

**Transportation Capital Infrastructure Program
Capital Plan Update Report
2022 - 2026**



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Prepared by the Bureau of Engineering and Construction

Chief Engineer's Office

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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) informs the Department's stakeholders about the past year's program and outlines the plan for the upcoming year. Specifically, the Report will cover the 2021 Capital Infrastructure Program (for state advertised and administered contracts) and outline the plan for 2022 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.

In the fall of 2021, Congress passed the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). The BIL funds the transportation program for five years (FFY22-26) subject to annual appropriations. The BIL provides Connecticut with approximately \$5.38 billion in federal transportation funding over the five years, which is an increase of \$1.6 billion over the levels authorized in the previous federal legislation, the FAST Act. The BIL maintains the FAST Act highway program while providing a focus on safety, bridges, climate change, resiliency, and project delivery. The BIL also creates more than a dozen new highway programs, including: reducing carbon emissions, increasing resiliency, reconnecting communities, and rehabilitating bridges in critical need of repair. For FTA, the BIL provides new and increased funding for State of Good Repair and Low or No Emission Grants, while continuing the existing structure for FTA programs with significant funding increases. FTA has established four priorities for implementation of the BIL: Safety, Modernization, Climate and Equity.

This increased federal investment, along with the ongoing robust state-funded program, enables the following: repairing and rebuilding our roads and bridges; investing in major projects with safety, equity, resiliency, and operational improvements as an emphasis; bringing Connecticut's rail assets into a state of good repair; improving speeds on the rail lines through the largest federal investment in passenger rail in the past 50 years; and, moving Connecticut forward in reducing transportation emissions and accelerating investments in a cleaner, more equitable and resilient transportation system.

The increased level of funding is good news for the state's transportation system. There are some challenges as the legislation moves from law to guidance to implementation. The Department is taking a phased approach to be ready for the short-term (FY22- FY23) while planning for the longer-term (FY24-26). As guidance and more information is provided by our federal partners,

the vision that is captured in this legislation will be implemented. Unlike prior Capital Plan Reports, this version of the Capital Plan Report is an update due to the recent passage of the BIL and the pending guidance from federal funding agencies. As more guidance and information is released by the U.S. Department of Transportation (USDOT), this capital plan will be refined in collaboration with our stakeholders over the next several months. The final version of the Capital Plan Report is expected to be published by early summer 2022.

Recognizing that federal rules and eligibility requirements will apply to the expanded federal funding, the Department advanced projects already in the design pipeline. This is the most viable approach to effectively utilize all available federal funds in the near term. In the highway and bridge program alone, the Department has accelerated approximately \$300 million worth of projects into FY22. A similar approach will be used for FY23. The rail and transit program has also accelerated design efforts in FY22 to position the program for the increase in federal funds through the existing FTA program structure as well as the significant increase in Federal Railroad Administration competitive funding opportunities.

The Department is also taking steps to expand our internal and external project delivery capabilities to support the expanded transportation program. The Department is moving forward with higher funding levels to support our asset management initiatives, many of which can be implemented in a quick fashion. For FY24-26, additional projects are being initiated to replace the projects that were accelerated, as well as to meet the higher funding levels. Design projects that are initiated in FY22 and FY23 will lead to construction projects in the outer years.

Although the reauthorization bill has been signed into law, as of the date of the publishing of this Capital Program update, Congress has not passed the FY22 Appropriations bill which provides the authorization to fully spend the apportioned funds. In addition, the language in the current continuing resolutions prohibits the availability of federal aid programs that were not authorized and funded in FY21. Therefore, new programs authorized in the BIL have not been funded at any level via the continuing resolutions. One exception is the Bridge Formula Program (BFP), which was provided apportionment for FY22 on January 14, 2022. In its notice, FHWA encouraged the use of BFP funds to address safety issues and to replace or rehabilitate highway bridges that are posted or restricted.

In addition to the formula funds, the BIL makes more than \$100 billion in competitive federal transportation grants available for Connecticut to pursue. The Department is establishing a dedicated Grants and Socio-Economics unit in the Bureau of Policy & Planning to support this initiative. This new unit will collaborate closely with and support the government relations office as well as key personnel from all Bureaus regarding grant applications. The availability of these discretionary grant programs provides even more opportunities for improvements to CT's transportation system. The Department and transportation stakeholders will be eagerly monitoring the federal Notice of Funding Opportunities (NOFO's) as they are released by USDOT. Many of the discretionary programs are also new and the USDOT is taking a phased approach in this area – releasing NOFO's for existing discretionary programs before tackling the new programs.

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 A). These additional funds have 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.

While maintaining our current assets is a priority, the Department is analyzing the state's transportation system to identify strategic investment opportunities to improve safety, reduce congestion, address inequities, enhance our bus and rail systems and service, and provide economic benefits to local regions - and the State as a whole.

For many of the State's major initiatives, this means pivoting existing studies to a new format - Planning and Environmental Linkages (PEL) studies. PEL is a process approach that considers environmental, community and economic goals in the very early planning phase of a transportation program. It is generally conducted before any project construction phasing is identified, and before specific problems and solutions are known. Though the process is used nationally as a tool for pre-NEPA activities, the major uses for CTDOT have been as follows:

- evaluate existing needs and deficiencies within the study/project area,
- engage with various stakeholders throughout the study/project area, including a Project Advisory Committee (PAC), which often represents many groups and organizations with interest in the Project. These include neighborhood groups, local and regional authorities, major employers, and advocacy groups.
- develop a draft purpose and need statement for such improvements,
- develop and evaluate concepts for improvements – including break-out, early-action or near-term projects that have demonstrated standalone benefit but are not necessarily dependent on the major initiative being examined under the PEL,
- identify potential environmental impacts within the study corridor, and
- screen concepts and develop a reasonable range of alternatives to carry into the NEPA.

The PEL studies are also intended to recommend class(es) of action under NEPA (EA, EIS, etc.) and the prioritization or phasing of those projects with respect to their importance and anticipated available funding. It is that component, the prioritization and phasing of projects, that is intended to allow the Department to strategically implement targeted investments to improve safety, mobility, and congestion around the State, which may serve as a catalyst for future economic growth along those corridors. Also, as some recommended projects may be spot improvements, they can be completed at a much lower cost than upgrading an entire corridor, while still providing many of the benefits of a much larger project.

The PEL studies currently underway include:

- I-84 in Danbury,
- Greater Hartford Mobility Study,
- I-84 / Route 8 interchange in Waterbury, and
- I-95 vicinity of exits 7-9 including Bridge No. 32 in Stamford.

Additional PEL studies will soon be underway for the I-95 corridor east of New Haven and a section of I-95 (Exits 19-27A in Fairfield and Bridgeport) identified in the 2018 I-95 West (of New Haven) study as a major bottleneck for northbound traffic throughout the corridor.

Funding was also made available for rail and bus initiatives, such as TIME For CT, the plan to increase train speeds and improve travel times on the passenger rail system; the Stamford Transportation Center; expanding the already successful Hartford Line service with new stations; purchasing new rail cars to operate throughout the State; transitioning the transit fleet from diesel-hybrid buses to battery-electric buses and deploying new bus stops and a state-wide real-time bus information system.

In the 2021 session, the Legislature passed HB 6688, a bill that establishes a highway use fee on certain heavy, multi-unit motor vehicles on the state's highways. Revenue from the fee will be directed to the Special Transportation Fund (STF). The fee is expected to generate about \$45 million in revenue in SFY23 and \$90 million annually thereafter. These funds will support an expanded Capital Program of approximately \$1.15 billion during SFY22-26. These funds will be utilized to support a variety of transportation initiatives including the following:

- Transit customer service enhancements,
- Transit service improvements,
- Expanded community connectivity program,
- Rural transportation improvement program,
- Wrong way driver countermeasures program,
- Additional Interstate truck parking, and
- Traffic signal modernization program.

All of these programs are in various stages of development and will have a place in the Capital Plan as they progress.

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, and the most recent Executive Order No. 21-3. The Department is pursuing projects that:

- Reduce greenhouse gas emissions and other air quality improvements,
- Improve 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, complete streets, and active transportation, increase the economic and social vibrancy, equity, safety, health, and livability of our communities. Projects that directly reduce our carbon footprint and improve air quality include:

- Installation of Electric Vehicle (EV) charging stations for visitors, employees, as well as our motor pool to begin the conversion of our state fleet to EVs,
- Solar energy development at our facilities to provide clean electric power and lower utility bills,
- Increasing frequency of existing, and introducing new, public transportation services,
- Continuing investment in multi-use trails to encourage active transportation,
- Expanding the Community Connectivity Grant Program and other programs to build-out accessible sidewalks, crosswalks, pedestrian safety measures, and bike infrastructure,
- Investing in roundabouts and road-diets to improve safety for all users, and
- Upgrading the electrical infrastructure at our bus transit garages to accommodate EV charging, and beginning to convert the state's transit bus to clean and quiet battery-electric buses (BEBs).

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 overall Capital Program.

In the recently concluded FY21, 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 \$2.25 billion in total Capital Program funding for all transportation modes in FY22. The robust program in 2022 reflects the fact that several large transportation initiatives are planned for release to construction. The 2022 capital program includes approximately \$844 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.

The \$2.25 billion included in the Capital Plan for FY22 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 individual projects funded under the State-funded Local Transportation Capital Improvement Program (LOTICIP), the Town Aid Road program, or the State-funded Local Bridge program. Rather, the respective program funding is identified in each year.

Asset Management

The Department continues to mature in its implementation of 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.

Federal Highway Administration (FHWA) requirements include: certification of the CTDOT (2018 & 2019) Highway Transportation Asset Management Plans (TAMP), 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.

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 guides 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, the group plan was developed in parallel to the Department's 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 guiding 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 of transit assets, 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 transit 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 2022, the Department is required to update both the Highway and Transit TAMPs.

Asset Fact Sheets are developed annually to provide current information on each of the 13 assets covered in the Highway and Transit TAMPs and are available on the CTDOT website. The Asset 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 guided by a Strategic Highway Safety Plan (SHSP). The 5-year plan is developed by safety stakeholders, who collaborate on safety efforts and leverage resources. The current SHSP was published in July 2017 and a new plan is being finalized for publication in 2022. Similar safety plans have been prepared and completed for each of the nine Councils of Governments (COG) in Connecticut.

In 2021, the Department issued the CTDOT Comprehensive Pedestrian Safety Strategy, outlining key tactics and programs to increase pedestrian safety across Connecticut as national trends and state data point to the need to address pedestrian fatalities and injuries. This strategy recommends a four-pronged approach to tackling pedestrian risks and increasing safety:

- **Speed:** to reduce and better manage traffic speeds in areas with significant pedestrian activity,
- **Crosswalks, Intersections & Streets:** to implement safer roadway design,
- **Public Awareness, Education & Training:** to increase awareness of the problem & promote safer, less risky behaviors, and
- **Integrated Safety Program:** to align policies and programs that strengthen the state's roadway safety program for motorists and non-motorists.

The CTDOT Comprehensive Pedestrian Safety Strategy also provides background and additional details on CTDOT's policies, funding programs, and initiatives that are playing a role to increase safety and reduce pedestrian fatalities and serious injuries.

The Department has dedicated staff to administer the 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 municipal and state roads.
- Statewide Traffic Signal Clearance Interval Retiming Project. Municipally owned and maintained signals are being reviewed 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. Locations in one half of the state are in construction and the remainder will be completed in 2023. The installation of horizontal curve signs on select municipally owned roads has been initiated and is currently in design.

- Rectangular Rapid Flashing Beacon (RRFB) installations at uncontrolled mid-block crosswalks on state and municipal roads. RRFBs are a Proven Safety Countermeasure and research indicates that there is a forty seven percent (47%) reduction in pedestrian crashes after installing an RRFB. RRFBs are a lower cost alternative to traffic signals and research has shown high motorist yielding rates. All locations on state roads are to be completed in 2023 and design of RRFBs at similar locations on municipal roadways will begin in 2022.
- High Friction Surface Treatment (HFST) installations are intended to mitigate the frequency of roadway departure crashes. These treatments will be completed at select locations on state roadways in 2022. This will be a rolling program that will address yearly new locations as they are identified.

The Department worked with the Connecticut Transportation Safety Research Center at UCONN to develop a state-of-the-art safety management system. The software tool allows network-level screening and diagnosis of CT's roads and safety appurtenances. The tool enhances countermeasure selection and safety effectiveness evaluation for use in project selection and development. As part of the recently passed Federal Infrastructure Investment and Jobs Act, States are required to complete a vulnerable road user safety assessment within two years. The software tool will be enhanced to provide this data.

Established in 2021 by the Connecticut General Assembly, the Vision Zero Council is an interagency work group tasked with developing statewide policy to eliminate transportation related fatalities and severe injuries involving pedestrians, bicyclists, transit users, motorists, and passengers. Regular meetings have been initiated, public advisory committees are being formed, and a website has been launched for the Vision Zero Council: [What Is The Vision Zero Council \(ct.gov\)](https://www.ct.gov/transportation/vision-zero-council) This Council will help to advise the Department, the legislature, and other state agencies, in ways to advance transportation safety in Connecticut.

Project Delivery

Delivery of high-quality projects within established budgets and schedules is a priority for the Department. The Department is pursuing this goal in multiple ways. Two major efforts are the implementation and further refinement of project delivery methods and project management tools. The major efforts related to project delivery methods is the implementation and refinement of alternative project delivery methods. The major efforts related to project management are the implementation and refinement of scheduling, process, and document control solutions.

Project delivery methods currently established for use by the Department, include Design Bid Build (DBB), Design Build (DB), Construction Manager at Risk (CMR), Construction Manager General Contractor (CMGC), and Public Private Partnership (PPP). Within the scope of each of these delivery

methods, the Department encourages the use of innovative construction and design techniques, and continual process improvement. The implementation of the multiple delivery methods and continual process improvement has allowed the increase of delivery capacity over the past year. The Department is continuing to leverage these resources to prepare for and deliver the expanded program funded by the federal infrastructure bill.

In addition to the contracting methods outlined above, the Department has also implemented processes and techniques to accelerate DBB project delivery when possible. Alternative contracting, and accelerated DBB have evolved into critical tools employed as part of the Department's strategy to expedite project delivery and deliver the expanded program.

The use of DB, accelerated DBB, and other methods allow the expansion and contraction of project delivery capability. 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, as well as the increased personnel needed to deliver the expanded Capital Program, the Department is presented with resource challenges to support specialized capital projects and implement innovative procurement processes.

Project Management improvement related to project delivery techniques include further refinement of scheduling, document, and process control software. The Department is using Microsoft Project to define the design and construction process into measurable tasks so the Project Manager can anticipate and mitigate delays. The Department continues to develop and implement a document and process control software system named COMPASS that can accept and track data from various sources, including project schedules, ROW, Environmental Permitting, cost estimates, document submittals, and transmittals, allowing project managers to better track and control schedules and costs. COMPASS provides Ball-In-Court document control functionality to more efficiently create, route for review, sign, approve and deliver project documents. Also, Microsoft Project templates were developed for a variety of project types and have been integrated into COMPASS to create tracking for design and construction tasks. This will allow the Department to develop program wide reports that can be used to track tasks that are late or at risk of being late. 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 seventy to eighty percent (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 and Fix-it-First Bridge,
- Local Transportation Capital Improvement Program (LOTICIP), 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 fifty to sixty percent (50-60%) of the total Capital Program funding, depending on the year (See Figure A).

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 several years to be delivered. Available Capital Program funding can also include funds released from completed projects, which become available to re-use.

Special Tax Obligation (STO) 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 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 the 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. Annually, the Office of the State Treasurer has typically issued \$850 million of STO Infrastructure bonds. 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 Fund

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 and the Department of Motor Vehicles (DMV). For several years annual STF expenditures (operating plus capital) have exceeded the annual STF revenues; therefore, the STF had been realizing a net annual deficit. Recently, the STF has realized an increase in revenues due to higher than anticipated sales tax and oil company receipts and a decrease in expenditures due to temporary federal support for transportation operations. According to the 12/20/21 forecast from the Office of Policy and Management, the STF is projected to end FY2022 with an operating surplus of \$255 million, and the STF fund balance on June 30, 2022 will be \$496 million.

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.

The Capital Plan assumes a federal funding level of approximately \$1.0 billion. This includes anticipated FHWA, FTA, and NHTSA funding. Total new federal funding received for FFY 2021 was \$811 million. It includes \$55.0 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.

Competitive and Discretionary Grants

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, 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.

The Bipartisan Infrastructure Law continues and expands the role of discretionary and competitive grant programs. State and local governments can look forward to these new & expanded competitive grant programs anticipated to launch over the course of the next year:

- Safe Streets and Roads for All (\$5B, new) – This program will provide funding directly to local governments to support efforts to advance “vision zero” plans and other capital improvements to reduce crashes and fatalities, especially for cyclists and pedestrians.
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants (\$15B, expanded) – RAISE grants support surface transportation projects of local and/or regional significance.
- Infrastructure for Rebuilding America (INFRA) Grants (\$14B, expanded) – INFRA grants will offer needed aid to freight infrastructure by providing funding to state and local government for projects of regional or national significance.
- Federal Transit Administration (FTA) Low and No Emission Bus Programs (\$5.6B, expanded) – BIL expands this competitive program which provides funding for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities.

- FTA Buses + Bus Facilities Competitive Program (\$2.0B, expanded) – This program provides competitive funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities.
- Capital Investment Grants (CIG) Program (\$23B, expanded) – The BIL guarantees \$8 billion, and authorizes \$15 billion more in future appropriations, to invest in new high-capacity transit projects.
- MEGA Projects (\$15B, new) – This new National Infrastructure Project Assistance grant program will support multi-modal, multi-jurisdictional projects of national or regional significance.
- Federal Highway Administration (FHWA) competitive grants for nationally significant bridges and other bridges (\$12.5B, new) – This new competitive grant program will assist in rehabilitating or replacing bridges, including culverts.
- FTA All Station Accessibility Program (\$1.75B, new) – This competitive grant program will provide funding to legacy transit and commuter rail authorities to upgrade existing stations to meet or exceed accessibility standards under the Americans with Disabilities Act.
- Charging and fueling infrastructure discretionary grants (Up to \$2.5B, new) – This discretionary grant program will provide up to \$2.5 billion in funding to provide convenient charging where people live, work, and shop.
- Reconnecting Communities Pilot Program (\$1B, new) – This new competitive program will provide dedicated funding for planning, design, demolition, and reconstruction of street grids, parks, or other infrastructure.
- Rural Surface Transportation Grant Program (\$2B, new) – This new competitive grant program will improve and expand surface transportation infrastructure in rural areas, increasing connectivity, improving safety and reliability of the movement of people and freight, and generate regional economic growth.

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 \$700 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, asset condition, 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 \$276 million in additional Federal funds. These funds came from other states or unused obligations and federal holdbacks.

In FFY 2021 the Department was extremely successful in its request, receiving and obligating \$55.0 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.

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 \$250 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 four 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 through an asset management approach, improve customer experience, and promote economic development. Key aspects of this program include a focus on climate change mitigation, resilience, equity, and safety while providing healthy and sustainable transportation options for all users.

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 (SFY19). Ridership levels on the public transportation system have been temporarily impacted by the COVID pandemic in SFY20 and SFY21. Rail ridership is approximately 50 percent (50%) of pre-COVID levels and bus ridership is approximately 70 percent (70%) of pre-COVID levels. Some ridership trends, such as the shift away from traditional five days per week commutation, are expected to remain beyond the pandemic; therefore, capital priorities for public transportation have shifted from capacity projects to travel time improvement, customer experience and reliability programs.

Public transportation remains an important part of the state's multimodal transportation system that serves a diverse set of users. This system helps businesses thrive, supports economic development, and improves 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 federal funding programs have a variety of eligibility criteria to encourage a wide distribution of the types of projects (highway, bridge, complete streets, etc.) as well as the magnitude (dollar value) of the projects. The Department's focus remains on the preservation of the existing infrastructure while integrating enhancements within these projects to improve the quality of life in the communities where the improvements are located. This means maintaining the State's road, bridge and transit facilities in a manner that ensures they last beyond their design life. Rehabilitating

and preserving an asset is more cost effective than having to engage in more costly replacement or reconstruction options.

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.

The Department completed a Road Diet study in June 2021. A road diet typically involves reducing the number of travel lanes and repurposing that space for other travel modes without physical modification to the roadway width. The purpose of the study was to evaluate implementing road diets as a systemic safety countermeasure and to improve access for alternative travel modes along multi-lane undivided state routes. The goal of the study is to identify roadways where a road diet could be utilized to improve safety and enhance alternative travel mode mobility on the State highway system. Candidate segments throughout the State have been identified and will be evaluated through future Department and Town coordination. Vendor in Place (VIP) and pavement preservation projects present opportunities for these recommendations to be implemented.

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 one percent (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 three-point-seven-five percent (3.75%) of the program has been used to create and enhance walkways, bikeways, and various associated amenities.

The Department awarded 45 projects in SFY21 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 \$21.9 million in SFY 2021, which is about three-point-eight percent (3.8%) of the SFY21 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 eighty percent (80%) reduction in severe crashes and a fifty percent (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 12 roundabouts throughout the State, and another 14 locations are being considered.

The Department also continued the Community Connectivity Grant Program in SFY21, awarding state bond-fund grants for 10 additional municipal projects. The program provides construction grants to municipalities for projects that improve facilities to connect pedestrians, bicyclists, and transit users to neighborhood, city, and town centers. The program has awarded grants to 90 projects over the last few years. The program is being expanded from \$10 million annually to \$15 million annually.

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, track speed improvements, and rail station construction.

Connecticut's infrastructure needs, like most states throughout the nation, exceed the financial resources to address them all. Therefore, having a clearly defined project purpose and need and committing the State's financial resources to the most critical transportation deficiencies is more important than ever. One of the main priorities of the Capital Construction Program is preservation of our existing multimodal assets and maintaining them through a systematic Asset Management Program.

For planning purposes, roughly twenty five percent (25%) of the Capital Construction Program funding is utilized for preliminary engineering and the purchase of property rights for projects. The remainder 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 2022 are shown in the table below. (Note: all dollar amounts are in millions, values only represent Department advertised low bid contracts).

	FFY 20	FFY 21	FFY 22*
Number of Projects	80	75	73
Construction Bid Amount	\$486	\$608	\$800
Total Construction Cost	\$608	\$760	\$1,000

*FFY 22 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 large project may be delivered that will be paid for 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 FFY2021, the Department administered 349 projects at a value of \$1.1 Billion. In FFY2022, the Department anticipates administering 392 projects with a value of \$2.0 Billion. See Figure B and Figure C for more detail. (Note: FFY2022 is projected and includes elements of 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 project listing contains information on the specific projects and programs contemplated for FFY22 - FFY26 as well as anticipated funding for each. This project listing contains projects that are expected to be financed with available funding. As new Federal programs are better defined and associated funding is distributed, adjustments will occur to add new initiatives and reprogram planned projects, while maintaining fiscal constraint. The document, Projects Scheduled for Advertising, lists the specific projects and scheduled advertising date to be bid in FFY22. The document is updated monthly and can be found on the Department's website at: [Capital Services - Programming and Scheduling](#). As discussed in the overview, this plan is a work in progress as the Department receives continued guidance and clarification from USDOT.

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. – The Consultant, Rider Levett Bucknall, reported that as of October 1, 2021, the construction cost (bid price) index “increased almost seven-point-five percent (7.5%), its largest annual increase since the start of the global financial crisis in 2007.” The index “tracks” the ‘true’ bid cost of construction, which includes, in addition to costs of labor and materials, general contractor and subcontractor overhead costs and fees (profit).”

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 *CTtransit* 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. Before the COVID pandemic, these services together served 40 million customers per year.

CTfastrak continues to provide a valued customer experience and provides a catalyst for economic development in many communities. *CTfastrak* from its opening in March 2015 through the end of SFY21 has carried 19.2 million customers.

At the direction of Governor Lamont per Executive Order 21-3, the Department is transitioning from diesel-hybrid buses to battery-electric buses. An initial order of 12 battery-electric buses is in progress. Seven BEBs ordered for the *CTtransit* New Haven Division have been received and placed into revenue service, while three more buses are nearing completion at the New Flyer bus manufacturing facility in Crookston, Minnesota. The *CTtransit* Stamford Division has broken ground on major improvements to support the bus electrification effort, with construction completion expected by summer 2022. Two BEBs for Stamford have also started initial assembly and are expected to be completed and delivered by March 2022. Five electric bus chargers purchased for Stamford are also scheduled to be installed and operating by March 2022.

The Department will be deploying 10 BEBs in the *CTtransit* Waterbury Division in the near future. This will be a one-for-one replacement of 10 existing diesel 35-foot buses. Equally as important is the preparation of the *CTtransit* Waterbury Division to handle the future one hundred percent (100%) electrification of the transit bus and paratransit fleet. Major project elements include a large expansion of the facility's electrical service, installation of facility switchgear and breaker panels to support the charging of the 10 BEBs and 10 DC fast chargers. The project also includes upsizing of the fire suppression system and other associated facility systems.

The Department continues to advance a first in the nation pilot project that tests the performance and operation of full size, automated battery-operated electric buses (BEB) in revenue service on *CTfastrak*. This demonstration project will deploy three 40' New Flyer Excelsior Charge BEBs equipped with increasing levels of driving automation. Automated driving capabilities include steering, accelerating and braking, precision docking at *CTfastrak* station platforms, and vehicle platooning.

Previously, the Department with the Greater New Haven Transit District, City of New Haven, South Central Regional COG completed a comprehensive plan for improved bus service in the greater New Haven area, called Move New Haven. Some initial recommendations to expand weekend and late-night bus service were implemented in 2021. The proposed bus rapid transit (BRT) routes along Grand & Dixwell Avenues as well as Whalley Avenue may be advanced in 2022 and 2023. The Department and City of New Haven will partner on the design for both BRT lines which will feature new bus stations, neighborhood connectivity projects and transit signal priority. The BRT projects are expected to qualify for future federal grant opportunities to build, operate and maintain the new lines.

Other bus capital initiatives include upgraded bus stops, signs, and shelters statewide to provide improved safety, comfort, and convenience for customers.

Rail

The cornerstone of the rail program in 2022 is TIME For CT (TIME), a comprehensive \$8-10 billion plan to upgrade rail speeds and improve rail travel time throughout Connecticut. The plan will rebuild rail bridges including four moveable bridges, straighten track curves, upgrade rail signals, and improve drainage. These improvements plus new rail cars and new train schedules will save 25 minutes from New Haven to New York City by 2035. The first TIME infrastructure project is now in the engineering phase and will reduce travel time and improve track speed in the Bridgeport/Stratford area. This project includes the replacement of five railroad bridges, track and curve improvements, and infrastructure upgrades to the signal, communications, and catenary system. The projects will increase maximum authorized speeds to 90 mph between Milford and Bridgeport. Overall, the Rail Capital Program includes investments in Connecticut's six passenger rail lines. The program reprioritizes investment from capacity projects to travel time improvement, customer experience and reliability programs.

The New Haven Rail Yard (NHRY) capital investment program is currently in construction 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/maintenance tracks for 77 cars in the west end of the yard. Major rehabilitation projects are in development for: demolition/replacement of the old Wheel Mill Facility to provide a second reliable wheel truing facility; and rehabilitation of the Car and Diesel Maintenance 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 that operate on the Hartford Line and Shore Line East service. All 12 GP40 locomotives are expected to be delivered and returned to service in 2022. Metro-North Railroad received initial deliveries of new M8 rail cars from Kawasaki Rail Car in 2021. The remaining new M8 rail cars for the New Haven Line are expected to be delivered and placed into service in 2022.

In addition to the ongoing locomotive overhaul program and new M8s, new rail cars are needed for Hartford Line service, including Amtrak and *CTrail* trains that operate on the line. The Department continues to resolve remaining approvals necessary to enable M8 train service on Shore Line East. Also, new rail cars for the Danbury Line and Waterbury Line will be provided by a future rail car procurement with Metro-North Railroad.

Another major project involves the WALK Bridge. This is the oldest movable bridge along the New Haven Line and the Northeast Corridor, 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 was completed in 2021 and start of construction is dependent on the receipt of permits. A separate but coordinated project under the TIME program will replace four fixed bridges in Norwalk and upgrade the East Norwalk Railroad Station. In 2022, planning for the replacement of the movable rail bridge over the Saugatuck River will also begin.

Investment in modernizing the Waterbury Line will continue in 2022, building on the recent completion of a new signal system and passing sidings. Currently, high-level platforms are being designed for five stations on the line, with a relocated station in Naugatuck. Also, engineering will get underway on the conversion of the former baggage room at Waterbury Station to a customer waiting area as well as a historically sensitive restoration of the external canopy, doors, and trim outside the baggage room.

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, in 2022, construction will begin on the new 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.

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. The Department has applied for a Connecticut DEEP grant to purchase an all-electric ferry for the Chester-Hadlyme ferry service. The Department is also evaluating a new off-board digital fare system to eliminate the handling of cash onboard the vessels.

Highway and Bridge Capital Program

Highway and Bridge

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 2022 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.

Note: The lists provided below are not intended to be all encompassing. They are typically higher dollar value Capital projects on the major state roadways. Safety, minor reconstruction, and complete streets projects are described elsewhere within their individual write-ups and within the comprehensive year by year project listing.

A sizeable portion of the money available for the 2021 Capital Construction Program was used on several major initiatives such as:

- Reconstruction of Route 2 in East Hartford,
- Reconstruction of the Route 82 Swing Bridge in Haddam / East Haddam,
- Reconstruction of Route 8 in Derby,
- Reconstruction of Route 34 vicinity of I-84 in Newtown,
- Reconstruction of I-95 in Norwalk/Westport,
- Reconstruction of Route 34 in Derby,
- Phase 1 of the Repairs to the I-95 Gold Star Bridge in New London, and
- Construction of a segment of the Route 15 Merritt Parkway Corridor Improvement Project in Norwalk and Westport.

Looking towards 2022, significant capital planning or engineering initiatives include:

- Continued planning for improved mobility in the Greater Hartford area,
- Improvements in the vicinity of I-84/ Route 7 in Danbury,
- Long-term improvements on I-95 east – Branford to Rhode Island,
- Long-term operational improvements vicinity of I-95/ Milford Connector / Route 1,
- Long term operational improvements on I-95 vicinity of Bridge 32 in Stamford,
- Advancing the preliminary engineering for the Route 7/15 Interchange, and
- Planning for improvements on I-95 in Bridgeport and Fairfield.

Construction will continue in 2022 on the:

- Reconstruction of Route 15 and I-91 in the vicinity of the Charter Oak Bridge in Hartford / East Hartford,
- Rehabilitation of the I-84/Route 8 Interchange structures in Waterbury,
- Safety improvements and superstructure replacement of the Rochambeau Bridge on I-84 in Newtown,
- Safety and Capacity Improvements on I-84 in West Hartford, and
- Resurfacing, Rehabilitation, and Safety Improvements of Route 15 in Norwalk/Westport.

The Department's projected outlook for new construction commitments in 2022 include:

- I-95 at Route 161 Improvements in East Lyme,
- Resurfacing and Safety Improvements to I-691 / Route 66 in Meriden,
- I-95 Bridge Widening and Operational Improvements in West Haven,
- I-91 improvements vicinity of Colt Building in Hartford,
- I-95 improvements vicinity of Exit 7 in Stamford,
- Improvements in the vicinity of Route 9 and Route 17 in Middletown,
- Resurfacing and Safety improvements to I-95 NB in Groton / North Stonington,
- Resurfacing, Rehabilitation, and Safety Improvements of Route 15 in New Canaan/Norwalk, and
- Other various Innovative Bridge Program Projects throughout the state.

The Department's projected outlook for new construction commitments in 2023 through 2026 include:

- Continued Rehabilitation and improvements to the Goldstar Bridge in New London,
- Resurfacing and Safety improvements to I-95 southbound in Groton / North Stonington
- Traffic Signal removal and Improvements to Route 9 in Middletown,
- Improvements to Routes 63, 64 and I-84 in Middlebury,
- Reconstruction of Route 2 in Colchester,
- Operational improvements to Route 15 vicinity of Interchange 59 in New Haven,
- I-91/ I-691/ Route 15 Interchange Improvements in Meriden,
- Reconstruction of the Route 7/15 interchange, and
- Breakout projects from the various planning studies noted above.

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.

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 is nearing completion on the ECG in the towns of Pomfret and Putnam for the construction of two bridges and three underpasses (Project No. 111-124). In addition, Construction began to extend the ECG south in New Haven under Project No. 92-621 and to extend the Norwalk River Valley Trail (Project No. 102-350).

Design activities are complete on a section of the ECG in Southington (Project No. 131-203) as well as for trails connecting the Putnam Bridge to Wethersfield and Glastonbury. Design activities are also underway on the following projects along various segments of the ECG:

- Project No. 108-189 in Plainfield/Sterling,
- Project No. 30-97 in Columbia,
- Project No. 109-173 in Plainville, and
- Project No. 111-126 in Pomfret and Putnam.

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.

The new federal transportation legislation provides many opportunities for enhancing the commitment to these types of improvements. The Department's transportation alternatives (TA) working group will meet with the COGs to discuss changes to the TA program, increased funding levels and management of the program.

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, Council of Governments (COGs), and FHWA are being coordinated.

Conclusion

The Department's Capital Program continues to be focused on an asset management approach, while also planning for and designing affordable system enhancements that can fit within our fiscally constrained program. New emphasis areas include improving pedestrian and vehicular safety, 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 is expanding with passage of the BIL and provides a higher base funding level for future transportation reauthorizations. The state capital funding stream from the Special Transportation Fund (STF) is stable with the higher than anticipated revenues and support from the highway use fee.

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.
- Addressing the transportation needs of the State in an equitable manner while accounting for resiliency and climate change.
- Enhancing transportation investment strategies through strategic planning and using an asset management approach to maintain our transportation infrastructure.
- Using more durable materials to reduce future maintenance and rehabilitation costs.

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.

Although the outlook is good, the projected costs of some of the planned major highway and rail transportation improvements (I-84 Waterbury, I-84 and I-91 Hartford, I-95 East and West, I-84 Danbury, and Moveable Bridges on the New Haven Line) likely exceed the committed fiscal 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

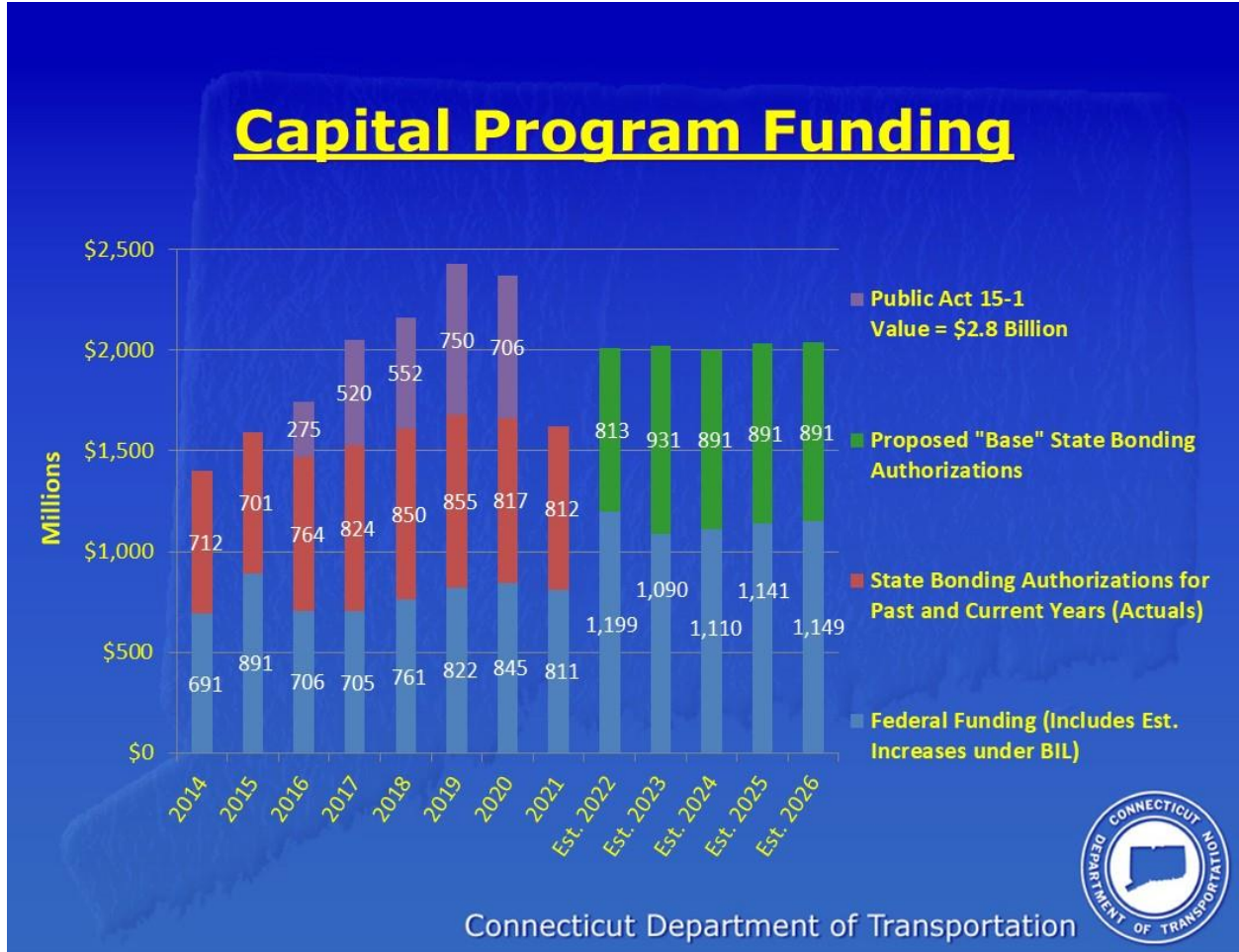
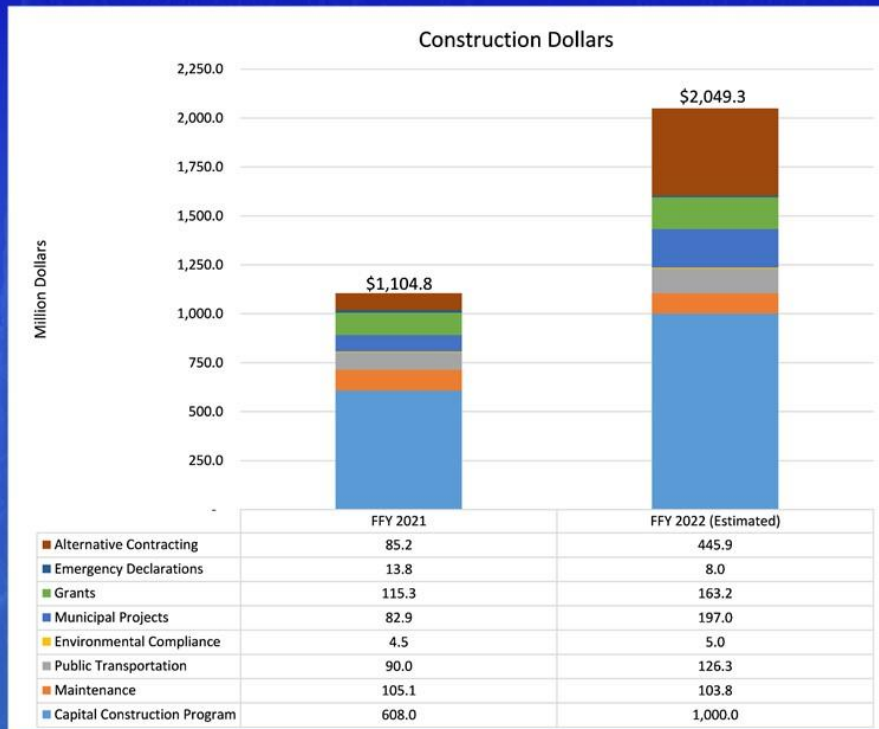


Figure B

FFY 2021 and FFY 2022 (est.) Construction Dollars

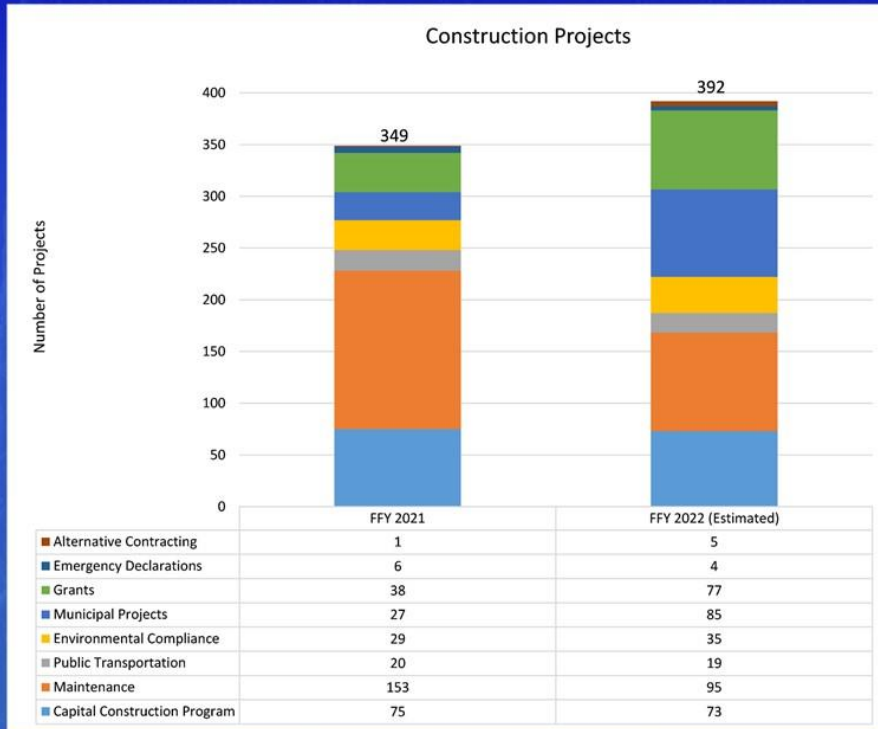


Connecticut Department of Transportation



Figure C

FFY 2021 and FFY 2022 (est.) Construction Projects



Connecticut Department of Transportation

