

**Assessment Addendum to:**

**Evaluation of the Number of Future Veterans  
and Related Relatives In Texas Eligible to  
Receive Assistance Through the  
Hazlewood Exemption, 2016-2025**

by

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In the spring of 2015, the Texas Veterans Commission contracted with the Hobby Center for the Study of Texas in order to prepare projections of the use of the Hazlewood Exemption through 2025. These projections were reported in August of 2015 and included baseline and alternative projection scenarios as well as evaluated the impact of various policy proposals on projected use. This addendum provides an assessment of the accuracy of the baseline projections by comparing the 2015 and 2016 projections prepared by the Hobby Center for the Study of Texas (HCST) to the actual exemptions reported by colleges and universities to the Texas Veterans Commission and certified by the Legislative Budget Board (LBB). This assessment also includes evaluations of the LBB's projections prepared in December 2014 and discusses the general trends regarding the change in the use of each category of the Hazlewood Exemption. No projection or forecast can predict the future with certainty. Projections are only as good as the assumptions they are based upon and the historic data available in order to project future use. The only way to evaluate the usefulness of past projections is to compare actual use to predicted use and evaluate the error in those predictions (how far off the projections were to the actual use).

## **Assessment**

The summary of the differences between the actual use and predicted use are presented in Table 1. In this table, the comparisons are first presented for 2015 then for 2016, with the HCST projections presented first, followed by the LBB projections. As can be seen in Table 1, the HCST projections under-predicted Hazlewood Exemption use for 2015 by 2.5 percent (or 973 exemptions) and over-predicted exemption use for 2016 by 2.7 percent (1,099 exemptions), an acceptable range of errors given the time horizons. The LBB projections over-predicted total exemption use for both years – by 13.6 percent in 2015 (5,278 exemptions) and by 20.2 percent (8,212 exemptions). While the projections of use for total exemptions were within a reasonable range of error, the errors were more pronounced for each category of exemption.

The HCST correctly predicted a downward decline in veteran exemption use, but the decline in use by veterans was more dramatic than predicted. The HCST model over-predicted veteran exemption use by 10.2 percent (1,453 exemptions) for 2015 and by 19.6% (or 2,593 exemptions) for 2016, as use declined from 16,297 in 2014 to 14,304 in 2015 and 13,212 in 2016. The LBB model projected growth from 2014 through the projection period, and thus over-predicted in 2015 and 2016 by 25.8 percent and 41.5 percent, respectively.

Exemptions in the Legacy category continued to increase through 2015 and 2016, but at a declining rate of change year over year. For 2015, the absolute percentage difference for both the LBB and the HCST models was about nine percent. The HCST model under-predicted by 9.0 percent (or 1,965 exemptions) and the LBB model over-predicted by 8.8 percent (or 1,919 exemptions). For 2016, the HCST model under-predicted again, but by only 3.5 percent (or 846 exemptions) while the LBB model over-predicted by 13.6 percent (or 3,262 exemptions).

The spouse and dependent categories have the smallest number of exemptions and are also harder to predict, given the nature of these exemptions (which are provided to spouse and dependents of disabled veterans or children of military personnel missing/killed in action or who died from service connected injury). The exemptions in this category were under-predicted for both years and for both projection models (as shown in Table 1).

**Table 1. Summary of Projection Evaluation**

<b>Hobby Center for the Study of Texas (HCST)</b>				
	<b>Veteran</b>	<b>Legacy</b>	<b>Spouse/ Dependent</b>	<b>Total</b>
<b>Actual 2015</b>	14,304	21,781	2,737	38,822
<b>Projected 2015</b>	15,757	19,816	2,276	37,849
<b>Difference</b>	1,453	(1,965)	(461)	(973)
<b>% Difference</b>	10.2%	-9.0%	-16.8%	-2.5%

	<b>Veteran</b>	<b>Legacy</b>	<b>Spouse/ Dependent</b>	<b>Total</b>
<b>Actual 2016</b>	13,212	24,038	3,338	40,588
<b>Projected 2016</b>	15,805	23,192	2,690	41,687
<b>Difference</b>	2,593	(846)	(648)	1,099
<b>% Difference</b>	19.6%	-3.5%	-19.4%	2.7%

<b>Legislative Budget Board</b>				
	<b>Veteran</b>	<b>Legacy</b>	<b>Spouse/ Dependent</b>	<b>Total</b>
<b>Actual 2015</b>	14,304	21,781	2,737	38,822
<b>Projected 2015</b>	18,000	23,700	2,400	44,100
<b>Difference</b>	3,696	1,919	(337)	5,278
<b>% Difference</b>	25.8%	8.8%	-12.3%	13.6%

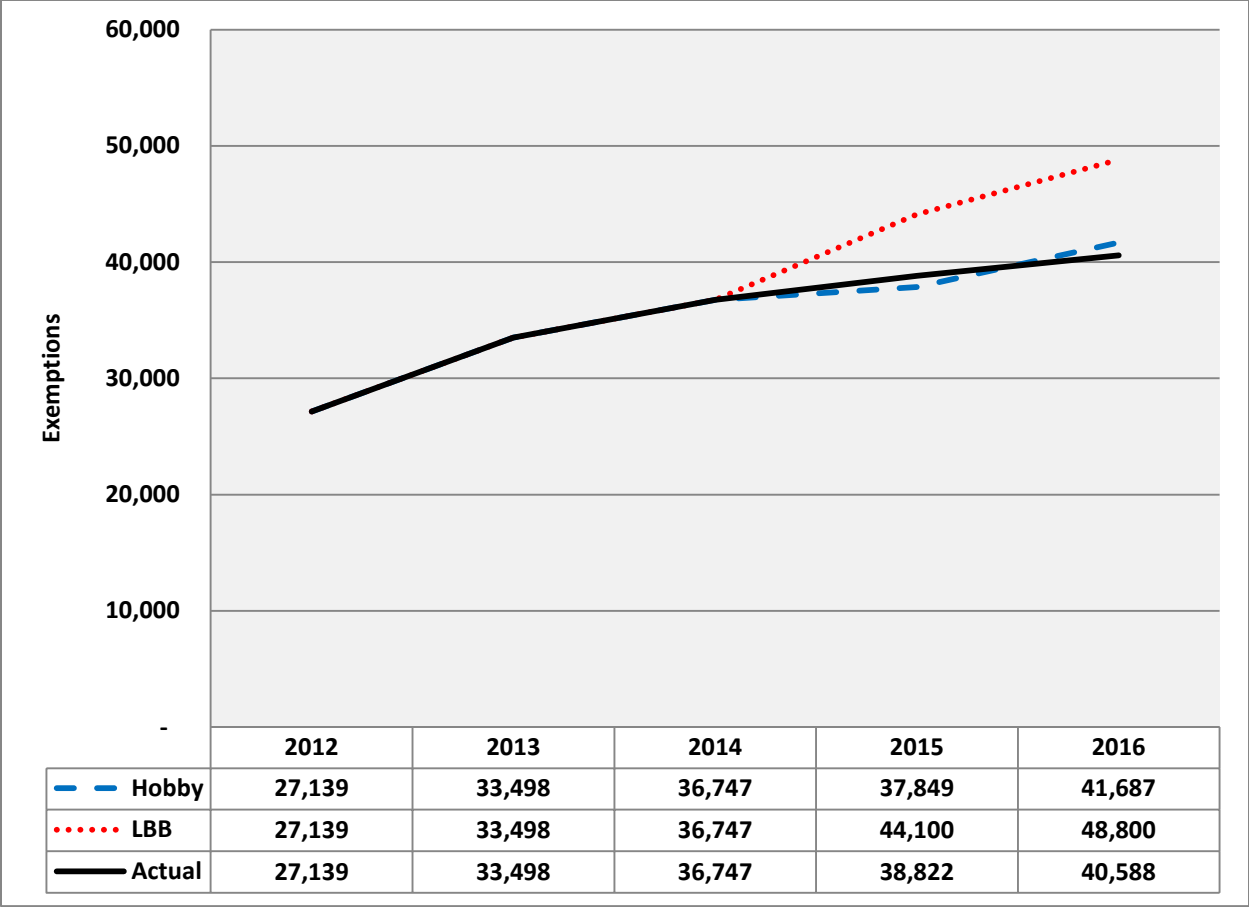
	<b>Veteran</b>	<b>Legacy</b>	<b>Spouse/ Dependent</b>	<b>Total</b>
<b>Actual 2016</b>	13,212	24,038	3,338	40,588
<b>Projected 2016</b>	18,700	27,300	2,800	48,800
<b>Difference</b>	5,488	3,262	(538)	8,212
<b>% Difference</b>	41.5%	13.6%	-16.1%	20.2%

Another way to compare the projected exemptions to the actual exemptions is to graphically show the change over time. Figures 1 through 4 show the number of Hazlewood Exemptions (Figure 1) and exemptions by type (Figures 2 through 4) from 2012 through 2016 as well as the projected exemptions for the HCST (blue dashed line) and LBB (red dotted line) models.

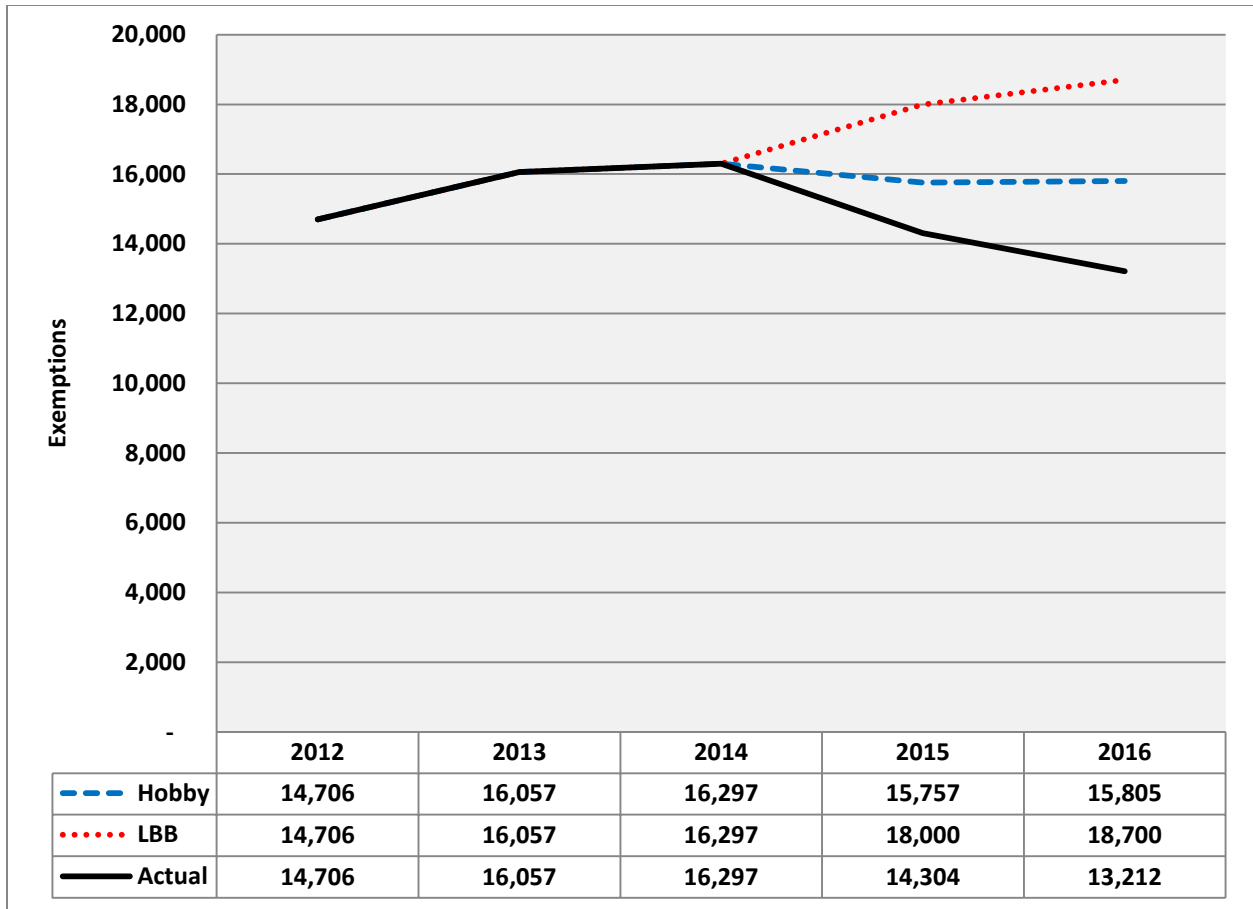
### **Summary and Future Trends**

So far, only two years of data are available to assess the accuracy of the projection models. Overall, the HCST model has predicted the overall number of Hazlewood Exemptions within an absolute error less than three percent for both years. It also predicted the general trend of a slower rate of growth year over year and a decline in the use of the veteran exemption category (although it still over-predicted the veteran use). For the Legacy exemption, the HCST model under predicted use in both periods, but was closer to the actual exemption use in 2016 (less than four percent) than in 2015 (less than ten percent).

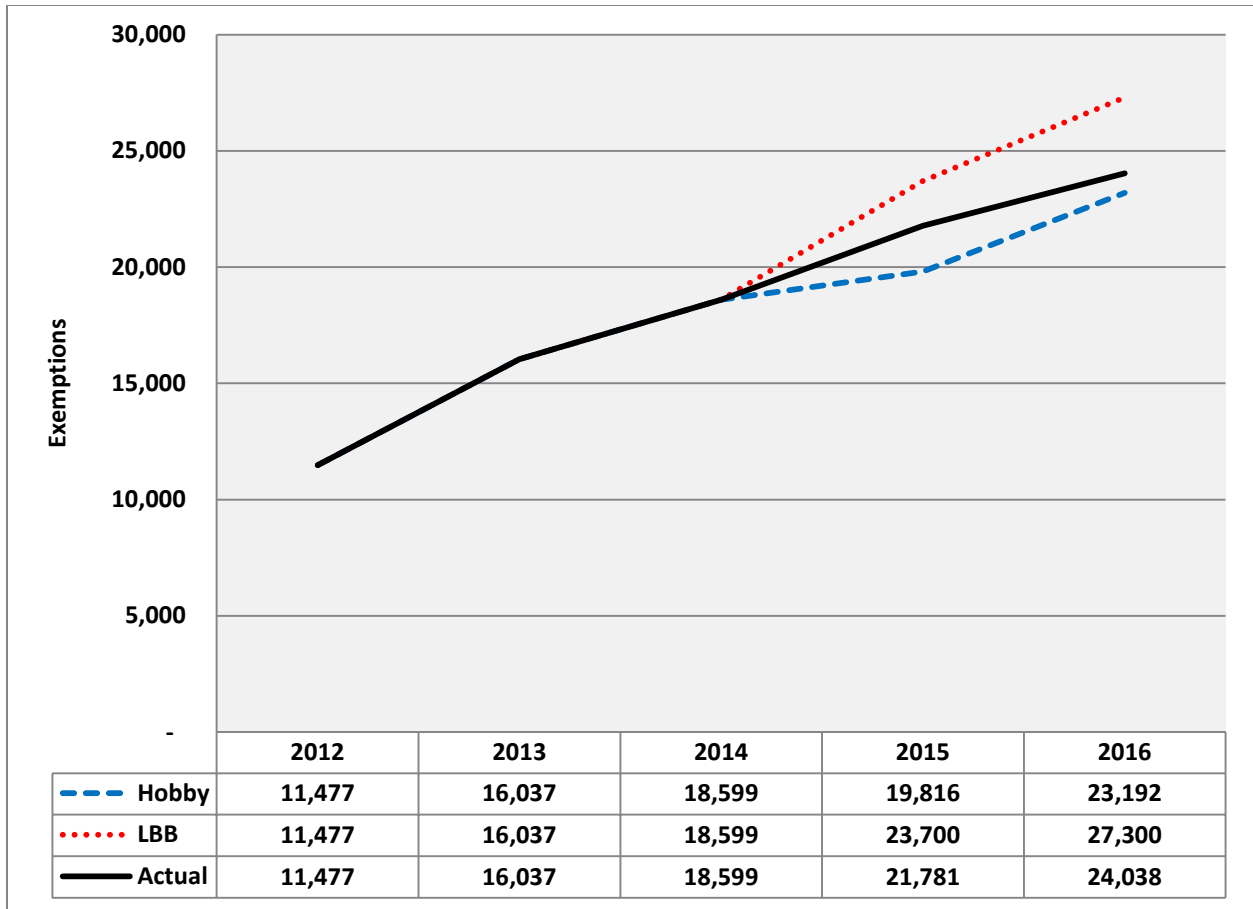
The percentage change year over year has declined from 2012-2013 to 2015-2016 for all categories except for the spouse and dependent category (which is a smaller group and has a more volatile rate of change). If these trends continue, then there will be a continued slowing of the rate of change in the number of exemptions overall which could lead to only small levels of growth year to year, and likely to a stabilization in the number of exemptions from year to year. The HCST model is based primarily on the underlying demographics of the veteran population and how the size and age structure effect the use of the Hazlewood Exemption. So far, the model has predicted, within a reasonable level of error, future use of the Hazlewood Exemption, though it has performed less well for each category of exemption.



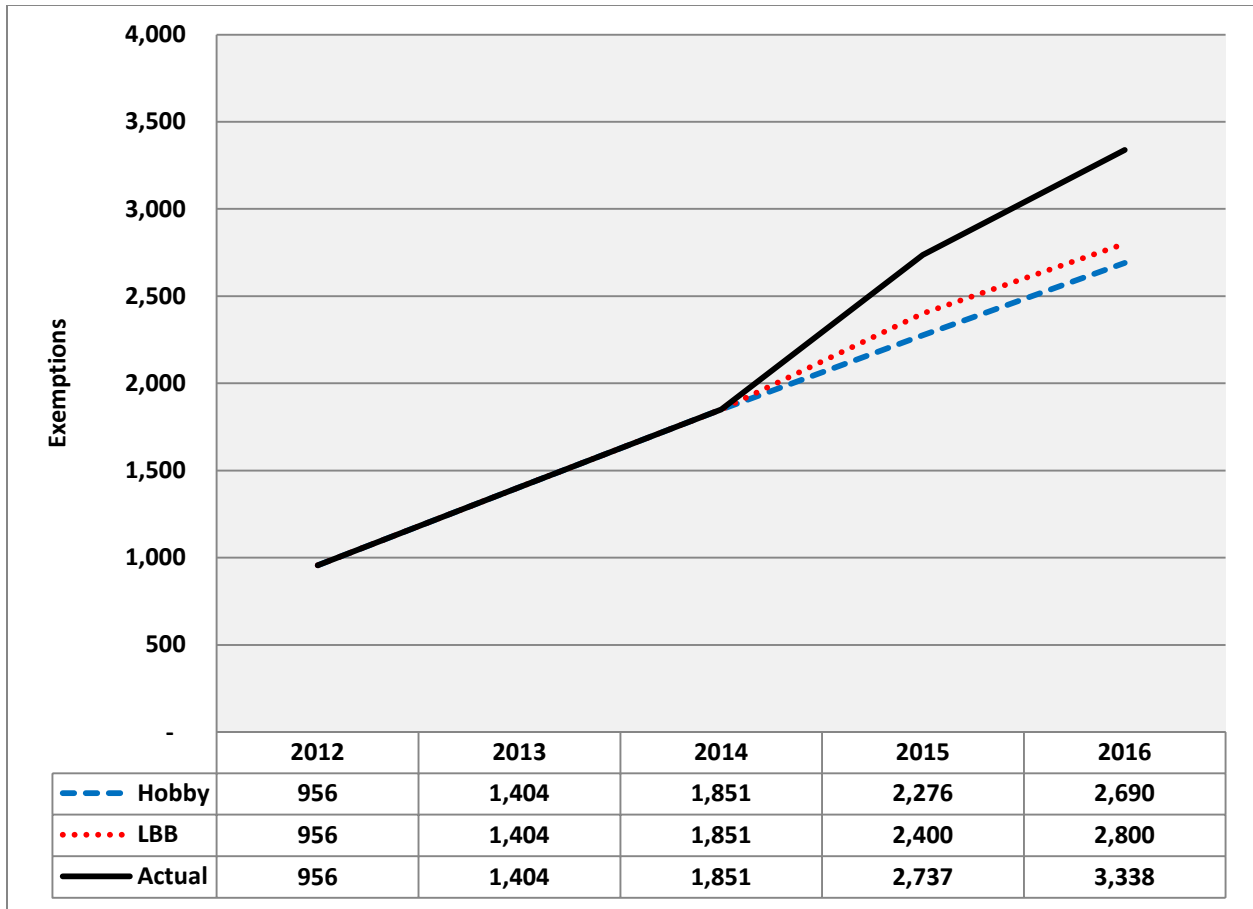
**Figure 1. Total Exemptions: 2015-2016 Actual Use vs. Projections**



**Figure 2. Veteran Exemptions: 2015-2016 Actual Use vs. Projections**

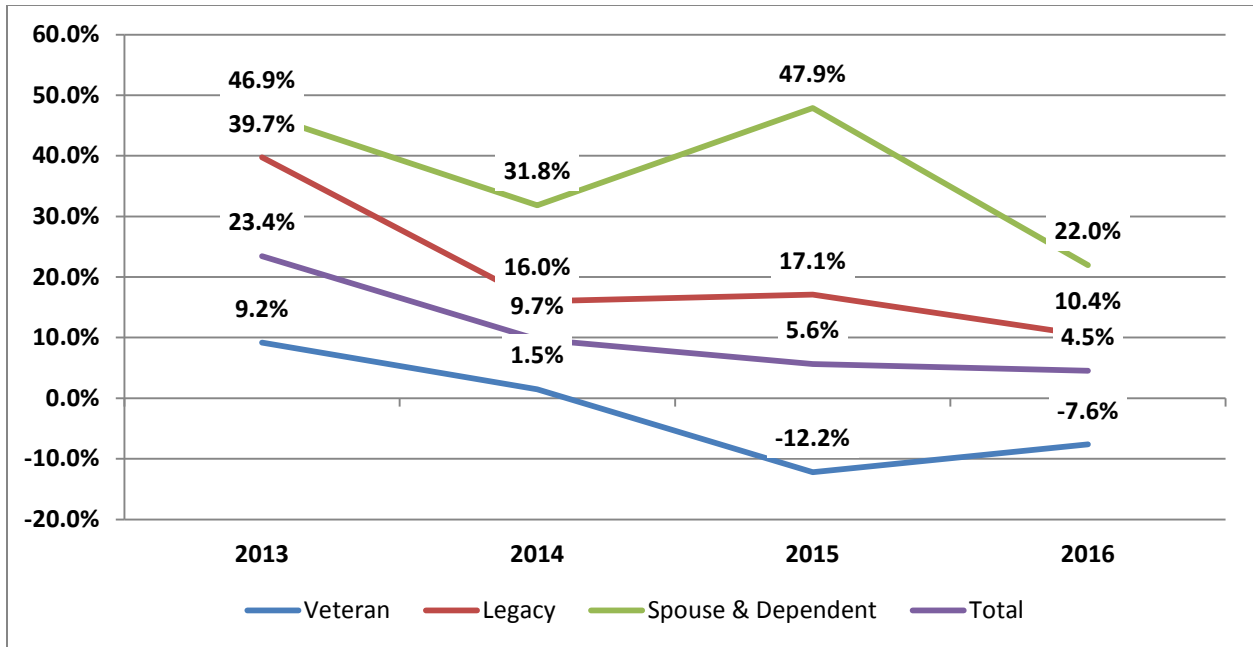


**Figure 3. Legacy Exemptions: 2015-2016 Actual Use vs. Projections**



**Figure 4. Spouse & Dependent Exemptions: 2015-2016 Actual Use vs. Projections**





**Figure 5. Percentage Change from Previous Year in Hazlewood Exemption Use by Exemption Category, 2013 - 2016**

## References

Legislative Budget Board. 2014. *Report on Hazlewood Exemption*. Austin, Texas: Legislative Budget Board.

Cline, Michael and Steve H. Murdock. 2015. *Evaluation of the Number of Future Veterans and Related Relatives in Texas Eligible to Receive Assistance Through the Hazlewood Exemption, 2016-2025*. Houston, Texas: Hobby Center for the Study of Texas at Rice University.