

Department of Transportation

Mission To plan, coordinate, and implement a multimodal transportation system for Fairfax County that moves people and goods, consistent with the values of the community. The department's vision is that in the 21st century, Fairfax County will have a world-class transportation system that allows greater mobility of people and goods and enhances the quality of life.

Focus The Fairfax County Department of Transportation (FCDOT) coordinates and oversees all transportation-related projects, programs, and issues for Fairfax County, except human services transportation. Activities primarily include managing transportation funding; land use analyses and transportation planning; managing transportation capital projects; implementing traffic mitigation and parking management strategies; providing transit services; and implementing transportation demand management strategies. In addition, FCDOT provides technical and policy support to members of the County's Board of Supervisors who sit on various regional transportation groups, including the Washington Metropolitan Area Transit Authority (WMATA), the Virginia Railway Express (VRE), the Northern Virginia Transportation Authority (NVTA), the Northern Virginia Transportation Commission (NVTC), and the Metropolitan Washington Council of Governments' Transportation Planning Board (TPB). FCDOT also provides recommendations to the Board of Supervisors and the County Executive regarding transportation legislation before the Virginia General Assembly and the U.S. Congress.

Transportation Funding

The County directs significant resources toward transportation. In 2007 and 2014, voters approved \$110 million and \$100 million, respectively, in bond funding for transportation capital improvements. In 2020, voters approved \$160 million in bond funding for Fairfax County's share of Metro's capital improvement program to rehabilitate and modernize the Metrorail system, including purchasing new railcars and buses and building a new bus garage.

As authorized by the Virginia General Assembly, the County levies a commercial and industrial real estate property tax of \$0.125 per \$100 assessed value, the maximum allowed. In FY 2022, commercial and industrial real estate revenue projections have increased only slightly from the FY 2021 level, due primarily to the coronavirus pandemic and associated economic impact. In FY 2022, these taxes are anticipated to generate approximately \$62.0 million for transportation projects and services, as reflected in Fund 40010, County and Regional Transportation Projects.

Fund 40010 also includes funds supported by regional transportation fees and taxes levied in Northern Virginia jurisdictions and allocated by NVTA. Thirty percent of these regional revenues, estimated at \$41.3 million in FY 2022, is available directly to the County for roadway and transit projects and services. NVTA allocates the remaining 70 percent of these regional revenues for regional transportation projects such that each jurisdiction's total long-term benefit is approximately equal to the proportion of fees and taxes collected attributable to each jurisdiction. Consequently, in FY 2022, an estimated \$96.3 million will be available for transportation projects in Fairfax County. Thus, in FY 2022, the County anticipates receiving a total of approximately \$137.6 million in regional transportation funding, as reflected in Fund 40010, County and Regional Transportation Projects.

The County also provides annual funding for its allocated portion of the WMATA and the VRE operating and capital budgets, and for the operating costs and buses associated with Fairfax Connector bus operations. Details on the County's various transportation programs and funding may be found in Volume 2 under the following Funds:

- 30000, Metro Operations and Construction,
- 30040, Contributed Roadway Improvements,
- 30050, Transportation Improvements,
- 40000, County Transit Systems,

- 40010, County and Regional Transportation Projects,
- 40110 and 40120, Dulles Rail Phases 1 and 2 Transportation Improvement Districts,
- 40125, Metrorail Parking System Pledged Revenues,
- 40180, Tysons Service District,
- 40190, Reston Service District,
- 50000, Federal and State Grants, and
- 70000, Route 28 Tax District

Strategic Initiatives

FCDOT is involved in several long-term initiatives that will transform the County's transportation system, improve mobility and access, and promote economic opportunity, as well as support other priority areas in the County's strategic plan. At nearly \$6.0 billion, the Silver Line Metrorail Project, led by the Metropolitan Washington Airports Authority (MWAA) in conjunction with the Commonwealth of Virginia, Fairfax County, Loudoun County, and WMATA, is by far the largest and most visible. Upon completion, the project will extend the Metrorail system by 23 miles and 11 stations through Tysons and the Dulles Corridor. The project will more than double the number of Metrorail stations in the County, providing new mass transit services to the fastest growing corridor in the County and Northern Virginia.

The Silver Line is being constructed in two phases: on July 26, 2014, Phase I was complete and in operation, adding nearly 12 miles of track serving Tysons and Reston at Wiehle Avenue. Phase II will include an additional 11 miles of track continuing through the western part of the Dulles Corridor to Dulles International Airport and Route 772 in Loudoun County. Phase II is anticipated to be substantially complete in Fall 2021. The WMATA Board of Directors will determine the date passenger service operations will begin after the extension is fully tested.

As part of the Silver Line Phase II project, the County constructed two new parking garages, as well as kiss-and-ride lots, bus facilities, bike facilities, and pedestrian amenities at the Herndon Station and the Innovation Center Station. FCDOT will operate both garages, as well as maintain the new associated facilities. The Herndon Station garage was completed in April 2019, providing 1,950 parking spaces. The Innovation Center Station garage, with 2,032 spaces, was completed in spring 2020. To create a more walkable, bikeable, transit-friendly environment, the supporting infrastructure for the Innovation Center Station is being completed through a public-private partnership with Nugget Joint Venture, LLC's future mixed-use development. FCDOT will continue efforts to implement transit-oriented development at Innovation Center Station, as well as other Phase II stations.

In addition to the Silver Line, FCDOT is involved in other high-profile regional initiatives to improve mobility and reduce traffic congestion. In collaboration with the Virginia Department of Transportation (VDOT) and others, FCDOT provides input and technical support on the Transform I-66 Express Lanes and I-495 Next Express Lanes projects. Activities primarily include public outreach, planning and designing interchanges and parallel trail networks, assessing right-of-way and maintenance impacts, and addressing neighborhood impacts.

In terms of new transit options, FCDOT serves a lead role in advancing the County's initial efforts to implement Bus Rapid Transit (BRT). The Richmond Highway BRT project will be completed in two phases, from Huntington Metrorail Station to Hybla Valley and from Hybla Valley to Fort Belvoir, over an estimated ten-year period due to extensive planning, design, and right-of-way acquisition requirements. In FY 2018, the Board of Supervisors approved the Embark Richmond Highway Comprehensive Plan Amendment, adopting land use plans necessary to facilitate BRT along the corridor. FCDOT assisted in preparing environmental documentation and completing the initial BRT

system design. FCDOT has also begun developing urban street standards and refining the layout for the grids of streets located in and around future BRT stations, shaping the community for the foreseeable future.

In addition, FCDOT is implementing BRT along the Route 7 corridor, coordinating with NVTC to assess multimodal travel needs between Tysons and the City of Alexandria. NVTC has recommended approximately 11 miles of BRT service, primarily in dedicated lanes, between the Spring Hill Metrorail Station and Mark Center in Alexandria. To promote and improve access to transit, FCDOT is completing a more detailed independent study of options to implement BRT along Route 7 between Spring Hill Metrorail Station and I-66, including evaluating routing alignments, station locations, and multimodal street cross sections.

In other efforts to support the County's strategic goals, FCDOT evaluates the transportation impacts of proposed land use changes within the Comprehensive Plan. In FY 2020 and FY 2021, FCDOT evaluated the transportation impacts of proposed land use changes in several areas, such as North Gateway along Richmond Highway, Fair Oaks Mall, the West Falls Church Metrorail Station, and the McLean Community Business Center. These efforts included labor-intensive land use analysis, civil engineering design reviews, traffic impact assessments, and negotiation among stakeholders to develop the best solution in terms of future land use, transportation impact, and community quality of life. In FY 2022, FCDOT will be similarly involved in evaluating land use nominations as part of the Site-Specific Plan Amendment process in the Mason, Lee, and Mount Vernon Districts, as well as evaluating the transportation impacts of proposed changes included in the Reston Comprehensive Plan Amendment.

At a more detailed level, FCDOT partners with other County agencies to improve efficiency and effectiveness in the land development process and respond strategically to development opportunities. FCDOT, the Department of Planning and Development, and Land Development Services participate on multi-disciplinary teams reviewing land use applications and site plans which include high-density urban development, particularly in the Tysons Urban Core and Reston, as well as in Huntington and other areas along the Richmond Highway Corridor. During the process, FCDOT negotiates commitments from developers to implement Transportation Demand Management (TDM) strategies to reduce dependency on single-occupancy vehicles and create more multimodal environments. The projects underway in Huntington represent successful collaboration between FCDOT and other County agencies as proposed land use changes progress concurrently through the various stages of the land development process as the Richmond Highway BRT project is being designed. This collaborative approach will become increasingly critical in managing demand on the transportation network as the County continues shifting to high-intensity development in urban, transit-oriented areas.

From a long-term perspective, FCDOT is engaged in several analyses and studies that will shape the transportation network through 2040. For example, FCDOT has initiated a study to evaluate options to replace the current Seven Corners interchange with a ring road in a phased approach. The Fairfax County and Franconia-Springfield Parkways Alternatives Analysis and Long-Term Planning Study is evaluating current Comprehensive Plan recommendations for over 30 roadway miles. Using FCDOT's Traffic Forecasting Model to determine future network deficiencies, FCDOT has developed potential mitigation strategies, solicited extensive public input, and ultimately will propose recommendations for the Board of Supervisors to consider including in the Comprehensive Plan. Each analysis or study requires significant technical expertise and time to evaluate traffic conditions, develop mitigation strategies, and accurately forecast future traffic demand.

Transportation Priorities Plan

On January 28, 2014, the Board of Supervisors approved the FY 2015 – FY 2020 Transportation Priorities Plan (TPP) to improve the transportation network and prioritize use of limited resources. The TPP contained 220 projects valued at \$1.4 billion, primarily funded by local and regional sources over the six-year period. In 2016, FCDOT initiated an update to the TPP for the FY 2018 – FY 2023 period based on \$600 million in estimated new revenues to fully fund existing projects, as well as new projects. However, in March 2018, the Virginia General Assembly approved a dedicated funding source for Metrorail capital improvements, diverting regional funding previously anticipated to be available for these projects.

Due to reduced funding, as well as continually increasing transportation project costs, FCDOT was required to adjust schedules for projects already underway, defer and/or eliminate some projects, and was unable to add any new projects. On December 3, 2019, the Board of Supervisors approved the FY 2020 – FY 2025 TPP, totaling a little over \$3.0 billion, including funding for roadway capital projects, such as widenings, extensions, interchanges, and spot/intersection improvements; bicycle, pedestrian, and transit improvement projects; and transit services. Given recent changes in transportation funding resulting from the 2020 Virginia General Assembly session, the economic impact of the coronavirus pandemic, and increasing project costs, FCDOT is unable to recommend significant new transportation projects be added to the TPP in FY 2022.

Despite uncertain future resources, FCDOT continues to coordinate and/or manage a large and complex project portfolio, comprising over 220 multimodal projects worth over \$10.5 billion. In FY 2020, FCDOT held initial project coordination meetings with other state and local agencies and completed three project scoping packages. In cooperative efforts, FCDOT and VDOT completed 42 projects, such as the Kirby Road, Dolley Madison Boulevard, and Lee Chapel Road walkway projects, as well as the Old Courthouse Road and Richmond Highway sidewalk projects, among others. At the beginning of FY 2021, an additional 30 projects were under construction. In addition, to date, FCDOT and VDOT have completed 33 traffic signal projects as part of VDOT's traffic signal rebuild program, improving travel time, reliability, and mobility. Further, in a multi-year effort to improve bus stop safety and accessibility, FCDOT completed 26 bus stop improvement projects in FY 2018, 51 in FY 2019, 27 in FY 2020, and anticipates completing an additional 30 projects in FY 2021.

Traffic Mitigation and Parking Management Programs

Over the last decade, traffic across Fairfax County has become increasingly congested. To identify alternative routes, drivers rely on wayfinding applications, such as WAZE, resulting in increased cut-through traffic and speeding in residential neighborhoods, particularly near interstates and arterial roads. To improve safety and neighborhood livability, FCDOT administers several residential traffic mitigation programs, such as the Cut-Through Mitigation, Traffic Calming, Through Truck Restriction, Additional \$200 Fine for Speeding, and Watch for Children programs. Due to recent legislative and regulatory changes, requests for cut-through mitigation and traffic calming projects are steadily increasing. FCDOT collects and analyzes data, conducts community outreach, and coordinates with relevant parties to identify the best option for each community's unique traffic concern.

In a related effort to improve neighborhood livability, FCDOT administers the Residential Permit Parking District and Community Parking District programs to manage parking, primarily in neighborhoods negatively impacted by significant numbers of commuters and/or students parking on residential streets. Managing parking in residential areas through these programs ensures that street parking is readily available for residents.

Public Transit and Other Transportation Alternatives

FCDOT manages the Fairfax Connector bus system, the largest local bus system in the Northern Virginia region. With a fleet of 329 buses and services provided by a private contractor, Fairfax Connector transports approximately 30,000 passengers on 93 routes daily, serving 11 Metrorail stations, five VRE commuter rail stations, and several County-owned transit centers. In the latter part of FY 2020 through FY 2021, however, the coronavirus pandemic (COVID-19) resulted in significant changes to Fairfax Connector operations and ridership. To continue providing essential transit services and comply with public health guidance, in March 2020, Fairfax Connector implemented rear-door boarding and suspended fare collection, minimizing contact between passengers and drivers. As more information regarding the pandemic became available, in April 2020, Fairfax Connector adjusted service levels, continuing to provide regular service on 38 routes, while reducing service on 14 routes and discontinuing service on 38 routes.

After statewide restrictions were lifted, Fairfax Connector restored service to previous levels on August 29, 2020. By installing polycarbonate driver shields to protect both drivers and passengers, Fairfax Connector was able to safely resume front-door boarding and fare collection on January 4, 2021. Despite ridership falling sharply during this period, ridership has begun to recover on many routes and has recovered on weekends. Given recent surges in COVID-19 cases and a challenging vaccination effort nationwide, FCDOT anticipates reduced ridership through FY 2022.

Aside from the pandemic, FCDOT seeks to continually improve mobility and access and respond to passenger needs. With funding from NVTC, Fairfax Connector provides express bus service on four routes using managed High Occupancy Toll (HOT) lanes: Routes 699, 698, and 697 along I-66 and Route 396 along I-395. In December 2017, Route 699 began passenger service, providing a direct link between the Fairfax County Government Center and downtown D.C. As of March 2020, Route 699 provided over 3,000 passenger trips per week, a total of over 238,600 passenger trips since route inception. In January 2019, Route 698 began passenger service, providing a direct link from the Vienna Metrorail Station to the Pentagon. As of March 2020, Route 698 provided over 1,500 passenger trips per week, a total of approximately 67,800 passenger trips since inception. In January 2020, Route 396 began passenger service along the I-395 corridor, improving connectivity from Springfield to the Pentagon. Subsequently, in August 2020, Route 697 began passenger service between the Stringfellow Road Park and Ride Lot and L'Enfant Plaza. In FY 2021, to further improve system efficiency and reliability, FCDOT also adjusted existing Routes 334, 699, and 721, as well as added three new routes to link major employment centers to Metrorail stations and activity centers.

To improve operational efficiency, maximize resources, and attract riders, Fairfax Connector initiated a route optimization planning process, as well as implemented new technology. The route optimization planning process involves examining routes and ridership, conducting public outreach, and soliciting stakeholder input across the system by regional sections, each section based on a major Metrorail station or activity center used as a Fairfax Connector transit center. In FY 2019, FCDOT began the planning process to optimize routes in the Franconia-Springfield and Reston-Herndon areas, expanding to Vienna and Tysons in FY 2020. In FY 2022, FCDOT will launch route optimization efforts in the Huntington area as part of the larger Richmond Highway BRT project. It is anticipated that route optimization efforts will be complete by the end of FY 2022.

In terms of new technology, FCDOT has implemented Phase I of an Intelligent Transportation System (ITS), including advanced technology for computer-aided dispatching and automatic vehicle locator systems, mobile data terminals, automated passenger counters, stop annunciators, and real-time passenger information. Using ITS data, FCDOT improves Fairfax Connector services by implementing more efficient bus schedules and refining routes more quickly. To improve the

customer experience, FCDOT also launched “Bus Tracker”, a mobile application providing predicted bus arrival times and system alerts.

To promote transit as a life-long transportation option, improve access to educational, recreational, and economic opportunities, and support self-sufficiency, FCDOT administers the Free Student Bus Pass Program. The program provides free access to Fairfax Connector and City of Fairfax CUE service from 5:00 a.m. to 10:00 p.m., seven days a week, year-round to Fairfax County middle and high school students. From September 2015 through February 2020, the program grew steadily, providing over 1.8 million student passenger trips, an average of 44,000 per month or nearly seven percent of all Fairfax Connector passenger trips. As of July 2020, approximately 12,500 students, or 13 percent, of more than 96,000 eligible middle and high school students participated in the program. In Fall 2018, the Free Student Bus Pass Program was expanded to include a pilot with WMATA providing free access on select Northern Virginia Metrobus routes for Justice High School students. Pilot program participation also grew steadily, providing approximately 69,000 Metrobus trips to Justice High School students from September 2018 until February 2020.

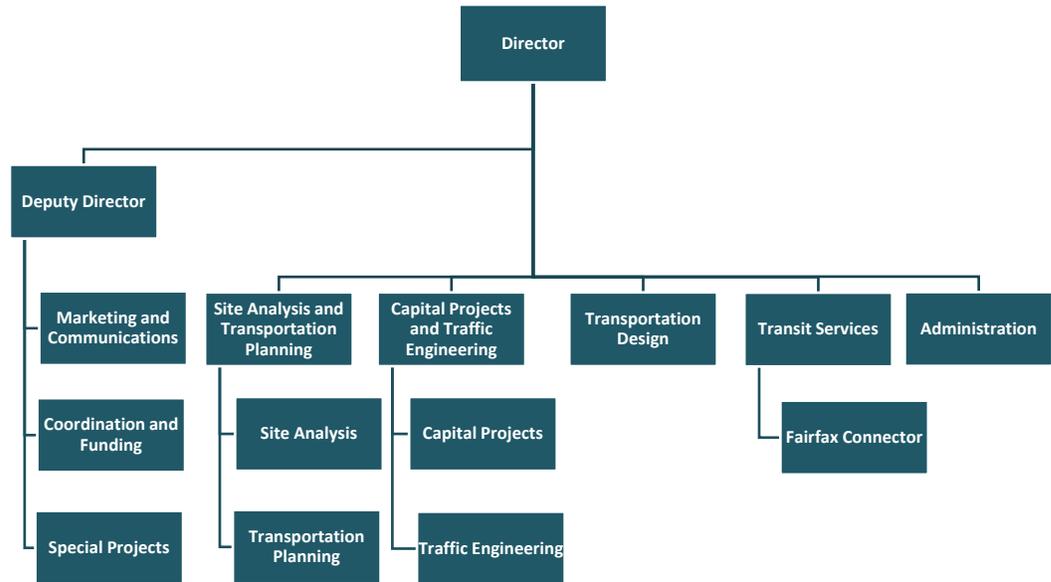
To promote other transportation alternatives, the Board of Supervisors authorized \$536 million in high-priority bicycle and pedestrian improvement projects through FY 2025, including construction of facilities in high-priority areas. FCDOT’s Active Transportation Program oversees many of these projects and manages complementary programs to support active transportation, such as Capital Bikeshare. In October 2016, FCDOT launched Capital Bikeshare in Reston and Tysons, later adding additional stations, as well as new locations in West Falls Church and Merrifield. As of FY 2021, FCDOT manages 35 stations in Fairfax County, with plans for expansion towards the end of FY 2021 or beginning of FY 2022.

To promote TDM strategies, such as teleworking, biking, ridesharing, and using public transit as alternatives to single-occupancy vehicles, FCDOT administers the Fairfax County Commuter Services Program (FCCS). FCCS partners with and offers incentives to major employers, developers, and multi-family residential complexes to encourage alternative commuting options. To date, FCCS has engaged more than 1,600 employers and multi-family residential communities, providing commuter information, resources, and benefits to nearly half a million employees working in Fairfax County.

Pandemic Response and Impact

In response to COVID-19, Metrorail, Metrobus, MetroAccess, and Fairfax Connector adjusted service to continue to provide essential trips and comply with public health guidance. From March 2020 through August 2020, Fairfax Connector operated at a reduced level of service. In August 2020, after statewide restrictions were lifted, Fairfax Connector restored service to previous levels. In January 2021, Fairfax Connector safely resumed front-door boarding and fare collection. During this period, both Metro and Fairfax Connector experienced a significant drop in ridership and consequently, fare revenue. To continue providing essential transit services and comply with new requirements to protect public health, both transit systems received relief under the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act. Additionally, the economic impacts of the pandemic have adversely affected both state transportation revenues, such as gas tax, and local transportation revenues, such as the commercial and industrial (C&I) tax, adding to the challenge of providing typical levels of transit services and funding priority capital projects.

Organizational Chart



Staff associated with the above divisions is reflected here, in the General Fund Department of Transportation, as well as in Fund 40010, County and Regional Transportation Projects (Volume 2).

Budget and Staff Resources

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised	FY 2022 Adopted
FUNDING					
Expenditures:					
Personnel Services	\$9,570,685	\$10,303,637	\$10,259,137	\$10,343,497	\$10,446,929
Operating Expenses	1,051,479	468,337	1,344,455	468,337	468,337
Capital Equipment	6,732	0	0	0	0
Subtotal	\$10,628,896	\$10,771,974	\$11,603,592	\$10,811,834	\$10,915,266
Less:					
Recovered Costs	(\$1,953,318)	(\$1,827,837)	(\$1,827,837)	(\$1,827,837)	(\$1,827,837)
Total Expenditures	\$8,675,578	\$8,944,137	\$9,775,755	\$8,983,997	\$9,087,429
Income:					
Bicycle Locker Rentals	\$4,210	\$6,460	\$6,460	\$6,460	\$6,460
Proposed Vacation Fees	650	400	400	400	400
Restricted Parking Fees	610	2,080	2,080	2,080	2,080
Total Income	\$5,470	\$8,940	\$8,940	\$8,940	\$8,940
NET COST TO THE COUNTY	\$8,670,108	\$8,935,197	\$9,766,815	\$8,975,057	\$9,078,489
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)					
Regular	124 / 124	124 / 124	125 / 125	125 / 125	125 / 125

This department has 7/6.5 FTE Grant Positions in Fund 50000, Federal-State Grants.

**FY 2022
Funding
Adjustments**

The following funding adjustments from the FY 2021 Adopted Budget Plan are necessary to support the FY 2022 program. Included are all adjustments recommended by the County Executive that were approved by the Board of Supervisors, as well as any additional Board of Supervisors' actions, as approved in the adoption of the Budget on May 4, 2021.

Employee Compensation **\$103,432**
 An increase of \$103,432 in Personnel Services is included for a 1.00 percent market rate adjustment (MRA) for all employees effective July 2021.

Position Adjustment **\$39,860**
 An increase of \$39,860 in Personnel Services is associated with 1/1.0 FTE position transferred from Agency 79, Department of Neighborhood and Community Services, to Agency 40, Department of Transportation, in FY 2021 in order to align resources in response to the pandemic.

**Changes to
FY 2021
Adopted
Budget Plan**

The following funding adjustments reflect all approved changes in the FY 2021 Revised Budget Plan since passage of the FY 2021 Adopted Budget Plan. Included are all adjustments made as part of the FY 2020 Carryover Review, FY 2021 Mid-Year Review, FY 2021 Third Quarter Review, and all other approved changes through April 30, 2021.

Carryover Adjustments **\$726,118**
 As part of the *FY 2020 Carryover Review*, the Board of Supervisors approved encumbered funding of \$726,118 in Operating Expenses, primarily associated with contracted studies and consulting; purchase of Yield to Pedestrian signs; office security enhancements; building maintenance; Washington Metropolitan Area Transit Authority Smart Trip Benefits; contracted Virginia Department of Transportation mowing; and training and recruitment requirements.

Third Quarter Adjustments **\$105,500**
 As part of the *FY 2021 Third Quarter Review*, the Board of Supervisors approved an increase of \$105,500 in Personnel Services for a one-time compensation adjustment of \$1,000 for merit employees and \$500 for non-merit employees paid in May 2021.

Position Adjustment **\$0**
 In order to align resources in response to the pandemic, 1/1.0 FTE position was transferred from Agency 79, Department of Neighborhood and Community Services, to Agency 40, Department of Transportation, in FY 2021.

Cost Centers

The four cost centers in the Department of Transportation are: Administration, Coordination, Funding and Special Projects; Site Analysis and Transportation Planning; Capital Projects, Traffic Engineering and Transportation Design; and Transit Services. Working together, all FCDOT team members seek to fulfill the agency mission and carry out the key initiatives of the department.

Administration, Coordination, Funding and Special Projects

This cost center, which includes the Director and the Deputy Director, provides leadership, strategic planning, coordination, administrative, and other business support to FCDOT. In addition, it includes the Special Projects Section which coordinates with MWAA, the Commonwealth of Virginia, Loudoun County, WMATA, NVTA, and other Fairfax County agencies on the Metrorail Silver Line, Transform I-66 Express Lanes and I-495 Next Express Lanes projects.

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised	FY 2022 Adopted
EXPENDITURES					
Total Expenditures	\$2,760,227	\$1,563,841	\$2,013,145	\$1,609,792	\$1,623,460
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)					
Regular	28 / 28	28 / 28	28 / 28	28 / 28	28 / 28

Site Analysis and Transportation Planning

The Site Analysis and Transportation Planning cost center is primarily responsible for shaping Fairfax County's transportation plan. Staff evaluate the transportation impacts of proposed land use changes within the Comprehensive Plan, develop multimodal transportation plans, and negotiate commitments from developers to implement Transportation Demand Management (TDM) strategies. These efforts mitigate the impact of land use changes on the transportation system, reducing dependency on single-occupancy vehicles and creating more multimodal environments for those who live, work, travel, and do business in Fairfax County.

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised	FY 2022 Adopted
EXPENDITURES					
Total Expenditures	\$1,913,046	\$2,532,316	\$2,679,316	\$2,532,316	\$2,557,745
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)					
Regular	26 / 26	26 / 26	26 / 26	26 / 26	26 / 26

Capital Projects, Traffic Engineering and Transportation Design

The Capital Projects, Traffic Engineering and Transportation Design cost center primarily manages transportation capital projects and implements traffic mitigation and parking management programs. Staff follow capital projects from initial prioritization through scoping, preliminary and final design, land acquisition, construction, and, in some cases, after construction. Activities include developing project scopes, managing studies, reviewing preliminary and final engineering plans, performing right-of-way and environmental analyses, and reviewing and monitoring transportation capital projects. Staff coordinate and manage projects for facilities such as park-and-ride lots, transit transfer centers, roadway widenings, extensions, interchanges, spot/intersection improvements, bicycle and pedestrian improvements, and bus shelters and pads. Staff also administer residential traffic mitigation and parking management programs.

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised	FY 2022 Adopted
EXPENDITURES					
Total Expenditures	\$1,900,901	\$2,494,800	\$2,649,439	\$2,494,800	\$2,531,755
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)					
Regular	40 / 40	40 / 40	40 / 40	40 / 40	40 / 40

Transit Services

The Transit Services cost center is responsible for providing Fairfax Connector bus service. Transit Services is responsible primarily for: operations and capital project planning; contract management; fleet maintenance oversight; park-and-ride lots and transit centers management; IT systems implementation and management; quality assurance; communications; and customer service. Contracted service providers operate Fairfax Connector bus service, a telephone information center, and several transit stores. Funding to operate the Fairfax Connector is included in Fund 40000, County Transit Systems.

This cost center also includes the Marketing and Communications Section responsible for FCDOT's community outreach, marketing, and communications efforts, as well as the Fairfax County Commuter Services (FCCS) program. The FCCS program promotes TDM strategies, such as teleworking, biking, ridesharing, and using public transit, as alternatives to single-occupancy vehicles to reduce traffic congestion and air pollution.

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised	FY 2022 Adopted
EXPENDITURES					
Total Expenditures	\$2,101,404	\$2,353,180	\$2,433,855	\$2,347,089	\$2,374,469
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)					
Regular	30 / 30	30 / 30	31 / 31	31 / 31	31 / 31

Position Detail

The FY 2022 Adopted Budget Plan includes the following positions:

ADMINISTRATION, COORDINATION, FUNDING AND SPECIAL PROJECTS – 28 Positions			
1	Director	1	Geographic Info. Spatial Analyst II
2	Transportation Division Chiefs	1	Geographic Info. Systems Tech.
1	Transportation Planner V	1	Management Analyst IV
3	Transportation Planners IV	3	Financial Specialists II
4	Transportation Planners III	1	Administrative Associate
3	Transportation Planners II	1	Administrative Assistant V
1	Business Analyst IV	2	Administrative Assistants IV
1	Business Analyst III	1	Administrative Assistant III
1	Network/Telecom Analyst II		
CAPITAL PROJECTS, TRAFFIC ENGINEERING AND TRANSPORTATION DESIGN – 40 Positions			
2	Division Chiefs	2	Transportation Planners IV
3	Engineers V	7	Transportation Planners III
2	Engineers IV	3	Transportation Planners II
2	Senior Engineers III	1	Transportation Planner I
11	Engineers III	4	Planning Technicians II
2	Engineer Technicians III	1	Administrative Assistant II
TRANSIT SERVICES – 31 Positions			
1	Division Chief	1	Communications Specialist III
1	Management Analyst IV	1	Communications Specialist II
2	Transportation Planners V	1	Information Officer II
4	Transportation Planners IV	2	Administrative Assistants III
8	Transportation Planners III	2	Administrative Assistants II
7	Transportation Planners II	1	Planning Aide
SITE ANALYSIS AND TRANSPORTATION PLANNING – 26 Positions			
1	Division Chief	9	Transportation Planners III
2	Transportation Planners V	10	Transportation Planners II
3	Transportation Planners IV	1	Transportation Planner I

Performance Measurement Results

The Coordination and Funding Division researches and applies for federal, state, and regional grants to support the County's transportation needs. The actual value of grants awarded to FCDOT for FY 2020 was \$164.78 million, a decrease of \$10.22 million from the estimate of \$175.0 million or almost six percent. FCDOT applied for \$1.8 billion in regional discretionary funding from NVTA for FY 2018 through FY 2025, with a total of \$730.0 million awarded to support multiple projects over the period. In addition to project schedules and cash flow requirements, federal, state, and regional transportation grant programs span multiple fiscal years, often resulting in significant variability between estimated versus actual awards in a fiscal year, as well as variability in actual awards from year to year. In addition, different funding opportunities across different grant award periods are available each year. For instance, Smart Scale, the Commonwealth's primary vehicle for funding large-scale transportation projects, and regional NVTA funding are each awarded every two years on an alternating basis (e.g., Smart Scale funds will be awarded in FY 2021 and NVTA funds will be in FY 2022). As a result, it is difficult to predict with any degree of certainty how many grant funding opportunities and associated funding will be available in future years. Aside from the federal Better Utilizing Investments to Leverage Development (BUILD) and the Infrastructure for Rebuilding America (INFRA) grant programs, FCDOT does not anticipate significant opportunities for additional federal funding in FY 2022. However, FCDOT will pursue all relevant grant opportunities to meet the County's transportation needs, and will take advantage of any adjustments in federal grant programs under the new administration.

The Transportation Design Division (TDD) manages transportation capital projects to meet the County's evolving transportation needs within constrained resources. To this end, TDD seeks to improve project development efficiency and effectiveness to meet industry standards for design costs as a percentage of total project costs by project type. Most transportation projects span multiple fiscal years with design costs typically incurred in one fiscal year and construction costs incurred in subsequent fiscal years. Based on the number of projects in the design versus construction phases, as well as project schedules and cash flow requirements, there may be significant variability between targets, estimates, and actuals in a fiscal year, as well as actuals from year to year.

In FY 2020, TDD did not achieve the goals for design costs as a percentage of total project costs for roadway projects, the largest projects in both scope and cost. The actual percentage of roadway project design costs was 28.93 percent of total project costs, higher than the 22.16 percent estimate and the 12.5 percent goal. This result is primarily attributable to the estimated \$78.8 million Route 28 Widening project which did not begin construction until the very end of FY 2020. TDD anticipates continued improvements in roadway project performance in FY 2021 and FY 2022 as several roadway projects move into the construction phase, such as the Braddock Road/Roberts Road intersection improvement, Burke Road realignment, and Old Courthouse Road projects.

In FY 2020, TDD met industry design cost standards for pedestrian/sidewalk/trail projects and bus stop safety improvements, but narrowly missed meeting the industry design cost standard for other projects. Due to the completion of numerous pedestrian/sidewalk/trail projects during FY 2020, design costs were 19.74 percent of total project costs, less than the 27.0 percent estimate and the 25.0 percent goal. While TDD anticipates further improvement in this measure in FY 2021, due to funding constraints, TDD expects fewer new projects will enter the design phase in FY 2022 and perhaps beyond, shifting construction costs to later years. As a result, in FY 2022, design costs are estimated to represent 32.00 percent of total pedestrian/sidewalk/trail project costs versus the 25.00 percent goal. For bus stop safety improvements, in FY 2020, design costs were 25.37 percent of total project costs, slightly higher than the 24.44 percent estimate, but lower than the industry standard of 35.00 percent. Lastly, the Rolling Road VRE parking lot expansion project was the only other project in the design phase in FY 2020. Consequently, other project design costs accounted for 20.26 percent of total project costs, lower than the 31.91 percent estimate, but narrowly missing the 20.00 percent industry standard.

Cumulative costs over the typical transportation capital project life span, (e.g., the beginning of the design phase through construction completion) by project type represent a more accurate measure of project development efficiency and effectiveness. For roadway improvements, the typical development cycle may be up to ten years; for pedestrian/sidewalk/trail projects, up to five years; bus stop safety improvements, up to three years; and other projects, up to five years. From FY 2011 through FY 2020, roadway project cumulative design costs represented 12.40 percent of total project costs, slightly below the 12.50 percent industry standard. From FY 2016 through FY 2020, pedestrian/sidewalk/trail project cumulative design costs were 27.63 percent, only slightly higher than the 25.00 percent industry standard. From FY 2018 through FY 2020, bus stop safety improvement cumulative design costs were 29.35 percent of total project costs, below the 35.00 percent industry standard. From FY 2016 through FY 2020, other project cumulative design costs were 17.98 percent of total project costs, also less than the 20.00 percent industry standard. In FY 2023, TDD anticipates updating objectives to incorporate cumulative data, as well as aligning measures with the County's strategic plan.

Fairfax Connector has long served as a critical component of the regional transportation network, improving mobility, providing access to jobs, and promoting self-sufficiency. As evidenced during the coronavirus pandemic, Fairfax Connector also supports the region's efforts to maintain essential functions, continuing to provide transit services, particularly vital to front-line workers who rely on public transportation. Nevertheless, similar to national and regional trends, the coronavirus pandemic had a significant impact on ridership in FY 2020, with Fairfax Connector providing 6,783,112 passenger trips, a decrease of 1,551,504 or 18.62 percent from FY 2019 levels.

While the ongoing pandemic is anticipated to reduce ridership from pre-pandemic levels through FY 2022, ridership on Fairfax Connector has returned to approximately 60 percent of pre-pandemic levels. In addition, as of September 2020, weekend ridership has recovered to near pre-pandemic levels. With vaccination efforts underway and additional safety measures on Fairfax Connector buses in place, FCDOT anticipates ridership to provide 7,100,000 passenger trips in FY 2022, a 4.6 percent increase over FY 2020. Aside from the pandemic, Fairfax Connector focuses on customer satisfaction to continually improve service and increase ridership. Despite the pandemic's impact on Fairfax Connector operations, the number of complaints rose modestly from 33 per 100,000 passenger trips in FY 2019 to 34 per 100,000 in FY 2020.

In FY 2020, the Fairfax County Commuter Services (FCCS) program continued to make a significant contribution to reducing the number of single-occupant vehicle commuting trips, providing information regarding carpooling, vanpooling, teleworking, and transit to 17,651 FCCS ridesharing applicants, an increase of nearly 12 percent over FY 2019. In addition, companies offering Employer TDM programs increased nearly two percent from FY 2019 to FY 2020, with the two most popular programs being Best Workplaces for Commuters and Smart Benefits Plus \$50. While these increases are partially attributable to enhanced program outreach, marketing, and incentives, Metrorail service disruptions and construction projects affecting major travel corridors, such as I-66, resulted in an increased number of commuters seeking alternatives to single-occupant vehicle travel. In FY 2021, the impacts of the coronavirus pandemic continue to be a significant factor affecting demand for ridesharing programs, transit options, and the number of employers offering or enhancing TDM programs, such as formal telework programs and flexible work schedule policies.

The Site Analysis and Transportation Planning Division collaborates with developers to mitigate the impact of land development on the County's transportation system through Transportation Demand Management (TDM) programs, with developers reporting performance towards trip reduction goals annually. In FY 2020, 29 of 30 developments, or 96.6 percent, reported meeting their proffered trip reduction commitments, slightly exceeding the 95 percent goal. While one development did not meet their goals, the developer worked with Site Analysis staff to revise their TDM plan and strategies and subsequently met their trip reduction goals in the first quarter of FY 2021.

Notwithstanding the coronavirus pandemic's impact on commuting patterns from the latter part of FY 2020 through FY 2021, FCDOT anticipates performance to improve in FY 2021 and FY 2022, even as more developments with TDM commitments submit annual reports for the first time. Data over three previous fiscal years indicates that new developments are likely to meet their trip reduction goals given that tenants are more likely to alter commuting habits when buildings are initially occupied, their travel paths and modes not well-established, and TDM programs focus marketing and outreach to influence new commuting habits. As most of the developments reporting in FY 2019 and FY 2020 surpassed their TDM goals by more than five percent, it is unlikely that a significant number of tenants would change their commuting habits, such that the developments would not meet their goals in FY 2021 and FY 2022.

Department of Transportation

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Administration, Coordination, Funding and Special Projects						
Grants awarded	21	20	22	13	13	13
Value of grants awarded (in millions)	\$57.34	\$199.40	\$175.00	\$164.78	\$165.00	\$165.00
Capital Projects, Traffic Engineering and Transportation Design						
Roadway Improvements: Construction Cost as a Percent of Total Cost	88.67%	26.38%	63.87%	59.06%	85.00%	74.00%
Roadway Improvements: Design Cost as a Percent of Total Cost	9.28%	55.35%	22.16%	28.93%	9.00%	9.00%
Pedestrian/Sidewalk/Trail: Construction Cost as a Percent of Total Cost	57.97%	53.47%	60.00%	70.75%	61.00%	55.00%
Pedestrian/Sidewalk/Trail: Design Cost as a Percent of Total Cost	28.32%	30.80%	27.00%	19.74%	20.00%	32.00%
Bus Stop Safety/Shelter: Construction Cost as a Percent of Total Cost	26.41%	67.52%	66.67%	64.82%	65.00%	70.00%
Bus Stop Safety/Shelter: Design Cost as a Percent of Total Cost	45.77%	23.69%	24.44%	25.37%	25.00%	20.00%
Other/Miscellaneous Projects: Construction Cost as a Percent of Total Cost	93.19%	84.30%	63.83%	78.84%	79.00%	70.00%
Other/Miscellaneous Projects: Design Cost as a Percent of Total Cost	6.81%	0.34%	31.91%	20.26%	20.00%	25.00%
Transit Services						
Percent change in Fairfax Connector passenger trips	(3.7%)	0.3%	0.3%	(18.6%)	(10.1%)	16.4%
Percent change in ridesharing applicants assisted by FCCS program	9.8%	5.0%	2.0%	11.9%	0.0%	2.0%
Percent change in companies implementing new Transportation Demand Management (TDM) programs	3.3%	21.8%	3.5%	1.7%	2.8%	2.8%
Site Analysis and Transportation Planning						
Percentage of Developments Meeting Proffered TDM Goals	94.1%	100.0%	100.0%	96.6%	100.0%	100.0%

A complete list of performance measures can be viewed at <https://www.fairfaxcounty.gov/budget/fy-2022-adopted-performance-measures-pm>