Transportation Capital Infrastructure Program

Annual Capital Plan Report

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The CTDOT Capital Program

Overview

The mission of the Connecticut Department of Transportation (Department or CTDOT) is to provide a safe and efficient intermodal transportation network that improves the quality of life and promotes economic vitality for the State and the region. In order to achieve this mission, the CTDOT Capital Program will strategically spend every available dollar of capital funding to rebuild, replace, or improve the State's transportation infrastructure. Each year, the Department updates its plan to use or leverage all the available state and federal funding.

The Capital Program Report (Report) is to inform the Department's stakeholders about the past year's program and outline the plan for the upcoming year. Specifically, the Report will cover the 2020 Capital Infrastructure Program (for state advertised and administered contracts) and outline the plan for 2021 and beyond. This Report includes historical achievements, trends, and major issues. It also describes the Department's plan to address critical transportation needs and address current challenges associated with maintaining our aging transportation infrastructure.

The development of this Report encompasses a collaborative effort by the Department with various stakeholders, such as Metropolitan Planning Organizations (MPOs) and elected officials. Figure A is a comprehensive financial summary page and a useful reference for information described in this document.

Public Act 15-1 provided $2.8 billion in additional bond authorizations between 2016 and 2020, including an additional $706 million in Federal Fiscal Year (FFY) 2020 (See Figure B). These additional funds allowed the Department to address the State of Good Repair (SOGR) backlog, provide enhancements to the existing system, and to expand some services and systems. The Department will continue to implement projects and utilize some of these funds during the next five-year period. Although the State has made steps in the right direction, many challenges remain, and a long-term sustainable funding source is needed for the Special Transportation Fund (STF).

While maintaining a SOGR of our current assets is a priority, the Department is analyzing the state's transportation system to identify strategic investment opportunities to improve safety, address congestion, enhance our bus and rail systems and service, and provide economic benefits to local regions and the State as a whole. In the last decade, the State invested $350 million in targeted improvements to I-84 in Waterbury.

By widening and re-aligning this 2.7 mile stretch of highway, the investment:

- Increased average rush hour speeds in the worst congested areas by more than 45 mph,
- Reduced rush-hour travel time from 30 minutes to 4 minutes,
- Cut monthly traffic accidents from 38 to 3, and
- Saved Connecticut drivers 9,300 hours a day.

This is an example of an improvement program that we should replicate both on our highway system, as well as on our public transportation commuter rail network.

On another major interstate highway, the Department completed a strategic review of the western half of the I-95 corridor from New Haven to the New York state line (referred to as the I-95 West Study). The 2019 Strategic Implementation Plan for this corridor identifies short-range, mid-range, and long-range projects that the Department is actively integrating into our Capital Plan. The Department is advancing a similar review of I-95 from New Haven to the Rhode Island border (referred to as the I-95 East Study).

The studies examine current and future traffic conditions using a micro-simulation analysis to address longstanding issues and to help identify priority projects for development along the corridor. In so doing, targeted investments can be identified to improve safety and traffic conditions that may serve as a catalyst for future economic growth along those corridors. Also, these targeted or spot improvements can be completed at much lower cost than upgrading an entire corridor, while still providing many of the anticipated improvements of a much larger project.

In addition to the I-95 corridor planning studies, the Department is planning for future improvements along:

- I-84 in Danbury,
- Route 7 / Route 15 interchange in Norwalk,
- I-84 / Route 8 interchange in Waterbury, and
- I-95 vicinity of exits 7-8 in Stamford.

The Department also initiated the Greater Hartford Mobility Study to assess the travel needs of people using all modes of transportation, including bicycle, bus, car, train, truck, and walking. From this the Department will work to develop a plan for improved mobility in the area. Studies are also being conducted for the Stamford Transportation Center, operational speed improvements along our rail corridors, and New Haven Union Station.

Funding was also made available for rail and bus initiatives, such as expanding the already successful Hartford Line service with new stations; purchasing new rail cars to operate throughout the State; the deployment of a state-wide real-time bus information system; and improvements to Paratransit Services.

The Capital Plan continues to align the Department's goals with the State's sustainability goals, including the goals set forth in Governor Lamont's Executive Orders No. 1 and No. 3. The Department is pursuing projects that:

- Reduce carbon and other air quality emissions,
- Increase the health and safety of Connecticut's residents,
- Adapt to changing climate conditions, and
- Protects and improves our natural and community resources.

Investments in public transportation, congestion reduction, safety, renewable energy, complete streets, and active transportation increase the economic and social vibrancy, safety, health, and desirability of our communities. Projects that directly reduce our carbon footprint and other air emissions include:

- Installation of Electric Vehicle (EV) charging stations for visitors, employees, and our motor pool,
- Starting the conversion of our State fleet to EVs,
- Solar energy development at our facilities to provide clean electricity and lower utility bills,
- Acquisition of battery-operated electric buses (BEBs) for CT Transit and partners, and
- Upgrading the electrical infrastructure at our bus garages to accommodate EV charging of our busses.

We are scoping a system-wide needs assessment and prioritization ranking for BEB rollout to all CT transit districts. Other carbon reducing projects include green building design and construction for new maintenance and repair facilities, continued LED conversion of highway lights and other lighting, system wide upgrades to our traffic signals, and reducing vehicle emissions by constructing roundabouts and improving highway entrances and exits to reduce bottlenecks.

The Plan also includes continued design and construction of non-motorized multi-use paths, sidewalks and on-road facilities for pedestrian and bicycle transportation. These capital improvements increase safety for non-motorized travelers, expands no-emission travel options, and increases the vibrancy of our community and neighborhood centers. The Plan expands and sustains public transportation options including railroad bridge and track upgrades, rail station improvements and new rail stations, plus bus shelter upgrades and construction. A robust public transportation system is important as it provides vital, sustainable travel by expanding economic opportunities for residents that do not own vehicles, reduces emissions by reducing single-occupant vehicle miles traveled, and reduces congestion.

The data presented in this report is based on the Federal Fiscal Year (FFY - October 1 to September 30) rather than the calendar year or the State Fiscal Year (SFY – July 1 to June 30) because of the major role of federal funds.

In the recently concluded FFY 2020, the Department programmed approximately $1.9 billion for all transportation modes – road and bridge, railroad and bus and other public transit – in the Capital Program. This included $593 million for bus and rail, and $1.25 billion toward the State's highway and bridge infrastructure. There was also roughly $55.1 million assigned for facilities.

The Department anticipates utilizing approximately $2.18 billion in total Capital Program funding for all transportation modes in FFY 2021. The robust program in 2021 reflects the fact that several large transportation initiatives are planned for release to construction. The 2021 capital program includes approximately $766 million for bus and rail, $1.36 billion toward the State's highway and bridge infrastructure, and $49 million in support of the Facilities Program (Please refer to Figure A).

The $2.18 billion included in the Capital Plan for FFY 2021 is primarily for projects administered by the State, for work on state roads, bridges, public transportation, and facilities. The plan includes federal / state funding for off-system bridges and for some projects funded with federal Urban funds that are locally administered. The Plan does not include the projects funded under the State-funded Local Transportation Capital Improvement Program (LOTCIP), the Town Aid Road program, or the State-funded Local Bridge program.

The State's commitment to an increased investment level for our multi-modal transportation highway and transit system is improving our transportation infrastructure. For example, a key performance metric is the percentage of National Bridge Inventory (NBI) bridges that are Poor on the National Highway System (NHS). This number has decreased over the last eight years from 23.1% (weighted by deck area) to 8.2% (weighted by deck area) (see Figure C). Another example of our increased investment can be seen in Figure D.

Although the State has significantly increased its investment levels in recent years for all transportation modes, long term dependable federal and state funding is imperative in our efforts to plan capital transportation investments.

Asset Management

The Department continues to actively implement Transportation Asset Management (TAM) principles and practices to address the condition and needs of the State's transportation infrastructure. The Department complies with all federal TAM requirements (MAP-21 and FAST-Act).

Federal Highway Administration (FHWA) requirements include: certification of the CTDOT (2018 & 2019) Highway Transportation Asset Management Plans, submittal of TAM Implementation Documentation for the annual FHWA TAMP Consistency Review, and periodic reporting on evaluations of facilities repeatedly requiring repair and reconstruction due to emergency events (23 CFR Part 667).

The Highway TAMP goes beyond the federal mandates and demonstrates the Department's strong commitment toward achieving a State of Good Repair for our transportation system. An asset management strategy for both National Highway System (NHS) bridges and pavements is included in the Highway TAMP in accordance with federal requirements. In addition, the Highway TAMP covers all CTDOT maintained bridges, pavements, traffic signals, signs, sign supports, pavement markings and highway buildings. The Highway TAMP contains information on asset inventory and condition, asset data management, performance objectives, life cycle planning, risk management, financial planning, investment strategies, and process improvements. The Highway TAMP is currently guiding the Department to deliver better highway asset performance, while also managing risks.

Federal Transit Administration (FTA) requirements include development and continued implementation of the Public Transportation Transit TAMP (2018), as well as the Department sponsoring the development of a group TAM Plan for the State's Transit Districts and other small transit providers. Although group plans are not required to have the same level of detail, due to the Department's responsibility for service and planning decisions for its providers, the group plan was developed in parallel to its Transit TAMP, including initiatives to facilitate collaboration between the Department and Transit Districts for TAM implementation activities.

The Transit TAMP meets the federal mandates and includes an asset management strategy for all FTA assets reported in the National Transit Database (NTD). The four capital asset categories included as required by FTA are:

- Equipment (nonrevenue vehicles),
- Rolling stock (revenue vehicles),
- Infrastructure (rail fixed-guideway, track, signals, and systems), and
- Facilities.

The Transit TAMP is beginning to guide the Department for better transit asset decisions. It contains information on goals and objectives, asset inventory and condition, analytical approach, investments strategies, investment plan, and implementation and monitoring.

To provide consistency across implementation, the following tools were developed:

- A new State of Good Repair Transit Database to integrate public transportation capital assets of all transit and rail providers,
- An analytical decision support tool to predict capital asset needs for the four-year horizon period, and
- A Condition Assessment Guidance Document.

The implementation of Asset Management for both highway and transit assets builds on the Department's past management practices. It is intended to provide a more detailed and objective framework that is guiding investment decisions and development of the Capital Program. The asset management plan and underlying management systems provide an objective, data driven methodology to assess current and future needs required to maintain the State's transportation assets in a State of Good Repair.

Asset Fact Sheets (available on the CTDOT website) are developed annually to provide current information on each of the 13 assets covered in the TAMPs. The fact sheets provide key information including updated inventory and condition data, and performance projections. The asset management systems utilize condition assessments and deterioration models to predict the effects of age, environmental conditions, and investment upon assets. In so doing, long-term and cost-efficient treatment strategies can be devised to effectively maintain the overall transportation system.

Safety

The Department continues its efforts to drive down the number of fatalities and serious injuries on Connecticut's highways. These efforts are directed by a Strategic Highway Safety Plan (SHSP). The plan is developed by safety stakeholders, who collaborate on safety efforts and leverage resources. The current SHSP was published in July 2017 and the Plan ends in 2021. Efforts are underway to prepare a new plan and is expected to be completed in June 2021. Similar safety plans are being prepared for each of the nine Councils of Government (COG) in Connecticut. The first COG plan was completed in 2019 and three additional COG plans should be completed by January 2021; the remaining plans are underway and are expected to be completed in 2022.

The Department has established a dedicated staff to administer a highway safety program focused on implementing systemic transportation safety improvements. These types of projects focus on providing safety improvements at high-risk locations throughout the transportation network and provide the highest safety benefit for each dollar spent. Systemic safety improvements include:

- Centerline Rumble Strip Projects (CLRS). These are grooves in pavement that produce noise and vibration when tires make contact. They are a proven safety countermeasure to reduce lane departure crashes. Since 2014, approximately 400 miles of CLRS have been installed on both local and state roads.

- Statewide Pedestrian Warning Sign Project on select town-owned roads. Pedestrian warning signs and associated plaques are being upgraded with a fluorescent yellow background and delineators to enhance visibility, especially during dawn and dusk. The last of the four projects was completed in 2020.

- Statewide Traffic Signal Clearance Interval Retiming Project. All state owned and maintained signals were revised to update the yellow and red clearance intervals to be consistent with national best practices.
- A horizontal curve signing project on state roads. Improved horizontal curve delineation is proven to be a cost-effective approach to reducing roadway departure crashes. The locations are being designed in accordance with national standards. Districts 3 and 4 will be completed in 2021 and Districts 1 and 2 will be completed in 2023. The installation of horizontal curve signs on select local roads was completed in 2018 and 2019.

The Department is working with the Connecticut Transportation Safety Research Center at UCONN to further develop a state-of-the-art safety management system. When finished, the software tool will allow network-level screening and diagnosis of CT's roads and safety appurtenances. The tool will enhance countermeasure selection and safety effectiveness evaluation for use in project selection and development.

Project Delivery

Delivery of high-quality projects within established budgets and schedules is a priority for the Department. Project delivery improvement includes the use of innovative construction and design techniques and the adoption of a variety of process improvement tools. Every improvement in project delivery increases the Department's capacity for more projects (which equates to more jobs).

The Department's goal is to develop a manageable collection of "shovel ready" or "shovel worthy" projects that may be quickly advanced if new revenue sources become available or if other project schedules slip. Alternative contracting is also a part of the Department's strategy to expedite project delivery. However, even when using alternative contracting methods there are certain functions that require action and oversight by experienced Department personnel. With the large number of new employees hired in the last few years due to staff retirements, it can be a resource challenge to support specialized capital projects and implement innovative procurement processes.

The Department continued to advance its alternative contracting methods in 2020 in order to maximize contractor innovation and deliver projects more quickly to construction. The Department implemented process improvements while delivering its second, national award-winning Design-Build project. This project included the innovations of:

- Bridge Bundling - advertising several bridges together in one construction contract,
- Alternative Technical Concepts (ATC) - allowing prequalified contractors, prior to bid, to propose alternate ways to construct something that would improve construction efficiency, save money, or result in a better structure being built, and
- Accelerated Bridge Construction (ABC) - constructing a project faster through the uses of innovative construction techniques.

The innovations employed as part of the Design-Build Alternative Technical Concept process for this award-winning project resulted in greatly increased service life and reduced overall cost. The Bridge Bundling contributed to reduction of cost by delivering four bridge projects as one. The ABC techniques allowed the bridge in Willington to be constructed in one summer reducing impacts to the traveling public and avoiding monetary and safety impacts to the Willington school system that uses one of the bridges as a bus route.

In addition to the Design-Build project noted above, the Department has administered projects using other alternative contracting techniques. In Norwalk, the projects that are part of the Walk Bridge Replacement Program continue to be procured using a Construction Manager / General Contractor (CM/GC) procurement method. This method allows contractor innovation and input during the design phase to avoid conflicts, delays, and increased costs during Construction. This delivery method also allows the Department to initiate portions of the overall project in advance of the major bridge replacement project, thus accelerating the construction schedule for this critical bridge structure.

Building on the success of the above noted Design-Build and CM/GC projects, the Department is currently implementing performance related specifications, advancing agreements with regulatory permitting agencies, and applying lessons learned to streamline the Design-Build delivery process. The Department is also continuing the refinement of a decision matrix and procedures. This will guide the selection of the best procurement methodology based on the project risk profile and agency delivery needs. The Department has also hired a consultant specializing in alternative contracting to assist and train Department staff in national best practices.

Project delivery during design has improved with the wide use of scheduling programs by project managers. The Department is using Microsoft Project to define the design process into measurable tasks so the Project Manager can anticipate and mitigate delays. The Department continues to develop a document and process control software system named COMPASS that can input data from various sources, including project schedules and cost estimates, allowing project managers to better track and control schedules and costs. COMPASS has allowed managers and supervisors to assign staff and resources based on projected workload. It is already being used in construction for tracking and processing contractor submittals. Also, Microsoft Project templates were developed for a variety of project types to create ball-in-court tracking for design tasks. Using these two software applications have resulted in a more efficient use of resources and improved on-time delivery.

Financing of the Capital Program

Available Funds

The Capital Program is funded with a mix of state and federal funding. Historically, federal monies accounted for 70-80% of the Department's capital program. However, this has changed in recent years with an influx of state bond funding for programs such as the:

- Fix-it-First Road, Fix-it-First Bridge,
- Local Transportation Capital Improvement Program (LOTCIP), and
- Funds provided through Public Act 15-1, Connecticut's infrastructure improvement program.

These additional state investments have increased the State's participation percentage to approximately 50-70% of the total Capital Program funding, depending on the year (See Figure B).

Available Capital Program funding includes any carry forward balances, or funds made available in a previous year but not yet committed to a specific project. It is common for funding to be made available for use on specific projects that may take multiple years to construct, or for the procurement of items such as rail cars or busses that may take more than two years to be delivered. Available Capital Program funding can also include funds released from completed projects, which are available to re-use. (Further details regarding planned expenditures in 2021 follow in the Capital Construction Program discussion).

Expenditure of Funds

The Department is often questioned on the appearance that it is not fully utilizing state funds that are available for its transportation program. Special Tax Obligation (STO) bond authorizations are the main source of state funding for the DOT Capital Program, so in order to understand the perceived delay in the spending cycle, it is important to understand the bonding process.

The process begins when the State Legislature passes bond *Authorizations* that allow the Department to utilize bond funds for transportation purposes. Before the Department can utilize the bond funds, the State Bond Commission (SBC) must *Allocate* the funds at one of its monthly meetings. After the SBC has approved the allocation of funds, the Department can request the funds be *Allotted* to a specific project, through the submission of an allotment request to the Office of Policy and Management (OPM). Once OPM has approved the allotment request and forwarded it to the Office of the State Comptroller, where it is posted in CORE-CT, the funds are available for expenditure on the project.

It is the Department's practice is to ensure that *Authorization, Allocation and Allotment* of *sufficient* funds for each project occurs prior to advertising and awarding the construction contract. This is accomplished by establishing the budget before work commences. The process can result in the

appearance that money is not being spent since the actual draw-down of funds will not occur immediately, but rather as the work is completed and accepted.

However, the Department is always financially ready to reimburse valid contract expenses. Undertaking large capital projects such as the reconstruction of I-91 and Charter Oak Bridge in Hartford at a cost of $240 million, or the replacement of the I-84 Rochambeau Bridge in Newtown at a cost of $53 million, or the Installation of a New Rail Interlocking and Reconstruction in Norwalk at $250 million, are just a few examples of many on-going multi-year projects. Similarly, the purchase of high value rail cars and buses are budgeted upfront, have small payments when the order is placed and larger payments during production, delivery and acceptance.

The sale of bonds by the Office of the Treasurer does not occur until the money is required to pay project costs. The amount of bonds sold for the Capital Program is based on the estimated cash flow requirements of current projects, not on the amount of bond authorizations or bond allocations. Bonds are sold to investors and bond proceeds are used to pay for project costs. The cost to the State (the taxpayer) occurs as the State makes principal and interest payments on the bonds that were sold. Bonds sold are typically 20-year bonds, which means that 1/20th of the cost is paid back the first year after the bonds are sold, 1/20th the second year, and so on, for 20 years. The funding required to make the payments is called debt service which is paid for with revenue from the STF. The STF is funded with state gas taxes, motor vehicle license, registration and other fees, and a portion of the motor vehicle sales tax. It is important to note that the issuance of bonds and associated debt service is administered by the Office of the Treasurer.

Special Transportation Funds

The Special Transportation Fund (STF) is a dedicated fund used for transportation purposes. The primary purpose of the fund is to support the financing of state highway and public transportation improvements, as well as the ongoing operations of the Connecticut Department of Transportation (Department) and the Department of Motor Vehicles (DMV). For several years annual STF expenditures (operating plus capital) have exceeded the annual STF revenues; therefore, the Fund has been realizing a net annual deficit. These annual deficits, along with a significant reduction in revenues due to the COVID-19 pandemic, have eroded the cumulative balance of the STF. As a result, state funding levels are being evaluated closely and may impact the Department's ability to deliver the Capital Program as presented in this document.

Role of Federal Funds

While state funding has taken on a more prominent role in recent years federal funds still play a critical role in transportation funding for Connecticut. The Department has four major sources of federal funding, all of which fall under the umbrella of the U.S. Department of Transportation (USDOT): the

FHWA, the FTA, the Federal Railroad Administration (FRA) and the National Highway Traffic Safety Administration (NHTSA).

The Department prepares a Statewide Transportation Improvement Program (STIP) in collaboration with our stakeholders. The STIP lists all proposed highway and public transit projects to be undertaken utilizing Federal Highway and Federal Transit Administration funding.

In December 2015, Congress passed the FAST Act. The five-year bill provided $305 billion for surface transportation programs for Federal Fiscal Years 2016 - 2020. The Act's five years of predictable formula funding enabled the Department to better manage long-term assets and address the backlog of State of Good Repair needs. Congress has been working on a long-term successor bill to the FAST Act. The Department remains hopeful that a long-term successor to the FAST Act will be enacted beginning in FFY2022; in the meantime, the recent FFY 2021 Appropriations Bill provided funding levels as prescribed by the 2021 Fast Act extension.

The Capital Plan is based on the projected FFY 2021 federal funding level of $724 million. This includes anticipated FHWA, FTA, and NHTSA funding. Total new federal funding received for FFY 2020 was $847 million. This included approximately $60 million of Highway Infrastructure funds, which were provided under the Transportation Appropriations Act of 2020. It also included $71.3 million of additional funding that was received from FHWA near year-end as part of an annual redistribution of additional funding. The Department's demonstrated ability to immediately utilize the additional federal funds resulted in a successful application to FHWA. The FFY 2021 funding level assumes a more typical $20 million of additional funding at year end.

Federal earmarks and discretionary program funding have both played a significant role in the past for the Department's Capital Program. Examples include highway funding for the Q Bridge, Intercity and High-Speed Rail funding for the Hartford Line, and funding for the WALK Moveable Bridge replacement through FTA's Sandy Emergency Relief Program.

Current examples include the FRA's State of Good Repair Partnership Grant Program supporting the WALK Moveable Bridge Replacement; FRA's Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program supporting the construction of the Windsor Locks Station on the Hartford Line as well as FTA's Low or No Emissions Program supporting the purchase of electric buses. Under the Consolidated Appropriations Act of 2018, $1.5 billion was made available for National Infrastructure Investments, otherwise known as BUILD Transportation Discretionary grants, through September 30, 2020. BUILD Transportation grants are currently supporting improvements to the Stamford Transportation Center.

Management of FHWA Funding

The FHWA is the largest federal funding source for the Department's transportation program and is the primary funding source for highways and bridges. With annual funding from FHWA exceeding

$500 million, the strategic management and utilization of FHWA funds is critical to the Department's Capital Program. Federal funds are distributed to the Department through specific federal-aid programs, each of which has defined eligibility criteria. These criteria are primarily based on geographic area, roadway classification, and type of improvement.

FHWA regulations require the Department to "obligate" or commit all regular formula funds authorized for use in any given FFY in that specific year. The Department has consistently obligated all its available Federal funding. This makes the Department eligible to ask for more funds prior to the end of the fiscal year. In fact, over the last five years, the Department received and obligated $266 million in additional Federal funds. These funds came from other states or unused obligations and federal holdbacks.

As previously discussed, in FFY 2020 the Department was extremely successful in its request, receiving and obligating $71.3 million over and above its original allocation of federal monies. The Department uses a federal financial tool called Advance Construction (AC), particularly for large multi-year projects, which essentially provides for a phased approach to project funding. This mechanism allows the State to request and receive approval to construct a federal-aid project in advance of the availability of authorized federal funds.

Figure E shows the historical and planned levels of AC authorization. The AC levels shown for future years reflect specific projects currently identified in the Capital Plan. The amounts may change as project schedules and cost estimates are updated, and as additional projects which need phase financing are committed. For FFY 2021 through FFY 2025, it is estimated that approximately 70 projects will be financed with AC conversions, totaling $1.1 billion. While the use of the AC tool is necessary to get large projects into construction sooner, it should not be overused as it can financially restrict future years' capital programs.

Management of FTA Funding

The FTA is the primary federal funding source for the Department's Public Transportation Infrastructure program. Annual funding from FTA exceeds $200 million and has five annual program apportionments. The strategic management and utilization of FTA funds, paying close attention to funding eligibility requirements, is critical to the Public Transportation Capital Program.

FTA requirements and procedures for the management of all FTA grant programs are governed by FTA's Master Agreement. This is the official FTA document containing federal requirements applicable to the FTA recipient and the administration of FTA grants. The Master Agreement is incorporated by reference and is made part of each FTA grant.

The Department is the designated recipient for all FTA programs and is responsible for service and planning decisions for rail, fixed-route bus and complementary paratransit service in the urbanized areas of the State.

For most regular formula funds authorized, FTA allows three years for funds to be obligated so the funding may be carried forward. This allows for larger projects to be financed with two or more years of apportionment. Additionally, as the designated recipient, the Department programs and plans the formula funding from Section 5307 (the largest FTA source of funds) and creates a funding pool from which capital projects in regions around the State are funded.

The Department does not utilize a formula to reallocate Section 5307 formula funds to the bus operators, rather the funding pool allows for a cooperative, non-discriminatory allocation of funds to different regions based on annual needs. The disbursement of these funds is approved by the MPOs in the Statewide Transportation Improvement Program (STIP). Sub-area split agreements that reflect the annual disbursement of funds by region are created by the Department and executed by the operators from each region. This program allows local transit operators to fund major projects for which they may otherwise have never accumulated adequate funds.

FTA requires the recipients of federal funds to develop a finance plan to complete large projects. To achieve this, the Department uses a federal financial tool called Pre-Award Authority, particularly for large multi-year programs, providing for a phased approach to project funding. This mechanism allows the State to request and receive approval to construct a federal-aid project in advance of the availability of authorized federal funds.

Components of the Capital Program

The Department prioritizes transportation investments that ensure public safety, restore the infrastructure to a State of Good Repair, improve customer experience, and promote economic development.

Public Transportation

The Department manages a multi-modal network that includes rail, bus, and paratransit services. This is accomplished through contracts with transit districts, private bus operators, management companies and railroads. It also directly operates two Connecticut River ferry services. The State supplies all or most of the capital assets (rolling stock, maintenance facilities, etc.) required to operate these various services. The Bureau of Public Transportation provides oversight for the Department of these operators as well as public transit funding for urban, small urban, and rural transit providers. These services are the backbone of the State's economy, transporting 81 million people per year (SFY2019).

The State has made significant investments in upgrading existing routes and services, while building new infrastructure and introducing and expanding new services. Examples are the Hartford Line and a new smart card fare system. The new system allows customers to be charged the lowest fare they are eligible for automatically. These improvements are part of a broader strategy to improve the reliability and improve the customer experience. Also, they will build a more flexible and integrated multimodal transportation system that will help businesses thrive and improve the quality of life for residents and visitors alike.

Highway and Bridge

In developing the Highway and Bridge Capital Program, the Department strives to create a mix of projects that address the transportation mobility and safety needs of the entire state. We balance priorities using a variety of criteria such as safety, system preservation, mobility enhancements, and congestion relief. The Department also strives to maintain a balance between the urban and rural programmed work.

The Department's overriding focus remains on the preservation of the existing infrastructure. This means maintaining the State's road, bridge and transit facilities in a manner that ensures they last beyond their design life.

Complete Streets

Every personal trip includes a movement without a motor vehicle – perhaps walking, biking or using a wheelchair. The Department's policy is to enable safe, convenient, and comfortable travel for all citizens whether they are on foot, bicycle, or other mobility device. The Department is committed to

providing the balance of modes that Connecticut's residents and economy require. This concept of serving all transportation modes in an integrated manner is called "Complete Streets."

The Department has implemented a Complete Streets Policy for the whole agency through training, design guidance, funding, data collection, and plans to monitor the output through performance measures. Complete Streets is a means to provide safe access for all users (pedestrians, persons using mobility aids, bicyclists, transit users and vehicle operators) by providing a comprehensive, integrated, and connected multi-modal network of transportation options.

Connecticut law requires a comprehensive Complete Streets approach to the planning, design, construction and operation of public roads. Also, the law (Public Act No. 09-154) specifically requires that the Department expend at least 1% of the total annual budget for projects that provide facilities for cyclists and pedestrians. The Department has routinely exceeded this spending mandate. Over the last five years an average of 4.1% of the program has been used to create and enhance walkways, bikeways, and various associated amenities.

The Department awarded 56 projects in SFY 2020 that included elements for pedestrians or bicyclists, such as sidewalks, ramps, pedestrian signals, push-buttons, signs, and pedestrian/bicycle trails. The total dollars expended for these items was approximately $32.9 million in SFY 2020, which is about 5.6% of the SFY 2020 total funds awarded for the construction, restoration, rehabilitation, or relocation of roads in the state.

Roundabouts are a significant safety improvement as they result in an 80% reduction in severe crashes and a 50% reduction in overall crashes as compared to a typical intersection. As a result of these safety improvements, the Department is constructing roundabouts at select locations throughout the State. Roundabouts reduce delay and congestion, provide safe and defined pedestrian crossings, and are aesthetically pleasing. The Department has completed 10 roundabouts throughout the State, and another 11 locations are being considered.

The Capital Construction Program

The Department's ***Capital Construction Program*** is a subset of the overall capital funding program. The Capital Construction Program is multimodal, with highway and bridge construction constituting much of the program. The Capital Construction Program does not include equipment procurement, such as rail cars or replacement buses. It does, however, include projects such as the catenary replacement program and rail station construction.

Connecticut's infrastructure needs far exceed the financial resources to address them all. As a result, one of the main priorities of the Capital Construction Program is preservation of our existing multimodal assets and maintaining them in a State of Good Repair. The implementation of a formal Asset Management Program assists in the project selection decision making process.

For planning purposes, roughly 25% of the Capital Construction Program funding is utilized for preliminary engineering and the purchase of property rights for projects. The rest of the Capital Construction Program funding is dedicated to the construction phase. The construction phase includes:

- The amount of the awarded construction contract,
- *Plus* a contingency budget for extra work and change orders,
- *Plus* the Department's costs to manage and oversee the work, and
- *Plus* any utility relocation costs.

A summary of the project delivery statistics for the previous two years in addition to the estimated figures for FFY 2021 are shown in the table below. (Note: all dollar amounts are in millions, values only represent Department advertised low bid contracts).

	FFY 19	FFY 20	FFY 21*
Number of Projects	64	80	58
Construction Bid Amount	$391	$486	$523
Total Construction Cost	$489	$608	$654

*FFY 21 figures are estimated

From the table above, it's important to note that the number and dollar amount of projects fluctuates on an annual basis. In some years there are many smaller projects being advertised; in other years, a mega project may be delivered that will be paid over several years.

The Department manages and funds a multitude of capital projects and programs not captured above. These other programs include:

- Town advertised projects and funding programs such as the Federal and State Local Bridge Programs, LOTCIP, Town-aid Road Grants, and Community Connectivity Grants,
- Projects directly performed by AMTRAK and Metro-North on the Department's behalf,
- Preservation projects utilizing contractors selected through DAS contracts, and
- Projects procured using alternative contracting methods such as CM/GC and design-build.

The Department's overall Capital Plan includes all these elements in addition to the projects directly bid through its Contracting Unit. In FFY2020, the Department administered 285 projects at a value of $1.2 Billion. In FFY2021, the Department anticipates administering 323 projects with a value of $2.1 Billion. See Figure F and Figure G for more detail. (Note: FFY2021 is projected and includes the Walk Bridge program).

In addition to the values above, the Department is responsible for developing and administering contracts for rolling stock for transit operations and fleet and equipment purchases to support operations.

The attached 5-year Capital Plan contains information on the specific projects and programs contemplated for FFY2021 - FFY2025 as well as anticipated funding for each. The document, ***Projects Scheduled for Advertising,*** lists the specific projects and scheduled advertising date anticipated to be bid in FFY2021. The document can be found on the Department's website at: http://www.ct.gov/dot/cwp/view.asp?a=1399&q=260048.

Overall, the Department's capital program has been expanding over the years, consistent with the increased transportation investment levels. While the Department has been benefiting from these increased investment levels, the full benefit of this increase has been offset by the increased cost (inflation) of capital projects and the continuing deterioration of our existing assets over time.

Mode Specific Accomplishments and Plans for the Future

Public Transportation Capital Program

Bus

The Bus Capital Program supports transit services around the state including state-owned CT*transit* that operates in eight urban areas. The program also provides funding for vehicles, facilities and other infrastructure supporting both fixed route and paratransit services operated by transit districts in urban and rural areas around the state. These services together serve 40 million customers per year.

CT*fastrak* continues to provide a best-in-class customer experience and provides a catalyst for economic development in many communities. CT*fastrak* from its opening in March 2015 through the end of SFY2020 has carried 17 million customers.

The Department with the City of New Haven and the Greater New Haven Transit District completed the Move New Haven bus study in late 2019. CTDOT has convened a technical committee, and preliminary design will be initiated in 2021 to implement the study recommendations. They include two new on-street bus rapid transit (BRT) services as well as improvements to bus stops and schedules on other routes. Funding is not yet available for the construction and operation of the two BRT services.

CTDOT is committed to environmental sustainability, which begins with the transition of its all diesel bus fleet to an all-electric bus fleet. CTDOT has procured 12 Battery Electric Buses to be used in the CT*transit* New Haven and Stamford service areas. This project will also include the associated electrical modifications and charging infrastructure for both the CT*transit* New Haven and Stamford Bus Maintenance facilities. The project leverages $4.9 million in 2018 Volkswagen NOx Mitigation Trust funding, administered by the Connecticut Department of Energy and Environmental Protection (DEEP), with $10.2 million in CT DOT funding, using a combination of FTA 5307 federal funds and state matching funds for an estimated project value of $15.1 million.

We are also working to advance a first in the nation, state-of-the-art, pilot project that tests the performance and operation of full size, automated battery-operated electric buses (BEB) in revenue service on CT*fastrak*. This demonstration project will deploy three 40' New Flyer Excelsior Charge BEB equipped with increasing levels of driving automation capable of up to high automation (SAE Level 4). Automated driving capabilities will include steering, accelerating and braking, precision docking at CT*fastrak* station platforms and vehicle platooning. The automated bus program will increase CTDOT's familiarity with this emerging technology, which is expected to increase public safety and prepare the agency for more widespread adoption of automated vehicles of all types in the years to come.

CTDOT is looking for ways to more efficiently deliver transit services throughout the state. For example, there are opportunities for certain transit districts to share facilities.

The Department, in cooperation with the Lower Connecticut River Valley Council of Governments, Middletown Area Transit (MAT) and Estuary Transit District (ETD), recently completed a regional transit study. After reviewing the assets and services offered in the region it has been determined that that there are synergies associated with integrating these two districts. To facilitate this effort, an expansion and improvement of the current MAT maintenance facility is needed. The Department has initiated the purchase of a 2.32-acre parcel across the street from the existing site and planned an expansion of the current facility to accommodate MAT's and ETD's combined needs.

CTDOT with cooperation of UCONN and the Windham Region Transit District (WRTD) has been working to build a regional service that benefits the university and general public. As a result, the Department has initiated an expansion of the WRTD facility that will fully accommodate the needs of a combined service and the addition of electric buses to the fleet.

Design has been completed on a new CT*fastrak* commuter lot in Farmington and is anticipated to be constructed in 2021. Design improvements are also underway in Manchester for the Buckland Commuter Lot and the Spencer Street Commuter Lot and adjacent on street stops.

Rail

Hartford Line service began in June 2018 with ridership that grew from 350,000 to over 730,000 annual trips in 2019. The COVID-19 effects on ridership caused a dramatic decrease in the spring of 2020. Since that time, the ridership gradually returned until mid-October when a COVID-19 resurgence caused a second reduction in the ridership numbers.

Since the start of the pandemic, the ridership on the Hartford Line has been recovering at a higher rate than any other rail service in the state. Expansion of this successful service continues with the construction of short high-level platforms in Windsor that will meet the needs of the service for the foreseeable future. Also, design is nearing completion for the Windsor Locks Station, which will replace the low-level platform located on the outskirts of Windsor Locks with a high-level platform, with full passenger amenities, located in the center of town. This project has enabled several Transit Oriented Development projects in Windsor Locks.

The Rail Capital Program includes investments in Connecticut's six passenger rail lines. The current program shifts emphasis from capacity projects to speed and reliability improvements. Specifically, the Department is initiating design on bridge replacement, track re-alignment, and signal modifications. The projects will increase maximum authorized speeds to 90 mph between Milford and Bridgeport. These investments, along with planned super-express, limited stop train services, are a down payment on a longer-term plan to improve the efficiency and attractiveness of rail travel for Connecticut residents.

The Department in partnership with Metro-North Railroad (MNR) is on schedule to implement the requirements of the Railroad Safety Improvement Act of 2008 (RSIA), with the principal responsibility of installing the Positive Train Control (PTC) systems on the New Haven Line, by the December 31, 2020 deadline. The system is designed to monitor train activity, prevent collisions, and convey and enforce speed restrictions.

The New Haven Rail Yard (NHRY) capital investment program continues with the East End Connector and West End Yard projects adding increased flexibility for operations in and out of the Component Change Out (CCO) Shop and adding more electrified storage tracks for 77 cars. Major rehabilitation projects are in development for the Car and Diesel Maintenance Facility and the second Wheel Mill Facility. These facilities require immediate attention to be able to support new rail cars and an expanded locomotive fleet.

The Department continues the overhaul program of the GP40 diesel locomotives with deliveries to start in late first quarter 2021. The first four M8 rail cars have arrived with the additional 62 M8s for the New Haven Line arriving later this year. The Department also began work on a long-term fleet strategy for Shore Line East and the Hartford Line. The initial focus of the fleet plan will be replacement of the 35-year-old Mafersa rail cars followed by the purchase of new locomotives. The Department has received proposals for the purchase of 60 new rail cars that will replace the Shore Line East and Hartford Line fleet. The schedule to award the contract by end of first quarter of 2021 is critical to the Hartford Line, which is currently relying on equipment being leased from the MBTA.

The multi-phase effort to replace the outdated and unreliable fixed tension overhead electrification system with a modern constant tension overhead electrification system along the New Haven Line will be complete by the end of January 2021. This effort not only significantly increases the reliability of electric train service but will also support higher speed service planned in the future. The aging substations along the New Haven line are prone to failure and can cause a major disruption in electric train service. However, the Department has additional projects in development to replace aging supply substations along the New Haven Line.

Another major project involves the Walk Bridge. This is the oldest movable bridge along the New Haven Line and Northeast Corridor in Connecticut, which is the busiest commuter rail line in the nation. Construction of CP243, a new railroad interlocking east of Norwalk will facilitate train movements and reduce delays during construction of the bridge and is advancing on schedule. Work on Danbury Dock Yard, which provides a turnaround location for trains, will further reduce train traffic on the bridge and is nearing completion. The design for Walk Bridge will be completed this year and work on the moveable span could begin as early as August of 2021. Additionally, several fixed bridges will be replaced as well as upgrades to the East Norwalk Railroad Station as part of the overall program.

The installation of a Cab Signal System with Automatic Train Control on the 27-mile Waterbury Branch is on schedule for completion at the end of 2021. The branch line is currently manual signal block territory where only one train is allowed on the entire branch line at a time. Signalization of the branch line will install modern cab signal technology so multiple trains could safely occupy the branch line simultaneously, therefore resulting in increased train capacity and safer train operations.

Maritime

The Department continues to operate the two Connecticut River ferries, the Rocky Hill/Glastonbury Ferry and the Chester/Hadlyme Ferry. Routine repairs to vessels continue and the replacement of the pilings/dolphin piles at both the Rocky Hill/Glastonbury Ferry and the Chester/Hadlyme Ferry has been completed.

Highway and Bridge Capital Program

Highway and Bridge

The Capital Construction Program's emphasis is toward preservation of the Department's multimodal assets. The financial summary page of the ***FFY 2021–2025 Capital Plan*** is presented as Figure A and is a useful reference for this discussion. The full document, however, presents specific projects and activities and their funding planned over the next five-year period.

The Highway and Bridge Construction Program is the largest modal component of the Capital Construction Program. As noted earlier in this report, Connecticut is heavily dependent on federal funding for all modes. The 2021 Capital Construction Program funding plan includes a variety of projects, from small local bridges and intersection improvements to the continuation of major projects. The Department works to develop a mix of projects that address the transportation mobility and safety needs of the entire state. This also produces a program that can be designed and constructed by firms of various sizes and specialties.

A sizeable portion of the money available for the 2020 Capital Construction Program was used on several major initiatives such as:

- Reconfiguring the ramps on and off the Charter Oak Bridge in Hartford / East Hartford,
- I-91 Resurfacing, Bridge, and Safety Improvements in Wethersfield,
- Safety and Capacity Improvements on I-84 in West Hartford,
- Resurfacing, Bridge, and Safety Improvements on I-84 in Newtown,
- Rehabilitation of the Arrigoni Bridge in Middletown/Portland,
- Rehabilitation of the I-84 and RT 8 interchange in Waterbury,
- Construction of a segment of the Merritt Parkway Corridor Improvement Project in Westport,
- Repairs to the Gold Star Bridge in New London, and
- Phase 2 of the Atlantic Street railroad bridge project in Stamford.

Looking towards 2021, major new initiatives include:

- Continued planning for improved mobility in the Greater Hartford area,
- Repairs to the northbound Gold Star Bridge in New London,
- Advancing the reconfiguration of the I-91/I-691/Route 15 Interchange in Meriden, and
- Advancing the preliminary engineering for the Route 7/15 Interchange.

The Department will also continue to advance the implementation plan for congestion mitigation for I-95 between New Haven and New York, while advancing the corridor study for I-95 between New Haven and Rhode Island. Design work will continue for the Traffic Signal Removal project on Route 9 in Middletown, and the last remaining segment of the Merritt Parkway Corridor Improvement Program in Norwalk.

Construction will continue in 2021 on the:

- Reconstruction of I-91 in the vicinity of the Charter Oak Bridge in Hartford / East Hartford,
- Rehabilitation of the I-84/Route 8 Interchange in Waterbury,
- Safety improvements and superstructure replacement of the Rochambeau Bridge on I-84 in Newtown, and
- Safety and Capacity Improvements on I-84 in West Hartford.

Construction will begin on the:

- Resurfacing and Median Replacement on Route 2 in East Hartford,
- Resurfacing and Safety Improvements to I-691 in Meriden,
- I-95 Resurfacing and Safety Improvements in Norwalk, and
- Other various Innovative Bridge Program Projects throughout the state.

The Department's projected outlook for construction commitments in 2021 through 2025 include:

- I-95 Improvements from the New York State Line to Exit 7 in Greenwich,
- I-95 at Route 161 Improvements in East Lyme,
- Continued Rehabilitation and improvements to the Goldstar Bridge in New London,
- Route 15 Resurfacing in New Canaan/Norwalk,
- I-95 Bridge Widening and Operational Improvements in West Haven,
- Reconstruction of the Swing Bridge in Haddam / East Haddam,
- Reconstruction of Route 8 in Derby, and
- I-91/ I-691/ Route 15 Interchange Improvements in Meriden.

Traffic signals are a key asset class in CTDOT's highway transportation network and play a vital role in support of the Department's mission to provide a safe and efficient transportation network in Connecticut. We operate over 2,500 traffic signals – more than all the other New England state DOT's combined. To improve traffic signal operational efficiency and safety while reducing delays to motorists the Department is planning a 10-year program for the systematic upgrade of traffic signal equipment. Targeted investment in our traffic signal system will provide improvements in safety, improved air quality, reduced congestion and travel efficiency for commuters, transit passengers, and pedestrians across Connecticut. This will provide infrastructure at signalized intersections that better addresses the needs for all roadway users.

Complete Streets

Bicycle / Pedestrian / Trails

The Department continues to manage a more flexible approach to the funding of Bicycle/Pedestrian projects to close some of the existing statewide gaps in the trail network. Toward this goal, the Department is facilitating completion of a network of inter-connected, statewide trails under the Multi-use Trail Implementation Plan. This program is focused on the East Coast Greenway (ECG), which is classified as a trail of statewide significance. The goal is to establish clear priorities that will close the most critical gaps and create long continuous portions of the statewide trail network.

Construction activities are complete on some ECG projects, including a 2-mile multiuse trail segment in Bloomfield (Project No. 11-152), rehabilitation of the Hop River Trail Bridge in Windham (Project No. 163-204), and the easternmost half-mile segment of trail in Sterling (Project No. 108-189). Construction is currently underway on the ECG in the towns of Pomfret and Putnam for the construction of two bridges and three underpasses (Project No. 111-124).

Design activities are complete on a section of the ECG in New Haven under Project No. 92-621 as well as in Norwalk on the Norwalk River Valley Trail (Project No. 102-350). Design activities are underway on the following projects along various segments of the ECG:

- Project No. 108-189 in Plainfield/Sterling,
- Project No. 131-203 in Southington,
- Project No. 30-97 in Columbia, and
- Project No. 109-173 in Plainville.

The Office of Engineering is also working with the Towns of Bloomfield and Simsbury to design a segment of the ECG under the LOTCIP program and with the Town of Killingly to design a segment of the ECG under the Community Connectivity and DEEP recreational trails programs.

Americans with Disabilities Act (ADA) Engineering Coordination

The Department has established an Americans with Disabilities Act (ADA) Engineering Coordination Section to oversee the implementation of the Department's federally required ADA Transition Plan. This group addresses ADA related complaints, assists designers in bringing facilities into ADA compliance, and documents locations where future scopes of work need to incorporate ADA compliant improvements. A new curb ramp inventory and compliance database is anticipated to be implemented this year. Implementation efforts through CTDOT Engineering and Construction, CTDOT Highway Operations, the Council of Governments (COGs) and FHWA are being coordinated.

Conclusion

The Department's Capital Program continues to be focused on a State of Good Repair, while also planning for and designing affordable system enhancements that can fit within our fiscally constrained program. New emphasis areas include upgrading the condition and technology of the state's traffic signal system; developing projects and programs that directly reduce our carbon footprint and other air emissions; targeted improvements to our highway system to reduce congestion and improve mobility; and implementing corridor improvements along the New Haven Line that result in reduced commuter time to and from New York City.

The federal component of the transportation Capital Program has been stable for many years and will likely remain that way for the foreseeable future. The state capital funding stream from the Special Transportation Fund (STF) requires attention to ensure funding certainty and solvency in the coming years.

The Department of Transportation's goal is to optimize the capital funding for all its transportation modes and to continuously improve its ability to deliver maximum infrastructure improvements for each dollar expended. The Department achieves this in the following ways:

- Obtaining and using all the federal funds allocated to the state.
- Receiving tens of millions of dollars of funds other states could not obligate on schedule.
- Utilizing all the appropriated state funds as soon as practical.
- Working with the Governor's Office, the Legislature and other state and federal agencies to identify and/or create additional sources of funding and to be successful in competitive discretionary grant programs.
- Using advance construction on major projects while managing financial risk and deploying a mixture of projects to meet the many needs of the state.
- Managing the Capital Program by allocating its resources in a manner that optimizes output. At the same time creating a variety of jobs and economic benefits: engineering, legal, public safety, materials production and sale.
- Improving project delivery to increase the Department's capacity to provide the State with higher quality transportation improvements.
- Enhancing transportation investment strategies through strategic planning and using an asset management approach to maintain our transportation infrastructure.

The Department will continue to balance the priorities for the Capital Program using a data-driven decision-making framework to assess a variety of criteria including asset management, safety, sustainability, and economic vitality.

Our ability to achieve these policy goals, and meet the mobility needs of the residents of the state, will continue to be limited without a sustainable financial mechanism to support the vision. The projected costs of the planned major highway and rail transportation improvements (I-84 Waterbury, I-84 and I-91 Hartford, I-95 East and West, and Moveable Bridges on the New Haven Line) likely exceed the resources of the current Capital Program. These large investments are critical to the State's economic vitality; therefore, the State must plan carefully to provide the necessary support for our transportation infrastructure now, and into the future.

Figures

Figure A

Department of Transportation FFY 2021 - 2025 Capital Plan

	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025
Highway and Bridge					
Available Funding:					
Federal Funding	$ 680,900,882	$ 601,084,370	$ 599,694,808	$ 599,694,808	$ 599,694,808
State Funding (other than Ramp Up)	$ 1,186,198,378	$ 805,875,631	$ 702,072,189	$ 593,017,386	$ 563,689,999
Ramp Up State Funding	$ 438,961,310	$ 305,668,568	$ 202,368,568	$ 148,368,568	$ 72,804,657
Total Funding	$ 2,306,060,570	$ 1,712,628,569	$ 1,504,135,565	$ 1,341,080,762	$ 1,236,189,464
Less Funding for Programs not in Capital Plan	$ (282,781,411)	$ (88,207,088)	$ (88,207,088)	$ (88,207,088)	$ (88,207,088)
Less Anticipated Carryforward to next year	$ (661,769,518)	$ (418,684,154)	$ (245,637,592)	$ (140,776,294)	$ (21,333,716)
Total Funding Anticipate Utilizing	$ 1,361,509,641	$ 1,205,737,327	$ 1,170,290,885	$ 1,112,097,380	$ 1,126,648,660
Programmed Amount (In Capital Plan)	$ 1,361,509,641	$ 1,205,737,327	$ 1,170,290,885	$ 1,112,097,380	$ 1,126,648,660
Public Transportation					
Available Funding:					
Federal Funding	$ 506,206,161	$ 209,918,651	$ 222,207,451	$ 207,122,651	$ 224,062,651
State Funding (other than Ramp Up)	$ 374,018,893	$ 262,060,200	$ 281,271,200	$ 283,310,000	$ 278,425,000
Ramp Up State Funding	$ 932,000,000	$ 785,000,000	$ 677,000,000	$ 295,000,000	$ 185,000,000
Total Funding	$ 1,812,225,054	$ 1,256,978,851	$ 1,180,478,651	$ 785,432,651	$ 687,487,651
Less Funding for Programs not in Capital Plan	$ (247,538,738)	$ -	$ -	$ -	$ -
Less Anticipated Carryforward to next year	$ (798,940,200)	$ (687,471,200)	$ (303,310,000)	$ (188,425,000)	$ -
Total Funding Anticipate Utilizing	$ 765,746,116	$ 569,507,651	$ 877,168,651	$ 597,007,651	$ 687,487,651
Programmed Amount (In Capital Plan)	$ 765,746,116	$ 569,507,651	$ 877,168,651	$ 597,007,651	$ 687,487,651
Facilities					
Available Funding:					
State Funding	$ 48,974,059	$ 55,710,000	$ 81,050,000	$ 31,827,000	$ 30,198,200
Less Anticipated Carryforward to next year	$ -	$ -	$ -	$ -	$ -
Total Funding Anticipate Utilizing	$ 48,974,059	$ 55,710,000	$ 81,050,000	$ 31,827,000	$ 30,198,200
Programmed Amount (In Capital Plan)	$ 48,974,059	$ 55,710,000	$ 81,050,000	$ 31,827,000	$ 30,198,200
Total All Modes					
Available Funding:					
Federal Funding [1]	$ 1,187,107,043	$ 811,003,021	$ 821,902,259	$ 806,817,459	$ 823,757,459
State Funding (other than Ramp Up) [2] [3] [6]	$ 1,609,191,330	$ 1,123,645,831	$ 1,064,393,389	$ 908,154,386	$ 872,313,199
Ramp Up State Funding [2] [6]	$ 1,370,961,310	$ 1,090,668,568	$ 879,368,568	$ 443,368,568	$ 257,804,657
Total Funding	$ 4,167,259,683	$ 3,025,317,420	$ 2,765,664,216	$ 2,158,340,413	$ 1,953,875,315
Less Funding for Programs not in Capital Plan [4]	$ (530,320,149)	$ (88,207,088)	$ (88,207,088)	$ (88,207,088)	$ (88,207,088)
Less Anticipated Carryforward to next year [5]	$ (1,460,709,718)	$ (1,106,155,354)	$ (548,947,592)	$ (329,201,294)	$ (21,333,716)
Total Funding (Federal and State) Anticipate Utilizing	**$ 2,176,229,816**	**$ 1,830,954,978**	**$ 2,128,509,536**	**$ 1,740,932,031**	**$ 1,844,334,511**
Programmed Amount (In Capital Plan)	**$ 2,176,229,816**	**$ 1,830,954,978**	**$ 2,128,509,536**	**$ 1,740,932,031**	**$ 1,844,334,511**

[1] Includes current year federal funding, earmarked funds, as well as prior year carryforwards and funds released from completed projects that are available for reobligation.
Earmarked funds are not shown as carryforward, but rather included in the year in which they are anticipated to be obligated.
Federal levels are based on FFY 2020 levels under the last year of the FAST Act because a new Transportation Act has not yet been legislated.

[2] The five-year ramp up ended in FFY 2020 and the State's Regular Bond Program authorized for FFY 2021 does not include funding increases to reflect the transition to a "ramped-up" regular program.

[3] State funding amounts do not include Cost of Issuance, Aviations, Maritime, Town Aid Road or Highway and Bridge Renewal Equipment.

[4] Programming for Federal Transit Sec. 5305 MPO Planning funds and Sec. 5337 funds for Hartford is not included in the Capital Plan.
Programming for National Highway Traffic Safety Administration (NHTSA) funding is not included in the Capital Plan.
Programming for LOTCIP and Local Bridge programs is not included in the Capital Plan as they are administered as grant programs.

[5] Carryforward funds do not include earmarked funding as they are not available for general use.
State Carryforward includes authorized but unallocated as well as allocated but unallotted funds.

[6] All references to "Ramp Up" State funding are associated with funds provided under PA 15-1, Sec. 232-233.

Figure B

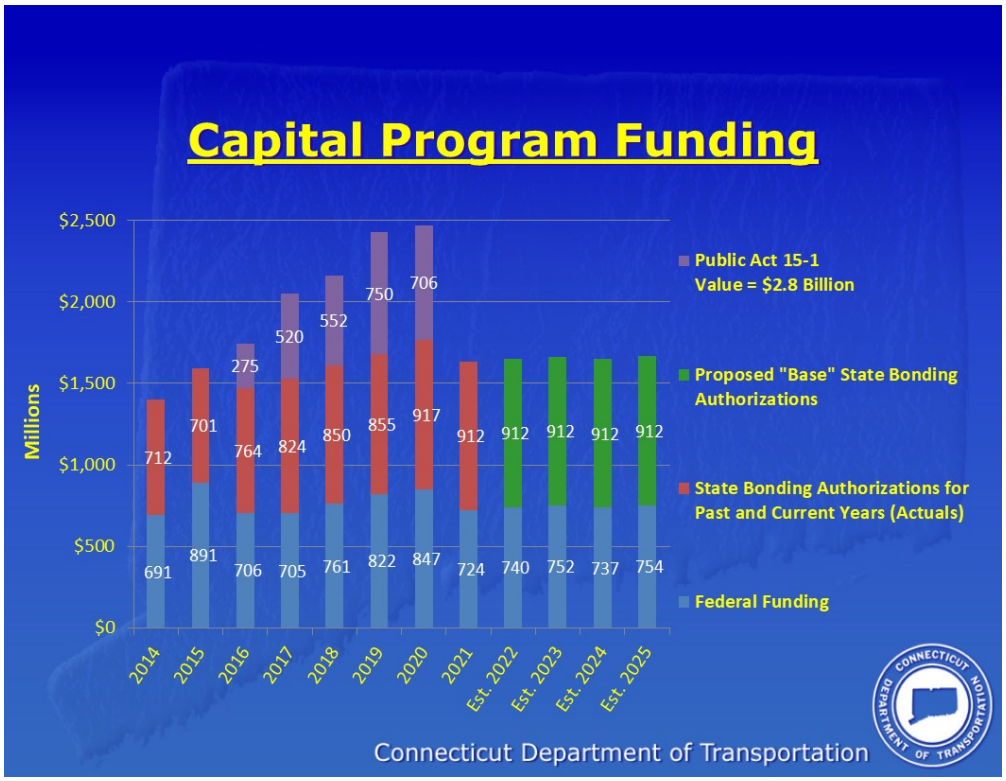


Figure C

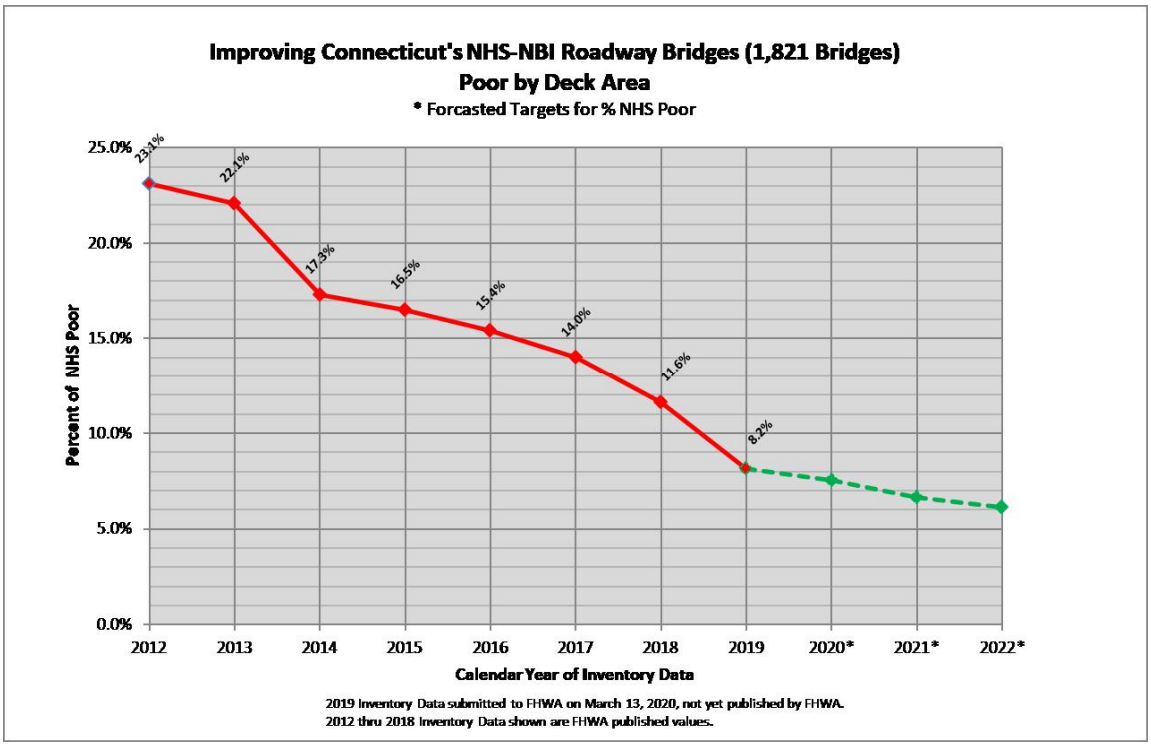


Figure D

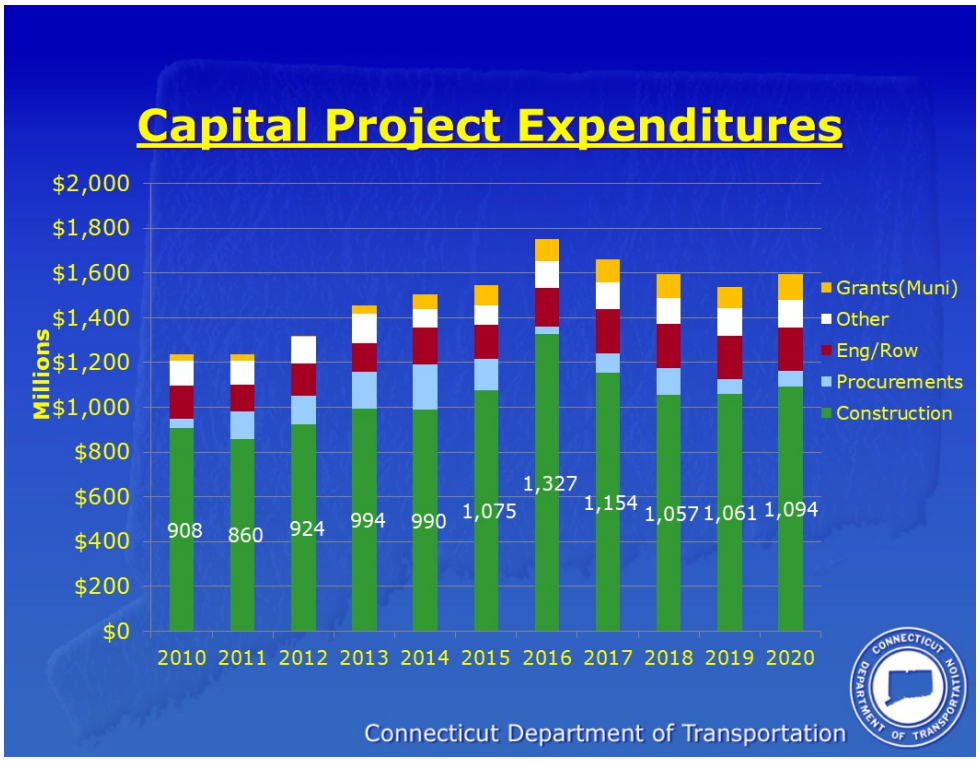


Figure E

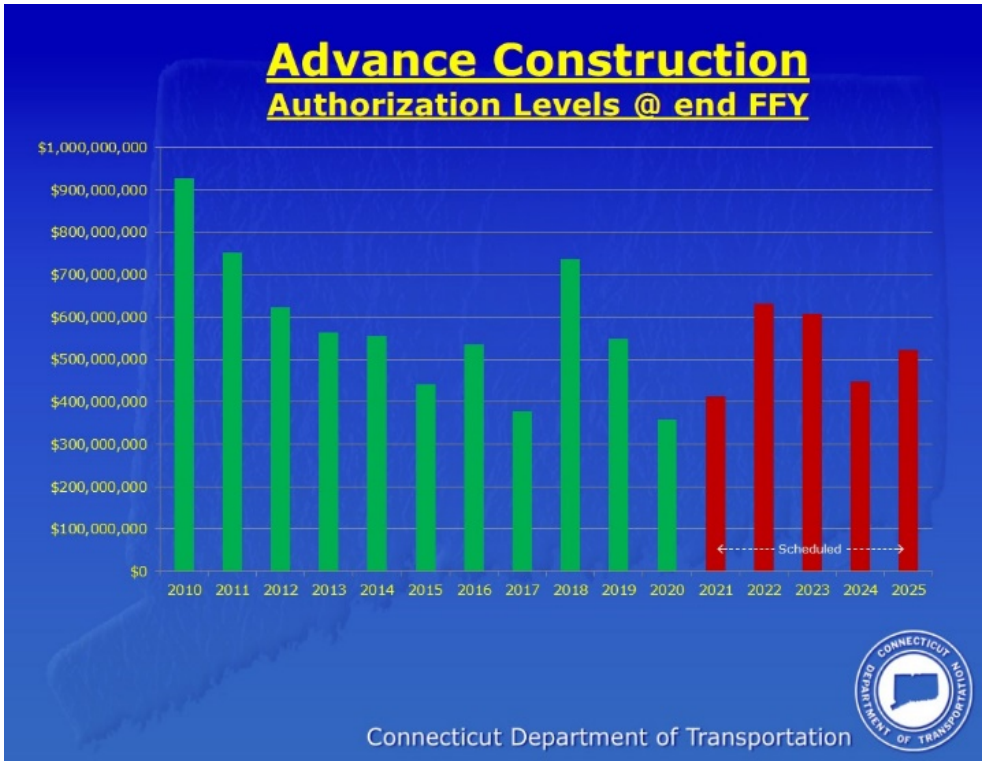
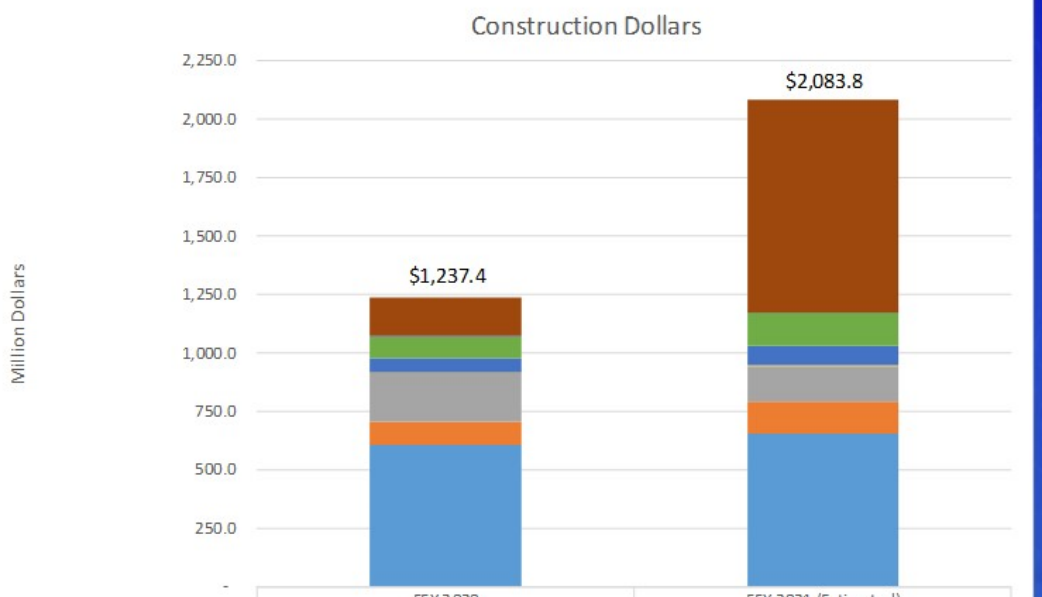


Figure F

FFY 2020 and FFY 2021 (est.) Construction Dollars

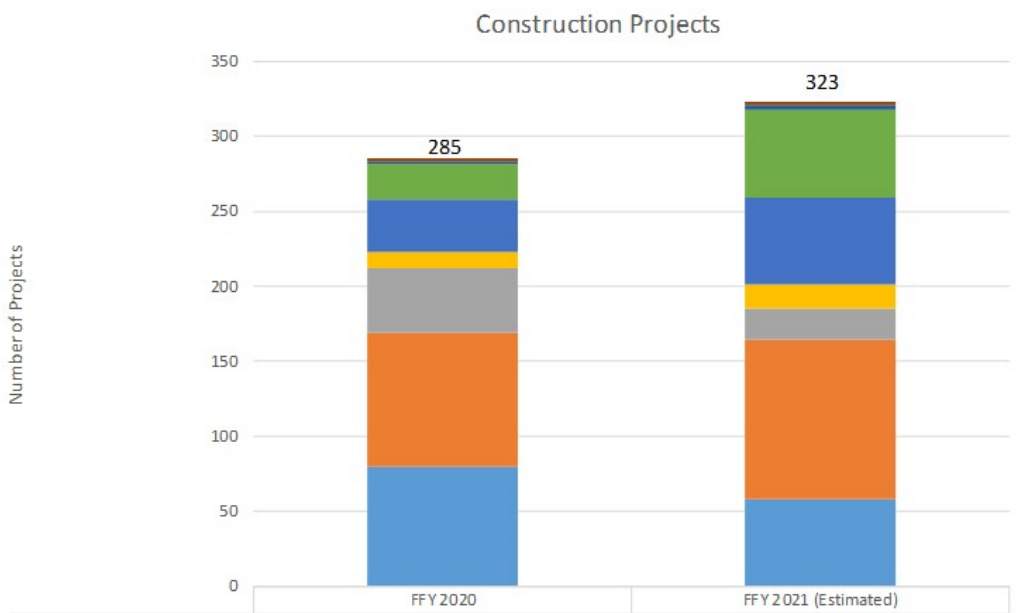


	FFY 2020	FFY 2021 (Estimated)
Alternative Contracting	165.0	910.2
Emergency Declarations	2.2	2.0
Grants	93.6	143.4
Municipal Projects	59.4	80.1
Environmental Compliance	0.6	6.5
Public Transportation	212.8	149.9
Maintenance	95.8	137.8
Capital Construction Program	608.0	654.0

Connecticut Department of Transportation

Figure G

FFY 2020 and FFY 2021 (est.) Construction Projects



	FFY 2020	FFY 2021 (Estimated)
Alternative Contracting	2	2
Emergency Declarations	2	3
Grants	23	59
Municipal Projects	35	58
Environmental Compliance	11	16
Public Transportation	43	21
Maintenance	89	106
Capital Construction Program	80	58

Connecticut Department of Transportation