



MARTIN O'MALLEY  
*Governor*

ANTHONY G. BROWN  
*Lt. Governor*

CLARENCE J. SNUGGS  
*Acting Secretary*

October 3, 2014

The Honorable Brian E. Frosh, Chair  
Senate Judicial Proceedings Committee  
2 East, Miller Senate Building  
11 Bladen Street  
Annapolis, MD 21401

The Honorable Maggie McIntosh, Chair  
House Environmental Matters Committee  
Room 251, House Office Building  
Annapolis, MD 21401

**RE: Feasibility Report of the "Rental Security Deposit Calculator"**

Dear Chairmen:

Pursuant to the requirements of Chapters 488 and 489 of the 2014 Laws of Maryland, the Maryland Department of Housing and Community Development ("DHCD") is submitting this report on the feasibility of maintaining on its departmental website a customized calculator that calculates the interest due on a security deposit by allowing a user to enter a tenancy start date, a tenancy end date, and the amount of the security deposit.

DHCD has determined that the "Rental Security Deposit Calculator" ("calculator") as defined in the statute **is feasible**, and the Department is currently developing a communications plan to inform targeted audiences of the existence of the tool during December 2014 through the end of the first quarter of 2015.

In creating the tool, DHCD had to make the following determinations in the interpretation of the legislation to create the logic and formulas necessary to provide these calculations. We request that should these determinations be in conflict with the intent of the legislature, further clarifications are provided that will allow DHCD to modify the calculator's code prior to its public launch on January 1, 2015.

**Determinations**

- Calculations are based on tenancy start and end dates. Tenancy dates, as defined in lease documentation and written or verbal agreements to vacate, may differ from the dates of the transfer of security deposit funds to and from the landlord. DHCD uses the tenancy dates, as entered in to the calculator by the landlord, for calculation of interest payable on a security deposit;

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100 Community Place ■ Crownsville, MD 21032 ■ [www.mdhousing.org](http://www.mdhousing.org)  
410-514-7005 ■ 1-800-756-0119 ■ Fax 410-987-4070 ■ TTY/RELAY 711 or 1-800-735-2258

- When calculating partial payment periods (fewer than 6 months) that may occur at the close of a lease, the language of the bill refers to the "number of months that the deposit was held" in creating the numerator for the fraction to be prorated to this period. We interpret this to allow for the calculation of a fraction based on the number of days in cases where the tenancy encompasses incomplete months. For example, if the final 6 months of a tenancy lasted 4 months and 16 days, we calculate the interest payable for this period by using the number of days during that 4 month and 16 day period as the numerator, and 365 days as the denominator, and applying this multiplier, as well as a 0.5 multiplier (to account for 6 of 12 months) to the interest calculation;
- Further, we assume that all years have 365 days. Acknowledging that there are 366 days each leap year, we propose that the effect of using the 365-day simplification is negligible compared to the additional complexity of the calculator in attempting to include leap year calculations;
- The interest rate used to calculate each 6-monthly payment is the interest rate in place on the first day of that 6-month period. Should a 6-month payment period encompass two calendar years, the interest rate for the first of those calendar years will be applied to that 6-month payment period; and
- Noting that the daily 1-year U.S. Treasury yield curve interest rate as of the first business day of a calendar year will only be available on January 2, 3 or 4, (depending on which day of the week January 1st falls on), any lease which begins on or after January 1 and before the first business day of the year will have the interest rate for that calendar year applied at the end of the relevant 6-monthly period.

**Source of Data**

DHCD will source interest rate data from the US Treasury's website at:

<http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield>

The interest rate used in any given calendar year will be that provided on the first listed day of that calendar year, under the column heading of "1 Yr". An example is shown for calendar year 2013 below.

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XML These data are also available in XML format by clicking on the XML icon

XSD The schema for the XML is available in XSD format by clicking on the XSD icon

If you are having trouble viewing the above XML in your browser, click here

To access interest rate data in the legacy XML format and the corresponding XSD schema, click here

Select type of Interest Rate Data  
 Daily Treasury Yield Curve Rates Go

Select Time Period  
 2013 Go

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
01/02/13	0.07	0.08	0.12	0.15	0.27	0.37	0.76	1.25	1.86	2.63	3.04
01/03/13	0.06	0.08	0.12	0.15	0.27	0.40	0.81	1.31	1.92	2.70	3.12
01/04/13	0.06	0.07	0.11	0.15	0.27	0.41	0.82	1.32	1.93	2.70	3.10
01/07/13	0.05	0.07	0.11	0.15	0.27	0.41	0.82	1.31	1.92	2.70	3.10
01/08/13	0.06	0.07	0.11	0.14	0.25	0.38	0.79	1.28	1.89	2.66	3.06
01/09/13	0.04	0.06	0.09	0.13	0.24	0.37	0.77	1.27	1.88	2.65	3.06
01/10/13	0.05	0.06	0.10	0.14	0.26	0.37	0.80	1.30	1.91	2.68	3.08
01/11/13	0.04	0.07	0.10	0.14	0.26	0.37	0.78	1.28	1.89	2.65	3.05
01/14/13	0.05	0.08	0.11	0.14	0.26	0.37	0.78	1.27	1.89	2.65	3.05
01/15/13	0.09	0.09	0.11	0.14	0.26	0.36	0.75	1.24	1.86	2.62	3.02
01/16/13	0.07	0.08	0.11	0.14	0.26	0.36	0.75	1.23	1.84	2.61	3.01
01/17/13	0.05	0.07	0.11	0.14	0.28	0.39	0.79	1.29	1.89	2.66	3.06

## Location

The “Rental Security Deposit Calculator” will be hosted on DHCD’s agency website (<https://dhcd.maryland.gov>). Based on this website’s current design, a prominent link to the Calculator will be displayed on the agency’s home page (lower left section). A mock-up of this link is shown in the figure below, showing DHCD’s site as of September 2014.



This link will transfer the user to a dedicated page within the DHCD agency website, where the calculator and associated explanatory text will be provided.

## Functionality

The Calculator, which in its current form is an Ajax-enabled ASP.NET 4.0 web application using VB.NET (also using HTML CSS, JavaScript and XML technology) functions by requesting three data points:

1. Start Date
2. End Date
3. Amount

Upon the user’s use of the “Calculate” button, the results returned are:

1. Interest
2. Total
3. Interest payment summary

The blank calculator, displayed upon first visiting the site, looks as follows:

The screenshot shows a web form for a calculator. It includes the following elements:

- Start Date:** A text input field.
- End Date:** A text input field.
- Amount:** A text input field with a dollar sign (\$) to its left.
- Calculate:** A blue button with rounded corners.
- Interest:** A text input field with a dollar sign (\$) to its left.
- Total:** A text input field with a dollar sign (\$) to its left.

To enter dates, the user may type in a date using MM/DD/YYYY format, or use the calendar tool that appears when the field is selected, as shown below:

This screenshot shows the calculator interface with a calendar pop-up for the Start Date field. The calendar displays the month of March 2014. Below the calendar, the Interest and Total fields are visible.

**Start Date**

March, 2014						
Su	Mo	Tu	We	Th	Fr	Sa
23	24	25	26	27	28	1
	2	3	4	5	6	7
	8	9	10	11	12	13
	14	15	16	17	18	19
	20	21	22	23	24	25
	26	27	28	29	30	31

Today: September 23, 2014

**Interest**

\$

**Total**

\$

Upon entering valid data, the results appear as follows:

Start Date	<input type="text" value="05/21/2007"/>
End Date	<input type="text" value="7/19/2013"/>
Amount	\$ <input type="text" value="800"/>
<input type="button" value="Calculate"/>	
Interest	\$ <input type="text" value="116"/>
Total	\$ <input type="text" value="916"/>

  

Period	Annual Rate	Multiplier	Payment Amount
5/21/2007 - 11/20/2007	5.00 %	0.50	\$20.00
11/21/2007 - 5/20/2008	5.00 %	0.50	\$20.00
5/21/2008 - 11/20/2008	3.17 %	0.50	\$12.68
11/21/2008 - 5/20/2009	3.17 %	0.50	\$12.68
5/21/2009 - 11/20/2009	1.50 %	0.50	\$6.00
11/21/2009 - 5/20/2010	1.50 %	0.50	\$6.00
5/21/2010 - 11/20/2010	1.50 %	0.50	\$6.00
11/21/2010 - 5/20/2011	1.50 %	0.50	\$6.00
5/21/2011 - 11/20/2011	1.50 %	0.50	\$6.00
11/21/2011 - 5/20/2012	1.50 %	0.50	\$6.00
5/21/2012 - 11/20/2012	1.50 %	0.50	\$6.00
11/21/2012 - 5/20/2013	1.50 %	0.50	\$6.00
5/21/2013 - 7/19/2013	1.50 %	0.16	\$1.94

Note that for each 6-month payment period, a line of data is provided in the summary table below the main output showing how the amount was calculated, including the interest rate applied to that period. In the example above, calendar years 2007 and 2008 had interest rates as of the first business day of the year of 5.00% and 3.17% respectively. Note also that in the fourth payment period, while the end of the period falls in 2009, the beginning of the period falls in 2008, and therefore that year's interest rate is applied (using a 0.5 multiplier to account for 6 of 12 months). From 2009 forward, the

daily 1-year U.S. Treasury yield curve interest rate as of the first business day of the calendar year had dropped below 1.5%; therefore the value of 1.5% is applied.

### Errors

If the user fails to enter data, an error message is displayed, as shown below:

**There was a problem with your submission.**  
Errors have been **highlighted** below.

Start Date  
5/21/2007

End Date  
7/19/2013

Amount  
\$

**This field is required. Please enter an Amount**

**Calculate**

Interest  
\$

Total  
\$

Additional errors messages are provided when dates are not valid (e.g. when the End Date is earlier than the Start Date), as shown below:

**There was a problem with your submission.**  
Errors have been **highlighted** below.  
**End Date should be greater than  
Start Date**

Start Date  
9/13/2010

End Date  
4/28/2008  
**End Date should be greater than Start Date**

Amount  
\$ 800

**Calculate**

Interest  
\$

Total  
\$

Or if an amount below \$50 is entered, as shown below:

The screenshot shows a web form with the following fields and elements:

- Start Date:** 4/28/2010
- End Date:** 8/19/2013
- Amount:** \$ 40
- Message:** Please enter an amount greater than \$50
- Calculate:** A blue button with the text "Calculate".
- Interest:** \$ [ ]
- Total:** \$ [ ]

Note also that the prototype demonstrated above uses dates preceding 2015. When the Calculator is officially launched in the new year, it will only allow dates to be entered prospectively, and will return an error for tenancy dates that start before January 1, 2015.

### **Design and Presentation**

The prototype shown in the prior screenshots is a functional version of the Calculator which requires some additional tweaks of the underlying code, but presents a useful working model for testing. Some work remains in the months launch to complete the design of the website page on which it will be hosted, including descriptive information to introduce the Calculator to users, and the inclusion of disclaimer language clearly articulating the limitations of the Calculator's output.

In addition, DHCD is aware of a potential complicating issue, in which Prince George's County has an existing local ordinance requiring the payment of interest on security deposits at 4%. There are attempts to modify this issue through the enactment of CB-63-2014, which was recently introduced, and is intended to conform county law to state law regarding notice provisions and interest due on security deposits.

DHCD is working closely with Prince George's County to resolve this, but will provide functionality if necessary upon launch of the "Rental Security Deposit Calculator" which allows for the selection of Prince George's County as the location of the residence, and the use of a fixed 4% interest rate in calculations.

**Promotion and Communications**

DHCD will provide notice to relevant industry groups of the launch of the Rental Security Deposit Calculator during December 2014, and will consult with representatives of these groups for advice on how to best promote the existence of the tool to their constituency, alongside updates and news relating to the legislative change that it represents. DHCD believes that prominent placement on the front page of the agency's website also provides for meaningful awareness-raising.

If you have any questions regarding this matter, please do not hesitate to contact me or Mr. Peter Dolkart, Legislative Director, at 410-514-7015, or by email at [Dolkart@mdhousing.org](mailto:Dolkart@mdhousing.org).

Sincerely,

A handwritten signature in blue ink, reading "Clarence J. Snuggs", with a long horizontal flourish extending to the right.

Clarence J. Snuggs  
Acting Secretary

cc: The Honorable Thomas V. Mike Miller, Jr., Senate President  
The Honorable Michael E. Busch, House Speaker  
Mr. Peter Dolkart, Legislative Director, DHCD

CJS/pd