

CITY COUNCIL WORK SESSION AGENDA

JANUARY 23, 2012

7:00 P.M. – Call to order in the Multipurpose Room at the Central Services Complex

- I. Discussion and Review of Oak Ridge Water and Wastewater Rate Study, Review of Options and Implementation Timetable
- II. Presentation of the Capital Improvements Program for FY 2013-2018
- III. Review of Report on Transportation Enhancement Projects – Expenditure of Funds from Special Programs Fund (“Red Light” Money)
- IV. Strategies for Joint City Council/Board of Education Meeting on February 6, 2012
- V. Discussion of Select Legislative Issues on State and Federal Agenda
 - A. Land Bank
 - B. National Park Legislation
- VI. Discussion on City Council’s Agenda Format, Update on Council Rules, and Improvement Discussion on Consent Agenda
- VII. Review of Proposed Ordinance Changes to Address Parking Concerns
- VIII. Strategic Planning Retreat – Scheduling and Goals
- IX. Updates
 - A. Automated Tax Collection
 - B. ADA Update on Parking
 - C. Final Mitigation Report Process – K-25
 - D. TML Conference Attendance - Nashville
- X. Adjournment

City of Oak Ridge, Tennessee

Water and Wastewater Rate Study



January 2012

LD&A

Lamar Dunn & Associates, Inc.
3305 Maoney Road
Knoxville, TN 37920
Phone: (865) 573-7672/Fax: (865) 573-1352
www.ldassoc.com

Table of Contents

SECTION:	DESCRIPTION:
I.	Introduction
II.	EPA Order
III.	DOE as a Customer
IV.	Historical and Projected Cost of Operation
V.	Current Debt
VI.	Projected Capital Needs
VII.	Current Rate Schedules
VIII.	Rate Structures Philosophy
IX.	Water Rate Structure Development
X.	Wastewater Rate Structure Development
XI.	Regional Rate Structures
XII.	Conclusions and Recommendations

SECTION I

INTRODUCTION

The City of Oak Ridge authorized Lamar Dunn & Associates, Inc. (LD&A) to develop a rate study for both its drinking water systems and its wastewater systems. The City owns two (2) water treatment plants and associated distribution piping, both formerly owned by the Department of Energy (DOE) facilities. The larger plant is generally referred to as the Y-12 Water Treatment Plant, and the smaller is known as the K-25 Water Treatment Plant.

The City owns and operates two (2) wastewater treatment plants and associated collection systems (sewers). The larger plant is known as the Turtle Park Wastewater Treatment Plant, and the smaller is referred to as the Rarity Ridge Wastewater Treatment Plant.

After the Y-12 Water Treatment Plant ownership was transferred from the DOE to the City, a contract for water service was executed on April 28, 2000, which since has been amended twice. As the second amendment is due to expire on June 30, 2012, negotiations for continued service must be finalized by the end of this fiscal year. The cost of water to DOE from the Y-12 treatment plant is governed by this contract.

The City's Turtle Park Wastewater Treatment Plant, constructed in the 1980's and upgraded in the late 1990's, collects and treats wastewater from city customers east of Horizon Center. It also receives wastewater from the DOE Y-12 Complex, for which the City has issued a discharge permit to DOE. The permit primarily addresses the concentration of certain constituents in the wastewater, such as mercury. A new permit dealing with instantaneous hydraulic loading will be issued in the coming months. The cost of wastewater treated at the Turtle Park plant is set by the City's rate ordinance.

The City's K-25 Water Treatment Plant, whose ownership was transferred from the DOE, is intended to be a short-term operation. It currently serves the federal facility generally referred to as the K-25 Complex (more recently known as the East Tennessee Technology Park), the Horizon Center, and the Clinch River Industrial Park (CRIP). A special fee arrangement which governs water service to the K-25 Complex is due to expire near the end of fiscal year 2013.

Plans are under way to connect the K-25 distribution system to the pipe network serviced by the Y-12 Water Treatment Plant. Plans have been developed to serve water to the west side of the Clinch River into the Rarity Ridge Development. The City currently purchases water from the Cumberland Utility District to serve Rarity Ridge.

The City constructed the Rarity Ridge wastewater plant to accommodate the anticipated flow from the development at Rarity Ridge, the Horizon Center, the K-25 complex, and the CRIP. The old treatment plant at the CRIP, constructed in the 1970's, has been abandoned, with the flow being pumped to the Rarity Ridge Wastewater Treatment Plant.

The data provided for this study was provided by the City's finance department. Projections for future cost of operations have been developed by reviewing historical data and expectations of the impact of an order issued by the United States Environmental Protection Agency (EPA), discussed in Section II.

SECTION II

EPA ORDER

On September 27, 2010, the United States Environmental Protection Agency (EPA) issued an Administrative Order for the City to address issues dealing with the wastewater collection system relative to NPDES Permit No. TN0024155. That permit is for the Turtle Park Wastewater Treatment Plant and its associated collection and transmission sewers. The Order, issued under provisions of the Clean Water Act, primarily was precipitated by what EPA termed as nine (9) unpermitted outfalls. These "unpermitted outfalls" are manholes which overflow during large rain events.

Much of the City of Oak Ridge Wastewater Collection System was constructed in the early 1940's. Materials and methods of construction used at that time did not necessarily meet today's more stringent standards. The City recognized this situation in the early 1990's and negotiated an agreement with the State of Tennessee to address the issues. Throughout most of the 1990's, major investigative work was conducted which resulted in a multi-year rehabilitation program. Those efforts are referred to as the "old program". The old program included an upgrade of the wastewater treatment plant and considerable sewer line rehabilitation, and continued until the issuance of the Order and beyond. Rehabilitation projects were designated by letters of the alphabet; the old program projects went through "N". Since the Order was issued, two rehabilitation projects have been designed and are under construction in the Emory Valley drainage basin. A replacement sewer under the Oak Ridge Turnpike also has been designed and is ready for construction as well as three pumping station upgrades.

The Order had four major directives. The first was for the City to identify and provide to EPA, within two months, a list of all sanitary sewer overflows (SSOs). Another requirement was to develop a Sanitary Sewer Overflow Response Plan (SORP) within six months. Both of these requirements were met within the prescribed schedule.

The third component of the Order, System Evaluation and Rehabilitation Plans, was very detailed and extensive. It required the development of work plans for a System Capacity Assessment and Sewer System Evaluation Survey (SSES), both due to EPA within six months. Both work plans were submitted on time and have been approved by EPA. The full reports following each of these work plans are due within one year after their approval. The data to develop these reports include:

- a) flow monitoring of various subsections of the collection system,
- b) physical inspection of all the manholes for defects,
- c) smoke testing of the sewers to detect leaks in the City's sewers and customer laterals,

- d) visual internal inspection of the sewer via closed-circuit television, and
- e) rainfall data.

After the SSES is completed (Spring 2012), the results are to be submitted to EPA within two months of completing the survey. Within two months of the submission of the SSES results, a detailed remediation plan is required (mid 2012). The plan shall provide:

- a) basic project descriptions,
- b) estimated schedules for design, construction, and placement in service, and
- c) a plan for all work to be completed in no more than three years (2015).

It must be understood that projections of capital needs for the rehabilitation are being made many months before the detailed remediation plan is available. Therefore, there may be need for rate adjustments toward the end of the study period, when better cost estimates are available. Also, the Order has accelerated the pace which the City must rehabilitate sewers, which will impact the rates in the short term.

The fourth component of the Order is Management, Operations, and Maintenance (MOM) programs, a major part of which is an Information Management System (IMS). The City has purchased appropriate software to comply with this portion of the Order. Other aspects of the MOM programs include.

- a) Engineering Programs
- b) Pump Station Operation Programs
- c) Maintenance Programs

The basic MOM has been submitted as required. When fully implemented, it will result in a significantly different approach to operating the wastewater system.

EPA requires the City to submit quarterly progress reports. These reports are to include:

- a) a description of actions which have been taken toward achieving compliance with the Order since the previous quarterly report,
- b) an assessment of the effectiveness of such actions in preventing SSOs, and
- c) a list of any SSOs that occurred since the previous quarterly report.

The additional manpower requirements of the Order are nine (9) new positions (approximately \$400,000 per year). A new approach to managing maintenance and operation through a computer based Information Management System is being instituted.

The discussion of the Order to this point has dealt with actions to be taken by the City. Another component of a typical EPA order is civil penalties. Preliminary discussions have occurred between the City and EPA on this matter. Even though the matter is not settled, a projection has been made in the rate calculations for that component.

SECTION III**DOE AS A CUSTOMER**

As stated in Section I, the City provides potable water to the Department of Energy's (DOE) Y-12 and National Laboratory facilities. The City also provides raw water to DOE to augment flow in Poplar Creek. The provisions of the agreement for potable water service have the cost for potable water set by contract. The initial contract, executed April 28, 2000, after the ownership transfer of the Y-12 Water Treatment Plant to the City, was amended on October 18, 2010, to address the cost of water from July 1, 2005, until the end of the contract period (September 30, 2009). Another amendment was executed on June 28, 2011, extending the period of service until June 30, 2012. A new long term agreement should protect the City from being obligated to maintain capacity without assurance of a revenue stream. The percentage of water treated at the Y-12 Water Treatment Plant purchased by DOE has steadily declined since the City has owned the facility. When the agreement was first executed, DOE purchased approximately 65% of the water produced. The decline is approximately one billion gallons. The DOE also expects a reduction in raw water purchases.

The City provides potable water to the DOE at their administration building at the same rate as other citizens in the city. Table III-1 shows the projected treated and raw purchases during the next two fiscal years.

Table III-1

**Projected DOE Water Purchases (gallons)
Oak Ridge Water and Wastewater Rate Study**

Year	Y-12 Potable Water	ORNL Potable Water	Raw Water
FY 2011	963,419,000	890,477,000	999,465,000
FY 2012	961,000,000	1,003,757,000	800,000,000
FY 2013	942,000,000	1,003,757,000	700,000,000

The City provides potable water to the DOE Complex formerly known as K-25 under agreement dated May 29, 2008, which is for a period of five (5) years. At some future date, this area will be served using water from the Y-12 Water Treatment Plant.

Wastewater from the DOE Complex at K-25 and surrounding industrial parks is treated at the City owned facility located across the Clinch River from the DOE properties, known as the Rarity Ridge Wastewater Treatment Plant.

The City accepts wastewater from the DOE Y-12 facilities into the city's sewer collection system for treatment. DOE has a relatively large sewer collection system of its own prior to discharging wastewater into the City system. As with most gravity sewer systems, the DOE system is subject to infiltration/inflow, and the extraneous water has an adverse impact on the city's system. Infiltration/inflow was the primary issue of the EPA order which was discussed in Section II.

Table III-2 shows the wastewater flow to the City for calendar year 2005 through October 2011. The wide variations are due to rainfall events. The City permit to DOE has a daily maximum flow of 1.4 million gallons per day (MGD). On occasion, the rate of flow to the City has exceeded the instantaneous flow rate equivalent to 1.4 MGD by a factor greater than 3.0.

Table III-2

**DOE Wastewater Flow to the City
Oak Ridge Water and Wastewater Rate Study**

	2005	2006	2007	2008	2009	2010	2011
January	22,652,000	20,937,000	20,793,000	20,859,000	22,769,000	21,373,000	14,641,000
February	20,307,000	17,382,000	17,514,000	20,751,000	18,232,000	22,892,000	14,263,000
March	19,086,000	18,570,000	17,511,000	22,662,000	23,739,000	21,825,000	19,932,000
April	19,926,000	20,900,000	17,558,000	20,988,000	18,200,000	17,960,000	17,510,000
May	18,373,000	17,828,000	15,141,000	17,853,000	18,591,000	18,412,000	12,416,000
June	15,945,000	15,389,000	11,268,000	16,821,000	17,081,000	21,781,000	14,680,000
July	20,319,000	16,250,000	16,276,000	20,082,000	15,725,000	24,164,000	13,122,000
August	15,766,000	18,172,000	16,800,000	18,104,000	15,838,000	18,651,000	11,622,000
September	14,332,000	17,669,000	16,466,000	18,821,000	14,095,000	17,159,000	15,888,000
October	13,951,360	18,107,000	17,469,000	18,484,000	17,269,000	12,594,000	11,826,000
November	17,869,000	18,722,000	18,656,000	17,592,000	15,945,000	16,232,000	
December	19,863,000	16,428,000	19,768,000	25,092,000	21,773,000	15,974,000	
TOTAL:	218,389,360	216,354,000	205,220,000	238,109,000	219,257,000	229,017,000	

A review of the revenue generated by DOE clearly shows that they are a significant customer. As the various agreements come to expiration in the near term, serious efforts should be made to find common ground to the mutual advantage of the parties.

SECTION IV**HISTORICAL AND PROJECTED COST OF OPERATION**

The water system, currently being fed by the Y-12 water plant, serves the City east of Horizon Center and the DOE complexes of Y-12 and Oak Ridge National Laboratory. Table IV-1 shows the projected operating cost for the current and next three fiscal years.

Table IV-1
Water Projected Operating Expenses
Oak Ridge Water and Wastewater Rate Study

FISCAL YEAR	FY'12	FY'13	FY'14	FY'15
Treatment	2,531,623	2,620,640	2,771,131	2,806,159
Distribution Cost	1,388,350	1,429,796	1,473,351	1,519,171
Other Operating Cost: (administrative, insurance, depreciation, tax, etc.)	4,775,368	4,844,643	4,836,240	4,951,981
Total Operating Expense	8,695,341	8,895,079	9,080,722	9,277,311

Table IV-2 shows the projected operating cost for the City's wastewater system served by the Turtle Park treatment facility. The wastewater system is subject to an Order from the EPA to complete certain improvements by the end of FY 2015. The projections made at this time are made without the advantage of the required studies to establish the scope of all needed capital for satisfying the Order. Therefore, a mid-course review may be necessary.

Table IV-2
Wastewater Projected Operating Expenses
Oak Ridge Water and Wastewater Rate Study

FISCAL YEAR	FY'12	FY'13	FY'14	FY'15
Treatment				
Labor	923,340	979,144	1,038,565	1,102,524
Maintenance	774,000	789,000	804,500	819,500
Sludge	100,000	100,000	100,000	100,000
Services	87,104	87,104	87,604	87,604
Supplies/Training	230,000	234,100	242,308	246,127
Sub-Total Treatment	2,114,444	2,189,348	2,272,977	2,355,755
Collection System	1,473,862	1,483,662	1,528,972	1,553,345
Administrative	1,982,045	2,008,995	2,042,520	2,058,995
Other Operating Cost				
Depreciation	1,700,000	1,725,000	1,750,000	1,760,000
Interest Before 6/30/11	1,006,623	945,953	879,348	810,673
Interest 6/30/11 Bond	119,428	177,662	176,293	174,923
Civil Penalty	190,000	----	----	----
Sub-Total Other Operating Cost	3,016,051	2,848,615	2,805,641	2,745,596
Total Operating Expense	8,586,402	8,530,620	8,650,110	8,713,691

Due to the contractual arrangement with the DOE relative to the western portion of the city, those projects are handled separately.

SECTION V

CURRENT DEBT

The Oak Ridge water and wastewater system has accumulated debt for infrastructure upgrades over the years, amortized by revenue received from the rate payers. The City has been in a "catch-up" mode for the last several years. The debt will be reviewed separately, as it affects the individual rate structure.

WATER

The total water debt as of June 30, 2011 had a remaining principal of \$12,371,390.00. Based on the projected interest rate, the actual total obligation is estimated to be \$17,006,566.00. Table V-1 shows the expected amortization over the next five years.

Table V-1

Water System Amortization Schedule Oak Ridge Water and Wastewater Rate Study

Fiscal Year	Principal	Interest	Total Requirement
2012	\$ 984,995.00	\$ 477,804.00	\$ 1,462,799.00
2013	\$ 1,005,038.00	\$ 451,901.00	\$ 1,456,939.00
2014	\$ 1,022,770.00	\$ 421,131.00	\$ 1,447,901.00
2015	\$ 544,220.00	\$ 397,580.00	\$ 941,800.00
2016	\$ 567,980.00	\$ 374,099.00	\$ 942,078.00

Table V-1 is a compilation of each of the outstanding water system bond issues. It should be noted that a significant portion of the debt is at a variable interest rate. In the current economic climate (mid FY 2012), the interest rates are favorable; however, if conditions change, those favorable rates may increase.

It is anticipated that major upgrades will be made to the water treatment plant and the raw water delivery system within the next five years. Additional debt will be incurred which will be further discussed in the capital improvement projects section. Another bond has been issued since June 30, 2011, for \$9,810,000.00, to be divided between water and wastewater. A portion was used to refund water expenditures amounting to \$930,000.00. For the purposes of this study, \$2,165,000.00 of the issue is allocated for capital improvements. Therefore, it is assumed that the total water portion of this bond issue is \$3,095,000.00 or 31.55% of the total.

The annual interest and principal payments allocated to water are as follows:

Table V-2

**Annual Interest and Principal Payments
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Interest	Principal
2012	\$ 55,046.95	-----
2013	\$ 81,888.03	\$ 31,550.00
2014	\$ 81,257.03	\$ 31,550.00
2015	\$ 80,626.03	\$ 31,550.00

WASTEWATER

The wastewater debt as of June 30, 2011, showed an outstanding principal amount of \$27,736,730.00. Considering the projected interest rates, the total payments required for that debt over the next twenty years is \$36,587,285.00. Table V-3 shows the expected amortization over the next five years.

Table V-3

**Wastewater System Amortization Schedule
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Principal	Interest	Total Requirement
2012	\$ 2,266,946.00	\$ 1,006,623.00	\$ 3,273,569.00
2013	\$ 2,501,193.00	\$ 945,953.00	\$ 3,447,145.00
2014	\$ 2,551,556.00	\$ 879,348.00	\$ 3,430,905.00
2015	\$ 1,439,882.00	\$ 810,673.00	\$ 2,250,555.00
2016	\$ 1,499,317.00	\$ 751,391.00	\$ 2,250,708.00

Table V-3 is a compilation of each of the outstanding wastewater issues. Like the water debt, the wastewater debt has some variable rate interest issues. There is a State Revolving Fund (SRF) Loan which is not included in Table V-3, under which principal payments are not made until the total program is complete.

As stated earlier, the June 2011 issue is to be split between water and wastewater. The annual wastewater interest and principal payments for the study period are as follows:

Table V-4**Annual Interest and Principal Payments Allocated to Wastewater
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Interest	Principal
2012	\$ 119,428.33	-----
2013	\$ 177,661.98	\$ 68,450.00
2014	\$ 176,292.98	\$ 68,450.00
2015	\$ 174,923.98	\$ 68,450.00

Future debt will be discussed with the projected capital needs (Section VI).

SECTION VI**PROJECTED CAPITAL NEEDS**

The Y-12 water treatment plant has had deferred maintenance/replacement/upgrades for some time. Table VI-1 shows projected water capital needs throughout the study period (FY'12 – FY'15).

Table VI-1

**Water Projected Capital
Oak Ridge Water and Wastewater Rate Study**

FISCAL YEAR	FY'12	FY'13	FY'14	FY'15
Treatment				
Plant Electrical	500,000	1,500,000	1,500,000	500,000
Raw Water Booster		2,000,000	1,000,000	
Plant Architecture	350,000	250,000	250,000	
Chemical Feed Bldg	400,000	250,000		
Capital Maintenance	500,000	500,000	500,000	500,000
Intake Y-12		250,000	500,000	1,000,000
Sub-Total Treatment	1,750,000	4,750,000	3,750,000	2,000,000
Distribution				
Tank Painting	80,000	80,000	80,000	80,000
Fire Hydrants	160,000	160,000	160,000	170,000
Meters	75,000	75,000	75,000	75,000
Capital Maintenance	100,000	100,000	100,000	100,000
Main Rehabilitation		255,000	1,100,000	260,000
K-25 Water Treatment Plant	250,000	250,000	250,000	250,000
Booster Station Upgrades	100,000	100,000	100,000	100,000
Sub-Total Distribution	765,000	1,020,000	1,865,000	1,035,000
Equipment				
Backhoe	10,000			
Hydraulic Excavator	300,000			
Sub-Total Equipment	310,000			
Total Expected Capital Needs	2,825,000	5,770,000	5,615,000	3,035,000

Table VI-2 shows the projected capital needs for the wastewater system throughout the study period.

Table VI-2
Wastewater Projected Capital
Oak Ridge Water and Wastewater Rate Study

FISCAL YEAR	FY'12	FY'13	FY'14	FY'15
Equipment (Pumping Stations)				
Stand By Pumps	100,000			
By-Pass Piping	175,000			
Portable Generators	100,000			
Control Panels	325,000	325,000		
SCADA Equipment		156,000		
Sub-Total Equipment Pumping Stations	700,000	481,000		
IMS	275,000			
Equipment (Sewer Crews)	381,000			
Professional & Technical Services				
Program Management	90,000	180,000	180,000	180,000
GIS		90,000	90,000	90,000
Bidding Services	60,000	120,000	120,000	120,000
Construction Related RPR & CA	270,000	400,000	500,000	500,000
Sewer Cleaning and CCTV	1,000,000			
Sub-Total Professional & Technical Services	1,420,000	790,000	890,000	890,000
Construction (Sewer Shed)				
Emory Valley	2,300,000			
East Plant	500,000	2,000,000	2,000,000	500,000
Central City		500,000	1,000,000	1,000,000
Y-12		500,000	1,000,000	1,000,000
Turtle Park			500,000	2,000,000
Sub-Total Construction (Sewer Shed)	2,800,000	3,000,000	4,500,000	4,500,000
Construction Pumping Stations	100,000	1,000,000	500,000	500,000
Total Projected Capital Needs	5,676,000	5,271,000	5,890,000	5,890,000

SECTION VII**CURRENT RATE SCHEDULES**

The City of Oak Ridge's rate schedules are somewhat unique due to the manner in which the Department of Energy (DOE) is billed for services. As stated in Section I, both of the water treatment plants, which the City currently owns, were once the property of DOE. The two wastewater treatment facilities were built by and are owned by the City. The first discussion in this section will deal with non-DOE customers.

The current non-DOE water rate became effective with the June 1, 2008, billing. The current wastewater rate became effective one month earlier than the water rate.

The current water rate is as follows:

Commodity Charge	
First 2,000 gallons or any part thereof	\$ 11.50
Next 8,000 gallons	4.55 per 1,000 gal.
Next 40,000 gallons	4.05 per 1,000 gal.
Over 50,000 gallons	3.20 per 1,000 gal.
Minimum Monthly Billing	
for customer using 5/8" or 3/4" meter	\$ 11.50 per month
for customers using 1" meter	\$ 30.00 per month
for customers using 1½" meter	\$ 55.00 per month
for customers using 2" meter	\$100.00 per month
for customers using 3" meter	\$170.00 per month
for customers using 4" meter	\$240.00 per month

The current wastewater rate is as follows:

Recovery Cost:

First 2,000 gallons per month or any part thereof	\$ 13.50
Next 8,000 gallons per month	\$ 5.15
Over 10,000 gallons per month	\$ 6.45

Customers whose single-meter usage averages over 10,000,000 gallons per month for a contiguous 12 month period, will be charged a flat rate of \$120,000.00 for the first 10,000,000 gallons or any part thereof and \$6.45 per thousand gallons thereafter, each month for the succeeding 12 month period.

Single-family residential meter readings shall be subject to a maximum monthly billable consumption of 20,000 gallons during the summer period (May 2 – November 1).

Single-family residential customers that have maintained water service at the metered location continuously during the preceding winter period will have a maximum billage monthly consumption during the summer period using the highest monthly meter reading taken during the immediately preceding winter period, not to exceed 20,000 gallons per month.

The DOE water rate arrangements are by contract.

SECTION VIII

RATE STRUCTURE PHILOSOPHY

The American Water Works Association (AWWA) has published a manual of practice relative to water rates for many years. Their Manual 1 for principles of water rates, fees and charges is a standard of the industry. Manual 1 says "government-owned utilities typically select a future test year in recognition of budgetary requirements, bond indentures, and rates being designed for a future period".

Since the Y-12 water treatment plant has programmed capital improvements in the coming years and the wastewater system will be making significant capital improvements by the end of Fiscal Year 2015, this study addresses Fiscal Years 2012, 2013, 2014, and 2015. Fiscal Year 2015 should be the test year. An intermediate review near the end of Fiscal Year 2013 should be performed and any needed mid-course adjustments instituted.

The current rate structure used by the City is known as a declining schedule. Other types of structures are uniform rates, increasing block rates, and seasonal rates.

In selecting a type of structure, several factors should be considered which would include, but not necessarily be limited to, the following:

- a) Level of current and future cost
- b) Projected consumption patterns
- c) Legal and regulatory issues
- d) Simplicity
- e) Avoiding discrimination
- f) Discouraging wasteful use
- g) Predictable revenue

The EPA has encouraged uniform rates throughout their existence, expressed as a constant cost per unit of consumption. Manual 1 indicates that if there is a reason to distinguish between classes of service, which may result from cost of service differentials, the uniform rate must be designed by customer class. An example would be the difference in cost of service to Y-12 and ORNL. The cost of service to these entities needs not include a cost for distribution, while citizens of the City require the service of a distribution pipe network. The uniform rate system is simple, and generally provides a more conservation-oriented rate signal than the declining schedule.

In order to develop a fair and equitable declining rate, a rather complex array of data is required. An analysis of fixed costs and variable costs are essential. As the rate declines to large users, it must be set sufficiently high to cover all costs of service. The declining rate schedule is viewed by some as anti-conservation and favorable to large-volume users. Many utilities have had the declining rate structure for more years than anyone can remember. In order to simplify adjustments, some utilities, without regard to how or why the blocks of the declining schedule were originally established, automatically added a given percentage increase to achieve the perceived need.

The increasing block rate sends a more conservation-oriented price signal. Where a utility has either limited raw water availability or treatment plant capacity, the increasing rate could be appropriate. Neither the plant capacity nor raw water source is limiting at Oak Ridge. Manual 1 says "a single system wide increasing block rate design applied to a customer base with diverse consumption patterns is more difficult to justify on a cost of service basis than increasing block rates targeted to specific customer classes with relatively homogenous consumption patterns." The DOE wastewater contribution to the Turtle Park system is one where an increasing block rate would be appropriate. The City's gravity sewers have a limited capacity for excessive flow rates, as does the treatment plant. They need an incentive to reduce the peak flows.

Seasonal rates would be applicable to a utility such as Gatlinburg. This type rate is generally implemented to reduce peak use or at least to appropriately charge for such use. Since a utility infrastructure is designed to meet peak demand, peak users should assume cost responsibility for capacity required to serve peak demand. An example would be an area where irrigation is common place. That service should not be provided by a declining rate where their cost of water is reduced because of volume during a season with no regard to the utility's infrastructure requirements to meet that demand. During the off-season, there is no fee in the declining structure without some adjustment of minimum consumption.

Another key component to a rate structure is generally referred to as a minimum charge or minimum bill. This fee is to recover fixed charges that are the same for all customers, such as billing, meter reading administrative costs and others. A minimum charge is a fixed fee that increases with meter size. It must be understood that if the approach to rates is consistent with AWWA Manual 1, whatever the minimum volume is set, such as 2,000 gallons per month, it holds for all meter sizes. A typical residential user would have a 5/8" meter. A commercial or industrial customer may have a 4" meter. The minimum volume is the same for each customer; however, the customer with the larger meter pays a higher fee for the base volume than the residence. The larger meter indicates a larger responsibility to the City to maintain pipe big enough to provide the desired service and other related higher costs for such a customer. In the

case of a current Oak Ridge residence with a 5/8" meter, the minimum bill for 2,000 gallons is \$11.50 and for the 4" meter customer it is \$240.00. Then everyone, residential and commercial, pays the same commodity charge for all water used over the 2,000 gallons per month.

Wastewater fees are generally set on the amount of drinking water purchased. Unfortunately, the flow to be treated at a wastewater treatment plant, on occasion, has no direct correlation to drinking water sold. Portions of the water may have been used to wash vehicles or irrigate; thus, not returning to the plant for treatment. Then, during wet weather, flows to be pumped and treated may be expanded severalfold due to infiltration and inflow (I/I). Also, not all water treated at the water treatment plant is sold to customers. The difference is referred to as "water loss" or "unaccounted for water". Depending on the utility, the unaccounted for water may range from 10% to 40% or more. With I/I and unaccounted for water developing an equitable rate structure which covers all cost can get complicated.

Table VIII-1 shows the relationship of various size meters. The volume of flow through a meter or pipe is a function of the area of the cross-section. Using the logic of area, assuming the minimum bill for 2,000 gallons remains at the current rate, the table shows what the cost would be for each meter size.

Table VIII-1

Meter Area
Oak Ridge Water and Wastewater Rate Study

Meter Size (in)	Area (in. sq.)	Equivalent Size	Min. Bill
5/8	0.306640625	1	11.5
3/4	0.4415625	1.44	16.56
1	0.785	2.56	29.44
1 1/2	1.76625	5.76	66.24
2	3.14	10.24	117.76
3	7.065	23.04	264.96
4	12.56	40.96	471.04

SECTION IX**WATER RATE STRUCTURE DEVELOPMENT**

With the operating budgets projected and the capital needs estimated, a rate structure is required to cover these costs. The revenue streams are as follows:

- DOE potable water from the Y-12 Water Treatment Plant
- DOE raw water purchases
- City residential and commercial water customers
- DOE arrangement for the West-end

Since the West-end matter is by agreement, which expires in 2013, it is assumed that the net income will remain close to historical levels through-out the remainder of the agreement. The City has certain funds available for capital improvement which should be spent in a timely fashion. Therefore, the west-end will not be discussed further.

The DOE water purchases of both potable water and raw water are set by agreement. As mentioned earlier, the City staff has set the rate for potable water at \$1.29 per 1,000 gallons of purchase. Due to the agreement, the City must make certain capital improvements, which are planned. The raw water rate is set at 25% of the potable rate. Since the current rate for potable water is \$1.29, the rate for raw water is \$0.32 per 1,000 gallons. Based on DOE's projections of water purchase in FY 2012, the revenue for potable water would be \$2,534,536 and raw water would be \$256,000. For FY 2013, the revenue would be \$2,510,026 and \$224,000 respectively. Table IX-1 shows the past two years of revenue and the projections for the next two years.

Table IX-1

**Historical and Projected DOE Water Revenue
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Potable Water Sales (\$)	Raw Water Sales (\$)	Total Sales (\$)
2010	2,788,327	442,587	3,230,914
2011	2,486,859	318,557	2,805,416
2012	2,534,536	256,000	2,790,536
2013	2,510,026	224,000	2,734,026

With increasing cost for the water system and a declining revenue stream from DOE, it is imperative that a new water contract be negotiated as expeditiously as possible.

The residential and commercial water customers must provide enough revenue (cash) to cover all the remaining costs to operate and maintain the system. With contractual arrangements with the DOE and their consumption expected to decline, a greater revenue stream will be needed from these customers. In some communities where growth is expected, the new customers' revenue may off-set the increased need for cash. However, in Oak Ridge, where growth is relatively low, rate increases are required to generate the needed cash.

Due to aging infrastructure, the need for major capital improvements is required in both the water system and the wastewater system. Table IX-2 restates those needs.

Table IX-2

**Projected Capital Expenditures
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Water Capital Needs	Wastewater Capital Needs
2012	2,825,000	5,676,000
2013	5,770,000	5,271,000
2014	5,615,000	5,890,000
2015	3,035,000	5,890,000

The projections of operating cost and capital need for the water system are restated in Table IX-3.

Table IX-3

**Projected Operating and Capital needs
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Operating Cost	Capital Needs	Total
2012	\$8,695,341	\$2,825,000	\$11,520,341
2013	\$8,895,079	\$5,770,000	\$14,665,079
2014	\$9,080,722	\$5,615,000	\$14,695,722
2015	\$9,277,311	\$3,035,000	\$12,312,311

As stated in Section V, \$2,165,000 is available from a bond issue after June 30, 2011. It is anticipated that \$16,000,000 new debt will need to be issued over the next four years to fund the anticipated capital needs as outlined in Table IX-4.

Table IX-4

**Distribution of Capital Funds
Oak Ridge Water and Wastewater Rate Study**

	FY 2012	FY 2013	FY 2014	FY 2015
Capital Needs	\$2,825,000	\$5,770,000	\$5,615,000	\$3,035,000
Available Fund	\$2,165,000	---	---	---
Bond Funds (FY 2012)	\$3,900,000			
Bond Fund (Future)	---	\$3,500,000	\$4,900,000	\$3,700,000
Carry Over	---	\$3,240,000	\$ 970,000	\$ 255,000
Subtotal	\$3,240,000	\$ 970,000	\$ 255,000	\$ 920,000

Using FY 2015 as the test year, a revenue stream (cash) will be required to meet \$9,277,311 plus the interest and principal of the expected new debt. Table IX-3 shows the projected operating cost for FY 2012 and FY 2015 at \$8,695,341 and \$9,277,311 respectively. The sixteen million debt issuance is projected to have principal and interest payments of \$1,283,880.

The revenue projections of DOE revenue for FY 2012 are expected to be \$2,790,536. The water system has received approximately \$60,000 per year for fire protection water. If the cash needs for FY 2015 is \$10,561,191 [$9,277,311 + (2)(1,283,880)$] and the DOE and fire contribution is $(\$2,734,026 + 60,000)$ \$2,794,026, the remainder to come from City residential and commercial customers is \$7,767,165.

Using a modified flat rate for City residential and commercial customers of a base rate of \$12.00 for the first 2,000 gallons provided through a 5/8" meter, a multiplier (shown in Table VIII-1 earlier) of the base meter size and a fixed rate of \$7.35 for all flow over 2,000 gallons irrespective of meter size, the projected annual revenue is projected to generate \$7,797,798 annually.

SECTION X**WASTEWATER RATE STRUCTURE DEVELOPMENT**

With the operating budgets projected and the capital needs estimated, a rate structure is required to cover these costs. The revenue streams are as follows:

- DOE wastewater flows to the Turtle Park Treatment Plant
- City residential and commercial wastewater customers
- DOE arrangement for the West-end

The West-end matter is by agreement, which expires in 2013; it is assumed that the net income will remain close to historical levels through-out the remainder of the agreement. The City has certain funds available for capital improvement which should be spent in a timely fashion. Therefore, the west-end will not be discussed further.

The DOE wastewater rate is not set by an agreement. It is built into the City's existing rate structure. Section VII shows that a customer, such as DOE, would pay \$120,000.00 flat rate monthly for the first 10,000,000 gallons or any part thereof. Above the 10,000,000 gallons, they would pay \$6.45 per 1,000 gallons. As stated earlier, the wastewater flow is influenced by rainfall. Therefore, during dry years the revenue would be less than wet years. Also, if DOE reduces infiltration/inflow in their sewer system, the revenue stream will diminish. For the purposes of revenue projections, it is assumed that the annual flow from DOE will be 220,000,000 gallons per year over the study period, or a monthly average flow of 18,333,000 gallons per month. Based on that flow projection, DOE would pay \$120,000 for the first 10,000,000 gallons and \$6.45 per 1,000 gallons thereafter. That revenue increment would be $(8,333 \times 6.45)$ \$53,748 per month. The average monthly revenue would be $(\$120,000 + \$53,748)$ \$173,748. The projected annual revenue from DOE with no rate adjustment would be \$2,084,974. Table X-1 shows the reported past three years of revenue and this projection.

Table X-1

**Historical and Projected DOE Wastewater Revenue
Oak Ridge Water and Wastewater Rate Study**

Year	Revenue at Current Rate
FY 2009	2,193,276
FY 2010	2,116,528
FY 2011	1,960,109
FY 2012	2,084,974
FY 2013	2,084,974
FY 2014	2,084,974
FY 2015	2,084,974

The projections of the operating cost and capital needs for the wastewater system are restated in Table X-2.

Table X-2

**Projected Operating Cost and Capital Expenditures
Oak Ridge Water and Wastewater Rate Study**

Fiscal Year	Operating Cost	Capital Needs	Total
2012	\$8,396,402	\$5,676,000	\$14,072,402
2013	\$8,530,620	\$5,271,000	\$13,801,620
2014	\$8,650,110	\$5,890,000	\$14,540,110
2015	\$8,713,691	\$5,890,000	\$14,603,691

As stated in Section V, \$4,561,000 is available from a bond issued after June 30, 2011. It is anticipated that \$18,250,000 in new debt will be issued over the next four years to fund the projected capital needs as outlined in Table X-3. The interest and principal for this debt would be \$1,464,427 annually. Table X-3 shows the flow of these bond funds to meet the expected capital needs.

Table X-3

**Distribution of Capital Funds
Oak Ridge Water and Wastewater Rate Study**

	FY 2012	FY 2013	FY 2014	FY 2015
Capital Needs	\$5,676,000	\$5,271,000	\$5,890,000	\$5,890,000
Available Fund	\$4,561,000	---	---	---
Bond Funds (FY 2012)	\$3,900,000			
Bond Fund (Future))	---	\$3,700,000	\$4,900,000	\$5,750,000
Carry Over	---	\$2,785,000	\$1,214,000	\$ 224,000
Subtotal	\$2,785,000	\$1,214,000	\$ 224,000	\$ 84,000

If the cost of operations in FY 2015 is \$8,713,691, and the debt service on the \$18,250,000 bond is \$1,464,427, the required total need is \$10,178,118. If the City rate is set as follows:

5/8" meter customer	\$18.50/month
Flat rate above 2,000 gal/month	\$7.75/1,000 gallons

The projected City revenue is \$7,968,541 annually. With a DOE rate for the first 10,000,000 gallons being unchanged, and the flow above 10,000,000 gallons assessed \$7.75/1,000 gallons (same as City customers), the annual DOE revenue projection is \$2,214,969. With this proposed rate structure, \$10,183,510 would be generated.

SECTION XI

REGIONAL RATE STRUCTURES

The East Tennessee Development District (ETDD) publishes water and wastewater rates for the sixteen (16) counties of their membership. There are many factors which affect utility rate structures; therefore, the comparison of one to another should be done with caution. The information shown in this section is from the ETDD 2011 annual utility rate survey.

As described in Section VIII, the method by which rate structures are established is based on the philosophy of the utility. Some systems use a flat rate approach and many use a declining scale. Some utilities set rates to encourage "big users" by placing an inordinate burden to the small users. However, other utilities may wish to "unbalance" the rates in favor of the small consumer.

The total revenue generated by a utility includes other fees in addition to the sale of a unit of water. These revenues are not typically reported by ETDD. Factors which should be seriously considered by the City of Oak Ridge are what are commonly referred to as a "tap" fee. A common misnomer is that when a developer installs utilities they are free to the City. Once the City accepts ownership it must begin depreciating these assets. Without some offsetting arrangement all customers share equally in that depreciation. Many utilities charge the fee when a building begins construction which will use that asset.

The City of Oak Ridge has numerous rental properties. Those properties are existing; therefore, a tap fee no longer applies. However, as renters move in and out, the City has cost in terminating service and reinstating service. Even though the new renter pays a deposit to take service, it is intended to protect the City against unpaid future bills.

Table XI-1 has selected water utilities near Oak Ridge with the cost for 2,000 gallons usage per month. Table XI-2 shows wastewater rates for 2,000 gallons of water sales to sewer customers. These tables have cities and utility districts separated for comparison purposes.

Table XI-I

**Comparable Regional Water Rates
Oak Ridge Water and Wastewater Rate Study**

City:	2,000 Gallons
Alcoa	\$11.40
Harriman	\$18.44
Kingston	\$14.48
Knoxville	\$11.15
LaFollette	\$12.65
Lake City	\$14.40
Lenoir City	\$12.58
Loudon	\$14.06
Maryville*	\$7.79
Morristown	\$8.75
Newport	\$13.14
Oak Ridge (proposed)	\$12.00
Rockwood	\$15.15
Utility Districts:	2,000 Gallons
Hallsdale – Powell	\$23.89
Knox – Chapman	\$18.99
Martel	\$18.00
Northeast Knox	\$15.10
South Blount	\$24.56
Tellico Area Services System	\$15.42
Watts Bar	\$20.75
West Knox	\$14.51

* Currently amending rate upward.

Table XI-2

**Comparable Regional Wastewater Rates
Oak Ridge Water and Wastewater Rate Study**

City:	2,000 Gallons
Alcoa	\$16.95
Harriman	\$27.78
Kingston	\$16.59
Knoxville	\$23.43
LaFollette	\$15.13
Lake City	\$14.40
Lenoir City	\$21.24
Loudon	\$14.22
Maryville*	\$12.61
Morristown	\$12.42
Newport	\$18.48
Oak Ridge (proposed)	\$18.50
Rockwood	\$22.74
Utility Districts:	2,000 Gallons
Hallsdale – Powell	\$27.11
Knox – Chapman	\$23.53
Martel	No Sewer Service
Northeast Knox	Serviced by Hallsdale-Powell
South Blount	No Sewer Service
Tellico Area Services System	\$20.00
Watts Bar	\$36.90
West Knox	\$23.61
Anderson County	\$19.88

* Currently amending rate upward.

SECTION XII

CONCLUSIONS AND RECOMMENDATIONS

The Department of Energy (DOE), along with its contractors and sister agency, is a major user of City water and wastewater infrastructure. The Y-12 water agreement expires in less than a year and the K-25 arrangement expires in just over a year. These agreements and their satisfactory successors are extremely important to the financial stability of the City. The Y-12 projections for water use shows them declining over the next two years. The National Laboratory projects a slight increase. The raw water projected water purchase shows a significant decline.

The Y-12 water treatment plant and its associated components (intake and booster stations) have substantial capital expenditures projected. This work is due to the aging infrastructure.

The water supply to the "west-end" of the City currently has two sources. The first is the K-25 Water Treatment Plant, which is scheduled to be shut down. The second is purchased water that feeds the Rarity Community. A project is ready for construction that will cross the Clinch River with a water line to serve the Rarity area. EPA grant monies are available for a portion of the project cost. With this project in place, the City could sell water to both the Cumberland Utility District and the City of Kingston, if the need arose.

The EPA has issued an order to the City for major sewer upgrades and operational approaches. The order requires a detailed description and cost estimate of the needed update by mid-2012 (early FY 2013). Since that information is not yet available, this study has projections of what those costs may be.

With the major capital needs in both the water and wastewater systems, multiple bond issues are projected during the study period (FY 2012 – FY 2015). These are based on a projected schedule of construction activities, current cost estimates, and projected interest rates, using a conservative approach. Some of the needed wastewater debt could be provided by the State Revolving Fund loan program and if so, the interest rate will be less than projected. If the bond market is used for financing, the actual interest rate at closing may be less than projected as well.

The operating budget for the wastewater system reflects the added personnel as required for the execution of the Management, Operation, and Maintenance (MOM) programs.

The City can adopt a rate schedule approach from a variety of options. Consideration should be given to amending the fees, which are in addition to the price of water. As mentioned earlier, dedicated infrastructure is not free. It is recommended that a "connect fee" be adopted for each new connection to the water and wastewater system. This fee would offset some of the depreciation the City assumes from gifted infrastructure. It is reported that in the current economic climate, the number of added new connections are on the order of 25 – 40 per year. If a water connection fee was adopted of \$1,000.00 and a sewer connection fee of \$1,200.00, the resulting annual additional revenue would be at least \$55,000.00 (25 x \$2,200). When the economy rebounds, that revenue would escalate. There are hundreds of vacant lots in the City which would be candidates for these fees. It is not recommended that this replace the current fee for recovering cost of installation of a tap which is now in place.

Other fees for consideration are the "turn-off and turn-on" of utilities. The city has a substantial number of rental properties. As renters move in and move out, there is a cost associated administratively with reassigning billing information. It is understood there is a program where a landlord can elect to leave the utilities on at a vacant rental unit. Nevertheless, the cost of these transfers should be captured.

Since the DOE water contract is to be negotiated, there is not projected change at this time. However, it is proposed to adjust the DOE wastewater flow above 10,000,000 gallons per month from \$6.45 per 1,000 gallons to \$7.75.

It is proposed to set water rates for residential and commercial customers, as follows:

First 2,000 gallons for a 5/8" meter service	\$ 12.00
3/4" meter service	\$ 16.80
1" meter service	\$ 30.00
1 1/2" meter service	\$ 69.00
2" meter service	\$ 123.00
3" meter service	\$ 276.00
4" meter service	\$ 480.00

For all water above 2,000 gallons, \$7.35 per 1,000 gallons or any portion thereof.

A 5/8" customer that uses 5,000 gallons of water per month would have a bill of (12.00 + 22.05) \$34.05. This compares favorably with others in the Region as shown in Table XII-1

TABLE XII-1

**Water Rate Comparison
Oak Ridge Water and Wastewater Rate Study**

Utility	2,000 Gallons	5,000 Gallons
Alcoa	\$11.40	\$21.60
Harriman	\$18.44	\$38.06
Kingston	\$14.48	\$32.24
Knoxville	\$11.15	\$21.75
Lenoir City	\$12.58	\$27.70
Maynardville	\$18.18	\$37.95
Oak Ridge (proposed)	\$12.00	\$34.05
Hallsdale-Powell Utility District	\$23.89	\$46.18
Tellico Area Services System	\$15.42	\$26.73
Watts Bar Utility District	\$20.75	\$42.80
Cumberland Utility District	\$17.04	\$44.64
Anderson County Water Authority	\$19.76	\$37.86

It is proposed to set wastewater rates for residential and commercial customers, as follows:

First 2,000 gallons of service, \$18.50

For all flow above 2,000 gallons, \$7.75 per 1,000 gallons or any portion thereof.

The proposed modified flat rate requires customers with meters larger than 5/8" to be charged an availability charge. That charge is shown below:

Meter Size:

5/8"	18.50
3/4"	27.75
1"	46.25
1 1/2"	106.50
2"	190.00
3"	425.00
4"	740.00

A customer using 5,000 gallons per month would have a wastewater bill of (18.50 + 23.25) \$41.75.

As reported in the ETTD Annual Rate Survey, this rate is favorable as compared to some neighbors. A few are listed below.

TABLE XII – 2

**Wastewater Rate Comparison
Oak Ridge Water and Wastewater Rate Study**

Utility	2,000 gallons	5,000 gallons
Harriman	\$27.78	\$59.37
Knoxville	\$23.43	\$55.91
Lenoir City	\$21.24	\$46.80
Rockwood	\$22.74	\$44.27
Oak Ridge (proposed)	\$18.50	\$41.75
Hallsdale-Powell Utility District	\$27.11	\$48.89
Tellico Area Service System	\$20.00	\$37.79
West Knox Utility District	\$23.61	\$35.13

As referenced earlier, projecting rates requires investigating many variables. Wastewater flows to be collected, transported, and treated is a function of water use and weather. Oak Ridge last adjusted rates in 2007 and 2008. These projections are for three and half years. Many factors which can impact the rates will occur over the next few months. A more defined estimate of the EPA mandated capital needs will be available. New contractual arrangements with the Department of Energy should be in place.

A serious review of the projected rates and expenditures should be made in approximately eighteen months. Any mid-course corrections could be made at that time.

PUBLIC WORKS MEMORANDUM
12-01

DATE: January 5, 2012
TO: Mark S. Watson, City Manager
FROM: Steven R. Byrd, P.E., City Engineer
THROUGH: Gary M. Cinder, P.E., Director of Public Works
SUBJECT: **Transportation Enhancement Projects Update**

The enclosed transportation enhancement list summarizes projects that are presently completed or proposed for completion by the end of FY12. These projects are funded from the Special Programs Fund. Resolution 4-30-11 authorized approval of expenditures from the Special Programs Funds for transportation enhancement projects for traffic capacity/safety, school crossing, and bicycle/pedestrian safety. The projects are selected from the list presented to Council by staff at the January 24, 2011 work session or from the list of spot and corridor locations identified in the Oak Ridge Bicycle and Pedestrian Plan approved by Council in April 2011 (Resolution 4-27-11).

A total cost of \$41,477 has been spent to date from the Special Programs Fund for three contracted projects. The projects include:

- 1) Rumble strips on the edge-line along a portion of Emory Valley Road (\$3,700)
- 2) Pedestrian crosswalk pavement markings at multiple locations within the downtown portion of the city (\$24,750)
- 3) A bike route sign project along multiple local streets from Jefferson Avenue to Melton Lake Drive (\$13,027)

The total cost for two projects that are currently in the design stage and anticipated to be completed by the end of FY12 is estimated at \$179,000. One project includes the installation of solar powered warning signs with LED flashing lights activated by infrared sensing devices at three pedestrian crosswalk locations near the marina on Melton Lake Drive (\$54,000). The second project includes the installation of the following:

- 1) Sidewalks at missing-link sections on Illinois Avenue, Jefferson Avenue and Rutgers Avenue
- 2) Pedestrian signals with countdown timers and pavements markings at several intersections
- 3) Geometric and pedestrian safety enhancements at the Oak Ridge Turnpike/Illinois Avenue intersection (\$125,000)

Future envisioned transportation enhancement projects will include:

- 1) Additional pedestrian crosswalk pavement markings, pedestrian crosswalk signals with countdown timers and handicap ramps at several Oak Ridge Turnpike intersections
- 2) Safety improvements at the Oak Ridge Turnpike/Oak Ridge High School entrance
- 3) A functional design with construction cost estimate for a round-about at the Providence/Pennsylvania Avenue/North Tulane Avenue intersection

In March 2011 staff reviewed potential transportation enhancement projects with the Traffic Safety Advisory Board and in December 2011 staff reviewed projects with a subcommittee of the Parks and Recreation Board. In the near future staff will update both boards on the current status of projects and will obtain input which may determine the priority of future projects.



Steven R. Byrd

cw

Enclosure

Oak Ridge Transportation Enhancement Projects - Funding Source - Special Programs Fund

Projects/Location	Description	Justification	Total Cost & Date Completed
Rumble Strips - Emory Valley Road	Eight-inch rumble strips between road and greenway trail	Oak Ridge Bicycle and Pedestrian Plan - Greenway Safety	\$3,700 - October 2011
Ped Crosswalk Markings - various location citywide	Crosswalk markings at intersections and mid-block locations on seven streets	Oak Ridge Bicycle and Pedestrian Plan - Improve Pedestrian Safety	\$24,750 - November 2011
Bike Route Sign Project - east-west route on multiple streets	Along multiple local streets from Jefferson Ave. to Melton Lake Dr.	Oak Ridge Bicycle and Pedestrian Plan - Improve Bike Safety	\$13,027 - December 2011
Melton Lake Drive Crosswalks - three crossings near marina	LED warning signs with ped push-button or bollard detection	Oak Ridge Bicycle and Pedestrian Plan - Improve Pedestrian/Bicycle Safety	Pending - estimated \$54,000 - spring 2012
Illinois Avenue Sidewalk Project - includes Jefferson Ave. and Rutgers Ave.	Sidewalks on Ill. Ave./Rutgers Ave./Jefferson Ave. - pvmt markings and ped signals - ORT/Ill. improvements	Oak Ridge Bicycle and Pedestrian Plan - Improve Pedestrian/Bicycle Safety	Under design for completion summer 2012 at approx. \$125,000
COST OF COMPLETED PROJECTS - DECEMBER 2011 - \$41,477		COST OF ADDITIONAL PROJECTS - END OF FY12 - \$179,000	

TITLE

AN ORDINANCE TO AMEND TITLE 15, TITLED "MOTOR VEHICLES, TRAFFIC AND PARKING," OF THE CODE OF ORDINANCES, CITY OF OAK RIDGE, TENNESSEE," BY AMENDING SECTION 15-101, TITLED "DEFINITIONS," TO CORRECT THE INTRODUCTORY LANGUAGE TO STATE THE DEFINITIONS APPLY WHEN USED IN THIS TITLE AND TO ADD THREE NEW DEFINITIONS: "COMMERCIAL/OVERSIZED VEHICLES," "RECREATIONAL VEHICLES," AND "UTILITY TRAILERS"; AND BY AMENDING CHAPTER 6, TITLED "STOPPING, STANDING AND PARKING," TO CREATE A NEW SECTION 15-617, TITLED "PARKING OF RECREATIONAL VEHICLES, COMMERCIAL/OVERSIZED VEHICLES AND UTILITY TRAILERS IN MARKED AND UNMARKED ON-STREET PARKING SPACES," TO ADDRESS PARKING CONCERNS.

WHEREAS, the Code of Ordinances, City of Oak Ridge, Tennessee, (City Code) contains provisions for on-street parking but does not currently address parking concerns regarding recreational vehicles, commercial/oversized vehicles, and utility trailers; and

WHEREAS, the City desires to amend the City Code to address those concerns.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF OAK RIDGE, TENNESSEE:

Section 1. Title 15, titled "Motor Vehicles, Traffic and Parking," Chapter 1, titled "In General," Section 15-101, titled "Definitions," of the Code of Ordinances, City of Oak Ridge, Tennessee, is hereby amended by correcting the introductory language and by adding three new definitions in alphabetic order and accordingly renumbering all definitions within this section, which introductory language and new definitions shall read as follows:

Sec. 15-101. Definitions.

The following words and phrases, when used in this title, having the meanings respectively ascribed to them in this section:

...

- (7) "Commercial/oversized vehicles." Any motor vehicle, trailer, or semi-trailer exceeding twenty-two (22) feet in length and/or eight (8) feet in width that is designed or used to transport commodities, produce, freight, animals, passengers for a fee, or merchandise in the furtherance of any commercial enterprise, including but not limited to any vehicle used to generate income or which has the appearance that it is used for business.
- (31) "Recreational vehicles." Any vehicular-type unit used primarily for recreational purposes including, but not limited to, boats, boat trailers, personal watercraft carriers, personal watercraft trailers, travel trailers, tent trailers, pick-up campers or coaches (designed to be mounted on automotive vehicles), motor coaches, motorized homes, and non-motorized vehicles.
- (55) "Utility trailers." Any wheeled structure, without motive power, designed to be towed by a motor vehicle and which is generally and commonly used to carry and transport personal effects and/or property.

Section 2. Title 15, titled "Motor Vehicles, Traffic and Parking," Chapter 6, titled "Stopping, Standing and Parking," of the Code of Ordinances, City of Oak Ridge, Tennessee, is hereby amended by creating a new section 15-617, titled "Parking of recreational vehicles, commercial/oversized vehicles and utility trailers in marked and unmarked on-street parking spaces," which new section shall read as follows:

Sec. 15-617. Parking of recreational vehicles, commercial/oversized vehicles and utility trailers in marked and unmarked on-street parking spaces.

It is unlawful for any person to park or store any recreational vehicle, commercial/oversized vehicle, or utility trailer within marked or unmarked on-street parking on any public street between the hours of 9:00 a.m. and 7:00 p.m. within the City. It is also unlawful for the registered owner of a recreational vehicle, commercial/oversized vehicle, or utility trailer to allow another person to park or store such vehicle or trailer within marked or unmarked on-street parking on any public street between the hours of 9:00 a.m. and 7:00 p.m. within the City.

Notwithstanding any provisions to the contrary, an operational recreational vehicle, commercial/oversized vehicle, or utility trailer may be temporarily legally parked or stored within marked or unmarked on-street parking on any public street for a period not to exceed three (3) consecutive days for the purpose of loading, unloading, trip preparation, or minor, routine maintenance and repair. However, at no time shall any un-mounted camper enclosure, personal watercraft carrier, or boat not mounted on a utility trailer be parked or stored within any designated on-street parking space.

Section 3. There are no "grandfathered" rights associated with this ordinance.

Section 4. There shall be a ninety (90) day grace period from the effective date of the ordinance to allow City Staff time to educate the public on the requirements of the ordinance.

Section 5. This ordinance shall become effective ten (10) days after adoption on second reading, the welfare of the City of Oak Ridge requiring it.

APPROVED AS TO FORM AND LEGALITY:

Kenneth R. Krushenski, City Attorney

Thomas L. Beehan, Mayor

Diana R. Stanley, City Clerk

First Reading: _____
Publication Date: _____
Second Reading: _____
Publication Date: _____
Effective Date: _____

TITLE

AN ORDINANCE TO AMEND ORDINANCE NO. 2, TITLED "THE ZONING ORDINANCE OF THE CITY OF OAK RIDGE, TENNESSEE, BY AMENDING SECTION 11.02, TITLED "REQUIRED OFF-STREET PARKING," SUBSECTION (D), TITLED "RESIDENTIAL PARKING," TO ADD PROVISIONS PERTAINING TO CURB CUTS FOR OFF-STREET RESIDENTIAL PARKING, TO ALLOW PARKING IN SIDE AND REAR YARDS IN RESIDENTIAL DISTRICTS PROVIDED SUCH PARKING IS AT LEAST FIVE FEET FROM THE LOT LINES, AND TO PROHIBIT PERMANENT LIVING INSIDE A PARKED OR STORED VEHICLE IN A RESIDENTIAL DISTRICT, AND TO AMEND RESERVED SUBSECTION (E) TO DEDICATE SAID SUBSECTION TO FRONT YARD PARKING REGULATIONS.

WHEREAS, the City of Oak Ridge is continually reviewing the Zoning Ordinance to update provisions and make it more understandable to the general public; and

WHEREAS, the current provisions pertaining to off-street parking are in need of modification and clarification; and

WHEREAS, the following changes have been submitted for approval or disapproval to the Oak Ridge Municipal Planning Commission and the Commission has _____ the same; and

WHEREAS, a public hearing thereon has been held as required by law.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF OAK RIDGE, TENNESSEE:

Section 1. Ordinance No. 2, titled "The Zoning Ordinance of the City of Oak Ridge, Tennessee," Section 11.02, titled "Required Off-Street Parking," is hereby amended by deleting Subsection (d), titled "Residential Parking," in its entirety and substituting therefor a new Subsection (d), titled "Residential Parking," which new subsection shall read as follows:

Section 11.02. Required Off-Street Parking

(d) Residential Parking

1. Residential off-street parking shall consist of a parking strip, driveway, garage, stall or combination thereof (collectively referred to as "approved parking surface"). All approved parking surfaces shall be located on the lot it is intended to serve and there shall be vehicular access from each approved parking surface to the public street via a curb cut. All curb cuts must be approved and permitted by the City of Oak Ridge Public Works Department (see City Code §16-102). All approved parking surfaces and accesses to the public street shall meet the requirements of Article XI of the Zoning Ordinance. The portion of the vehicular access to the public street (approved parking surface such as driveway, parking strip, etc.) that is located on the street right-of-way shall have a hard paved surface meeting the requirements of the City Public Works Department. Based on the topography and to prevent siltation from erosion into the street, the City may require paving the approved parking surface up to an additional ten (10) feet from the street right-of-way line (property line) into the lot. The City Manager or the City Manager's designee shall have the authority to review cases for possible changes to the requirements where enforcement of this section will cause an undue hardship to the owner of the property.

For single-family detached dwellings and duplexes, the approved parking surface shall be a hard surface which is comprised of either gravel, asphalt, concrete, pavers, or some combination thereof. For single-family attached dwellings with three (3) or more contiguous units and multiple-family dwellings, all approved parking surfaces shall be paved.

2. Under no circumstances may a vehicle parked or stored in a residential district be occupied for permanent living purposes.
3. Commercial/oversized vehicles are prohibited in residential districts.
4. The provisions of this subsection (d) are not intended to and shall not be used to permit the parking of junked vehicles as regulated by City Code Title 13, Property Maintenance Regulations, Chapter 2, Oak Ridge Property Maintenance Code, and Chapter 3, Junked Vehicles.

Section 2. Ordinance No. 2, titled "The Zoning Ordinance of the City of Oak Ridge, Tennessee," Section 11.02, titled "Required Off-Street Parking," is hereby amended by dedicating reserved Subsection (e) to front yard parking regulations, which new subsection shall read as follows:

Section 11.02. Required Off-Street Parking

(e) Required Yard Parking Regulations

1. Parking in Front Yard.
 - a. It is unlawful for any person to park or store any vehicle or trailer, including but not limited to recreational vehicles and utility trailers, within the front yard in any residential district unless such vehicle is parked on an approved parking surface. It is also unlawful for the registered owner of any such vehicle or trailer to allow another person to park or store a vehicle or trailer within the front yard in any residential district unless such vehicle is parked on an approved parking surface. No more than fifty percent (50%) of the required front yard shall be utilized for an approved parking space.
 - b. Parking in a front yard off of an approved parking surface will be allowed under these special circumstances:
 - i. Temporary loading or unloading.
 - ii. When construction, remodeling, maintenance, or repairs are being performed on the property, provided a *Temporary Use Permit* is obtained and all applicable requirements of Section 3.18(h) of the Zoning Ordinance are met prior to issuance of the *Temporary Use Permit*.
 - iii. Parking for isolated, non-recurring gatherings or parties or for visitors. *This exception is not intended and shall not be used to provide permanent or semi-permanent parking for extra vehicles.*

2. Parking in Side and Rear Yard.
 - a. For single-family detached dwellings and duplexes, residential off-street parking is permitted outside of an approved parking surface only in the side and rear yard provided such parking is a minimum of five (5) feet from the lot lines.
 - b. For single-family attached dwellings with three (3) or more contiguous units and multiple-family dwellings, all off-street parking shall be on a paved approved parking surface.
3. The provisions of this subsection (e) are not intended to and shall not be used to permit the parking of junked vehicles as regulated by City Code Title 13, Property Maintenance Regulations, Chapter 2, Oak Ridge Property Maintenance Code, and Chapter 3, Junked Vehicles.

Section 3. There are no "grandfathered" rights associated with this ordinance.

Section 4. There shall be a ninety (90) day grace period from the effective date of the ordinance to allow City Staff time to educate the public on the requirements of the ordinance.

Section 5. This ordinance shall become effective ten (10) days after adoption on second reading, the welfare of the City of Oak Ridge requiring it.

APPROVED AS TO FORM AND LEGALITY:

Kenneth R. Krushenski, City Attorney

Thomas L. Beehan, Mayor

Diana R. Stanley, City Clerk

First Reading: _____
Publication Date: _____
Second Reading: _____
Publication Date: _____
Effective Date: _____