



## Response to MSRB Request for Comments January 11, 2021

Feedback on Question 4: How can modernization of EMMA and related technology systems best support users? What gaps should be addressed to enhance market transparency?



**The MSRB is considering the modernization of their EMMA system, which is a repository for municipal data. The main problem is that the content is currently available only in PDF format. This is a response from a member of XBRL US, specifically addressed to their Question Number 4.**

**Comment 1:**

EMMA is the Electronic Municipal Market Access system for a repository of municipal data.

**Problem:**

Outdated format!  
The disclosures are only available in standard PDF format.



The PDF format is stored as a picture and cannot be edited. Since its content cannot be digitized or manipulated, it is very frustrating for users of this report to access and reuse the data.

Exxon Mobil Corporation  
Condensed Consolidated Statement of Income  
*(in billions of dollars)*

	Three months ending Sept. 30, 2018
Revenues and other income	
Sales and other operating revenue	14,187
Income from equity affiliates	1,982
Other income	458
Total revenues and other income	<u>16,627</u>
Costs and other deductions	
Crude oil and product purchases	41,176
Production and manufacturing expenses	9,091
Selling, general and administrative expenses	2,893
Depreciation and depletion	4,458
Exploration expenses, including dry holes	283
Non-service pension and postretirement benefit expense	307
Interest expense	180
Other taxes and duties	2,193
Total costs and other deductions	<u>63,557</u>
Income before income taxes	9,070
Income taxes	2,624
Net income including noncontrolling interests	<u>6,446</u>
Net income attributable to noncontrolling interests	190
Net income attributable to ExxonMobil	<u>\$6,256</u>

Investopedia

**Problem:**

Stored as a picture. Cannot edit or digitize its content.

**Comment 2:**

The MSRB is ready to modernize the EMMA system.

**Problem:**

There may be great anxiety about changing the EMMA system. Who has done it before?

The financial world requires data-driven solutions and tools for data analysis. The SEC has been requiring corporate filers to submit their reports to the EDGAR system in XBRL format for the past 10 years. Municipal bond issuers and investors would benefit from a low-cost solution to publish and access audited financial reports online.

The SEC has modernized their systems.

- 2005 Voluntary Program using XBRL
- 2007 Mutual Funds using XBRL
- 2009 Mandatory Filings using XBRL

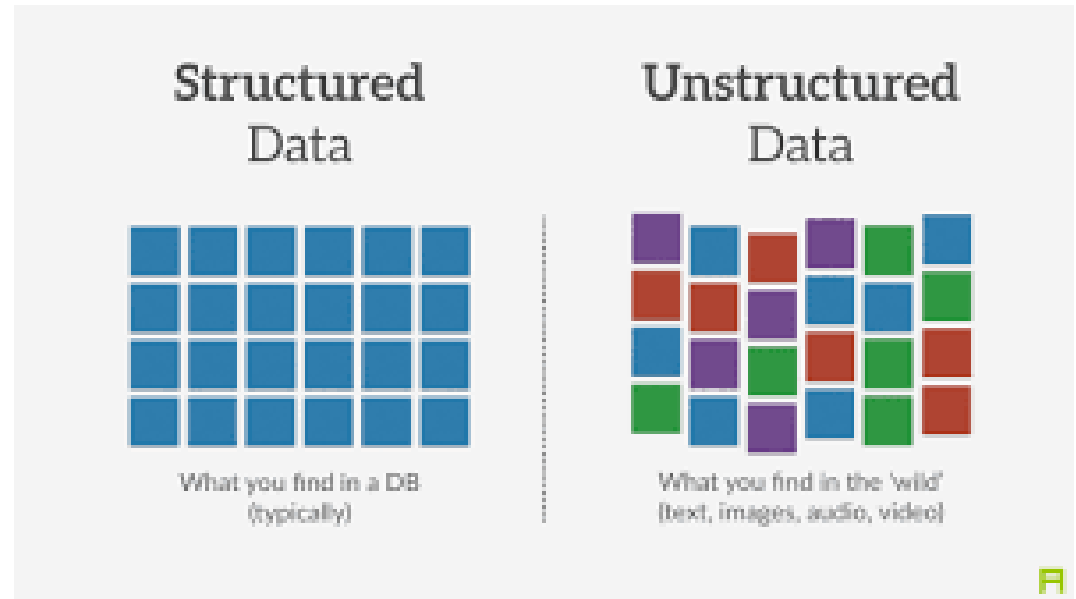


All publicly-traded companies and certain individuals use EDGAR – the Electronic Data Gathering, Analysis, and Retrieval system – to submit required, time-sensitive documents to the U.S. Securities and Exchange Commission in the XBRL format.

**Comment 3:** Why change from PDF to XBRL like the SEC?

**Problem:** Need to understand the benefits of structured data.

**Why XBRL? Because XBRL provides a way to break down all the data into structured pieces that you can identify and reuse in other reports and ratios. Every piece of data uses (or is tagged with) a standardized identifier. No more apples and oranges! No more Tower of Babel! Everyone uses the same terms and definitions to share information.**



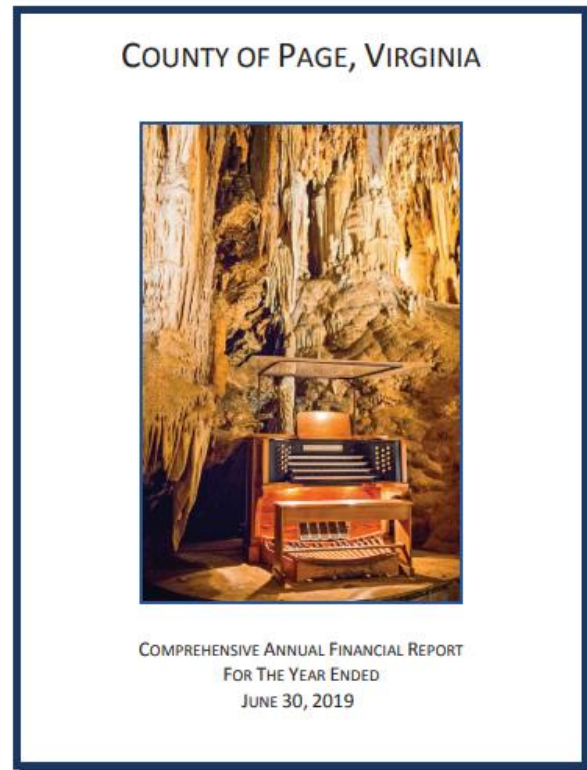
Structured data is data that is divided into standardized pieces that are identifiable and accessible by both humans and computers. It offers numerous benefits without burdensome manual processing. It allows investors, analysts and regulators to access, manipulate and compare data across periods using, for example, ratios for analysis.

**Comment 4:**

In summary,

**Problem:**

There may be some anxiety about changing the EMMA system for CAFR disclosures.  
Change is distressing.  
Change is costly.  
Change is intimidating.



The state and local municipalities need a simple tool to prepare their own CAFR Reports using an XBRL taxonomy.

- Not expensive
- Easy to use – no technical knowledge
- Easy to map and extract data

**In summary, the move to structured documents using XBRL does not have to be costly or unfriendly.**

## Comment 5:

### APPENDIX

Here are some screenshots of how XBRL can show structured data for financial statements and ratio analysis. Notice how the content and values are tagged.

You may see a video version of this presentation on YouTube:  
<https://youtu.be/B3e4CkhVcEw>



COUNTY OF PAGE, VIRGINIA Exhibit 1

Statement of Net Position  
June 30, 2019

	Primary Government	Component Unit	Component Unit	Component Unit
	Governmental Activities	School Board	Economic Development Authority	Luray-Page Airport Authority
<b>ASSETS</b>				
Cash and cash equivalents	\$ 13,580,560	\$ 956,099	\$ 271,506	\$ 253,678
Receivables (net of allowance for uncollectibles):				
Taxes receivable	15,121,763	-	-	-
Accounts receivable	663,748	75,062	1,496,661	5,746
Notes receivable	-	-	2,725	-
Due from primary government	-	2,137,639	-	-
Due from other governmental units	1,120,158	569,221	-	-
Inventories	-	30,561	-	-
Prepaid items	-	292,151	-	-
Capital assets (net of accumulated depreciation):				
Land	1,970,464	977,491	-	-
Buildings and improvements	41,632,491	33,039,811	-	-
Machinery and equipment	1,142,999	1,370,111	-	-
Construction in progress	75,000	140,951	-	-
Total assets	\$ 75,307,183	\$ 39,589,106	\$ -	\$ -
<b>DEFERRED OUTFLOWS OF RESOURCES</b>				
Pension related items	\$ 993,443	\$ 3,772,141	\$ -	\$ -
OPEB related items	93,751	408,921	-	-
Total deferred outflows of resources	1,087,194	4,181,062	-	-
<b>LIABILITIES</b>				
Accounts payable	\$ 1,015,406	\$ 155,899	\$ -	\$ 38,702
Accrued liabilities	400,703	3,077,418	-	-

**Attributes**

Cash and Cash Equivalents	
Tag	cafr:CashAndCashEquivalents
Fact	13,580,560
Axis	Type of Activities [Axis] - cafr:TypeOfActivitiesAxis
Member	cafr:PrimaryGovernmentActivitiesMember
Period	As of 6/30/2019
Measure	USD
Decimals	0

Prev Next 2 of 68

- Cash and Cash Equivalents As of 6/30/2019 13,580,560
- Cash and Cash Equivalents As of 6/30/2019 956,099
- Cash and Cash Equivalents As of 6/30/2019 271,506
- Cash and Cash Equivalents As of 6/30/2019 253,678
- Other Taxes Receivable As of 6/30/2019 15,121,763
- Other Taxes Receivable As of 6/30/2019 -
- Other Taxes Receivable As of 6/30/2019 -
- Other Taxes Receivable As of 6/30/2019 -
- Accounts Receivable As of 6/30/2019 663,748
- Accounts Receivable As of 6/30/2019 75,062

This is an example of an Excel file that has been converted into Inline XBRL. You can see that Cash and Cash Equivalents and the exact dollar amount have been “tagged” with the XBRL taxonomy element.



City of Alexandria, Virginia  
Auditor of Public Accounts - Commonwealth of Virginia

Examples of ratio analysis for the Commonwealth of Virginia, as created by a 3<sup>rd</sup>-party provider.

APA Ratios for 2018 Early Warning System  
Local Government Fiscal Distress Model

	Ratio	Distress Monitoring	Points	Weight	Thresholds	
<b>Government-wide Activity</b>						
<a href="#">Ratio 1</a>	Ability to make up revenue shortfalls	97.78%	●	0	10	>15% 15% to> 10% to> 5% or less
<a href="#">Ratio 2</a>	Ability to pay current liabilities	66.58%	●	0	5	>60% 60% to> 30% or less
<a href="#">Ratio 3</a>	Ability to fund expenses in unforeseen situation	30.40%	●	0	15	>15% 15% to> 10% to> 5% or less
<a href="#">Ratio 4</a>	Change in Net Position	26.03%	●	0	10	>0% 0% to> -15% to> -40% or less
<a href="#">Ratio 5</a>	Outstanding debt supported by tax valuation	1.67%	●	0	10	<3% 3% to< 6% or more
<b>General Fund Activity</b>						
<a href="#">Ratio 6</a>	Ability to fund expenditures in unforeseen situation	17.56%	●	0	15	>15% 15% to> 10% to> 5% or less
<a href="#">Ratio 7</a>	Sufficiency of reserves	17.97%	●	0	10	>10% 10% to> 5% or less
<a href="#">Ratio 8</a>	Annual revenues sufficient for operations	116.76%	●	0	10	>100% 100% to> 60% or less
<a href="#">Ratio 9</a>	Debt service repayment	9.22%	●	0	10	<10% 10% to< 20% or more
<a href="#">Ratio 10</a>	Change in unassigned fund balance	19.85%	●	0	10	>0% 0% to> -15% to> -30% or less
<a href="#">Ratio 11</a>	Reliance on State and Federal revenues	7.88%	●	0	10	<25% 25% to< 50% or more
<a href="#">Ratio 12</a>	Enterprise Funds are self-supporting	There are no Enterprise Funds in this CAFR.		0	10	>100% 100% to> 50% or less
TOTAL DISTRESS POINTS			0	over 125 max. points, or 0% fiscal distress.		

NOTE: ● The (green/yellow/red) position indicates the ranking level in the fiscal distress monitoring system.

APA Source: [Ratio analysis used by the Auditor of Public Accounts as part of the annual Local Fiscal Distress Monitoring Process.](#)

Inline XBRL

Highlight all tags

## Taxonomy Elements

Line item

apa:RatioGovtWideRevenueShortfall

Value

0.48

Period

2018-06-30

Units

xbri:pure

Entity

47210100100000



City of Alexandria, Virginia

Auditor of Public Accounts - Commonwealth of Virginia

APA Ratios for 2018 Early Warning System

Details on Ratios

Ratio Details for Early Warning System

Government-wide Activity

Ratio 1 Ability to make up revenue shortfalls

47.78%

(Cash-current liabilities)/(charges for services+general revenues)

Cash and cash equivalents	336,089,928	
Cash and investments-fiscal agent	219,874,961	
Subtotal cash		555,964,889
Total liabilities	998,032,004	
Less: Long term debt	657,636,767	
Less: Net pension liability	163,020,518	
Subtotal current liabilities		177,374,719
Cash, net of current liabilities		378,590,170
Charges for services	77,661,733	
General revenues	714,712,769	
Subtotal revenues		792,374,502

Ratio 2 Ability to pay current liabilities

66.58%

(Cash/total liabilities)

Cash and cash equivalents	336,089,928	
Cash and investments-fiscal agent	219,874,961	
Subtotal cash		555,964,889
Total liabilities	998,032,004	
Less: Net pension liability	163,020,518	
Subtotal		835,011,486

Inline XBRL

Highlight all tags

Taxonomy Elements

Line item

apa:RatioGovtWideRevenueShortfall

Value

0.48

Inline XBRL

Highlight all tags

Line item

cafr:CashAndCashEquivalents

Value

336,089,928.00

Period

2018-06-30

## Ratio Details for Early Warning System

### General Fund Activity

<p><b>Ratio 6 Ability to fund expenditures in unforeseen situation</b></p> <p><i>(Unassigned+assigned fund balance/total expenditures)</i></p> <p>Unassigned fund balance <span style="float: right;">73,780,565</span></p> <p>Assigned fund balance <span style="float: right;">34,152,482</span></p> <p style="padding-left: 20px;">Subtotal <span style="float: right;">107,933,047</span></p> <p>Total expenditures <span style="float: right;">614,696,136</span></p>	<p><b>17.56%</b></p>
<p><b>Ratio 7 Sufficiency of reserves</b></p> <p><i>(Total fund balance/total revenues)</i></p> <p>Total fund balance <span style="float: right;">128,958,343</span></p> <p>Total revenues <span style="float: right;">717,727,325</span></p>	<p><b>17.97%</b></p>
<p><b>Ratio 8 Annual revenues sufficient for operations</b></p> <p><i>(Total revenues/total expenditures)</i></p> <p>Total revenues <span style="float: right;">717,727,325</span></p> <p>Total expenditures <span style="float: right;">614,696,136</span></p>	<p><b>116.76%</b></p>
<p><b>Ratio 9 Debt service repayment</b></p> <p><i>(Debt service/total revenues)</i></p> <p>Debt service principal <span style="float: right;">44,404,949</span></p> <p>Debt service interest <span style="float: right;">21,795,764</span></p> <p style="padding-left: 20px;">Subtotal debt service <span style="float: right;">66,200,713</span></p> <p>Total revenues <span style="float: right;">717,727,325</span></p>	<p><b>9.22%</b></p>

Highlight all tags

### Taxonomy Elements

**Inline XBRL**

Line item  
apa:RatioDebtServiceRepayment

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Value  
0.09

Highlight all tags

**Inline XBRL**

Line item  
apa:DebtServicePrincipal

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Value  
44,404,949.00

Highlight all tags

**Inline XBRL**

Line item  
apa:DebtServiceInterestAndOtherChar

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Value  
21,795,764.00

This is an example of how each concept and value is tagged with an XBRL taxonomy element.