

EXECUTIVE SUMMARY

INTRODUCTION

The City of Fort Lauderdale Commission appointed an Infrastructure Task Force Committee (ITFC) pursuant to Resolution 17-46 adopted on 7 March 2017 consisting of nine (9) positions to serve on the ITFC. The objectives are to review and examine the conditions and needs of the City's aging infrastructures, the timetable for their being repaired and/or replaced, as well as the associated cost and financing alternatives for same. The City's existing infrastructures include, but not limited to: roads, bridges, sidewalks, airports, seawalls, stormwater drainage, wellfields, water transmission and distribution mains, wastewater collection; pump stations and force mains, treatment plants, parks and all City buildings.

WASTEWATER AND WASTEWATER TREATMENT PLANT

The deteriorated old vitrified clay wastewater collection mains allow significant amounts of groundwater and sandy soil to enter into the system 24/7 causing destruction to occur through the entire wastewater system, including pump stations and force mains transmitting approximately 50% more influent flows to the George T. Lohmeyer Wastewater Treatment Plant resulting in higher costs and reduction in future treatment plant capacity. The damaged collection mains need to be repaired by lining the inside walls of the pipe or replace the more severe damaged mains to stop the costly destruction, including sink holes undermining roads, other contiguous utilities and properties.

WATER AND WATER TREATMENT PLANTS

The water distribution mains located furthest away from the Fiveash and Peele Dixie Water Treatment Plants are experiencing low water pressures and flows inadequate to provide the required firefighting capability as recommended by the Insurance Services Offices (ISO). The water distribution systems need to up-grade the 6-inch and smaller diameter sized water mains and extend large diameter water transmission mains to increase water pressures and flows to these extremity water distribution areas to overcome deficient firefighting capability.

STORMWATER AND SWALES

The stormwater catch basin systems are currently unable to remove street flooding and standing water that is compounded by the inability of the grass swales located between the edge of road pavement and sidewalks to allow stormwater to sheet flow off into the swale invert allowing water to percolate into the soil. Most of the stormwater exfiltration type catch basin systems and connecting slotted piping with exfiltration rock need maintenance to restore these system's exfiltration discharge effectiveness/capability.

SEAWALLS

Many of the seawalls in the older communities are unable to prevent the canal seawater from cascading over top of them causing flooding to the contiguous properties and roads. These seawalls need to be elevated based upon the hydraulic gradient height calculated at the specific location plus a freeboard height to prevent high tides from overflowing the seawalls for future years.

ROADS

Many roads are being damaged from their subgrade material being undermined underneath by the failing sanitary sewer system causing road depressions and eventually developing sink holes. Motorist are experiencing traffic conditions beyond the original traffic engineering design capacities during peak hours resulting in traffic congestion and queuing. Traffic regulation and controls cannot help reduce some of these problems during peak hours of high volumes of traffic. Appropriate mass transit may help reduce some of these areas from traffic build-up, but only so many vehicles can fit in a limited right-of-way space.

SIDEWALKS

Different sidewalk widths, thicknesses and strengths of the concrete material have a direct relation to the service life of these pedestrian walkways. Vehicular driving over top of sidewalks and tree roots uplifting them seem to be the main causes of their demise. The older narrower width sidewalks need to be widened to meet ADA requirements.

BRIDGES

Bridges are subjected to structural weight and vibration from live load vehicles, but also in many cases to a corrosive atmosphere from the tidal seawater flowing underneath these infrastructures. Concrete being porous allows the reinforced structural steel to be exposed to the seawater and high humidity corrosive elements causing a weakening of the bridge's structural integrity reducing the bridges' service life.

BUILDINGS

The Police Station Headquarters has serious health and safety issues making it a strong candidate to be demolished and replaced rather than updated. The City Hall and War Memorial are old and could be updated rather than being demolished and replaced.

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PARKS AND RECREATION

Parks and recreational sites are also being evaluated to provide safer and friendly usable equipment for all ages to participate for their enjoyment. The City Parks could be upgraded to increase security and safety.

INTERIM REPORT

WASTEWATER AND WASTEWATER TREATMENT PLANT

The wastewater gravity collection sewer system consists primarily of old vitrified clay pipe used in the 1950's and is in the worst condition with respect to the other City's infrastructure systems. In 2017, the State of Florida Department of Environmental Protection (FDEP) issued a "Consent Order" mandating the City to immediately start repairing/replacing many of the failed wastewater mains and pump stations. Although the City has been issuing "Go Big, Go Fast" updates to the public demonstrating their progress pursuant to the FDEP Consent Order, the bulk of the damaged wastewater collection gravity mains responsible for the continued deterioration of the entire wastewater system still requires immediate emergency action.

These old wastewater gravity collection mains are underground submerged in the groundwater and when damaged, allows continuous amounts of groundwater and sandy soil along with the road subgrade material to enter into these sewer mains eventually developing sink holes that undermine roads, other contiguous utilities and properties. The City has recently instituted an Infiltration/Inflow (I/I) study to video inspect the inside of the wastewater collection mains to locate and determine the severity of the damaged collection mains and if they can be repaired by lining the inside walls of the pipe or if they need to be replaced. The road subgrade material and sandy soil along with the groundwater are constantly diminished when draining into these submerged damaged sewers 24/7. This sand-groundwater mixture causes a destructive path eroding away the inside walls of the downstream sanitary gravity mains, some of which have collapsed and must be replaced immediately. It also grinds away the wastewater pump impeller blades at the pump stations increasing pump station run times and grinds away the inside of the force mains. This infiltration adds an estimated 50% volume of groundwater inflow into the raw wastewater influent eventually pumped to the 55.7 MGD George T. Lohmeyer Wastewater Treatment Plant (WWTP) substantially increasing the treatment cost to the utility customers.

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In addition to the City replacing those portions of the damaged wastewater gravity collection system that have collapsed, the City should establish an ongoing lining contract to start repairing the damaged collection mains as identified by the I/I study. These mains need to be repaired immediately by lining the inside walls of these mains to stop the groundwater and sand from entering into the mains that create a destructive path all the way to the WWTP. The work should commence starting at the upstream damaged mains working downstream to efficiently line and clean out the sand/debris to avoid having to redo the cleaning of the mains. The number of contractors who can line sewer pipe is limited to only those contractors having the special equipment and experience in pipe lining of the inside walls for these damage collection mains.

Wastewater treatment plants will be evaluated to upgrade and increase their efficiency of the treatment processes and disposal methods, including reducing the objectionable poisonous hydrogen sulfide (H₂S) gaseous odors. The City needs to make the wastewater gravity collection mains their top priority as the sand and groundwater entering into and mixing with the already corrosive raw sewage is reducing the service life of same by destroying the rest of the system, including the expensive new replaced force mains and pump stations.

WATER AND WATER TREATMENT PLANTS

The water distribution and transmission systems generally have the same deficiencies inherent with most other utility systems consisting of undersized diameter water mains; dead end mains located in cul-de-sacs; rusting deteriorated old mains and those mains located at the outer extremities of the water distribution system having low water flows and pressures. The water mains located furthest away from the water treatment plant(s) typically require larger diameter transmission mains to remedy the low pressures and flow capability deficiency. Water main systems are designed not just to provide domestic water consumption, but also to provide firefighting capability at the fire hydrants and other fire suppression systems as recommended by the Insurance Services Office (ISO). The City is working with the Fire Department to conduct periodic fire hydrant flow testing and maintenance of same to assure the water flows and pressures are adequate and to upgrade pipe diameters where deficient pressures and flows are detected to fight fires should they occur. Raw water wellfields and the 70 MGD Fiveash and 12 MGD Peele Dixie Water Treatment Plants will also be evaluated to improve the quality of the finished potable water and revisit the chemicals being used to treat the raw water to make it potable for consumption. The current ammonia blended with the chlorine produces a deleterious caustic nitrification having unhealthy nitrification properties requiring the City to flush the water system periodically from our water supply. This flushing procedure expends unmetered and unaccounted for water that increases cost to the customers.

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STORMWATER AND SWALES

The stormwater drainage systems consist of three basic types generally used throughout the City to alleviate stormwater street flooding. The first type is a “positive” drainage system that is more expensive to design and construct consisting of catch basin structures connected with collection mains that eventually manifold into an outfall pipe to transmit the stormwater to an outfall structure with pollution controls before discharging into a canal, lake or other type of retention area. The second type is an “exfiltration” drainage system that is less expensive to construct and consist of individual catch basin structures connected with one or two lengths of slotted pipe with exfiltration rock wrapped in filter fabric around the slotted portion of the pipe allowing the stormwater to discharge and percolate down into the groundwater. The right-of-way swales serve as a third method of stormwater disposal to assist the first two methods in reducing street flooding.

The swale areas located between the edge of roadway pavement and the sidewalk generally consist of grass in residential communities and are inverted 6 to 8 inches to help collect stormwater that sheet flows off of the impervious roads and sidewalks allow said stormwater to percolate into the ground to help reduce ponding and flooding of the rights-of-way. The catch basin type drainage systems require periodic maintenance by vacuuming out accumulated grass cuttings and other debris collected within the catch basin that clogs the pipe openings within these catch basin structures preventing the stormwater to be discharged through their respective stormwater outfall structures. The exfiltration drainage system requires more maintenance in the replacement of the clogged slotted pipe and exfiltration rock when the pipe slots and exfiltration rock voids become clogged with debris. One method to reduce debris clogging of the connected pipes is to insert inverted baffles into the catch basins over the pipe openings to extend the time between maintenance of these systems. Residents need to stop disposing their grass cuttings and other debris into catch basins clogging of these systems.

SEAWALLS

A separate problem not associated with stormwater is the existing seawalls at the coastal and internal waterway canals experiencing higher tidal conditions, especially during “King” tides from cascading over the seawalls creating severe seawater flooding problems to the contiguous roads and surrounding properties. The solution is to raise the elevation of the seawalls to prevent the seawater from inundating the developed areas. The cost will need to be evaluated to make the construction more tenable for those homeowners owning waterfront property with low seawalls.

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ROADS

The roads are other important infrastructures that are heavily trafficked by an abundance of vehicles all shapes, weights and sizes. The City vehicular traffic has become more congested over the years as a result of the increased higher density populated developments that have been constructed. Normally additional lanes cannot be added because of the width limitations of the existing rights-of-ways. Mass transit is an alternative solution when cities allow high density build-out beyond the original land development plan. Bridges are becoming more susceptible to corrosion from the aforementioned high tides as it exposes the steel rebar inside the concrete members to experience more corrosive seawater that diminishes the structural strength.

BRIDGES

Bridges are exposed to not only the structural weight and vibration of vehicles, but also in many cases to a corrosive atmosphere from the tidal seawater flowing underneath these infrastructures. Bridges are constructed from steel reinforced concrete that vary in strength depending on the weight of vehicles traversing over them and their length of span.

SIDEWALKS

Sidewalks vary in their structural integrity throughout the City as to their width, thickness and strength of concrete during time of construction. Commercial, residential and other zoned areas have different codes and specifications applying to same. Some of the older sidewalks in the residential communities were installed with three (3) foot sidewalk widths and two (2) inch thicknesses with concrete having a strength of 2,000 pounds per square foot (psi). Over time these residential sidewalks were changed to meet more demanding codes and specifications to improve upon the pedestrian safety and Federal Americans with Disabilities (ADA) requirements for sidewalk ramps for crossings at intersections or at street crossings. Currently the residential sidewalks are required to be constructed having five (5) foot widths and 4-inch thicknesses, except at driveways where the thickness is six (6) inches with 3,000 psi strength concrete. Commercial sidewalks can be at ten (10) feet in width with the same thickness and strength of concrete as residential.

Sidewalks can be damaged when heavy vehicles traverse over them and over time when tree roots growing laterally uplifting and breaking the sidewalks. The City is in their second phase in replacing sidewalks uplifted and damaged by right-of-way tree roots.

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BUILDINGS

The older City buildings are other infrastructures where design codes and specifications have become more stringent over the years requiring some of these buildings to be retrofitted where possible to meet the updated requirements. Fire suppression systems, elevator safety enhancements, storm windows and wind resistant roofs with air conditioning units strapped down are areas of concern to avoid severe wind damage from our semi-tropical climate conditions. The Police Station Headquarters is an old and outdated having health and safety issues making it a strong candidate to be replaced rather than spending money to upgrade. The City Hall and War Memorial are old, but could be salvaged by being upgraded rather than being replaced.

PARKS AND RECREATION

Parks and recreational sites are also being evaluated to provide safer and friendly usable equipment for all ages to participate for their enjoyment. The City Parks could be upgraded to increase security and safety.

RECOMMENDATIONS

1. Repair/replace the damaged sanitary sewer collection mains.
2. Upgrade water distribution and transmission mains to meet fire protection water flows and pressures to accommodate the recommended ISO standards.
3. Storm water maintenance and upgrades to reduce street flooding and ponding.
4. Elevate seawalls heights to prevent seawater from cascading over and into contiguous waterfront properties and roads. Create an affordable payment plan to construct same.

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ATTACHMENT # 1

CITY'S POLICE DEPARTMENT BUILDING INFRASTRUCTURE OBSERVATIONS

By Ralph Zeltman Date: 9 April 2018

I observed the existing conditions of the FLPD building and outside premises making me aware of the many undesirable conditions, some of which involve health; building safety and security concerns and have preliminarily listed below:

- 1.) The front visitor parking area is susceptible to vehicles crashing into the building. Bollards might be installed between the parking lot and entrances, including the lobby area and front building rooms to prevent vehicles from crashing through into the building. The County installed bollards at the Fort Lauderdale-Hollywood International Airport after a truck incident crashed through into Terminal 2 in 2004.
- 2.) The lobby area seems vulnerable for fire/explosive/gas that could penetrate and circulate throughout the rest of the building. The bullet proof glass cage may meet current codes to prevent bullet penetrations, but the connecting structures seems susceptible in not stopping potential attacks.
- 3.) No fire sprinkler suppression systems exist throughout the building and needs to be upgraded to

provide firefighting safety to protect life and property. The old water fire hose systems are ineffective and observed the copper and galvanized piping that has deteriorated over the years from the dielectric (electrolysis) process and is unreliable. No fire rated doors observed throughout the building to contain fire and explosion events. These old unreliable systems should be upgraded and not grandfathered in as lives are at stake.

4.) The back employee and police vehicle parking lot area is vulnerable to stormwater flooding with an ineffective (clogged) drainage system that needs to be restored. An additional drainage system should be added to further reduce flooding and standing water. Greater security and vehicular enclosures are recommended to protect vehicles, especially the expensive tactical vehicles from weather and debris to extend their service life. The abandoned underground fuel tanks and lines need to be either removed or filled in to avoid possible future underground collapse or sink hole depressions from developing.

5.) The outside communication tower was reported not to meet upper hurricane force winds pursuant to current code requirements. Understand birds on this tower and their droppings are a constant problem to the vehicles and surroundings below.

6.) A small portion of the older cast iron water and sanitary sewer internal piping has been replaced leaving the remaining internal piping in question. Some water piping needs shut off valves installed to avoid having to shut off the entire building water system.

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ATTACHMENT # 1 (CONTINUED)

7.) Storage space appears inadequate as evidenced requiring some materials to be stored in restrooms and other rooms as opposed to one secure location. Building equipment are located in closet size rooms causing tight quarters making maintenance and repairs virtually impossible.

8.) Room entrances, including restrooms, are too narrow in widths and/or have steps making them noncompliant to ADA requirements. Restroom stalls are not ADA compliant and some restrooms do not have hot water. The few shower stalls are too few and inadequate.

9.) A gas water heater has had previous leaks that needs to be fixed and should have a gas detection device/shutoff valve to prevent possible future gas leaks that could result in a fire/explosion from occurring.

10.) Outdated electrical breaker systems throughout the building not having replaceable parts readily available and apparently exceeds the amperage ratings.

11.) Elevators are the oldest in Broward County and are small in size capacity having questionable hydraulics operation making them unreliable and unsafe.

12.) Observed water/sewer leakage in basement resulting in unhealthy mold and mildew to develop. The basement is cluttered with storage items that are subject to being damaged from the aforementioned water/sewer leakage. The boiler room equipment was reported to be replaced and the cost estimate is approximately \$1 Million dollars.

13.) Air conditioning system and air handling units are questionable in providing uniform and adequate cooling. The system currently requires daily manual emptying of the condensed water as there is no drainage to accommodate this need. Some air vents are located between interior walls restricting proper air flow.

14.) Differential settlement appears to have occurred between the older and newer constructed buildings in addition to the new addition separating because it wasn't properly constructed by lashing (adjoining) the steel rebars together.

15.) Office space is inadequate requiring law enforcement and other staff to crowd into a room originally designed for a single occupant.

16.) Did not inspect the roof but was informed it is in questionable condition. Some leakage stains appear to indicate some roof areas where stormwater moisture is draining down through the cinderblock walls causing plaster/paint failure and susceptible for mold and mildew to exist.

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ATTACHMENT # 1 (CONTINUED)

Photos were taken of the more severe areas to better demonstrate the poor conditions the occupants have to endure in this building. These photos will be an invaluable adjunct to demonstrate the poor conditions existing resulting in equipment and building materials being worn out and needing repair or replacement. Expenditures for repairs and replacement of these items are very costly and will still leave the FLPD with an old outdated ineffective building. Many other cities have been confronted with this same dilemma and have chosen to go with a new building having more modern and suitable up-to-date technology capability to handle the current needs of policing a county or city. A new police facility should always be centrally located within the jurisdiction area rather than near outer limits to allow more police responsiveness to crime and other emergency calls.

The above listings are preliminary and should be reviewed for accuracy to provide greater detail to better describe what was observed during my walkthrough. Again, the photos are an invaluable tool to convey the seriousness of these deplorable conditions risking health and safety to the occupants and visitors. I look forward in finalizing this report to be reviewed by my Infrastructure Task Force Committee and submitted to the City Mayor and Commission to take our recommended corrective actions.

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ATTACHMENT # 2

INFRASTRUCTURE TASK FORCE OUTLINE OF PROPOSED IMPROVEMENTS 1/2

By Ralph Zeltman Date: 6/26/2017

I. WATER & WASTEWATER

A. Water

1. Water Treatment Plant
 - a. Raw Water Wellfield (Wells)
 - b. WTP Components (Filters, Treatment, etc.)
2. Water Distribution Mains
 - a. Mains (6" to 10" Diameter)
 - b. Gate Valves & Fittings
 - c. Fire Hydrants & Detector Check Valves
 - d. Water Service lines & Meters
3. Water Transmission Mains
 - a. Mains (12" Diameter & Larger)
 - b. Butterfly Valves & Fittings
 - c. Air Release Valves & Appurtenances

B. WASTEWATER

1. Wastewater Treatment Plant
 - a. Raw Water Headworks & Components
 - b. Treatment
 - c. Disposal
2. Wastewater Gravity Collection Mains
 - a. Mains (8" Diameter & Larger)
 - b. Sewer Laterals
 - c. Manholes
3. Wastewater Pump Stations
 - a. Submersible Pumps
 - b. Above Ground Pumps
 - c. Wetwells/Drywells
 - d. Electrical Controls
4. Force Mains
 - a. Mains
 - b. Shutoff Valves & Fittings
 - c. Air Release Valves & Appurtenances

II. STORM WATER

- A. Exfiltration Catch Basin Drainage Systems
- B. Positive Catch Basin Drainage Systems
- C. Outfalls & Seawalls
- D. Canals, Lakes & Retention Areas

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ATTACHMENT # 2 (CONTINUED)

INFRASTRUCTURE TASK FORCE OUTLINE OF PROPOSED IMPROVEMENTS 2/2

By Ralph Zeltman Date: 6/26/2017

III. ROADS, BRIDGES & SIDEWALKS

A. Roads

1. Primary
 2. Secondary
 3. Traffic Regulation Lights and Signage
- B. Bridges
1. Primary Corridors
 2. Secondary Corridors (Residential)
- C. Sidewalks
1. Commercial
 2. Residential
 3. Americans with Disability (ADA) Ramps

IV. OPEN SPACE & PARKS

- A. Family Friendly Apparatus
- B. Safety & Security
- C. Recreational Sports & Games

V. CITY FACILITIES

- A. City Police Station
1. Building Code Compliance
 - a. Structural (Hurricane Code; Elevators & Stairs)
 - b. Electrical
 - c. ADA Compliance
 2. Fire Protection (ISO Requirements)
- B. City Hall
1. Building Code Compliance
 - a. Structural (Hurricane Code; Elevators & Stairs)
 - b. Electrical
 - c. ADA Compliance
 2. Fire Protection (ISO Requirements)
- C. War Memorial
1. Building Code Compliance
 - a. Structural (Hurricane Code; Elevators & Stairs)
 - b. Electrical
 - c. ADA Compliance
 2. Fire Protection (ISO Requirements)

City of Fort Lauderdale
Adopted FY 2018 - FY 2022 Community Investment Plan

Planning Factors

Bond Funding	Water and Sewer Revenue Bonds Fund available Feb 20, 2018	200,000,000
	Bond Eligible Expenditures (Sept 7th, 2017 thru Feb 13, 2018)	11,860,125
	Remaining Fund Bonds Available to be Allocated	188,139,875

Fund Balance	Amount Required to Meet 90 day threshold	25,500,000
	Bond Eligible Expenditures (Sept 7th, 2017 thru Feb 13, 2018)	11,860,125
	Fund 454 reduction to restore 90 day balance (move to bond funds)	13,639,875

Allocation of Projects with Both Central Region (451) and Water and Sewer (454) Funding Requirements			Fund 454		Fund 451		
451/454	Asset Management and CMOM Program Development Plan	\$ 100,000	\$ 81,020	81%	\$ 18,980	19%	Based on operating expenses for each portion of the system
451/454	Sewer Capacity Analysis for Gravity and Force Mains	\$ 800,000	\$ 762,640	95.33%	\$ 37,360	4.67%	Based on length of pipes in system
451/454	Consent Order Asset Management Program	\$ 400,000	\$ 324,080	81%	\$ 75,920	19%	Based on operating expenses for each portion of the system
451/454	Consent Order Capacity Management, Operations and Maintenance Program	\$ 400,000	\$ 324,080	81%	\$ 75,920	19%	Based on operating expenses for each portion of the system
451/454	Force Main Condition Assessment	\$ 4,000,000	\$ 3,813,200	95.33%	\$ 186,800	4.67%	Based on length of pipes in system

Breakdown of Funded Bond Projects by Fund	Initial Plan (12/21/17)	Current Plan	Allocation between Funds		Operating Budget Fund 454	
Total Water and Sewer Master Plan 2017 Funds (495)	\$ 117,599,798	\$ 105,478,016	56%		\$ 119,796,977	81%
total Water and Sewer Central Region 2017 Bond Funds (496)	\$ 82,161,859	\$ 82,661,859	44%		\$ 28,063,817	19%
Total Bond Funds	\$ 199,761,657	\$ 188,139,875			Total	\$ 147,860,794

(exceeds \$188,139,875)

Pipe Length Central Region System	23.5	4.67%
Pipe Length City System Only	479.5	95.33%
Pipe Length City System (Gravity and Pressurized)	503	

Annual Debt Service Requirements	FY2018	FY2019 and beyond
Central Region (Fund 451)	1,794,207	3,381,752
Water and Sewer Master Plan (Fund 454)	2,283,537	4,304,048
Total	4,077,744	7,685,800

4,077,744 7,685,800

Current CIP Projects moved to Bond funding
 Projects moved to Unfunded status in CIP

Project #	Project Title	Unspent Balance as of January 8, 2018	Rebalanced Amount FY2018	FY 2019	Rebalanced Amount FY2019	FY 2020	Rebalanced Amount FY2020	FY 2021	Rebalanced Amount FY2021	FY 2022	Rebalanced Amount FY2022	Rebalanced FY 2018 - FY 2022 CIP Total **	Unfunded
Central Region/Wastewater Fund (451)													
P11854	REGIONAL WASTEWATER METER REPLACEMENT	99,961	99,961	-	-	-	-	-	-	-	-	99,961	-
P12132	RICE/NESHAP UPGRADE TO GENERATORS	43,390	43,390	-	-	-	-	-	-	-	-	43,390	-
P12174	UNDERGROUND INJECTION CONTROL (UIC) PERMITS	100,440	100,440	-	-	-	-	-	-	-	-	100,440	-
P12173	FLORIDA DEPARTMENT ENVIRONMENTAL PROTECTION	157,338	157,338	-	-	-	-	-	-	-	-	157,338	-
P12107	SLUDGE WEIGHTING SCALES	40,307	40,307	-	-	-	-	-	-	-	-	40,307	-
P12169	GEORGE T. LOHMEYER (GTL) ODOR CONTROL SYSTEM	174,894	174,894	-	-	-	-	-	-	-	-	174,894	-
P12172	G T LOHMEYER WWTP ELECTRICAL MAINTENANCE	221,363	221,363	-	-	-	-	-	-	-	-	221,363	-
P11731	48 IN WASTEWATER PIPE EMERGENCY REPL	217,537	217,537	-	-	-	-	-	-	-	-	217,537	-
P12106	GTL DRAINAGE SYSTEM	190,525	190,525	-	-	-	-	-	-	-	-	190,525	-
P12254	CRYOGENIC COMPRESSOR (MACS)	103,312	103,312	-	-	-	-	-	-	-	-	103,312	-
P12114	ELECTRICAL/ SCADA EVALUATION	379,937	379,937	-	-	-	-	-	-	-	-	379,937	-
P12253	REGIONAL RE-PUMP CABLE CONDUCTIVITY AND WIRING	467,896	467,896	-	-	-	-	-	-	-	-	467,896	-
P11876	GTL GRIT CHAMBER REHAB: PRELIM DESIGN	682,885	682,885	-	-	-	-	-	-	-	-	682,885	-
P11710	GTL EMERGENCY GENERATOR CONNECTION	1,140,294	1,140,294	-	-	-	-	-	-	-	-	1,140,294	-
P11781	CRYOGENIC PLANT	5,121,983	5,121,983	-	-	-	-	-	-	-	-	5,121,983	-
P11773	GTL PLANT REHABILITATION OF PCCP PIPE	8,003,403	8,003,403	-	-	1,692,126	3,306,248	3,306,248	-	1,692,126	13,001,777	-	
P12171	BUTLER BUILDING UPGRADE AT GTL WELLFIELD	511,482	511,482	-	-	-	-	-	-	-	-	511,482	-
P12170	GEORGE T. LOHMEYER CONCRETE RESTORATION	1,019,023	1,019,023	-	-	-	-	-	-	-	-	1,019,023	-
P00401	REGIONAL RENEWAL & REPLACEMENT	2,570,487	2,570,487	2,359,002	2,359,002	3,281,570	3,281,570	2,297,222	2,297,222	8,030,633	8,030,633	18,538,914	-
P12176	GTL MOTOR CONTROL CENTERS REHABILITATION	4,235,058	4,235,058	-	-	-	-	-	-	-	-	4,235,058	-
P11917	ELECTRICAL UPGRADES	3,405,183	3,405,183	-	-	-	-	-	-	-	-	3,405,183	-
P12252	GEORGE T. LOHMEYER (GTL) INTERIOR PAINTING	930,182	930,182	468,538	468,538	468,538	468,538	-	-	-	-	930,182	1,405,614

City of Fort Lauderdale
Adopted FY 2018 - FY 2022 Community Investment Plan

Project #	Project Title	Unspent Balance as of January 8, 2018	Rebalanced Amount FY2018	FY 2019	Rebalanced Amount FY2019	FY 2020	Rebalanced Amount FY2020	FY 2021	Rebalanced Amount FY2021	FY 2022	Rebalanced Amount FY2022	Rebalanced FY 2018 - FY 2022 CIP Total **	Unfunded
P12190	UTILITIES ASSET MANANGEMENT SYSTEM	346,364	346,364	85,000	85,000	-	-	-	-	-	-	431,364	-
P12175	GEORGE T. LOHMEYER WWTP BELT PRESSES	855,162	855,162	676,890		856,017		1,035,144		-	-	855,162	3,423,213
P12251	CLARIFIER PIPE REPLACEMENT	1,235,248				1,236,270		1,236,270		1,236,270		-	4,944,058
P12255	GEORGE T. LOHMEYER (GTL) EXTERIOR PAINTING	271,380		-	-	-	-	267,637		-	-	-	539,017
P12256	REGIONAL RE-PUMP SCADA	267,370	267,370	-	-	-	-	267,636	267,636	-	-	535,006	-
P12257	REGIONAL RE-PUMP ELECTRONIC MAINTENANCE	233,948	233,948	-	-	-	-	12,258	12,258	-	-	246,206	-
P12258	REGIONAL RE-PUMP HOISTING EQUIPMENT FOR PUMPS B&E	196,588	196,588	-	-	-	-	-	-	-	-	196,588	-
P12345	GEORGE T. LOHMEYER (GTL) SLUDGE SCREW CONVEYOR	801,198	801,198	-	-	-	-	-	-	-	-	801,198	-
P12346	GTL PRE-TREATMENT CHANNEL STOP GATES	527,104	527,104	-	-	-	-	-	-	-	-	527,104	-
P12347	GEORGE T. LOHMEYER (GTL) CHLORINE SYSTEM	300,000	300,000	-	-	-	-	-	-	-	-	300,000	-
P12348	GTL EFFLUENT PUMPS REPLACEMENT	300,000	300,000	1,455,258		-		-		-		300,000	1,455,258
P12349	G.T. LOHMEYER WWTP BELT PRESS SLUDGE FEED PUMP	85,516	85,516	142,527		-	142,547	-		-		228,063	-
FY 20150293	GEORGE T. LOHMEYER (GTL) MECHANICAL INTEGRITY	-	-	1,700,000	1,700,000	-	-	-	-	-	-	1,700,000	-
FY 20170525	UNDERGROUND INJECTION CONTROL (UIC) PERMITS	-	-	1,700,000	1,700,000	-	-	-	-	-	-	1,700,000	-
FY 20150292	GEORGE T. LOHMEYER (GTL) CHLORINE SCRUBBER	-	-	365,459	365,459	-	-	-	-	-	-	365,459	-
FY 20150291	REGIONAL B RE-PUMP VARIABLE FREQUENCY DRIVE	-	-	300,000		-	300,000	-		-		300,000	-
FY 20150294	GTL ODOR CONTROL DEWATERING BLDG	-	-	264,000		2,274,300	2,274,300	-		-		2,274,300	-
FY 20170513	GTL FREIGHT ELEVATOR REPLACEMENT	-	-	-	-	-	-	-	-	-	-	-	1,000,000
FY 20170520	GEORGE T. LOHMEYER SLUDGE HOLDING TANK DECANTING V	-	-	-	-	-	-	273,652	273,652	-	-	273,652	-
FY 20170524	GTL ELECTRICAL MAINTENANCE AND TESTING (ARCLASH)	-	-	-	-	-	-	233,947	233,947	-	-	233,947	-
FY 20170521	GEORGE T. LOHMEYER INJECTION WELL BACKFLUSH PUMP	-	-	-	-	-	-	70,281	70,281	-	-	70,281	-
FY 20170517	GEORGE T. LOHMEYER (GTL) GRIT PUMPS REPLACEMENT	-	-	-	-	-	-	57,011	57,011	-	-	57,011	-
FY 20170518	GEORGE T. LOHMEYER (GTL) SLUDGE TRANSFER PUMPS	-	-	-	-	-	-	38,447	38,447	-	-	38,447	-
FY 20170519	GEORGE T. LOHMEYER (GTL) PT SEAL WATER SYSTEM	-	-	-	-	-	-	33,854	33,854	-	-	33,854	-
FY 20150275	FLORIDA DEPARTMENT ENVIRONMENTAL PROTECTION PERMIT	-	-	-	-	-	-	-	-	162,498	162,498	162,498	-
	Annual Debt Servicing (Reduction to what is available for CIP)	-	1,794,207	-	3,381,752	-	3,381,752	-	3,381,752	-	3,381,752	15,321,215	-
Central Region/Wastewater Fund (451) Total		35,236,758	35,524,338	9,516,674	9,591,213	9,808,821	9,380,169	9,598,145	9,972,308	9,429,401	13,267,009	77,735,037	12,767,160
Central Region/Wastewater Fund (451) Target Amount			35,236,758		9,516,674		9,808,821		9,598,145		9,429,401	73,589,799	2,236,270
Water/Sewer Master Plan Fund (454)													
P12319	EMERG REPAIR 30" FM - REPUMP GTL WWTP	8,542,313		-	-	-	-	-	-	-	-	-	-
P12211	WAVE STREETCAR WATER & SEWER RELOCATION	5,634,110	5,634,110	-	-	-	-	-	-	-	-	5,634,110	-
P12182	LAKE ESTATES SMALL WATER MAINS	4,642,960	4,642,960	-	-	-	-	-	-	-	-	4,642,960	-
P12124	CENTRAL BEACH ALLIANCE PUMP STATION REPLACE	1,622,056	1,622,056	-	-	-	-	-	-	-	-	1,622,056	-
P12294	FIVEASH WTP RENEWAL & REPLACEMENT	2,050,000	2,050,000	-	-	-	-	-	-	-	-	2,050,000	-
P12196	RELOCATE 16" DIP WTR MN AT E LAS	110,659	110,659	-	-	-	-	-	-	-	-	110,659	-
P11880	PUMP STATION A-12 REHABILITATION	336,744	336,744	-	-	-	-	-	-	-	-	336,744	-
P12177	EAST LAS OLAS 12 FORCE MAIN REPLACEMENT	1,872,312	1,872,312	-	-	-	-	-	-	-	-	1,872,312	-
P12049	FLAGLER HEIGHTS SEWER BASIN A-21 LATERALS	852,569	852,569	-	-	-	-	-	-	-	-	852,569	-
P12270	LARGE FORCE MAINS PIPE DESIGN AND REHAB	849,635	849,635	-	-	-	-	-	-	-	-	849,635	-
P12272	FORCE MAIN VALVE & AIR RELEASE VALVE REHABILITATION	847,317	847,317	-	-	-	-	-	-	-	-	847,317	-
P11247	DISTRIBUTION & COLLECTION R&R	763,892	763,892	-	-	-	-	-	-	-	-	763,892	-
P12295	PLE DIXIE AIR STRIPPERS & HYPOCHOL	586,311	586,311	-	-	-	-	-	-	-	-	586,311	-
P12375	PROGRAM MANAGEMENT OF CONSENT ORDER PROJECTS	500,000		-	-	-	-	-	-	-	-	-	-
P12181	WATER TREATMENT PLANT FACILITIES CONCRETE REST	474,857	474,857	-	-	-	-	-	-	-	-	474,857	-
P12202	LIFT STATN D-11 FLOW ANALYSIS & REDESIGN	354,020		-	-	-	-	-	-	-	-	-	-
P12222	REHAB 3 SCADA PUMP PANELS AT FIVEASH WTP	370,960	370,960	-	-	-	-	-	-	-	-	370,960	-
P12050	FDOT BROWARD BLVD BRIDGE REPLACEMENT - 30"	371,549	371,549	-	-	-	-	-	-	-	-	371,549	-
P11685	WATER MONITORING SYSTEM (SCADA)	69,331	69,331	-	-	-	-	-	-	-	-	69,331	-
P12110	SW 9 STREET RIVERSIDE SANITARY SEWER	312,334	312,334	-	-	-	-	-	-	-	-	312,334	-
P11877	FLCC REMEDIATION ACTION PLAN	302,723	302,723	-	-	-	-	-	-	-	-	302,723	-
P12111	ANNUAL ASPHALT RESURFACING/SMALL WATER MAIN RESURFACING	294,009	294,009	-	-	-	-	-	-	-	-	294,009	-
P12109	SW 8TH STREET (SW 3RD AVE AND SW 4TH AVE) SANITARY SEWER IMPROV	67,753	67,753	-	-	-	-	-	-	-	-	67,753	-
P12197	FIVEASH HYDROTREATERS 3 & 4 INFL	81,782	81,782	-	-	-	-	-	-	-	-	81,782	-
P11719	SUNRISE BVD MIDDLE RVR BDGE WM RELOC/DES	149,933	149,933	-	-	-	-	-	-	-	-	149,933	-
P11905	UTILITIES RESTORATION	214,799	214,799	-	-	-	-	-	-	-	-	214,799	-

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Project #	Project Title	Unspent Balance as of January 8, 2018	Rebalanced Amount FY2018	FY 2019	Rebalanced Amount FY2019	FY 2020	Rebalanced Amount FY2020	FY 2021	Rebalanced Amount FY2021	FY 2022	Rebalanced Amount FY2022	Rebalanced FY 2018 - FY 2022 CIP Total **	Unfunded
P12275	PEELE DIXIE WTP RENEWAL & REPLACEMENT	200,000	200,000	-	-	-	-	-	-	-	-	200,000	-
P11246	WATER TREATMENT PLANT REPAIRS	198,050	198,050	-	-	-	-	-	-	-	-	198,050	-
P12237	ABANDON WELLS AT FORT LAUDERDALE EXECUTIVE AIRPORT	179,865	179,865	-	-	-	-	-	-	-	-	179,865	400,000
P12179	TANBARK LANE SMALL WATER MAIN REPLACEMENT	140,190	140,190	-	-	-	-	-	-	-	-	140,190	-
P11766	PUMP STATION D-37 REHAB	137,750	137,750	-	-	-	-	-	-	-	-	137,750	-
P12259	PUBLIC WORKS ADMINISTRATION BUILDING AIR CONDITION	120,750	120,750	-	-	-	-	-	-	-	-	120,750	755,000
P11857	ANNUAL UTILITIES RESTORATION	104,906	104,906	-	-	-	-	-	-	-	-	104,906	-
P12306	SECURITY GATE REPLACEMENT PW ADM COMPOUND	40,000	40,000	-	-	-	-	-	-	-	-	40,000	-
P12132	RICE/NESHAP UPGRADE TO GENERATORS	69,610	69,610	-	-	-	-	-	-	-	-	69,610	-
P12364	CITY HALL DRIVE-THRU KIOSK IMPROVEMENTS	63,146	63,146	-	-	-	-	-	-	-	-	63,146	-
P11567	PUMP ST REHABS A12, B10, B22, D37 & D45	16,107	16,107	-	-	-	-	-	-	-	-	16,107	-
P10851	LAKE RIDGE SUNRISE BLVD SMALL WATER MAIN IMPR	658	658	-	-	-	-	-	-	-	-	658	-
P11571	OAKLAND PARK BEACH AREA WATER MAIN	38,783	38,783	-	-	-	-	-	-	-	-	38,783	2,631,665
P10508	FIVEASH WATER PLANT PHASE 2 IMPROVEMENT	34,983	34,983	-	-	-	-	-	-	-	-	34,983	-
P12075	10 IN SEWER MN TARPON RIV AT ANDREWS AV	25,757	25,757	-	-	-	-	-	-	-	-	25,757	-
P12101	NW 2ND AVE PUMP STATION APPEARANCE MOD	16,701	16,701	-	-	-	-	-	-	-	-	16,701	-
P12100	PEELE-DIXIE WTP INJECTION WELL MIT	15,093	15,093	-	-	-	-	-	-	-	-	15,093	-
P11932	AERATION BASIN REHAB AT FIVEASH WTP	11,653	11,653	-	-	-	-	-	-	-	-	11,653	-
P10940	SEWER AREA 19 ANNEXES RIVERLAND W & S MNS	1,588	1,588	-	-	-	-	-	-	-	-	1,588	-
P11565	CORAL RIDGE CLUB ESTATES: SEWER BASIN B-1 REHAB	1,136	1,136	-	-	-	-	-	-	-	-	1,136	6,236,587
P11864	BERMUDA RIVIERA SEWER BASIN B-2 REHAB	1,156	1,156	-	-	-	-	-	-	-	-	1,156	1,636,820
P11865	CORAL RIDGE ISLES SEWER BASIN B-13 REHAB	1,735	1,735	-	-	-	-	-	-	-	-	1,735	4,760,124
P11664	BASIN B-6 SANITARY SEWER SYSTEM REHAB	1,304	1,304	-	-	-	-	-	-	-	-	1,304	5,903,462
P12185	DAVIE BLVD. 18 WATER MAIN ABANDONMENT TO ANDREWS AVE	500	500	-	-	-	-	-	-	-	-	500	225,000
P12051	CONTRACT FOR SUPERVISORY CONTROL AND DATA ACQ	315,220	315,220	100,000	100,000	200,000	200,000	200,000	200,000	-	-	815,220	-
P11882	PUMP STATION B-22 REPLACEMENT	423,189	423,189	-	-	-	-	331,962	331,962	423,038	423,038	1,178,189	-
P12190	UTILITIES ASSET MANANGEMENT SYSTEM	912,797	912,797	-	-	152,000	152,000	305,000	305,000	-	-	1,369,797	152,000
P12133	PUMP STN A-13 REDIRECTION E OF F	2,838,635	2,838,635	-	-	-	-	-	-	-	-	2,838,635	-
P11887	NW SECOND AVENUE TANK RESTORATION	3,065,226	3,065,226	-	-	-	-	-	-	-	-	3,065,226	-
P10850	VICTORIA PARK A - NORTH SMALL WATER MAIN	73,067	73,067	-	-	-	-	-	-	-	-	73,067	4,886,053
P11563	VICTORIA PARK SEWER BASIN A-19 REHAB	3,881,638		1,456,692		-		553,823		-		-	-
P12055	BASIN A-18 SANITARY SEWER COLLECTION SYSTEM	3,048,475		-		755,939		379,061		-		-	-
P11879	PUMP STATION B-10 REHABILITATION	2,130,766	2,130,766	-	-	-	-	-	-	-	-	2,130,766	-
P12203	441 NW 7TH AVENUE SEWER EXTENSION	193,279	193,279	-	-	-	-	-	-	-	-	193,279	-
P11566	RIO VISTA SEWER BASIN REHAB PUMP STATION D-43	1,606,958	1,606,958	-	-	1,215,964	1,215,964	-	-	-	-	2,822,922	-
P11080	PORT CONDO LARGE WATER MAIN IMPROVEMENTS	28,830	28,830	-	-	-	-	-	-	-	-	28,830	713,328
P11881	PUMP STATION D-45 REPLACEMENT	497,861	497,861	-	-	-	-	-	-	-	-	497,861	-
P12184	DAVIE BLVD. 18 WATER MAIN ABANDONMENT I-95 TO SW 9 AVE	-	-	-	-	-	-	67,750	67,750	-	-	67,750	457,750
P11901	VICTORIA PARK B- SOUTH SMALL WATERMAINS IMPR	94,128	94,128	-	-	-	-	-	-	-	-	94,128	5,325,425
P12178	UTILITIES STORAGE BUILDING (STEEL PREFAB)	455,080	455,080	-	-	-	-	-	-	-	-	455,080	-
P11991	DOWNTOWN SEWER BASIN PUMP STATION A-7 REHAB	8,193,055	8,193,055	-	-	-	-	-	-	-	-	8,193,055	-
P11889	DEMOLITION & ABANDONMENT OF PUMP STATIONS	312,907	312,907	-	-	-	-	-	-	-	-	312,907	-
P12180	CROISSANT PARK SMALL WATER MAINS	208,938	208,938	500,000	500,000	-	-	-	-	-	-	708,938	-
P11589	FIVEASH DISINFECTION/ RELIABILITY UPGRADES	599,151	599,151	7,000,001		5,000,000		3,701,908		-		599,151	-
P12350	IMPERIAL POINT SEWER BASIN B10 REHABILITATION	46,983	46,983	1,189,396	1,189,396	2,374,164	2,374,164	1,189,396	1,189,396	-	-	4,799,939	-
P12351	BAYSHORE DRIVE FORCE MAIN INTRACOASTAL CROSSING FORCEMAIN	1,395,872	1,395,872	-	-	-	-	-	-	-	-	1,395,872	-
P12352	SOUTH MIDDLE RIVER FORCE MAIN RIVER CROSSING	2,200,000	2,200,000	-	-	-	-	-	-	-	-	2,200,000	-
P12353	UTILITY COORDINATION FLORIDA DEPARTMENT OF TRANSPORTATION	750,000	750,000	-	-	-	-	-	-	-	-	750,000	-
FY 20150188	CORAL RIDGE SMALL WATER MAIN IMPROVEMENTS	-	-	3,840,097	3,840,097	-	-	-	-	-	-	3,840,097	-
FY 20150213	HARBOR BEACH SEWER BASIN D34 REHAB	-	-	1,057,355	1,057,355	-	-	-	-	-	-	1,057,355	-
FY 20150211	TARPON RIVER SEWER BASIN A-11 REHABILITATION	-	-	493,715	493,715	-	-	1,481,145	1,481,145	987,430	987,430	2,962,290	-
FY 20150183	CORAL SHORES SMALL WATER MAIN IMPROVEMENTS	-	-	834,704	834,704	834,704	834,704	-	-	-	-	1,669,408	-
FY20180618	FIVE-ASH WELLFIELD PUMP REPLACEMENT	-	-	500,000	500,000	500,000	500,000	769,195	769,195	230,805	230,805	2,000,000	-
FY 20150215	DOLPHIN ISLES SEWER BASIN B14 REHABILITATION	-	-	-	-	2,354,431	2,354,431	-	-	-	-	2,354,431	-
FY 20150187	LAUDERDALE BY THE SEA SMALL WATER MAIN IMPROVEMENTS	-	-	-	-	2,020,575	2,020,575	-	-	-	-	2,020,575	-
FY 20150191	LAUDERGATE ISLES SMALL WATER MAIN IMPROVEMENTS	-	-	-	-	565,446	565,446	-	-	-	-	565,446	-

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FY 20150189	LAKE AIRE PALM VIEW SMALL WATER MAINS	-	-	-	-	471,000	471,000	-	-	-	-	471,000	-
FY 20150228	ANALYSIS OF CHEMICAL ADDITION SYSTEMS-PEELE DIXIE	-	-	-	-	90,000	90,000	-	-	-	-	90,000	-
FY 20150185	SEA RANCH LAKES SMALL WATER MAINS	-	-	-	-	1,990,393	1,990,393	1,607,333	1,607,333	-	-	3,597,726	-
FY 20150190	BAY COLONY SMALL WATER MAIN IMPROVEMENTS	-	-	-	-	1,461,628	1,461,628	1,238,832	1,238,832	-	-	2,700,460	-
FY 20150227	COMPREHENSIVE EVAL & IMPR AT PEELE DIXIE	-	-	-	-	-	-	3,470,000	3,470,000	-	-	3,470,000	-
FY 20150214	LAS OLAS ISLES BASIN D37 REHABILITATION	-	-	-	-	-	-	1,702,500	1,702,500	-	-	1,702,500	5,384,801
FY 20150222	MIDDLE RIVER TERRACE A-27 SEWER SYSTEM REHAB	-	-	-	-	-	-	898,920	898,920	-	-	898,920	1,243,605
FY 20150218	CORAL RIDGE COUNTRY CLUB ESTATES B11 BASIN REHAB	-	-	-	-	-	-	857,779	857,779	-	-	857,779	1,843,808
FY 20150186	BERMUDA RIVIERA SMALL WATER MAIN IMPROVEMENTS	-	-	-	-	-	-	638,350	638,350	-	-	638,350	4,638,350
FY 20150182	POINSETTIA DRIVE SMALL WATER MAIN IMPROVEMENTS	-	-	-	-	-	-	616,660	616,660	-	-	616,660	2,917,137
P11594	FIVEASH CHEMICAL SYSTEM IMPROVEMENTS	-	-	-	-	-	-	1,313,006	1,313,006	3,939,019	3,939,019	5,252,025	-
P11465	17TH STREET CAUSEWAY - LARGE WATER MAIN REPLACEMENT	-	-	-	-	-	-	-	-	4,550,455	4,550,455	4,550,455	3,891,280
FY 20150184	CORAL RIDGE COUNTRY CLUB SMALL WATERMAIN	-	-	-	-	-	-	-	-	3,660,000	3,660,000	3,660,000	-
FY 20150216	CORAL RIDGE BASIN B4 REHABILITATION MAINS	-	-	-	-	-	-	-	-	3,538,617	3,538,617	3,538,617	-
FY20130220	DILLARD PARK SEWER BASIN A-1 REHAB	-	-	-	-	-	-	-	-	3,329,811	3,329,811	3,329,811	-
FY 20150202	RIVER OAKS A-23 SEWER BASIN LATERALS	-	-	-	-	-	-	-	-	-	-	-	3,570,836
FY 20150204	DURRS A-23 SEWER BASIN LATERALS	-	-	-	-	-	-	-	-	-	-	-	3,313,808
FY 20150212	VICTORIA PARK A-17 BASIN PUMP STATION REHAB	-	-	-	-	-	-	-	-	-	-	-	3,536,787
P10814	CENTRAL NEW RIVER WATERMAIN RIVER CROSSINGS	-	-	-	-	-	-	-	-	-	-	-	1,632,562
P11163	SOUTH MIDDLE RIVER SEWER BASIN A-29 REHAB	-	-	-	-	-	-	-	-	-	-	-	4,446,078
FY 20150170	LANDINGS OF BAYVIEW DRIVE SMALL WATERMAIN	-	-	-	-	-	-	-	-	-	-	-	1,568,742
FY 20150175	TWIN LAKES (NW) WATERMAIN	-	-	-	-	-	-	-	-	-	-	-	4,132,946
FY 20150176	SW 29 STREET SMALL WATERMAINS	-	-	-	-	-	-	-	-	-	-	-	50,000
FY 20150177	2535 NORTH FEDERAL HIGHWAY SMALL WATERMAINS	-	-	-	-	-	-	-	-	-	-	-	50,000
FY 20150178	SW 1 STREET (SW 28 AVE THRU SW 29 AVE) WATER MAINS	-	-	-	-	-	-	-	-	-	-	-	50,000
FY 20150181	LAUDERHILL SMALL WATERMAINS IMPROVEMENTS	-	-	-	-	-	-	-	-	-	-	-	2,091,962
FY 20150219	ADVANCED METERING INFRASTRUCTURE IMPLEMENTATION	-	-	-	-	-	-	-	-	-	-	-	22,900,000
FY20180630	NEW UTILITIES CENTRAL LABORATORY - PEELE DIXIE WATER FIVEASH REPLACEMENT/RENEWAL STUDY	-	-	-	-	-	500,000	-	-	-	-	-	713,500
	Fund 454 reduction to restore 90 day balance (move to bond funds)		13,639,875										
	Annual Debt Servicing (Reduction to what is available for CIP)		2,283,537		4,304,048		4,304,048		4,304,048		4,304,048	19,499,729	
Water/Sewer Master Plan Fund (454) Total		66,968,404	66,565,370	16,971,960	13,319,315	19,986,244	18,534,353	21,322,620	20,991,876	20,659,175	24,963,223	130,234,262	102,059,416
Water/Sewer Master Plan Fund (454) Target Amount			66,989,404		16,971,960		19,986,244		21,322,620		20,659,175		
Water and Sewer - Master Plan 2017 Fund-495													
P12418	Water and Wastewater Distribution and Collection System Mapping	\$ 4,000,000	\$ 4,000,000									4,000,000	
P12388	NE 13TH ST24" FORCE MAIN REPLACEMENT	\$ 3,313,090	\$ 3,313,090									3,313,090	
P12389	18" FORCE MAIN REPLACEMENT ACROSS THE NEW RIVER FROM NE 9TH ST TO N. BIRCH ROAD	\$ 2,112,550	\$ 2,112,550									2,112,550	
P12390	LAS OLAS BLVD 16" FORCE MAIN FROM LIDO ROAD TO INTRACOASTAL WATERWAY (IN-KIND PROJECT) AND UPGRADE PUMP STATION D-38	\$ 2,500,000	\$ 2,500,000									2,500,000	
P11563	Victoria Park Sewer Basin A-19 Rehab	\$ 2,010,515	\$ 5,892,153									5,892,153	
P12055	Basin A-18 Sanitary Sewer Collection System	\$ 1,135,000	\$ 4,183,475									4,183,475	
P11566	Rio Vista Sewer Basin Rehab Pump Station D-43	\$ 1,215,964	\$ 1,215,964									1,215,964	
P12202	Pump Station D-10 and D-11 Flow Analysis and Redesign	\$ 900,000	\$ 1,254,020									1,254,020	
FY20190706	Asset Management and CMOM Program Development Plan	\$ 81,020	\$ 81,020									81,020	
FY20190713	Sewer Capacity Analysis for Gravity and Force Mains	\$ 762,640	\$ 762,640									762,640	
FY20190708	Consent Order Asset Management Program	\$ 324,080	\$ 324,080									324,080	
FY20190711	Consent Order Capacity Management, Operations and Maintenance Program	\$ 324,080	\$ 324,080									324,080	
FY20190712	Force Main Condition Assessment	\$ 3,813,200	\$ 3,813,200									3,813,200	
FY 20150186	BERMUDA RIVIERA SMALL WATERMAIN IMPROVEMENTS	\$ 5,276,700	\$ 5,276,700									5,276,700	
P10814	CENTRAL NEW RIVER WATERMAIN RIVER CROSSINGS	\$ 1,632,562	\$ 1,632,562									1,632,562	
P12180	CROISSANT PARK SMALL WATERMAINS	\$ 3,460,125	\$ 3,460,125									3,460,125	
P12184	DAVIE BLVD. 18" WATER MAIN ABANDONMENT I95 TO SW 9	\$ 525,500	\$ 525,500									525,500	

City of Fort Lauderdale
Adopted FY 2018 - FY 2022 Community Investment Plan

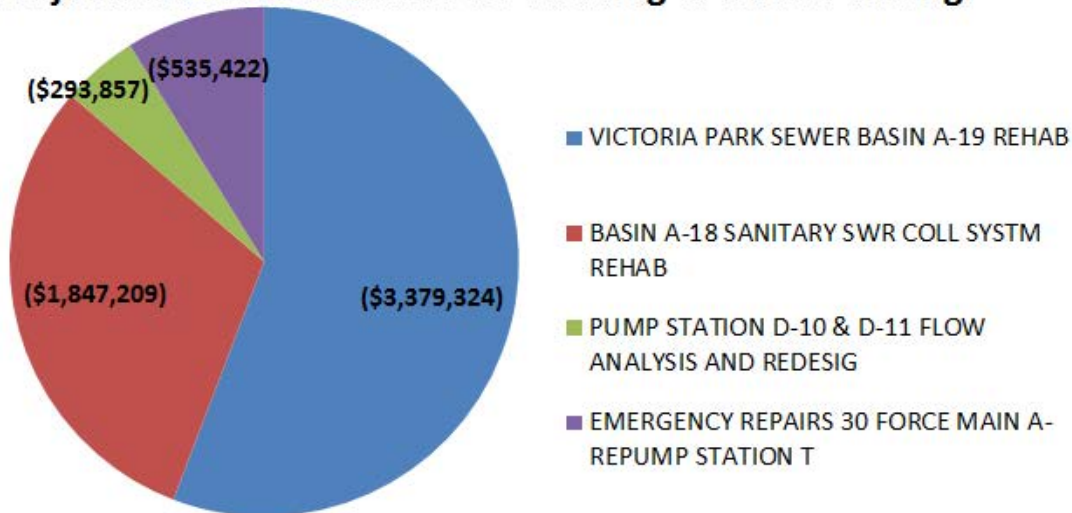
Project #	Project Title	Unspent Balance as of January 8, 2018	Rebalanced Amount FY2018	FY 2019	Rebalanced Amount FY2019	FY 2020	Rebalanced Amount FY2020	FY 2021	Rebalanced Amount FY2021	FY 2022	Rebalanced Amount FY2022	Rebalanced FY 2018 - FY 2022 CIP Total **	Unfunded
P11589	FIVEASH DISINFECTION/ RELIABILITY UPGRADES	\$ 33,500,000	\$ 33,500,000									33,500,000	
P11080	PORT CONDO LARGE WATERMAIN IMPROVEMENTS	\$ 557,559	\$ 557,559									557,559	
P10850	VICTORIA PARK A - NORTH SMALL WATERMAIN	\$ 4,961,073	\$ 4,961,073									4,961,073	
P11901	VICTORIA PARK B-SOUTH SMALL WATERMAINS IMPROV	\$ 5,437,049	\$ 5,437,049									5,437,049	
P12392	FIVEASH WTP ELECTRICAL STUDIES AND TESTING	\$ 660,000										-	660,000
P12393	FIVEASH ELECTRICAL SYSTEM REPLACEMENTS (2015-2020)	\$ 6,800,000										-	6,800,000
P12394	FIVEASH UPGRADE/REDESIGN	\$ 10,000,000										-	10,000,000
P12395	PEELE DIXIE ELECTRICAL STUDIES AND TESTING	\$ 210,000	\$ 210,000									210,000	
P12396	PEELE DIXIE SURGE PROTECTION UPGRADES	\$ 100,000	\$ 100,000									100,000	
P12397	WELL REHABILITATION	\$ 740,000										-	740,000
P12398	FIVEASH WTP GST AND CLEARWELL UPGRADES	\$ 800,000										-	800,000
P12399	FIVEASH WTP PCCP REPLACEMENT	\$ 4,000,000	\$ 4,000,000									4,000,000	
P12400	PROSPECT WELLFIELD ELECTRICAL STUDIES AND TESTING	\$ 185,000	\$ 185,000									185,000	
P12401	PROSPECT WELLFIELD BONDING AND GROUNDING TESTING AND LIGHTING PROTECTION	\$ 60,000										-	60,000
P12402	PEELE DIXIE WELLFIELD ELECTRICAL STUDIES AND TESTING	\$ 150,000	\$ 150,000									150,000	
P12403	PEELE-DIXIE WTP CHEMICAL STORAGE IMPROVEMENTS	\$ 850,000										-	850,000
P12404	EXCAVATE AND DISPOSE OF DRY LIME SLUDGE	\$ 2,600,000	\$ 2,600,000									2,600,000	
P12405	UTILITIES WIDE AREA NETWORK SCADA IMPROVEMENTS	\$ 4,669,090										-	4,669,090
FY20190769	SUBAQUOUS ORCE MAIN CROSSING REINSTATEMENT (FROM PUMP STATION A-14)	\$ 609,000	\$ 609,000									609,000	
P12408	FORCE MAIN (FROM PUMP STATION A-54 TO A-10) UPSIZE - REDUNDANCY	\$ 988,000										-	988,000
P12409	FORCE MAIN (NEAR PUMP STATION D-34) UPSIZE	\$ 100,000										-	100,000
P12410	PUMP STATIONS C-1 AND C-2 REPLACEMENT	\$ 1,300,000										-	1,300,000
FY20190770	FORCE MAIN (B-1 DISCHARGE) IMPROVEMENTS	\$ 150,000										-	150,000
P12412	PUMP STATION A-16 UPGRADE	\$ 1,500,000										-	1,500,000
P12413	FORCE MAIN (FROM PUMP STATIONS D-35 TO D-36) UPSIZE	\$ 580,000	\$ 580,000									580,000	
P12414	GRAVITY PIPE IMPROVEMENTS TO THE DOWNTOWN COLLECTION SYSTEM	\$ 843,000	\$ 843,000									843,000	
P12415	PUMP STATION A-7 UPGRADE	\$ 1,500,000	\$ 2,031,862									2,031,862	
P12416	WATERMAIN IMPROVEMENTS AREA 1	\$ 338,000										-	
P12417	MISCELLANEOUS WATER QUALITY IMPROVEMENTS	\$ 25,000										-	338,000
P12319	EMERG REPAIR 30" FM - REPUMP GTL WWTP		\$ 8,542,313										
P12375	PROGRAM MANAGEMENT OF CONSENT ORDER PROJECTS		\$ 500,000										
Water and Sewer Master Plan 2017 Fund (495) Total		117,599,798	105,478,016									96,435,703	28,955,090
Water and Sewer - Master Plan 2017 (495) Target Amount			105,478,016										
Water and Sewer - Central Region 2017 Bond Funds-496													
P12383	NE 25TH AVE 24" FORCE MAIN REPLACEMENT	\$ 4,784,890	4,784,890									4,784,890	
P12384	NE 38TH ST 42" FM AND NE 19TH AVE 24" FORCE MAIN REPLACEMENTS	\$ 11,096,690	11,096,690									11,096,690	
P12385	SE 10TH AVE 48" FORCE MAIN REPLACEMENT AND 36" BYPASS	\$ 19,711,450	19,711,450									19,711,450	
P12386	54" FORCE MAIN REPLACEMENT ON SE 9TH AND 10TH AVE AND NEW PARALLEL	\$ 14,589,850	14,589,850									14,589,850	
P12387	EFFLUENT MAIN REHABILITATION	\$ 8,184,000	8,184,000									8,184,000	
FY20190706	Asset Management and CMOM Program Development Plan	\$ 18,980	18,980									18,980	
FY20190713	Sewer Capacity Analysis for Gravity and Force Mains	\$ 37,360	37,360									37,360	
FY20190708	Consent Order Asset Management Program	\$ 75,920	75,920									75,920	
FY20190711	Consent Order Capacity Management, Operations and Maintenance Program	\$ 75,920	75,920									75,920	
FY20190712	Force Main Condition Assessment	\$ 186,800	186,800									186,800	
FY20190743	REDUNDANT FORCE MAIN FROM B-REPUMP TO GTL	\$23,400,000	23,900,000									23,900,000	
Water and Sewer Central Region 2017 Bond Funds (496) Total		82,161,859	82,661,859									82,661,859	
Water and Sewer Central Region 2017 Bond Funds (496) Target Amount			82,162,040										
GRAND TOTAL		301,966,820	290,229,583	26,488,634	22,910,528	29,795,065	27,914,522	30,920,765	30,964,184	30,088,576	38,230,232	387,066,861	143,781,666

Fund 454 - Water and Sewer Project Budget Transfers in Proposed FY 2019 Community Investment Plan

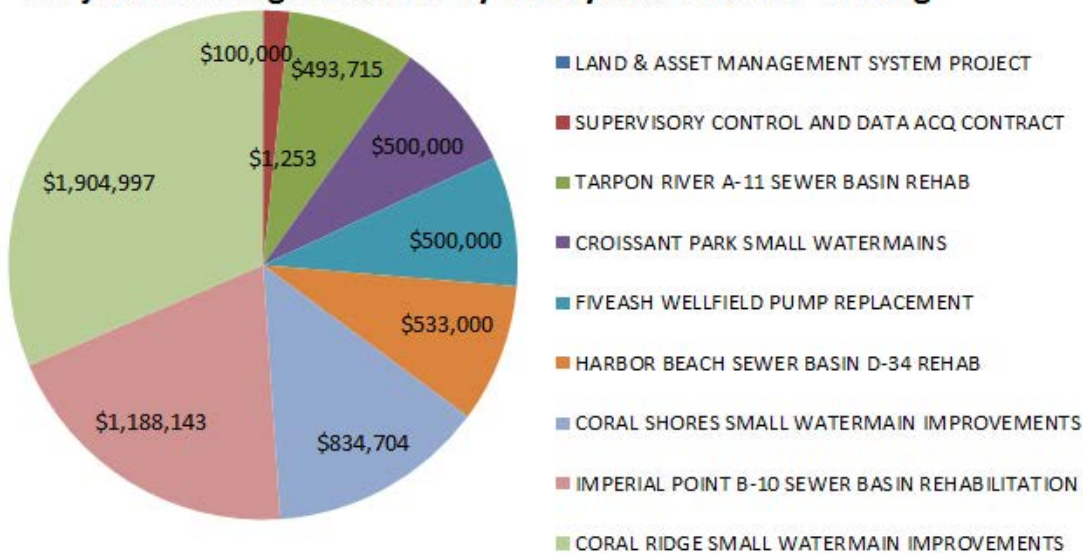
PROJECT ID	PROJECT TITLE	FROM	TO
P11563	VICTORIA PARK SEWER BASIN A-19 REHAB	(\$3,379,324)	
P12051	SUPERVISORY CONTROL AND DATA ACQ CONTRACT		\$100,000
P12055	BASIN A-18 SANITARY SWR COLL SYSTM REHAB	(\$1,847,209)	
P12180	CROISSANT PARK SMALL WATERMAINS		\$500,000
P12202	PUMP STATION D-10 & D-11 FLOW ANALYSIS AND REDESIG	(\$293,857)	
P12235	LAND & ASSET MANAGEMENT SYSTEM PROJECT		\$1,253
P12319	EMERGENCY REPAIRS 30 FORCE MAIN A-REPUMP STATION T	(\$535,422)	
P12350	IMPERIAL POINT B-10 SEWER BASIN REHABILITATION		\$1,188,143
FY 20150183	CORAL SHORES SMALL WATERMAIN IMPROVEMENTS		\$834,704
FY 20150188	CORAL RIDGE SMALL WATERMAIN IMPROVEMENTS		\$1,904,997
FY 20150211	TARPON RIVER A-11 SEWER BASIN REHAB		\$493,715
FY 20150213	HARBOR BEACH SEWER BASIN D-34 REHAB		\$533,000
FY20180618	FIVEASH WELLFIELD PUMP REPLACEMENT		\$500,000
		<hr/>	<hr/>
Grand Total		(\$6,055,812)	\$6,055,812

~ At the time of bond issuance, infrastructure projects transferred from CIP Funding to Bond Funding were expected to free up \$8,853,311 for reallocation into the CIP. Since that time, improved estimates for bond projects have required allocating \$2,797,499 from the CIP to support Bond projects. As a result, \$6,055,812 was made available to enhance or commit funding for additional projects with the FY2019 CIP.

Projects Transferred out of CIP Funding to Bond Funding



Projects Funding Enhanced by Newly Available CIP funding



From: [Marilyn Mammano](#)
To: [Meredith Shuster](#); [Raj Verma](#)
Subject: Update for the ITF Committee
Date: Friday, July 13, 2018 5:58:51 PM

Hello Meredith,
Can you send this update to the members
Thanks

Hello Members of the ITF Committee.

I have some good news and some bad news. At the July 10 Commission Conference meeting and the July 10 Regular Commission Meeting, our items were discussed. You can check the video at <https://fortlauderdale.legistar.com/Calendar.aspx>.

First the good news. The Commission eventually agreed to raise the millage rate sufficient to reduce the ROI transfer to the General Fund on a phased (four-year) basis. You really should see the video. It was excruciating. The reduction of ROI from \$20 million to \$15 million was a heavy lift. Dedicating \$5 million of the \$15 million to capital projects was a no go. In essence that would cause a \$10 million dollar hole in the budget. The City Manager challenged the Commission to go line by line with him and find the savings. The Mayor was incredulous that it couldn't be done and eventually voted against raising the millage rate. The other Commissioners (I am speculating here) agreed to raise the rate and hope to find savings so that they can come down again in September.

The bad news regards the Communication to the Commission regarding eligibility to remain on the ITF Committee. My bad I wasn't prepared to explain the request not realizing it was on the agenda. You can judge for yourself when you check the video, but I think they were confused and thought we were complaining about loosing Leo, rather than thinking about future losses and the devastating impact that could have on our work.

I am thinking we should try again but this time with an explanation of why this is unique to the mission of this committee and not impactful of the other committees. It would also help to lobby some of the doubters ahead of time. Let's discuss this at the next meeting.

Regards

Marilyn



FLORIDA RURAL WATER ASSOCIATION

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Telephone: 850-668-2746 ~ Fax: 850-893-4581

Robbing Peter to Pay Paul? Enterprise Fund Transfers are Not Recommended

By Sterling L. Carroll, P.E., FRWA Engineer

Belt Tightening, Reduced Tax Revenues and Budget Cuts. The sound of belt tightening is being heard all across Florida beginning at the state capital and progressing to counties and cities. This is the result of Amendment One passing on January 29, 2008. Amendment One, which increases the “Save Our Homes” Homestead Tax exemptions, is drastically reducing tax revenues. The state legislature will be struggling with budget short falls during the current session and soon cities and counties will be wrestling with the same problems. As public officials find themselves in a financial bind they will be looking for other sources of funding.

One ray of hope from Governor Crist’s budget message¹ is his proposal to provide 26.2 million in assistance to fiscally constrained counties *“for revenue loss to be offset beginning with local governments’ fiscal year, which runs from October 2008 to September 2009. The first distribution to these counties will be made in July 2009.”* The legislature would have to include this provision during this session for the counties to see the assistance.

A “fiscally constrained county”² is defined as a county in which a one mill property tax rate will raise no more than \$5 million in revenue annually or within a rural area of critical economic concern as designated by the Governor. About thirty (30) counties currently qualify as “fiscally constrained

counties” under this definition: Baker, Bradford, Calhoun, Columbia, DeSoto, Dixie, Franklin, Gadsden, Gilchrist, Glades, Gulf, Hamilton, Hardee, Hendry, Highlands,³ Holmes, Jackson, Jefferson, Lafayette, Levy, Liberty, Madison, Okeechobee, Putnam, Sumter, Suwannee, Taylor, Union, Wakulla, and Washington.⁴

Don’t expect these funds for counties to find their way to cities (authorities, non-profit associations, or special districts) or to take pressure off of enterprise funds.

What is an Enterprise Fund? An enterprise fund is a separate accounting and financial reporting mechanism for municipal or county services for which a fee is charged in exchange for goods or services, such as a public-owned water and wastewater utility.

Public Trust and Accountability Regarding Water and Sewer Revenues. A primary benefit for public ownership of water and wastewater

utilities is the ability to return the profit ordinarily collected by a private entity to the customer in the form of lower rates. The question for a governing board to address is what constitutes a reasonable return and what does the utility need for its proper long-term operation. As an issue of public trust and accountability, revenues collected from water and wastewater ratepayers should be spent on utility operations.

Simply stated, ratepayers should get what they pay for, services. Enterprise fund monies constitute a public trust. Transfers of those monies from utilities into to general fund pose a problem of accountability for the entities and elected officials. Monies collected for a specific public service and

then redirected for unrelated purposes should naturally become a subject of public scrutiny and debate.

FRWA Recommendation for the Long-Term Health of Water and Wastewater Systems. Florida Rural Water Association (FRWA) believes the public is best served by self-sustained enterprises adequately financed with rates based on sound engineering and economic principles. The analysis should identify the true costs of providing services in the long-term.

Rates and fees collected must be sufficient to maintain level of service, cover expenses, fund capital outlays, retire debt, and support reserves (debt-service, repair and replacement, minor capital projects, infrastructure reinvestment, and emergencies).

We recommend cities and counties resist the urge of balancing the budget on the backs of ratepayers. Citizens and businesspersons, if they knew about it, would be critical of raiding the water and wastewater funds to balance the general fund and may regard this type of practice as a hidden tax in the wake of Amendment One.⁵ The increased scrutiny by taxpayers may be an opportunity for enterprise fund managers to hold the line and protect the public interest, stewardship, and system sustainability. It's happening in other cities like San Diego and Los Angeles.⁶ The Los Angeles Department of Water and Power was denied a summary motion to increase water rates 6% because part of the rate would be used to "provide a property related service" described in a recent California property tax amendment.

One may conclude the message from voters was to reduce taxes and not to shift the burden to other areas to make up for property revenue loss.

Ask the hard questions. Utility managers should be asking themselves several hard questions particularly during the upcoming budget cycle. ⁷ *Do my rates currently provide adequate revenues to adequately cover all the operation and maintenance requirements of the utility? Have we accounted for every cost and future eventuality?*

***Simply stated,
ratepayers should get
what they pay for,
SERVICES.***

- Salaries and Wages
- Employee Fringe Benefits
- Power and Chemicals
- Minor Equipment
- Contract Services

- Engineering
- Laboratory Tests
- Auditors
- Legal Services
- Office Space
- Fittings and Materials
- Supplies
- Other General Overhead
- Debt-Service Reserve
- Repair and Replacement Reserve
- Minor Capital Projects Reserve
- Infrastructure Reinvestment Reserve
- Emergency Reserve

Your evaluation may just uncover the "inconvenient truth" that current water and wastewater rates do not fully cover all the operating costs. Perhaps they fall short of capturing actual capital costs since there is not adequate investment into the infrastructure. This situation is all too common for water and wastewater systems.⁸

Grants are NO Substitute to Proper Utility Operation. Too many public officials and managers anticipate future grants to "bail them out" when the plant and piping becomes run down and needs replacement. With this "entitlement mentality" it is just too easy to neglect existing facilities and run them into the ground instead of being proactive in their repair and replacement. Problems with this approach are: (1) cost

for replacement is several times greater than for repair and maintenance; (2) real cost of utility operation is hidden from the ratepayer and governing board; (3) assets are not properly valued and preserved; (4) improper stewardship of public assets; (5) grants never cover all replacement costs; (6) diversion of public funds from more worthy uses; and (7) today more than ever, counting on grant funding is very precarious.

Self-Sustaining Utility Enterprises.

Enterprise funds are run on a business model, which means they are self-sustaining entities, relying on rates and fees without subsidies given to or received from non-utility operations.⁹ Revenues collected for services support the enterprise fund. Water and wastewater utility accounting is properly separated from the general funds.

Periodically (every 3 to 5 years) the fund and rate structure should be evaluated by the governing body to determine if it is truly self-sustaining and meeting public objectives. This evaluation should ensure that revenues earned, expenses incurred, and net income are adequate for capital maintenance, infrastructure reinvestment, public policy (level of service, health and safety), management, etc.

FRWA staff assists dozens of medium to small systems with rates and fees annually, and experience has shown that most small water and wastewater systems are under funded and do NOT have adequate revenues to cover the true costs of providing services in the long-term. Utility rates are too low and transferring funds from these already under funded operations in order to support the general fund may seem like a good short-term fix, but it is a recipe for disaster. Enterprise fund transfers

are not good public policy and are not in the best interest of the ratepayers.

Enterprise Fund Accounting.

Government accounting practices have not historically included the funding of depreciation, which is essential for the long-term sustainability of enterprise funds. The accounting activity for major asset depreciation is the essential first step in infrastructure reinvestment -- reporting the changing value of infrastructure assets such as water and sewer treatment plants, pipelines, storage tanks, concrete structures, and similar long-lived assets.¹⁰

This movement began as early as the 1970's when a common complaint was levied against federal, state and local governments regarding the lack of infrastructure maintenance.

Enterprise funds should adopt and use the

Governmental Accounting Standards Board (GASB) financial reporting standards.¹¹

These accounting standards are designed for state and local governments, and define the Generally Accepted Accounting Principals (GAAP), which governments must adhere to in order to receive clean audit opinions. The specific standard is GASB Statement No. 34 – Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments, or more commonly known as GASB 34.¹²

GASB 34 "requires that governments report their capital assets in a statement of net assets and requires that the report show the depreciation in value of those assets. Specific asset reporting requirements include: (1) depreciation of assets must begin when the asset, equipment or facilities are acquired or put into service; (2) accumulated depreciation for all assets must be reported; and (3) assets acquired

Experience has shown that most small systems are under funded and do NOT have adequate revenues to cover the true costs of providing services in the long-term.

To this being done?

or built prior to 1980 are not required to be reported.”¹³ Utility professionals should become acquainted with these standard accounting practices and ensure financial personnel are using them.

Expensing City or County Staff and Expenses that Support Enterprise Funds. A proper accounting activity is the legitimate identification and expensing of support functions in other departments that support enterprise fund activities. Legitimate expenses include items such as computer support, billing, accounting, fleet maintenance, office space, or other activities *“provided for water utility operations, and the like. Since inclusion of expenses for such services in the total revenue requirements would be proper if the utility were operating independently, it is also appropriate when the services are furnished by an associated government entity.”*¹⁴

A fraction of the city / county commission, manager, assistant manager, attorney, clerk, financial director, financial department, and information services may handle enterprise fund business a portion of each month. This is a form of subsidy to the enterprise fund, and as a consequence the true cost of services provided to residents and businesses could be understated, if not recovered.

It would be appropriate to expense those items to the Enterprise Fund and credit the cost for those line item expenses to the city / county’s General Fund as payment for support services rendered.

The caveat here is these are actual legitimate expenses, not a free-for-all

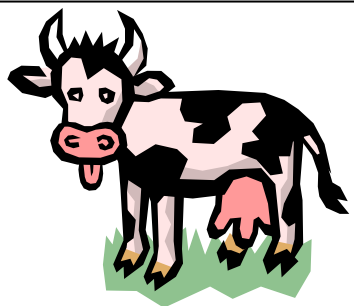
charging against these accounts, but realistic charges for the operation of the utilities. The charges should be reasonable and pass the ‘straight-face test’. The charges should be no higher than those the utility could obtain out in the competitive market if it were a private enterprise. Further the enterprise fund manager should have the ability to refuse charges for services not requested or required for efficient utility operation. These expenses should be carefully accounted for in the budget and handled according to Generally Accepted Accounting Principals.

Enterprise Fund Transfers. One utility director privately remarked at the ever-increasing transfers to the general fund as, *“the city has found its cash cow. Now it’s going to milk it dry until the marrow is sucked out the bones.”*¹⁵

Unfortunately the transfer of enterprise monies from a government-owned utility to the general fund is common throughout Florida.¹⁶ The largest cities have some of the largest transfers in Florida.¹⁷ One rationale is the city’s inability to obtain *ad valorem* tax revenues from tax-exempt state or university property, offices and operations.

The question of legality of enterprises fund transfers was explained by a former staff member of the Office of the Chief Inspector General who worked in the Financial Services Auditor group with local Florida governments for over thirty years on matters of accounting systems, financial reporting, and financial emergency conditions. *“There is no statute or administrative rule that would restrict*

One utility director privately remarked at the ever-increasing transfers to the general fund as, *“the city has found its cash cow. Now it’s going to milk it dry until the marrow is sucked out the bones.”*



such inter-fund transfers. There may be restrictions in individual bond covenants but that wouldn't stop most local governing boards.”¹⁸

Equity issues are raised on these types of transfers to the general fund by non-residents that receive water or sewer services. Florida law allows up to a 50% surcharge on water and sewer rates for customers outside of city limits. *When a city transfers a portion of enterprise funds to the general fund these customers outside of city limits provide monetary support to the transfers at a 150% rate compared to the in-city customers* – yet they are not voters and do not have a formal voice in the running of city government.¹⁹ *The question of legality would be stretched to the limit and the city may be opening itself up to a court challenge.*

“One particularly troubling aspect of these statements is the use of transfers among funds. Monies can be moved from one fund to another without affecting the overall assets of a jurisdiction, but if transfers are not carefully noted, they may appear as expenditures in one fund and as new assets or receipts in another fund. These transfers need to be clearly identified not only to avoid confusion but also to provide important operation about a government’s operations. Transfers may indicate that enterprises are subsidizing general government operations, ... to support a city’s general fund. This type of transfer may be welcome relief to local taxpayers but may raise concern among [customers and enterprise fund managers].”²⁰

So the reasons to keep the utility under city control are the same reasons not to tax it as a public service – just as you would not tax the police or fire services.

Payment in Lieu of Taxes. Unfortunately some municipal governments have incorporated a charge that would normally be collected in *ad valorem* taxes if the utility were a private entity. This practice is

questionable and equates to a hidden city tax on city services. The city would be essentially taxing itself. The American Water Works Association manual of practice for rate setting includes this less used form of transfers – that of payment to the general fund in lieu of taxes.

The stated principle is that a city or county would normally collect utility or franchise taxes from a private-utility (just as they do from power, cable, telephone, and gas utilities) and these taxes could be equivalent to the actual tax rate or about five-percent (5%) of total revenues. *“Other cash revenue requirements that may be required to be financed from water system revenues might include payment to the general fund for items such as payment in lieu of taxes, gross-receipts taxes, or a dividend payment. Such additional requirements depend on each local situation and should be considered where applicable.”²¹*

This practice violates the original mission for public ownership of a water and wastewater utility. The

rationale for creating a public entity may have included the following essential objectives: (1) health and safety of citizens; (2) protect most vulnerable residents (aged, young, poor health, economically disadvantaged, etc.); (3) ability to return the profit ordinarily collected by a private entity to the customer in the form of lower rates; (4) provide fire protection; (5) tool to expand the tax base; (6) ability to shape, facilitate or control growth; and (7) promotes home rule and self determination.

The utility provides essential services and is a city asset. The city has the option of privatizing the utility at any given date, but a private owner would have diverging interests from the city. So the reasons to keep the utility under city control are the

same reasons not to tax it as a public service – just as you would not tax the police or fire services. If, however, the argument is compelling for treating it as a private entity -- it might be best to privatize it.

Summary and Recommendations. Florida Rural Water Association recommends cities and counties resist the urge of transferring a portion of enterprise funds to balance the budget. Citizens and businesspersons, if they knew about it, would be critical of the diversion of funds collected specifically for water and wastewater services. This is an issue of public trust and accountability ratepayers should get what they pay for, services.

Florida Rural Water Association believes the public can be served best by self-

sustained enterprises adequately financed with rates based on sound engineering and economic principles. Rates and fees collected must be sufficient to maintain level of service, cover expenses, fund capital outlays, retire debt, and support reserves (debt-service, repair and replacement, minor capital projects, infrastructure reinvestment, and emergencies).

Transfers only exacerbate problems with infrastructure replacement, will in the long run result in exorbitant utility rates and charges, and represent a mismanagement of public stewardship. Cities and counties do have a fiduciary responsibility to run these enterprises as separate self-sustaining service entities.

[This article is the FIRST in a series of five articles on utility operations \(1\) Enterprise Fund Transfers are Not Recommended; \(2\) The Impending Infrastructure Expenditure Gap \(3\) What is an Enterprise Fund & How does it Operate? \(4\) Ratemaking Decisions in Florida's Public Water and Wastewater Utilities; and \(5\) Setting Capacity Charges for Water & Wastewater Systems](#)

ENDNOTES

- 1 The Crist / Kottkamp Administration Fiscal Year 2008-09 Budget Recommendations, www.peoplesbudget.state.fl.us
- 2 **Section 218.67 Florida Statutes – Distribution for Fiscally Constrained Counties.** (1) Each county that is entirely within a rural area of critical economic concern as designated by the Governor pursuant to s. 288.0656 or each county for which the value of a mill will raise no more than \$5 million in revenue, based on the taxable value certified pursuant to s. 1011.62(4)(a)1.a., from the previous July 1, shall be considered a fiscally constrained county.
- 3 *"County Wants Governor To Keep His Promise"*, **Highlands Today**, Jim Konkoly, February 20, 2008 and *"Did Crist Pull A Fast One On Highlands County?"* Highlands Today Editorial, February 21, 2008
- 4 **House of Representatives Staff Analysis**, Bill #: HB 293, Fiscally Constrained Counties, Sponsor(s): Pickens, <http://flhouse.gov/SEctions/Documents/loadoc.aspx?FileName=h0293.FT.doc&DocumentType=Analysis&BillNumber=0293&Session=2006>
- 5 **Digging into City Hall's money mess - Managing or manipulating?** San Diego lacks consistent checks and balances to monitor its tapping of funds from service fees to pay for day-to-day operations, *San Diego Union-Tribune*, Jennifer Vigil and Lori Weisberg, April 9, 2006
- 6 **Trial looms in transfer of DWP funds**, Beth Barrett, Los Angeles Daily News February 26, 2008, http://www.dailynews.com/ci_8362651?source=rss_emailed, and opinion by CA Political News by Stephen Frank, **L.A. Hack Mayor Antonio Stealing Water Money to Balance Budget**
- 7 **Water Rates**, AWWA Manual M1, Fourth Edition, 1999, American Water Works Association, p. 2
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- 11 **Governmental Accounting Services Board's (GASB) Statement #34: Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments.** <http://www.gasb.org/tech/index.html>
- 12 **GASB White Paper: Why Governmental Accounting and Financial Reporting Is -- And Should Be -- Different**, www.gasb.org/white_paper_mar_2006.html, p. 26-27
- 13 Lee, et. al., **Public Budgeting Systems, 8th Edition**, (Jones & Bartlet Publishers) 2006, Table 2-4, p. 510-513
- 14 **Water Rates**, AWWA Manual M1, Fourth Edition, 1999, American Water Works Association, p. 2
- 15 Verbal statement to author about increasing transfers to the City general fund from the enterprise operation.
- 16 Based on extensive FRWA experience with systems throughout Florida. Also see, Lee, et. al., **Public Budgeting Systems, 8th Edition**, (Jones & Bartlet Publishers) 2006, Table 2-4, p. 431-432, 443
- 17 Verbal comment to author from a retired Assistant General Manager for Water and Wastewater Systems at a large system.
- 18 Statement to author on the subject of the legality of enterprise fund transfers by a former staff member of the Office of the Chief Inspector General. This expert (now retired) worked in the Financial Services Auditor group with local Florida governments for over thirty years on matters of accounting systems, financial reporting, and financial emergency conditions.
- 19 **Florida Statute 180.191 Limitation on Rates Charged Consumer Outside City Limits** -- Allows an automatic surcharge of 25% of rates, fees, and charges to consumers outside the boundaries without a public hearing and up to 50% if the city can justify the charges and holds a public hearing, the burden of proof would then fall upon the customers outside the boundaries if they have *"reasonable grounds to believe that any municipality is about to engage, in any act or practice prohibited by subsection (1), a civil action for preventive relief, including an application for a permanent or temporary injunction, restraining order, or other order, may be instituted by the person or persons aggrieved."*
- 20 Lee, et. al., **Public Budgeting Systems, 8th Edition**, (Jones & Bartlet Publishers) 2006, Table 2-4, p. 443
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ENTERPRISE FUND TRANSFERS AND THEIR IMPACT ON GOVERNMENTAL SPENDING AND REVENUE PATTERNS OF GEORGIA MUNICIPALITIES

Theodoros Arapis*

ABSTRACT. Although public owned enterprises have rarely received the attention of the American public, their presence across the nation is widespread and their role in governance fundamental. These business-type activities, which are financed through user charges and fees, represent a great potential revenue source for municipalities as they often generate revenues beyond their costs. This paper examines longitudinally how public enterprises affect governmental spending and revenue patterns by analyzing a panel dataset of 100 Georgia cities between 2005 and 2009. This study used two-step GMM regression (2SGMM) and robust standard errors to estimate the relationship between dependent and independent variables. The findings of this research suggest that net enterprise transfers increase own-source revenues (additive effect) but decrease governmental expenditures (siphoning effect) contradicting findings from earlier studies.

INTRODUCTION

Although public owned enterprises have rarely received the attention of the American public, their presence across the nation is widespread and their role in governance fundamental. Public enterprises have existed since the founding of this country and can be found in all levels of government (Mitchell, 1996). Over time public enterprises have helped federal, state, and local governments in various ways including building infrastructure, stimulating economic

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growth, providing public services, and diversifying governmental revenue sources (Seidman, 1983).

The significance of public enterprises in municipal financial management and service delivery has greatly increased since the 1970s primarily due to limitations of the use of property taxes. After the tax revolt of 1978 and the passage of California's Proposition 13, local officials became extremely skeptical in regards to property taxation. Measures of fiscal limitations (TEL) were adopted all over the nation (Lowery, Singleman, and Smith, 1983), placing a great financial burden on local governments (Lowery, 1985; Carroll, 2009). The fiscal limitations along with the economic uncertainty of the 1980s resulted in slow revenue growth, which placed high levels of financial stress on local governments (Stumm, 1996).

All these fiscal environment challenges urged local governments to seek ways to stabilize their revenues and sustain their service provision levels. In the late 1970s and early 1980s, the United States Advisory Commission on Intergovernmental Relations (ACIR), in an effort to balance local governments' revenue structures issued a series of reports promoting the use of local income and sales taxes, and user charges and fees. ACIR, an advocate of strong local governments, justified its recommendations on the basis of revenue diversification (Carroll, 2009). By then it was believed that revenue diversification could decrease revenue volatility, increase financial flexibility, and lead to improved fiscal performance (White, 1983; Gentry, and Ladd, 1994; Harmon, and Mallick, 1994; Hendrick, 2002). Soon thereafter, local governments began diversifying their revenue structures away from property taxation into other tax and non-tax revenue sources (Lowery 1985; Carroll, 2009).

In the 1990s, a decade of heavy administrative reforms inside and outside this nation, public enterprises continued to enlarge their role in government. Under New Public Management (NPM), governments have sought alternative ways to finance projects and deliver services (Denhardt and Denhardt, 2000; Box, Marshall, and Reed, 2001) without increasing taxes or affecting governmental budgets (Mitchell, 1996). Today, reinvention for local governments is synonymous with reduced dependency on tax revenues and increased levels of non-tax revenue sources (Stumm, 1996; 2001).

At this present time of recurrent fiscal crisis, local governments must further decrease their dependency on traditional revenue

sources to finance government operations and services. Public enterprises seem to be a great fit in this reality. These business-type activities, which are financed through user charges and fees, represent a great potential revenue source for municipalities since they often generate revenues beyond their costs. Consequently, public officials view public enterprises “as a practical way to finance projects and services off budget, without affecting balanced budget requirements or voter outrage” (Mitchell, 1996).

Although public enterprises play an essential role in municipal finances and service delivery (Stumm, 1996), the municipal finance literature provides very limited information about this topic. This study longitudinally examines the effects of enterprise transfers on governmental spending and revenue patterns of 100 Georgia cities with population greater than 5,000 between 2005 and 2009. Financial information comes from Comprehensive Annual Financial Reports (CAFR) of all examined local governments. The United States Census Bureau is utilized to gather demographic and socio-economic data.

LITERATURE REVIEW

It has been about four decades now that enterprise funds have received academic attention. At this time most studies were focused on specific enterprise funds, mainly electric and water utilities. For example, Strauss and Wertz (1976), and Vogt (1978) examined the impact of electric utilities on local finances of North Carolina cities. Di Lorenzo (1982) focused on electric utilities and their effects on the finances of New York municipalities. Rubin (1988) explored the impact of various enterprise funds on Illinois cities. Tyer (1989) studied the profitability of electric utilities and local finances of South Carolina cities. DeHoog and Swanson (1988) examined public enterprises and their effect on Florida’s local governments. Hembree, Shelton and Tyer (1999) looked again at the impact of electric enterprises on municipalities in South and North Carolina.

The literature on municipal enterprise fund transfers suggests that such practices have either an expenditure or a substitution effect (DeHoog & Swanson, 1988; Tyer, 1989). Cities with enterprise funds may engage in higher spending due to extra funds appropriated from utility profits (expenditure effect). Evidence for the expenditure effect was found in the studies of DiLorenzo (1982), Deno and Mehay

(1988), Tyer (1989), and Hembree, Shelton and Tyer (2000). DiLorenzo (1982) found that municipality owned utilities allowed New York cities to increase their spending. Deno and Mehay (1988) found that water utilities allowed cities to spend more, while Tyer (1989) showed that South Carolina electric cities spent more than non-electric cities. The profitability of electric enterprise funds was once more confirmed by the study of Hembree, Shelton, and Tyer (2000) in South and North Carolina cities for fiscal year 1997.

Strauss and Wertz (1976), on the other hand, found that North Carolina municipalities with electric utilities had higher per capita own-source revenues than municipalities with no electric utilities. Vogt (1978) also found evidence of the substitution effect, as North Carolina cities used their electric profits to keep property taxes low. Likewise, DiLorenzo (1982) and Tyer (1989), when they studied the impact of utilities in New York cities and South Carolina cities respectively, concluded that cities with internal subsidization substitute for their own-source revenues.

DeHoog's and Swanson's concerns were also centered around the expenditure and subsidization effects of enterprise funds on local finances. Their study of Florida cities produced assumptions contrary to DiLorenzo's and Vogt's. Although DeHoog and Swanson (1988) found that electric cities transferred their utility profits to the general fund, there was no further evidence of an expenditure or substitution effect.

The literature indicated that most of the conclusions regarding the expenditure and substitution effects of public enterprises derived from T-test comparisons and single year OLS regressions. The regression estimates, besides indicating whether public enterprises were used to support government spending or own-source revenues, also revealed a series of other associations. In fact, Straus and Wertz (1976) found positive relationships between per capita income, population and own-source revenues. DiLorenzo (1982) found positive relationships between average monthly public wage, population, intergovernmental revenues per capita and own-source revenues and negative associations between per capita income and own-source revenues. Deno and Mehay (1988) concluded that the city's fiscal capacity, poverty rate, and whether the city made bond payments or not had a negative effect on own-source revenues.

Regarding government spending, DiLorenzo (1982) indicated positive relationships with population and intergovernmental aid and negative ones with per capita income. Deno and Mehay (1988) found that population change was negatively associated with government expenditures. On the contrary, income per capita, intergovernmental aid, median age, average municipal wage, and poverty rate developed positive associations with government spending.

Rubin (1988) examined whether enterprise funds can help Illinois cities to expand their services. Public enterprises, she argued, can help officials to expand services regardless of economic conditions and with tax rates remaining stable (Rubin, 1988). However, the findings did not support the aforementioned. At the time of her study, Illinois cities established enterprises not to expand services when tax revenues declined, but to guarantee the provision of traditional services. In addition, the data suggested that enterprise funds, like other governmental funds, were apt to run deficits and were often part of the interfund transfer "game." The enterprise fund type was also correlated with the needs or demands of the cities. For example, cities with large commercial economies ran parking enterprise funds; affluent communities ran golf enterprise funds; and tax revenue challenged communities promoted economic development authorities.

Although public enterprises usually operate under monopolistic conditions, they are not always profitable. An examination of all different enterprise funds indicated that not all public enterprises ran like successful businesses generating large profits, but often ran on deficits (Rubin, 1988). Research thus far indicated that electric utilities were the most profitable kind of enterprise funds. Water and sewer activities tend to be less profitable, allowing for fewer interfund transfers, while activities such as garbage pick up, airport, parking, and mass transit often yield insufficient revenues.

Rubin (1988), when examining Illinois cities, concluded that funds like water, sewer, and garbage experienced periodic problems since their costs grew faster than their fee rates. Further, the same study indicated that parking, airport, and mass transit operations did not balance revenues with expenditures. In fact, in 1988 parking fees raised only 72 percent of the total parking revenues, airport fees covered 70 percent of their costs, and transportation fees only 44 percent. Cities with such funds engaged in "unrecorded interfund

borrowing or in-kind subsidies” to balance out the deficits (Rubin, 1988).

Tyer (1989) found that the most profitable types of enterprise for South Carolina cities were the electric ones. His findings further suggested that water and sewer utilities constituted the second most profitable type of municipal enterprise. These assumptions were also validated by the interfund transfer behavior of the selected cities. When he compared cities with electric utilities and cities with water and sewer utilities, he found that the former transfer more money than the latter to their general fund balance.

This study develops two comprehensive models to explore the effects of enterprise transfers on local finances. The models focus on total net enterprise fund transfers expressed as a percent of net enterprise income, a variable never included in previous research. This paper examines longitudinally how public enterprises affect governmental spending and revenue patterns by analyzing a panel dataset of 100 Georgia cities between 2005 and 2009. It is expected that municipalities use net enterprise transfers to boost governmental expenditures (expenditure effect) and substitute own-source revenues (substitution effect).

RESEARCH METHODS

Data

For the purpose of this study a five-year panel dataset (from 2005 to 2009) has been created. All financial information comes from Comprehensive Annual Financial Reports (CAFRs) of 100 Georgia city governments with populations greater than 5,000. CAFRs were obtained from the Georgia Department of Audits and Accounts (GDAA), which requires all Georgia local governments to submit their annual financial reports. Unfortunately, not all Georgia local governments have uploaded their 2009 CAFRs on GDAA; these cities are excluded from the analysis.

CAFRs are preferred over budget documents. They are audited and provide information for all the dependent, and part of the independent variables, of this study. First, these financial reports provide information on governmental revenues and expenditures. Second, they include all necessary information related to total and individual enterprise funds and interfund transfers, which constitute

the major independent variables of this research. Third, CAFRs are utilized to gather information regarding revenue structure (property and sales tax, intergovernmental aid), debt, and governance structure.

The U.S. Census Bureau is utilized to gather all demographic and socio-economic data. Demographic data include population expressed in thousands, percentages of populations under age 18 and over 65, and percent of nonwhite population. For this study the socio-economic factors include education level, per capita income, and unemployment rate.

Research Models and Variables

Drawing on extant studies, this study utilizes similar organizational and financial factors examined by previous scholars. However, the model focuses on total net enterprise fund transfers. This study empirically examines the impact of net enterprise fund transfers on 1) governmental spending and 2) own-source revenues.

To examine the effect of enterprise transfers on governmental spending the following model is utilized:

$$(1) \text{Log}(\text{Texp. per capita}) (t-1) = a + b_1 \text{ntrans_ninc} + b_2 \text{intergvt_pc} + b_3 \text{proptx_pc} + b_4 \text{salestx_pc} + b_5 \text{debt_pc} + b_6 \text{log}(\text{population}) + b_7 \text{nonwhite} + b_8 \text{education} + b_9 \text{income_pc} + b_{10} \text{unemprate} + b_{11} \text{under18} + b_{12} \text{over65} + b_{13} \text{msa } i, t=2006, 2007, 2008 + b_{14} \text{gform } i, t=2006, 2007, 2008 + \eta_{t-1} + u$$

Last, the following model is used when examining the effects of enterprise transfers on own-source revenues:

$$(2) \text{Log}(\text{ORev. per capita}) (t-1) = a + b_1 \text{ntrans_ninc} + b_2 \text{intergvt_pc} + b_3 \text{proptx_pc} + b_4 \text{salestx_pc} + b_5 \text{debt_pc} + b_6 \text{log}(\text{population}) + b_7 \text{nonwhite} + b_8 \text{education} + b_9 \text{income_pc} + b_{10} \text{unemprate} + b_{11} \text{under18} + b_{12} \text{over65} + b_{13} \text{msa } i, t=2006, 2007, 2008 + b_{14} \text{gform } i, t=2006, 2007, 2008 + \eta_{t-1} + u,$$

where i represents each city and $(t-1)$ represents each time period (with $t = 2005, 2006, 2007, 2008, 2009$), η_{t-1} are year dummies, and u is the error term.

Dependent Variables

To test the effects of net enterprise transfers on the local finances of Georgia's municipalities this study uses two dependent variables. First, per capita total expenditures (*Texp. per capita*) are employed to test the effects of net enterprise transfers on governmental spending. Second, per capita own-source revenues (*ORev. per capita*) are employed to explore the impact of net enterprise transfers on revenue patterns. According to DiLorenzo (1982) excluding total utility expenditures and revenues from total expenditures and own-source revenues respectively, provides information only for governmental activities.

Independent Variables

Fiscal Factors

Previous research on state and local finances has illustrated that the fiscal characteristics of governments constitute a significant factor affecting government spending and revenue patterns. Sales, property, and intergovernmental revenue per capita are expected to positively influence total government expenditure, while negative association is anticipated between debt per capita, total governmental expenditures, and own-source revenues per capita. It is also speculated that sales, property, and intergovernmental revenue per capita will positively influence own-source revenue per capita. According to DiLorenzo (1982) intergovernmental revenues per capita have a positive effect on both government expenditures and own-source revenues per capita. The positive impact of intergovernmental revenues per capita on government spending was also confirmed by Deno and Mehay (1988).

The literature also cites that cities operating certain public enterprises (e.g. electric utilities) keep lower fund balances due to their ability to transfer funds into their general fund whenever they need to (Strauss and Wertz 1976; Vogt 1978; Tyer 1989; Stumm and Khan 1996). However, since cities can operate more than electric utilities (e.g., gas, transit, water), this research employs net enterprise transfers expressed as a percentage of net enterprise income (*ntrans_ninc*) to capture the potential impact of public enterprises on governmental spending and own-source revenue. It is hypothesized that total net enterprise fund transfers are positively associated with

government expenditure (expenditure effects) and negatively associated with own-source revenues per capita (substitution effect).

Socio-economic Factors

To understand the impact of socio-economic factors on governmental spending and own-source revenues, a series of variables are utilized. All models employ level of education (*education*), unemployment rate (*unemprate*), and income per capita (*income_pc*). Level of education is expected to have positive correlations with governmental spending and own-source revenues. On the contrary, negative associations should develop between unemployment rate governmental spending and own-source revenues.

Regarding the associations between income per capita, governmental spending, and own-source revenues, the literature indicated mixed directions. For example, Strauss and Wertz (1976) found positive associations between income per capita and own-source revenues, while Deno and Mehay (1988) found negative associations between income per capita and government spending. DiLorenzo (1982) on the other hand, found negative associations between income per capita and government spending and own-source revenues.

Demographic Factors

To capture the demographic influence on governmental spending, and revenue patterns, the models employ population expressed per 1,000 (*population*), percentages of population under 18 (*undeighteen*) and over 65 (*ovsixtyfive*), and percent of nonwhite population (*nonwhite*). Population, according to previous studies (Strauss and Wertz, 1976; DiLorenzo, 1982; Deno and Mehay, 1988), is expected to positively impact government expenditures and own-source revenues per capita.

Marlowe (2004) argued that the retirement of baby boomers would place a great financial burden on local governments. Therefore, the percent of population over age 65 is an essential variable when trying to understand the fiscal limitations local governments face. Due to high service needs and income capacity of population groups under 18 and over 65, the author expects negative associations between these population groups and own-source revenues while the

direction should turn positive when total governmental expenditures comes into play.

Marlowe (2004) found a negative relationship between the level of fund balance and ethnic diversity. In fact, he observed an inverse relationship between nonwhites and savings. It seems that communities with large percentages of nonwhite population focus more on short-term rather than long-term planning (Stewart, 2009). Therefore, it is hypothesized that the percent of nonwhite population will negatively affect total governmental expenditures and own-revenue sources.

Governance Structure

Several pieces of literature cite that governance structure can affect financial management practices. Svava (1990) for example, suggested that cities with strong mayors governed by conflict, while cities with council-managers by cooperation. Hendrick (2006) added to the above assumptions by finding that in Illinois more sophisticated local governments generated more slack than less sophisticated ones. Therefore, it is expected that Georgia local governments with professional governance structures (council-managers form) are more likely to plan long-term and rationally. A positive relationship should develop between council-manager cities (*council_manager*) and own-source revenues and a negative with total expenditures.

Marlowe (2004) also suggested that metropolitan status of local governments could affect the financial management practices. Therefore, this study has included a metropolitan dummy variable (*metro*). Metropolitan governments are expected to engage in higher spending, since metropolitan areas have higher demand of services. Last, greater population level of metro areas is speculated to positively influence own-source revenues.

Statistical Methods

To examine the impact of total net enterprise fund transfers on government spending and revenue patterns a panel dataset stretching from 2005 until 2009 for all Georgia cities with population greater than 5,000 has been developed. Although the initial sample included 110 Georgia city governments with population over 5,000,

ten cities were removed since they did not provide a CAFR for one or more of the examined years.

A variety of different techniques may be used to estimate this study's equations. However, the statistical method used to estimate the proposed models should take into account three key considerations. First, White's test indicated that the models of this study suffer from heteroskedasticity. Second, as expected, the Durbin-Watson d statistics indicated the existence of positive serial correlation.

Third, the financial data used in this study included several outliers. In this study outliers were legitimate since they occurred due to the inherent variability of the data. When outliers are legitimate, the data would be more representative if outliers are not excluded from the analysis (Orr, Sackett, & Dubois, 1991). However, the non-normal data have been transformed into logarithmic values after normality tests (histograms, skewness and kurtosis tests, Kolmogorov-Smirnov test, and Shapiro-Wilk test) indicated a moderate positive skew.

The preferred method for this study is a two-step general methods of moments¹ (2SGMM) with robust standard errors. Although five years of actual data exist, the models are estimated using four years because all dependent variables were lagged by one year (t-1). Further, the statistical methods used for this study required all time-constant variables to be transformed. Therefore, governance structure and metropolitan status were expressed as interactions with year dummy variables for 2006, 2007, and 2008. This transformation enables the model to examine whether returns of governance structure and metropolitan status were constant over time (Wooldridge, 2006). Last, to capture time effects dummy variables for years 2006, 2007, and 2008 were established.

FINDINGS

Table 1 identifies all different enterprise funds that Georgia local governments operated from 2005 until 2009. The data indicate that Water and Sewage Enterprises are the most popular among Georgia municipalities. Other common enterprises for Georgia cities include Solid Waste Management, Gas System, Electric Utilities, and

TABLE 1
Enterprise Funds for Fiscal Years 2005 through 2009

Enterprises/Year	2005	2006	2007	2008	2009
Water & Sewage	71	77	63	68	62
Solid Waste	28	28	29	32	32
Gas System	22	25	19	23	20
Electric Utilities	20	18	18	19	17
Sanitation	17	18	17	20	23
Network Communication/Cable	8	7	4	6	7
Conference Center/Museum/Buildings	8	8	8	6	10
Airport/Marina	7	7	6	8	5
Storm Water Management	7	8	11	10	12
Utilities	6	6	6	5	6
Golf Course	4	4	4	2	6
Other	8	11	8	18	18
Total	206	217	193	217	218

Source: Comprehensive Annual Financial Reports (CAFR).

Sanitation. Among all different enterprise funds, the aggregate number for Solid Waste Management, Sanitation, Conference Center/Museum Buildings, and Storm Water Management has increased since 2005. Further, the total number of enterprise funds has also increased since 2005 by six percent. In 2009, a period of great financial uncertainty, enterprise funds have reached their highest number emphasizing their significance for municipal finances.

To better examine the trend of enterprise funds, all different types of enterprises are grouped based on city population for each year of this study. The data from Table 2 show that all cities with population greater than 10,000 have more enterprise funds in 2009 than in 2005. Totals of Electric Utilities, Sanitation, Conference Center/Museum/ Buildings, Airport/Marina, and Storm Water Management Funds have reached their highest number in 2009 since 2005. In 2009, there is an increase in both Electric Utilities and Conference Center /Museum/ Buildings in all city groupings. Regarding Sanitation

Funds an increase is observed for all city population groupings but the first one: cities with populations between 5,000 and 9,999. In 2009, cities with populations greater than 25,000 operate more Airport/Marina Funds than in 2005. Finally, in 2009 all cities besides the ones with population between 10,000 and 24,999 operate more Storm Water Management Utilities than in 2005.

TABLE 2
Number of Enterprise Funds Grouped by City Size for Fiscal
Years 2005 through 2009

Year	Population	Water & Sewage	Solid Waste	Gas System	Electric Utilities	Sanitation Network	Com./Cable	Conf. Center/ Museum/Buildings	Airport/Marina	Storm Water Mngt	Public Utilities	Golf Course	Other	Total
2005	5,000 to 9,999	26	8	8	1	10	3							
	10,000 to 24,999	31	11	9	10	12	4	5	4	2	1	2	3	94
	25,000 to 49,999	7	1	2	3	4	1	0	1	0	0	1	0	20
	50,000 or more	7	2	1	3	2	0	0	2	1	3	0	2	23
2006	5,000 to 9,999	28	9	7	3	8	3	3	1	1	3	3	4	73
	10,000 to 24,999	31	12	8	9	13	4	4	3	1	1	2	4	92
	25,000 to 49,999	7	2	2	3	4	0	1	2	0	0	1	1	23
	50,000 or more	11	2	1	3	3	0	0	2	2	3	0	2	29
2007	5,000 to 9,999	23	6	7	2	8	3	3	1	1	1	2	2	59
	10,000 to 24,999	27	9	8	8	14	1	5	3	1	2	3	2	83
	25,000 to 49,999	6	2	2	3	4	0	2	2	0	0	1	2	24
	50,000 or more	7	2	1	4	3	0	1	2	2	3	0	2	27
2008	5,000 to 9,999	25	8	7	4	10	2	2	0	1	2	2	3	66
	10,000 to 24,999	30	12	9	9	14	4	4	2	1	2	2	5	94
	25,000 to 49,999	6	1	2	3	4	0	3	2	0	0	1	3	25
	50,000 or more	7	2	1	4	4	0	1	2	0	4	0	7	32
2009	5,000 to 9,999	21	5	7	5	8	3	3	1	2	1	3	2	61
	10,000 to 24,999	29	12	7	10	15	3	6	3	1	2	3	8	99
	25,000 to 49,999	6	1	2	4	5	0	2	3	1	1	0	4	29
	50,000 or more	6	2	1	4	4	1	1	3	2	1	0	4	29

Source: Comprehensive Annual Financial Reports (CAFR).

Tables 1 and 2 illustrate a great variation in the number and types of enterprises that are operated by Georgia municipalities. However, to better understand the level of dependence on enterprise funds, one needs to observe the ratio between enterprise and governmental revenue (Rubin, 1988). A ratio greater than one indicates higher dependence on enterprise revenues while a ratio less than one shows greater reliance on governmental revenues.

According to Table 3, in 2009 less populated cities depend more on enterprise revenues than larger municipalities. Although for years 2005 and 2006 the ratios for smaller municipalities are stable, for years 2006 through 2009 a dramatic change is observed. This constant increase of the ratio between enterprise revenue and governmental revenue for smaller municipalities could indicate a decrease in traditional government revenues (e.g. sales and property taxes) and an increase in non-traditional revenues (e.g. user charges and fees). It seems that the economic recession has hurt traditional revenue sources.

TABLE 3
Enterprise Revenues Expressed as a Percent of Governmental Revenue

Population Size	Years				
	2005	2006	2007	2008	2009
5,000 to 9,999	1.58	1.59	1.68	1.81	1.95
10,000 to 24,999	1.45	1.47	1.23	1.24	1.27
25,000 to 49,999	0.95	0.89	0.85	1.06	1.25
50,000 or more	0.89	1.02	0.77	0.8	0.7

Source: Comprehensive Annual Financial Reports (CAFR).

Table 4 presents definitions and descriptive statistics for each of the variables included in this study. To test the effects of net enterprise transfers expressed as a share of net enterprise income on Georgia’s local governments, this study used two dependent variables: per capita total expenditures and per capita own-source revenues. All the dependent variables were collected from Comprehensive Annual Financial Reports (CAFR) of the examined local governments.

TABLE 4
Descriptive Statistics

Variables	Definitions	Sources	Obs.	Mean	Std. Dev.	Min.	Max.
<i>Texp. per capita</i>	Total Expenditures per capita (Total Expend/Pop) x 100	CAFR	500	904.9	387.33	15.57	2927.1
<i>Orev. Per capita</i>	Own-Source Revenues per capita [(Total Rev-Intergov. Rev)/Pop] x 100	CAFR	500	755.6	386.51	9.37	4723.7
<i>Ntrans_ninc</i>	Net Enterprise Transfers as a share of Net Enterprise Income [(Transfers In - Transfers Out)/Net Enterprise Income] x 100	CAFR	500	-53.3	1158.4	-23520	4872.0
<i>Intergvt_pc</i>	Intergovernmental Revenues per capita (Intergov. Rev./Pop.) x 100	CAFR	500	79.97	99.92	0	891.39
<i>PropTx_pc</i>	Property Taxes per capita (Prop. Taxes/Pop.) x 100	CAFR	500	202.3	153.89	0	927.54
<i>SalesTx_pc</i>	Sales Taxes per capita (Sales Taxes/Pop.) x 100	CAFR	500	174.5	120.14	0	871.26
<i>Debt_pc</i>	Debt per capita (Debt/Pop.) x 100	CAFR	500	41.2	56.71	0	527.89
Population (log)	Number of Population Log(Pop.)	Census Bureau	500	29108	43464	5031	477300
Nonwhite	Percent of Nonwhite population	Census Bureau	500	46.2	18.58	7.4	90.1
Eduaction	Level of Education	Census Bureau	500	76.99	9.54	53.7	96.9
<i>Income_pc</i>	Income per capita (Inc./Pop.) x 100	Census Bureau	500	21927	7529.5	12012	47198
<i>Unemprate</i>	Unemployment Rate	Census Bureau	500	6.94	3.11	0.9	17.5
<i>Undeighteen</i>	Percent of population under age 18	Census Bureau	500	26.95	3.51	14.25	34.81
<i>Ovsixtyfive</i>	Percent of population over 65	Census Bureau	500	11.43	4.28	3.1	20.69
<i>Msa_2006</i>	Dummy MSA If city inside MSA coded 1, others 0	Census Bureau	500	0.14	0.34	0	1
<i>Msa_2007</i>	Dummy MSA If city inside MSA coded 1, others 0	Census Bureau	500	0.14	0.34	0	1
<i>Msa_2008</i>	Dummy MSA If city inside MSA coded 1, others 0	Census Bureau	500	0.14	0.34	0	1
<i>GForm_2006</i>	Dummy Govern. Form. Coded 1 if council-manager, others 0	CAFR	500	0.16	0.37	0	1

TABLE 4 (Continued)

Variables	Definitions	Sources	Obs.	Mean	Std. Dev.	Min.	Max.
<i>GForm_2007</i>	Dummy Govern. Form. Coded 1 if council	CAFR	500	0.16	0.37	0	1
<i>GForm_2008</i>	Dummy Govern. Form. Coded 1 if council	CAFR	500	0.16	0.37	0	1
<i>Year_2006</i>	Dummy Year 2006		500	0.2	0.4	0	1
<i>Year_2007</i>	Dummy Year 2007		500	0.2	0.4	0	1
<i>Year_2008</i>	Dummy Year 2008		500	0.2	0.4	0	1

The independent variables of this study include fiscal factors, socio-economic factors, demographics, and governance structure characteristics. Net enterprise transfers expressed as a percentage of net enterprise income, intergovernmental revenues, property taxes, sales taxes, and debt per capita represent fiscal factors and were collected from Comprehensive Annual Financial Reports (CAFR). Income per capita and unemployment rate describe socio-economic factors and were collected from the U.S. Census Bureau. Likewise demographic variables including population, ethnic diversity, percent of teen population, percent of senior population, and education level were also collected from the U.S. Census Bureau.

Part of the dummy variables used in this study represent government structure characteristics. This includes form of government and metropolitan status. Two major forms were observed among Georgia local governments: council-manager and council-mayor. The government form dummy variable was coded 1 if council-manager form was observed and 0 otherwise. Regarding the metropolitan status dummy variable, if a local government was inside the metropolitan area it was coded 1 and 0 otherwise. To capture time effects, year dummies have been employed for 2006, 2007 and 2008.

Several studies on municipal finances noted that enterprise transfers impacted governmental spending (expenditure effect) and revenue patterns (substitution effect) (DeHoog & Swanson, 1988; Tyler, 1989). For example, when DiLorenzo (1982) and Tyler (1989) studied the impact of public enterprises in New York cities and South Carolina cities respectively, they concluded that municipalities transfer resources from their enterprise funds to substitute for their own-source revenues and boost governmental spending. It would be

erroneous though, to base our knowledge regarding the impact of public enterprises on local finances in previous studies as their methodology and research models are poorly constructed. The conclusions of these early studies derive from simple T-test comparisons or single year OLS regression models. Further, it is questionable whether the variables used in the research models have captured the full effect of enterprise transfers on municipal finances.

Therefore, this research explores the impact of net enterprise transfers on spending behaviors and revenue patterns of Georgia's local governments using a panel dataset stretching from 2005 to 2009. This study used two-step GMM regression (2SGMM) and robust standard errors to estimate the relationship between dependent and independent variables. To examine the effects of net enterprise transfers on governmental spending and revenue patterns two dependent variables were used: total governmental expenditures per capita and own-source revenues per capita. Following the literature, it is hypothesized that net enterprise transfers increase the spending level (expenditure effect) of Georgia's municipalities. In addition, municipalities with enterprise transfers are expected to substitute for their own-source revenues (substitution effect).

Tables 5 and 6 reveal that net enterprise transfers have developed significant associations with both total expenditures and own-source revenues per capita. The literature indicated that enterprise transfers caused an increase in governmental spending (expenditure effect). Following this literature, it is hypothesized that net enterprise transfers would cause an expenditure effect. Surprisingly the association between net enterprise transfers and total expenditures has negative direction contradicting the findings of earlier studies. Although small in magnitude, total net enterprise fund transfers have an inverse statistically significant association with total governmental expenditures. This finding suggests a "siphoning effect" of enterprise transfers on governmental spending; the higher the enterprise transfers the lower the governmental spending.

The regression estimates also reveal a positive statistical significant association between intergovernmental revenues per capita and governmental expenditures per capita. This finding is consistent with the argument that as intergovernmental revenues increase governmental spending increases thus validating DiLorenzo's (1982) and Deno and Mehay's (1988) previous findings. The findings further

suggest that for every 1 percent increase in intergovernmental revenues total governmental expenditures increase by 0.19 percent.

Both property taxes and sales taxes per capita have developed statistically significant associations with governmental expenditures per capita. As expected, property taxes per capita developed positive

TABLE 5
Arellano, Bond, and Bover Two-Step General Methods of Moments

Variable	Total Expenditures per capita	
	Coef	z-Stat
Net Enterprise Transfers/Net Enterprise Income	-5.46e-06*	-1.82
Intergovernmental Revenues per capita	0.0198**	2.26
Property Taxes per capita	0.1718***	4.46
Sales Taxes per capita	-0.0333*	-1.66
Debt per capita	-0.0063	-0.6
Population	-0.3354	-1.06
Percent of Nonwhite population	-0.0028	-1.22
Level of Education	0.0066	0.89
Income per capita	-0.0853*	-1.62
Unemployment Rate	-0.0126**	-2.57
Population Under 18	0.0127	0.11
Population Over 65	0.0119	0.29
MSA 2006	0.0385	1.19
MSA 2007	0.0062	0.17
MSA 2008	0.044*	1.55
Gov. Form 2006	0.0287	0.72
Gov. Form 2007	-0.0585	-1.28
Gov. Form 2008	0.0344	0.95
Year 2006	-0.0809	-1.31
Year 2007	0.0319	0.49
Year 2008	-0.0812*	-1.55
Constant	1.2134	
St. Error = 3.6766		
N = 264		
Wald $\chi^2 = 299.70$		
P > $\chi^2 = 0.0000$		

associations with governmental expenditures per capita. For every 1 percent increase in property taxes per capita governmental spending increases by 0.17 percent. On the other hand, sales taxes per capita developed a negative statistically significant association with governmental expenditures per capita. In fact, for every 1 percent increase in sales taxes per capita total governmental spending decreases by 0.033 percent.

Debt per capita, income per capita, and unemployment rate developed negative associations with governmental expenditures per capita. However, statistical significance exists only between income per capita, unemployment rate, and total governmental expenditures per capita. Income per capita has a negative effect on both total governmental expenditures and own-source revenues per capita confirming DiLorenzo's previous findings. In fact, for every 1 percent increase of income per capita total governmental expenditures decrease by 0.085 percent. Further, the results indicate that for every 1 percent increase of unemployment rate total governmental expenditures per capita decrease by 0.012 percent.

Other variables of significant interest include metropolitan status and year dummies. The regression estimates indicate that metropolitan municipalities have higher spending needs than non-metropolitan. However, this finding is statistically significant only for year 2008. Last, the year dummies indicate negative associations with governmental spending for years 2006 and 2008.

Regarding the impact of net enterprise transfers on own-source revenues of Georgia municipalities, Table 6 indicates a positive statistically significant association contradicting previous findings and the author's expectations. Although the literature on public enterprises indicated that enterprise transfers substitute for own-source revenues (substitution effect) the regression estimates reveal an additive effect. Georgia local governments utilize their enterprise transfers to boost their own-source revenues; the higher the enterprise transfers are the higher the own-source revenues.

A strong negative statistically significant association is identified between intergovernmental revenues and own-source revenues per capita. Specifically, the results indicate that for every 1 percent increase in intergovernmental revenues per capita a 0.15 percent decrease in own-source revenues follows. In addition, both property taxes and sales taxes per capita developed statistically significant

associations with own-source revenues per capita. As expected, property taxes per capita developed positive associations with own-source revenue per capita. For every 1 percent increase in property taxes per capita total own-source revenues increase by 0.14 percent. Likewise, sales taxes per capita developed a positive statistically significant association with own-source revenues. The regression estimates reveal that for every 1 percent increase in sales taxes per capita own-source revenues increase by 0.07 percent.

TABLE 6
Arellano, Bond, and Bover Two-Step General Methods of Moments

Variable	Own Source Revenues per Capita	
	Coef	z-Stat
Net Enterprise Transfers/Net Enterprise Income	4.14e-06*	1.72
Intergovernmental Revenues per capita	-0.0154***	-3.28
Property Taxes per capita	0.1397***	3.42
Sales Taxes per capita	0.0709***	4.26
Debt per capita	-0.0052	-0.79
Population	-0.2576	-1.42
Percent of Nonwhite population	-0.0035**	-2.53
Level of Education	-0.0152**	-2.57
Income per capita	-0.0391*	-1.86
Unemployment Rate	-0.0032	-1.37
Population Under 18	-0.1914	-0.88
Population Over 65	-0.0586	-0.22
MSA 2006	0.0011	0.04
MSA 2007	0.0078	0.45
MSA 2008	-0.0068	-0.51
Gov. Form 2006	0.0227	0.55
Gov. Form 2007	0.0137	0.76
Gov. Form 2008	0.0049	0.34
Year 2006	-0.1179**	-2.21
Year 2007	-0.061**	-1.98
Year 2008	-0.0261	-1.04
Constant = 10.9373		
St. Error		
N = 264		
Wald $\chi^2 = 1464.14$		
P > $\chi^2 = 0.0000$		

Debt per capita, income per capita, and unemployment rate developed negative associations with own-source revenues per capita validating previous findings. However, statistical significance exists only between income per capita and own-source revenues. Income per capita has a negative effect on own-source revenues per capita confirming DiLorenzo's previous findings. In fact, for every 1 percent increase of income per capita own-source revenues decrease by 0.039 percent.

Other variables of significant interest include ethnic diversity, education level, metropolitan status, and year dummies. Ethnic diversity has negative associations with both governmental expenditures and own-source revenues. However, only the association between ethnic diversity and own source revenues is statistically significant. Likewise, education level developed a negative statistically significant association with own-source revenues per capita. According to Table 6, a 1 percent increase in education level resulted in 0.015 decrease in own-source revenues.

Regarding the association between metropolitan status and own source revenues, the regression estimates revealed both negative and positive directions. For years 2006 and 2007 metropolitan status of the examined local governments has a positive impact with own source revenues, while opposite results appear for year 2008. Last, the year dummy variables indicate negative associations with own-source revenues for years 2006 and 2007.

DISCUSSION OF FINDINGS

Regarding governmental spending and revenue patterns, the regression results indicate that net enterprise transfers influence both governmental spending and revenue patterns of the examined local governments. On one hand, the examined Georgia municipalities transfer funds from their enterprises to boost their own-source revenues (additive effect). However, these extra funds although increase revenue levels do not increase governmental spending. In fact, the negative statistically significant association between net enterprise transfers and total governmental expenditures suggests a "siphoning" effect as enterprise transfers decrease governmental spending. Perhaps the examined Georgia municipalities use their enterprise transfers for expanding gaps

between revenues and expenditures thus improving their local fund balance and presenting a better financial condition.

Other variables of significant interest include intergovernmental revenues, property taxes, and sales taxes per capita. It seems that intergovernmental revenues play an essential role in service provision for Georgia municipalities since more intergovernmental revenues cause greater governmental spending. Further, intergovernmental revenues have a strong negative statistically significant association with own-source revenues revealing a high dependence of Georgia local governments on intergovernmental aid. The findings also suggest that spending funds for Georgia local governments mostly come from property taxes and not from sales taxes. Perhaps the high elasticity of sales tax revenues urges Georgia municipalities to depend less on this revenue source. Both sales taxes and property taxes though have a positive statistically significant effect on own-source revenues per capita validating the author's hypotheses.

Regarding socio-economic factors affecting total governmental expenditures per capita and own-source revenues per capita variables of significant interest include income per capita and unemployment rate. The negative association between income per capita and total governmental expenditures per capita is perhaps a good indicator that Georgia residents with high income are less dependent on their local governments and demand fewer services. Surprisingly, income per capita and own-source revenues develop an inverse relationship contradicting the author's expectations. Perhaps high-income residents, since they receive fewer governmental services also contribute less to local taxes. Likewise, the regression results indicate that Georgia municipalities with high unemployment rates spend less and raise less local revenue.

Perhaps, municipalities with high unemployment rates are unable to raise sufficient revenue to offer the required services. Among all demographic variables used in this study only percent of ethnic diversity is of significant interest. Ethnic diversity and own-source revenues developed a negative statistically significant association confirming the author's expectations. It seems that municipalities with a high percentage of ethnic diversity raise less own-source revenues than municipalities with a lower percentage of ethnic diversity.

Finally, the regression estimates provide evidence that the recurrent economic crisis has added some degree of financial stress on the examined local governments. The negative associations between all year dummy variables and total governmental expenditures per capita indicate an expenditure limitation for Georgia municipalities. In addition, the negative associations between all year dummy variables and own-source revenues provide further support for the aforementioned assumption. This inverse relationship reveals the difficulty of Georgia local governments to raise revenues during the economic downturn.

CONCLUSIONS

The main purpose of this study has been to examine, theoretically and empirically, the effects of total net enterprise fund transfers on governmental expenditures and own-source revenues of 100 Georgia municipalities during the time period 2005-2009. This study revealed the ability of local governments operating public enterprises to stimulate their own-source revenues (additive effect) and constrain governmental spending (siphoning effect). These findings contradict earlier ones, according to which public enterprises substituted for own-source revenues (substitution effect) and boosted governmental expenditures (expenditure effect).

The aforementioned findings suggest that revenue diversification is apparent among Georgia municipalities as public enterprise funds have been used to boost own-source revenues. Although revenue diversification improves fiscal performance and adds financial flexibility, it also leads to greater revenue structure complexity (Carroll, 2009). When revenue structures become more complex the transparency of government financing to its citizens becomes low, creating fiscal illusion (Oates, 1991). In simpler terms, revenue complexity impedes taxpayers from understanding the true price of public expenditures. This obscurity leads taxpayers to develop inaccurate perceptions of the price of public outputs. This was also the case for municipalities in South Carolina as identified by Tyer.

Although the literature indicates that fiscal illusion usually results in greater public demand for services and thus greater governmental expenditures, this research reveals a different aspect of fiscal illusion. The findings of this research suggest that net enterprise transfers increase own-source revenues but decrease governmental

expenditures generating false assumptions about the true cost of government operation and public outputs. In fact, Georgia taxpayers have overestimated the true price of government operation and service provision paying for more than what they receive. The extra slack generated due to taxpayers' misconception of the true cost of government operation and public outputs is accumulated into the different portions of general fund balance as fiscal reserves.

It seems that Georgia local officials, taking advantage of the public avoidance regarding taxation, control the governmental expenditure and revenue levels. Simply put, local officials decide how much current private consumption will be sacrificed to build reserves in the governmental funds (Wolkoff, 1987). Taxpayers on the other end, lose consumption power since money that could have been used for tax reductions or increased governmental services are used to boost governmental funds.

NOTES

1. Arellano, Bond, and Bover have developed one and two step general methods of moments (GMM) estimators for panel data analysis, which produces robust estimations even when heteroskedasticity, autocorrelation, and non-normality coexist (Froot, 1989; Wooldridge, 2002; Yaffee, 2003). The two-step estimator is preferred over the one step due to its ability to increase asymptotic efficiency, better accommodate outliers and reduce their impact on the analysis (Froot, 1989). While the one step-estimator gives equal weight to each data point, the two-step estimator weighs data according to their precision; "an observation with a relatively small squared residual gets greater than equal weight" (Froot, 1989).

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