

Exhibit No.: _____

Issue(s):

Rate Design

Witness/Type of Exhibit:

Busch/Rebuttal

Sponsoring Party:

Public Counsel

Case Nos.:

WR-2000-281 and SR-2000-282

REBUTTAL TESTIMONY

OF

JAMES A. BUSCH

FILED

MAY 4 2000

Missouri Public
Service Commission

Submitted on Behalf of the Office of the Public Counsel

MISSOURI-AMERICAN WATER COMPANY

Case Nos.: WR-2000-281 and SR-2000-282

May 4, 2000

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OF

JAMES A. BUSCH

Submitted on Behalf of the Office of the Public Counsel

MISSOURI-AMERICAN WATER COMPANY

Case Nos.: WR-2000-281 and SR-2000-282

May 4, 2000

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the matter of Missouri-American)
Water Company's Tariff designed to)
Implement General Rate Increases for)
Water and Sewer Service Provided to)
Customers in the Missouri Service Area)
Of the Company.)

Case Nos. WR-2000-281 and SR-2000-282

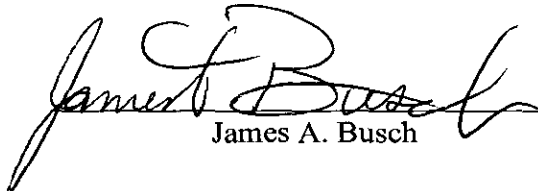
AFFIDAVIT OF JAMES A. BUSCH

STATE OF MISSOURI)
)
COUNTY OF COLE)

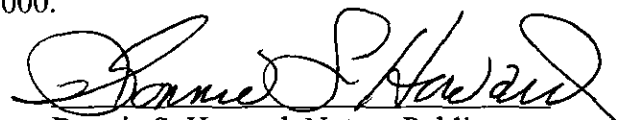
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James A. Busch, of lawful age and being first duly sworn, deposes and states:

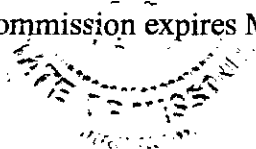
1. My name is James A. Busch. I am the Public Utility Economist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony consisting of pages 1 through 11 and Schedules JAB R1 through JAB R3.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.


James A. Busch

Subscribed and sworn to me this 4th day of May, 2000.


Bonnie S. Howard, Notary Public

My Commission expires May 3, 2001.



REBUTTAL TESTIMONY

Of

JAMES A. BUSCH

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1 proceeding. This testimony explains the combined effect of Public Counsel's prudence
2 disallowance, revenue requirement, and rate design recommendations.

3 Public Counsel has adopted Staff's cost of service determination for
4 district specific costs; however, Public Counsel has maintained its own class cost of
5 service study as updated with the newer numbers that have become available.

6 Public Counsel's final recommendation that reflects its rate design and
7 phase-in proposal is illustrated in my schedule JAB R3, pages 1 – 7.

8 Q. What are the general types of rate design proposals submitted in this case?

9 A. The parties have recommended three general types of interdistrict rate
10 design proposals. Single-tariff pricing and District specific pricing (DSP) represent the
11 extremes, while Public Counsel is supporting a compromise. The Company and
12 intervenors from St. Joseph (excluding the intervenor St. Joseph Industrial Water Users
13 (SJIWU) are supporting single-tariff pricing, and DSP is supported by Staff and the other
14 intervenors (which includes SJIWU).

15 Further, Public Counsel and the other intervenors are proposing a phase-in
16 of rates while Staff is recommending a phase-in of the St. Joseph treatment facility in rate
17 base. The parties supporting STP have not made any proposal regarding a phase-in of
18 rates even though the increase to each district would be greater than 50%.

19 SINGLE-TARIFF PRICING

20 Q. On page 8, lines 22 and 23, of Dr. Beecher's direct testimony, she states,
21 "[o]ne of the chief advantages of single-tariff pricing, from the utility's standpoint, is
22 simplification." Further, on page 4 of Schedule JB-2 from Dr. Beecher's direct
23 testimony, she states that some of the primary advantages of STP are lower

1 administrative and regulatory costs. Should these considerations drive rate design
2 policy?

3 A. No. The primary goal of a rate design structure should be to balance
4 economic efficiency with equity and affordability considerations.

5 Q. Does STP achieve the goals of economic efficiency, equity, and affordable
6 rates for all customers?

7 A. No, STP would not achieve these goals in this case. In fact, on page 9,
8 lines 18 – 20, of her direct testimony, Dr. Beecher admits that moving toward STP is a
9 tradeoff between economic efficiency and other legitimate ratemaking goals.

10 In some cases, there may be no justification for each consumer to pay the
11 same rate for water service no matter where that consumer lives. A certain district, due to
12 its source of supply, may have the need to have its water treated differently, which
13 increases the costs to serve that district. In the instant case, Missouri-American Water
14 Company (MAWC) is proposing that the largest district gets a new, expensive facility
15 that will raise the rates of all consumers, even though the majority of MAWC's
16 consumers will never receive service from the treatment facility and may never have
17 investment of that magnitude in their district.

18 Q. How does Public Counsel's proposed rate design meet the criteria of
19 economic efficiency, fairness, and affordability?

20 A. First of all, Public Counsel's proposed rate design is a movement towards
21 economic efficiency because it moves towards cost based rates. Secondly, Public
22 Counsel's proposal reflects fairness and affordability considerations since it tempers the
23 movement toward district specific rates by targeting maximum district increases and

1 phase-ins. This allows movement towards cost of service without excessive pressure on
2 the districts that have the farthest to travel to reach their respective costs. It also
3 promotes fairness by allowing for some sharing at this time to alleviate the massive rate
4 shock that would occur from a one-time movement to DSP.

5 Q. Does STP promote efficient investment?

6 A. Not in this case. As I discussed in my direct testimony, STP can promote
7 less than efficient investment. In fact, one could argue that it has been the movement to
8 STP that has caused the dilemma we are in now. Without the proposal of STP, greater
9 public opposition to the construction of the St. Joseph treatment facility would have
10 likely occurred because the customers within the St. Joseph district would have expected
11 to foot the entire bill instead of having the cost spread over the entire system.

12 Q. Another purported benefit of STP is small-system viability. This implies
13 that the larger systems will support the smaller, more expensive systems. If the proposed
14 rate base associated with the St. Joseph plant is totally approved and STP adopted, will
15 this still be the case?

16 A. Not exactly. The larger districts of Joplin, St. Charles, and Warrensburg
17 will still be supporting the smaller districts of Brunswick, Mexico, and Parkville.
18 However, these slightly larger districts will also be supporting the largest district, St.
19 Joseph. This runs contrary to the small-system viability goal of STP. In fact, due to the
20 magnitude of the St. Joseph plant, if STP were continued, smaller districts would end up
21 supporting the largest district. This point is illustrated in Mr. Stout's schedule 1-A,
22 attached to his direct testimony.

1 Q. Mr. Stout, in his direct testimony, pages 4 and 5, identifies three reasons
2 that his cost study supports STP. Do you agree with his rationale?

3 A. No, I do not agree. His first argument is that since the relative age of a
4 plant varies whenever new additions are added to a district, this variance is supportive of
5 STP. I do not agree because as the relative age of a plant increases, the overall cost of the
6 plant should be falling. This would lead to rates that should fall, holding everything else
7 constant. Then, when new additions are invested, rates would rise due to the increase in
8 rate base, but eventually, they will level off or fall. Under STP, new investment in a
9 district will raise its rates. Then, as new investment is made in every other district, rates
10 would rise even higher, an incentive for inefficient investment. In this case, it seems as if
11 there would be a never-ending cycle of constant rate increases without the benefit of
12 decreases as the plant in a district ages.

13 Next, Mr. Stout argues that due to increasing regulatory requirements, the
14 variance due to treatment levels is going away. I do not agree with this argument either.
15 If water from all sources is required to achieve the same criteria, it will still be costlier to
16 treat water from certain sources than from other sources. In fact, one could argue that by
17 making all water reach the same quality, the costs associated with treating certain districts
18 water might actually rise.

19 Finally, Mr. Stout argues that due to the varying size of each district, STP
20 is warranted due to economies of scale. However, smaller districts that are acquired by
21 larger companies will benefit from economies of scale with or without STP. The cost of
22 acquiring capital is lowered since the smaller district is now a part of a larger entity.

1 Billing and administrative costs are lowered due to being a part of a larger entity. These
2 benefits of acquired by a larger company will result in lower prices even without STP.

3 Q. On page 11, lines 4 – 12 of his direct testimony, Mr. Stout indicates that
4 St. Joseph's allocated cost of service will not always be greater than its STP revenue
5 contribution. Does this alleviate your concerns about the other districts supporting St.
6 Joseph, the largest district?

7 A. No it does not. Mr. Stout indicates that in the future, after *significant*
8 additions to other districts, the reverse will most likely be true. First, he indicates it may
9 or may not happen. Second, there will have to be *significant* additions elsewhere. Third,
10 he does not give any indication as to the length of time it will take for this to occur. On
11 page 15, lines 4 and 5 of his direct testimony, Mr. Stout states that "[c]apital programs
12 will never be uniform in the several districts, even over periods of 5 to 10 years."

13 Q. On pages 15 – 16 of his direct testimony, Mr. Stout argues that due to the
14 similar service each district receives, STP is appropriate. Do you have any thoughts on
15 this argument?

16 A. Yes I do. If a consumer goes to a store to buy milk, and one brand smells
17 and tastes like rotten eggs while another brand tastes and smells like regular milk, the
18 consumer will obviously choose the more aesthetically pleasing product. These products
19 are different, even if you could use them for the same purpose. The same can be said for
20 the water being used by the consumers in the different districts. Even though consumers
21 may use it for the same purposes, consumption, cleaning, etc., one district may have
22 water with an odor or different taste, or the water may be hard, requiring the consumers

1 to purchase a water softener. Thus, the water being served to the consumers, even though
2 it serves some or most of the same purposes, is not the same product.

3 **PHASE-IN**

4 Q. On page 19 of his direct testimony, Mr. Harwig argues for a 35% phase-in
5 of rates. Do you agree with this position?

6 A. No, I do not agree with this position. I believe that a 35% yearly increase
7 is too excessive.

8 Q. What is Staff's position on a phase-in?

9 A. I understand that Staff is proposing to phase-in the St. Joseph plant in rate
10 base over a five-year period. Public Counsel witness Russell Trippensee addresses
11 Staff's St. Joseph district phase-in proposal in more detail in his rebuttal testimony.

12 Q. What is Staff's position concerning phase-ins for the other districts?

13 A. At this time, I am not aware of any plans for a phase-in for the other
14 districts based on Staff's direct testimony.

15 **PUBLIC COUNSEL'S RATE DESIGN**

16 Q. What is Public Counsel's recommended district specific rate design based
17 on its revenue requirement?

18 A. Attached to my rebuttal testimony is schedule JAB R1. This schedule
19 indicates the overall amount of revenue that is being assigned to be collected from each
20 district. These amounts do not reflect Public Counsel's proposed phase-in. The amount
21 for each district are as follows:

22 Brunswick \$ 175,090

23 Joplin \$ 7,581,907

1	Mexico	\$ 2,371,518
2	Parkville	\$ 2,276,211
3	St. Charles	\$ 8,639,400
4	St. Joseph	\$12,751,440
5	Warrensburg	\$ 2,422,300

6 Q. How were these revenue requirements determined?

7 A. The revenue requirements for each district were determined as follows.
8 First, I used Ms. Hu's district specific cost structures, which determined the amount
9 needed for each district to cover its costs. Second, I determined that since the St. Joseph
10 district was the largest district, and the district receiving the lion's share of the
11 investment, that district will eventually pay its cost of service, no matter what. They will
12 not share any revenues or be supported by any other district. Next, I determined that the
13 three smallest districts, Brunswick, Mexico, and Parkville would eventually have revenue
14 increases of 261.42%, 80.71%, and 68.11% respectively. Considering these amounts to
15 be excessive, and the fact that this case is to be used as stepping stone to move back
16 towards DSP, I determined that these three districts would receive revenue sharing.

17 I then looked at the other three districts, Joplin, St. Charles, and
18 Warrensburg. I then determined that a district could end up paying up to 10% above its
19 cost of service in this case, as long as the increase that was due to the move towards DSP,
20 plus any additional revenues to be shared, did not exceed 15%. This caveat meant that
21 Warrensburg would merely pay its cost of service. Looking at the other two districts, it
22 was determined that, at this time, Joplin would receive a zero increase to its rates and St.
23 Charles would receive an additional increase of 3.7% to its allocated revenues, which

1 gives the St. Charles district an overall increase of 8.4%. This total was then split among
2 the three smallest districts such that their respective increase would be limited to 50%.

3 Q. Can the above parameters still be utilized in case the Commission does not
4 rule favorably on all of Public Counsel's arguments?

5 A. Yes they can. The St. Joseph district should have to pay whatever its costs
6 are ultimately deemed to be. This is reasonable since the magnitude of the amount of
7 sharing necessary to support a meaningful reduction to the St. Joseph district would
8 create an overly excessive burden on the contributing districts. The three smallest
9 districts will need to have some sharing of revenues to help mitigate rate shock. Those
10 revenues should be collected from the districts that would receive the smallest increases
11 due to the shift to DSP. However, the sharing should be arranged, such that no district
12 pays more than 10% above its cost of service, and the combined DSP increase, plus any
13 extra revenue should not exceed 15%.

14 Q. Please explain how Public Counsel's proposed phase-in would work?

15 A. Certainly. For added insight, Mr. Trippensee also addresses the phase-in
16 portion of Public Counsel's proposal in his rebuttal testimony. Attached to my rebuttal
17 testimony are schedules JAB R2 and JAB R3. These schedules show how each year's
18 district revenue increase will be allocated to each class. Further, these schedules utilize
19 Mr. Trippensee's schedule to determine the amount of revenue needed to be collected
20 from each district in the latter years of the phase-in schedule due to the carrying costs and
21 amortization of the deferred amounts.

22 These phase-in amounts were determined based upon the 15% per year
23 district target. Within this target, Public Counsel is proposing to move each district

towards its class cost of service. This movement is arrived at by determining the class cost of service by district and the current level of revenues collected from each class in each district. The difference between those two numbers is then divided by two. This number is then subtracted or added to the proposed 15% cap to determine the amount of revenue to be collected from each class. The interclass shifts apply as long as a district is receiving an increase. When a district reaches the point at which the rates start to decrease, these decreases are applied evenly to all classes.

Schedule JAB R3 shows the yearly amount of revenue to be collected from each district by class. It also shows the percentage increase on a yearly basis for each class. Joplin and St. Charles are not included because the Joplin district will not be receiving an increase in its rates and St. Charles' increase occurs in the first year since it is less than 15%.

SUMMARY

Q. Can you please summarize your testimony?

A. Yes. In my testimony, I show that in this case, MAWC should be ordered to move away from STP and move towards DSP. This is due, in large part, to the enormity of the St. Joseph treatment facility built by the Company. This facility destroys many of the arguments for STP. Further, my testimony addresses the concern that due to the previous years move towards STP, a movement back to strict DSP would be harmful to the smallest districts. To help alleviate this harm, it is Public Counsel's recommendation that increases should be limited to no more than 15% per year for any district. Finally, my testimony provides the revenue amounts needed to be collected from each district once all facets of Public Counsel's recommendations are considered.

Rebuttal Testimony of
James A. Busch
Case No. WR-2000-281

- 1 Q. Does this conclude your rebuttal testimony?
- 2 A. Yes it does.

OFFICE OF PUBLIC COUNSEL
District Adjustment
for Missouri- American Water Company
Case No. WR-2000-281

Before

District	Current Revenues	Cost of Service	Percent Increase for DSP
Brunswick	\$ 116,725	\$ 423,240	262.60%
Joplin	\$ 7,581,907	\$ 6,866,922	-9.43%
Mexico	\$ 1,580,962	\$ 2,864,318	81.18%
Parkville	\$ 1,517,468	\$ 2,555,793	68.42%
St. Charles	\$ 7,964,148	\$ 8,333,853	4.64%
St. Joseph	\$ 9,979,848	\$ 12,751,440	27.77%
Warrensburg	\$ 1,842,147	\$ 2,422,300	31.49%
Total	\$30,583,205	\$36,217,866	18.42%

Move Joplin to a 0% increase.
Increase St. Charles to an 8.48% increase.
This creates \$1,020,532 in revenue to be shared.
(\$7,581,907 - \$6,866,922) +
(\$8,639,400 - \$8,333,853)

Proposed sharing methodology:
Divide extra revenue from Joplin and St. Charles among Brunswick, Mexico, and Parkville to equalize the percent revenue increase to those districts.

After

District	Current Revenues	Proposed Revenues	Percent Increase after sharing
Brunswick	\$ 116,725	\$ 175,090	50.00%
Joplin	\$ 7,581,907	\$ 7,581,907	0.00%
Mexico	\$ 1,580,962	\$ 2,371,518	50.00%
Parkville	\$ 1,517,468	\$ 2,276,211	50.00%
St. Charles	\$ 7,964,148	\$ 8,639,400	8.48%
St. Joseph	\$ 9,979,848	\$ 12,751,440	27.77%
Warrensburg	\$ 1,842,147	\$ 2,422,300	31.49%
Total	\$30,583,205	\$36,217,866	

\$ 1,020,532 Joplin and St. Charles contribution
\$ (248,150) Brunswick's share

\$ 772,382
\$ (492,800) Mexico's share
\$ 279,582 Parkville's share

Brunswick
\$ 423,240 COS
\$ (248,150) Share
\$ 175,090 Proposed Revenue

Mexico
\$ 2,864,318 COS
\$ (492,800) Share
\$ 2,371,518 Proposed Revenue

Parkville
\$ 2,555,793 COS
\$ (279,582) Share
\$ 2,276,211 Proposed Revenue

These amounts will be phased-in at no more than 15% a year over current revenues.

OFFICE OF PUBLIC COUNSEL
Rate Design Proposal
for Missouri-American Water Company
Case No. WR-2000-281

District	Step1: Calculate Percent of Cost of Service by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

District	Step2: Calculate Previous Year's Percent of Revenue by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	57.35%	14.95%	1.04%	1.91%	22.56%	2.19%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	51.75%	14.74%	16.68%	6.56%	7.74%	2.54%
Parkville	73.82%	14.04%	0.77%	2.90%	6.17%	2.30%
St. Charles	87.03%	10.45%	0.06%	1.76%	0.00%	0.70%
St. Joseph	56.85%	19.25%	12.63%	2.81%	6.67%	1.79%
Warrensburg	58.29%	18.61%	4.50%	12.49%	4.62%	1.48%
Total	64.97%	17.92%	8.00%	3.37%	4.17%	1.57%

District	Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-6.31%	-1.62%	-0.08%	-0.03%	8.81%	-0.77%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-4.90%	-0.62%	3.57%	0.15%	2.55%	-0.75%
Parkville	-3.04%	0.98%	-0.01%	0.43%	2.17%	-0.53%
St. Charles	-0.95%	0.49%	0.00%	0.35%	0.00%	0.12%
St. Joseph	-7.32%	0.05%	3.92%	0.54%	3.26%	-0.44%
Warrensburg	-4.07%	0.65%	0.58%	1.19%	1.87%	-0.22%
Total	-4.35%	-0.08%	2.03%	0.53%	2.11%	-0.25%

District	Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class (assuming 15% District phase in, and 0% increase to Joplin, and an 8.40% increase to St. Charles)					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	8.69%	13.38%	14.92%	14.97%	23.81%	14.23%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	10.10%	14.38%	18.57%	15.15%	17.55%	14.25%
Parkville	11.96%	15.98%	14.99%	15.43%	17.17%	14.47%
St. Charles	8.21%	9.65%	9.16%	9.51%	9.16%	9.28%
St. Joseph	7.68%	15.05%	18.92%	15.54%	18.26%	14.56%
Warrensburg	10.93%	15.65%	15.58%	16.19%	16.87%	14.78%

District	Step5: Compute Year 1 Recovery						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 132,027	\$ 72,754	\$ 19,791	\$ 1,389	\$ 2,566	\$ 32,599	\$ 2,927
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 1,788,970	\$ 900,711	\$ 266,484	\$ 312,609	\$ 119,464	\$ 143,857	\$ 45,845
Parkville	\$ 1,715,126	\$ 1,254,060	\$ 247,123	\$ 13,463	\$ 50,858	\$ 109,750	\$ 39,872
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$ 11,134,166	\$ 6,108,992	\$ 2,209,859	\$ 1,499,126	\$ 323,723	\$ 787,460	\$ 205,006
Warrensburg	\$ 2,081,757	\$ 1,191,153	\$ 396,505	\$ 95,861	\$ 267,432	\$ 99,480	\$ 31,327
	\$ 33,066,250	\$ 21,214,718	\$ 5,973,832	\$ 2,748,585	\$ 1,147,128	\$ 1,454,535	\$ 527,452

OFFICE OF PUBLIC COUNSEL
Rate Design Proposal
for Missouri-American Water Company
Case No. WR-2000-281

District	Step1: Calculate Percent of Cost of Service by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

District	Step2: Calculate Previous Year's Percent of Revenue by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	55.11%	14.99%	1.05%	1.94%	24.69%	2.22%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	50.35%	14.90%	17.47%	6.68%	8.04%	2.56%
Parkville	73.12%	14.41%	0.78%	2.97%	6.40%	2.32%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	54.87%	19.85%	13.46%	2.91%	7.07%	1.84%
Warrensburg	57.22%	19.05%	4.60%	12.85%	4.78%	1.50%
Total	64.26%	17.99%	8.30%	3.46%	4.40%	1.59%

District	Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-5.19%	-1.64%	-0.09%	-0.04%	7.74%	-0.78%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-4.20%	-0.70%	3.17%	0.09%	2.40%	-0.76%
Parkville	-2.69%	0.79%	-0.02%	0.40%	2.06%	-0.54%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-6.33%	-0.25%	3.50%	0.49%	3.06%	-0.46%
Warrensburg	-3.53%	0.43%	0.53%	1.01%	1.79%	-0.24%
Total	-3.99%	-0.11%	1.88%	0.49%	2.00%	-0.26%

District	Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class (assuming 15% District phase in, and 0% increases to Joplin and St. Charles)					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	9.81%	13%	15%	15%	23%	14%
Joplin	0%	0%	0%	0%	0%	0%
Mexico	11%	14%	18%	15%	17%	14%
Parkville	12%	16%	15%	15%	17%	14%
St. Charles	0%	0%	0%	0%	0%	0%
St. Joseph	9%	15%	19%	15%	18%	15%
Warrensburg	11%	15%	16%	16%	17%	15%

District	Step5: Compute Year 2 Recovery						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 150,230	\$ 79,892	\$ 22,436	\$ 1,597	\$ 2,950	\$ 40,012	\$ 3,343
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,030,740	\$ 997,992	\$ 304,581	\$ 369,405	\$ 137,496	\$ 168,894	\$ 52,371
Parkville	\$ 1,942,818	\$ 1,408,383	\$ 286,154	\$ 15,480	\$ 58,691	\$ 128,474	\$ 45,636
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$ 12,489,143	\$ 6,638,598	\$ 2,535,750	\$ 1,776,481	\$ 373,863	\$ 929,641	\$ 234,810
Warrensburg	\$ 2,358,572	\$ 1,327,739	\$ 457,689	\$ 110,749	\$ 310,257	\$ 116,186	\$ 35,952
	\$ 35,185,707	\$ 22,139,653	\$ 6,440,680	\$ 3,099,848	\$ 1,266,341	\$ 1,664,596	\$ 574,589

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District	Step1: Calculate Percent of Cost of Service by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

District	Step2: Calculate Previous Year's Percent of Revenue by District by Class					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	53.18%	14.93%	1.06%	1.96%	26.63%	2.23%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	49.14%	15.00%	18.19%	6.77%	8.32%	2.58%
Parkville	72.49%	14.73%	0.80%	3.02%	6.61%	2.35%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	53.15%	20.30%	14.22%	2.99%	7.44%	1.88%
Warrensburg	56.29%	19.41%	4.70%	13.15%	4.93%	1.52%
Total	62.92%	18.30%	8.81%	3.60%	4.73%	1.63%

District	Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)					
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-4.23%	-1.61%	-0.09%	-0.05%	6.77%	-0.78%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-3.60%	-0.76%	2.81%	0.05%	2.27%	-0.77%
Parkville	-2.38%	0.63%	-0.02%	0.37%	1.95%	-0.55%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-5.47%	-0.48%	3.12%	0.45%	2.87%	-0.48%
Warrensburg	-3.07%	0.25%	0.49%	0.86%	1.72%	-0.25%
Total	-3.32%	-0.27%	1.63%	0.42%	1.83%	-0.28%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class
(assuming 15% District phase in Brunswick, Mexico and Parkville, district specific increases to St. Joseph and Warrensburg, and 0% increases to Joplin and St. Charles)

District						
	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	10.77%	13%	15%	15%	22%	14%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	11.40%	14.24%	17.81%	15.05%	17.27%	14.23%
Parkville	12.62%	15.63%	14.98%	15.37%	16.95%	14.45%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	8.37%	13.36%	16.96%	14.29%	16.71%	13.36%
Warrensburg	11.77%	15.09%	15.33%	15.70%	16.56%	14.59%

District	Step5: Compute Year 3 Recovery						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 171,705	\$ 88,500	\$ 25,440	\$ 1,835	\$ 3,391	\$ 48,722	\$ 3,818
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,311,017	\$ 1,111,788	\$ 347,968	\$ 435,196	\$ 158,186	\$ 198,057	\$ 59,823
Parkville	\$ 2,204,989	\$ 1,586,105	\$ 330,890	\$ 17,798	\$ 67,714	\$ 150,254	\$ 52,228
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$ 13,924,668	\$ 7,193,939	\$ 2,874,503	\$ 2,077,791	\$ 427,271	\$ 1,084,985	\$ 266,178
Warrensburg	\$ 2,674,074	\$ 1,483,999	\$ 526,762	\$ 127,723	\$ 358,965	\$ 135,427	\$ 41,199
	\$ 37,500,659	\$ 23,151,380	\$ 6,939,633	\$ 3,486,479	\$ 1,398,611	\$ 1,898,834	\$ 625,723

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Step1: Calculate Percent of Cost of Service by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.61%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

Step2: Calculate Previous Year's Percent of Revenue by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	51.54%	14.82%	1.07%	1.97%	28.38%	2.22%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	48.11%	15.06%	18.83%	6.84%	8.57%	2.59%
Parkville	71.93%	15.01%	0.81%	3.07%	6.81%	2.37%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	51.66%	20.64%	14.92%	3.07%	7.79%	1.91%
Warrensburg	55.50%	19.70%	4.78%	13.42%	5.06%	1.54%
Total	65.01%	19.20%	9.70%	3.88%	5.30%	1.74%

Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-3.41%	-1.55%	-0.10%	-0.06%	5.90%	-0.78%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-3.08%	-0.78%	2.49%	0.01%	2.14%	-0.78%
Parkville	-2.10%	0.49%	-0.03%	0.35%	1.85%	-0.56%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-4.73%	-0.65%	2.77%	0.41%	2.70%	-0.50%
Warrensburg	-2.67%	0.10%	0.45%	0.72%	1.65%	-0.25%
Total	-4.36%	-0.71%	1.18%	0.27%	1.54%	-0.34%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class
(assuming 15% District phase in Brunswick, Mexico and Parkville, district specific decreases to St. Joseph and
Warrensburg, and 0% increases to Joplin and St. Charles)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	11.59%	13.45%	14.90%	14.94%	20.90%	14.22%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	11.92%	14.22%	17.49%	15.01%	17.14%	14.22%
Parkville	12.90%	15.49%	14.97%	15.35%	16.85%	14.44%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%
Warrensburg	-0.67%	-0.67%	-0.67%	-0.67%	-0.67%	-0.67%

Step5: Compute Year 4 Recovery

District	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 196,891	\$ 98,760	\$ 28,861	\$ 2,108	\$ 3,897	\$ 58,904	\$ 4,361
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,635,329	\$ 1,244,318	\$ 397,434	\$ 511,311	\$ 181,930	\$ 232,004	\$ 68,332
Parkville	\$ 2,506,762	\$ 1,790,688	\$ 382,161	\$ 20,462	\$ 78,108	\$ 175,576	\$ 59,767
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$13,841,120	\$ 7,150,776	\$ 2,857,256	\$2,065,325	\$ 424,708	\$1,078,475	\$ 264,581
Warrensburg	\$ 2,656,158	\$ 1,474,056	\$ 523,233	\$ 126,867	\$ 356,560	\$ 134,519	\$ 40,923
	\$38,050,465	\$23,445,647	\$ 7,023,015	\$3,552,209	\$1,428,286	\$1,960,867	\$ 640,441

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Step1: Calculate Percent of Cost of Service by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

Step2: Calculate Previous Year's Percent of Revenue by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	50.16%	14.66%	1.07%	1.98%	29.92%	2.21%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	47.22%	15.08%	19.40%	6.90%	8.80%	2.59%
Parkville	71.43%	15.25%	0.82%	3.12%	7.00%	2.38%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	51.66%	20.64%	14.92%	3.07%	7.79%	1.91%
Warrensburg	55.50%	19.70%	4.78%	13.42%	5.06%	1.54%
Total	61.89%	18.25%	9.30%	3.73%	5.15%	1.68%

Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-2.72%	-1.47%	-0.10%	-0.06%	5.13%	-0.78%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-2.63%	-0.80%	2.20%	-0.02%	2.02%	-0.78%
Parkville	-1.85%	0.38%	-0.03%	0.33%	1.76%	-0.57%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-4.73%	-0.65%	2.77%	0.41%	2.70%	-0.50%
Warrensburg	-2.67%	0.10%	0.45%	0.72%	1.65%	-0.25%
Total	-2.80%	-0.24%	1.38%	0.35%	1.62%	-0.31%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class
(assuming district specific increases to Brunswick, Mexico, and Parkville, decreases to St. Joseph and
Warrensburg, and 0% increases to Joplin and St. Charles)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	5.68%	6.93%	8.30%	8.34%	13.53%	7.62%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	8.92%	10.75%	13.75%	11.53%	13.57%	10.77%
Parkville	12.15%	14.38%	13.97%	14.33%	15.76%	13.43%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%
Warrensburg	-8.81%	-8.81%	-8.81%	-8.81%	-8.81%	-8.81%

Step5: Compute Year 5 Recovery

District	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 213,305	\$ 104,374	\$ 30,860	\$ 2,283	\$ 4,222	\$ 66,872	\$ 4,693
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,919,170	\$ 1,355,263	\$ 440,172	\$ 581,638	\$ 202,909	\$ 263,495	\$ 75,692
Parkville	\$ 2,828,964	\$ 2,008,213	\$ 437,099	\$ 23,320	\$ 89,298	\$ 203,242	\$ 67,793
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$12,751,824	\$ 6,588,010	\$ 2,632,390	\$1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
Warrensburg	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
	\$37,349,617	\$23,087,101	\$ 6,851,727	\$3,451,851	\$1,395,942	\$1,931,264	\$ 631,731

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Rate Design Proposal
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Step1: Calculate Percent of Cost of Service by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

Step2: Calculate Previous Year's Percent of Revenue by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	48.93%	14.47%	1.07%	1.98%	31.35%	2.20%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	46.43%	15.08%	19.92%	6.95%	9.03%	2.59%
Parkville	70.99%	15.45%	0.82%	3.16%	7.18%	2.40%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	51.66%	20.64%	14.92%	3.07%	7.79%	1.91%
Warrensburg	55.50%	19.70%	4.78%	13.42%	5.06%	1.54%
Total	61.75%	18.19%	9.36%	3.76%	5.25%	1.69%

Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-2.10%	-1.38%	-0.10%	-0.06%	4.41%	-0.77%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-2.24%	-0.80%	1.94%	-0.04%	1.91%	-0.78%
Parkville	-1.63%	0.27%	-0.04%	0.31%	1.67%	-0.58%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-4.73%	-0.65%	2.77%	0.41%	2.70%	-0.50%
Warrensburg	-2.67%	0.10%	0.45%	0.72%	1.65%	-0.25%
Total	-2.74%	-0.21%	1.35%	0.34%	1.57%	-0.31%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class
(assuming district specific decreases to Brunswick, Mexico, and Parkville and 0% increases to Joplin, St. Joseph, Warrensburg, and St. Charles)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-1.27%	-1.27%	-1.27%	-1.27%	-1.27%	-1.27%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	-1.33%	-1.33%	-1.33%	-1.33%	-1.33%	-1.33%
Parkville	-1.38%	-1.38%	-1.38%	-1.38%	-1.38%	-1.38%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Warrensburg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Step5: Compute Year 6 Recovery

District	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 210,596	\$ 103,049	\$ 30,468	\$ 2,254	\$ 4,169	\$ 66,022	\$ 4,634
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,880,345	\$ 1,337,238	\$ 434,318	\$ 573,902	\$ 200,210	\$ 259,991	\$ 74,686
Parkville	\$ 2,789,925	\$ 1,980,500	\$ 431,067	\$ 22,998	\$ 88,065	\$ 200,437	\$ 66,857
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$ 12,751,824	\$ 6,588,010	\$ 2,632,390	\$ 1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
Warrensburg	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
	\$37,269,044	\$23,040,037	\$ 6,839,449	\$3,443,764	\$1,391,958	\$1,924,106	\$ 629,729

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Rate Design Proposal
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Step1: Calculate Percent of Cost of Service by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

Step2: Calculate Previous Year's Percent of Revenue by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	48.93%	14.47%	1.07%	1.98%	31.35%	2.20%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	46.43%	15.08%	19.92%	6.95%	9.03%	2.59%
Parkville	70.99%	15.45%	0.82%	3.16%	7.18%	2.40%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	51.66%	20.64%	14.92%	3.07%	7.79%	1.91%
Warrensburg	55.50%	19.70%	4.78%	13.42%	5.06%	1.54%
Total	61.82%	18.35%	9.24%	3.73%	5.16%	1.69%

Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentages)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-2.10%	-1.38%	-0.10%	-0.06%	4.41%	-0.77%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-2.24%	-0.80%	1.94%	-0.04%	1.91%	-0.78%
Parkville	-1.63%	0.27%	-0.04%	0.31%	1.67%	-0.58%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-4.73%	-0.65%	2.77%	0.41%	2.70%	-0.50%
Warrensburg	-2.67%	0.10%	0.45%	0.72%	1.65%	-0.25%
Total	-2.77%	-0.29%	1.41%	0.35%	1.61%	-0.31%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class
(assuming district specific decreases to Brunswick, Mexico, and Parkville and 0% increases to Joplin, St. Joseph, Warrensburg, and St. Charles)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-16.86%	-16.86%	-16.86%	-16.86%	-16.86%	-16.86%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	-17.66%	-17.66%	-17.66%	-17.66%	-17.66%	-17.66%
Parkville	-18.41%	-18.41%	-18.41%	-18.41%	-18.41%	-18.41%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Warrensburg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Step5: Compute Year 7 Recovery

District	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 175,089	\$ 85,675	\$ 25,331	\$ 1,874	\$ 3,466	\$ 54,891	\$ 3,852
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,371,676	\$ 1,101,082	\$ 357,617	\$ 472,551	\$ 164,853	\$ 214,076	\$ 61,496
Parkville	\$ 2,276,300	\$ 1,615,890	\$ 351,708	\$ 18,764	\$ 71,852	\$ 163,537	\$ 54,549
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$12,751,824	\$ 6,588,010	\$ 2,632,390	\$1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
Warrensburg	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
	\$36,211,243	\$22,421,897	\$ 6,678,252	\$3,337,799	\$1,339,685	\$1,830,160	\$ 603,450

Year 8

Step1: Calculate Percent of Cost of Service by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	44.73%	11.71%	0.87%	1.86%	40.17%	0.66%
Joplin	51.99%	24.63%	13.28%	3.56%	5.05%	1.48%
Mexico	41.95%	13.49%	23.81%	6.87%	12.85%	1.04%
Parkville	67.73%	16.00%	0.75%	3.77%	10.52%	1.24%
St. Charles	85.13%	11.42%	0.06%	2.45%	0.00%	0.94%
St. Joseph	42.21%	19.34%	20.47%	3.88%	13.18%	0.92%
Warrensburg	50.15%	19.91%	5.67%	14.87%	8.37%	1.03%
Total	56.28%	17.77%	12.06%	4.43%	8.39%	1.07%

Step2: Calculate Previous Year's Percent of Revenue by District by Class

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	48.93%	14.47%	1.07%	1.98%	31.35%	2.20%
Joplin	55.22%	25.35%	10.82%	3.03%	3.71%	1.86%
Mexico	46.43%	15.08%	19.92%	6.95%	9.03%	2.59%
Parkville	70.99%	15.45%	0.82%	3.16%	7.18%	2.40%
St. Charles	86.89%	10.57%	0.06%	1.78%	0.00%	0.71%
St. Joseph	51.66%	20.64%	14.92%	3.07%	7.79%	1.91%
Warrensburg	55.50%	19.70%	4.78%	13.42%	5.06%	1.54%
Total	61.92%	18.44%	9.22%	3.70%	5.05%	1.67%

Step3: Calculate Adjustment Percent to District by Class (equals half the difference of cost and revenue percentage)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	-2.10%	-1.38%	-0.10%	-0.06%	4.41%	-0.77%
Joplin	-1.61%	-0.36%	1.23%	0.26%	0.67%	-0.19%
Mexico	-2.24%	-0.80%	1.94%	-0.04%	1.91%	-0.78%
Parkville	-1.63%	0.27%	-0.04%	0.31%	1.67%	-0.58%
St. Charles	-0.88%	0.42%	0.00%	0.34%	0.00%	0.12%
St. Joseph	-4.73%	-0.65%	2.77%	0.41%	2.70%	-0.50%
Warrensburg	-2.67%	0.10%	0.45%	0.72%	1.65%	-0.25%
Total	-2.82%	-0.34%	1.42%	0.37%	1.67%	-0.30%

Step4: Combined First Year Adjustment Increase of Revenue to be Collected by District by Class

(assuming 15% District phase in, and 0% increase to Joplin and St. Charles)

District	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Joplin	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mexico	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Parkville	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Charles	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
St. Joseph	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Warrensburg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Step5: Compute Year 4 Recovery

District	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Brunswick	\$ 175,089	\$ 85,675	\$ 25,331	\$ 1,874	\$ 3,466	\$ 54,891	\$ 3,852
Joplin	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Mexico	\$ 2,371,676	\$ 1,101,082	\$ 357,617	\$ 472,551	\$ 164,853	\$ 214,076	\$ 61,496
Parkville	\$ 2,276,300	\$ 1,615,890	\$ 351,708	\$ 18,764	\$ 71,852	\$ 163,537	\$ 54,549
St. Charles	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
St. Joseph	\$12,751,824	\$ 6,588,010	\$ 2,632,390	\$1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
Warrensburg	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
	\$36,211,243	\$22,421,897	\$ 6,678,252	\$3,337,799	\$1,339,685	\$1,830,160	\$ 603,450

OFFICE OF PUBLIC COUNSEL

Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase for Missouri-American Water Company Case No. WR-2000-281

BRUNSWICK DISTRICT

REVENUE REQUIREMENT FOR EACH YEAR BY CLASS

	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Prior Year	\$ 116,725	\$ 66,936	\$ 17,456	\$ 1,209	\$ 2,232	\$ 26,331	\$ 2,562
Year 1	\$ 132,027	\$ 72,754	\$ 19,791	\$ 1,389	\$ 2,566	\$ 32,599	\$ 2,927
Year 2	\$ 150,230	\$ 79,892	\$ 22,436	\$ 1,597	\$ 2,950	\$ 40,012	\$ 3,343
Year 3	\$ 171,705	\$ 88,500	\$ 25,440	\$ 1,835	\$ 3,391	\$ 48,722	\$ 3,818
Year 4	\$ 196,891	\$ 98,760	\$ 28,861	\$ 2,108	\$ 3,897	\$ 58,904	\$ 4,361
Year 5	\$ 213,305	\$ 104,374	\$ 30,860	\$ 2,283	\$ 4,222	\$ 66,872	\$ 4,693
Year 6	\$ 210,596	\$ 103,049	\$ 30,468	\$ 2,254	\$ 4,169	\$ 66,022	\$ 4,634
Year 7	\$ 175,089	\$ 85,675	\$ 25,331	\$ 1,874	\$ 3,466	\$ 54,891	\$ 3,852
Year 8	\$ 175,089	\$ 85,675	\$ 25,331	\$ 1,874	\$ 3,466	\$ 54,891	\$ 3,852
	\$1,424,932	\$ 718,680	\$ 208,517	\$ 15,213	\$ 28,128	\$ 422,914	\$ 31,480

PERCENT YEARLY INCREASE BY CLASS

	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Year 1	13.11%	8.69%	13.38%	14.92%	14.97%	23.81%	14.23%
Year 2	13.79%	9.81%	13.36%	14.91%	14.96%	22.74%	14.22%
Year 3	14.30%	10.77%	13.39%	14.91%	14.95%	21.77%	14.22%
Year 4	14.67%	11.59%	13.45%	14.90%	14.94%	20.90%	14.22%
Year 5	8.34%	5.68%	6.93%	8.30%	8.34%	13.53%	7.62%
Year 6	-1.27%	-1.27%	-1.27%	-1.27%	-1.27%	-1.27%	-1.27%
Year 7	-16.86%	-16.86%	-16.86%	-16.86%	-16.86%	-16.86%	-16.86%
Year 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
for Missouri-American Water Company
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MEXICO DISTRICT

	REVENUE REQUIREMENT FOR EACH YEAR BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Prior year	\$ 1,580,962	\$ 818,069	\$ 232,991	\$ 263,656	\$ 103,745	\$ 122,374	\$ 40,127
Year 1	\$ 1,788,970	\$ 900,711	\$ 266,484	\$ 312,609	\$ 119,464	\$ 143,857	\$ 45,845
Year 2	\$ 2,030,740	\$ 997,992	\$ 304,581	\$ 369,405	\$ 137,496	\$ 168,894	\$ 52,371
Year 3	\$ 2,311,017	\$ 1,111,788	\$ 347,968	\$ 435,196	\$ 158,186	\$ 198,057	\$ 59,823
Year 4	\$ 2,635,329	\$ 1,244,318	\$ 397,434	\$ 511,311	\$ 181,930	\$ 232,004	\$ 68,332
Year 5	\$ 2,919,170	\$ 1,355,263	\$ 440,172	\$ 581,638	\$ 202,909	\$ 263,495	\$ 75,692
Year 6	\$ 2,880,345	\$ 1,337,238	\$ 434,318	\$ 573,902	\$ 200,210	\$ 259,991	\$ 74,686
Year 7	\$ 2,371,676	\$ 1,101,082	\$ 357,617	\$ 472,551	\$ 164,853	\$ 214,076	\$ 61,496
Year 8	\$ 2,371,676	\$ 1,101,082	\$ 357,617	\$ 472,551	\$ 164,853	\$ 214,076	\$ 61,496
	\$ 19,308,922	\$ 9,149,475	\$ 2,906,193	\$ 3,729,162	\$ 1,329,900	\$ 1,694,450	\$ 499,741

	PERCENT YEARLY INCREASE BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Year 1	13.16%	10.10%	14.38%	18.57%	15.15%	17.55%	14.25%
Year 2	13.51%	10.80%	14.30%	18.17%	15.09%	17.40%	14.24%
Year 3	13.80%	11.40%	14.24%	17.81%	15.05%	17.27%	14.23%
Year 4	14.03%	11.92%	14.22%	17.49%	15.01%	17.14%	14.22%
Year 5	10.77%	8.92%	10.75%	13.75%	11.53%	13.57%	10.77%
Year 6	-1.33%	-1.33%	-1.33%	-1.33%	-1.33%	-1.33%	-1.33%
Year 7	-17.66%	-17.66%	-17.66%	-17.66%	-17.66%	-17.66%	-17.66%
Year 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
for Missouri-American Water Company
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PARKVILLE DISTRICT

REVENUE REQUIREMENT FOR EACH YEAR BY CLASS

	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Prior year	\$ 1,517,468	\$ 1,120,126	\$ 213,079	\$ 11,708	\$ 44,059	\$ 93,665	\$ 34,831
Year 1	\$ 1,715,126	\$ 1,254,060	\$ 247,123	\$ 13,463	\$ 50,858	\$ 109,750	\$ 39,872
Year 2	\$ 1,942,818	\$ 1,408,383	\$ 286,154	\$ 15,480	\$ 58,691	\$ 128,474	\$ 45,636
Year 3	\$ 2,204,989	\$ 1,586,105	\$ 330,890	\$ 17,798	\$ 67,714	\$ 150,254	\$ 52,228
Year 4	\$ 2,506,762	\$ 1,790,688	\$ 382,161	\$ 20,462	\$ 78,108	\$ 175,576	\$ 59,767
Year 5	\$ 2,828,964	\$ 2,008,213	\$ 437,099	\$ 23,320	\$ 89,298	\$ 203,242	\$ 67,793
Year 6	\$ 2,789,925	\$ 1,980,500	\$ 431,067	\$ 22,998	\$ 88,065	\$ 200,437	\$ 66,857
Year 7	\$ 2,276,300	\$ 1,615,890	\$ 351,708	\$ 18,764	\$ 71,852	\$ 163,537	\$ 54,549
Year 8	\$ 2,276,300	\$ 1,615,890	\$ 351,708	\$ 18,764	\$ 71,852	\$ 163,537	\$ 54,549
	\$ 18,541,184	\$ 11,643,838	\$ 2,466,202	\$ 132,285	\$ 504,587	\$ 1,131,270	\$ 386,701

PERCENT YEARLY INCREASE BY CLASS

	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Year 1	13.03%	11.96%	15.98%	14.99%	15.43%	17.17%	14.47%
Year 2	13.28%	12.31%	15.79%	14.98%	15.40%	17.06%	14.46%
Year 3	13.49%	12.62%	15.63%	14.98%	15.37%	16.95%	14.45%
Year 4	13.69%	12.90%	15.49%	14.97%	15.35%	16.85%	14.44%
Year 5	12.85%	12.15%	14.38%	13.97%	14.33%	15.76%	13.43%
Year 6	-1.38%	-1.38%	-1.38%	-1.38%	-1.38%	-1.38%	-1.38%
Year 7	-18.41%	-18.41%	-18.41%	-18.41%	-18.41%	-18.41%	-18.41%
Year 8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
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WARRENSBURG DISTRICT

	REVENUE REQUIREMENT FOR EACH YEAR BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Prior year	\$ 1,842,147	\$ 1,073,775	\$ 342,853	\$ 82,937	\$ 230,170	\$ 85,118	\$ 27,294
Year 1	\$ 2,081,757	\$ 1,191,153	\$ 396,505	\$ 95,861	\$ 267,432	\$ 99,480	\$ 31,327
Year 2	\$ 2,358,572	\$ 1,327,739	\$ 457,689	\$ 110,749	\$ 310,257	\$ 116,186	\$ 35,952
Year 3	\$ 2,674,074	\$ 1,483,999	\$ 526,762	\$ 127,723	\$ 358,965	\$ 135,427	\$ 41,199
Year 4	\$ 2,656,158	\$ 1,474,056	\$ 523,233	\$ 126,867	\$ 356,560	\$ 134,519	\$ 40,923
Year 5	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
Year 6	\$ 2,422,151	\$ 1,344,192	\$ 477,136	\$ 115,690	\$ 325,147	\$ 122,668	\$ 37,317
	\$ 14,614,864	\$ 8,165,332	\$ 2,858,462	\$ 692,580	\$ 1,943,507	\$ 730,948	\$ 224,035

	PERCENT YEARLY INCREASE BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Year 1	13.01%	10.93%	15.65%	15.58%	16.19%	16.87%	14.78%
Year 2	13.30%	11.47%	15.43%	15.53%	16.01%	16.79%	14.76%
Year 3	13.38%	11.77%	15.09%	15.33%	15.70%	16.56%	14.59%
Year 4	-0.67%	-0.67%	-0.67%	-0.67%	-0.67%	-0.67%	-0.67%
Year 5	-8.81%	-8.81%	-8.81%	-8.81%	-8.81%	-8.81%	-8.81%
Year 6	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

OFFICE OF PUBLIC COUNSEL
Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
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ST. JOSEPH DISTRICT

	REVENUE REQUIREMENT FOR EACH YEAR BY CLASS						
	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Prior year	\$ 9,979,848	\$ 5,673,347	\$ 1,920,825	\$ 1,260,647	\$ 280,186	\$ 665,896	\$ 178,947
Year 1	\$ 11,134,166	\$ 6,108,992	\$ 2,209,859	\$ 1,499,126	\$ 323,723	\$ 787,460	\$ 205,006
Year 2	\$ 12,489,143	\$ 6,638,598	\$ 2,535,750	\$ 1,776,481	\$ 373,863	\$ 929,641	\$ 234,810
Year 3	\$ 13,924,668	\$ 7,193,939	\$ 2,874,503	\$ 2,077,791	\$ 427,271	\$ 1,084,985	\$ 266,178
Year 4	\$ 13,841,120	\$ 7,150,776	\$ 2,857,256	\$ 2,065,325	\$ 424,708	\$ 1,078,475	\$ 264,581
Year 5	\$ 12,751,824	\$ 6,588,010	\$ 2,632,390	\$ 1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
Year 6	\$ 12,751,824	\$ 6,588,010	\$ 2,632,390	\$ 1,902,784	\$ 391,283	\$ 993,599	\$ 243,759
	\$ 76,892,745	\$ 40,268,325	\$ 15,742,149	\$ 11,224,290	\$ 2,332,131	\$ 5,867,757	\$ 1,458,092

	PERCENT YEARLY INCREASE BY CLASS						
	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Year 1	11.57%	7.68%	15.05%	18.92%	15.54%	18.26%	14.56%
Year 2	12.17%	8.67%	14.75%	18.50%	15.49%	18.06%	14.54%
Year 3	11.49%	8.37%	13.36%	16.96%	14.29%	16.71%	13.36%
Year 4	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%
Year 5	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%
Year 6	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

OFFICE OF PUBLIC COUNSEL**Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
for Missouri-American Water Company
Case No. WR-2000-281****ST. CHARLES DISTRICT**

	REVENUE REQUIREMENT FOR EACH YEAR BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Prior year	\$ 7,964,148	\$ 6,931,269	\$ 831,920	\$ 5,007	\$ 140,007	\$ -	\$ 55,946
Year 1	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
Year 2	\$ 8,632,296	\$ 7,500,216	\$ 912,160	\$ 5,466	\$ 153,318	\$ -	\$ 61,137
	\$ 17,264,593	\$ 15,000,433	\$ 1,824,319	\$ 10,931	\$ 306,636	\$ -	\$ 122,274

	PERCENT YEARLY INCREASE BY CLASS						
	Total	Residential	Commercial	Industrial	OPA	Resale	Private Fire
Year 1	8.39%	8.21%	9.65%	9.16%	9.51%	0.00%	9.28%
Year 2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Yearly District Specific Revenue Requirements by Class and Yearly Percent Increase
for Missouri-American Water Company
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JOPLIN DISTRICT**REVENUE REQUIREMENT FOR EACH YEAR BY CLASS**

	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Prior year	\$ 7,581,907	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Year 1	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
Year 2	\$ 7,581,908	\$ 4,186,832	\$ 1,921,910	\$ 820,671	\$ 229,766	\$ 281,389	\$ 141,340
	\$ 15,163,816	\$ 8,373,664	\$ 3,843,820	\$ 1,641,342	\$ 459,532	\$ 562,778	\$ 282,680

PERCENT YEARLY INCREASE BY CLASS

	<u>Total</u>	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>OPA</u>	<u>Resale</u>	<u>Private Fire</u>
Year 1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Year 2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%