

# CAPITAL IMPROVEMENT PROGRAM

*This section includes a description of the major capital achievements of fiscal year 2017 and the programs that make up the 2018 – 2023 Capital Improvement Program. Included are program descriptions and a listing of the budgeted appropriations by project category.*







# COMMUNITY SERVICES

## CAPITAL IMPROVEMENT PROGRAMS

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Capital Improvement programs for the Department of Community Services are comprised of projects that help provide a comprehensive and coordinated system of facilities for the provision of high-quality recreational, educational, health and human services, and other services to Gwinnett County residents. Projects in these programs include the construction and/or renovation of senior centers, community centers, and parks and recreational facilities. Parks and recreation projects involve providing quality parks and recreational facilities such as passive and active park land, sports fields, tennis complexes, aquatic centers, multi-use trails, playgrounds, picnic pavilions, and other park amenities.

### 2017 Capital Achievements

The County expanded the land base for park services by acquiring 40.65 acres adjoining Alexander Park that will become the Ezzard Nature Preserve. The County also acquired two historic houses: the Hudson Nash House to restore and move onto County property and another plantation house on a 1.42 acre lot, known as the Big House or the Promised Land, to be restored as an example of Gwinnett's early history.

Completed and opened several park projects:

- George Pierce Park gymnasium expansion
- Rock Springs Park Phase II
- McDaniel Farm Park Phase II
- J.B. Williams Park
- Isaac Adair House and Lawrenceville Female Seminary improvements
- Tribble Mill Park playground replacements
- Tribble Mill Park Greenway (Lloyd N. Harris Trail) section to New Hope Road and internal trail connections
- Lilburn Activity Center renovation

Several park projects underway:

- Jones Bridge Park pavilion and restroom improvements
- Club Drive Park Phase II
- Mountain Park Park multipurpose field conversion
- Freeman's Mill Park mill renovation and interpretive exhibits
- Alexander Park Phase II
- Graves Park improvements
- Historic properties improvements: Hudson Nash House relocation and restoration, the Big House (Promised Land) restoration, etc.
- Lucky Shoals Park restroom building replacement and ADA access improvements

## 2018 – 2023 Capital Improvement Plan

The 2018 capital budget and 2019 – 2023 Capital Improvement Plan (CIP) totals approximately \$105.2 million. Projects include:

- Greenways: Harbins to Tribble Mill Park Greenway Phase I; Ivy Creek Greenway – F. Wayne Hill WRC and Section 2; Singleton Greenway; Shorty Howell to McDaniel Farm Park Greenway; and Rabbit Hill Park to Dacula Park Greenway
- Asset management
- Land acquisition
- Gwinnett Environmental and Heritage Center Adaptive Tree Canopy Experience
- Gwinnett Environmental and Heritage Center expansion
- Synthetic Turf Multipurpose Field Renovations: Rhodes Jordan Park, Shorty Howell Park, Dacula Park, Lenora Park, and Rock Springs Park
- Park Expansion: Dacula Park gymnasium and senior wing addition to activity building; and Lenora Park Community Center expansion to gymnasium building
- New park construction: Beaver Ruin Park and Discovery Area Park Site
- Singleton Park reconstruction
- Tribble Mill Chandler Road entrance, parking, and trail connections
- Comprehensive Parks and Recreation Master Plan



# COMMUNITY SERVICES CAPITAL IMPROVEMENT PROGRAM

<b>Project Category</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total 2018 – 2023</b>
Community Services Administration	301,810	-	-	-	2,117,570	-	2,419,380
Community Services Miscellaneous/Contingencies	300,000	163,200	-	-	1,040,217	1,475,979	2,979,396
Environmental and Heritage Center	1,838,300	25,000	25,000	1,775,000	6,988,845	4,161,155	14,813,300
Fleet Equipment	869,000	169,830	1,653,196	955,087	640,259	3,595,688	7,883,060
Greenway Countywide Trail Master Plan	579,000	3,960,000	2,750,000	2,400,000	-	-	9,689,000
Parks and Recreation	14,279,200	13,056,234	14,348,717	12,601,271	6,910,000	6,210,000	67,405,422
<b>Total Community Services</b>	<b>18,167,310</b>	<b>17,374,264</b>	<b>18,776,913</b>	<b>17,731,358</b>	<b>17,696,891</b>	<b>15,442,822</b>	<b>105,189,558</b>





# GENERAL GOVERNMENT

## CAPITAL IMPROVEMENT PROGRAMS

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The General Government Capital Improvement Program is a diverse group of projects that will enhance and/or improve general government services such as information technology, courts, and the construction and maintenance of general government facilities. Also included within the general government program are public safety and community services capital projects that are managed by the Department of Support Services.

Computer and Computer Systems projects involve upgrading and enhancing the technology infrastructure to support the County's information needs. Projects in this category include acquisition of new and replacement personal computers, peripheral equipment, and software applications, as well as upgrades to the systems, storage, networking, and communications infrastructure. Also included are various business applications and systems.

Other project categories are:

- General Government Facilities, which consist of projects related to the construction of new and/or improvements to existing County facilities
- Miscellaneous Projects, including studies and budgeted capital contingencies

## 2017 Capital Achievements – Support Services

### MAJOR CONSTRUCTION PROJECTS

The following are highlights of major capital projects managed by the Department of Support Services in 2017:

- General Government:
  - Medical Examiner's Office and Morgue: The construction of a new combined facility for the County Medical Examiner's Office and Morgue began in 2016 and was completed in 2017. The 15,000 square-foot facility is located on Hurricane Shoals Road in Lawrenceville. The facility provides space for Medical Examiner's medical staff, investigators, and administrative staff along with a family conference room and respite area. The Morgue area provides seven times more space than the previous space and includes three autopsy stations, an enclosed observation area, 50 spaces for cold storage, and a vehicular enclosure for secure drop-off and pickup. The building was constructed to achieve Leadership in Energy and Environmental Design (LEED) certification through the U.S. Green Building Council, and this project was one of the major building projects funded by the 2014 SPLOST program.

- Gwinnett Justice and Administration Center (GJAC) Front Entrance and Roadway Improvements: This project includes the re-alignment and reopening of Langley Drive, provision of a handicap parking area closer to the building, replacement of existing pavers from the front parking area to the front of GJAC, and the reconfiguration of the GJAC Entry Plaza. Construction began in late 2017. The project is funded by the General Government Capital Fund.
- Department of Transportation District One Maintenance Barn: This project replaced the existing District One Maintenance Barn with a newly constructed 5,000 square-foot storage building. The construction contract was awarded in November 2016, and the facility was completed in 2017. This project is funded by the General Government Capital Fund.
- Stone Mountain Tennis Center: The Stone Mountain Tennis Center property is being cleared and graded for future development. This project includes the demolition and removal of the 7,200-seat stadium, 15 hard surfaced tennis courts, clubhouse, 200-space parking lot, and various plazas, drives, and walkways. Construction started in the third quarter of 2017 and is nearing completion.
- Gwinnett Recycling Center: This project includes the demolition and removal of the recycling facility. The design was completed in 2017, and the demolition will be completed in 2018.
- Public Safety:
  - Fire Station 15: This project will relocate Fire Station 15 from South Perry Street in Lawrenceville to State Route 124. Design began in fall 2016, and construction started in the third quarter of 2017. The project features a new compact design for the County's fire stations. The 10,788 square-foot facility will include three drive-through apparatus bays, living and training accommodations, offices, a fitness area, and equipment space for protective clothing and equipment. The project is funded by the 2009 and 2014 SPLOST programs.
- Community Services:
  - Centerville Senior Center: This new 8,456 square-foot senior center was constructed on Bethany Church Road adjacent to the Centerville Branch Library and Community Center. The Center features a 1,013 square-foot deck, a kitchen, dining and multi-purpose rooms, and recreational areas. The project is funded from the 2014 SPLOST program, and it was designed to achieve LEED certification through the U.S. Green Building Council. This project was completed in 2017.
  - Buford Senior Center Renovation: The Buford Senior Center project is a comprehensive renovation and upgrade of the 20-year-old facility at the Buford Health and Human Services Center. The project includes kitchen and dining areas, multipurpose spaces, and a reception area. The construction contract was awarded in December 2016 and completed in 2017. This project was funded by the 2014 SPLOST program.





## CAPITAL MAINTENANCE PROJECTS

In 2017, the Capital Maintenance budget included \$9 million in funding associated with more than 35 projects. Projects completed in 2017 included the following:

- General Government:
  - Court Annex: Selective repainting of interior.
  - Gwinnett County Government Annex: Roof replacement and selective carpet replacement.
  - Gwinnett Historic Courthouse: Replacement of HVAC units and fire pump controller.
  - Gwinnett Justice and Administration Center: Replacement of audio/video systems in courtrooms, replacement of auditorium lighting, three restroom plumbing upgrades, escalator repairs/upgrades, reconfiguration of Law Department space, and selective repainting of interior.
  - Fleet Management Facility: Replacement of fire alarm system.
  - Multiple County facilities: Stormwater recertification study and electrical panel load analyses.
- Public Safety:
  - Fire Station 3: Renovation and expansion of bathroom facilities.
  - Fire Station 20: Roof replacement.
  - Comprehensive Correctional Complex: Replacement of the fire alarm system, upgrades to electronic door hardware, door retrofits to improve security, selective replacement of carpet, and replacement of exhaust fans and heat exchangers.
  - Police Central Precinct: Replacement of HVAC equipment and installation of new HVAC controls system.
  - Police Headquarters: Ventilation upgrade in Crime Scene Investigation Unit.
- Community Services:
  - Buford Human Services Center: Major renovation including replacement of the roof, HVAC system, ceiling and lighting, and exterior finish upgrades.
  - Norcross Human Services Center: Replacement of exhaust fans, upgrades to parking lot and pedestrian circulation paths, and selective interior repainting.
  - Gwinnett County Public Library System: Patching, sealing, and restriping of parking lots at the Lawrenceville, Buford-Sugar Hill, and Snellville branch libraries, and replacement of HVAC units at headquarters computer center.
  - Bethesda Park: Replacement of fire alarm system at Bethesda Senior Center.
  - Rhodes Jordan Park: Replacement of HVAC units at Rhodes Jordan Community Center.

## 2017 Capital Achievements – Information Technology

- Updated numerous modules within the SAP environment by performing recommended upgrades to ensure a more sustainable environment. These upgrades included Enhancement Packs, SAP Portal, and Oracle databases. All SAP systems are on supportable versions. Other SAP updates or enhancements included changes for the Affordable Care Act and the continuation of the online timesheet rollout. Several business processes were automated or enhanced in SAP, such as tracking equipment assigned to staff, staff skills development, customer service processes, backflow processes, water meter replacements, open records requests, and more.
- Implemented microwave upgrade and made repairs to all 11 Motorola radio tower sites in Gwinnett County. The upgrade and repairs are a crucial part of the communications for Public Safety and other county departments that utilize the Motorola radio system.
- Continued installation, upgrades, and replacements of video surveillance equipment at multiple sites throughout Gwinnett County including the Gwinnett Justice and Administration Center. The video system at various locations allows the agencies to retain their video for evidence, lawsuits, medical claims, billing disputes, vandalism deterrence, etc.

- Completed ArcGIS and OnPoint upgrades, which allows the County to take advantage of improvements in GIS mapping software and technology.
- Selected the system vendor and began deployment of body cameras for the Police and Sheriff Departments.
- FileNet upgraded from v3.5 to v5.2 and implemented high availability with disaster recovery located at the 911 datacenter. The FileNet system provides agenda and invoice processing as well as general document management for the County. The upgrade improved system performance and added enhanced functionality.
- Continued with virtualization of additional physical servers and established a third location for Offsite Data Backup Replication. The new site has real-time offsite data replications and faster offsite data restore in minutes versus days. This initiative resulted in approximately \$1,717,932.00 in cost reduction.
- Upgraded the Versatile Records Management software for the Department of Support Services, including adding two additional modules to the system. The implementation of these new modules provided Records Management with new features within the system that allow them to streamline their business processes.
- Upgraded the Oracle database from the non-supported 9i version to the latest 12c version and migrated to Highly Available ODA servers.



## 2018 – 2023 Capital Improvement Plan

The 2018 capital budget and 2019 – 2023 plan for the General Government Capital Improvement Program totals approximately \$334.2 million.

### Support Services

#### MAJOR CONSTRUCTION PROJECTS

The following major construction projects are scheduled for design and construction in 2018:

- General Government:
  - Gwinnett Justice and Administration Center (GJAC) Courthouse Addition: The expansion of GJAC will provide additional space for the County's judicial functions. The project includes a new courthouse building of approximately 180,000 square feet and a new parking garage for approximately 1,500 vehicles. The building will house a jury assembly space, six court units, a prisoner holding area, and shell space for future growth. Design is underway, and the first elements of demolition and construction started in 2017. This project is funded by the General Government Capital Fund and the 2009 SPLOST program.
  - GJAC Campus Space Plan Implementation: This project will include space reconfigurations within GJAC and One Justice Square and relocation of some services to reunify functions, accommodate growth in personnel, improve efficiencies, and provide more convenient customer service.
  - Bicentennial Trail and Plaza: This project includes the construction of a new public plaza to honor Gwinnett County's Bicentennial on the former site of Fire Station 15 in Lawrenceville. The project also includes a new sidewalk and trail system along Constitution Boulevard connecting GJAC's public parking. The plaza will feature historical storyboards and public art to commemorate Gwinnett County's Bicentennial. Design was completed in 2017, and construction will start in 2018. The project is funded by the General Government Capital Fund.



- Public Safety:
  - Bay Creek Police Precinct and Alternate 911 Center: This project includes the design and construction of a new 12,100 square-foot precinct and a 4,500 square-foot alternate 911 center. The facilities will be located on a shared site on Ozora Road at the entrance to Bay Creek Park. The precinct will enable the Police Department to improve coverage and response times in this area of the county. The 911 center will provide critical backup to the principal 911 center in Lawrenceville. Design was completed in 2017, and construction is scheduled for 2018. This project is funded by the 2009 and 2014 SPLOST programs.
  - Fire Station 13: This project is for the relocation of the Suwanee area fire station to a new, permanent location. The existing facility is 37 years old and is leased from the City of Suwanee. The project is being funded by the 2017 SPLOST program.
  - Former Morgue Renovation: The former morgue space within the Police Headquarters building will be used by Police for a modernized evidence storage space. This project will be funded by the Public Safety Capital Fund.
  - New Georgia State Patrol Facility: This project is the development of a new State Patrol Post located at a former rest stop on I-85 and accessed from Old Peachtree Road. The facility will be 10,780 square feet and include living and office space for staff. The site also will accommodate vehicles from the Highway Emergency Response Operators (HERO) assistance program. The project is under design with construction scheduled for summer 2018. The project is funded by the Public Safety Capital Fund.
- Community Services:
  - Duluth Branch of the Gwinnett County Public Library: This project is the relocation of the Duluth Branch to a new facility of approximately 22,000 square feet. An intergovernmental agreement with the city of Duluth was approved in January 2016. Design will be completed in 2018. This project is funded by the 2009 and the 2014 SPLOST programs.
  - Norcross Branch of the Gwinnett County Public Library: This project is the relocation of the Norcross Branch to a new facility of approximately 22,000 square feet. Schematic design has been completed, and design development will be completed in 2018 with construction scheduled to start in 2018. An intergovernmental agreement between the city and County established the basis for development of the facility. This project is funded by the 2005, 2009, and 2014 SPLOST programs.
  - Norcross Senior Center: This project is an extensive renovation and expansion of the existing facility located in the Norcross Health and Human Services Center. Design began in the last quarter of 2017, and construction will occur in 2018. This project is funded by the 2014 and 2017 SPLOST programs.

## CAPITAL MAINTENANCE PROJECTS

A focus on capital maintenance projects continues in 2018. Some projects began in 2017, while others are newly programmed for 2018. The following projects are to be completed or newly implemented in 2018.

- General Government:
  - Gwinnett Justice and Administration Center: Continuation of restroom plumbing upgrades, implementation of two more phases in comprehensive replacement of air distribution boxes on HVAC system, replacement of can light fixtures in public areas with more efficient LED fixtures, replacement of audio/video system in the auditorium, replacement of carpet and seating in the auditorium, replacement of access control system, and replacement of security control station equipment.
  - Court Annex: Upgrade of central control panel, replacement of security control station equipment, and replacement of courtroom audio/video systems.
  - One Justice Square: Engineering associated with replacement of the building's central HVAC equipment.
  - Government Annex: Patching, sealing, and restriping parking lot.
  - Central Services Facility: Retrofitting warehouse area lighting with more reliable and efficient fixtures.
  - Gwinnett Historic Courthouse: Upgrade of elevator cab interior.
  - Fleet Management Facility: Surfacing of Fleet surplus vehicle parking area and retrofitting interior lighting with more efficient fixtures.
  - Multiple County facilities: Replacement of access controls systems on various buildings and implementation of first phase of work to upgrade and recertify stormwater ponds.

- Public Safety:
  - Fire Facilities/Multiple: Replacement of HVAC equipment at two stations and the facilities management building, replacement of fire alarm systems at five stations and the fire administration building, and replacement of access control systems.
  - Fire Station 6: Roof replacement.
  - Fire Station 14: Renovation and expansion of bathroom.
  - Police Central Precinct: Replacement of fire alarm system.
  - Police South Precinct: Roof replacement.
  - Comprehensive Correctional Complex: Selective replacement of fire sprinkler heads, replacement/upgrade of security control panels, and engineering associated with replacement of 10 rooftop HVAC units.
- Community Services:
  - Pinckneyville Park: Replacement of HVAC units and fire alarm system at Pinckneyville Community Center.
  - Shorty Howell Park: Replacement of fire alarm system at Shorty Howell Community Center.
  - Dacula Park: Replacement of HVAC units on concession and restroom buildings.
  - Lawrenceville Senior Center: Replacement of metal roof.
  - Peachtree Corners Branch Library: Replacement of HVAC units.
  - Collins Hill Branch Library: Replacement of HVAC units.
  - Centerville Branch Library and Community Center: Replacement of fire alarm and security systems.
  - Libraries/Multiple: Patching, sealing, and restriping parking lots at three branches.

## Information Technology

- Continue upgrades and improvements to enhance public safety operations. These projects include modernization of public safety information systems, a staffing management upgrade for Fire/EMS Services, E-911 digital phone system upgrade, redundant logging recorders, Emergency Operations Center audio visual equipment upgrades, and the continued implementation of the Body Worn Cameras project.
- Continue installation, upgrades, and replacements of video surveillance equipment at multiple sites throughout Gwinnett County. The video system at various locations allows the agencies to retain their videos for evidence, lawsuits, medical claims, billing disputes, vandalism deterrence, etc.
- Continue enhancements and improvements to Gwinnett County's public website including seamless accessibility independent of device type and providing more useful functionality for Gwinnett County employees and residents.
- Continue focus on network and security enhancements for reliability, business continuity and better protection against malware, ransomware, and malicious websites.
- Continue expansion of the network and communications infrastructure, including wireless access (WLAN), virtual private networks (VPN), cellular network connectivity, firewalls, and various security platforms.
- Procure updated network equipment, server hardware, software, and diagnostic tools necessary to better incorporate new technologies and support Gwinnett County's continued growth and expansion.
- Purchase software, monitoring tools, peripheral devices, and other hardware for various departments throughout Gwinnett County. This project will provide for the updating of hardware and software and allow them to operate more effectively and efficiently.
- Pursue opportunities to leverage cloud computing to reduce technology costs while enhancing capabilities and county employees' productivity.
- Replace scan guns used by the Fire Department, ensuring compatibility with the SAP system. The change allows network security to enable wireless encryption standards.



# GENERAL GOVERNMENT CAPITAL IMPROVEMENT PROGRAM

<b>Project Category</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total 2018 – 2023</b>
2040 Comprehensive Plan	700,000	200,000	-	-	-	-	900,000
Cities Share of 2017 SPLOST	32,701,042	33,191,558	33,689,430	34,194,772	34,707,695	8,547,412	177,031,909
Computers and Computer Systems	23,766,600	13,098,289	3,468,750	2,983,000	525,000	84,026	43,925,665
Contingencies and Miscellaneous Projects	1,526,445	154,390	132,939	84,386	70,000	-	1,968,160
Fleet Equipment	877,160	1,044,164	1,238,929	523,494	579,080	3,846,538	8,109,365
General Government Facilities	10,658,176	6,897,320	5,422,315	2,233,520	2,760,520	2,138,057	30,109,908
General Government Facilities – Civic Center Expansion	30,163,891	4,687,943	-	-	-	-	34,851,834
Libraries	540,225	6,645,160	9,208,690	3,046,390	817,400	-	20,257,865
Park Renovations and Improvements	60,000	40,000	-	-	-	-	100,000
Police Facilities	2,978,605	3,313,333	28,000	284,000	30,000	137,300	6,771,238
Senior Service Facilities	1,350,000	5,300,000	-	3,450,700	-	-	10,100,700
Support Services Administration	118,615	-	-	-	-	-	118,615
<b>Total General Government</b>	<b>105,440,759</b>	<b>74,572,157</b>	<b>53,189,053</b>	<b>46,800,262</b>	<b>39,489,695</b>	<b>14,753,333</b>	<b>334,245,259</b>



# PUBLIC SAFETY

## CAPITAL IMPROVEMENT PROGRAMS

Gwinnett County's Public Safety program consists of projects that preserve and protect the lives and property of Gwinnett County residents.

### 2017 Capital Achievements

Achievements in 2017 pertaining to the Gwinnett County Police Department include the following:

- Major repairs and renovations: During 2017, Police Services began or completed the following projects:
  - Completed the fencing installation at South precinct, which included a security fence with gate motor.
  - Completed the fencing installation at Central precinct, which included a security fence with gate motor.
  - Started installing the security fence at Northside precinct. This project will be completed in early 2018.
  - Completed the construction for the fitness room renovation at Police Headquarters.
  - Completed the installation of an emergency eyewash station with sink in the Crime Scene Bay.
  - Completed the design and construction of the CSI Lab renovation.
- Police parking expansion: In 2017, for the 638 Hi Hope Road project, Police Services completed the inspection for asbestos, and the removal of: DOT building, mobile trailer, K9 office, and incinerator. In 2018, this project will continue and include: grading disturbed areas, placement of gravel for temporary parking, installing six security cameras, and connecting to the county fiber optic network.
- Firearms replacement: During 2017, Police Services purchased 237 Glock 17s and 237 Night Sites. This portion of the project for 2017 is complete. In 2018, Police Services will continue the firearms replacement project.
- Emergency notification system project: In 2017, the emergency notification system went live and was connected to the Gwinnett County 911 Center. All schools except for the four City of Buford schools have been completed.



Other stats for work completed as of December 31, 2017:

1. Completed designs = 140
2. Schools cabled = 140
3. Emergency notification and visitor management systems programmed = 140
4. Equipment installations completed = 140
5. System configurations completed = 140
6. Public address connections completed = 140
7. Schools trained = 140

Achievements in 2017 pertaining to the Department of Fire and Emergency Services include the following:

- Received eight new pumpers to replace older units
- Received two new remounted medic units (ambulances) to replace older units
- Received one new medic unit (ambulance) to replace an older unit
- Received two additional new medic units (ambulances) for current stations without a medic unit (Stations 21 and 22)
- Replaced four operational command vehicles
- Replaced eight various light-duty vehicles
- Completed the bathroom renovation project at Fire Station 3
- Completed the replacement of the emergency generator at Fire Station 4
- Completed the storage room renovation and installation of the commercial laundering equipment for firefighter bunker gear at Fire Station 11
- Completed the re-roofing project at Fire Station 20
- Started the station relocation project for Fire Station 15

## 2018 – 2023 Capital Improvement Plan

The 2018 capital program and 2019 – 2023 plan for the Public Safety Capital Improvement Program totals approximately \$138.3 million. Some of the highlights of planned improvements are listed below.

### Police Services

Police Services' capital improvement plans for 2018 – 2023 include existing capital projects: improvements to the training complex, the purchase of a new aviation helicopter, the purchase of a new Use of Force Simulator for training, and replacement of carpet at the South precinct. Police Services will continue the public safety notification response system and the five-year replacement program for police firearms.

### Fire and Emergency Services

The 2018 – 2023 Capital Improvement Plan for the Department of Fire and Emergency Services includes the continued replacement of older fire apparatus and medic units (ambulances) within the department along with the various support vehicles used. Future plans call for the relocation of Fire Stations 13 and 14; the building of new Fire Station 32 and the Community Risk Reduction educational training facility; the renovation of the current Fire Resource Management Warehouse; the replacement of all department portable and mobile radios; and the replacement of older HVAC systems within various fire facilities depending on system evaluations and age.

# PUBLIC SAFETY CAPITAL IMPROVEMENT PROGRAM

<b>Project Category</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total 2018 – 2023</b>
Ambulances	2,539,852	2,644,400	2,723,730	2,805,440	2,889,610	1,656,958	15,259,990
Detention Center Renovations	-	-	-	-	569,981	-	569,981
Fire Apparatus and Equipment	200,000	4,417,231	4,972,131	4,425,200	4,574,708	325,000	18,914,270
Fire Facilities	150,000	250,000	275,000	275,000	300,000	325,000	1,575,000
Fire Station Relocation	3,799,405	-	-	-	-	-	3,799,405
Firearms Replacement	105,598	100,125	101,126	102,137	103,158	104,190	616,334
Police Facilities	4,612,463	3,424,000	-	-	-	-	8,036,463
Public Safety Administration	167,705	-	-	-	-	-	167,705
Public Safety Vehicles and Fleet Equipment	5,004,042	7,727,918	13,044,905	9,770,611	9,647,159	43,233,423	88,428,058
Technology Needs	179,000	176,200	180,444	116,733	119,068	121,449	892,894
<b>Total Public Safety</b>	<b>16,758,065</b>	<b>18,739,874</b>	<b>21,297,336</b>	<b>17,495,121</b>	<b>18,203,684</b>	<b>45,766,020</b>	<b>138,260,100</b>





# TRANSPORTATION

## CAPITAL IMPROVEMENT PROGRAMS

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The Transportation Capital Improvement Program consists of projects to improve the County's transportation infrastructure. Projects in this program fall into three categories: Road Improvements (of which there are several sub-categories), Airport Improvements, and Transit.

The County's Road Improvement Program consists of the following:

- Major Roadway Improvements include new road construction, new alignments, and increasing the capacity of existing roads.
- Intersections/Traffic Operation Improvements include the addition of turn lanes and improvements of alignments of cross streets, sight distances, and signalizations, as well as Advanced Traffic Management System (ATMS) improvements.
- Bridges/Roadway Drainage Improvements consist of new construction or reconstruction of existing bridges and culverts up to sufficiency standards.
- Road Safety and Alignment projects correct safety deficiencies such as sight distances, horizontal and vertical alignments, and at-grade railroad crossings.
- School Safety projects improve traffic safety near schools with the installation of turn lanes at school entrances, installation of sidewalks, and signalization improvements.
- Sidewalks and Multi-Use Trails include projects to link existing sidewalk segments or link residential areas to nearby activity centers.
- The Unpaved Road category funds the paving of gravel and dirt roads throughout the county.
- The Rehabilitation and Resurfacing category renovates, rehabilitates, and resurfaces existing County roads to prolong the life of the road.

The County Airport Improvement category consists of various improvements to Gwinnett County's Briscoe Field, the third busiest airport in the state. Projects in the Transit category consist of the acquisition/replacement of buses and equipment and the construction of various transit facilities.

## 2017 Capital Achievements

- Completed the update to the Comprehensive Transportation Plan – Destination 2040
- Completed the engineering design and received bids for traffic management system expansion projects on SR 316, Five Forks Trickum Road, Ronald Reagan Parkway, and Old Peachtree Road
- Worked with the Citizens Project Selection Committee (CPSC) and cities to complete a list of projects approved by the Board of Commissioners for the 2017 Special Purpose Local Option Sales Tax (SPLOST) program
- Completed the procurement of the transportation consultant demand professional services contract
- Began construction on 27 projects including bridges, intersections, major roadways, road safety and alignment, school safety, and sidewalks and pedestrian safety improvements
- Completed the construction of 31 projects including bridges, intersections, major roadways, road safety and alignment, school safety, and sidewalks and pedestrian safety improvements
- Began engineering on 20 projects including bridges, intersections, major roadways, road safety and alignment, school safety, and sidewalks and pedestrian safety improvements
- Began construction of the widening of Five Forks Trickum Road from Oak Road to Killian Hill Road
- Completed the construction of the widening of Peachtree Industrial Boulevard from south of McGinnis Ferry Road to north of Moore Road
- Completed the construction of the widening of SR 20 from Peachtree Industrial Boulevard to the Chattahoochee River
- Completed 170 miles of resurfacing



## 2018 – 2023 Capital Improvement Plan

The 2018 capital budget and 2019 – 2023 plan for the Transportation Capital Improvement Program totals approximately \$478.7 million. Some of the major projects are as follows:

- Continue coordination of the 2017 SPLOST program
- Complete engineering and right of way acquisition on SR 316/University Parkway at Harbins Road interchange
- Complete right-of-way and construction on SR 324/Gravel Springs Road at I-85 interchange project allowing Georgia DOT to begin construction prior to year end
- Begin construction of the widening of Cruse Road from Club Drive to Paden Drive
- Begin construction of the Dacula Road at US 29/SR 8/Winder Highway intersection and bridge replacement project
- Begin construction of the widening of Hamilton Mill Road from Ivy Mill Drive to Sardis Church Road
- Begin engineering for the I-85 at McGinnis Ferry Road interchange project
- Continue engineering and constructing Sugarloaf Parkway Extension from SR 316/University Parkway to I-85



# TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM

<b>Project Category</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total 2018 – 2023</b>
Airport Capital Improvements and Equipment	95,066	162,295	424,824	74,860	82,741	182,607	1,022,393
Bridge and Roadway Drainage Improvements	9,516,375	7,099,250	6,126,750	11,961,750	12,934,250	583,500	48,221,875
Cities Allocation-Roads	5,977,772	7,490,510	5,065,367	5,141,348	5,342,613	1,792,325	30,809,935
Intersection/Traffic Operations Improvements	9,365,875	10,926,625	10,233,125	8,288,125	4,398,125	7,315,625	50,527,500
Major Road Improvements	14,938,270	21,799,825	34,544,835	25,947,340	19,936,250	10,167,831	127,334,351
Neighborhood Speed Control	350,000	97,250	97,250	97,250	97,250	340,375	1,079,375
Pedestrian Safety/Sidewalks	6,408,602	7,351,694	6,417,152	3,824,018	2,485,466	2,693,961	29,180,893
Resurfacing/Rehabilitation	14,187,500	15,560,000	18,477,500	22,367,500	22,367,500	2,917,500	95,877,500
Road Program Management	-	5,004,750	4,750,000	2,000,000	2,000,000	3,190,462	16,945,212
Road Safety and Alignments	5,345,625	6,446,250	5,230,625	3,042,500	3,528,750	4,744,375	28,338,125
School Safety Program	4,410,373	3,403,750	2,674,375	2,188,125	972,500	4,619,375	18,268,498
Transportation Administration	1,380,905	-	-	-	-	-	1,380,905
Transit Facilities	700,000	900,000	-	-	-	-	1,600,000
Transit Program Miscellaneous/Contingencies	27,377	-	-	-	-	-	27,377
Transit Vehicles and Equipment	398,765	278,556	-	112,190	-	6,210,278	6,999,789
Transportation Planning	2,355,140	1,466,192	2,535,598	1,649,020	1,861,111	10,265,716	20,132,777
Unpaved Roads	194,500	194,500	194,500	194,500	194,500	-	972,500
<b>Total Transportation</b>	<b>75,652,145</b>	<b>88,181,447</b>	<b>96,771,901</b>	<b>86,888,526</b>	<b>76,201,056</b>	<b>55,023,930</b>	<b>478,719,005</b>



# WATER RESOURCES

## CAPITAL IMPROVEMENT PROGRAMS

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The mission of the Gwinnett County Department of Water Resources (DWR) is to provide superior water services at an excellent value.

DWR's Capital Improvement Program consists of projects that provide clean, potable water for Gwinnett residents and businesses; collect and reclaim wastewater to protect the environment and promote and protect the health, safety, and welfare of the public; and projects that help manage stormwater. These projects include construction of new facilities, improvements to existing water facilities, and projects that improve the efficiency of operations. The need for improvements or new facilities may be driven by increased demand, changes in regulatory requirements, required service level improvements, asset failure due to age, or a combination of these and other factors. The focus of DWR's current Capital Improvement Program is the rehabilitation and replacement of aging infrastructure.

DWR operates and maintains two water production facilities with 248 million gallons per day (MGD) of production capacity and three water reclamation facilities (WRF) with 98 MGD of treatment capacity. DWR also operates and maintains 219 raw sewage pump stations, 10 water booster pump stations, 10 water storage tanks, 277 miles of pressurized sewer pipe, 2,772 miles of gravity sewer pipe, 1,454 miles of stormwater drainage pipe and 3,747 miles of water main, serving approximately 170,525 sewer customers and 243,948 retail water customers. This infrastructure has a replacement value of more than \$9 billion. Projects in the Capital Improvement Program are funded either by water and sewer revenue, stormwater fees, or SPLOST funds.

### 2017 Capital Achievements

The Water and Sewer Capital Improvement Program is divided into six subprograms:

- Water Reclamation Facilities
- Collection System
- Distribution System
- Water Production Facilities
- System Development
- Miscellaneous

The **Water Reclamation Facilities program** includes projects for expansions of and improvements to the County's three water reclamation facilities as well as projects to support watershed protection required by the water reclamation facilities' National Pollutant Discharge Elimination System (NPDES) permits. In 2017, completed projects include:

- F. Wayne Hill (FWH) Biological Reactor Basin Mixer and New Nitrified Recycle (NRCY) Pump: This project consisted of the installation of 10 nitrified recycle pumps installed in biological reactor basins, the installation of 40 new top entry vertical mixers, and the dewatering and cleaning of all basins along with miscellaneous concrete repairs and modifications. The total cost of this project was \$8.2 million.
- Membrane Gate Repairs: This on-call project included the assessment of 14 gates in the membrane flow diversion box. The project was initiated in December 2015, assessments began in February 2016, with project completion in May 2017. This resulted in the purchase and installation of nine stainless steel gates and frames in place of existing aluminum gates and frames in a four phase approach. The total cost of this project was \$1.1 million.
- Solids Storage Tank Cover Replacement: This on-call project consisted of preliminary building rehabilitation including the following primary tasks related to Solids Storage Tank #1:
  - 1) Inspection of structural components of cover, outriggers, and hold down clips
  - 2) Cleaning and removal of residual solids, grit, and struvite from the interior of the tank
  - 3) Development of specifications and ordering a replacement cover, outriggers, and hold down clips
  - 4) Investigation of miscellaneous repairs to the recirculation system piping

The project area was located in the Solids Building at F. Wayne Hill WRC and was completed at a cost of \$1.6 million.

The **Collection System program** includes projects for expansion, replacement, and assessment of gravity sewer pipe, force mains, and wastewater pump stations. It also includes projects that improve cost effectiveness by installing gravity sewers to decommission pump stations. Projects completed in 2017 include:

- \$1.9 million has been spent to assess the current condition of the gravity sewer collection system. For the sewer mains under pressure, \$620,000 has been spent to assess these type of sewer pipes. These critical assessment processes allow DWR to recognize potential pipe issues before breaks occur.
- Beaver Run Pump Station Rehabilitation: The project covered major upgrades and rehabilitation to the existing station as well as the construction of a new second stage pump station. In the first half of 2017, Crowder Construction completed the repair of the vortex manhole and several punch list items. The project work, change orders, and repair of the pumps extended completion into fall 2017. This project was completed at a cost of \$23 million.





- No Business Creek Tunnel Lift Station: On November 28, 2016, one of the two No Business Creek Lift Station pumps separated in the wet well and parts were left behind. This catalyzed Lanier Contracting to update the safety plan and set up to install the spare pump DWR had on hand. On December 11, 2016, the second and remaining No Business Creek Lift Station pump similarly failed initiating a high level emergency response. Emergency action was required to get the pumps back into service before the tunnel could fill with sewage and potentially cause an overflow. This project was completed in time and a spill was avoided. This project was completed for \$278,000.
- Level Creek Pump Station Modifications: The scope of this project included the replacement of seven sluice gates with actuators, the relocation of the chemical feed tank with a new control panel, the correction of floor slope in the 2nd stage pump room, the replacement of settled concrete slab around the storage tank, and the replacement of asphalt pavement. All of these improvements contribute to better safety and reliability and the rehabilitation of older equipment and working areas. This project was completed for \$600,000.



The **Distribution System program** consists of projects associated with water meters, pressure management, and water distribution pipe extensions and replacement. The water distribution projects completed in 2017 include:

- Hog Mountain Road New Water Main Installation: The scope of this project included the installation of approximately 1,500 linear feet of 8-inch ductile iron pipe water main, fire hydrants, and valves on Hog Mountain Road. This project was completed in April 2017 for \$265,000.
- Mount Vernon Water Main Replacement: This project included the replacement of approximately 1,140 linear feet of existing 8-inch polyvinyl chloride PVC water main with new ductile iron pipe. This project also required asphalt pavement restoration and other road repairs. This project was completed by the end of 2017 at a cost of \$200,000.

The **Water Production Facilities program** includes projects for expansion and improvements to the two water production facilities and the booster stations and tanks. The following water facility rehabilitation projects were completed in 2017:

- Lanier Filter Plant and Shoal Creek Filter Plant Ozone Generator Rehabilitation (\$1.6 million): The Shoal Creek Water Filtration Plant and Lanier Filter Plant ozone systems required a major rehabilitation including the following items:
  - 1) Conversion of existing open loop cooling water systems to closed loop at both plants
  - 2) Modifications to the side-stream ozone gas piping at the Lanier Filter Plant
  - 3) Replacements of existing Master Ozone Programmable Logic Controller at the Lanier Filter Plant
  - 4) Replacements of two existing 60-inch raw water Venturi flow tubes with new 54-inch mag meters at the Lanier Filter Plant
  - 5) Replacement of various ambient ozone analyzers at the Shoal Creek Filter Plant

This major rehabilitation project added to the life and reliability of the ozone generators responsible for water filtration and cleaning. This project was completed for \$4.8 million.

- Lanier Filter Plant Clearwell Drainage Improvements: This project consisted of the following improvements to the Lanier Water Filtration plant:
  - 1) Furnishing labor and equipment to install a 15-inch Reinforced Concrete Pipe (RCP) from the overflow structure to the retention pond
  - 2) Installing a 12-inch Ductile Iron Pipe (DIP) from the manhole near clearwell 4 to the retention pond located south of clearwell 5 with a 12-inch Tideflex check valve
  - 3) Purchasing a 54-inch Tideflex check valve to be installed on an existing 54-inch RCP
  - 4) Constructing a bulkhead on the existing headwall to allow for the installation of the flanged Tideflex check valve

This major rehabilitation project allowed the site to be renewed to existing conditions, which allow operators to perform daily tasks properly. This project was completed for \$93,000.

The **System Development program** is a new program that includes water and sewer planning studies and projects that promote economic development. This program was created in 2017 and has several multi-year projects underway:

- **Big Flat Creek:** The Big Flat Creek force main and gravity line are being designed and constructed to work with the Big Flat Creek Regional Pump Station in the Loganville area near Brand Road and Highway 20. This project is projected to be finished in the fourth quarter of 2019. The engineering for this project is being done with the Big Flat Creek pump station project. The project is currently in the bid process for construction, which will begin in early 2018.
- **Middle Yellow River:** The project includes the installation of approximately 10,000 linear feet of 24-inch gravity sewer along the Yellow River in the Lilburn area. The installation will help serve the community which is currently on septic systems. This project is a fast track project with a participation agreement. The current project budget estimate is \$8.2 million with a project completion date of 2019.

The **Miscellaneous program** has a wide variety of projects that include new and replacement vehicles, administration building improvements, relocations of utilities necessary during road projects, and other projects that support the mission of the department. The Miscellaneous program also includes funds for reserves and contingencies.

- **Number of Vehicles Purchased:** The DoSS Fleet Division ordered 27 fleet vehicles for DWR during the 2017 year.
- **Toilet Recycling Pad:** This project involved creating a concrete pad that was poured at the DWR Central fuel pump area to assist in the loading and unloading of roll-off containers. This site will provide a more sanitary and visually appealing area for residents to deposit their toilets at DWR when they are participating in the toilet rebate program. This project was completed for \$38,000.
- **Water Innovation Center:** This complex will be located between the 85 and 985 corridor on the F. Wayne Hill Water Reclamation Plant property. This center will promote Gwinnett as a headquarters of innovation. It will include a water training facility, laboratory, and educational wing. This will allow Gwinnett County to collaborate with public and private entities to be a leader in innovation and continue to be a utility of the future. This project is currently under design with a completion date in 2020. This is a milestone project for Gwinnett and will continue to be highlighted in this report as the project progresses.

The **Stormwater Capital Improvement program** contained projects related to stormwater pipe replacement, pipe lining, flood studies, drainage improvements, and dam rehabilitation.

In 2017, the following stormwater pipe replacements, drainage improvements, and rehabilitation projects were completed:

- 43,217 linear feet (lf) of pipe rehabilitation lining projects
- 22,962 lf or 4.2 miles of pipe replacement projects
- 74 stormwater pipe rehabilitation projects
- 65 stormwater pipe replacement projects
- 139 total stormwater pipe replacements and rehabilitation projects

Some key 2017 stormwater projects included:

- **Lower Yellow River Turkey Creek Stormwater System Assessment:** This project completed system modeling of the stormwater infrastructure within the Lower Yellow River Turkey Creek watershed to determine the capacity of and level of service that will be provided. This project will increase the floodplain management in this area. This project was completed in 2017 for \$138,000.
- **Overbend Trail Culvert Replacement:** This project consisted of replacing two 108-inch equivalent arch pipes with six 10x12 foot Reinforced Culvert Boxes due to capacity and condition issues. This will increase the watershed capability on this trail and reduce the risk of failure. It will also address citizen concerns over tree damage, drainage, and water overtopping on the road. This project was completed in 2017 for \$2.2 million.



## 2018 – 2024 Capital Improvement Plan

The 2018 capital budget and 2019 – 2023 plan for the Water Resources Capital Improvement program totals approximately \$1.02 billion. Some of the major projects are described in the following paragraphs.

- **The Gwinnett County Water Resources Water Innovation Center:** The Gwinnett Water Innovation Center will be a premier location for research and problem-solving for water issues around the world. It will house three main functions: the Research Section, the Training Section, and the Public Education and Outreach Section. The Research Section will explore fundamental and applied technology through relationships with academia, other water utilities, and public-private partnerships. There will also be a focus on growing and supporting a water-technology community that will look at sustainable water resource management. The Training Section will allow DWR employees, along with other water industry professionals, to benefit from having access to the most up-to-date information, processes, and equipment. The Public Education and Outreach Section will provide opportunities for residents to experience hands-on learning that will lead to an understanding of the effect our water use and habits have on the environment and water resource management. This facility will promote public outreach and education, staff training, and research in the water field once completed. Gwinnett plans to partner with public and private entities to be a leader in innovation and continue to be a utility of the future, and this building is the cornerstone of that future collaboration.
- **Crooked Creek WRF – Construction Package (CP) 4 Improvement Project:** The Crooked Creek Water Reclamation Facility has been in operation for over 20 years. The equipment and facilities are in need of rehabilitation or replacement to continue to meet permit standards and to increase safety and efficiency. DWR has been replacing and rehabilitating sections of the facility over the last five years. The previous construction packages addressed the influent pump station, headworks, operations and maintenance buildings, oxidation ditch #3 aeration, effluent filter media replacement and just recently, the rehabilitation of secondary clarifiers #5 and #6. The Crooked Creek WRF Improvement Project CP4 involves the upgrading or replacement of the remaining key processes within the existing Crooked Creek WRF including chemical addition facilities, activated sludge, additional secondary clarifiers, disinfection, post aeration, solids handling, and electrical systems. This construction contract is anticipated to last four years.
- **Parkview Pinecrest Sewer Extension:** This economic development project includes approximately 7,500 lf of 8-inch through 18-inch Ductile Iron Pipe (DIP) gravity sewer to decommission the Parkview North, Parkview East, and Pinecrest sewer pump stations. An intergovernmental agreement will be in effect whereby the city of Sugar Hill will reimburse the County for 25 percent of the construction cost of the Pinecrest phase. Sugar Hill will also be responsible for all easements associated with the Pinecrest phase and one easement associated with the Parkview East Phase. The Pinecrest phase is approximately 2,660 lf. Included in the design is an additional 1,250 lf of 8-inch DIP spur line which was intended to be bid separately and paid for by the owners of the Kent A Starke Trustee property. This footage is in addition to the 7,500 lf noted above. The existing pump stations serve residential neighborhoods. The proposed sewer line will expand service through existing residential, commercial, and Gwinnett County park properties.
- **Lanier Raw Water Pump Station Water Intake and Pump Station Maintenance:** This project includes the replacement of the three existing 72-inch raw water intake pipes with two 72-inch end cap pipes with barrel screens, valve and actuator replacement, raw water sampling system, and installation of a flow meter on the discharge line.
- **F. Wayne Hill Membrane Replacement and Rehabilitation:** To continue its leadership in the water industry, the Gwinnett County Department of Water Resources uses the latest technology to clean and purify wastewater created by the county. The membranes used to clean wastewater remove particulates down to a very small level. Now that the membranes in F. Wayne Hill are reaching their useful life, they must be replaced. This project consists of on-call work for a membrane assessment. This also includes the piloting of the membrane system.



# WATER RESOURCES CAPITAL IMPROVEMENT PROGRAM

<b>Project Category</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total 2018 – 2023</b>
Collection System Rehabilitation and Replacements	25,534,639	24,227,825	24,200,000	27,000,000	27,000,000	27,000,000	154,962,464
Information Technology Systems and Applications	17,436,612	11,855,400	9,710,800	6,205,000	6,070,000	6,170,000	57,447,812
Miscellaneous Projects and Contingencies	35,965,179	40,045,532	35,975,050	33,768,495	32,517,262	33,030,000	211,301,518
Stormwater Management	302,845	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,302,845
Utility Relocations	3,254,153	2,700,000	2,100,000	2,100,000	2,200,000	2,600,000	14,954,153
Water and Sewer Plans and Studies	10,694,943	21,547,243	17,408,492	14,900,000	16,030,028	14,484,950	95,065,656
Water Production Facilities	6,543,547	12,572,024	11,400,000	12,900,000	14,900,000	9,400,000	67,715,571
Water Reclamation Facilities	56,176,094	73,666,505	46,800,000	37,200,000	46,500,000	46,500,000	306,842,599
Water Transmission/ Distribution	18,479,109	17,792,000	17,960,000	18,560,085	16,640,085	16,300,000	105,731,279
<b>Total Water Resources</b>	<b>174,387,121</b>	<b>206,406,529</b>	<b>167,554,342</b>	<b>154,633,580</b>	<b>163,857,375</b>	<b>157,484,950</b>	<b>1,024,323,897</b>

# DID YOU KNOW

*Gwinnett's first courthouse cost \$56 in 1820. In 1988, the present day courthouse, the Gwinnett Justice and Administration Center building, opened. It was built for \$65 million using funds from the County's first voter-approved SPLOST program.*