Empowering Marion for Success

Office of the County Engineer

Operational Plan
2020 - 2024

Marion County Board of County Commissioners
601 SE 25th Ave., Ocala

District 1 - David Moore, Commissioner
District 2 - Kathy Bryant, Chairman
District 3 - Jeff Gold, Vice Chair
District 4 - Carl Zalak III, Commissioner
District 5 - Michelle Stone, Commissioner

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Executive summary

Under the direction of the Marion County Board of County Commissioners (Board), the Office of the County Engineer (OCE) plays a principal role in the everyday lives of Marion County citizens and visitors by maintaining public transportation infrastructure while striving to preserve the environment, both of which are regarded as cornerstones of a prosperous economy and safe community. We believe our infrastructure is the foundation of our community and cannot be overlooked as the valuable assets that each generation uses and passes on to future generations. The inherit value is dependent not only on the quality of the roads themselves, but on the efficiency of the traffic and drainage systems, which are equally critical components of the transportation infrastructure.

We strive to make the county-maintained road network safe, efficient and comfortable whether driving or riding. The network also must provide convenient access to homes, businesses and other destinations. Our goal is to proactively recognize community needs and exceed expectations with our delivery, considering feasibility and timeliness. It should be noted that many of our new projects are being designed to consider diverse mobility needs by including sidewalks, bike lanes and pedestrian paths. Many of our traffic managements systems are being built as intelligent systems with real-time communication among each other and with our office. Stormwater ponds are also being retrofitted using advanced technology to keep pollutants out of our aquifer and other waterbodies.

As we begin to look to the future and implement our operational plan for the next five years, it is imperative to pay tribute to the Empowering Marion for Success plan. While individual projects have been completed, the OCE will continue to reach overall goals and improvements in the spirit of and commitment to the Empowering Marion for Success plan. The guiding principles such as dedication to serve, professional operations, resource stewardship, and the HICARD core values of humbleness, integrity, commitment, accountability, respect and discipline will always be what drives us toward being the most desirable and customer service-oriented county in Florida. We absolutely commit to customer service being in the forefront of all we do and to be recognized by our customers as something we truly value and deliver.

County mission statement:

Leading public service in genuine dedication to our citizens through professional operations and resource stewardship.

Guiding Principles	Core Values
Dedication to Serve	Humbleness Respect
Professional Operations	Commitment Integrity
Resource Stewardship	Accountability Discipline

This operational plan reviews the current state of our funding, primary workload and staffing. We then propose our future state, identifying that while the work type is not expected to change, the volume of our customers and their expectations most certainly will. This drives the number of assets necessary to support our customer needs and, in turn, the funding and staffing levels to deliver and maintain the assets.

Over the next five years, OCE faces challenges and opportunities with our transportation infrastructure. As the hardworking men and women who take pride in being county employees, it is a privilege to be responsible for designing and constructing the road network that connects people to places and visibly shapes our community. We must put great emphasis on implementing improvements timely considering the strength of Marion County's growth and economy. Our ability to maintain and provide continued care of these assets is as critically important. OCE's operational plan provides sound direction for us to continue to move ahead and embrace both the challenges and the opportunities.

Current state

The Marion County Office of the County Engineer (OCE) is committed to providing efficient, economical and quality transportation and stormwater systems to satisfy diverse mobility needs, while ensuring the safety and welfare of the general public and the preservation of the environment. Our 186 multi-disciplinary professionals work together to perform a variety of work functions and services ranging between administrative, maintenance, construction, engineering and development oversight.

Funding sources

OCE has a variety of funding sources, each of which has limitations and defined uses:

- Gas taxes
- Service fees
- Transportation impact fees
- Bonds
- Sidewalk construction fund
- One-percent (Penny) sales tax
- Stormwater assessment
- Property taxes
- Grants

Gas Taxes are the traditional funding revenue for the department, as allowed in chapters 206 and 336 of the Florida Statutes. However, this funding source is proven to be inadequate to support the current transportation and stormwater infrastructure, as well as the community's growing needs. The revenue is used for operational and maintenance expenses which include salaries, infrastructure maintenance, and engineering services. Some revenues are realized from service fees, those miscellaneous fees associated with copy charges and permit fees, as well as state collected communications service taxes for their use of the county right-of-way (ROW). Our department expends approximately $3-5 million annually of gas tax on pavement rehabilitation projects (resurface or reconstruction), but an estimated $15 million annually is required to keep our roads maintained at the desired level of service.

Transportation impact fees were reinstated Jan. 1, 2017, after being in hiatus since 2010. These fees are generated by the construction of new buildings (commercial and residential). The rates are reduced from what was being collected in 2010, but are estimated to provide approximately $16 million ($10 million in the western district and $6 million in the eastern district) over the next five years. Prior to the economic down turn and their suspension, they were the prime revenue source for the construction of new roads, turn lanes and traffic signals.

Bonds were made available by the establishment of the 2nd Local Option Fuel Tax Fund. Over the last 10 years, approximately $50M from the bonds was allocated to projects approved by the Marion County Board of County Commissioners (Board) – most notably, Southeast 92nd Loop (north and south phase), Southeast 31st Street, Southwest 42nd Street including the flyover I-75, County Road 200A, Southwest 60th Avenue and Northwest 35th Street.

The **sidewalk construction fund** was initiated approximately six years ago. The county's land development code requires sidewalk construction by private developers along designated corridors and within certain types of developments, such as a residential subdivision. In some cases, it is reasonable that the sidewalk not be constructed at the immediate time of development and the developer is given the option to pay into the fund. These collected funds can then be utilized for construction of sidewalks to support connectivity, with an emphasis on creating safe walks to schools, throughout the county.

The one-percent**, or Penny, sales tax** was approved by voter referendum for a four-year collection sunsetting on Dec. 31, 2020. It is estimated to generate more than $166 million for the county, approximately 60 percent of which is being directed toward transportation infrastructure projects (both capacity and rehabilitation projects). Approximately $30 million is being allocated to pavement rehabilitation projects, providing a well-needed, but short-lived, funding infusion.

A **stormwater assessment** was established in 2002 to provide additional revenue for stormwater system maintenance and to meet federally mandated requirements. Marion County is classified as a phase II municipal separate storm sewer system and must comply with a National Pollutant Discharge Elimination System permit and basin management action plans. These efforts, which include stormwater maintenance, retrofits, public education and outreach, and construction enforcement/compliance, are funded by the stormwater assessment which generate approximately $3.7 million annually. Agricultural and residential parcels are assessed $15 per year. Commercial/ industrial parcels are assessed based on an equivalent stormwater unit (ESU). An ESU is assigned to every 2,275-square-foot of impervious area. Each ESU is multiplied by $15 to determine the total assessment for the commercial/industrial parcel, not to be less than $15. Mitigation credits are allowed for those parcels responsible for their own stormwater management system maintenance.

Property taxes fund services for both property management and water resources staff within the OCE. Both of these are beyond the boundaries of transportation and stormwater infrastructure, and often in support of other county departments. As an example, OCE staff frequently handles land transactions for its projects and is well equipped to provide this service for other departments that do not regularly do so.

Another example involves countywide water resource initiatives. Marion County Utilities (MCU) has permit obligations to provide conservation initiatives within their system and to their customers. As water efficiency, protection and appreciation are of countywide importance, and not just limited to MCU's customers, efforts are done in synergy with stormwater initiatives. The property tax portion of OCE's budget is less than one percent.

Grants are routinely sought to supplement OCE's budget from the Florida Department of Transportation, the Southwest Florida Water Management District, the St. Johns River Water Management District, the Withlacoochee Regional Water Supply Authority and other agencies such as the Florida Department of Environmental Protection.

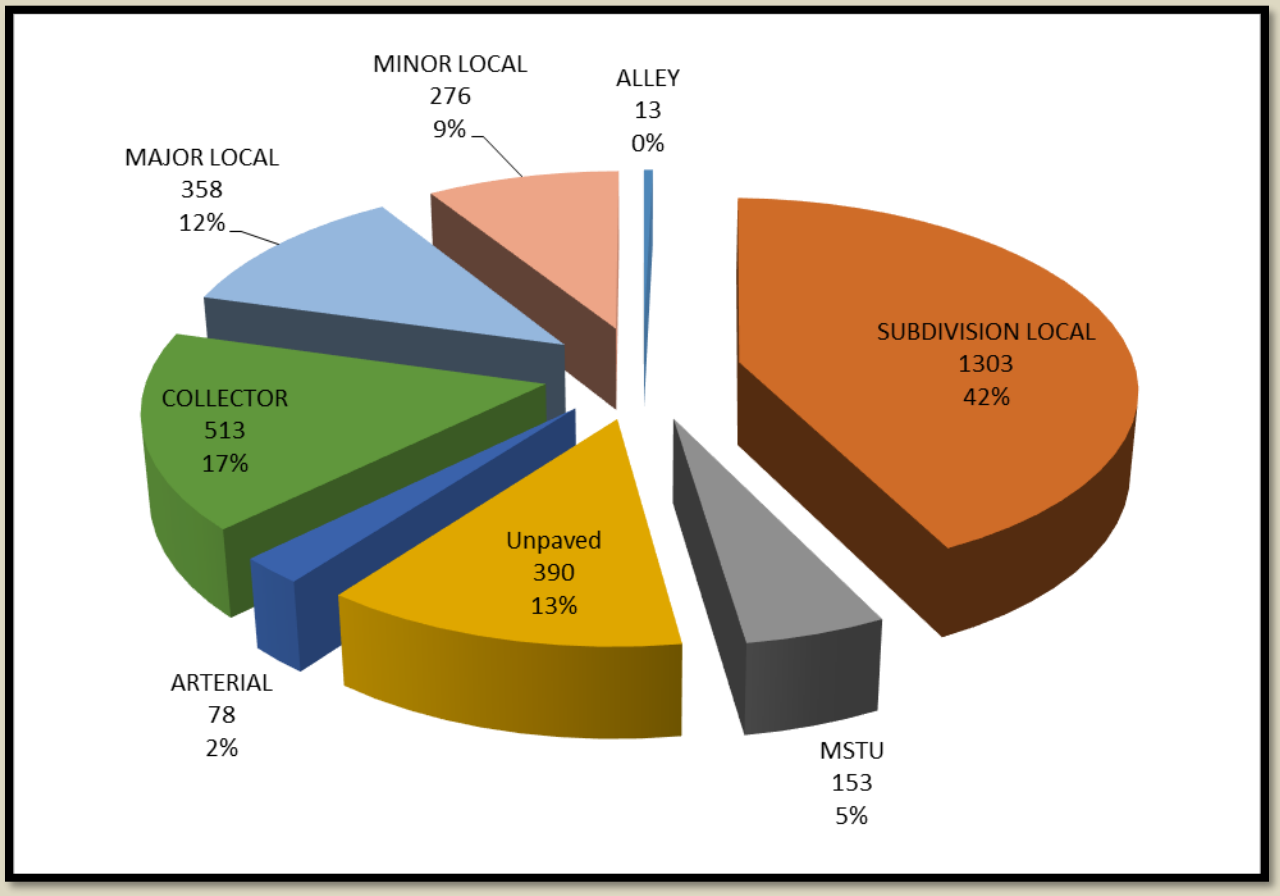
Primary workload

Our community is diverse. It varies from urbanized neighborhoods to rural countryside, and the transportation and stormwater infrastructure vary accordingly. We are responsible for maintaining:

- 2,542 miles of paved roads*
- 390 miles of unpaved roads*
- 21,793 acres of right-of-way (ROW)
- 88,395 traffic signs
- 125 traffic signals
- 2,440 drainage retention areas (DRAs)
- 221 drainage structures
- 161 miles of drainage pipe or culvert

* OCE maintains 2,932 miles. With the 153 miles of paved roads maintained by the county's MSTU/Assessment department, there are a total 3,085 miles of county-maintained roads.

County-maintained roads (in miles):



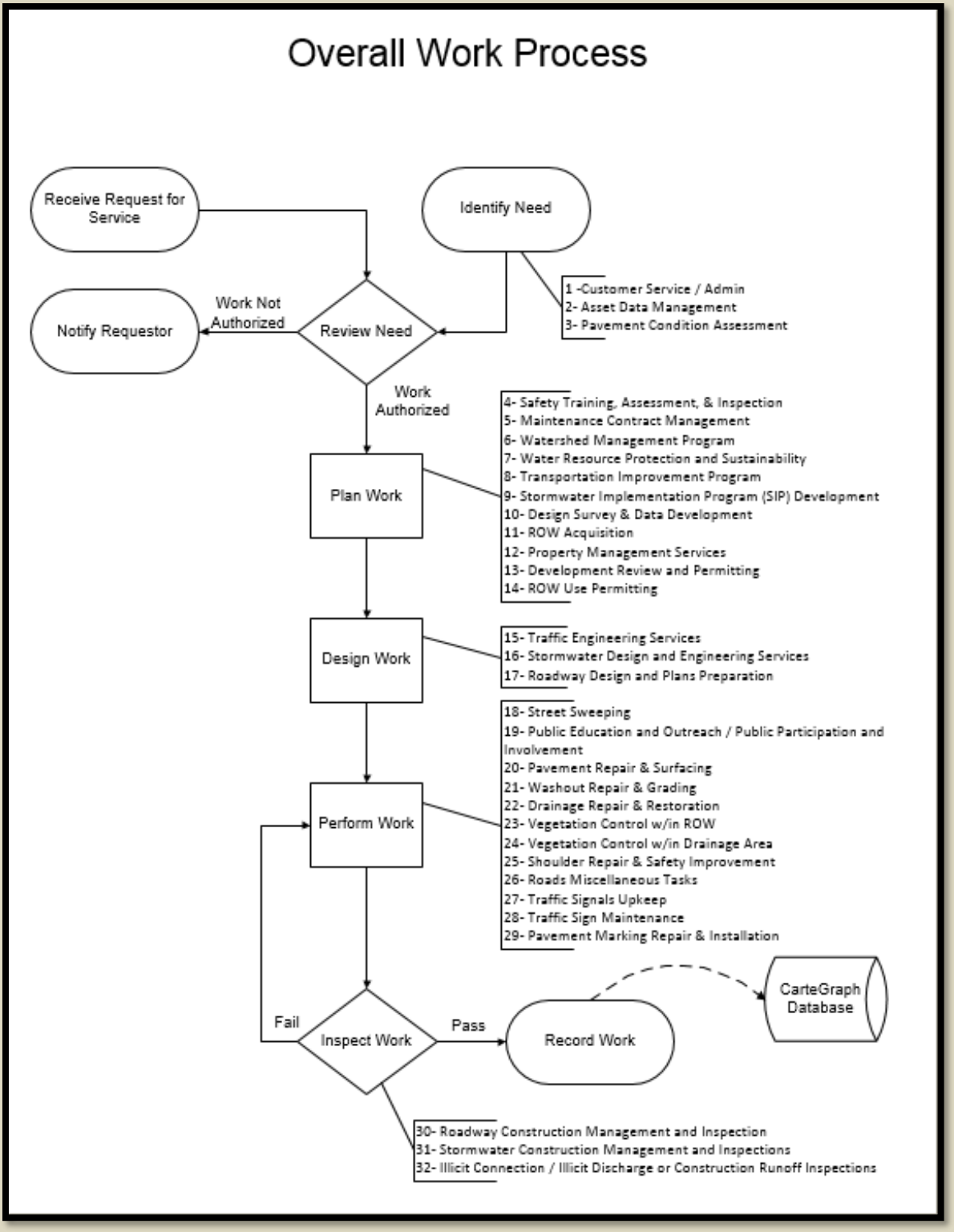
In 2003, an initial inventory of field assets was completed. It included a complete assessment of the pavement of the county-maintained road network and partial collection of traffic and stormwater assets.

A report was produced in compliance with the Governmental Accounting Standards Board 34 (GASB 34) and **valued Marion County's transportation infrastructure assets at $1,064,800,912**.

These assets play a key role in the everyday lives of Marion County's citizens. There is an expectation that roads be safe, efficient, comfortable to drive or ride, and provide convenient access to homes, businesses or other destinations. This expectation is dependent not only on the quality of the roads themselves, but on the efficiency of the traffic and drainage systems, which are equally critical components of the transportation infrastructure. It is important that the OCE continue to provide services, maintain these assets, and deliver new ones at current or improved levels while evolving with increasing citizen demands.

Distinctly identified are **32 major services** performed routinely by staff, each of which are outlined in the flow chart on the following page. OCE is organized into five primary sections - Support Services, Engineering Services, Roads Maintenance, Stormwater Management, and Traffic Operations, each of which are integral to the delivery of our services and the customer service experience.

Overall Work Process



The OCE continues to improve its assets through **capital improvement and major maintenance projects** within two distinct five-year plans.

1. **The Marion County Transportation Improvement Program (TIP)** lists the anticipated projects throughout the County over a five-year time period. Types of projects include capacity, rehabilitation, intersections and other miscellaneous items such as guardrail, sidewalks, trails and pavement markings. These projects are considered “capital” as they are the expansion of our existing roadway network, major reconstruction or maintenance of it, or improvements to accommodate increased traffic use. While project efforts vary based on their complexity, elements can include preliminary engineering, survey, design, right-of-way acquisition, construction and inspection.

County Road 314A rehabilitation project

Southwest 42nd Street “flyover” project

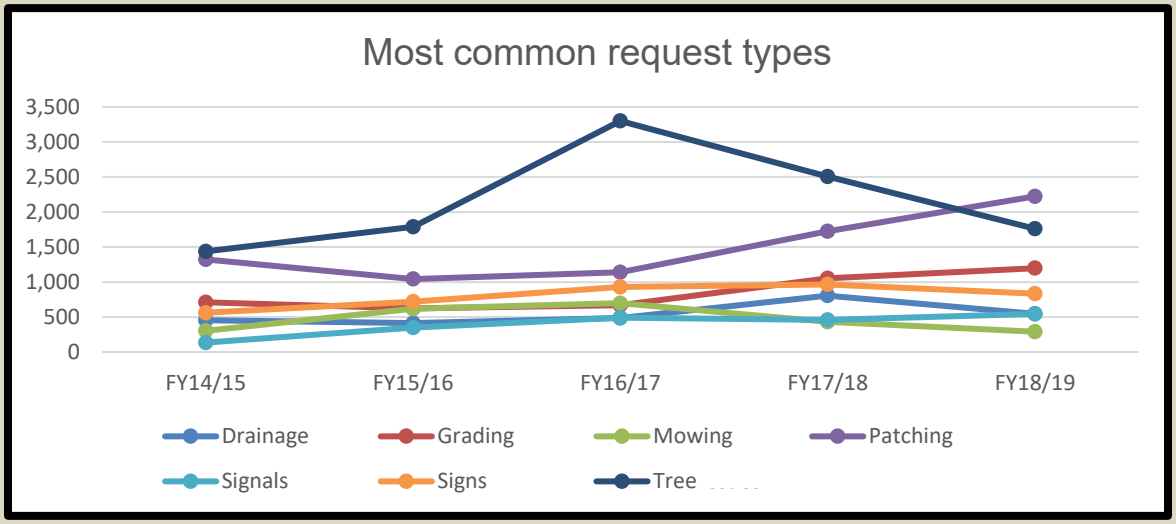
2. **The Marion County Stormwater Implementation Program (SIP)** is a five-year planning tool used to assist the Stormwater program in meeting requirements as outlined in the county's phase II National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) generic permit. The Stormwater program implements a variety of non-structural projects such as public education and outreach and watershed management plans to respond to NPDES permit requirements, total maximum daily loads (TMDLs), and a better understanding of water quality and flooding issues. While many of the structural projects, pipe and swale clean outs, mowing, sinkhole and erosion repair are maintenance-related projects, capital projects are also completed when expanding, reconstructing, or constructing new facilities to promote improved water quality or quantity protection.

Erosion repair at end of pipe

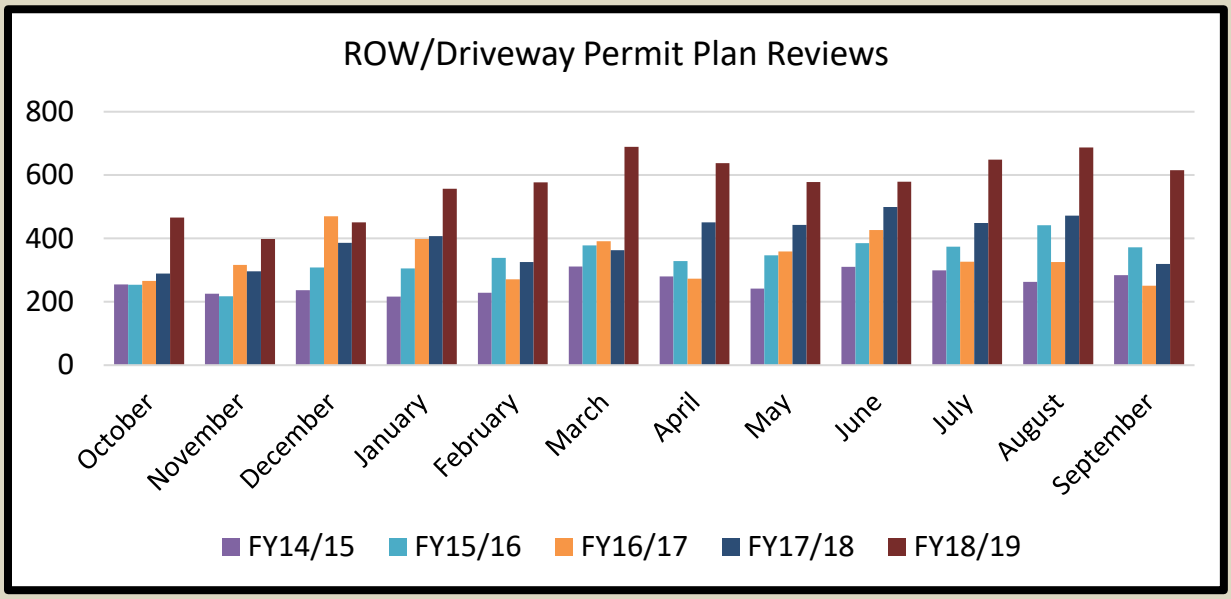
Bold and Gold(TM) in the bottom of a DRA for water quality

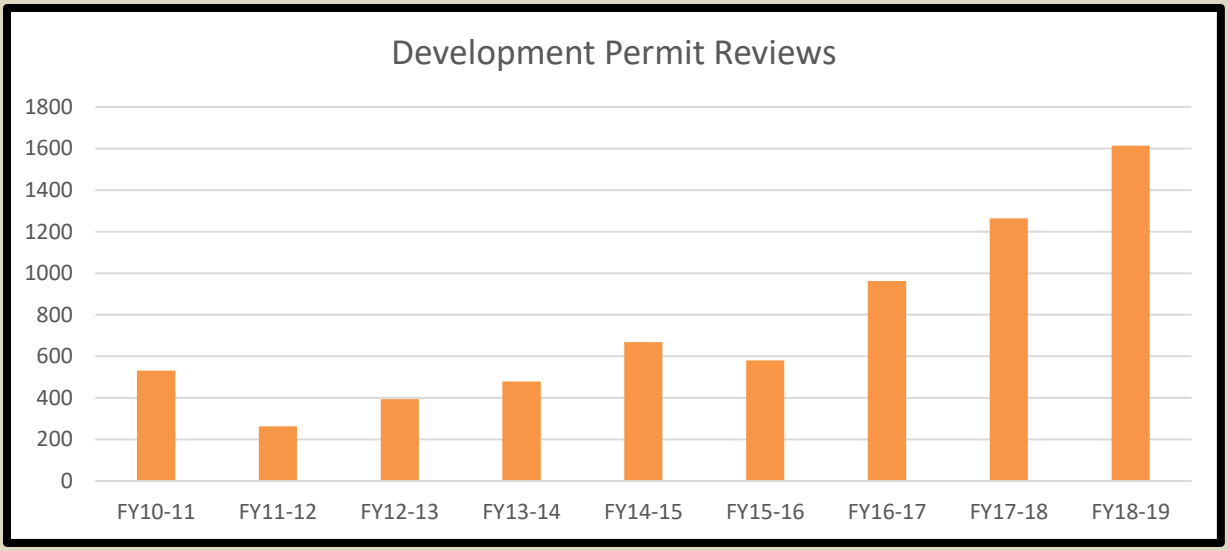
In addition, the OCE is responsible for a variety of day-to-day operations to **maintain our assets and serve our customers.** The level of service we provide for operation and maintenance is related to functional classification of the County maintained system and the availability of funds allocated by the Board. The transportation maintenance and operations standards, last adopted by the Board on Feb. 16, 2016, provides policy level direction for the various functions and services we provide. These standards are periodically reviewed and brought before the Board for updates as needed.

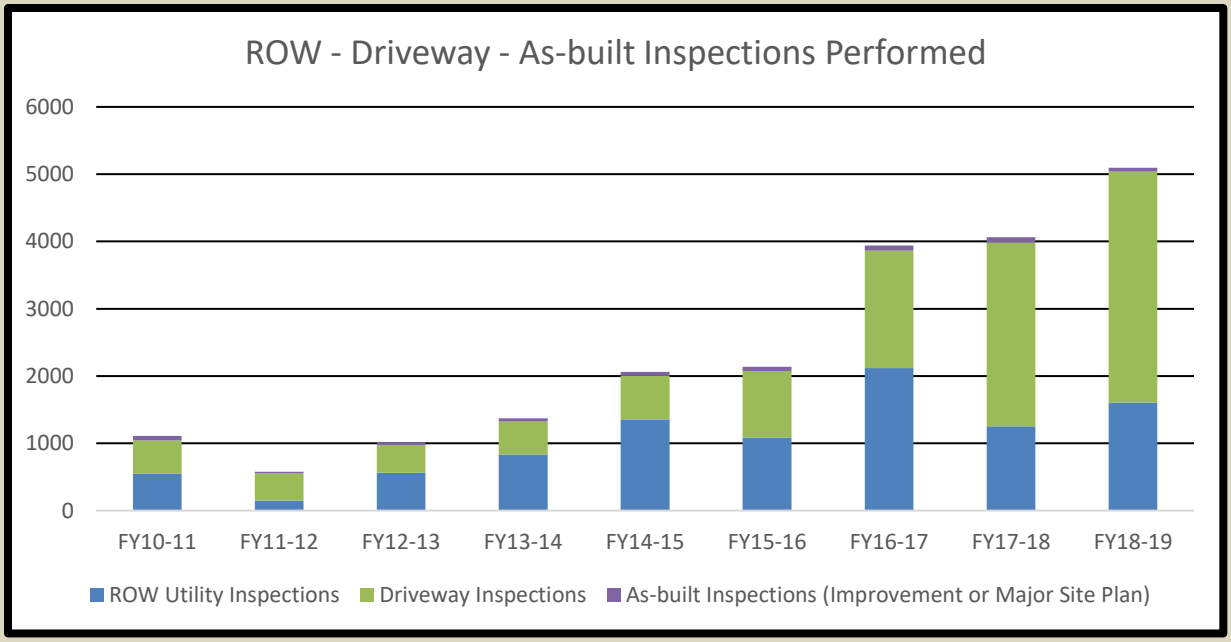
Out of all of the services OCE provides, the **most common maintenance services** requested are illustrated in the following graph:



Significant to our workload, and as a function of OCE's support services, is **permitting** for use of, and work within, the right-of-way and for private development projects. It is important to mention these as they are timed cycles – permits must be reviewed and issued/denied within limited time frames as established by state statutes and county policies. Permitting volumes have continuously increased over the last several years as illustrated in the following graphs.

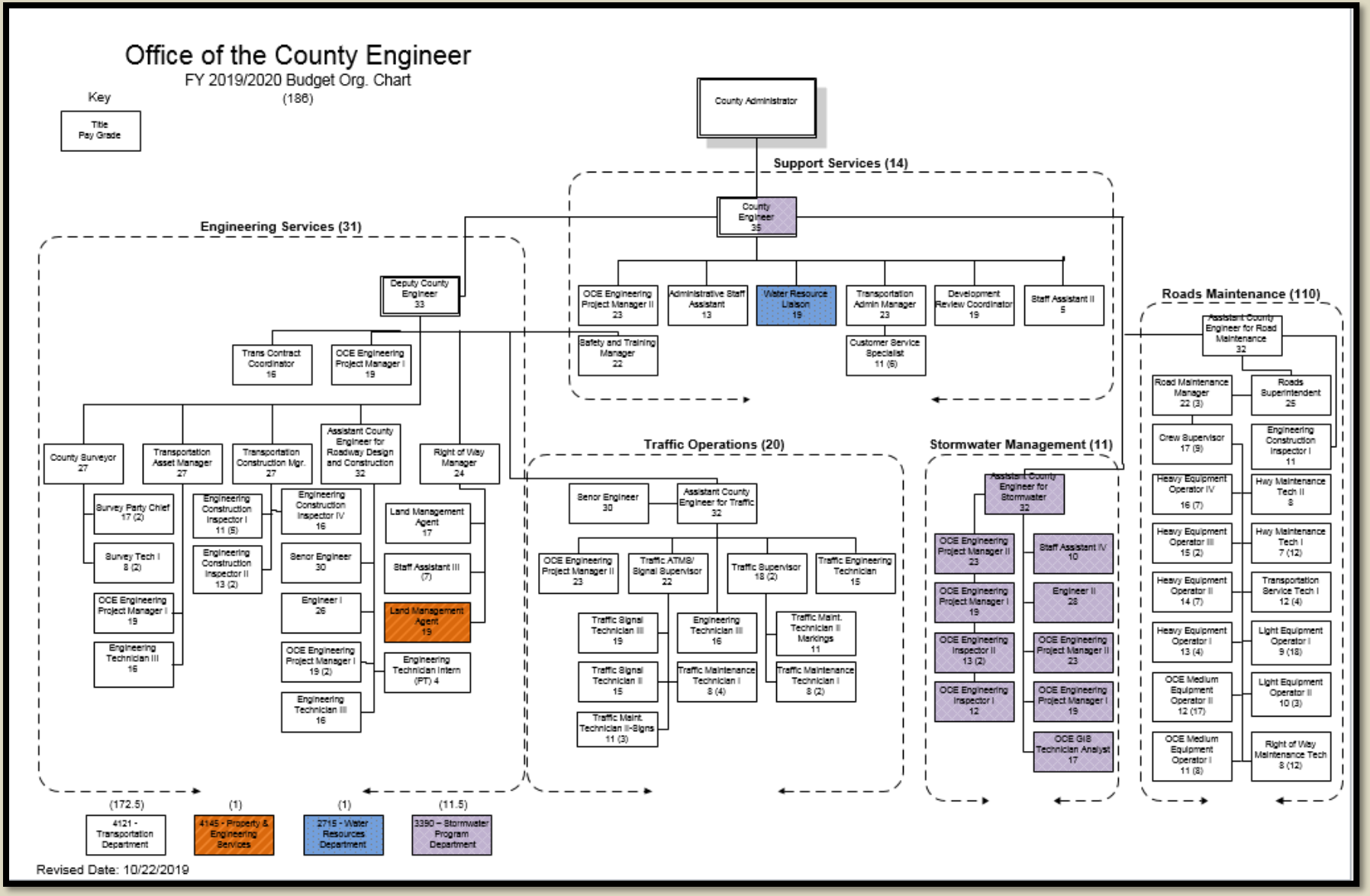

ROW/Driveway Permit Plan Reviews
800
600
400
200
0
October
November
December
January
February
March
April
May
June
July
August
September
FY14/15
FY15/16
FY16/17
FY17/18
FY18/19


Development Permit Reviews
1800
1600
1400
1200
1000
800
600
400
200
0
FY10-11
FY11-12
FY12-13
FY13-14
FY14-15
FY15-16
FY16-17
FY17-18
FY18-19


ROW - Driveway - As-built Inspections Performed
6000
5000
4000
3000
2000
1000
0
FY10-11
FY11-12
FY12-13
FY13-14
FY14-15
FY15-16
FY16-17
FY17-18
FY18-19
ROW Utility Inspections
Driveway Inspections
As-built Inspections (Improvement or Major Site Plan)

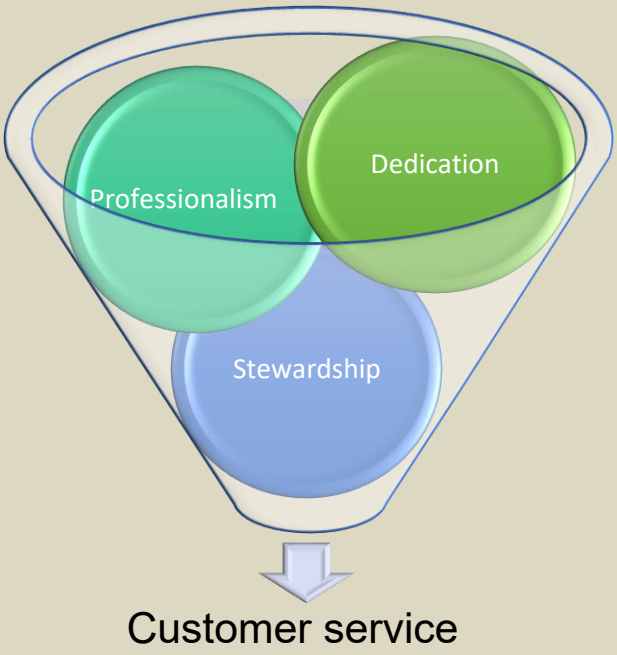
Current state; budget, organizational chart

The following page shows the OCE's organizational chart and employee allocation per operating section and position title. In summary, the OCE has 186 employees under the county engineer, supported by a deputy county engineer, four assistant county engineers overseeing the roadway design and construction, traffic operations, stormwater management and road maintenance sections; the county surveyor; the right-of-way manager, the roads superintendent, the safety and training manager, the transportation administrative manager, the transportation asset manager, and numerous other key staff that work hard to make our efforts successful. The county engineer reports directly to the county administrator, Mounir Bouyounes, PE.


Office of the County Engineer
FY 2019/2020 Budget Org. Chart
(186)
Key
Title
Pay Grade
County Administrator
Support Services (14)
County Engineer
35
OCE Engineering Project Manager II
23
Administrative Staff Assistant
13
Water Resource Liaison
15
Transportation Admin Manager
23
Development Review Coordinator
19
Staff Assistant II
9
Safety and Training Manager
22
Customer Service Specialist
11 (6)
Engineering Services (31)
Deputy County Engineer
33
Trans Contract Coordinator
16
OCE Engineering Project Manager I
19
County Surveyor
27
Transportation Asset Manager
27
Transportation Construction Mgr.
27
Assistant County Engineer for Roadway Design and Construction
32
Right of Way Manager
24
Survey Party Chief
17 (2)
Survey Tech I
8 (2)
OCE Engineering Project Manager I
19
Engineering Technician III
16
Engineering Construction Inspector I
11 (5)
Engineering Construction Inspector II
13 (2)
Engineering Construction Inspector IV
16
Senor Engineer
30
Engineer I
26
OCE Engineering Project Manager I
19 (2)
Engineering Technician III
16
Land Management Agent
17
Staff Assistant III
(7)
Land Management Agent
19
Engineering Technician Intern (PT) 4
Traffic Operations (20)
Senor Engineer
30
Assistant County Engineer for Traffic
32
OCE Engineering Project Manager II
23
Traffic ATMS/ Signal Supervisor
22
Traffic Supervisor
18 (2)
Traffic Engineering Technician
15
Traffic Signal Technician III
19
Traffic Signal Technician II
15
Traffic Maint. Technician II-Signs
11 (3)
Engineering Technician III
16
Traffic Maintenance Technician I
8 (4)
Traffic Maint. Technician II Markings
11
Traffic Maintenance Technician I
8 (2)
Stormwater Management (11)
Assistant County Engineer for Stormwater
32
OCE Engineering Project Manager II
23
OCE Engineering Project Manager I
19
OCE Engineering Inspector II
13 (2)
OCE Engineering Inspector I
12
Staff Assistant IV
10
Engineer II
28
OCE Engineering Project Manager II
23
OCE Engineering Project Manager I
19
OCE GIS Technician Analyst
17
Roads Maintenance (110)
Assistant County Engineer for Road Maintenance
32
Road Maintenance Manager
22 (3)
Crew Supervisor
17 (9)
Heavy Equipment Operator IV
16 (7)
Heavy Equipment Operator III
15 (2)
Heavy Equipment Operator II
14 (7)
Heavy Equipment Operator I
13 (4)
OCE Medium Equipment Operator II
12 (17)
OCE Medium Equipment Operator I
11 (8)
Roads Superintendent
25
Engineering Construction Inspector I
11
Hwy Maintenance Tech II
8
Hwy Maintenance Tech I
7 (12)
Transportation Service Tech I
12 (4)
Light Equipment Operator I
9 (18)
Light Equipment Operator II
10 (3)
Right of Way Maintenance Tech
8 (12)
(172.5)
4121 - Transportation Department
(1)
4145 - Property & Engineering Services
(1)
2715 - Water Resources Department
(11.5)
3390 – Stormwater Program Department
Revised Date: 10/22/2019

Future state

OCE's primary responsibilities and core services are not expected to experience significant change over the next five years, but we do expect service demands to increase with the overall growth and development of our community. We will continue to work towards providing the safest and most cost effective services to our community, while building and strengthening our customer service relationships consistent with the Empowering Marion for Success plan.



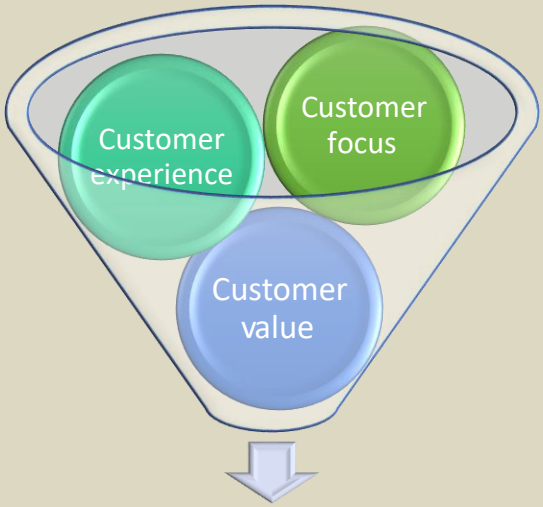
Funding sources

Future funding sources are critical to OCE's success. Our gas tax revenues showed a decline during the recent economic downturn, and, currently, with the production of more fuel efficient and alternative fuel cars, our revenues are not anticipated to see growth that will keep up with the growing needs of our community. While the Board has supported legislative changes to index local option fuel taxes in the same manner as the state government, this is not expected to resolve the more than **$10-million-deficit we have for pavement rehabilitation projects** nor the demands for additional infrastructure.

The additional revenue generated from the 1 percent sales tax is scheduled to end in fiscal year 2020/21. The approximate $30M that was directed from this funding to pavement rehabilitation projects (resurface or reconstruction), while a quick infusion, did not overcome the shortfall needed to maintain the existing road network at a minimal level of service. With this sales tax, we expect to complete 13.5 miles of new or expanded roadway corridors. Further, **we project a need for $80 million for rehabilitation projects and $250 million of new capacity projects within the next 10 years.** This takes into account our current five-year transportation improvement program, as well as commitments within developer's agreements and other needs identified in the Ocala/Marion County 2040 Long Range Transportation Plan (LRTP). **A future sales tax is the most significant financial need for the OCE.**

Workload Changes

Over the next five years, we need to refocus on our customers; we need to provide exceptional experiences and results above their expectation. OCE must be customer centric to deliver exceptional customer service as prioritized in the Empowering Marion for Success plan.



Focusing on customer service and delivering safe and efficient transportation and stormwater infrastructure includes a variety of strategies, some that are clearly identified and some that are currently evolving.

- **Roadway infrastructure growth:** The infrastructure demands associated with growth have been projected into our five-year TIP and have been forecasted in the Ocala/Marion County 2040 Long Range Transportation Plan. These documents are referenced for review of the proposed workload.

  Not only will there be continued capital improvement of the existing road system by adding additional lanes and signal improvements, new road construction is also necessary. **Significant roadway projects** include the extension and widening of the Southwest 49th Avenue Road corridor (a corridor parallel to, and eventually crossing over Interstate 75 in the southern portion of the county), continued extension and widening of the Northwest 49th/35th Street and Northwest/Northeast 35th Street corridor (connecting County Road 225 west of Interstate 75 with Southeast 36th Avenue on the east side of Interstate 75), continued widening of Southwest/ Northwest 80th/70th Avenue corridor (from State Road 200 to north of U.S. Highway 27, eventually connecting to the new Northwest 49th Street), the Interstate 75 interchange at Northwest 49th Street, and many others as planned for in the transportation improvement program. Most of these roadway improvements will have signalized intersections, associated drainage infrastructure, and combinations of sidewalks, bike lanes and/or multi-use paths.

  We foresee the **need for additional staffing** in the areas of land acquisition and inspections to keep up with this workload. We will explore adding staff or using contract services for land acquisition, recognizing the need for professionals not only familiar with county land development practices, but also well versed in state and federal requirements concerning eminent domain.

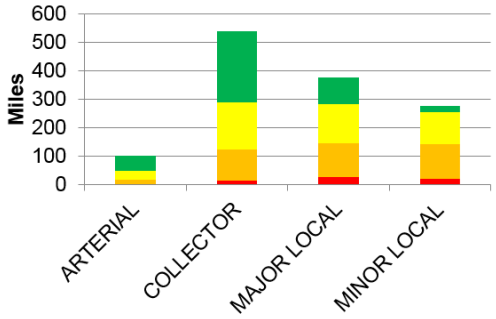
- **Roadway infrastructure condition:** Shared between growth demands and service requests is the condition of our pavement. We maintain more than 2,932 miles of roads. Within these 2,932 miles are roughly 1,300 miles of paved subdivision local roads and 1,225 miles of paved arterial, collector, major and minor local roads. We must **routinely resurface or reconstruct these existing roads**. Applicable, proposed corridors touch roads outside of subdivisions throughout the county and are are identified in the five-year transportation improvement program.

  The latest annual pavement condition survey shows that the overall rating of Marion County's pavement system continues to decline.

Summary of Pavement Rating by Functional Road Classification (Major Network)

	Miles by Functional Class in 2019					2019	2015	2012	2010
Rating (PCI)	Arterial	Collector	Major Local	Minor Local	Total	%	%	%	%
Good (80-100)	55	247	93	22	418	32%	35%	42%	39%
Fair (55-80)	29	167	139	112	448	35%	38%	34%	34%
Poor (26-55)	19	110	118	122	368	28%	23%	20%	22%
Failed (0-26)		14	27	22	63	5%	4%	4%	5%
Total Miles	104	538	378	276	1,296				

Avg PCI 2019	74	71	60	53	64
Avg PCI 2015	83	70	66	57	67
Avg PCI 2012	87	72	68	61	70
Avg PCI 2010	87	72	66	58	68



The pavement condition index (PCI) is a numerical rating of pavement conditions ranging from 0 to 100 with 0 being the worst possible condition and 100 being the best possible condition. By routinely reviewing our PCI, we have an objective and rational basis for determining maintenance and repair needs and priorities.

We further classify the PCIs as good, fair, poor and failed to provide an easier to interpret verbal description of the pavement. Based on a road's expected rate of deterioration and the amount of effort to maintain the pavement surface, we desire to maintain an average PCI of 70.

We continue to refine how we measure pavement performance. Many of our current interpretations have been made based on national standards, but

as we gather localized data, we should be able to define local deterioration curves and better estimate the actual costs of maintaining a targeted PCI.

There are 1,300 miles of paved subdivision local roads and alleyways that have been accepted for maintenance into the county road network. It is believed that more than 1,500 miles of subdivision type roads have not been accepted into the county road network. While many of these are private and therefore have mechanisms to provide for their own maintenance, others are public or have no formal dedication and look to the county for assistance. Although the timing is unknown, the potential for these roads to become county maintained is great.

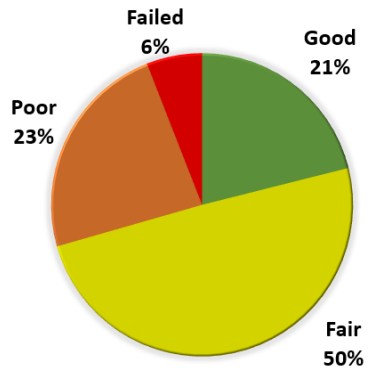
Each situation is unique, and is dealt with on a case-by-case basis. The county does have a successful history of utilizing special taxes or assessments (including road assessments, MSTUs and MSBUs) to assist property owners seeking to maintain or improve their desired levels of service. Staff recommends an **assessment for existing county-maintained subdivision roads that have a PCI of 40 or below.**

Estimated conditions of county-maintained roads within subdivisions:

Subdivision Pavement Ratings

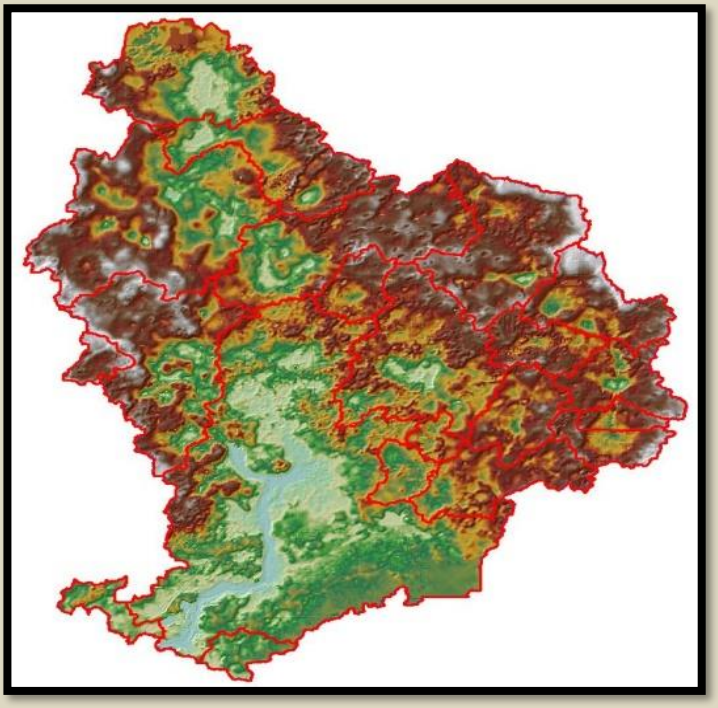
County Maintained Subdivisions (Weighted Avg. PCI)		
PCI Ratings, (Miles)	Subdivisions	Percent
Good (403)	124	21%
Fair (646)	291	50%
Poor (225)	138	23%
Failed (14)	35	6%
Total (1288)	588	100%

Pavement Rating of Subdivision Local Roads by Year	
Weighted Avg. PCI 2019	70
Weighted Avg. PCI 2015	70
Weighted Avg. PCI 2012	74
Weighted Avg. PCI 2010	74



*The pie chart shows percentages of the number of subdivisions, not the miles of road.

Stormwater staff continue to update **watershed management mapping;** adding in new development information and infrastructure improvements. Watershed management plans identify where stormwater runoff flows, what type of land uses the runoff flows over indicating the potential pollutant load, and where the runoff discharges to, whether surface water or groundwater.Staff uses this information to help identify both **water quality and water quantity (flooding) issues.** Currently, state government partners with a variety of agencies to update aerial topography and light imaging detection and ranging (LIDAR).



Digital elevation model of Rainbow River's watershed

Stormwater has budgeted to have the county's LIDAR information processed to provide improved and updated countywide elevation/topography data.

Gathering and processing the data is expected to be complete by 2021. Staff will then prioritize updates to many of the county's 32 watersheds and use the updated information to refine and further prioritize and program projects.

In the meantime, projects continue to be programmed into the stormwater improvement program for land acquisition, design and construction. They include a variety of water quality retrofits where the watershed management mapping has identified areas of high potential for pollutants, as well as several to address flooding impacts most recently felt during Hurricane Irma in 2017. The planned flooding projects include efforts to remove County Road 475A and Southwest 52nd Street from going under water, and address neighborhood flooding concerns in the Northwest 115th Ave/County Road 316 area and the subdivisions of Country Gardens and Mossbrook Farms.

The **most common service requests** identify what our customers are most interested in, and guide us on where we easily can be customer centric. Improving focus in these areas should improve customer relationships.

- **Tree trimming:** Tree trimming and other vegetative maintenance control is required for safety, specifically to:
  - maintain appropriate areas of the right-of-way clear of obstructions for the passage and operation of vehicles, maintenance equipment, pedestrians;
  - maintain proper line-of-sight to signs, traffic control devices, other vehicles, and other potential hazards or obstructions;
  - maintain adequate clear zones. The clear zone is defined as the "area outside the traveled way available for use by errant vehicles…" The primary function of the clear zone is to allow space and time for the driver to retain control of his vehicle and avoid or reduce the consequences of collision with roadside objects.

Trimming routes are necessary due to our rural nature, scenic tree canopies, and heavy tree coverage in general. Regardless of even the most proactive of programs, trimming, tree removal and other vegetative maintenance is still very reactionary. Work demands vary heavily based on weather events and rainfall.

Since 2018, the Road Maintenance section has utilized the mowing staff during their off-season (cooler, non-growing months) to supplement other staff and maximize tree trimming operations.

These enhanced staff teams perform trimming along designated routes, moving between the three designated substation areas during January, February and March. This effort proved to provide concentrated efforts and maximized trimming routes with a focused, cohesive work force. The enhanced level of staff offers more effective maintenance-of-traffic operations, longer trimming movements up and down the right-of-way, and increased effectiveness of debris removal and disposal, all of which are limited with a smaller trimming crew.

- **Patching:** The declining ratings of our pavement condition and the increasing number of service requests is evidence that patching will never be viewed successfully by our citizens or by us. However, we can hope to better meet our customer's expectations by expediting our response and providing quality patches (ones that will not quickly deteriorate).

  Patching operations utilize either a hot-mixture asphalt from an asphalt plant, a cold mixture of bagged asphalt, or a combination of liquid emulsion and loose granite.
  Repair methods are selected based on the existing style of roadway, weather conditions, and magnitude of repair.

  The July 2, 2019, board workshop provided by OCE and the MSTU/Assessment departments, the Board is considering further utilizing services offered by MSTU/Assessment to satisfy pavement needs inside subdivisions when their pavement condition rating falls below a 40. Considering the cost and time associated within the worst of the deteriorated areas, this offers an improved customer service solution, as well as giving OCE staff more time to respond to other needs.

  An additional consideration for improving patching customer service is staffing an additional supervisor. While every crew supervisor is capable and responsible for covering all aspects of roadway maintenance, both the north substation and southwest substation have a designated position generally monitoring roadway patching. The southeast substation does not have a designated position, as it hosts a specialty crew responsible for roadway patching project needs; maintaining project oversight limits the ability to promptly respond to citizen needs.

  An additional crew supervisor position will be able to better focus the patching operations within the southeast substation area, as well as improve the span of control between supervisors and the number of employees. The shift in management will also allow the specialty work crew supervisor to better focus on both the larger pavement projects and shoulder maintenance.

- **Grading:** The condition of the driving surfaces of unpaved roads in the maintained road system changes quickly and often. Traffic volumes and the weather factor heavily in the rate that an unpaved road deteriorates. OCE is responsible for the maintenance and upkeep of approximately 390 miles of unpaved roads in the county-maintained road system. Currently, about 230 miles of unpaved roads are graded four times per year on a routine basis. We believe that focusing on the profile of the road is key to improving the quality of the driving surface, or the "ride-ability", as well as the life of the driving surface. The road profile has been developed to promote a safe travel lane, considering road width, slope, and drainage needs.

  By achieving and keeping, the profile, graded roads have a more consistent performance and appearance countywide; route maintenance should become more efficient, reactionary maintenance should decrease, and more mileage can be added to the routine grading efforts. This continues to be a work in progress, and the increased rains over the last two years have made it clear that we must stay vigilant in our grading efforts or customers quickly become disgruntled.

- **Drainage repair and improvement:** Drainage repair and improvement activities are identified by customer requests, natural occurrences and annual inspections. When challenged with issues such as flooding or sinkhole repair, there is a need to quickly assess, re-prioritize and adapt to the situation. The skill set needed of our team members is very specific, and more than just a general knowledge of drainage operations is needed.

  Staff must be able to identify and locate utilities, operate specialized heavy equipment and apply basic survey knowledge and techniques. Employee development is a high priority with this activity.

Training and developing the skills of current team members is vital to maintaining safe working environments and producing effective repairs. This continues to be a work in progress.

- **Shoulder maintenance:**

Routine shoulder maintenance is as critical to the safety of the traveling public, as is the condition of the roadway surface. Clipping high shoulders to keep water from being trapped in the travel lane and eliminating drop offs to improve the ability of a vehicle to safely recover should they depart the travel lane are important maintenance practices. OCE's continuous objective is to improve the shoulders so that no major road has more than 30 drop offs per mile. With our current staff vacancies at an all time high due to the low unemployment numbers locally and elsewhere, we are challenged to deliver this service at expected levels. As mentioned previously when describing staff changes to support the patching operations, freeing up the specialty work crew supervisor will allow improved focus on the shoulder maintenance needs.

Another consideration is to change our high shoulder operation to a two person team with the use of a crash attenuator. The crash attenuator provides for a rolling operation as allowed by maintenance-of-traffic requirements. OCE implores a similar method for some traffic work along a travel way, but had not yet considered the use of a crash attenuator for this type of maintenance. It is believed that this process will more effectively maintain our roadway PCI scores, as well as improve driving conditions throughout the county. With our current staff levels, due to the low levels of unemployment locally and elsewhere, a smaller crew will improve this situation as we are challenged to deliver this service at our expected levels. Should this operation prove to be effective, it may be appropriate to purchase an additional crash attenuator. This will be evaluated throughout the next year and considered during the budget process.

- **<u>Right of way and drainage retention mowing:</u>** Beginning in 2018, decisive changes were made to resolve continuous performance issues with roadside and drainage retention area mowing. Previous contracts found the county mowing too large for a single contractor to meet performance requirements. As a result, and in an attempt to reduce the right-of-way work area, the county was halved using State Road 40 and County Road 328 as guides. The southern half of the county was placed out to bid for roadside mowing. The contract limited the area and quantity of mowing for a single contractor to ensure that the work load was not larger than a local contractor could handle.

  The northern half was selected to be covered by a newly formed in-house mowing fleet. We added 14 positions for this work; 12 right-of-way mowing technicians, a crew supervisor and a transportation service technician. The mowing operation was moved to a dedicated, cycle-based schedule to ensure that work is completed timely throughout the year. Mowing season is April-November with weather impacts varying schedules.

  Mowing cycles depend on the roadway types. Additional trained staff are split into work crews to increase production; six cycles of roadside mowing, eight cycles of finish mowing (areas with curbs and gutters).

  Drainage retention area (DRA) mowing follows a similar plan. The county is divided into smaller zones. These 10 zones, 8 of which contain contractual DRA mowing, are better suited for smaller, local contractors. Each of the zones were placed into 40-day cycles. A few days between cycles allow adjustments due to weather impacts.

  DRA mowing has five cycles each year. This is a slight cost savings over the six roadside mowing cycles and offers a performance level acceptable to the retention areas, but less than the roadside right-of-way. No staffing level changes were needed with this modification.

- **Signal maintenance and improvement:** Our department is responsible for 125 traffic signals, as well as various school flashing lights, emergency flashing lights and bridge abutment lights. We maintain all traffic signals in Marion County via agreements with various levels of governmental agencies, including the Florida Department of Transportation, with the exception of the city of Ocala.

Each signal has a preventative maintenance checklist and is targeted for review every six months. Signals have become more sophisticated in recent years. We continue to make advancements to the network, communication between signals, and our traffic maintenance center (TMC).

The TMC allows OCE to monitor many signals in real time and adjust their operation from the office. These advancements have not only evolved with technology, but have become critical because of increased traffic throughout our community. We foresee a need for additional traffic signal technicians because of the improving network, as well as current staff nearing retirement. These staff members have been with the county for many years, and their skills and knowledge of our systems will not be easily replaced.

- **Sign maintenance:** OCE maintains an estimated 88,395 traffic signs.

While it's an ongoing effort to straighten and replace downed or missing signs, over time the signs lose their reflectivity and are required to be replaced; the service life of a traffic sign is about 7-12 years.

The majority of the county's traffic signs are fabricated in house. Staff must continue to evaluate the effectiveness of routes and faces challenges with an ever-changing work force due to the low levels of unemployment locally and throughout our nation.

Our customer-centric operations will also be assisted by the **implementation of the Enterprise Resource Platform (ERP)**. The countywide migration to this software package of systems has prompted the review of many of our support service efforts, how we **monitor, track and report the services** we perform both in the office and in the field, how we **maintain our asset information** and how we **permit development review and right-of-way projects**.

Much of the ERP has yet to be implemented in our department. With the ERP's full implementation with OCE's operations and databases, we anticipate staffing changes, including re-structuring teams to optimize the management and delivery of services. We see opportunities with our permitting efforts, data collection and asset management, fiscal responsibilities, the department’s human resource responsibilities, and overall general customer service.

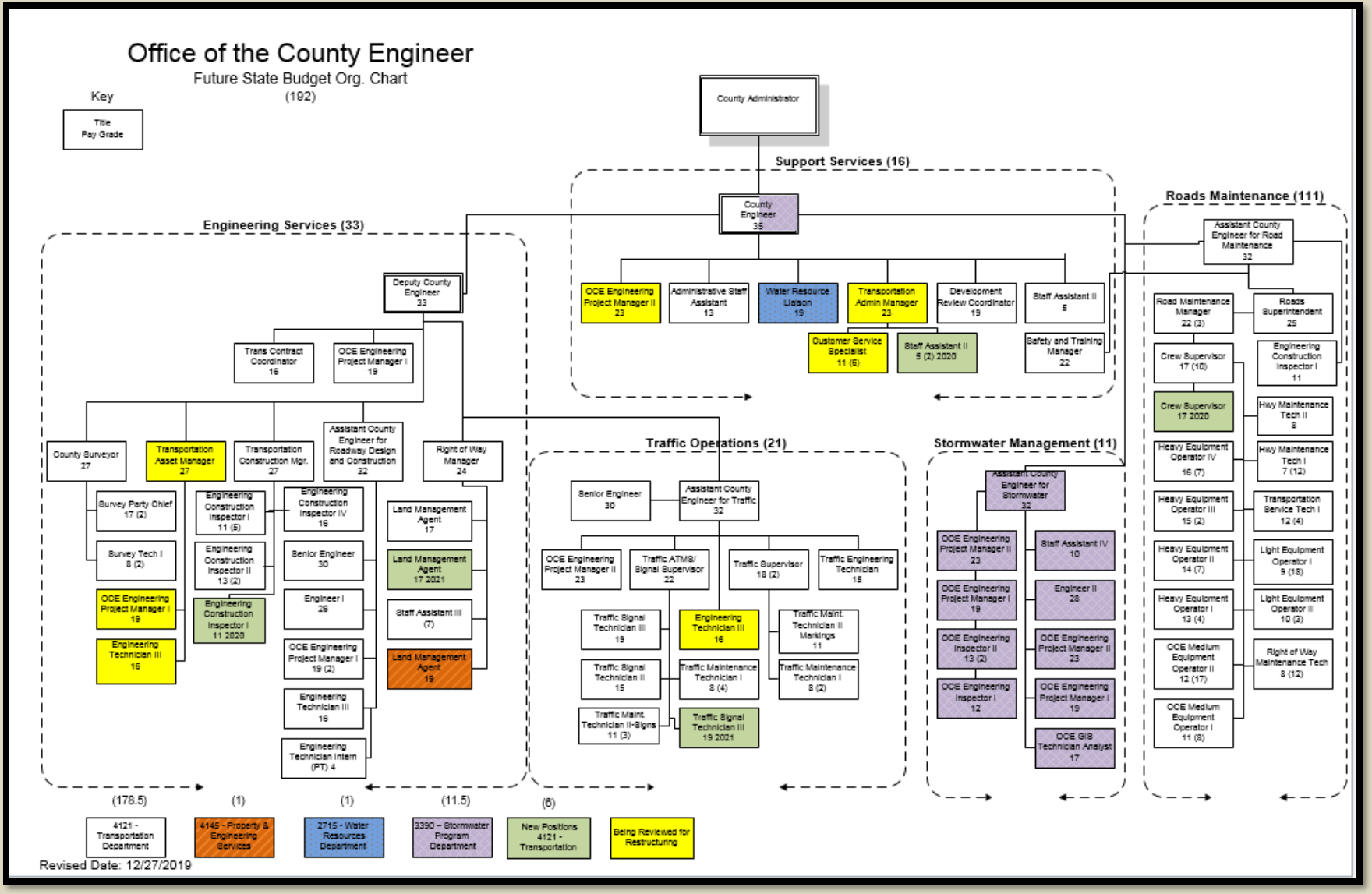
As such, we propose the addition of two staff assistant II positions to provide support services within our existing Customer Service Center. We recognize that while some efforts are expected to become automated with the new system and some data entry may be eliminated, permitting efforts and timeliness of response are at elevated levels. These additional staff assistants will support the permitting operations, as well as supplementing the migration within the ERP system.

Future state; budget, organizational chart

OCE's future state with the anticipated **addition of staff**, is described as follows:

- Customer Service Center
  Two staff assistant II; individual base salary $29,161.60 (2020)
- Engineering Services section
  One engineering construction inspector; base salary $29,764.80 (2020)
- Engineering Services section
  One land management agent; base salary $39,998.40
  OR improved use of contract services (2021)
- Roads Maintenance section
  One crew supervisor; base salary $39,998.40 (2020)
- Traffic Operations section
  One traffic signal technician; base salary $29,764.80 (2021)

As we experience the changes due to the ERP, we are also **prepared to re-organize** based on permitting and asset management needs, using the existing staff and the additional staff assistants described above. Otherwise, the organizational chart on the following page is consistent with our current organizational chart.


Office of the County Engineer
Future State Budget Org. Chart
(192)
Key
Title
Pay Grade
County Administrator
Support Services (16)
County Engineer
35
OCE Engineering Project Manager II 23
Administrative Staff Assistant 13
Water Resource Liaison 19
Transportation Admin Manager 23
Development Review Coordinator 19
Staff Assistant II 5
Customer Service Specialist 11 (5)
Staff Assistant II 5 (2) 2020
Safety and Training Manager 22
Roads Maintenance (111)
Assistant County Engineer for Road Maintenance 32
Road Maintenance Manager 22 (3)
Roads Superintendent 25
Crew Supervisor 17 (10)
Engineering Construction Inspector I 11
Crew Supervisor 17 2020
Hwy Maintenance Tech II 8
Heavy Equipment Operator IV 16 (7)
Hwy Maintenance Tech I 7 (12)
Heavy Equipment Operator III 15 (2)
Transportation Service Tech I 12 (4)
Heavy Equipment Operator II 14 (7)
Light Equipment Operator I 9 (18)
Heavy Equipment Operator I 13 (4)
Light Equipment Operator II 10 (3)
OCE Medium Equipment Operator II 12 (17)
Right of Way Maintenance Tech 8 (12)
OCE Medium Equipment Operator I 11 (8)
Engineering Services (33)
Deputy County Engineer 33
Trans Contract Coordinator 16
OCE Engineering Project Manager I 19
County Surveyor 27
Transportation Asset Manager 27
Transportation Construction Mgr. 27
Assistant County Engineer for Roadway Design and Construction 32
Right of Way Manager 24
Survey Party Chief 17 (2)
Survey Tech I 8 (2)
OCE Engineering Project Manager I 19
Engineering Technician III 16
Engineering Construction Inspector I 11 (5)
Engineering Construction Inspector II 13 (2)
Engineering Construction Inspector I 11 2020
Engineering Construction Inspector IV 16
Senior Engineer 30
Engineer I 26
OCE Engineering Project Manager I 19 (2)
Engineering Technician III 16
Engineering Technician Intern (PT) 4
Land Management Agent 17
Land Management Agent 17 2021
Staff Assistant III (7)
Land Management Agent 19
Traffic Operations (21)
Senior Engineer 30
Assistant County Engineer for Traffic 32
OCE Engineering Project Manager II 23
Traffic ATMS/ Signal Supervisor 22
Traffic Supervisor 18 (2)
Traffic Engineering Technician 15
Traffic Signal Technician III 19
Traffic Signal Technician II 15
Traffic Maint. Technician II-Signs 11 (3)
Engineering Technician III 16
Traffic Maintenance Technician I 8 (4)
Traffic Signal Technician III 19 2021
Traffic Maint. Technician II Markings 11
Traffic Maintenance Technician I 8 (2)
Stormwater Management (11)
Assistant County Engineer for Stormwater 32
OCE Engineering Project Manager II 23
OCE Engineering Project Manager I 19
OCE Engineering Inspector II 13 (2)
OCE Engineering Inspector I 12
Staff Assistant IV 10
Engineer II 28
OCE Engineering Project Manager II 23
OCE Engineering Project Manager I 19
OCE GIS Technician Analyst 17
(178.5)
(1)
(1)
(11.5)
(6)
4121 - Transportation Department
4145 - Property & Engineering Services
2715 - Water Resources Department
3390 – Stormwater Program Department
New Positions 4121 - Transportation
Being Reviewed for Restructuring
Revised Date: 12/27/2019

Additional assets and costs (major infrastructure)

Assets are added as subdivisions are accepted into the county-maintained road system, as well as when OCE completes the projects identified in the transportation improvement program (TIP) and the stormwater improvement program (SIP). These five-year plans are developed and updated annually to allocate funding and scheduling of the capital construction and major maintenance/rehabilitation projects. Both plans are presented annually to the Board for adoption.

The following is an excerpt from the fiscal year 2019-2020-2023-2024 TIP showing costs of proposed capital infrastructure improvements over the next five years are expected to be approximately $84 million. Another $36 million is forecasted for overlay and rehabilitation work of the existing roads. There are other transportation needs associated with traffic improvements, bike lanes, sidewalks, and multi-use paths.

Capacity Projects

#	Name	Description	Phase Code	Fund Code	2019/20	2020/21	2021/22	2022/23	2023/24
C1	**NW/NE 35th St Ph 1b** From: 600' East of W Anthony Rd To: 200A	Add 2 Lanes 0.9 mi 8,900 VTPD	PE DES ROW-A ROW-A CST	 IFE BOND2 	 $330,000 $66,843 	$330,000	$715,000	$715,000	$410,000
C2	**NE 35th St Ph 2** From: 200A To: NE 25th Ave	Add 2 Lanes 1.2 mi 9,000 VTPD	PE DES ROW-A ROW-A CST	 IFE IF2 	 $540,000 $1,296 	$330,000	$780,000	$1,330,000	$2,190,000
C3	**Emerald Rd Extension (S128865)** From: SE 92nd Loop To: Florida Northern Railroad	New 2 Lane 1.8 mi	DES DES ROW-A CST CST	IF3 ST IFE IFE GT2	$190,378 $409,622 $1,000,000 	 $2,600,000 $1,900,000			
C4	**NW 49th/35th St Ph 2b (S128801)** From: NE 35th St To: North End of Limerock Pit	New 4 Lane Divided Pit Area 0.3 mi	PE DES CST	 ST	 $1,675,000				
C5	**NW 49th/35th St Ph 2c (S128802)** From: NW 44th Ave To: North End of Limerock Pit	New 4 Lane Divided w/ Interchange 0.9 mi	PE DES ROW-A CST CST CST	 ST ST IFW GT2 ST	 $500,000 $3,244,539 	 $2,100,000 $16,494,531	 $1,005,469 $450,000	 $950,000 $2,100,000	
C6	**NW 49th/35th St Ph 3A** From: 1.1 mi W of NW 44th Ave To: NW 44th Ave	New 2 Lane 1.1 miles	DES ROW-A CST	GT2 IFW IFW	$250,000 $250,000 	 $2,000,000			
C7	**SW 49th/40th Ave Ph 1 (S128804)** From: SW 66th St To: SW 42nd St Flyover	New 4 Lane Divided 2.1 mi	PE DES CST CST CST	 IFW ST GT2	 	 $150,000 $5,541,907 $1,108,093			
C8	**SW 49th/40th Ave 1A (S128809)** at SW 66th St	Signalization Project	PE DES CST CST	 ST IFW	 $947,448 $480,000				
C9	**SW 49th Ave - North** From: Marion Oaks Trail To: SW 95th St	New 4 Lane Divided 3.4 mi	PE DES ROW-A CST	 IFW IFW 	 $900,000 	 	 $350,000	(Additional Funds Needed) $400,000	 $1,300,000
C10	**SW 49th Ave - South (S128806)** **(Segments A, E)** From: 0.7 mile south of Hwy 484 To: Marion Oaks Trail	New 4 Lane Divided 1.38 mi	PE DES ROW-A CST	 ST ST	 $3,000,000 	 $5,328,333			
C11	**CR 484 (S128864)** From: Marion Oaks Pass To: Marion Oaks Course	Add 2 Lanes 1.5 mi 7,000 VTPD	PE DES ROW-A CST	 ST	 $5,690,000				
C12	**Florida Crossroads Commerce Park Rd** From: Southerly Terminus To:Hwy 484	New 2 Lane Road 1.1 mi	PE DES ROW-A CST	 TM	 $4,500,000				
C13	**SW 80th Ave** From: SW 90th St To: 1/2 mi N of SW 38th St	Add 2 Lanes 4.5 mi	PE DES DES DES CST	 GT GT2 TM 	 $50,000 $450,000 $1,300,000 				
C14	**SW 80th Ave (South OTOW Segment)** From: SW 90th St To: SW 80th St	Add 2 Lanes 0.82 mi	PE DES ROW-A CST	 TM	 				$6,150,000
C15	**NW 80th/70th Ave (S128866)** From: SR 40 To: 1/2 mi N of US 27	Add 2 Lanes 4.2 Miles	DES DES ROW-A CST	IF1 ST 	$2,037 $2,297,963 				
D1	**Misc Projects**	ROW Acquisition and Settlements	ROW	GT2	$150,000				

$28M $37M $3.3M $5.5M $10M

Considering our pavement condition indexes, obligations with developer agreements and other identified infrastructure needs, there are many potential projects beyond those shown in the current TIP. The TIP only programs what known funding can support.

The long-range transportation lan estimates $412.48 million funded and $97.98 million unfunded capacity-related transportation projects needed by the year 2040. This dollar amount is only for those projects within the Board's area of responsibility and not representative of the needs of other agencies such as the local cities or the state. **Meeting additional needs are dependent upon additional funding such as a future sales tax.**

Based upon the current sales tax initiative, it is estimated that with a continuation of the same type of future sales tax through the year 2024, collecting approximately $100 million, 18 individual rehabilitation projects for road resurfacing (55 centerline miles) and 4 new roadway or additional lane projects (11.5 centerline miles) could be completed.

Implementation program

Maintenance services are performed year round, as situations arise and at routine frequencies identified in our Transportation, Maintenance and Operation standards.

Expansions of the county's major road network, trails, sidewalks and other transit needs are envisioned and programmed through the development of a long-range transportation plan (LRTP). The Ocala/Marion County Transportation Planning Organization (TPO) provides a forum for a coordinated, comprehensive, and continuous planning process for all transportation-related issues in Marion County.

One of the primary duties of the TPO is the development of the LRTP, which is intended to identify how our area should address transportation needs based on population and related traffic growth as projected over a 25-year planning horizon. Our current LRTP reaches the year 2040 and a new LRTP is expected to be developed the end of 2020.

Considering the LRTP, developer obligations, watershed management plan prioritization, and other recognized needs, capital improvements of our roads, traffic and drainage systems are planned and implemented per our **five-year TIP and SIP**, as approved by the Board annually. These projects, whether new or rehabilitation projects, typically require significant time for design and permitting, potential land acquisition, and actual construction.

Staffing level changes were described in our future state and are anticipated to be **implemented as follows**:

- In 2020:
    - Customer Service Center: two staff assistant II; individual base salary $29,161.60
    - Engineering Services section: one engineering construction inspector; base salary $29,764.80
    - Roads Maintenance section: one crew supervisor; base salary $39,998.40
- In 2021:
    - Engineering Services section: one land management agent; base salary $39,998.40

      OR improved use of contract services
    - Traffic Operations section: one traffic signal technician; base salary $29,764.80

As a large and growing community, now more than ever, we hear the call from Marion County citizens for expanded our department's levels of service and programs. To help us meet the service demands of tomorrow, we must explore various strategies while rely ing on our educated and talented team.

Many of these strategies are clearly identified in this plan, while others are still evolving, as we continue to evaluate our efforts, improve our abilities and react accordingly. To meet service needs and customer expectations, **funding will continue to be a discussion**.

Sales tax has proven itself to be a tremendous benefit to the transportation infrastructure. If it not renewed by our citizens, another funding source will have to be found.

Our department looks to strengthen proactive maintenance programs; add additional staff and resources in key areas when appropriate; invest in both aging and new transportation infrastructure through our capital improvement projects; improve data collection, tracking and management of work programs and services; utilize technology to provide real-time information; provide timely and quality services to the development community; and enlist customer feedback as often as possible.

Building Bridges to Success!

Future bridge to Interstate 75 on the future Northwest 49th/35th Street corridor

Reference documents

All reference documents can be found at the following links. Should a link be broken, all documents can be found by going to the county's website, **MarionCountyFL.org**, and searching by document name.

- Five-year Transportation Improvement Program (TIP) (Board approved May 21, 2019) -https://www.marioncountyfl.org/home/showdocument?id=18756
- Five-year Stormwater Implementation Program (SIP) (Board approved May 21, 2019) -https://www.marioncountyfl.org/home/showdocument?id=18746
- Stormwater Education Plan fiscal year 2019/20 (Board approved Nov. 5, 2019) - https://sire.marioncountyfl.org/sirepub/cache/2/izwyzgytkyrbmpd2tpvvfrzb/64943212 302019075752622.PDF
- Water Use Efficiency Plan fiscal year 2019/20 (Board approved Nov. 5, 2019) - https://sire.marioncountyfl.org/sirepub/cache/2/izwyzgytkyrbmpd2tpvvfrzb/64943312 302019075822653.PDF
- Transportation, Maintenance and Operation Standards (TMOS) (Board approved Feb. 16, 2016) - https://www.marioncountyfl.org/home/showdocument?id=9835
- Five-year Strategic Plan (2014) - https://www.marioncountyfl.org/departments-agencies/departments-o-z/office-of-fiscal-review/strategic-plans
- Ocala/Marion County Transportation Planning Organization's 2040 Long Range Transportation Plan (LRTP) - https://www.ocalamariontpo.org/home/showdocument?id=4018