J.P.Morgan

Metropolitan Transportation Authority

Comparative Capital Expenditure Analysis: Corporates & Peers

Overview

J.P. Morgan is a global investment bank headquartered in New York with active public and corporate finance practices. As MTA plans for its upcoming 2025-2029 Capital Program, MTA requested that J.P. Morgan conduct a pro-bono benchmarking analysis of MTA's annual rate of capital investment as compared to private-sector companies with significant infrastructure portfolios who have operational similarities to MTA, and capital-intensive asset bases. Further, MTA requested that J.P. Morgan also compare MTA's level of capital investment to public transit agency peers.

Approach

- To compare MTA's level of capital investment to that of private industry, this analysis looks at organizations in the freight rail, utilities, logistics, shipping, commercial airlines, and automobile manufacturing sectors. The portfolio of assets in these sectors include a mix of shorter-dated assets (e.g., rolling stock) and longer-dated assets (e.g., infrastructure).
- This analysis explores two factors for assessing MTA's capital investment level against private sector industry: (1) annual capital expenditure levels as a percentage of gross asset value, which is an indicator of current investment levels for maintaining the asset base; and (2) capital asset value depreciated as a percentage of total capital assets, which is an indicator of the scale of companies' historical capital investment and capital investment backlog. It also benchmarks MTA capital investment per rider against peer transit agencies.

Key Takeaways

- Today **the MTA network represents $1.5 trillion in assets as measured by KPMG in its 2015 replacement value analysis adjusted for inflation.** Maintaining and investing in its assets is critical to allow MTA to fulfill its mission to preserve and enhance the quality of life and economic health of the New York metropolitan region through safe, on-time, and reliable transportation services.
- MTA's annual capital expenditure as a percentage of gross asset value (3.4%) is less than half the average of its private industry peers (8.3%), and MTA's share of assets not depreciated (52%) is lower than private industry peers on average (63%), meaning that MTA's current levels of investment are lagging peers and historically MTA's capital investments have lagged, creating a capital investment backlog
- If MTA were to invest in its capital assets at a level comparable to its private industry peers, it would equate to $16 billion per year (in 2027 dollars). Furthermore, if MTA were to invest in its capital assets to reduce the depreciation gap and approach a backlog level comparable to private industry over a 20-year period, it would represent an additional $7 billion per year (in 2027 dollars). **Combined, that represents approximately $23 billion per year**

Private industry peers were selected based on the comparability of their asset portfolios and services

Identifying Comparable Private Industries

- MTA's asset base is orders of magnitude larger than most corporate (and public sector) asset bases. MTA's assets are a unique barbell between very long-dated assets (i.e., bridges and station infrastructure) and shorter-dated assets often with a large technological component (i.e., buses, trains and signals)
- Our benchmarking analysis focuses on private sector entities in the freight rail, investor owned utilities, logistics, shipping, commercial aviation, and automobile manufacturing industries in order to compare levels of capital investment
- Peer industries were selected based on operational and asset portfolio similarity to MTA. Many of these corporations have diverse asset portfolios with a mix of lifespans. Freight rail and investor owned utilities, in particular, have both shorter-dated assets like fleet (e.g., railcars) and longer-dated assets like infrastructure (e.g., bridges, power systems)
- Additionally, these industries were also selected based on their similar level of capital intensity, which is often as a direct revenue driver, particularly in the case of network expansion. For example, investments made in fleet maintenance or expansion in the commercial airlines or logistics sectors enable increased service and network growth

Identifying Comparable Public Sector Transit Agencies

- The peer public transit agencies used in our analysis were WMATA (Washington, D.C.), MBTA (Boston), CTA (Chicago), LACMTA (Los Angeles), SFMTA (San Francisco) and SEPTA (Philadelphia)
- The ratios of capital expenditure to net asset value for the peer set ranged from a low of 3.4% (SEPTA) to 11.1% (LACMTA) with MTA at the average of 6.5%

Sources of Information

- For MTA, information was provided by MTA staff
- For comparable private-sector companies, information was derived from publicly available 2022 10-K annual reports
- For comparable public sector transit agencies, information was derived from publicly available Annual Comprehensive Financial Reports ("ACFRs") and public available financial and operating data on EMMA

We have used two methods to benchmark MTA's capital investment levels to private sector peers

We have used two methods to benchmark MTA's capital investment levels compared to private sector peers:

1. We compared annual capital expenditure spending to gross asset value, and used the corporate peer average to imply a forward-looking annual capital expenditure for MTA
2. We compared MTA's asset depreciation level against its private sector peers to identify any historical deficit in MTA's capital expenditure and have applied the deficit to the KMPG asset replacement value (see right insert), and assumed the deficit would be funded over a 20-year period, consistent with MTA's approach to assessing and planning for its capital needs

- We have combined the results of #1 and #2 to imply a forward-looking annual capital expenditure amount, and have reported values in 2027 dollars, recognizing that 2027 represents the mid-point of MTA's 2025-2029 Capital Program

Determining the Value of MTA's Assets

- Quantifying the "value" of public transportation assets, including for MTA, is notoriously challenging due to their size, scope, complexity and interconnectedness, and age
    - Many of MTA's assets are fully depreciated under standard accounting approaches, meaning their values are no longer reflected on the Authority's balance sheet
    - A number of the system's assets are not owned by MTA but MTA has maintenance and capital investment responsibilities (i.e., subway tunnels owned by the City of New York), which require funding from the MTA Capital Budget. Thus, capital expenditure funded by MTA sometimes does not enhance underlying asset value reflected in the MTA's financial statements
- To normalize MTA asset value to compare with private industry peers, MTA provided an adjusted asset value that included the value of assets maintained, but not owned, by the MTA (e.g., tunnels, elevated structures) based on information provided by MTA. **This equaled a gross asset value of $170 billion and a net asset value of $88 billion**

Terminology used in this analysis:

Asset Replacement Value represents the value if the full system needed to be rebuilt or replaced in kind today. According to a 2015 KPMG study, **MTA's total asset value was $1 trillion in 2017, or $1.5 trillion today**, which includes recently completed expansion projects like Second Avenue Subway Phase 1 and Grand Central Madison. The $1.5 trillion total asset value includes approximately $200 billion of sunk costs, and MTA's asset replacement value would be $1.3 trillion. *Private and public entities often do not calculate or publicly release asset replacement value. Therefore, this study uses reported asset value to benchmark MTA investment with other organizations and private-sector companies based on available information*

Gross Asset Value reflects the historical cost of placing assets in service

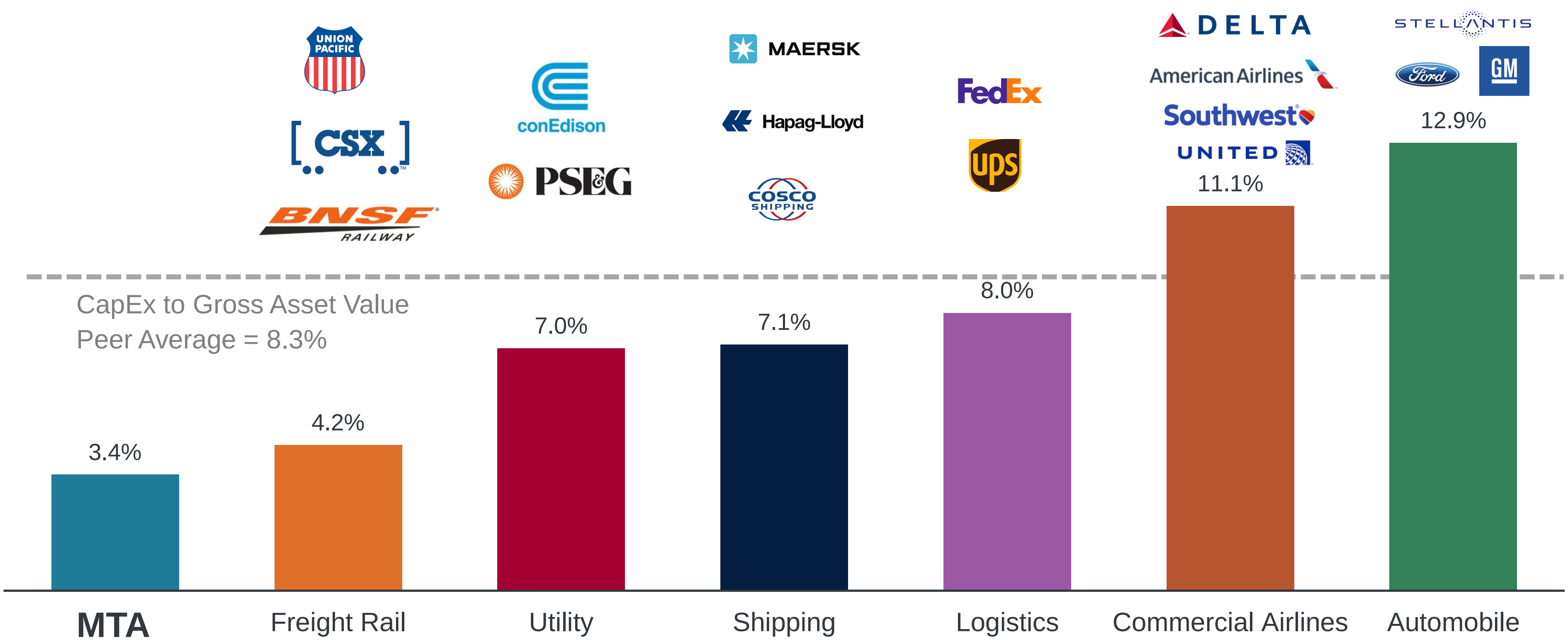
Depreciation is an accounting measure used to spread the cost of an asset over its estimated useful life. A higher level of depreciation indicates that an asset is closer to the end of its useful life from an accounting perspective

Net Asset Value is Gross Asset Value minus Depreciation

MTA invests at less than half the rate of private industry peers when comparing annual capital expenditure to gross asset value

- Using MTA's gross asset value and historical capital expenditure sourced from the 2018-2022 financial statements, MTA historically spent approximately 3.4% of gross asset value on capital expenditure annually.
- Private industry showed a broad range from 1.2 times that of MTA annually (freight rail) to 3.8 times higher (automobile manufacturing). Private industry peers averaged a ratio of 8.3% capital expenditure to gross asset value.
- **If MTA were to invest 8.3%** of its gross asset value on capital expenditures annually, the private sector peer average, it would imply an annual investment (in 2027 dollars) of **$16 billion.**

Annual Capital Expenditure / Gross Asset Value Ratio: MTA Versus Selected Industries

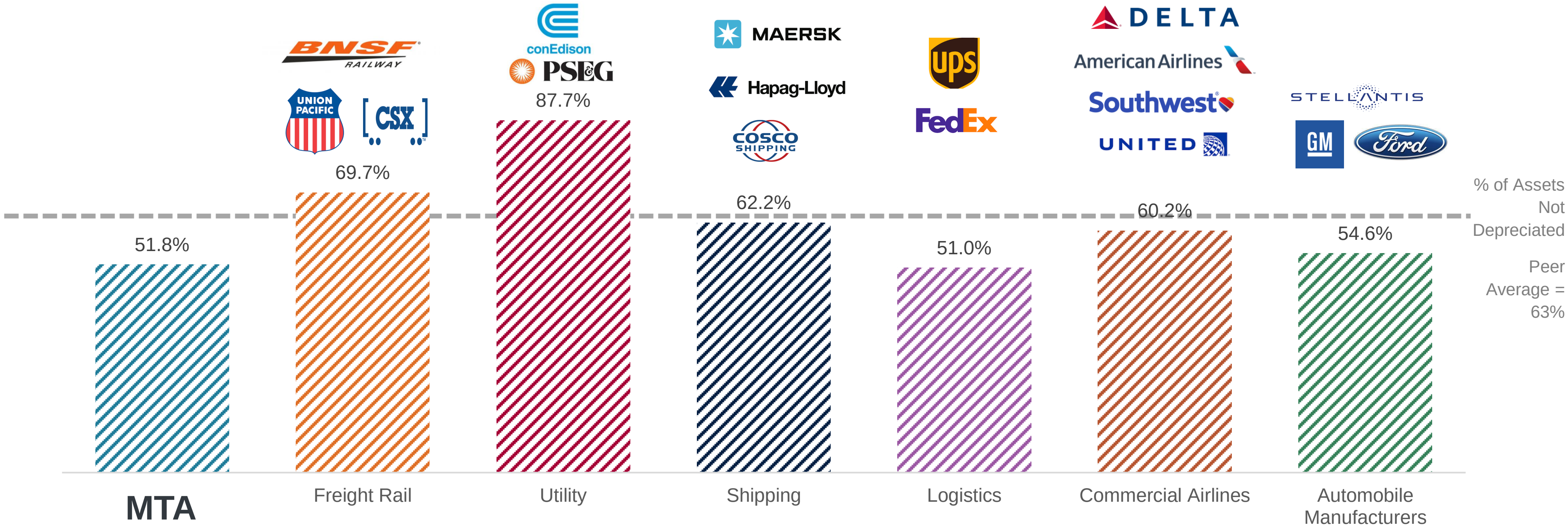


Note: Assumes Gross Asset Value of Capital Assets of $170.0 billion provided by the MTA. Assumes $5.7 billion of annual capital spend based upon the MTA's 2018-2022 average actual capital expenditures. Assumes index of 1.11 from 2024 to 2027 dollars based on ENR Building Cost Index of New York.

However, MTA's depreciated net asset value as percentage of gross asset value is also lower than private sector peers and addressing the incremental deficit would require even greater capital investment to be in line with those industries.

- MTA's depreciated net asset value as a percentage of gross asset value is lower than private sector peers (52% vs 63% average), representing a depreciation deficit of approximately 11% of assets.
- MTA's depreciation deficit does not reflect the true value replacement cost to bring MTA's assets in line with peers. Using the KPMG Replacement Value analysis of $1.5 trillion less the sunk costs of roughly $200 billion (i.e., $1.3 trillion) and MTA's balance sheet total asset value of $170 billion, every dollar of depreciation deficit requires $7.65 of current market capital expenditure.
- MTA would need to spend $135 billion in current capital expenditure to cure its depreciation deficit and be in line with its private industry peers. If the current market replacement value depreciation deficit ($135 billion) were funded over 20 years, the period which MTA uses for long-term capital planning, **this would imply $7 billion of additional capital expenditure annually on top of the $16 billion per year, representing approximately $23 billion of annual investment (in 2027 dollars).**

Net Asset Value as a Percentage of Gross Asset Value: MTA Versus Selected Industries

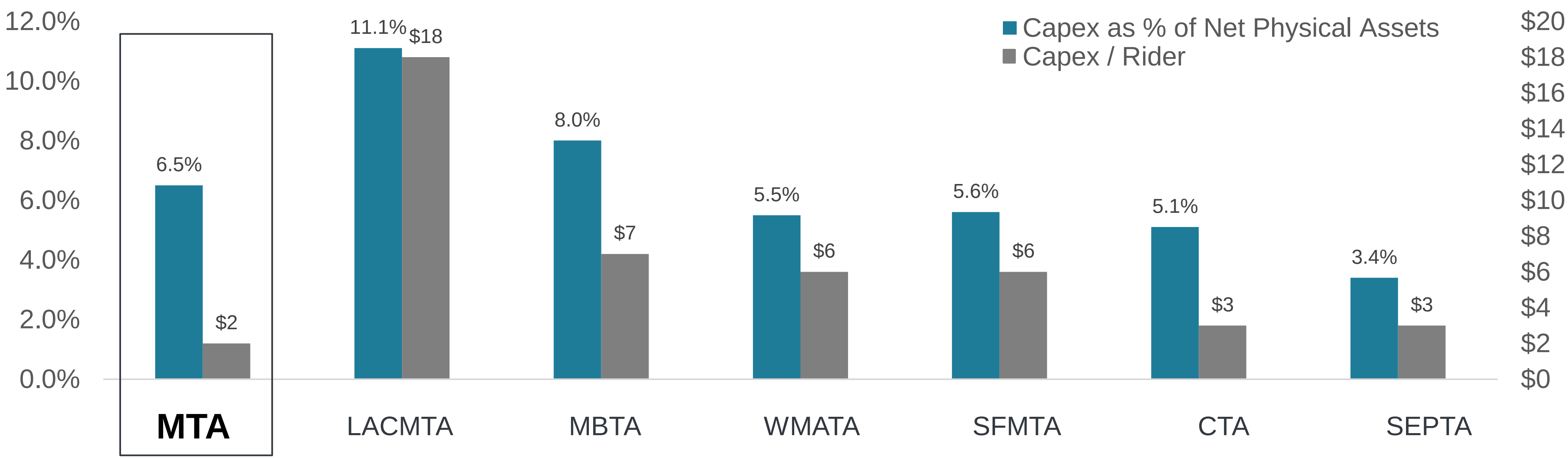


Note: Assumes Net Asset of Capital Assets of $88.0 billion provided by the MTA. Assumes $5.7 billion of annual capital spend based upon the MTA's 2018-2022 average actual capital expenditures. Assumes index of 1.11 from 2024 to 2027 dollars based on ENR Building Cost Index of New York.

MTA's level of investment based on its net asset value is in range with public transit agencies in the largest U.S. metropolitan areas, but MTA lags all its peers when comparing annual capital investment to transit ridership.

- When investment is normalized as capital expenditure to net asset value, MTA invests within range of its peers (from SEPTA's 3.4% to LACMTA's 11.1%) and falls behind only MBTA and LACMTA, the latter of which is undertaking considerable system expansion
- Comparing annual capital expenditure against annual transit ridership, MTA – which has the highest total capital expenditure and the highest ridership of any U.S. transit agency – invests approximately $2 per rider, the lowest of peer transit agencies
- **If MTA were to invest at a rate comparable to the average of its peers ($7.20 capital expenditure per rider), that would equate to $24 billion per year in 2027-dollars**

Annual Capex / Net Asset Value Ratio and Annual Capex per Rider: MTA vs. Transit Peers



Average (excluding MTA) ***6.5%*** **|** ***$7.20***

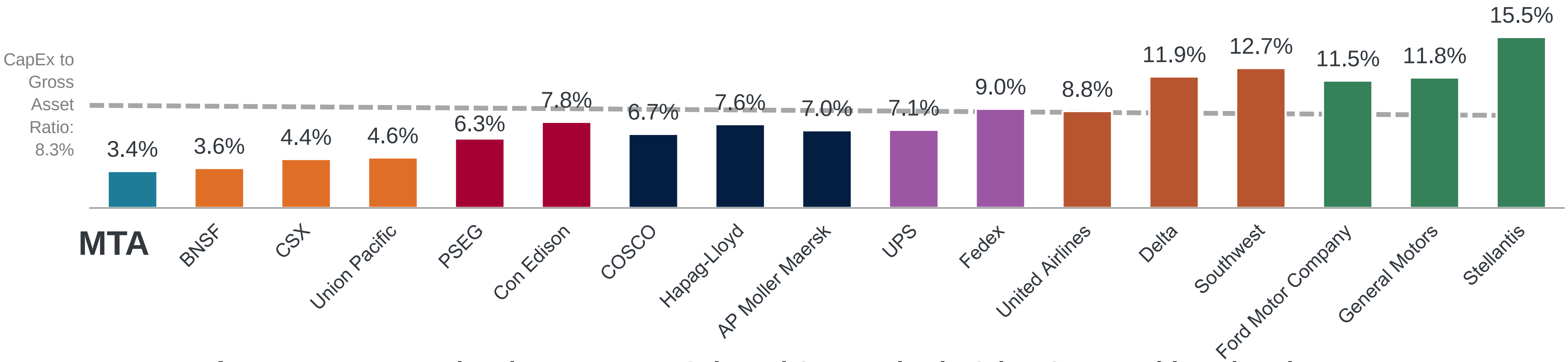
Source: Public Transit agencies CAFRs and Capital Improvement Plans. Non-MTA asset values as of 2022. Assumes MTA Net Asset Value of $88.0 billion provided by MTA. Annual capital expenditure figures are actual capital spending in Fiscal Year 2022 from Statement of Cash Flows. Assumes $5.7 billion of annual capital spend based upon the MTA's 2018-2022 average actual capital expenditures. NYCT includes subway, bus, and paratransit services.

Profiles of Private Sector Industry Peer Companies

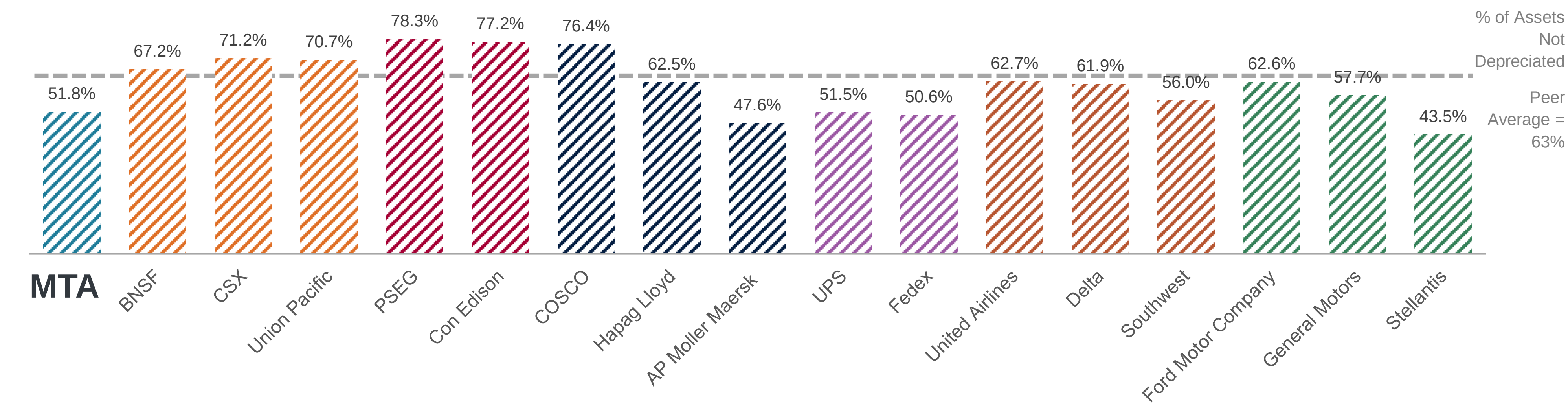
Annual Capital Expenditure to Gross Asset Ratio: Corporate Peer Detail

Freight Rail | Utility | Shipping | Logistics | Commercial Airlines | Automobile Manufacturing

Annual Capital Expenditure / Gross Asset Value Ratio : MTA Versus Selected Companies in Other Comparable Industries



Percentage of Assets Not Depreciated: MTA Versus Selected Companies in Other Comparable Industries



Note: Assumes Gross Value of Capital Assets of $170.0 billion and Net Asset Value of Capital Assets of $88.0 billion provided by MTA provided by MTA. Assumes $5.7 billion of annual capital spend based upon the MTA's 2018-2022 average actual capital expenditures. American Airlines book value is negative, and its ratio is excluded, however a profile is available in the Appendix.

Burlington Northern Santa Fe Railway

SUMMARY OF COMPANY

- BNSF Railway is one of North America's leading freight transportation companies, operating a rail network of 32,500 route miles in 28 states and three Canadian provinces
- BNSF is one of the top transporters of the products and materials that help feed, clothe, supply and power communities throughout America and the world
- BNSF Corporation is owned by Berkshire Hathaway

SERVICE METRICS

- Length of network: 32,500 miles
- 7,500 locomotives
- Employees: 36,000
- Average trains per day: 1,200
- 13,000 Bridges & 89 Tunnels maintained

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $25.9 billion
- Book Value: $47.0 billion
- Total Debt: $21.9 billion
- Total Assets: $47.0 billion
- Physical Assets*: $100.1 billion
- Net Physical Assets**: $67.2 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $16.6 billion
- Capital Expenditure:
  - FYE20: $2.8 billion
  - FYE21: $2.7 billion
  - FYE22: $3.7 billion
- Forward Looking Capex
  - No forward statements available

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Freight Cars	8-43 years
Locomotives	8-37 years
Rail track	10-100 years
Bridges & Tunnels	10-100 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	3.6%
CAPEX to Net Physical Assets:	5.4%
CAPEX to Total Assets:	3.9%
CAPEX to Book Value:	7.7%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

Union Pacific

SUMMARY OF COMPANY

- Union Pacific Railroad is one of America's most recognized companies
- Union Pacific Railroad connects 23 states in the western two-thirds of the country by rail, providing a critical link in the global supply chain
- The railroad's diversified business mix includes its Bulk, Industrial and Premium business groups. Union Pacific serves many of the fastest-growing U.S. population centers, operates from all major West Coast and Gulf Coast ports to eastern gateways, connects with Canada's rail systems and is the only railroad serving all six major Mexico gateways. Union Pacific provides value to its roughly 10,000 customers by delivering products in a safe, reliable, fuel-efficient and environmentally responsible manner

SERVICE METRICS

- Length of network: 32,534 miles
- 7,388 locomotives
- Employees: 33,179
- Annual Carloads: 8.2 million
- 16,700 Bridges & 89 Tunnels maintained
- 30,000 Railroad Crossings

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $24.9 billion
- Book Value: $12.2 billion
- Total Debt: $31.6 billion
- Total Assets: $65.4 billion
- Physical Assets*: $79.3 billion
- Net Physical Assets**: $56.0 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $15.0 billion
- Capital Expenditure:
  - FYE21: $2.9 billion
  - FYE22: $3.6 billion
- Forward Looking Capex
  - FYE23: $3.7 billion
  - FYE24: $3.2 billion
  - FYE25: $3.2 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

Asset	Range of Estimated Useful Life
Freight Cars	23 years
Locomotives	18 years
Rail track	43 years
Ballast & Ties	34 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	4.6%
CAPEX to Net Physical Assets:	6.5%
CAPEX to Total Assets:	5.5%
CAPEX to Book Value:	29.5%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

CSX Corporation

SUMMARY OF COMPANY

- CSX Corporation is one of the nation's leading transportation suppliers
- The company's rail and intermodal businesses provide rail-based transportation services including traditional rail service and the transport of intermodal containers and trailers
- CSX serves major markets in the eastern United States with nearly two-thirds of Americans living within CSX's service territory
- CSX has been in operation for 195 years

SERVICE METRICS

- Length of network: 20,000 miles
- 3,600 locomotives
- Employees: 22,500
- Annual Carloads: 3.3 million

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $14.9 billion
- Book Value: $12.6 billion
- Total Debt: $17.9 billion
- Total Assets: $41.9 billion
- Physical Assets*: $48.1 billion
- Net Physical Assets**: $34.2 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $8.8 billion
- Capital Expenditure:
  - FYE21: $1.8 billion
  - FYE22: $2.1 billion
- Forward Looking Capex
  - FYE23: $2.2 billion
  - FYE24: $2.0 billion
  - FYE25: $2.2 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Freight Cars	32 years
Locomotives	26 years
Rail track	41 years
Ballast & Ties	28-38 years
Bridge & Trestles	60 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	4.4%
CAPEX to Net Physical Assets:	6.2%
CAPEX to Total Assets:	5.1%
CAPEX to Book Value:	16.9%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses. Total Assets are lower than Physical Assets due to accumulated depreciation

**Net of accumulated depreciation and amortization

Con Edison

conEdison

SUMMARY OF COMPANY

- Con Edison is a holding company that owns Consolidated Edison Company of New York, Inc., which provides electric service and gas service in New York City and Westchester County and steam service in parts of Manhattan and Orange & Rockland Utilities, Inc., which along with its NJ electric utility subsidiary, Rockland Electric Company, provides electric service in southeastern NY and northern NJ and gas service in southeastern NY
- Con Edison serves around 10 million people in the New York metropolitan area
- Con Edison is subject to regulation by the New York Public Service Commission

SERVICE METRICS

- Miles of electric distribution lines: 142,112 miles
- Miles of high voltage transmission lines: 1,867
- Employees: 15,314
- Total Megawatt-hour sales (2022): 58 million

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $15.7 billion
- Book Value: $20.7 billion
- Total Debt: $20.1 billion
- Total Assets: $69.1 billion
- Physical Assets*: $57.3 billion
- Net Physical Assets**: $44.3 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $13.10 billion
- Capital Expenditure:
  - FYE21: $4.0 billion
  - FYE22: $4.5 billion
- Forward Looking Capex
  - FY23: 4.8 billion
  - FY24: 4.9 billion
  - FY25: 5.0 billion

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Electric Equipment	5-80 years
Gas Equipment	5-90 years
Steam	5-80 years
General Plant	5-55 years

Reflects figures for CECONY

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	7.8%
CAPEX to Net Physical Assets:	10.1%
CAPEX to Total Assets:	6.5%
CAPEX to Book Value:	21.6%

Public Service Enterprise Group Incorporated

PSEG

SUMMARY OF COMPANY

- Public Service Enterprise Group Incorporated is a public utility holding company. The Company, through its subsidiaries, generates, transmits, and distributes electricity and produces natural gas in the Northeastern and Mid Atlantic United States
- PSEG provides distribution service to 2.3 million electric customers and 1.9 million gas customers in a service area that covers approximately 2,600 square miles running diagonally across New Jersey
- PSEG serves the most densely populated, commercialized and industrialized territory in New Jersey, including its six largest cities and approximately 300 suburban and rural communities

SERVICE METRICS

- Number of electric substations: 300
- Miles of distribution and transmission lines: 14,200
- Employees: 12,500
- Total Megawatt-hour sales (2022): 41 million

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $9.8 billion
- Book Value: $13.7 billion
- Total Debt: $16.5 billion
- Total Debt: $16.5 billion
- Total Assets: $48.7 billion
- Physical Assets*: $45.9 billion
- Net Physical Assets**: $35.9 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $8.4 billion
- Capital Expenditure:
  - FYE21: $2.7 billion
  - FYE22: $2.9 billion
- Forward Looking Capex
  - 2023: $3.7 billion
  - 2024: $3.1-$3.2 billion
  - 2025: $3.2-$3.8 billion
  - 2026: $3.0-$3.9 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Average Annual Depreciation Rate
Electric Transmission	2.18%
Electric Distribution	2.56%
Gas Distribution	1.93%

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets: 6.3%

CAPEX to Net Physical Assets: 8.0%

CAPEX to Total Assets: 5.9%

CAPEX to Book Value: 21.0%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

AP Moller-Maersk

MAERSK

SUMMARY OF COMPANY

- Maersk is an integrated transport and logistics company. The Company operates a fleet including container vessels, tankers, supply ships, special vessels, terminals, and oil drilling rigs. Maersk also operates an industrial business and explores for and produces oil and gas worldwide
- Working in over 130 countries, Maersk was responsible for approximately 16% of the containers moved in the world by ocean

SERVICE METRICS

- 59 Gateway Terminals across 31 counties handling 37 million TEUs per year
- 707 vessels moving 23 million TEUs per year
- Employees: 110,000
- 452 Warehouses with footprint of 6 million square meters

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $81.5 billion
- Book Value: $65.0 billion
- Total Debt: $12.6 billion
- Total Assets: $93.7 billion
- Physical Assets*: $59.2 billion
- Net Physical Assets**: $28.2 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $44.8 billion
- Capital Expenditure:
  - FYE20: $1.3 billion
  - FYE21: $3.0 billion
  - FYE22: $4.2 billion
- Forward Looking Capex
  - FY23: $8 billion
  - FY23: $8-9 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Ships	20-25 years
Containers	15 years
Terminal Infrastructure	10-30 years
Warehouses	5-25 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	7.0%
CAPEX to Net Physical Assets:	14.8%
CAPEX to Total Assets:	4.4%
CAPEX to Book Value:	6.4%

* Physical Assets include cost value of Property, Plant & Equipment without depreciation and impairment losses. Does not include Right-of-Use assets where physical assets may be leased and the capital maintenance may or may not be the responsibility of the company
** Net of Depreciation and Impairment losses

China Ocean Shipping Lines Company (COSCO)

COSCO SHIPPING

SUMMARY OF COMPANY

- COSCO Shipping Lines offers international and domestic shipping services. The company also operates port business through its subsidiary, COSCO Shipping ports Ltd, which operates container berths in ports globally. It operates in the Americas, Europe, Asia Pacific, and other international markets
- COSCO Shipping is headquartered in Shanghai, China

SERVICE METRICS

- 57 Gateway Terminals
- Serves 599 ports in 144 countries
- 381 container vessels with capacity of 2.1 million TEU
- Employees: 17,000

FINANCIAL METRICS (FYE 2022)

- Total Revenue: Rmb 391.1 billion
- Book Value: Rmb 200.4 billion
- Total Debt: Rmb 40.6 billion
- Total Assets: Rmb 511.8 billion
- Physical Assets*: Rmb 156.4 billion
- Net Physical Assets**: Rmb 119.5 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: Rmb 220.6 billion
- Capital Expenditure:
  - FYE21: Rmb 9.6 billion
  - FYE22: Rmb 10.5 billion
- Forward Looking Capex
  - FY23: Rmb 11.9 billion
  - FY23: Rmb 14.3 billion
  - FY24: Rmb 9.1 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Ships	N/A years
Containers	N/A years
Terminal Infrastructure	N/A years
Warehouses	N/A years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	6.7%
CAPEX to Net Physical Assets:	8.8%
CAPEX to Total Assets:	2.0%
CAPEX to Book Value:	5.2%

* Physical Assets include cost value of Property, Plant & Equipment without depreciation and impairment losses. Does not include Right-of-Use assets where physical assets may be leased and the capital maintenance may or may not be the responsibility of the company

** Net of Depreciation and Impairment losses

Hapag-Lloyd

SUMMARY OF COMPANY

- Hapag-Lloyd AG is a German international shipping and container transportation company, the 4th biggest in the world
- It transports machinery, metals, textiles, automobiles, furniture, chemicals, paper and forest products, food and beverages, plastics, and rubber, electronics, and various other goods. The company operates in Asia, Middle East, Europe, Africa, Latin America and North America

SERVICE METRICS

- 264 vessels moving 11.8 million TEUs per year
- Employees: 16,100
- 398 offices in 135 countries

FINANCIAL METRICS (FYE 2022)

- Total Revenue: €34.5 billion
- Book Value: €27.9 billion
- Total Debt: €10.9 billion
- Total Assets: €38.7 billion
- Physical Assets*: €21.0 billion
- Net Physical Assets**: €13.1 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: €17.1 billion
- Capital Expenditure:
  - FYE21: €1.4 billion
  - FYE22: €1.5 billion
- Forward Looking Capex
  - FY23: €2.0 billion
  - FY23: €1.9 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Ships	21-25 years
Containers	15 years
Terminal Infrastructure	40 years
Warehouses	40 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	7.6%
CAPEX to Net Physical Assets:	12.1%
CAPEX to Total Assets:	4.1%
CAPEX to Book Value:	5.7%

* Physical Assets include cost value of Property, Plant & Equipment without depreciation and impairment losses. Does not include Right-of-Use assets where physical assets may be leased and the capital maintenance may or may not be the responsibility of the company
** Net of Depreciation and Impairment losses

FedEx Corporation

SUMMARY OF COMPANY

- FedEx Corp. delivers packages and freight to multiple countries and territories through an integrated global network
- The Company provides worldwide express delivery, ground small-parcel delivery, less-than-truckload freight delivery, supply chain management services, customs brokerage services, and trade facilitation and electronic commerce solutions

SERVICE METRICS

- Owned Planes: 683
- Total square feet of storage and handling facilities: 14.4 million
- Employees: 520,000
- Average Daily Freight Pounds: 24 million

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $93.5 billion
- Book Value: $24.9 billion
- Total Debt: $20.2 billion
- Total Assets: $86.0 billion
- Physical Assets*: $75.3 billion
- Net Physical Assets**: $38.1 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $87.3 billion
- Capital Expenditure:
  - FYE21: $5.9 billion
  - FYE22: $6.8 billion
  - FYE23: 6.2 billion
- Forward Looking Capex
  - No forward statements available

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Wide Body Aircraft	15-30 years
Narrow Body Aircraft	5-30 years
Ground Equipment	3-15 years
Information Technology	3-7 years
Vehicles & trailers	3-15 years
Facilities and other	1-33 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	90%
CAPEX to Net Physical Assets:	17.8%
CAPEX to Total Assets:	7.9%
CAPEX to Book Value:	25.9%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

United Parcel Service

SUMMARY OF COMPANY

- United Parcel Service, Inc. (UPS) delivers packages and documents throughout the United States and in other countries and territories
- The Company also provides global supply chain services and less-than-truckload transportation, primarily in the US UPS's business consists of integrated air and ground pick-up and delivery network

SERVICE METRICS

- Owned Planes: 291
- Total square feet of storage and handling facilities: 106 million
- Employees: 536,000
- Average Daily Package Volume: 24 million

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $100.4 billion
- Book Value: $19.8 billion
- Total Debt: $17.3 billion
- Total Assets: $71.0 billion
- Physical Assets*: $67.4 billion
- Net Physical Assets**: $34.7 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $87.2 billion
- Capital Expenditure:
  - FYE21: $4.2 billion
  - FYE22: $4.8 billion
- Forward Looking Capex
  - No forward statements available

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Aircraft	7-40 years
Buildings	10-40 years
Plant Equipment	3-20 years
Technology Equipment	3-10 years
Vehicles	5-15 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	7.1%
CAPEX to Net Physical Assets:	13.7%
CAPEX to Total Assets:	6.7%
CAPEX to Book Value:	24.1%

*Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
**Net of accumulated depreciation and amortization

Delta Airlines

DELTA

SUMMARY OF COMPANY

- Delta is an Atlanta based airline with a domestic network is centered around core hubs in Atlanta, Minneapolis-St. Paul, Detroit and Salt Lake City and coastal hub positions in Boston, Los Angeles, New York-LaGuardia, New York-JFK and Seattle
- Delta has industry-leading reliability and is consistently and is among the industry's best performers with completion factor and on-time arrival and departure highest among U.S Airlines. Since July 1, 2022, Delta's system-wide completion factor is 98.6%, with 71.1% of our domestic flights arriving on time

SERVICE METRICS

- Total Fleet: 902 (708 owned)*
- Average Fleet Age: 14.4 years
- Employees: 95,000
- Daily Flights: 4,000
- 3 Year Order Book: $11.4 billion (176 planes)
- Total Destinations: 275
- Available Seat Miles: 233.2 billion
- Revenue Passenger Miles: 195.5 billion
- Load Factor: 84%

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $50.6 billion
- Book Value: $6.6 billion
- Total Debt: $20.6 billion
- Total Assets: $72.3 billion
- Physical Assets*: $52.4 billion
- Net Physical Assets**: $33.1 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $46.9 billion
- Capital Expenditure:
  - FYE21: $3.2 billion
  - FYE22: $6.4 billion
- Forward Looking Capex (Plane Orders)
  - FY23: $2.6 billion
  - FY24: $4.4 billion
  - FY25: $4.3 billion
  - FY26: $3.8 billion
  - FY27: $2.6 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Flight Equipment	25-34 years
Ground Prop/Equip	3-40 years
IT	3-15 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	11.9%
CAPEX to Net Physical Assets:	19.2%
CAPEX to Total Assets:	8.8%
CAPEX to Book Value:	96.7%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
- Fleet does not include the fleet of regional partners, whether wholly owned or subject to operating agreements
- Note: Airport terminals are owned by airport authorities or local governments, not airlines and are not included in the airline asset base

American Airlines

American Airlines

SUMMARY OF COMPANY

- American Airlines is a Dallas based airline whose primary business activity is the operation of a major network air carrier, providing scheduled air transportation for passengers and cargo through our hubs in Charlotte, Chicago, Dallas/Fort Worth, Los Angeles, Miami, New York, Philadelphia, Phoenix and Washington, D.C. and partner gateways, including in London, Doha, Madrid, Seattle/Tacoma, Sydney and Tokyo (among others)
- In 2022, over 199 million passengers flew American Airlines

SERVICE METRICS

- Total Fleet: 925 (459 owned)*
- Average Fleet Age: 12.2 years
- Employees: 129,700
- Daily Flights: N/A
- 3 Year Order Book: $8.1 billion (118 planes)
- Total Destinations: 300
- Available Seat Miles: 260.2 billion
- Revenue Passenger Miles: 215.6 billion
- Load Factor: 83%

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $49.0 billion
- Book Value: -$5.8 billion
- Total Debt: $32.4 billion
- Total Assets: $64.7 billion
- Physical Assets*: $50.2 billion
- Net Physical Assets: $30.2 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $47.4 billion
- Capital Expenditure:
  - FY21: $0.4 billion
  - FY22: $2.5 billion
- Forward Looking Capex (Plane Orders)
  - FY23: $1.5 billion
  - FY24: $2.7 billion
  - FY25: $3.9 billion
  - FY26: $3.2 billion
  - FY27: $1.0 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Aircraft, engines and parts	20-30 years
Buildings/ Improvements	5-30 years
Furniture, Fixtures	3-10 years
Capitalized Software	5-10 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	5.1%
CAPEX to Net Physical Assets:	8.4%
CAPEX to Total Assets:	3.9%
CAPEX to Book Value:	N/A

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
- Fleet does not include the fleet of regional partners, whether wholly owned or subject to operating agreements
- Note: Airport terminals are owned by airport authorities or local governments, not airlines and are not included in the airline asset base

United Airlines

UNITED

SUMMARY OF COMPANY

- United Airlines is a Chicago based airline whose shared purpose is "Connecting People. Uniting the World." United has the most comprehensive route network among North American carriers, including U.S. mainland hubs in Chicago, Denver, Houston, Los Angeles, New York/Newark, San Francisco and Washington, D.C.
- In 2022, over 144 million passengers flew United Airlines
- United is currently undertaking the UnitedNext capital program, which is one of the largest fleet modernizations and gauge adjustments in U.S. airline history

SERVICE METRICS

- Total Fleet: 868 (732 owned)*
- Average Fleet Age: 16.7 years
- Employees: 92,800
- Daily Flights: N/A
- 3 Year Order Book: $26 billion (376 planes)
- Total Destinations: N/A
- Available Seat Miles: 247.9 billion
- Revenue Passenger Miles: 206.8 billion
- Load Factor: 83%

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $45.0 billion
- Book Value: $6.9 billion
- Total Debt: $28.2 billion
- Total Assets: $67.4 billion
- Physical Assets*: $54.9 billion
- Net Physical Assets: $34.4 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $42.6 billion
- Capital Expenditure:
  - FY21: $2.1 billion
  - FY22: $4.8 billion
- Forward Looking Capex (Plane Orders)
  - FY23: $10.2 billion
  - FY24: $8.0 billion
  - FY25: $7.8 billion
  - FY26: $5.9 billion
  - FY27: $5.0 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

Asset type	Range of Estimated Useful Life
Aircraft, engines and parts	25 - 30 years
Buildings/ Improvements	25 - 45 years
Aircraft Seats	10 - 15 years
Software	5 - 15 years
Other Prop/Equip	3 - 15years
Building Improvements	1 - 40 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	8.7%
CAPEX to Net Physical Assets:	14.0%
CAPEX to Total Assets:	7.1%
CAPEX to Book Value:	69.9%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
- Fleet does not include the fleet of regional partners, whether wholly owned or subject to operating agreements
- Note: Airport terminals are owned by airport authorities or local governments, not airlines and are not included in the airline asset base

Southwest Airlines

Southwest

SUMMARY OF COMPANY

- Southwest Airlines, a major passenger airline that provides scheduled air transportation in the United States and near-international markets. Southwest commenced service on June 18, 1971, with three Boeing 737 aircraft serving three Texas cities: Dallas, Houston, and San Antonio. At December 31, 2022, Southwest had a total of 770 Boeing 737 aircraft in its fleet and served 121 destinations in 42 states, the District of Columbia, the Commonwealth of Puerto Rico, and ten near-international countries: Mexico, Jamaica, The Bahamas, Aruba, Dominican Republic, Costa Rica, Belize, Cuba, the Cayman Islands, and Turks and Caicos
- Southwest has historically principally provided point-to-point service, rather than the "hub-and-spoke" service, allowing for more non-stop routing

SERVICE METRICS

- Total Fleet: 770 (676 owned)*
- Average Fleet Age: 12 years
- Employees: 66,656
- Daily Flights: N/A
- 3 Year Order Book: $6.2 billion (planes)
- Total Destinations: 121
- Available Seat Miles: 148.5 billion
- Revenue Passenger Miles: 123.8 billion
- Load Factor: 83.4%

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $23.8 billion
- Book Value: $10.7 billion
- Total Debt: $8.0 billion
- Total Assets: $35.4 billion
- Physical Assets*: $31.0 billion
- Net Physical Assets: $17.3 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $22.8 billion
- Capital Expenditure:
  - FY21: $0.2 billion
  - FY22: $3.9 billion
- Forward Looking Capex (Plane Orders)
  - FY23: $4.0 billion
  - FY24: $1.2 billion
  - FY25: $1.0 billion
  - FY26: $1.4 billion
  - FY27: $1.1 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Flight Equipment	25 years
Ground Prop/Equip	5-30 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	12.6%
CAPEX to Net Physical Assets:	22.6%
CAPEX to Total Assets:	11.0%
CAPEX to Book Value:	36.7%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
- Fleet does not include the fleet of regional partners, whether wholly owned or subject to operating agreements
- Note: Airport terminals are owned by airport authorities or local governments, not airlines and are not included in the airline asset base

Ford Motor Company

SUMMARY OF COMPANY

- Ford is an automotive company, which designs, manufactures, markets and services a full line of cars, trucks, sport utility vehicles and electrified vehicles. The company provides vehicle-related financing and leasing services
- Ford markets its products under Ford and Lincoln brand names. It serves customers across South America, the Middle East, Europe, North America, Africa, and Asia Pacific
- It has been one of the most successful automotive brands in marketing history.
- Headquarters are in Dearborn, Michigan

SERVICE METRICS

- #1 Commercial Vehicle Brand
- U.S. Dealers: 3,000+
- Employees: 172,639
- Manufacturing & Assembly Plants: 44
- Engineering & Research Facilities: 13

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $149.0 billion
- Book Value: $43.2 billion
- Total Debt: $152.3 billion
- Total Assets: $255.9 billion
- Physical Assets*: $59.5 billion
- Net Physical Assets: $37.3 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $151.8 billion
- Capital Expenditure: $6.8 billion
- Forward Looking Capex
  - FY23: $7.6 billion
  - FY24: $8.0 billion
  - FY25: $8.5 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Manufacturing Plants	40 years
Machinery & Equipment	14.5 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	11.5%
CAPEX to Net Physical Assets:	18.4%
CAPEX to Total Assets:	2.7%
CAPEX to Book Value:	15.9%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.

General Motors

SUMMARY OF COMPANY

- GM is an American multinational automotive manufacturing company headquartered in Detroit, Michigan
- The company is most known for owning and manufacturing its four core automobile brands of Chevrolet, GMC, Cadillac and Buick
- By sales, it was the largest automaker in the United States in 2022 and was the largest in the world for 77 years before losing the top spot to Toyota in 2008
- GM announced plans in January 2021 to end production and sales of vehicles using internal combustion engines, including hybrid vehicles and plug-in hybrids, by 2035, as part of its plan to achieve carbon neutrality by 2040

SERVICE METRICS

- Delivered 2.2 million vehicles in the United States in 2022
- U.S. Dealers: 4,000+
- Employees: 167,000
- Facilities: 369 facilities on six continents

FINANCIAL METRICS (FYE 2022)

- Total Revenue: $156.7 billion
- Book Value: $67.8 billion
- Total Automotive Debt: $17.8 billion
- Total Assets: $264.0 billion
- Physical Assets*: $78.3 billion
- Net Physical Assets: $45.2 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: $146.4 billion
- Capital Expenditure: $9.2 billion
- Forward Looking Capex
  - FY23: $10.0 billion
  - FY24: $11.0 billion
  - FY25: $11.5 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Manufacturing Plants	N/A years
Machinery & Equipment	N/A years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	11.8%
CAPEX to Net Physical Assets:	20.4%
CAPEX to Total Assets:	3.5%
CAPEX to Book Value:	13.6%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.

Stellantis

SUMMARY OF COMPANY

- Stellantis is a multinational automotive manufacturing corporation formed from the merger of the Italian–American conglomerate Fiat Chrysler Automobiles (FCA) and the French PSA Group
- Stellantis is the world's fourth-largest automaker by sales
- Includes 14 automotive brands including Chrysler, Dodge, Fiat, Jeep, Maserati and Alfa Romeo among others

SERVICE METRICS

- Over 50 manufacturing plants on six different continents
- Employees: 272,400
- Industrial operations in more than 30 countries and customers in more than 130 markets

FINANCIAL METRICS (FYE 2022)

- Total Revenue: €179.6 billion
- Book Value: €72.4 billion
- Total Debt: €19.5 billion
- Total Assets: €186.2 billion
- Physical Assets*: €60.0 billion
- Net Physical Assets: €26.1 billion

OPERATIONAL METRICS (FYE 2022)

- Total Operating Costs: € 158.8 billion
- Capital Expenditure:
  - FY21: €10.9 billion
  - FY22: €9.2 billion
- Forward Looking Capex
  - FY23: €11.4 billion
  - FY24: €13.5 billion
  - FY25: €13.9 billion

IN SCOPE ASSET TYPES SUBJECT TO MAINTENANCE/REPLACEMENT

	Range of Estimated Useful Life
Buildings	33-40 years
Machinery & Equipment	2-25 years
Other Assets	2-34 years

ANNUAL ASSET INVESTMENT RATIOS

CAPEX to Physical Assets:	15.3%
CAPEX to Net Physical Assets:	35.6%
CAPEX to Total Assets:	5.0%
CAPEX to Book Value:	12.8%

- Physical Assets include cost value of Property and Equipment without depreciation and impairment losses.
- Fleet does not include the fleet of regional partners, whether wholly owned or subject to operating agreements

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