactured at Alstom's plant at Hornell, New York.

The new *Acela* fleet will serve as the cornerstone of the NEC's premium *Acela* service. It will expand Amtrak's *Acela* fleet size by 40% (28 trainsets compared to the current 20) and total seats by 77% (with each of the 28 sets having 386 seats, versus the current 304). The additional trainsets will allow Amtrak to expand its *Acela* service , making possible all-day hourly service between New York and Boston, and half-hourly service between New York and Washington during peak travel hours.

By leveraging a proven, in-demand design, combined with using a TSSSA to ensure reliable maintenance and parts availability, the new *Acela* trainsets will meet the highest customer expectations for Amtrak's premium service in both the near future and throughout their anticipated 30 year service life.

The new trainsets are primarily funded through a $2.45 billion Railroad Rehabilitation and Investment Financing (RRIF) loan from the Federal Railroad Administration (FRA)that will be repaid using the incremental net revenues generated through increased *Acela* ridership and ticket sales.

Additional new features on these trainsets include USB ports, outlets and lights in the seats, and an increased focus on sustainability via use of materials like e-leather and reduced packaging. The new trainsets will operate at speeds of up to 160 miles per hour on upgraded sections of the NEC as track projects are completed and are capable of operating at higher speeds if further NEC infrastructure upgrades are made.

Prototype trainset testing on the NEC will continue during 2022. The initial trainset design was modified to ensure optimization of the enhanced tilting technology which improves curve performance and passenger ride quality; these modifications necessitated extra testing which extended the timeline for introducing the new trains into revenue service. The first fully equipped trainset was delivered in November 2021; revenue service will begin after completion of testing and validation, commissioning activities, and training on equipment for employees.

Now Arriving: New Railcars for State-Supported Services in the Midwest and California

Utilizing a federal grant, Amtrak's state partners are acquiring 137 Siemens Venture railcars that will replace most of the equipment on Amtrak Midwest state-supported routes and the *San Joaquins*. This fleet will be owned by the states and maintained by Amtrak. California is acquiring seven 7-car semi-permanently coupled trainsets for the *San Joaquins*. Michigan, Illinois, and Missouri are acquiring:

- Twenty coaches;
- Seventeen married pairs of cars consisting of a coach and food service car; and
- Seventeen married pairs of cars consisting of a coach and business class car.

In addition, Wisconsin has received a separate Federal discretionary grant for nine additional railcars, including three cab control coaches, which are being acquired through a separate procurement.

The first Venture cars entered Amtrak Midwest service in February 2022. Remaining deliveries are anticipated to take place over the next two years.

The Venture railcars will displace most equipment currently operating in Midwest corridor and *San Joaquin* service, including most of Amtrak's Horizon fleet. The Horizon fleet, built around 1990, has approximately ten years' service life remaining. Amtrak intends to retain the Horizon fleet for the launch of new state corridor services, including routes in the *Amtrak Connects US* corridor vision, until they are replaced in the early 2030s by additional ICTs beyond the initial 83 trainset base order. In California, the new Venture cars will replace state-owned bi-level California cars, which the state could shift to its other state-supported routes, and state-owned Comet railcars built in the 1960s that the state could opt to retire.

On Order: Intercity Trainsets (ICTs)

In July 2021, as part of a $7.3 billion program, Amtrak signed a contract with Siemens Mobility for new multi-powered ICTs to replace aging equipment and provide a platform to equip future growth on corridor routes. The base order for 73 trainsets (each including a locomotive and six or eight passenger cars) is intended to replace Amtrak's aging fleet of 478 Amfleet I railcars built in the 1970s and 16 ex-Metroliner railcars built in the 1960s, as well as Talgo equipment used on Amtrak Cascades. Amtrak also has short-term options for up to ten additional trainsets, allowing Amtrak to tailor its base trainset order size to match its ridership recovery from the COVID-19 pandemic. The contract with Siemens provides pricing for up to 130 options for additional trainsets to allow Amtrak to equip future growth on corridor services, including the implementation of the *Amtrak Connects US* corridor vision strategy. Amtrak plans to use IIJA funding for the base order and possibly for exercise of future options.

The ICT program includes a 23-year TSSSA for Siemens to provide technical support and spare parts, and the construction of new or retrofit of existing maintenance facilities enable twenty-first century trainset maintenance best practices.

The base order trainsets will be built in four configurations, each tailored to the capacity and propulsion needs of the routes over which they will operate. All trainsets will include a Charger locomotive on one end of the consist and a cab control passenger car on the opposite end. The four configurations include:

Twenty-six (26) catenary-diesel dual-power trainsets, consisting of an ALC-42E locomotive and six passenger cars, for use on the *Downeaster, Vermonter, Pennsylvanian, Palmetto, Carolinian* and *Keystone Service*. The passenger car closest to the locomotive will be an Auxiliary Power Vehicle (APV) containing a pantograph, transformer cabinet and supplemental powered truck for use in electrified territory; power drawn from the APV will also be fed to the traction motors in the locomotive to ensure sufficient acceleration when operating on the Northeast Corridor (NEC).

Twenty-four (24) catenary-diesel dual-power trainsets (with a short term option to acquire eight more), consisting of an ALC-42E locomotive and eight passenger cars, for use on *Northeast Regional* including through trains to Virginia and Springfield, Massachusetts. These trainsets will also include an APV for use on the NEC.

Amtrak's *Ethan Allen Express* passes through Whitehall, NY.

Fifteen (15) battery-diesel hybrid trainsets with a short term option to acquire two more), consisting of an ALC-42E locomotive and six passenger cars, for use on the *Empire Service, Ethan Allen Express, Adirondack,* and *Maple Leaf*. The passenger car closest to the locomotive will contain a battery which will supply electricity to the locomotive for power when operating around New York Penn Station, eliminating the need for third rail propulsion. These trainsets represent the first time that battery propulsion will be used for intercity rail passenger service in the United States on a non-experimental revenue service basis.

Eight (8) diesel trainsets, consisting of either an ALC-42E or Washington DOT (WSDOT)-owned WSDOT SC-44 Charger locomotive and six passenger cars, for use on all Amtrak Cascades trains.

The table below provides a summary of Amtrak's base trainset order, routes, and trainset types; please note that the trainset quantities shown in the table include available short-term deferral options.

Amtrak Intercity Trainset Base Order Quantities and Configurations

Configuration	No. of Trainsets	Propulsion	Consist*	Routes
B-1	26	Dual-Power (Catenary + Electric EPA Tier IV Diesel)	ALC-42E locomotive and six cars (B-1)/eight cars (B-2) including one cab control coach, three trailer coaches (B-1)/five trailer coaches (B-2), food service car and business class. Trailer car closest to locomotive also includes APV with pantograph and transformer for catenary propulsion.	*Downeaster, Vermonter, Pennsylvanian, Palmetto, Carolinian, Keystone Service*
B-2	32			*Northeast Regional* including Virginia, Springfield Line through service
C	17	Hybrid (Electric Battery + EPA Tier IV Diesel)	ALC-42E locomotive and six cars including one cab control coach, three trailer coaches, food service car and business class. Trailer car closest to locomotive includes battery for hybrid propulsion.	*Empire Service, Adirondack, Maple Leaf, Ethan Allen Express*
D	8	EPA Tier IV Diesel	ALC-42E or WSDOT-owned SC-44 Charger locomotive and six cars including one cab control coach, three trailer coaches, food service car and business class.	Amtrak Cascades

*Order of cars in consist is TBD

On Order: Intercity Trainsets, continued

The new trainsets will introduce several generational advantages over legacy equipment; key features include:

- Cab controls on both ends of all train consists will allow for significant reductions in turnaround time for routes which currently require trainsets to be looped or wyed in between trips, such as *Northeast Regional* and *Empire Service*. As a result, each trainset can spend more time in revenue service and less time sitting in terminals throughout the service day.

- Dual-power catenary-diesel operation eliminates engine changes between diesel and electric locomotives in Washington, Philadelphia, and New Haven. This allows for shorter travel times, eases congestion around major terminals by eliminating light engine movements and eliminates the loss of on-board power during the engine change process.

- When operating in diesel mode, the new trainsets will meet EPA Tier IV emissions standards, including a reduction of up to 90 percent for some categories of emissions over the P-42 diesels they replace in state corridor services.

- Generational improvements in train interiors, including on-board electronic signage, vestibules, lighting, and restrooms.

- Significant reliability improvements are anticipated. The TSSSA will impose stiff penalties on Siemens if the frequency of "bad order" events exceeds specified thresholds. The dual-power and hybrid characteristics of most trainsets create backup propulsion possibilities should catenary or other power problems develop enroute. Finally, many trains which currently only have an engineer's cab at one end of the consist will gain a second cab on the opposite end; if a fault is discovered in one locomotive cab prior to departure (such as with cab signals or PTC equipment), the train can be turned rather than being taken out of service.

- The ICTs will also meet or exceed all requirements of the Americans with Disabilities Act (ADA) for new-build equipment, replacing legacy equipment which was built prior to the ADA's passage and not designed for accessibility on which various accessibility elements were added during overhauls.

Currently, Amtrak's trainset project team is working with Siemens on the final design elements, livery, and interior furnishings for the new trainsets. Additional trainset renderings, branding and other public announcements for these trainsets will be released as this work is complete and the project transitions to construction. The first ICTs are currently forecast to enter service on Amtrak Cascades in 2025, with all trainsets in service by the end of 2030.

The *Empire Builder* crosses Gaynor Trestle in Washington State.

In Design: Facility Upgrades to Support Intercity Trainsets

Approximately $2 billion of the $7.3 billion ICT program is allocated to upgrade Amtrak facilities in the major Northeast and Northwest terminals which will handle the new trainsets, as well as make improvements to rail yard and turnaround facilities at outlying points. Amtrak is currently performing alternatives analysis (for some locations) and design work (for others) on new or retrofitted maintenance facilities to enable the change from unit-based maintenance to trainset-based maintenance.

Under traditional, unit-based maintenance, equipment is maintained at the railcar or locomotive level. This requires an individual railcar to be removed from the train and replaced with a like unit whenever that car is coming up on a deadline for a periodic regulatory inspection, four-year overhaul, or other programmed work. Nearly every unit on a given train consist has its own unique set of dates for upcoming planned mechanical work. If a mechanical problem arises on any one car or locomotive, that unit is removed from the train or "set out," and a replacement unit is located and added to the train consist. The unit with the mechanical fault is then repaired when mechanical staff resources allow and placed onto another passenger train at the next convenient opportunity.

Under modern trainset maintenance, equipment is maintained at the trainset level and most components on a trainset are modular in nature. Instead of switching individual railcars in and out of train consists for programmed work, the entire trainset is moved into a shop at a set time for programmed work to occur simultaneously on all units in the consist. Should an unplanned issue arise on the trainset, the entire trainset is brought into a maintenance building in between passenger trips. The faulty component is removed from the train and sent out for repair; a replacement component is placed in or on the locomotive or railcar; and the trainset is then released for service.

Major maintenance facilities at Boston-Southampton Street, New York-Sunnyside, Washington-Ivy City, Albany-Rensselaer, and the Seattle coach yard are all planned for upgrades to handle the new ICTs and are currently either undergoing alternatives analysis or design work. These facilities will include Maintenance & Inspection (M&I) buildings which will provide all the capabilities of current Service & Inspection (S&I) buildings, plus additional repair and preventive maintenance capabilities. A heavy maintenance facility at Penn Coach Yard in Philadelphia, currently in design, will also be capable of performing M&I work. Together, these facilities will also perform five-day brake inspections in compliance with FRA regulations. Outlying terminals in Harrisburg, Pittsburgh, Savannah, Charlotte, Newport News, Norfolk, Roanoke and/or New River Valley, Richmond, Springfield (MA), Brunswick, Burlington (VT), Niagara Falls (NY), Portland (OR) and Eugene will also be improved as necessary to support overnight servicing of the new trainsets, including the addition of Diesel Exhaust Fluid (DEF) resupply to the current overnight servicing requirements of inspections, cleaning, re-watering, refueling, and waste retention tank servicing. Larger facilities will receive dedicated Servicing & Cleaning (S&C) tracks to expedite the overnight train turnaround process when equipment does not need to access M&I buildings.

Trainset facility work will continue throughout the 2020s, with new facilities coming online across the affected routes in tandem with the deliveries of trainsets.

Amtrak's Next Priority: New Long-Distance Rolling Stock

In the past six years, Amtrak has awarded contracts to modernize most of its passenger equipment nationwide, including new high-speed trainsets (order placed in 2016), long-distance locomotives (2018) and conventional trainsets for the NEC and state corridors (2021). With these orders placed, there is one remaining portion of Amtrak's fleet still in need of a fleet modernization solution: Long-distance railcars.

Amtrak's long-distance railcar fleet consists of 774 units:

- 266 Superliner I railcars, built by Pullman-Standard between 1979 and 1981.
- 142 Amfleet II railcars, built by Budd between 1981 and 1983.
- 186 Superliner II railcars, built by Bombardier between 1993 and 1996.
- 50 Viewliner I railcars, built by Morrison-Knudsen in 1995 and 1996.
- 130 Viewliner II railcars, built by CAF (Construcciones y Auxiliar de Ferrocarriles) USA and delivered to Amtrak between 2014 and 2021.

Superliner Sightseer Lounge on the *Sunset Limited.*

Except for the Viewliner IIs, all Amtrak's long-distance railcars are over 25 years old. Over half of the fleet has approximately four decades in Amtrak service, and nearly 60 percent was built by manufacturers who are no longer in the passenger rail industry. The fleet is well-worn from a usage perspective as well: The oldest Superliner I railcars have traveled approximately nine million miles in Amtrak service. This aged, well-worn fleet hinders Amtrak's ability to satisfy customers today, a problem which will only get worse with time.

Now that orders have been placed for high-speed trainsets, long-distance locomotives, and conventional trainsets, Amtrak plans to turn its attention to the replacement of the long-distance railcar fleet.

While the refleeting of Amtrak's long-distance network is a major priority and an excellent use of IIJA funding, a new railcar order of this magnitude for unique equipment cannot occur overnight. During FY 2022, Amtrak expects to commence preparations for acquiring a new long-distance fleet, including customer and market/supplier research, rolling stock engineering, and other steps necessary to develop the specifications for a long-distance railcar order. Market and supplier research may include a Request for Information (RFI). Once specifications have been developed, Amtrak can launch a Request for Proposals (RFP) for new equipment, receive vendor bids, negotiate with vendors, and ultimately award a contract. Amtrak will likely seek a TSSSA with any vendor to ensure that its Mechanical forces will have access to original equipment manufacturer (OEM) expertise and a ready supply of spare parts throughout the service life of the new equipment. Amtrak anticipates the award of a contract, and for new railcar construction to be well underway, by the end of the five-year horizon of these Service and Asset Line Plans.

Significant customer and marketplace research is necessary for this once-in-a-generation procurement. The bi-level Superliner fleet's original design roots trace back to the Atchison, Topeka, and Santa Fe Railway's Hi-Level railcar design from the 1950s, while single level Amfleet II is based upon the design of the original *Metroliner* railcars of the 1960s. The new fleet must reflect the major changes in customer preferences and rolling stock design over the past six to seven decades.

While specific delivery timelines for new equipment will be negotiated with the vendor, new railcars generally require about four years from the time of contract award until the first new unit enters service, and deliveries of hundreds of railcars from an order usually take place over the span of three to five years. Therefore, Amtrak anticipates that the first new long-distance railcars will arrive towards the end of the current decade, with deliveries continuing into the early 2030s.

Long-Distance Replacement Railcar Procurement Process and Timeline

Development of Railcar Order Specifications

Customer & Market Research/RFI,Rolling Stock Engineering, etc.

→

Procurement

Request for Proposals, Technical/Financial Evaluations, Contract Award

→

Railcar Deliveries

Testing, commissioning, crew training, entry into service.

FY 2022

Mid-2020s

Industry Average is 4 years from contract award to entry into service.

Late 2020s

Industry Average sees new railcars in large orders delivered over a span of 3-5 years.

Early 2030s

Refresh of Existing Equipment

Amtrak is continuing its multi-year initiative to refresh its railcars so that customers experience a modern seat and cabin interior even on older equipment. Refresh addresses the interior fittings of a passenger railcar which customers see and feel. These include seating cushions and upholstery, carpet, LED lighting, tables, and curtains. Cars also receive a deep-cleaning as part of the refresh process.

By early 2020 when the refresh initiative was temporarily paused due to the COVID-19 pandemic, all Amfleet I, Amfleet II, first-generation *Acela* and Horizon railcars had been refreshed, representing over half of Amtrak-owned railcar and trainset units. In Summer 2021, Amtrak was able to launch the $28 million Superliner and Viewliner I refresh program. The first refreshed Superliner coaches entered revenue service during the latter part of FY 2021, and Amtrak expects all Superliner and Viewliner I cars will have completed refresh by the end of FY 2023; the exact completion date is contingent upon Amtrak's ability to fill vacant Mechanical positions.

By improving the interior appearance of passenger railcars, fleet refresh allows Amtrak to provide customers with the best possible travel experience until new equipment can be funded, procured, and manufactured. However, it does not address underlying mechanical wear and tear of railcars that can be four or more decades in age.

Disposal of Retired Equipment

Amtrak's new equipment acquisitions will result in a continued need to dispose of locomotives and railcars as new units displace portions of the current fleet. Over half of the Amtrak's current revenue fleet will be retired in the next decade, greatly expanding the need to dispose of equipment beyond the hundreds of units disposed of in recent years.

Amtrak has established a consistent process by which units are identified as candidates for disposal and made available for sale after vetting to identify any ownership/title, legal or asbestos/environmental abatement considerations. As part of this process, Amtrak has established a point of contact (assetrecovery@amtrak.com) for potential buyers to express interest in receiving updates as future units become available for sale.

P-42 hauling *Northeast Regional* train arrives at Richmond, Virginia's Main Street Station.

FY 2022–2027 Fleet Retirement Outlook

First-Generation *Acela* trainsets

Amtrak anticipates replacing all first-generation *Acela* trainsets within the five-year outlook of this plan. Amtrak has concluded that continued operation of first-generation *Acela* trainsets on other Amtrak routes would be impractical. Amtrak will not have the capacity to maintain them at *Acela's* custom-built maintenance facilities once they are retrofitted to serve next-generation trainsets; operating them on other routes that are not electrified or have low-level platforms is not feasible; and their current seating arrangement would require costly retrofits to provide sufficient capacity in non-premium services.

P-40/P-42 Locomotive fleets

The arrival of ALC-42 locomotives will allow for the retirement of at least 75 P-40/P-42 units by the end of FY 2025. Over the next decade, Amtrak plans for the entire P-40/P-42 fleet to be replaced, along with P32ACDM dual-mode power locomotives, following the arrival of additional ALC-42 options units and dual-power intercity trainsets (ICTs).

Amfleet I and ex-Metroliner railcars

Amtrak plans to retire this combined fleet of nearly 500 cars once the ICTs prove themselves reliable in revenue service. Retirements will likely be underway by the end of FY 2027, and Amtrak anticipates all Amfleet-I and ex-Metroliner cars to be retired by the end of FY 2030.

ACS-64 Electric Locomotives

Amtrak's purchase of ICTs will reduce the number of ACS-64 electric locomotives required for daily revenue service. As a result, Amtrak will likely have surplus ACS-64 locomotives available for resale or lease to commuter agencies or the secondary market in the late 2020s. The exact quantities of units displaced and the timing have not yet been determined.

Other Fleets

Amtrak will be able to provide guidance on planned retirement of Superliner and Amfleet II equipment once Amtrak has a contract for replacement equipment that contains delivery dates. Amtrak does not anticipate any significant disposals of currently-active Superliner or Amfleet II equipment before the end of FY 2027, as new equipment will likely be on order but not yet in service. Amtrak may dispose of limited numbers of damaged units of any equipment type over the next five years, pending the conclusion of any legal holds, lien or lease resolutions, and a determination by Amtrak Mechanical that a given unit is beyond economic repair.

Amtrak Refleeting By Route: Five-Year and Ten-Year Outlook

Route	FY 2022 Equipment	FY 2027 Forecast	FY 2032 Forecast
NORTHEAST CORRIDOR SERVICE LINE			
Acela Express	Acela First-Generation Trainsets	Acela Second-Generation Trainsets	Acela Second-Generation Trainsets
Northeast Regional	Amfleet I + ACS-64	Phase-out Amfleet-I, Phase-in Intercity Trainsets	Intercity Trainsets (ICTs)
STATE CORRIDOR SERVICE LINE			
Northeast Regional VA, CT/MA Thru Trains	Amfleet I + P-42	Intercity Trainset (ICTs) deliveries underway; transition between FY 2021 Equipment and ICTs	Intercity Trainsets (ICTs)
Vermonter			
Downeaster			
Carolinian			
Empire Service			
Ethan Allen Express			
Keystone Service	Amfleet I + Ex-Metroliner + ACS-64		
Adirondack	Mix of Amfleet I and Amfleet II + P-42/P32ACDM		
Maple Leaf			
Pennsylvanian			
Amtrak Cascades	Talgo 8, Amfleet I / Horizon		
Pere Marquette	Superliner + State-owned SC-44	State-owned Siemens cars	
Illini/Saluki	Currently Superliner; Usually Amfleet I / Horizon; hauled by state-owned SC-44		
Wolverine Service	Amfleet I / Horizon + State-owned SC-44		
Blue Water			
Hiawatha Service			
Illinois Zephyr/Carl Sandburg			
Lincoln Service			
Missouri River Runner			
San Joaquins	Primarily California-owned Equipment		
Capitol Corridor			
Pacific Surfliner	Primarily Amtrak Surfliner + California-owned Equipment		
Piedmont	Primarily NCDOT-owned Equipment		
Heartland Flyer	Superliner + P-42		TBD; ICTs or New LD Fleet Strategy
NEW AMTRAK CONNECTS US CORRIDOR VISION ROUTES			
Fleet available for new start-up routes	P-42 + Horizon	P-42 + Horizon	Intercity Trainsets (ICTs) Order Options
LONG DISTANCE SERVICE LINE			
Palmetto	Mix of Amfleet I and Amfleet II + P-42 / P32ACDM	Intercity Trainset (ICTs) deliveries underway; transition between FY 2021 Equipment and ICTs.	Intercity Trainsets (ICTs)
Auto Train	Superliner + P-40/42	Superliner +ALC-42 (Some P-42s may still be in phaseout process)	ALC-42 + New long-distance fleet
Capitol Limited			
Coast Starlight			
Empire Builder			
Californa Zephyr			
Southwest Chief			
Sunset Limited			
Texas Eagle			
City of New Orleans			
Silver Star	Viewliner / Amfleet II + P-42	Viewliner / Amfleet II + ALC-42 (Some P-42s may still be in phaseout process)	ALC-42 + Viewliner II and new long-distance fleet
Silver Meteor			
Crescent			
Lake Shore Limited			
Cardinal			

Equipment Asset Line Financial Uses

(FY 2022–FY 2027)

($s in Thousands)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
FINANCIAL USES (OPERATING)							
Terminal Yard Operations	39,679	48,430	52,772	56,182	59,512	62,921	319,496
Car & Locomotive Maintenance and Turnaround	538,416	610,891	658,131	692,422	725,031	757,770	3,982,662
MOE Supervision Training and Overhead (Less Backshops)	90,997	86,804	92,774	97,249	101,521	105,862	575,208
Yard Operations - Mechanical Support	36,346	47,290	51,145	54,176	57,125	60,135	306,217
Mechanical Backshops	7,997	17,479	19,040	20,119	21,141	22,192	107,968
On Board Passenger Technology	7,406	290	311	327	343	359	9,035
Fleet Strategy	1,367	1,567	1,682	1,769	1,853	1,937	10,176
Total Operating Uses	**722,209**	**812,751**	**875,856**	**922,243**	**966,526**	**1,011,175**	**5,310,761**
FINANCIAL USES (DEBT SERVICE PAYMENTS)							
Debt Repayments	212,685	196,626	185,328	184,822	183,799	175,931	1,139,191
Total Debt Service Payments	**212,685**	**196,626**	**185,328**	**184,822**	**183,799**	**175,931**	**1,139,191**
FINANCIAL USES (CAPITAL)							
Overhauls	226,580	241,189	232,627	239,769	248,042	253,650	1,441,857
New/Replacement Equipment	674,200	786,928	364,172	978,581	830,052	639,931	4,273,865
Facilities	172,809	162,420	66,488	56,907	56,287	57,777	572,688
LCPM	28,968	29,152	51,519	50,396	60,453	63,397	283,884
Other Train Capital	6,665	18,156	13,351	8,451	4,670	5,194	56,486
Capital Expenditures	**1,109,222**	**1,237,845**	**728,158**	**1,334,103**	**1,199,503**	**1,019,948**	**6,628,779**
Total Capital Uses	**1,109,222**	**1,237,845**	**728,158**	**1,334,103**	**1,199,503**	**1,019,948**	**6,628,779**
Total Equipment Spend	**$2,044,116**	**$2,247,223**	**$1,789,342**	**$2,441,168**	**$2,349,829**	**$2,207,054**	**$13,078,731**