



**DATE:** April 4, 2016

**TO:** Planning and Zoning Commissioners

**FROM:** Tom Word, P.E.  
Assistant City Manager for Community Services

Dan Franz, P.E.  
City Engineer

**SUBJECT:** Discuss and consider a recommendation to the City Council regarding the  
FY 2017 – FY 2021 Capital Improvement Plan

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As required by the City Charter, the Planning and Zoning (P&Z) Commission annually reviews and submits a **5-year Capital Improvement Plan** to the City Council and City Manager at least 120 days before the beginning of the budget year that starts in October. Projects are prioritized by staff and programmed with a recommended year of construction.

This document is respectfully submitted by staff to the P&Z Commission for your review and concurrence. After the review is complete and all projects are vetted by the P&Z Commission, the resulting document and list of projects/project plan will be submitted to the City Council for approval and adoption.

Capital Improvement Projects are large projects that enhance or expand the infrastructure of the City. These projects typically take more than one year to develop and complete and are frequently paid for with bond proceeds.

The Capital Improvement Plan is a multi-year plan covering five years that forecasts spending for all anticipated capital projects. The plan addresses both repair and replacement of existing infrastructure as well as the development or acquisition of new facilities, property, improvements and capital equipment to accommodate future growth. As a planning tool, it enables the City to identify needed capital projects and coordinate facility financing, construction, operation and scheduling.

### **City Charter Requirement**

The City's Charter requires the Planning and Zoning (P&Z) Commission to submit a 5-year Capital Improvement Plan to the City Council and City Manager at least 120 days before the beginning of the budget year that starts in October. The plan must include a prioritized list of projects that are programmed with a recommended year of construction.

### **Project Funding**

- Funding plays an integral role in how capital projects are prioritized. There are several different funding sources for capital improvement projects including but not limited to the following:
- Certificates of Obligation (CO) - a bond secured by property tax that does not require voter approval.
- General Obligation (GO) - a bond can be acquired only after the approval of the voters as the debt service is typically added to the tax rate and projects such as streets, municipal facilities, and park improvements.
- General Fund (GF) - the largest fund within the City, the GF accounts for most of the City's financial resources. General Fund revenues include property taxes, licenses and permits, local taxes, service charges, and other types of revenue. This fund usually includes most of the basic operating services, such as police, parks and recreation, streets, and general administration.
- Utility Fund (UF) – the UF funds projects from the sale of water and wastewater services, utility impact fees and the issuance of revenue bonds.
- Developer-Funded – projects may be funded as part of a development or performance agreement and through capital impact fees for new development. Developer-funded projects may or may not be managed by City staff.

Currently, the City uses CO and GO bonds to fund roadway, drainage, sidewalk and park projects. Smaller projects may even be funded out of the GF or UF if the project is a high priority to the citizens and City Council. Voters approved the \$61 million in general obligation bonds in 2014 and 2015 for parks (\$25 million) and roadway improvement (\$28 million in 2014 and an additional \$9 million in 2015 for Weiss Lane) projects. Utility projects are typically funded by the Utility Fund, capital recovery fees (impact fees from new development) and COs. Utility COs are funded through utility revenue guaranteed by the tax rate.

### **Staff Recommendation**

Staff recommends the development of a program for the listed roadway projects using GO bonds, COs, grant funding, economic development agreements and other funding sources. City staff have listed the roadway projects by priority based upon anticipated development times for plans, utility adjustments and right of way acquisition.

## Transportation/Roadway/Streets Projects

A safe and efficient arterial roadway system is essential to support economic development within the SH 130 corridor as well as other parts of the City. By providing the necessary connections to the City's commercial and single-family developments, the City will continue to grow and flourish as accessibility and public infrastructure improves.

As this development occurs, public schools will also need to expand and construct new schools to serve community needs. This will have a direct impact on the existing rural two-lane roadway network. Therefore, the ability of the City to advance significant projects to construction is highly contingent on the development of a program that identifies and prioritizes the needs of the community.

Projects for programming in the 2017-2021 CIP Plan are included in the table below and includes a proposed timeline design/construct dates are the year the activity begins.

Table 1 – Transportation/Roadway/Streets				
Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Heatherwilde Boulevard Widening	Reconstruct and widen roadway into a four-lane divided roadway with raised medians, turn lanes, drainage improvements, pedestrian facilities and a signal at Kingston Lacy Boulevard	2014 GO Bond	\$6.80M	2012/2016
East Pecan Street Widening and Improvements	Construct a three-lane road rehabilitation from Weiss to Cameron Road with curb and gutter and sidewalks	2014 GO Bond	\$1.93M	2014/2016
East Pflugerville Parkway and SH 130 Intersection Improvements	Reconstruct the existing two-lane road with curb and gutter and a new sidewalk along Pflugerville Parkway from Colorado Sand Drive to Becker Farm Road	2014 GO Bond	\$5.48M	2014/2016
Helios Way Extension	Construct a four-lane roadway west of Sun Light Near Way, connecting to Pecan St. with water service and a traffic signal	CO	\$2.86M	2015/2016
Rowe Lane Safety Improvements	Reconstruct the existing two-lane roadway with additional shoulders	2014 GO Bond & Travis County Bond	\$2.37M	2015/2016
Pfennig Lane Widening and Roadway Improvements	Construct a three-lane roadway section that includes a two-way central left turn lane, curb and gutter and curve modifications	2014 GO Bond	\$2.07M	2015/2016
Old Austin-Hutto Road	Construct a three-lane roadway with curbs and gutter, storm drain and eliminate low water crossing	TBD	\$3.25M	2015/2017

**Table 1 – Transportation/Roadway/Streets**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Weiss Lane Roadway Improvements	Construct a four-lane urban roadway from just north of the bridge by Pecan to Kelly Lane, adjacent to the future high school	2014 GO Bond	\$19.2M	2015/2017
Heatherwilde and Windermere Neighborhood Streets	Repairs and reconstruction of streets including Cactus Blossom Dr, Columbine St, Ardisia Dr, Simsbrook Dr, Dashwood Creek Dr, Blackthorn Dr, Thackeray Ln, Gravesbend Rd, Isle of Man Rd, Isle of Man Court, Gower St and Langland Rd	2014 GO Bond	\$3.40M	2015/2017
Sun Light Near Way	Construct a three-lane roadway from Pecan Street to Helios Way including turn lanes, sidewalks and curbs and gutters	CO	\$720K	2015/2017
Royston Reconstruction	Construct a three-lane roadway, Central Commerce to Grand Avenue Parkway including a closed drainage system	TBD	\$4.40M	2017/2018
Immanuel Road	Construct a three-lane roadway as part of a low impact design initiative with a storm sewer, pedestrian improvements and landscaping from Pecan Street to Pigeon Forge Boulevard - bridge replacement not in project scope	TBD	\$3.50M	2017/2018
Picadilly Drive	Construct a four-lane urban roadway from Central Commerce to the city limits	TBD	\$2.10M	2018/2019
Colorado Sand Drive	Construct the middle section of Colorado Sand Drive to include water and wastewater services	TBD	\$3.06M	2020/2021
Pfluger Farm Lane North	Extend a roadway north of Town Center Drive to SH 45 with a three-lane roadway	TBD	\$3.08M	2020/2021
<b>Transportation Total</b>			<b>\$64.22M</b>	

### *Active Transportation/Roadway/Streets Projects*

Below is a list and description of currently funded transportation and roadway projects. These projects are funded by certificates of obligation (CO) associated with a development agreement, as well as General Obligation (GO) bonds including the November 2014 and November 2015 General Obligation Bond Election.

- ✧ Old Austin-Hutto Road  
Reconstruction of the existing road into a three-lane roadway section with curb and gutter, storm drain and street lighting. Design funded from savings in the 2014 capital improvement program.
- ✧ East Pecan Street Widening and Improvements (State Highway 130 eastward to Weiss Lane)  
Reconstruction of East Pecan Street (from SH 130 to Weiss Lane) as a three-lane roadway section. This project will also reconstruct the existing two lane section from Weiss Lane to Cameron Road. Design work is complete and acquisition efforts continue for the remaining properties. Bidding for construction could occur in April 2016.
- ✧ East Pflugerville Parkway and SH 130 Intersection Improvements (SH 130 east toward Lake Pflugerville)  
Reconstruction of the existing two-lane roadway from Colorado Sand to Becker Farm Road. Additionally, this project will improve the SH130/E. Pflugerville Parkway underpass to its ultimate roadway section and incorporate traffic signals. Design is 60% complete and bidding is scheduled for the fall of 2016.
- ✧ Heatherwilde Boulevard Widening (State Highway 45 south to Wilke Ridge Lane)  
Reconstruction and widening of the existing two-lane road into a four-lane divided roadway with raised medians, turn lanes, drainage improvements, pedestrian facilities and a signal at Kingston Lacy Blvd. Also included in the project is installation of new wastewater infrastructure and landscaping. Construction began in February 2016; and completion is scheduled for the summer of 2017.
- ✧ Heatherwilde and Windermere Neighborhood Streets  
Repair and reconstruction of streets including Cactus Blossom Drive, Columbine Street, Ardisia Drive, Simsbrook Drive, Dashwood Creek Drive, Blackthorn Drive, Thackeray Lane, Gravesbend Road, Isle of Man Road, Isle of Man Court, Gower Street and Langland Road. Design is underway and construction is anticipated to begin in 2017.
- ✧ Helios Way Extension and Sun Light Near Way  
As part of a development agreement, this project will construct a four-lane divided roadway west of Sun Light Near Way through an undeveloped tract of land and intersect with Pecan Street. The project includes storm drains, a 12-inch water line and 10-foot shared use path. After the completion of Helios Way, Sun Light Near Way will be widened to a three-lane section with intersection improvements.
- ✧ Pfennig Lane Roadway Improvements  
This project will reconstruct the roadway to a three lane section from Rocky Creek Drive to the Justice Center. This project will incorporate a sidewalk on one side, incorporate curb and gutter and improved alignment for curve mitigation. Design is 90% complete and property acquisition will begin in the summer of 2016. Construction is anticipated to begin in 2017.

☼ Rowe Lane Safety Improvements

This project provides for the reconstruction of the existing two-lane roadway with additional shoulders and drainage improvements; and is a cost-sharing safety project with Travis County bond funds (\$1.46 million) approved by voters to reconstruct the existing two-lane section. Design is 90% complete and construction is anticipated to begin in the fall of 2016.

☼ Weiss Lane Widening and Roadway Improvements

The original Weiss Lane project provided for the reconstruction of the existing two-lane roadway section with shoulders and turn lanes at major intersections. This project is a cost-sharing safety project with Travis County. With the announcement of a fourth high school along Weiss Lane, the City Council placed an increased scope of work for Weiss Lane on the ballot in 2015. In November 2015, voters approved an additional \$9.5 million to make Weiss Lane a four-lane urban roadway four lanes from just north of the bridge by Pecan to Kelly Lane, adjacent to the future high school. With the new and increased scope of the project, design is anticipated to be complete by the fall of 2016 and construction will follow once property acquisition is complete. South of Travis County Bridge #229, Weiss Lane will be reconstructed as a two-lane roadway with 4-foot shoulders and intersection improvements. The total allocated budget for the Weiss Lane project is \$19.1 million.

## **Water and Wastewater Utility Projects**

Master planning is important to provide guidance and planning for future efforts. In 2013, the City Council adopted water and wastewater master plans prepared by Lockwood, Andrew and Newnan. These plans included 5-year and 10-year capital improvement projects to support the City's future growth. City staff have used the overall plan to provide a roadmap for programming of water and wastewater infrastructure in the proposed 2017-2021 capital improvement plan.

### Efforts that Affect the Master Plan

The City previously entered into an agreement with the Manville Water Supply Corporation (MWSC) that released the MWSC's obligation to provide service to the old North Travis County MUD No. 5 (NTCMUD #5) and their ability to require impact fees within the NTCMUD #5 geographical boundary. This agreement also required the City to purchase 685,000 gallons of water per day from the MWSC at a designated location, for the remainder of the term of the agreement (expiring in September 2036) for the NTCMUD #5 District. Therefore, in order for the City to serve the customers directly within the NTCMUD #5, the City was required to construct water utility projects to service the former NTCMUD #5 area.

### Water

Currently, the City's water is supplied by surface and groundwater/well sources. Lake Pflugerville is the source of surface water, which is permitted through the Lower Colorado River Authority; and the City is under contract to purchase and transport water from the LCRA to Lake Pflugerville.

The water treatment plant (WTP) has a rated capacity of 21.6 million gallons per day (MGD), and production currently totals an average of approximately 6 MGD. Three wells draw water directly from the Edwards Aquifer and can produce 6 million gallons per day (MGD).

In addition, there are three water service providers within the City limits. Two of the providers have interconnections with the City's system including Windermere/Southwest Water and MWSC.

The City is a wholesale customer of the MWSC and a wholesale provider to MWSC and Windermere Utility Corporation.

To plan for the City's future needs, water utility projects were classified into four categories in the master plan.

1. System Strength and Reliability
2. Storage
3. Distribution
4. Miscellaneous System Improvements

This table below denotes recommendation from City staff for water utility projects for the 5-year CIP and includes a proposed timeframe for design and construction.

<b>Table 2 – Water Utility Projects</b>				
Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
<b>System Strength and Reliability</b>				
River Intake Relocation	Relocate 150 feet of Intake Piping to a Deeper location in the Colorado River for Increased Intake Capacity	Utility Fund	\$1,887,000	2021/2022
	<b>Total</b>		<b>\$1,887,000</b>	
<b>Storage</b>				
Elevated Storage Tank for 960 Pressure Plane	Construct an Elevated Storage to serve customers west of SH 130	2015 Combination Tax & Revenue COs & Utility Fund	\$6,750,000	2016/2018
	<b>Total</b>		<b>\$6,750,000</b>	
<b>Distribution</b>				
NTCMUD#5 Phase 2	Construct a 16" main on Black Locust, 16" main on Pflugerville Parkway from Wilke Lane to Regis, 12" main along Regis from Pflugerville Parkway to Dansworth	2015 Combination Tax & Revenue COs	\$2,255,000	2014/2016
Weiss Transmission Main Phase 1A	Construct a Transmission Main from the Water Treatment Plant to High School #4 North Road	2015 Combination Tax & Revenue COs	\$1,712,000	2014/2016
Weiss Transmission Main Phase 1B	Construct a Transmission Main from the Water Treatment Plant to Hidden Lake Boulevard	Utility Fund	\$1,721,000	2016/2016
South Weiss Transmission Main	Construct a Transmission Main from the Water Treatment Plant to Wilbarger Creek	Developer-Funded	\$1,285,000	2015/2016



**Table 2 – Water Utility Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
SH 45 Interconnect	Bore 900 Linear Feet of 16" Water Line Under SH 45 to provide water service to properties north and east of SH 45 and SH 130	Utility Fund	\$848,000	2019/2020
Oxford Transmission Main Extension	Install 16-inch transmission main extension bore from Dessau Road to Oxford Drive	Utility Fund	\$686,000	2019/2020
Well Supply Transmission Main to 950 Old Austin Pflugerville Rd Phase 2	Install 2,225 LF of 12-inch transmission main along Old Austin Pflugerville Road	Utility Fund	\$527,000	2019/2020
South Weiss Transmission Main from Wilbarger Creek to SH 130	Install a 24-inch transmission main along Weiss Lane from the WTP to Pecan a 16-inch main along Pecan to SH-130	Utility Fund	\$3,656,000	2021/2022
	<b>Total</b>		<b>\$12,681,000</b>	
<b>Miscellaneous System Improvements</b>				
Downtown Pressure Zone Re-delineation	Install Pressure Relief Valves (PRVs) and Check Valves for Pressure and Proper Flow	Utility Fund	\$225,000	2016/2016
Pfennig Lane Pump Station Generator	Install a stand-by generator	Utility Fund	\$930,000	2015/2016
City Well #6 and #7 Rehabilitation	Rehabilitate existing well for increase in capacity	Utility Fund	\$1,250,000	2015/2016
Manville Connection to Water Treatment Plant	Construct a metered take point and 12" pipeline to connect the Manville pipeline at Weiss Lane & Pflugerville Parkway to the Water Treatment Plan	Utility Fund	\$650,000	2015/2016
Pecan Street Parkway Drive Interconnect	Bore a 12" interconnection under Pecan Street to interconnect with system acquired from Austin	Utility Fund	\$318,000	2018/2018
Update Water CIP	Perform Strategic Planning for Water Services and Update Master Plan	Utility Fund	\$303,000	2018/2018
Obed /Stone Hill Pressure Plane Interconnection	Install two PRVs needed to interconnect the 950-ft & 888-ft pressure plane	Developer-funded	\$57,000	2021/2022
Wells Branch Loop	Install 16-inch main extension from 10th Street to Settlers Valley Drive	Utility Fund	\$475,000	2021/2022
	<b>Total</b>		<b>\$4,208,000</b>	
	<b>WATER TOTAL</b>		<b>\$25,526,000</b>	



## Wastewater

The City has experienced tremendous growth over the past decade, and that growth is anticipated to continue well beyond the next decade.

During the development of the Water Master Plan and impact fees in 2012-13, the City determined that an updated Wastewater Master Plan was also necessary to accurately depict the City's future wastewater infrastructure needs to satisfy the growth. The previous 2008 Wastewater Master Plan was developed considering three service areas: Cottonwood Creek, Wilbarger, and Central. The City treats its wastewater at the existing Central Wastewater Treatment Plant (WWTP) located in the Gilleland natural drainage basin. The 2008 master plan capped the flow to the Central WWTP at 5.3 million gallons per day (MGD), based on full build-out flow analysis of the future service area for the Central WWTP, and recommended the construction of a new wastewater plant in the Wilbarger basin.

Lockwood, Andrew and Newnam (LAN) was contracted by the City to update the City's wastewater master plan and capital improvements plan In July 2012. The study included an analysis of the City's existing system and a determination of the City's future development and wastewater treatment needs. The master plan developed by LAN utilized the concept of diverting more flow to the existing WWTP in the Central Service area and increasing its capacity to further defer the expense of a new plant and associated interceptors. By completing the expansion of the Central WWTP to 6.9 million gallons per day (MGD) by fiscal year 2019, the construction of another regional wastewater treatment facility to serve the Wilbarger and the Cottonwood watershed basins can now be deferred well beyond the 5-year utility CIP to approximately the year 2034. The final design and construction of another regional wastewater treatment facility up to 25 MGD east of SH 130 and corresponding wastewater interceptor lines may be deferred until such time the City reaches 75% capacity at the Central WWTP.

The 2013 Wastewater Master Plan serves as a tool to be used by the City in ensuring that its wastewater system develops in a systematic and prioritized manner.

The master plan focuses on projects required to serve development that will occur within the next 10 years. However, it was important to review not just the anticipated growth in the next decade, but the ultimate growth predicted in the service areas to ensure that the recommended infrastructure is sized appropriately.

To plan for the City's future needs, the following core principles guide the development of projects:

- Capacity expansion
- Removal of lift stations from collection system, and
- Development-driven improvements

The final design and construction of another regional wastewater treatment facility up to 25 MGD east of SH 130 and corresponding wastewater interceptor lines may be deferred until such time the City reaches 75% capacity at the Central WWTP.

Please refer to the table below for the recommended wastewater utility projects and the proposed years of design and construction.

<b>Table 3 – Wastewater Utility Projects</b>				
Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
<b>Capacity Expansion</b>				
Central WWTP Expansion	Increase capacity at the WWTP to 6.9 MGD	Utility Fund	\$28,638,000	2017/2018
New Sweden Package Treatment Plant	Install a 0.475 MGD package treatment plant	Utility Fund	\$4,500,000	2017/2018
<b>Lift Station Removal</b>				
Decommission Pfluger Lane (Pflugerville Parkway) Lift Station	Removal of existing lift station	Utility Fund	\$180,000	2020/2020
Decommission Highland Park Lift Station	Removal of existing lift station	Utility Fund	\$180,000	2020/2020
<b>Development-Driven Improvements</b>				
Sorento/Carmel Lift Station and Force Main	Construct a Collection/Transmission Line per development agreement	2015 Combination Tax & Revenue COs & WW Impact Fees	\$4,440,000	2014/2016
Carmel Interceptor	Install 18" Collection and Transmission Main	2015 Combination Tax & Revenue COs	\$3,560,000	2015/2016
Sorento Wastewater Interceptor	Install a 36" Collection and Transmission Line	2009 & 2015 Combination Tax & Revenue COs	\$3,180,000	2014/2017
SH 45/SH 130 Tunnels	Extend Service Area to the North of SH 45	Utility Fund	\$2,800,000	2017/2017
Lakeside Wastewater Interceptor Phase 1	Install a 18" Collection and Transmission Line	Utility Fund	\$888,000	2017/2018
5-Year Impact Fee and CIP Update	Perform Strategic Planning Efforts to Update the Impact Fees and CIP	Utility Fund	\$256,000	2018/2018
Wastewater Master Plan Update	Perform Strategic Planning Efforts to update the Wastewater Master Plan	Utility Fund	\$230,000	2018/2018
New Sweden/Cottonwood Interceptor Phase 1	Construct a 27" gravity sewer main	Utility Fund	\$896,000	2017/2018
West SH 130 Interceptor Phase 1	Install 36" and 42" gravity sewer mains.	Utility Fund	\$6,060,000	2017/2018
West SH 130 Interceptor Phase 2	Install a 36" gravity sewer main.	Utility Fund	\$1,889,000	2018/2019

**Table 3 – Wastewater Utility Projects**

Project Name	Project Description	Funding Source	Total Cost Estimate	Design/Construct
Highland Park & Pfluger Lane Interceptor Upsize	Replace existing gravity interceptor with 36-inch capacity to convey wastewater to the SH-130 interceptor	Utility Fund	\$422,000	2019/2020
Highland Park & Pfluger Lane Interconnector Phase 2	Install a 4-inch gravity interceptor to convey wastewater from Highland Park lift station	Utility Fund	\$704,000	2019/2020
<b>WASTEWATER TOTAL</b>			<b>\$30,635,000</b>	

The proposed water and wastewater utility projects referenced in the proposed 5-YR CIP total approximately \$56,161,000. It is important to note that the construction of the utility projects will require additional funding aside from Utility Fund Balance and impact fees. The City will need to issue CO bonds for the construction of these projects.

#### Reclaimed Water (Reuse)

In early 2015, the City completed a Reclaimed Water Master Plan. This Master Plan illustrates the improvements and phasing necessary to provide reclaimed water for portions of the City. Examples of large users are cooling towers, large scale irrigation and manufacturing. The source of the reclaimed water is the City's wastewater treatment plant. Table 4 below illustrates the initial projects that would be implemented.

**Table 4 – Reclaimed Water Projects**

Project Name	Project Description	Total Cost Estimate	Design/Construct
Reclaimed Water Pumping and Storage	Construct pumps and storage for system and one million gallon storage	\$5,470,000	2016/2017
Segment 1 Distribution Line	Construct a 20" re-use main from WWTP to SH 130	\$2,258,000	2016/2017
Segment 2 Distribution Line	Construct a 16"/12" re-use main to East Cameron Road	\$2,245,000	2016/2017
<b>RECLAIMED TOTAL</b>		<b>\$9,973,000</b>	