

NORTH CAROLINA 2020 – 2029 STATE TRANSPORTATION IMPROVEMENT PROGRAM

What is a State Transportation Improvement Program (STIP)?

The STIP is a multi-year capital improvement document which denotes the scheduling and funding of construction projects across the state over a minimum 4 year time period as required by Federal law. North Carolina's STIP covers a 10 year period, with the first six years (2020-2025 in this version) referred to as the delivery STIP and the latter four years (2026-2029 in this version) as the developmental STIP. Per 23 CFR 450.216 & 23 U.S. Code § 135 STIP's must also:

- Be submitted to Federal Highway Administration (FHWA) & Federal Transit Administration (FTA) for approval at least every 4 years
- Be fiscally constrained by year
- Include all capital and non-capital projects using Title 23 USC or Title 49 USC funds, other than certain safety, planning, and research funds
- Include metropolitan TIPs from Metropolitan Planning Organizations
- Provide public comment opportunity on STIP document
- And include the following information:
 - Project description and termini
 - Estimated total cost (NCDOT includes Utility, R/W, and Construction costs)
 - Federal funds to be obligated
 - Responsible agency (such as municipality)

North Carolina's STIP is updated every two years and developed in concert with federal and state revenue forecasts, North Carolina Department of Transportation's (NCDOT's) Strategic Prioritization process, preconstruction and project development timetables, and in adherence with federal and state laws. North Carolina state law requires Board of Transportation (BOT) action to approve the STIP.

This is the third STIP developed under the Strategic Transportation Investments (STI) law passed in June 2013. This landmark legislation elevates the use of transportation criteria and the input of local communities to determine project priorities and directs the use of dollars for transportation projects.

Performance Management Targets

The NCDOT has established performance management targets for highway safety (established in the Strategic Highway Safety Plan (SHSP)) and for transit tier 2 providers that choose to participate in NCDOT's Group Transit Asset Management (TAM) Plan and will establish federally mandated performance management targets for infrastructure condition, congestion, system reliability, emissions, and freight movement. The NCDOT anticipates meeting their identified targets with the mix of projects included in the STIP aided by the Strategic Transportation Investments Prioritization and Programming process (described on page T-2) and other Federal Aid Programs.

How is the STIP organized?

The STIP contains funding information and schedules for transportation modes and programs including: Highways, Aviation, Bicycle and Pedestrian, Ferry, Public Transportation, Rail, Governor's Highway Safety and statewide related programs. The Appendix also contains a reference list of completions and deletions since the 2018-2027 STIP which was approved in 2017.

The transportation program in the STIP is organized by the 14 transportation divisions. Each Division section includes a funding source reference table and is divided between highway and non-highway project schedules. Projects are also listed by county within each division. This results in some duplication since transportation projects frequently extend across county and division lines. When this duplication occurs, a project is listed in each county in which it is found.

Projects are further subdivided by category: interstate, rural, urban, bridge, municipal bridge, bicycle and pedestrian, congestion mitigation, highway safety improvement program, ferry, passenger rail, and roadside environmental. Interstate, rural, urban, bridge, and ferry projects are described by route number. Municipal bridge, bike and pedestrian projects are listed by city or county. Congestion mitigation and passenger rail projects are listed alphabetically by city or county. Highway safety improvement program projects may be listed by route, city or county. The Public Transportation program list projects first by the transportation partners and providers then by identification numbers.

Projects are also listed by the STI category they are funded from, i.e., by Statewide Mobility, Regional Impact, or Division Needs. The phases of projects (such as Right of Way (R), Utility relocation (U), and Construction (C) are listed by Fiscal Year along with their costs and anticipated funding sources.

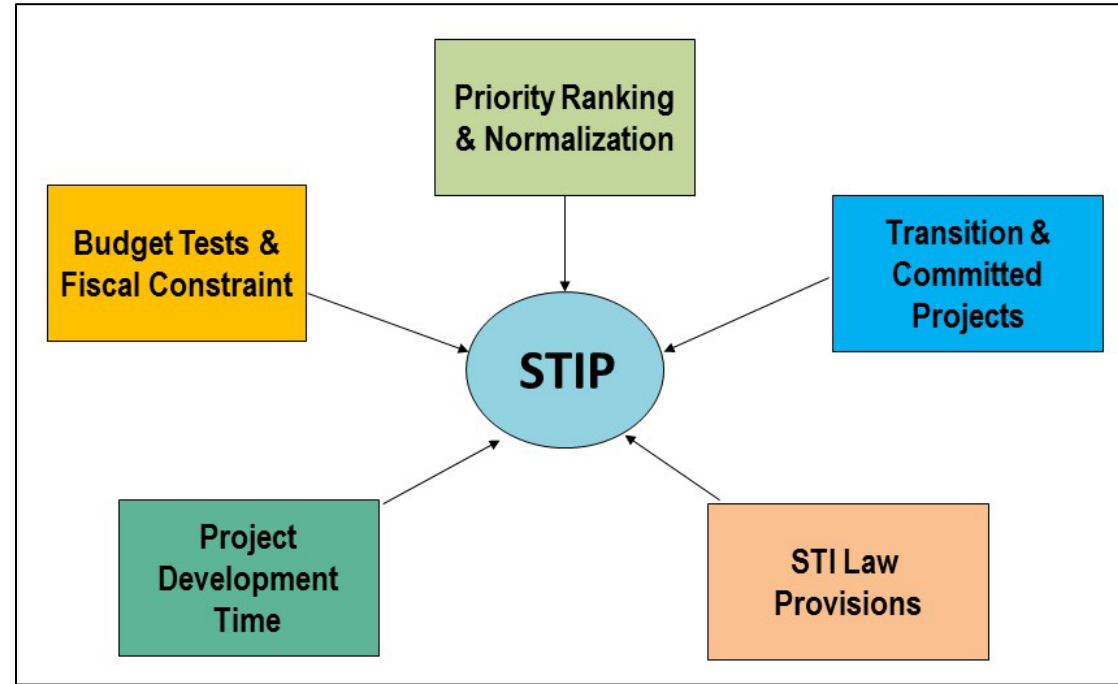
All projects require extensive planning, environmental impact and design studies. The location and exact type of improvements are subject to refinement and modification during the planning and design phases.

Strategic Prioritization

The Department manages a strategic project prioritization process. The 5th generation of this process, Prioritization 5.0 or P5.0, is a significant component of this STIP development. Strategic prioritization uses transportation data, input of local government partners, and the public to generate scores and ultimately rankings of projects across the state. Multiple public input opportunities were provided during the spring and summer of 2018 regarding the submittal of new projects and the assignment of local points to projects. This input assisted each Metropolitan Planning Organization (MPO), Rural Planning Organization (RPO), and NCDOT's transportation divisions to produce criteria-based methodologies which directed how local points were allocated.

The P5.0 process resulted in each transportation mode using different quantitative criteria, measures and weights to provide technical scores for projects as recommended by the Prioritization Workgroup and approved by the NC Board of Transportation. Also, per the intent of STI for transportation modes to compete for funding, a normalization process was recommended to create minimum percentages of funding for highway and non-highway projects in the combined Regional Impact and Division Needs categories. The minimum percentage for highways was 90% and minimum percentage for non-highways was 4%. These percentages guided the programming process, which ultimately yielded a 95% to 5% highway vs non-highway programmed amount in the combined Regional Impact and Division Needs categories.

Figure A



The results of the P5.0 process do not necessarily mean that projects will be programmed in the order of their score and rank. Over a 10-year time frame, funding was provided to the highest scoring projects. However, there are other considerations and factors in developing the actual program (Figure A). A major factor in deciding when the top scoring projects are funded is project delivery time. Projects need to fulfill a series of environmental and preliminary engineering requirements, right-of-way must be purchased, utility relocation (where applicable) must be addressed, and final plans must be developed for lettings. The time period to accomplish these activities can be lengthy. Construction funding cannot be allocated to projects before these preconstruction activities have taken place.

There were also STI law provisions (including a corridor cap and individual modal caps) which directed programming decisions and the entire program had to meet budget tests and fiscal constraint per state and federal requirements. STI law also included a provision to exempt from prioritization select projects (Transition Period Projects) scheduled to be obligated for construction prior to July 1, 2015. In addition, projects funded for right-of-way or construction in the first 5 years of the previous 2018-2027 STIP, were considered committed and were not evaluated in P5.0. However, the funding required for both the transition and committed projects was accounted for when budgeting for other projects.

Public Involvement – Draft STIP

After the release of the Draft STIP in January 2019, each of NCDOT’s 14 transportation divisions hosted a week long open house between February 15 and April 15, 2019. The purpose of these open houses was to inform citizens about projects in the Draft STIP and collect feedback. Additionally, multiple public input opportunities were available ahead of the development of the Draft STIP including the STI implementation process.

Each open house allowed participants to study maps of projects in the Draft STIP, and review proposed project schedules and information with Department staff. Sessions were held in transit accessible locations and the Department provided auxiliary aids for participants under the Americans with Disabilities Act as well as special services for English limited participants. Consultation was conducted with stakeholder groups throughout North Carolina via emails and direct mailing to encourage participation via multiple feedback options. In addition, the department provided the ability for citizens to take an online survey as well as provide comments online, by phone or mail.

Transportation Conformity

Each MPO is required to develop a 20+ year Metropolitan Transportation Plan (MTP). In MPOs that are listed as either a non-attainment or maintenance air quality area, Transportation Conformity must be demonstrated on all plans, projects and TIPs. This ensures that transportation projects that receive federal funding do not negatively impact an area’s ability to meet air quality goals. Projects must be grouped by horizon year and the travel demand model must be run for each horizon year. From the travel demand model, speeds and Vehicle Miles Traveled (VMT) are obtained and used in the air quality model to calculate emissions that are compared to the budgets approved by the US Environmental Protection Area (EPA). As long as the calculated emissions are less than the budget, the area can make a conformity finding. If the area cannot meet the budget, then the MPO’s project list does not meet the transportation conformity test and the area may be subject to lapse. A lapse can delay projects as federal actions cannot take place during a lapse and only exempt projects can move forward. A revised Transportation Conformity analysis can be triggered whenever a project is delayed or accelerated such that it crosses a horizon year. Whenever an MPO develops a new MTP, a new conformity analysis must be performed. When a new TIP comes out, the new TIP must be checked to make sure it is consistent with the MTP. If there is any inconsistency between the TIP and the MTP (conformity finding) then FHWA cannot take any federal action including approval of the TIP until this inconsistency is resolved.

On February 16, 2018, the United States Court of Appeals for the District of Columbia Circuit in the *South Coast Air Quality Mgmt. District v. EPA* case (“*South Coast II*,” 882 F.3d 1138) held that transportation conformity determinations must still be made in areas that were either nonattainment or maintenance for the 1997 ozone national ambient air quality standard (NAAQS) and attainment for the 2008 ozone NAAQS when the 1997 ozone NAAQS was revoked. However, these conformity determinations may be made without the requirement of a Regional Emissions Analysis (REA) and comparison to the emission budgets approved by the US EPA. Consistency between the TIP and MTP must still be ensured.

North Carolina 2008 Ozone Maintenance Area Requiring a REA

Region	Counties	Pollutant(s)
		8- Hour Ozone
Metrolina	Cabarrus (Partial)	✓
	Gaston (Partial)	✓
	Iredell (Partial)	✓
	Lincoln (Partial)	✓
	Mecklenburg	✓
	Rowan (Partial)	✓
	Union (Partial)	✓

North Carolina 1997 Ozone Maintenance Areas NOT Requiring a REA

Region	Counties	Pollutant(s)
		8- Hour Ozone
Triangle	Chatham (Partial)	✓
	Durham	✓
	Franklin	✓
	Granville	✓
	Johnston	✓
	Person	✓
	Wake	✓

Region	Counties	Pollutant(s)
		8- Hour Ozone
Rocky Mount	Edgecombe	✓
	Nash	✓

Region	Counties	Pollutant(s)
		8- Hour Ozone
Metrolina	Cabarrus	✓
	Gaston	✓
	Iredell (Partial)	✓
	Lincoln	✓
	Mecklenburg	✓
	Rowan	✓
	Union	✓

Public Transportation Project Funding

The projects listed in the STIP are funded from different FTA, FHWA and State Funds, many requiring a state and/or local funding match. Annually, the NCDOT Public Transportation Division (PTD) conducts a call for projects to provide state funds to assist in meeting these match requirements. The amount available for state match is limited to the amount provided in the approved state budget for that year.

FTA program funding amounts are published annually in the Federal Register and posted to the FTA website. NCDOT uses these apportionments to distribute funding to qualifying sub-recipients. Most funding within an MPO with a population of 200,000 or greater is managed directly by the MPO. The MPO develops projects that appear in the STIP from the apportioned funds received directly from FTA. NCDOT allocates federal funds to small urban areas less than 200,000 population and rural areas of the state. These MPOs develop projects that appear in the STIP within the allocated amount received from NCDOT, including unspent prior year funding. For rural areas, NCDOT applies directly to FTA for project funding on behalf of rural serving transportation systems. NCDOT develops projects in rural projects that appear in the STIP within the total Federal and State apportioned amount, including unspent prior year funding.

The following Federal Funded projects managed by NCDOT appear in the STIP:

A. Metropolitan Planning and Statewide Planning Program (Section 5303 / 5304)

Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states that are cooperative, continuous and comprehensive, resulting in long-range plans and short-range programs that reflect transportation investment priorities. These planning programs are jointly administered by FTA and the Federal Highway Administration (FHWA), which provides additional funding to MPOs.

PTD Goals:

- 5303 – Create a fair and equitable distribution of planning funds to urbanized areas (UZAs) and foster transit planning on a regional and inter-regional scale.
- 5304 – Provide for statewide planning and technical studies.

B. Urban Area Formula Program (Section 5307)

Makes Federal resources available to qualifying areas for transit capital, operating assistance, and transportation planning in MPOs urbanized areas with a population of 50,000 or more as designated by the U.S. Department of Commerce, Bureau of the Census.

PTD Goals:

- 5307 Governor's Apportionment (GA) – Work with eligible systems to ensure 5-year budgets are met, and grants are managed appropriately.
- 5307 Large Urbanized Areas – Work with eligible MPO areas to ensure funding is fairly and equitably distributed and the needs of former 5311 recipients are met.

C. Enhanced Mobility of Seniors and Individuals with Disabilities Program (Section 5310)

Improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the special transportation needs of seniors and individuals with disabilities in all areas – large urbanized (over 200,000), small urbanized (50,000-200,000), and rural (under 50,000). Eligible projects include both traditional capital investment and nontraditional investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services.

PTD Goal:

- Support transportation of seniors and persons with disabilities in small cities (50,000-200,000 population) and rural North Carolina (less than 50,000 population).

D. Rural Formula Grant Program (Section 5311)

Provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000, where many residents often rely on public transit to reach their destinations. The program also provides funding for state and national training and technical assistance through the Rural Transportation Assistance Program (RTAP), Intercity Bus (5311F) and Appalachian Development Transportation Assistance Program. North Carolina is one of 13 states receiving the Appalachian Development grants in the following 29 counties: Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Davie, Forsyth, Graham, Haywood, Henderson, Jackson, McDowell, Macon, Madison, Mitchell, Polk, Rutherford, Stokes, Surry, Swain, Transylvania, Watauga, Wilkes, Yadkin, and Yancey.

PTD Goals:

- Support general public transportation in rural North Carolina (less than 50,000 population) and provide a coordinated transportation network.
- Enhance access in rural areas to health care, shopping, education, employment, public services and recreation.
- Encourage the most efficient use of transportation funds to provide passenger trips in rural areas through coordination of programs and services.

E. Bus and Bus Facilities Program (Section 5339)

Provides capital funding to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.

PTD Goal:

- Support the small urban and statewide funding program to provide capital funds to replace, rehabilitate and purchase buses and related equipment and construct bus-related facilities.

Project Descriptions

EPA's Transportation Conformity Regulation states "The degree of specificity required in the transportation plan and the specific travel network assumed for air quality modeling do not preclude the consideration of alternatives in the NEPA process of other project development studies." In an effort to not unduly influence the outcome of NEPA studies the STIP has used fairly generic descriptions of proposed work although the cost estimates were derived from specific future cross sections. In future documents, more specific descriptions will be used as the NEPA process determines a preferred alternative. So while the out years 6 through 10 may use a description like "widen to multi-lanes" as the NEPA process defines a recommended cross section this may become "widen to 4 lane median-divided cross section" as the project comes closer to having right of way and construction actually funded.

PROGRAM BUDGETS

Transportation Revenue Forecast

State Budget

State transportation revenues are derived from user fees in the form of Motor Fuel Tax (MFT), driver and vehicles fees collected by the NC Division of Motor Vehicles (DMV Fees) and a Highway Use Tax (HUT) on vehicle title transfers. Federal transportation revenues are derived from a federal MFT tax, vehicle fees (mostly on trucks) and since 2008 it has included transfers from the U.S. General Fund. North Carolina's total transportation funding consists of roughly 75 percent state revenues and 25 percent federal.

State revenue projections are obtained from a consensus forecast by the Office of State Budget and Management (OSBM), Legislative Fiscal Research Division and NCDOT. Budget estimates developed for the Governor's biennial budget serves as a base from which NCDOT and OSBM staff develop the forecast for the remaining years. Motor Fuel revenues are forecasted based on crude oil prices from IHS Global Insight, a private financial forecasting company and in-house consumption forecasting models. DMV fee revenue forecasts are based on historical transactional information, vehicle registration, licensed driver numbers and Office of State Budget and Management projected population growth in the age range 19–84. Highway Use Tax revenue is forecasted based on the number of vehicles purchased or traded in, vehicle price and the statutory rate. The number of vehicles sold and the price depend on economic conditions. Regarding DMV/Title Fees, the two variables are statutory rates and the number of transactions, which is based on licensed drivers and vehicle registration. Generally, DMV fees correlate with projected changes in population. Title fees correlate closer to forecasted changes in car sales.

Federal Budget

On December 4, 2015, President Obama signed into law the Fixing America's Surface Transportation Act, or "FAST Act." Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit. The law also makes changes and reforms to many Federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects. The core formula programs are:

- National Highway Performance Program (NHPP)
- Surface Transportation Block Grant Program (STBG)
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Highway Safety Improvement Program (HSIP)
- Railway-Highway Crossings (subset of the HSIP)
- Metropolitan Planning
- Construction of Ferry Boats and Ferry Terminal Facilities
- Transportation Alternatives (TA)
- National Highway Freight Program

Federal transportation funding is distributed by Congress based on multi-year reauthorization bills and annual appropriations.

The primary variables for both state and federal revenues are the MFT rate and fuel consumption. The passage of S.L. 2015-2 / S20 altered the variable MFT state rate formula starting April 1, 2015. The new variable rate formula is based on changes in population and the Consumer Price Index for Energy (CPI-E) beginning on January 1, 2017. The federal MFT rate, set by Congress in 1993, is 18.4 cents per gallon for gasoline and 24.4 cents for diesel. Fuel consumption is affected by fuel prices, which are determined by world markets and economic domestic output, vehicle fuel efficiency and alternate fuel vehicles.

Federal Aid Program

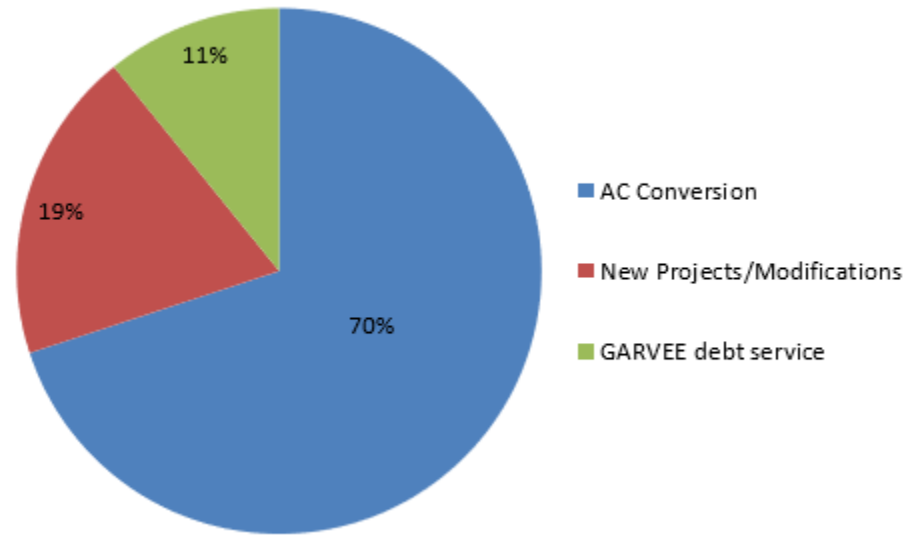
The Federal Aid Program consists of many funding categories. Funding in most of these individual categories is subject to overall federal budget constraints and Federal Obligation Limitation. The obligation limitation effectively limits the amount of federal funds that can be utilized in any one year.

North Carolina's availability of federal funds for the STIP in FFY 2020 and FFY 2021 is expected to be about \$1,198 million each year.

Virtually all federal-aid projects require a local or state fund contribution. Most highway and transit programs require a 20% local or state share. The amount of state matching funds needed for the Federal Aid Program is expected to be approximately \$300 million each year, which will be funded by the State Highway Trust Fund.

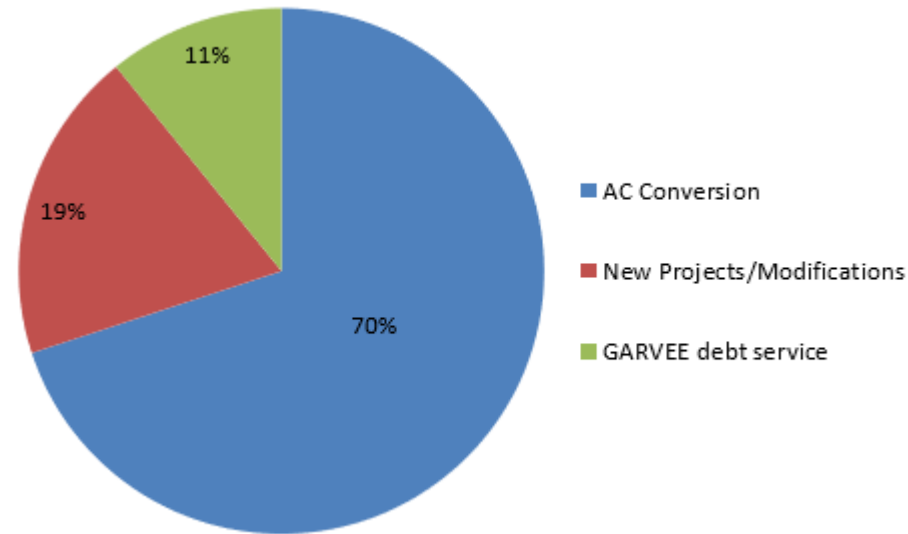
Federal Aid Construction Program - FFY 2020			
(\$ in Millions)			
Category	Federal Funds	Required State Matching Funds	Total
National Highway Performance Program	655	164	819
Rail Hwy Crossing	7	2	9
Statewide Planning	16	4	20
TAP	22	6	28
Research Development	5	1	6
Metropolitan Planning	6	2	8
Congestion Mitigation	55	14	69
Surface Transportation Program	328	82	410
Highway Safety Improvement	64	16	80
Freight	40	10	50
Total Apportionment	1,198	300	1,498

Proposed Use of FFY 2020 Obligation Authority



Federal Aid Construction Program - FFY 2021			
(\$ in Millions)			
Category	Federal Funds	Required State Matching Funds	Total
National Highway Performance Program	655	164	819
Rail Hwy Crossing	7	2	9
Statewide Planning	16	4	20
TAP	22	6	28
Research Development	5	1	6
Metropolitan Planning	6	2	8
Congestion Mitigation	55	14	69
Surface Transportation Program	328	82	410
Highway Safety Improvement	64	16	80
Freight	40	10	50
Total Apportionment	1,198	300	1,498

Proposed Use of FFY 2021 Obligation Authority



The program is fiscally constrained to the amount of funds projected to be available each year in order to prevent the Department from over committing future revenues. “Advance Construction” (AC) allows states to begin a project even in the absence of sufficient Federal-aid obligation authority to cover the Federal share of project costs. It is codified in Title 23, Section 115. Advance construction eliminates the need to set aside full obligational authority before starting projects. As a result, a state can undertake a greater number of concurrent projects than would otherwise be possible. In addition, advance construction helps facilitate construction of large projects, while maintaining obligational authority for smaller ones. At some future date when the state does have sufficient obligation authority, it may convert an advance-constructed project to a Federal-aid project by obligating the permissible share of its Federal-aid funds and receiving subsequent reimbursements. Advance construction allows a state to conserve obligation authority and maintain flexibility in its transportation funding program. NCDOT uses AC both to support its GARVEE Bond program and to assist in its cash management.

GARVEE Bonds

In 2005, House Bill 254 authorized NCDOT to issue Grant Anticipation Revenue Vehicles (GARVEE bonds) to finance federal aid highway projects. All funds derived from GARVEE bonds are backed by the receipt of future federal funds and no state funds may be committed to the debt service. Below is a summary of the GARVEE bond issuances and debt service requirements.

GARVEE Bond Program \$ in Millions

State Fiscal Year	Proceeds Including Premium	Debt Service
2008	\$299.80	\$5.06
2009		59.33
2010	263.14	67.16
2011		81.99
2012	364.9	59.84
2013		80.55
2014		86.32
2015	300.54	86.32
2016		100.00
2017	253.15	99.38
2018		95.93
2019	719.04	95.91
2020		131.63
2021		131.64
2022		131.63
2023		131.64
2024		95.38
2025		95.38
2026		95.38
2027		95.38
2028		95.38
2029		95.38
2030		95.38
2031		57.09

2032	57.09
2033	57.09
2034	57.09

NC BUILD NC Bonds

In 2018, Senate Bill 758 authorized NCDOT to issue Build NC bonds to finance highway projects at the regional impact and divisional need project tiers. Subject to appropriation by the General Assembly, funds from the Highway Trust Fund shall be the source for repayment of debt service. Below is a summary of Build NC bond debt service requirements.

**BUILD NC Bond Program
\$ in Millions**

State Fiscal Year	Proceeds Including Premium	Debt Service
2020	\$357.34	\$28.20
2021		28.20
2022		28.20
2023		28.20
2024		28.20
2025		28.20
2026		28.20
2027		28.20
2028		28.20
2029		28.20
2030		28.20
2031		28.20
2032		28.20
2033		28.20
2034		28.20

State Highway Trust Fund

Revenues for the Trust Fund are generated from 29% of the state motor fuels tax, the 3 percent use tax on the transfer of motor vehicle titles, DMV titles and other fees, and interest income. \$49 million of Trust Fund revenues are transferred each year to the NCTA for project funding.

The STIP budget is based on a consensus forecast by the OSBM, Legislative Fiscal Research Division, and NCDOT. These estimates were used to develop the draft program and are the basis for air quality and fiscal constraint tests. The Trust Fund revenues are projected to be about \$1,577 million for FY 2020 and \$17.5 billion during the 10-year period. Of this \$17.5 billion in revenue, \$490 million goes to NCTA, \$465.1 million is used for debt service on previous GO bonds and Administration, \$4 million is transferred to the Highway Fund for Visitor Centers and \$450 million is transferred to State Ports. The remaining \$15.7 billion is available for STIP purposes. Federal aid of \$12.9 billion is also available. After preliminary engineering, a reserve for construction cost overruns, inflation, and bonus allocation and local participation deductions, \$23.7 billion is available for programming. (Note – funds available for programming and used in the development of the 2020-2029 STIP were prior to the actions of the 2019 General Assembly.)

(Dollars in Millions)											
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2020 THRU 2029
HIGHWAY TRUST FUND REVENUES											
25% of Gas Tax Revenues	\$ 610.00	\$ 625.00	\$ 641.00	\$ 653.00	\$ 665.00	\$ 675.00	\$ 683.00	\$ 693.00	\$ 704.00	\$ 690.00	\$ 6,639.00
DMV Fees & Investment Income	153.00	165.00	167.00	171.00	176.00	199.00	204.00	209.00	215.00	241.00	\$ 1,900.00
Use Tax	814.00	815.00	824.00	845.00	871.00	894.00	917.00	941.00	967.00	1,028.00	\$ 8,916.00
Total State Highway Trust Fund Revenues	\$ 1,577.00	\$ 1,605.00	\$ 1,632.00	\$ 1,669.00	\$ 1,712.00	\$ 1,768.00	\$ 1,804.00	\$ 1,843.00	\$ 1,886.00	\$ 1,959.00	\$ 17,455.00
Less Transfers for NCTA GAP Funding	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	(49.00)	\$ (490.00)
Less GO Debt Service	(59.77)	-	-	-	-	-	-	-	-	-	\$ (59.77)
Less Transfer to Highway Fund	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)	\$ (4.00)
Less Program Administration	(36.62)	(37.27)	(37.90)	(38.76)	(39.76)	(41.06)	(41.89)	(42.80)	(43.80)	(45.49)	\$ (405.33)
Less Transfer to State Ports	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	(45.00)	\$ (450.00)
Net State Trust Fund Revenues	1,386.21	1,473.33	1,499.70	1,535.84	1,577.84	1,632.54	1,667.71	1,705.80	1,747.80	1,819.11	\$ 16,045.89
Federal Aid	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	1,289.00	12,890.00
Less SPR Funds	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(34.90)	(348.98)
Less CMAQ	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(30.00)	(300.00)
Less DMS (Formerly EEP)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(200.00)
Less Yadkin River GARVEE debt service	(5.13)	(5.13)	-	-	-	-	-	-	-	-	(10.26)
Net Federal Aid Revenues	1,198.97	1,198.97	1,204.10	1,204.10	1,204.10	1,204.10	1,204.10	1,204.10	1,204.10	1,204.10	12,030.76
Available Subtotal (Trust and Federal-aid)	2,585.18	2,672.30	2,703.80	2,739.95	2,781.95	2,836.65	2,871.81	2,909.90	2,951.91	3,023.21	28,076.65
Less PE	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(2,500.00)
Subtotal	2,335.18	2,422.30	2,453.80	2,489.95	2,531.95	2,586.65	2,621.81	2,659.90	2,701.91	2,773.21	25,576.65
Less Construction Cost Overruns	(60.31)	(62.92)	(63.86)	(64.95)	(66.21)	(67.85)	(68.90)	(70.05)	(71.31)	(73.45)	(669.80)
Less Bonus Alloc. for Tolling & Local Participation	(38.15)	(35.25)	(33.20)	(36.82)	(33.34)	(0.20)	(2.50)	(20.00)	(40.00)	(40.00)	(279.46)
Funds Available for Programming Subtotal	2,236.72	2,324.13	2,356.74	2,388.18	2,432.39	2,518.60	2,550.41	2,569.86	2,590.60	2,659.76	24,627.39
Less Inflation	(11.18)	(34.98)	(59.39)	(84.66)	(111.40)	(115.35)	(116.81)	(117.70)	(118.65)	(121.82)	(891.94)
Funds Available for Programming	\$ 2,225.54	\$ 2,289.16	\$ 2,297.35	\$ 2,303.52	\$ 2,320.99	\$ 2,403.24	\$ 2,433.60	\$ 2,452.16	\$ 2,471.95	\$ 2,537.95	23,735.45

Anticipated Inflation Impact

Inflation is not explicitly factored into the above revenue estimates. However, before programming projects in the STIP, available funds were reduced by an amount for inflation. The following inflation factors for future construction and right of way cost increases were used: 2020 - 1.005, 2021 - 1.0151, 2022 - 1.0252, 2023 - 1.0355, 2024 through 2029 - 1.0458. This allows project costs used in the Program to be shown in current (2020) dollars.

State Highway Fund

Revenues for the Highway Fund are generated from the state motor fuels tax and DMV fees. The Highway Fund primarily supports projects that maintain the state's existing transportation system. This includes general maintenance, roadside environmental activities, resurfacing highways, replacing bridges, paving unpaved secondary roads, and state aid to municipalities. Funds are distributed across North Carolina base on need.

Cash Model

NCDOT uses a cash model to manage its operation on a cash-flow basis; the Department uses statistical models that were developed specifically to support NCDOT programs. The models are used to forecast future cash demands and financial capacity. These projections serve as the basis for the dollar values found herein.

NCGS §143C:6-11 requires the cash target to be between 15% and 20% of the total appropriations from the Highway Fund and Highway Trust Fund for the current fiscal year. Any federal funds on hand shall not be considered as cash for this purpose. The target shall include an amount necessary to make all municipal-aid funding requirements. Also, NCGS §143C:6-11 requires the minimum cash balance to be at least 7.5% of the total appropriations for the current fiscal year. If this minimum is not maintained, no further transportation project contract commitments may be entered into until the minimum is exceeded. Session Law 2014-100 Senate Bill 744 Section 34.23(c) established a cash balance maximum of one billion dollars. If the balance exceeds the maximum, the Department must report to the General Assembly and Fiscal Research the reasons for exceeding the maximum and the plans to reduce the balance.

The North Carolina Turnpike Authority (NCTA)

NCTA is a public agency of the State of North Carolina located within NCDOT. NCTA's mission is to supplement the traditional non-toll transportation system serving the citizens of North Carolina by accelerating the delivery of roadway projects using alternative financing options and facilitating the development, delivery, and operation of an integrated system of toll roads. The Triangle Expressway, North Carolina's first modern toll facility is approximately 18.8 miles of new highway construction, extending the partially complete "Outer Loop" around the greater Raleigh area from I-40 in the north to the NC 55 Bypass in the south opening fully to traffic on January 2, 2013. The Monroe Expressway, the second all electronic toll facility in North Carolina, opened to traffic on November 27, 2018. The Monroe Expressway is approximately 19.8 miles of new highway construction that serves as a bypass to U.S. 74 from I-485 in eastern Mecklenburg County to U.S. 74 between the towns of Wingate and Marshville in Union County. Since the STI law passed in June 2013, the identification of potential Turnpike projects has fallen under the strategic project prioritization process. Funding for Turnpike projects may be derived from a combination of State transportation revenues, Federal aid dollars, and toll revenue bonds.

Total revenues for the Triangle Expressway were \$49.0 million and \$44.7 million for FY 2018 and FY 2017 respectively. FY 2018 total revenues increased by 9.6% year-over-year (YOY) when compared to FY 2017. Operating expenses for the Triangle Expressway totaled \$18.0 million and \$16.3 million for FY 2018 and FY 2017 respectively. FY 2018 operating expenses increased by 10.5% YOY from the previous year due, in part, to the increased number of transactions.