



Connecticut Tier I Transit Asset Management Plan

Bus Rolling Stock



Description

- CTDOT owns the local bus systems in Hartford, New Haven, Stamford, Waterbury, New Britain, Bristol, Meriden, and Wallingford, and operates them under the CTtransit brand name. CTDOT owns all the rolling stock that provides CTtransit services.
- CTtransit services carry roughly 80% of annual bus ridership in Connecticut.
- CTDOT also owns the bus rapid transit system CTfastrak, which includes fixed guideway between Hartford and New Britain.
- CTDOT's bus rolling stock inventory includes four vehicle types: transit bus, articulated bus, over-the-road bus, and cutaway.

Performance Measures

The percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark

- Useful life benchmark (ULB) defines an asset's economic useful life, specified in terms of age, mileage and/or other factors. An agency can use FTA's default ULB values or set its own values. CTDOT has worked with its transit service provider partners to define custom values.
- A revenue vehicle that has not reached or exceeded its ULB is considered to be in a state of good repair (SOGR).

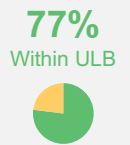
Inventory and Condition



Transit Bus

A bus with front and center doors, normally with a rear-mounted engine, low-back seating, and without luggage compartments or restroom facilities for use in frequent-stop service. This is what is used most typically on fixed route systems. A 40-foot coach is the common type bus used in larger systems. This vehicle can usually hold about 42 ambulatory passengers when two wheelchair tiedowns are provided.

471
Vehicles
12
Years ULB



Articulated Bus

Extra-long (54 ft. to 60 ft.) bus with two connected passenger compartments. The rear body section is connected to the main body by a joint mechanism that allows the vehicles to bend when in operation for sharp turns and curves and yet have a continuous interior.

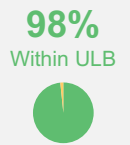
51
Vehicles
12
Years ULB



Over-the-road Bus

A bus characterized by an elevated passenger deck located over a baggage compartment. These buses have 3 axles and a gross vehicle weight rating of 26,000 pounds.

62
Vehicles
12
Years ULB



Cutaway Bus

A vehicle that consists of a bus body that is mounted on the chassis of a van or light-duty truck. The original van or light-duty truck chassis may be reinforced or extended. Cutaways typically seat 15 or more passengers.

42
Vehicles
5
Years ULB



Total

626
Vehicles

82%
Within ULB



Based on CTDOT data as of June, 2019

*The performance measures herein are for FTA reporting purposes only. Due to the variability of mechanical reliability and operating environment, these measures do not accurately reflect SOGR needs for individual assets.



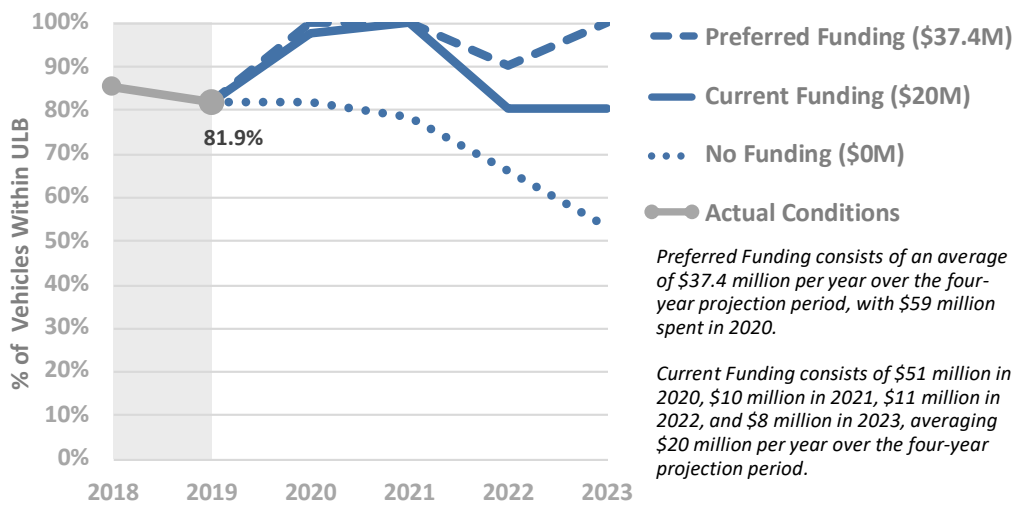
Connecticut Tier I Transit Asset Management Plan

Bus Rolling Stock



Bus Rolling Stock Performance Projections

Percent of Vehicles Within ULB



- Preferred Funding (\$37.4M)
- Current Funding (\$20M)
- ... No Funding (\$0M)
- Actual Conditions

Preferred Funding consists of an average of \$37.4 million per year over the four-year projection period, with \$59 million spent in 2020.

Current Funding consists of \$51 million in 2020, \$10 million in 2021, \$11 million in 2022, and \$8 million in 2023, averaging \$20 million per year over the four-year projection period.

CTDOT anticipates almost \$150 million of SOGR needs from 2020-2023 for its Tier I Bus Rolling Stock. This includes an initial backlog in 2020 of \$59 million in SOGR needs, and an additional \$90 million of SOGR needs from 2021-2023.

Current funding for SOGR activities was calculated based on CTDOT's Capital Plan with the help of CTDOT's Capital Services Unit. Connecticut's Capital Plan is a document that lists all projects expected to be federally-funded over a five-year period.

Based on projections made using CTDOT's prioritization tool given current funding, to make progress on its SOGR needs CTDOT should invest approximately \$78 million for transit buses, \$1.5 million for cutaways, and \$0.5 million for over-the-road buses over the four-year analysis period.

*Years referenced in these charts are by State of Connecticut Fiscal Year which runs from July 1st to June 30th.

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually.

Performance and Targets for Tier I Bus Rolling Stock

Asset Class	% Vehicles Within ULB		% Vehicles Met or Exceeded ULB	
	Current Performance	Performance Target	Current Performance	Performance Target
Transit Bus	77%	14%	23%	14%
Articulated Bus	100%	14%	0%	14%
Over-the-Road Bus	98%	14%	2%	14%
Cutaway	100%	17%	0%	17%

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Funding for Tier I bus assets comes from a variety of federal funding programs, including Sections 5307, 5337, 5339.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.



Connecticut Tier I Transit Asset Management Plan

Rail Rolling Stock



Description

- The New Haven Line (NHL), which serves stations along the Connecticut shore from New Haven to Greenwich and on to Grand Central Terminal in New York City, is operated by Metro-North (MNR) under contract to CTDOT. CTDOT has a capital interest in the rail vehicles that operate on the line.
- Shore Line East (SLE), operated by Amtrak under contract to CTDOT, serves stations from New London to New Haven. SLE service operates CTDOT-owned rolling stock, which are also used on Hartford Line (HL).
- CTDOT's rail rolling stock inventory includes three vehicle types: locomotive, passenger coach, and self-propelled passenger car.

Performance Measures

The percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark

- Useful life benchmark (ULB) defines an asset's economic useful life, specified in terms of age, mileage and/or other factors. An agency can use FTA's default ULB values or set its own values. CTDOT has worked with its transit service provider partners to define custom values.
- A revenue vehicle that has not reached or exceeded its ULB is considered to be in a state of good repair (SOGR).

Inventory and Condition



Locomotive

Commuter rail vehicles used to pull or push passenger coaches. Locomotives do not carry passengers themselves. There are 10 locomotives providing service on the NHL and 18 locomotives providing service on SLE and HL. Locomotives on the NHL include models made by GE and by Brookville. Locomotives on SLE and HL include models made by GE and by GMC.

NHL 10 Vehicles **100%** Within ULB **35** Years ULB

SLE/HL 18 Vehicles **0%** Within ULB **25** Years ULB



Passenger Coach

Rail passenger vehicles not independently propelled and requiring one or more locomotives for propulsion. There are 50 passenger coaches providing service on the NHL and 33 passenger coaches providing service on SLE. The passenger coaches on the NHL are models made by Bombardier, while the passenger coaches on SLE are models made by Maersk.

NHL 48 Vehicles **100%** Within ULB **35** Years ULB

SLE 33 Vehicles **0%** Within ULB **25** Years ULB

HL 16 Vehicles **0%** Within ULB **25** Years ULB



Self-Propelled Passenger Car

Commuter rail passenger vehicles not requiring a separate locomotive for propulsion. There are 275 self-propelled passenger cars, also called electric multiple units (EMUs), providing service on the NHL. This fleet of vehicles, which consists entirely of Kawasaki M8s, operates on the New Haven Main Line and the New Canaan Branch line. The Waterbury and Danbury branch lines require diesel locomotives.

NHL 275 Vehicles **100%** Within ULB **25** Years ULB



Based on CTDOT data as of June, 2019

**The performance measures herein are for FTA reporting purposes only. Due to the variability of mechanical reliability and operating environment, these measures do not accurately reflect SOGR needs for individual assets.*



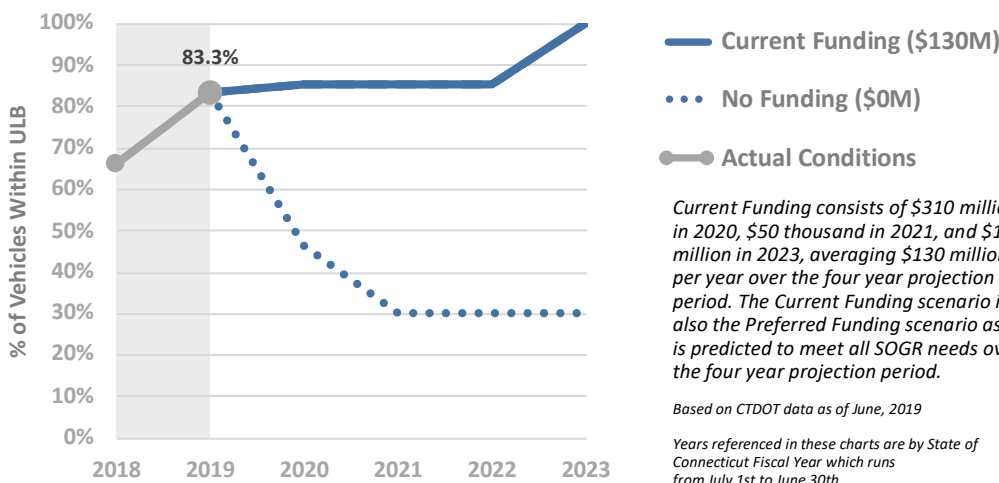
Connecticut Tier I Transit Asset Management Plan

Rail Rolling Stock



Rail Rolling Stock Performance Projections

Percent of Rail Vehicles Within ULB



CTDOT anticipates \$520 million of SOGR needs from 2020-2023 for its rail rolling stock. The entire \$520 million need is an initial backlog in 2020. The needs include replacing 18 SLE / HL rail locomotives, 39 NHL passenger coaches, 33 SLE passenger coaches, and 16 HL passenger coaches.

Current funding for SOGR activities was calculated based on CTDOT’s Capital Plan with the help of CTDOT’s Capital Services Unit. Connecticut’s Capital Plan is a document that lists all projects expected to be federally-funded over a five-year period. Based on projections made using CTDOT’s prioritization tool given current funding, to make progress on its SOGR needs CTDOT should invest approximately \$520 million in Tier I rail rolling stock over the 4 year analysis period. The planned work will meet all modeled needs by replacing 18 SLE / HL rail locomotives, and 39 NHL passenger coaches, and 33 SLE passenger coaches, and 16 HL passenger coaches.

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually. CTDOT set separate ULBs for locomotives and passenger coaches depending on the service line due to different maintenance strategies.

Performance and Targets for Rail Rolling Stock

Asset Class	% Vehicles Within ULB		% Vehicles Met or Exceeded ULB	
	Current Performance	Performance Target	Current Performance	Performance Target
Locomotive (MNR)	100%	13%	0%	13%
Locomotive (SLE/HL)	0%	17%	100%	17%
Passenger Coach (MNR)	100%	13%	0%	13%
Passenger Coach (SLE/HL*)	0%	17%	100%	17%
Self-Propelled Passenger Car	100%	13%	0%	13%

*Note that rolling stock for Hartford Line are classified as intercity assets and thus are not included in performance measures reported to FTA

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Federal funding for rail assets comes from a variety of FTA programs, including Sections 5307 and 5337.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.



Connecticut Tier I Transit Asset Management Plan

Service Vehicles



Description

- Service vehicles are defined by FTA as equipment used primarily to support maintenance and repair work for public transportation.
- CTDOT's service vehicles support two modes of travel: bus and commuter rail.
- CTDOT's 128 service vehicles are organized into five types. Trucks, automobiles, SUVs, and vans can be used as staff vehicles. Steel wheel vehicles are used for inspection and maintenance of facilities and rights-of-way.

Performance Measures

The percentage of service vehicles within a particular asset class that have either met or exceeded their useful life benchmark

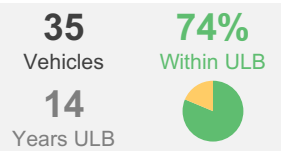
- Useful life benchmark (ULB) defines an asset's economic useful life, specified in terms of age, mileage and/or other factors. An agency can use FTA's default ULB values or set its own values. CTDOT has worked with its transit service provider partners to define custom values.
- A service vehicle that has not reached or exceeded its ULB is considered to be in a state of good repair (SOGR).

Inventory and Condition



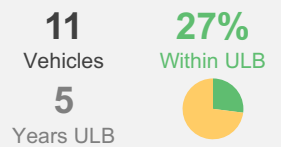
Rubber Tire Vehicle (Truck)

Any motor vehicle designed to transport cargo.



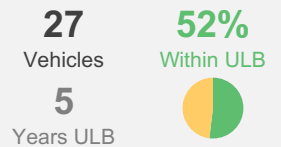
Automobile

Passenger cars, up to and including station wagons in size. Excludes minivans and anything larger.



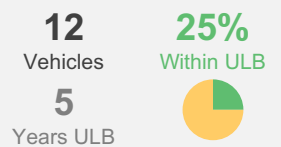
Sport Utility Vehicle

A high-performance four-wheel drive car built on a truck chassis. It is a passenger vehicle which combines the towing capacity of a pickup truck with the passenger-carrying space of a minivan or station wagon.



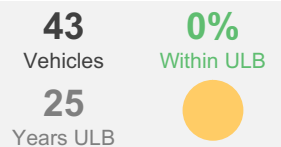
Van

An enclosed vehicle having a typical seating capacity of 8 to 18 passengers and a driver. A van is typically taller and with a higher floor than a passenger car, such as a hatchback or station wagon.



Steel Wheel Vehicle

Any support vehicle that is solely used on a running rail.



Based on CTDOT data as of June, 2019

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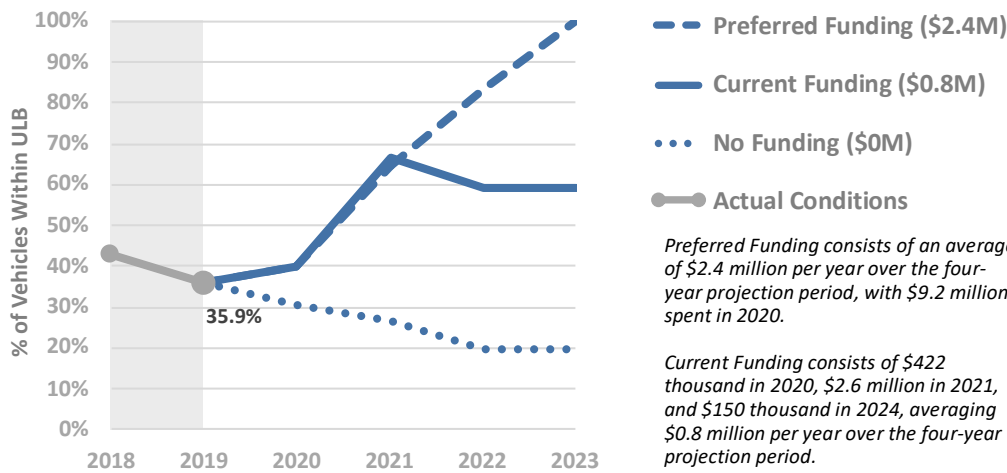
Connecticut Tier I Transit Asset Management Plan

Service Vehicles



Service Vehicles Performance Projections

Percent of Service Vehicles Within ULB



Preferred Funding consists of an average of \$2.4 million per year over the four-year projection period, with \$9.2 million spent in 2020.

Current Funding consists of \$422 thousand in 2020, \$2.6 million in 2021, and \$150 thousand in 2024, averaging \$0.8 million per year over the four-year projection period.

CTDOT anticipates nearly \$10 million of SOGR needs from 2020-2023 for its Tier I Service Vehicles. Most of the service vehicles are part of the initial backlog in 2018, totaling around \$9 million. The majority of the backlog is the 43 steel wheel vehicles for rail at \$6.3 Million.

Current funding for SOGR activities was calculated based on CTDOT’s Capital Plan with the help of CTDOT’s Capital Services Unit.

Based on projections made using CTDOT’s prioritization tool given current funding, to make progress on its SOGR needs CTDOT should invest approximately \$3 million in Tier I service vehicles over the 4 year horizon from 2020-2023. This would include replacing 10 trucks, 11 automobiles, 18 SUVs, 12 vans, and 1 steel wheel vehicle.

Years referenced in these charts are by State of Connecticut Fiscal Year which runs from July 1st to June 30th.
Based on CTDOT data as of June, 2019

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually.

Performance and Targets for Tier I Service Vehicles

Asset Class	% Vehicles Within ULB		% Vehicles Met or Exceeded ULB	
	Current Performance	Performance Target	Current Performance	Performance Target
Rubber Tire Vehicle (Truck)	74%	7%	26%	7%
Automobile	27%	17%	73%	17%
Sport Utility Vehicle	52%	17%	48%	17%
Van	25%	17%	75%	17%
Steel Wheel Vehicle	0%	0%	100%	0%

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Funding for service vehicles comes from a variety of federal funding programs.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.



Connecticut Tier I Transit Asset Management Plan

Rail Infrastructure



Description

- CTDOT owns rail infrastructure on the Northeast Corridor between New Haven and the New York/Connecticut border, as well the New Canaan, Danbury and Waterbury Branch Lines.

Performance Measures

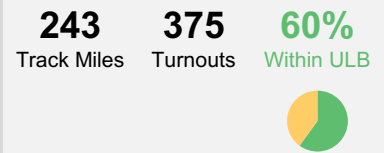
- For all rail infrastructure assets other than structures, CTDOT assesses condition based on asset age. For each asset type a Useful Life Benchmark (ULB) value is specified in years. ULB defines an asset's economic useful life, specified in terms of age, mileage and/or other factors. Asset condition is approximated by comparing the age of the asset to the ULB. A condition rating is assigned on the five-point TERM scale based on a conversion scale. An asset that is within its ULB is considered to be in a state of good repair (SOGR).
- CTDOT performs visual inspections of structures to assess conditions of the bridge deck, superstructure and substructure using the National Bridge Inventory (NBI) condition scale (with values ranging from 0 to 9). For culverts a single overall culvert rating is specified. A bridge is deemed to be in a SOGR if all of its ratings are 5 or greater. NBI ratings were mapped to the TERM condition scale, with a rating 3 or higher representing SOGR.

Inventory and Condition



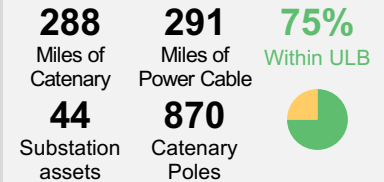
Track

Track-related infrastructure; includes running rail, ties, turnouts, and ballast.



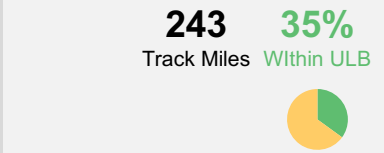
Power

Infrastructure related to the transmission of power for signals and traction via the overhead contact system. Includes AC substations, catenary plant, catenary portals, and transmission equipment.



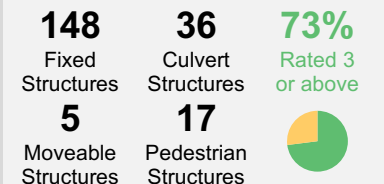
Communication and Signals

Systems related to the monitoring and safety of train movements. Includes switches and signals, grade crossings, vehicle detection equipment, Intelligent Transportation System technology, and Positive Train Control equipment.



Structures

Major Infrastructure to supplement safe movement of trains above or below grade. Includes Moveable Bridges, Fixed Bridges, Culverts, Station Pedestrian Bridges/Tunnels, and Retaining Walls.



Note: there are 100 off system bridges that are state-owned and CTDOT's capital responsibility, but are not included in the TAM inventory.



Note: this total is an average of all rail infrastructure asset conditions, weighted by asset replacement value.

Based on CTDOT data as of June, 2019

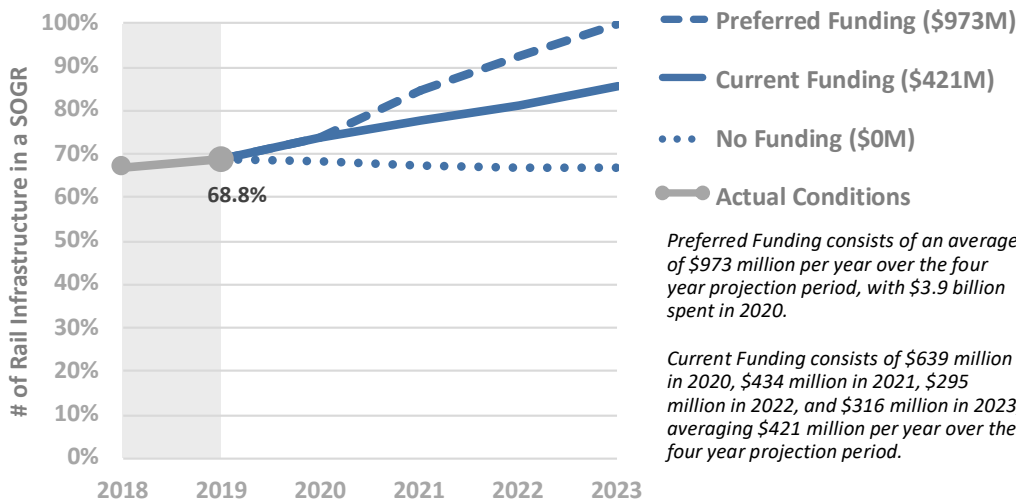


Connecticut Tier I Transit Asset Management Plan Rail Infrastructure



Rail Infrastructure Performance Projections

Rail Infrastructure in a SOGR



Preferred Funding consists of an average of \$973 million per year over the four year projection period, with \$3.9 billion spent in 2020.

Current Funding consists of \$639 million in 2020, \$434 million in 2021, \$295 million in 2022, and \$316 million in 2023, averaging \$421 million per year over the four year projection period.

CTDOT anticipates nearly \$3.9 billion of SOGR needs from 2020-2023 for its New Haven Line/Branch Line rail infrastructure. Almost all of the modeled SOGR needs are anticipated to enter the SOGR backlog in State Fiscal Year 2020, while \$8 million of needs arise in 2022. While other SOGR needs may arise in this horizon period, the prioritization model was not able to capture other potential needs due to lack of more granular data.

Available funding for SOGR activities was calculated based on CTDOT’s Capital Plan with the help of CTDOT’s Capital Services Unit. Connecticut’s Capital Plan is a document that lists all projects expected to be federally-funded over a five-year period.

Based on projections made using CTDOT’s prioritization tool given current funding, to make progress on its SOGR needs CTDOT should invest approximately invest over \$1.6 billion in Tier I rail infrastructure over the four-year analysis period. Planned work includes the Walk moveable bridge project, replacement of signal systems on the Northeast Corridor, replacement of 11 power substations, and other track work.

*Years referenced in these charts are by State of Connecticut Fiscal Year which runs from July 1st to June 30th.
Based on CTDOT data as of June, 2019

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually. The FTA performance measure for infrastructure is the percentage of guideway that is under speed restriction.

Performance and Targets for Rail Infrastructure

Asset Class	% Guideway Slow Zone Restriction	
	Current Performance	Performance Target
Rail Guideway	3.5%	2%

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Federal funding for rail assets comes from a variety of FTA programs, including Sections 5307 and 5337.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.



Connecticut Tier I Transit Asset Management Plan

Bus Facilities



Description

- CTDOT owns four administrative or maintenance bus facilities. These are CTtransit facilities in Hartford, Stamford, New Haven, and Waterbury.
- CTDOT owns 10 bus passenger facilities, all of which are on the CTfastrak bus rapid transit service.
- Only CTtransit Hartford facility has had a recent detailed inspection and condition assessment. Condition data for the other facilities is based on engineering judgement.
- Each facility may include multiple buildings.

Performance Measures

The percentage of facility components rated below condition 3 on the FTA Transit Economic Requirements Model (TERM) scale.

- Facilities are made up of 10 major components (e.g. substructure, shell, HVAC, electrical)
- Major facility components are inspected and rated on a 1 to 5 condition scale, with a rating of 3 or greater indicating a state of good repair.
- For some components, an age-based approach is used to estimate condition using useful life.
- The component condition ratings are averaged using weight factors and replacement cost to calculate the overall condition of a facility for FTA reporting.

Inventory and Condition



Administrative/Maintenance

Administrative facilities are typically offices that house management and supporting activities for overall transit operations such as accounting, finance, engineering, legal, safety, security, customer services, scheduling, and planning. They also include facilities for customer information or ticket sales, but that are not part of any passenger station. Maintenance facilities are those where routine maintenance and repairs or heavy maintenance or unit rebuilds are conducted.

4
Facilities

87%
components
rated 3 or
above



Passenger/Parking

Passenger facilities are significant structures on a separate ROW.

- All motorbus, rapid bus, commuter bus, and trolley bus passenger facilities in a separate ROW that have an enclosed structure (building) for passengers for items such as ticketing, information, restrooms, and concessions
- All transportation, transit or transfer centers, and transit malls if they have an enclosed structure (building) for passengers for items such as ticketing, information, restrooms, concessions, and telephones

10
Facilities

100%
components
rated 3 or
above



Total

14
Facilities

92%
components
rated 3 or above



Based on CTDOT data as of March, 2018

**The performance measures herein are required for FTA reporting purposes only. Condition ratings are used to determine overall SOGR status either through engineering judgement or formal condition assessments, which may not reflect SOGR needs in their entirety.*



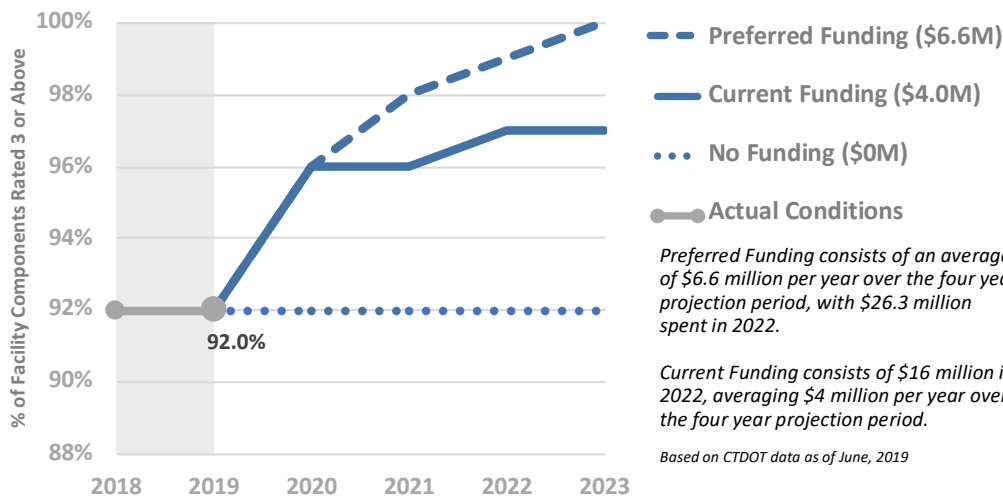
Connecticut Tier I Transit Asset Management Plan

Bus Facilities



Bus Facilities Performance Projections

Percent of Bus Facility Components Rated 3 or Above on FTA TERM Scale



- Preferred Funding (\$6.6M)
- Current Funding (\$4.0M)
- ... No Funding (\$0M)
- Actual Conditions

Preferred Funding consists of an average of \$6.6 million per year over the four year projection period, with \$26.3 million spent in 2022.

Current Funding consists of \$16 million in 2022, averaging \$4 million per year over the four year projection period.

Based on CTDOT data as of June, 2019

CTDOT anticipates about \$26.3 million of SOGR needs from 2020-2023 for its Tier I Bus Facilities. The modeled SOGR needs are anticipated to enter the SOGR backlog in State Fiscal Year 2022. While other SOGR needs may arise in this horizon period, the prioritization model was not able to capture other potential needs due to lack of formal condition assessments at some facilities.

Needs captured by the prioritization tool include various component level work at the CTTransit Hartford and Stamford facilities.

Note that planned spending is greater than the needs modeled by CTDOT’s prioritization tool as the planned work includes the cost of facility expansion and assets such as bus shelters not modeled in the prioritization tool.

*Years referenced in these charts are by State of Connecticut Fiscal Year which runs from July 1st to June 30th.

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually.

Performance and Targets for Tier I Bus Facilities

Asset Class	% Components Rated 3 or Above	% Facilities Rated 3 or Above	% Facilities Rated Below Condition 3	
	Current Performance	Current Performance	Current Performance	Performance Target
Administrative/Maintenance	87%	100%	0%	0%
Passenger	100%	100%	0%	0%

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Funding for Tier I bus assets comes from a variety of federal funding programs, including Sections 5307, 5337, 5339.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.



Connecticut Tier I Transit Asset Management Plan Rail Facilities



Description

- CTDOT owns five administrative or maintenance rail facilities. These are the facilities in Bridgeport, Danbury, New Haven, Stamford, and Springdale. However condition data is not available for all facilities.
- CTDOT owns 43 rail passenger facilities, serving Metro North and Shore Line East. Formal condition assessments were performed for all passenger facilities in 2017.
- Each facility may include multiple buildings.

Performance Measures

The percentage of facility components rated below condition 3 on the FTA Transit Economic Requirements Model (TERM) scale.

- Facilities are made up of 10 major components (e.g. substructure, shell, HVAC, electrical)
- Major facility components are inspected and rated on a 1 to 5 condition scale, with a rating of 3 or greater indicating a state of good repair.
- For some components, an age-based approach is used to estimate condition using useful life.
- The component condition ratings are averaged using weight factors and replacement cost to calculate the overall condition of a facility for FTA reporting.

Inventory and Condition



Administrative/Maintenance

Administrative facilities are typically offices that house management and supporting activities for overall transit operations such as accounting, finance, engineering, legal, safety, security, customer services, scheduling, and planning. They also include facilities for customer information or ticket sales, but that are not part of any passenger station. Maintenance facilities are those where routine maintenance and repairs or heavy maintenance or unit rebuilds are conducted.

5
Facilities

95%
components
rated 3 or
above



Passenger/Parking

Passenger facilities are significant structures on a separate ROW. For rail modes, passenger facilities typically mean a platform area and any associated access structures or accessory spaces accessible to passengers or by staff who are in support of passenger service. Examples include

- All rail passenger facilities (except for light rail, cable car, and streetcar modes)
- All light rail, cable car, and streetcar passenger facilities that have platforms and serve track that is in a separate ROW (not in mixed-street traffic)
- All transportation, transit or transfer centers, and transit malls if they have an enclosed structure (building) for passengers for items such as ticketing, information, restrooms, concessions, and telephones

43
Facilities

74%
components
rated 3 or
above



Total

48
Facilities

82%
components rated
3 or above



Based on CTDOT data as of March, 2018

**The performance measures herein are required for FTA reporting purposes only. Condition ratings are used to determine overall SOGR status either through engineering judgement or formal condition assessments, which may not reflect SOGR needs in its entirety.*

***Note that facilities on the Hartford Line are classified as intercity assets and thus are not included in the fact sheet.*



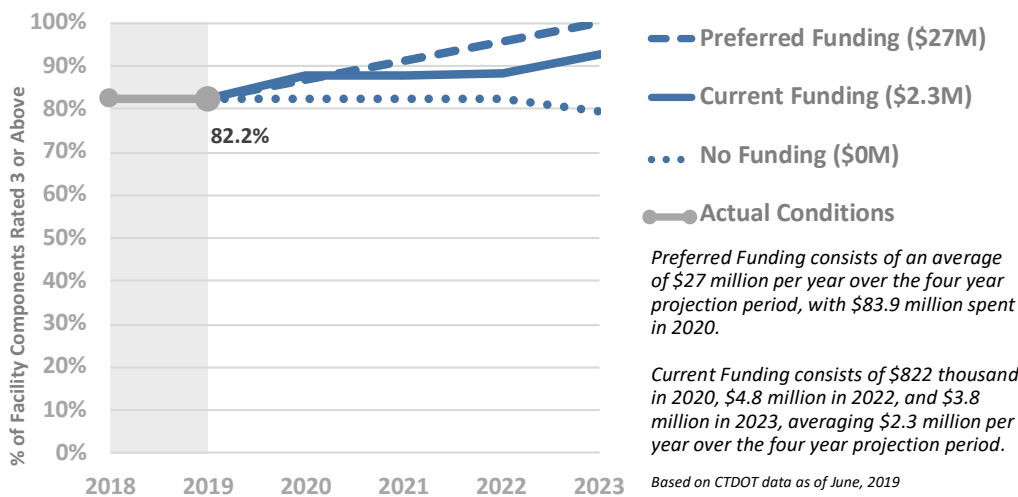
Connecticut Tier I Transit Asset Management Plan

Rail Facilities



Rail Facilities Performance Projections

Percent of Rail Facility Components Rated 3 or Above on FTA TERM Scale



CTDOT anticipates over \$108 million of SOGR needs from 2020-2023 for its Rail Facilities. This includes an initial backlog in 2020 of nearly \$84 million in SOGR needs, and an additional \$24 million of SOGR needs in 2022. While other SOGR needs may arise in this horizon period, the prioritization model was not able to capture other potential needs due to lack of formal condition assessments at some facilities. Current funding for SOGR activities was calculated based on CTDOT’s Capital Plan with the help of CTDOT’s Capital Services Unit.

Based on projections made using CTDOT’s prioritization tool given current funding, to make progress on its SOGR needs CTDOT should invest approximately \$9 million in Tier I rail facilities over the 4 year horizon from 2020-2023. This work includes platform electrical fixes in 2020, equipment and conveyance investments at the New Haven and Stamford rail yards in 2022, and various component work in 2023.

*Years referenced in these charts are by State of Connecticut Fiscal Year which runs from July 1st to June 30th.

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually.

Performance and Targets for Rail Facilities

Asset Class	% Components Rated 3 or Above	% Facilities Rated 3 or Above	% Facilities Rated Below Condition 3	
	Current Performance	Current Performance	Current Performance	Performance Target
Administrative/Maintenance	95%	100%	0%	0%
Passenger	74%	42%	58%	0%

Transit Funding

Funding for transit in Connecticut historically comes primarily from FTA funds, with the remainder coming from state public transportation bonds. Bond funds are used to match federal funds and provide funding for 100% of state projects.

Federal funding for rail assets comes from a variety of FTA programs, including Sections 5307 and 5337.

Analytical Approach

CTDOT uses a prioritization tool to support its analytical approach, predicting transit asset conditions and SOGR needs.

The tool has a series of models for different asset types that recommend when to rehabilitate or replace an asset, and the conditions and performance predicted for the asset over time. Also, the tool supports prediction of the overall performance resulting for a specified funding scenario, and recommends a prioritized list of projects to fund given a budget constraint.

In this fact sheet, predicted performance changes are shown the year funds are committed; actual performance may lag behind funding.