

Appendix D. Key Data Sources and Planning Assumptions

Sources of Information

Core Datasets

Highway Performance Monitoring System

The Highway Performance Monitoring System (HPMS) is a national level highway information system compiled and made available by the Federal Highway Administration that includes data on the extent, condition, performance, use and operating characteristics of the nation's highways. The HPMS contains administrative and extent of system information on all public roads, while information on other characteristics is represented in HPMS as a mix of universe and sample data for arterial and collector functional systems in areas across the United States.

National Performance Management Research Data Set

The National Performance Management Research Data Set (NPMRDS) is an archived speed and travel time data set acquired by the Federal Highway Administration that uses crowd-sourced GPS information, typically obtained from mobile phones, vehicles, and portable navigation devices, to support its Federal Performance Management program. The NPMRDS provides travel time information for passenger vehicles and trucks along National Highway System and Strategic Defense Network designated routes to measure and track travel time reliability, truck travel time reliability, and peak hour excessive delay throughout the region.

National Transit Database

The National Transit Database (NTD) is a repository of data compiled and made available by the Federal Transit Administration about public transit systems across the nation. The dataset includes detailed data on the operations, assets, and financial characteristics of local and regional transit systems. The NTD is designed to support local, state and regional planning efforts and help governments and other decision-makers make multi-year comparisons and perform trend analyses. It contains a wealth of information such as agency funding sources, inventories of vehicles and maintenance facilities, safety event reports, measures of transit service provided and consumed, and data on transit employees.

American Community Survey

The American Community Survey (ACS) is an ongoing survey conducted by the U.S. Census Bureau to provide a current snapshot of the demographic and socioeconomic characteristics of the population across the nation.

Electronic TN Roadway Information Management System

The Electronic TN Roadway Information Management System (E-TRIMS) data is compiled and managed by the TN Dept of Transportation and includes information about roadway characteristics including functional classification, ownership, geometry, pavement composition, number of lanes, shoulders, traffic volumes, speed limits, medians, HOV lane availability, among many more.

Tennessee Integrated Traffic Analysis Network

The Tennessee Integrated Traffic Analysis Network (TITAN) is a suite of tools developed by the TN Dept of Safety and Homeland Security for the electronic collection, submission, and management of all crash data in Tennessee. It serves as a centralized data and document repository for public safety information. TITAN includes important information about crashes including type, severity, mode of transportation, location, and damage information for use in safety analysis.

Automatic (Transit) Vehicle Location Data

Automatic Vehicle Location data (AVL) data tracks the movement of public transit vehicles along their routes and can be used to monitor on-time performance and identify congested areas along arterial corridors.

Traffic Count Data

Recent and archived traffic count data is made available by TDOT on their website. The site can also be accessed directly at www.GNRC.org/traffic-counts.

Household Travel Survey Data

Household Travel Surveys (HHTS) surveys collect daily travel behavior characteristics from a sample of the population. Surveys are periodically collected by the Federal Highway Administration through the National Highway Travel Survey, but GNRC relies more heavily on local surveying efforts conducted every 10 years or so with funding provided through the Unified Planning Work Program. The last major survey conducted by GNRC (MPO) was completed with more than 6,000 households across Middle Tennessee. The survey provided detailed information about the travel behaviors, socioeconomic characteristics, and general health and wellbeing of a statistically valid sample of Middle Tennesseans.

Regional Public Attitudes Surveys

GNRC and its planning partners conduct various telephone and web-based surveys to gather attitudinal data from the public or specific audiences to gauge opinions toward planning issues and concepts. These efforts rely on scientific methods and random sampling to yield statistically valid results. One such survey is conducted each year, as part of the development of the Nashville Region's Vital Signs Report, to track the region's attitudes towards traffic congestion and possible solutions. The report is produced annually by the GNRC and the Nashville Area Chamber of Commerce.

Woods and Poole Economics, Inc.

Woods & Poole Economics, Inc. is a firm that specializes in long-term county economic data and demographic data projections. Woods & Poole's database for all U.S. counties contains projections for every year through 2050 for more than 900 variables. Each year Woods & Poole updates the projections with new historical data. GNRC uses Woods & Poole Economics data projections as the basis for the county-level information for the Regional Transportation Plan. GNRC disaggregates this information to sub-county geography using the Regional Growth Allocation Model described in the following section.

Predictive Modeling and Simulation

Regional Growth Allocation Model

GNRC's Regional Growth Allocation Model establishes base year conditions, forecasted development patterns, and expected growth. The outputs document existing and future population, households, and employment by industry across the region at a parcel level. These outputs are utilized to calculate expected demands for public infrastructure from differing development patterns. GNRC uses the UrbanSim modeling platform to predict the future land development patterns of the Nashville metropolitan planning area. More information about the regional growth allocation model is provided in Appendix H.

Activity-Based Travel Demand Model

GNRC uses a custom Activity Based Travel Demand Model (ABM) to predict future traffic conditions and transit ridership across the regional transportation network. The AMB simulates the daily travel behavior of residents and visitors for a typical weekday. GNRC has adapted the Daysim modeling platform and uses TransCAD modeling software to run forecast scenarios in support of the regional transportation planning process. More information about the travel demand model is provided in Appendix H.

Bicycle and Pedestrian Latent Demand Model

GNRC's Latent Demand Model is used to determine the projected need for walking and bicycle facilities within the Nashville region. The model uses land use, household data, employment data, and proximity data for every parcel to predict the trip making characteristics of each individual parcel in order to identify locations in the region where there is demand for walking and biking trips.

Active Studies

Downtown Interstate "Inner Loop" Concepts Study

Greater Nashville Regional Council

A public-private partnership to evaluate options to develop a shared vision for continued improvements to the Interstate 24/40/65 “loop” around downtown Nashville. The goal is to help guide short-, mid-, and long-range investments into the loop and key facilities that support access, egress, and parallel movements.

Regional Smart Mobility Assessment

Greater Nashville Regional Council

The Smart Mobility Assessment is intended to provide community leadership, information technology directors, transit agencies, planning and public works departments, traffic operations managers, and other stakeholders a framework for how emerging technologies can improve and optimize the planning and operation of the transportation system, how these technologies can be used to help users understand their options and make better travel decisions, and make built environments accessible, safe, and vibrant.

South Corridor Study

Greater Nashville Regional Council; WeGo Public Transit

The study will identify a series of short-, mid-, and long-term recommendations to implement the vision for rapid transit between Nashville, Berry Hill, Oak Hill, Brentwood, Franklin, Thompson’s Station, Spring Hill, and Columbia, as well as other neighborhoods, communities, employment centers, and destinations along the south corridor.

U.S. Interstate 40/81 Corridor Study

TN Department of Transportation

The U.S. Interstate 40/81 Corridor Study stretches across the state of Tennessee and includes the entire lengths of I-40 and I-81, from state line to state line. The study includes more than 500 miles of interstate – 456 miles along I-40 and 76 miles along I-81. The study area crosses 28 counties, each with cities that depend on these corridors for commerce, tourism, and daily commuting.

Middle Tennessee Congestion Study

TN Department of Transportation

Need additional information from TDOT.

Asset Management Analysis

Greater Nashville Regional Council

GNRC is currently working with TDOT, local public works officials, and public transit agencies across Middle Tennessee to analyze the current condition of area roadways, bridges, and transit assets. The analysis will be used to forecast the costs to maintain those facilities over the next 5, 15, and 25 years. The effort will lay the groundwork for determining the level of revenue available for expanding and modernizing the transportation system over the same period of time.

Bicycle & Pedestrian Study

Greater Nashville Regional Council

GNRC has been working with TDOT, local governments, businesses, non-profit organizations, and advocates to update several tools used in the planning process to identify opportunities to improve conditions and safety for pedestrians and cyclists. The study includes an update of the bicycle and pedestrian levels of service analysis, bicycle and pedestrian latent demand model, and an inventory of bicycle and pedestrian facilities and conditions.

Completed Studies

Regional Coordination Findings (2020)

MovingForward Policy Taskforce, Nashville Area Chamber of Commerce

A review of Middle Tennessee's regional capacity to coordinate on the advance of major transportation solutions compared with peer regions across the U.S.

Regional Mobility Solutions Scorecard (2020)

MovingForward Policy Taskforce, Nashville Area Chamber of Commerce

An annual update on progress towards regional mobility solutions as tracked by the MovingForward initiative of the regional business community.

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High Capacity Transit Briefing Book (2017)

WeGo Public Transit (Nashville MTA, Regional Transportation Authority)

An assessment of key regional corridors in terms of their readiness for rapid transit and a look at potential design alternatives.

nMotion Regional Transit Recommendations (2017)

WeGo Public Transit (Regional Transportation Authority)

The publicly adopted regional transit master plan that sets forth a detailed recommendation for the expansion and modernization of local bus service and the introduction of rapid transit options.

Northwest Corridor Transit Recommendations (2017)

WeGo Public Transit (Regional Transportation Authority)

Detailed recommendations for implementing rapid transit between Nashville and Clarksville including a focus on connections to North Nashville and the Gulch.

Freight Transportation Profile and Recommendations (2016)

Greater Nashville Regional Council (Nashville Area MPO)

A snapshot of how heavy trucks and freight rail lines traverse the region along with set of recommendations for improving local deliveries, regional freight movements; Includes initial analysis of the potential relocation of the CSX Radnor Yard Intermodal Facility near the I-65 and Harding Place interchange.

Southeast Area Transportation Recommendations (2016)

Greater Nashville Regional Council (Nashville Area MPO)

Detailed recommendations for improving transportation options between Nashville and Murfreesboro along the I-24 and US 41 corridors; Includes evaluation of rapid transit options.

Transportation Impact Fee Demo and Recommendations (2016)

Greater Nashville Regional Council (Nashville Area MPO)

A history of transportation impact fees in Tennessee and an analysis of their potential revenue capacity to help pay for transportation projects; Scenarios modeled for illustration purposes only.

Coordinated Human Services Transportation (2016)

TN Dept of Transportation, Greater Nashville Regional Council (Nashville Area MPO)

A regional plan for ensuring transportation options for senior adults, persons with disabilities, and low-income residents across the mid-State.

SR 109 Access Management Recommendations (2016)

Greater Nashville Regional Council (Nashville Area MPO), TN Dept of Transportation

Recommendations for the coordination of economic development, land use, and roadway design along SR-109 from I-65 near the Sumner/Robertson county line and I-40 in Wilson County.

HOV and Managed Lanes Feasibility Assessment (2015)

Greater Nashville Regional Council (Nashville Area MPO)

A review of national practices and standards for carpool and other managed lanes concepts that could be deployed along key corridors in the greater Nashville area.

Regional Public Attitudes Survey (2014)

Greater Nashville Regional Council (Nashville Area MPO)

Results of a statistically valid scientific poll of public attitudes towards transportation issues and potential investment strategies.

Northeast Corridor Transit Recommendations (2011)

Greater Nashville Regional Council (Nashville Area MPO)

Detailed recommendations for implementing rapid transit between Davidson and Sumner counties along the I-65, Ellington Parkway, and Vietnam Veterans Parkway (SR-386).

Moving Tennessee Forward - Design Concepts

Nashville Civic Design Center, Greater Nashville Regional Council (Nashville Area MPO)

A compilation of case studies and urban design ideas that enhance proposed transportation concepts from the regional transportation plan; Includes a look at Transit Oriented Development, redevelopment potential of arterial pikes, enhancing area bridges, among other ideas.

Population and Employment Growth

GNRC uses Woods & Poole Economics data projections as the basis for the county-level information for the Regional Transportation Plan. GNRC disaggregates this information to sub-county geography using the Regional Growth Allocation Model. GNRC's Regional Growth Allocation Model establishes base year conditions, forecasted development patterns, and expected growth. The outputs document existing and future population, households, and employment by industry across the region at a parcel level. These outputs are utilized to calculate expected demands for public infrastructure from differing development patterns. GNRC uses the UrbanSim modeling platform to predict the future land development patterns of the Nashville metropolitan planning area. More information about the regional growth allocation model is provided in Appendix H.

The following table provides the assumed municipal level population and employment figures for the metropolitan planning area.

Greater Nashville Regional Council
Municipal Level Household and Employment Forecasts
Final Iteration of the UrbanSim Model - June 2020

Municipality or CDP	MPA	Dicennial Census		Census ACS			UrbanSim Model						Net Change	
		2010		2017			2017 Base		Abs Variation	Pct Variation	2045 Forecast		2017-2045	
		Pop	HHs	Pop	HHs	HH Std Error	EMP	HHs	from ACS*	from ACS*	EMP	HHs	EMP	HHs
Adams	YES	633	224	720	222	29	243	228	0	0%	589	309	142%	36%
Ashland City	NO	4,541	1,784	4,599	2,043	115	7,858	2,070	0	0%	9,538	4,101	21%	98%
Belle Meade	YES	2,912	1,074	2,584	994	42	1,842	1,021	0	0%	2,102	1,146	14%	12%
Berry Hill	YES	537	330	891	522	42	8,220	536	0	0%	14,661	1,171	78%	118%
Bethpage	YES	288	113	445	154	44	53	151	0	0%	100	199	89%	32%
Bransford	YES	170	70	200	63	16	33	73	0	0%	38	161	15%	121%
Brentwood	YES	37,060	12,170	41,524	13,276	161	70,273	13,277	0	0%	101,904	17,507	45%	32%
Burns	NO	1,468	586	1,736	608	57	584	602	0	0%	791	780	35%	30%
Castalian Springs	YES	556	212	545	207	38	171	241	0	0%	170	531	-1%	120%
Cedar Hill	YES	314	108	371	93	15	164	108	0	0%	286	149	74%	38%
Charlotte	NO	1,235	400	1,547	513	61	5,002	507	0	0%	5,187	738	4%	46%
Christiana	YES						793	1,072			1,113	2,311	40%	116%
Clarksville	NO	132,929	49,439	147,771	53,525	451	64,572	53,533	0	0%	110,162	84,382	71%	58%
Columbia	YES	34,681	14,012	36,635	14,294	237	32,154	14,954	423	3%	48,483	22,151	51%	48%
Coopertown	YES	4,278	1,482	4,398	1,483	87	1,009	1,452	0	0%	1,697	2,113	68%	46%
Cottontown	YES	367	145	440	134	27	101	140	0	0%	101	329	0%	135%
Cross Plains	YES	1,714	611	1,569	630	59	415	667	0	0%	979	801	136%	20%
Cumberland City	NO	311	134	307	136	19	763	180	25	19%	789	188	3%	4%
Dickson	NO	14,538	5,890	15,128	5,932	180	15,439	5,980	0	0%	22,024	8,097	43%	35%
Dover	NO	1,417	614	2,013	737	56	2,428	718	0	0%	3,052	806	26%	12%
Eagleville	YES	604	241	808	291	28	734	300	0	0%	1,277	675	74%	125%
Erin	NO	1,324	507	1,240	438	48	1,311	463	0	0%	1,921	604	47%	30%
Fairfield	NO	131	49	131	41	11	4	44	0	0%	4	87	0%	98%
Fairview	YES	7,720	2,733	8,442	2,814	88	3,377	3,002	100	4%	19,300	11,717	472%	290%
Forest Hills	YES	4,812	1,777	5,002	1,842	52	812	1,851	0	0%	955	2,460	18%	33%
Franklin	YES	62,487	24,040	72,990	27,542	239	104,988	28,426	645	2%	231,977	46,792	121%	65%
Gallatin	YES	30,278	11,871	34,495	12,881	250	28,626	13,319	188	1%	45,859	20,394	60%	53%
Goodlettsville	YES	15,921	6,644	16,935	6,941	232	17,216	7,087	0	0%	24,856	9,995	44%	41%
Graball	YES	236	86	213	72	24	2	77	0	0%	2	160	n/a	108%
Green Hill	YES	6,618	2,515	7,117	2,502	104	509	2,518	0	0%	523	3,232	3%	28%
Greenbrier	YES	6,433	2,350	6,720	2,483	105	1,780	2,505	0	0%	3,211	3,393	80%	35%
Metropolitan Hartsville	NO	7,870	2,976	8,773	2,944	101	2,863	2,968	0	0%	4,177	3,898	46%	31%
Hendersonville	YES	51,372	20,111	55,635	21,264	298	34,095	21,298	0	0%	50,552	29,763	48%	40%
Kingston Springs	NO	2,756	1,031	2,763	1,024	46	1,716	1,054	0	0%	2,676	1,565	56%	48%
La Vergne	YES	32,588	10,916	34,905	10,969	232	20,548	11,036	0	0%	34,625	16,197	69%	47%
Lebanon	YES	26,190	10,130	30,212	10,844	231	40,028	11,783	708	7%	73,563	20,476	84%	74%
McEwen	YES	1,750	717	1,694	660	61	620	741	20	3%	841	825	36%	11%
Millersville	YES	6,440	2,475	6,760	2,648	105	1,563	2,738	0	0%	2,925	3,651	87%	33%
Mitchellville	YES	189	64	170	69	15	53	60	0	0%	125	111	136%	85%

MPA = Nashville MPO metropolitan planning area

*Variation from 2017 ACS HH Estimates including Standard Error

Greater Nashville Regional Council
Municipal Level Household and Employment Forecasts
Final Iteration of the UrbanSim Model - June 2020

Municipality or CDP	MPA	Dicennial Census		Census ACS			UrbanSim Model						Net Change	
		2010		2017			2017 Base		Abs Variation	Pct Variation	2045 Forecast		2017-2045	
		Pop	HHs	Pop	HHs	HH Std Error	EMP	HHs	from ACS*	from ACS*	EMP	HHs	EMP	HHs
Mount Juliet	YES	23,671	8,562	31,397	11,193	196	19,215	12,023	634	6%	33,841	16,181	76%	35%
Mount Pleasant	YES	4,561	1,838	4,748	1,870	118	3,770	1,958	0	0%	3,422	2,098	-9%	7%
Murfreesboro	YES	108,755	41,940	126,188	47,035	473	94,310	48,133	625	1%	148,984	79,953	58%	66%
Metro Nashville (Balance)	YES	601,222	249,002	654,187	263,527	835	613,044	263,680	0	0%	824,692	319,500	35%	21%
New Deal	YES	368	142	354	161	30	72	163	0	0%	96	296	33%	82%
New Johnsonville	NO	1,951	765	1,963	763	51	1,299	791	0	0%	1,371	889	6%	12%
Nolensville	YES	5,861	1,831	7,119	2,098	49	2,547	2,305	158	8%	14,813	8,554	482%	271%
Oak Grove	YES	231	80	223	60	18	161	99	21	36%	242	154	50%	56%
Oak Hill	YES	4,529	1,798	4,681	1,774	48	1,191	1,727	0	0%	1,806	2,144	52%	24%
Orlinda	YES	859	306	1,100	370	38	1,049	416	8	2%	1,885	560	80%	35%
Pegram	NO	2,093	794	2,571	887	59	574	883	0	0%	668	1,585	16%	80%
Pleasant View	NO	4,149	1,474	4,277	1,421	57	2,403	1,436	0	0%	3,921	2,231	63%	55%
Portland	YES	11,480	4,183	12,258	4,241	140	11,241	4,574	193	5%	17,533	6,274	56%	37%
Ridgetop	YES	1,874	714	2,231	799	55	1,843	839	0	0%	2,201	1,131	19%	35%
Rockvale	YES						561	395			755	1,227	35%	211%
Rural Hill	YES	2,007	732	1,897	717	71	72	716	0	0%	109	1,497	51%	109%
Shackle Island	YES	2,844	960	2,694	942	69	279	1,035	24	3%	272	1,606	-3%	55%
Slayden	NO	178	74	112	52	12	1	84	20	38%	3	99	200%	18%
Smyrna	YES	39,974	14,807	46,885	17,295	272	46,596	17,767	200	1%	72,041	21,922	55%	23%
Spring Hill	YES	29,036	9,861	35,995	11,578	270	13,793	11,822	0	0%	19,933	18,800	45%	59%
Springfield	YES	16,440	6,105	16,692	6,340	160	17,687	6,371	0	0%	23,729	12,633	34%	98%
Tennessee Ridge	NO	1,368	542	1,461	558	54	423	611	0	0%	555	967	31%	58%
Thompson's Station	YES	2,194	767	4,112	1,330	76	1,179	1,446	40	3%	3,665	6,012	211%	316%
Vanleer	NO	395	144	299	132	19	133	149	0	0%	164	172	23%	15%
Walnut Grove	YES	864	306	1,018	359	43	37	313	3	1%	36	787	-3%	151%
Walterhill	YES	401	152	250	110	37	693	176	29	26%	1,122	474	62%	169%
Watertown	YES	1,477	561	1,408	554	49	748	600	0	0%	1,527	830	104%	38%
Waverly	NO	4,105	1,685	4,070	1,651	107	3,733	1,711	0	0%	5,068	1,951	36%	14%
Westmoreland	YES	2,206	806	2,322	824	70	1,312	919	25	3%	1,832	1,857	40%	102%
White Bluff	NO	3,206	1,254	3,350	1,227	108	1,347	1,426	91	7%	1,810	1,852	34%	30%
White House	YES	10,255	3,628	11,107	3,973	114	7,501	4,305	218	5%	11,071	7,427	48%	73%

MPA = Nashville MPO metropolitan planning area

*Variation from 2017 ACS HH Estimates including Standard Error

Financial Planning Assumptions

Base Year Revenue

The FY 2019 Federal Apportionments serve as the base year revenue levels for Regional Transportation Plan. The following table depicts the resulting revenue levels by grant program at the national, state, and regional scale. The regional share of federal funding is based on the federally-mandated suballocation amounts for designated grants plus an assumed percentage of the state share for all other grants. The assumed regional share of statewide FHWA grants (e.g., NHPP, STBG, HSIP, RHCP, CMAQ, TAP, etc.) is 25%. The assumed regional share FTA 5310 and FTA 5339 grants is 15%. The assumed share of FTA 5311 is 10%.

FY 2019 Federal Apportionments	United States	Tennessee	Region (2)
Total FHWA and FTA Programs	57.6 B	\$988 M	\$260.5 M
FHWA Formula Grant Program Totals	\$42.9 B	\$893.0 M	\$225.3 M
National Highway Performance Program (NHPP)	\$23.7 B	\$491.8 M	\$122.9 M
Surface Transportation Block Grant Program (STBG) (1)	\$10.8 B	\$236.38 M	\$64.9 M
Highway Safety Improvement Program (HSIP)	\$2.4 B	\$50.9 M	\$12.7 M
Railway-Highway Crossing Program (RHCP)	\$240 M	\$5.2 M	\$1.3 M
Congestion Mitigation Air Quality Program (CMAQ)	\$2.4 B	\$38.3 M	\$9.6 M
Transportation Alternatives Program (TAP) (1)	\$850.0 M	\$19.0 M	\$5.2 M
Metropolitan and State Planning and Research Programs	\$1.2 B	\$23.1 M	\$1.7 M
FTA Formula Grant Program Totals	\$10.0 B	\$95.0 M	\$35.2 M
FTA 5307 Urbanized Area Transit Program (1)	\$5.3 B	\$52.8 M	\$25.7 M
FTA 5310 Enhanced Mobility Program (1)	\$278.2 M	\$6.0 M	\$1.1 M
FTA 5311 Rural Area Transit Program	\$716.4 M	\$21.2 M	\$2.1 M
FTA 5337 State of Good Repair Program (1)	\$2.9 B	\$4.5 M	\$3.0 M
FTA 5339 Buses and Bus Facilities (1)	\$695.4 M	\$8.7 M	\$2.8 M
Metropolitan and State Planning and Research Programs	\$138.4 M	\$1.9 M	\$0.5 M
Competitive Grant Program Totals	\$4.7 B		
BUILD Grant Program	\$900 M		
INFRA Grant Program	\$900 M		
FTA 5309 Capital Investments "New Starts" Program	\$2.5 B		
FTA 5339 Bus and Bus Facilities Competitive Program	\$423.2 M		

Sources: U.S. Dept of Transportation FHWA, FTA

Notes: (1) Requires a mandatory minimum suballocation of funding to urbanized areas; (2) Estimated regional share based on suballocation and assumed TDOT project distributions.

Revenue Forecasts

GNRC prepared three funding scenarios for review and comment by TDOT, transit agencies, and local governments who are represented by the Transportation Policy Board. Given the recent insolvency of the Highway Trust Fund, GNRC elected to use a 2 percent rate of growth per year over the life of the plan – a more conservative outlook than assumed in the 2040 Regional Transportation Plan adopted in February 2016.

The following table presents the anticipated federal revenue by grant program based on a 2 percent annual growth scenario.

25-Year Cumulative Forecast of Federal Grants and Matching Funds (Millions)	No Annual Growth	2 Pct Annual Growth	4.4 Pct Annual Growth
Total FHWA and FTA Programs	\$8,140.50	\$10,429.71	\$14,315.10
FHWA Formula Grant Program Totals	\$7,042.01	\$ 9,022.30	\$12,383.39
National Highway Performance Program (NHPP)	\$3,842.04	\$ 4,922.47	\$ 6,756.24
Surface Transportation Block Grant Program (STBG)	\$2,028.04	\$ 2,598.35	\$ 3,566.31
Highway Safety Improvement Program (HSIP)	\$ 397.83	\$ 509.71	\$ 699.59
Railway-Highway Crossing Program (RHCP)	\$ 40.41	\$ 51.77	\$ 71.06
Congestion Mitigation Air Quality Program (CMAQ)	\$ 299.21	\$ 383.35	\$ 526.16
National Highway Freight Program	\$ 221.43	\$ 283.70	\$ 389.38
Transportation Alternatives Program (TAP)	\$ 161.16	\$ 206.48	\$ 283.40
Metropolitan and State Planning and Research Programs	\$ 51.89	\$ 66.48	\$ 91.25
FTA Formula Grant Program Totals	\$1,098.50	\$ 1,407.41	\$ 1,931.71
FTA 5307 Urbanized Area Transit Program	\$ 803.13	\$ 1,028.98	\$ 1,412.30
FTA 5310 Enhanced Mobility Program	\$ 35.21	\$ 45.11	\$ 61.91
FTA 5311 Rural Area Transit Program	\$ 66.38	\$ 85.05	\$ 116.73
FTA 5337 State of Good Repair Program	\$ 92.65	\$ 118.71	\$ 162.93
FTA 5339 Buses and Bus Facilities	\$ 86.41	\$ 110.70	\$ 151.94
Metropolitan and State Planning and Research Programs	\$ 14.72	\$ 18.86	\$ 25.89

Project Cost Estimates & Year of Expenditure

Project cost estimates were provided by the project applicant and/or implementing agency. For cost estimates that were identified as “rough planning estimates,” GNRC verified and/or adjusted costs using best available information and/or with a cost estimation tool derived from TDOT project cost methodology.

Unless otherwise noted, all project costs reported in the plan are estimated for the expected year of expenditure, meaning that cost estimates include an adjustment to account the annual inflation of prices. For the short-term (2021-2025) planning horizon, project cost estimates submitted by sponsoring agencies were adjusted to the expected program year based on best available information. For the mid-term (2026-2035), and long-term (2036-2045) planning horizons, project cost estimates are inflated by 4 percent per year up to the mid-point of that horizon, or to the year 2030 and 2040, respectively for the mid- and long-term horizons. All inflationary adjustments were developed in cooperation with TDOT and local transit agencies.