

# STATE AID FUNDING FORMULA: FISCAL YEARS 2017-2020

Texas Juvenile Justice Department  
February 2016

**\*PROPOSAL\***

COMMENTS REQUESTED BY  
MARCH 31, 2016

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- Review of SB1630 requirements
- Primary objectives of formula revision
- Explanation of formula components
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*Review of Senate Bill 1630 Requirements  
Related to General Probation Funding*

# Senate Bill 1630

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- Senate Bill (SB) 1630 amended several provisions of the Human Resources Code affecting general (non-regionalization) probation funding.

# Senate Bill 1630

SECTION 6. Section 223.001, Human Resources Code, is amended to read as follows:

Sec. 223.001. DETERMINATION OF AMOUNT OF STATE AID. (a) The department shall annually allocate funds for financial assistance to juvenile boards to provide juvenile services according to current estimates of the number of juveniles in each county, a basic probation funding formula for departments that clearly defines what basic probation entails and which services are provided, and other factors the department determines are appropriate.

...

(c) The department shall [~~may~~] set aside a portion of the funds appropriated to the department for discretionary state aid to fund programs designed to address special needs or projects of local juvenile boards, including projects dedicated to specific target populations based on risk and needs, and with established recidivism reduction goals. The department shall develop discretionary grant funding protocols based on documented, data-driven, and research-based practices.

# Senate Bill 1630

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- TJJJ's implementation of these amended provisions is divided into three phases:
  - Phase 1: Defining "Basic Probation" (complete)
  - Phase 2: Developing a new funding formula
  - Phase 3: Establishing discretionary funding protocols

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*Primary Objectives of State Aid Funding  
Formula Revision Process*

# Primary Objectives

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*Distribute a substantial portion of funding based on potential workload*

*Formula input: juvenile-age population*

# Primary Objectives

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*Distribute a substantial portion of funding based on actual workload (measured by something that is minimally manipulable)*

*Formula input: formal referrals*

# Primary Objectives

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*Acknowledge economies of scale (higher cost per output for smaller departments)*

*Formula impact: allow influence of formula inputs to vary with size/workload*

# Primary Objectives

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*Mitigate any major funding shifts, especially funding reductions*

*Formula impact: adjustment for funding floor/ceiling*

# Primary Objectives

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*Set aside funds for discretionary state aid  
(HRC 223.001[c])*

*Impact: limit total funding distributed by  
formula methods; apply remainder to  
discretionary state aid*

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*Juvenile-Age Population*

# Factor: Juvenile-Age Population

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## ● Population data source: Texas State Data Center

- The Texas State Data Center produces calendar year (CY) population estimates following each census that stretch 11 years into the future (currently to 2021).
- Fiscal year (FY) data is estimated by a weighted average of the current (t) and prior (t-1) calendar years:

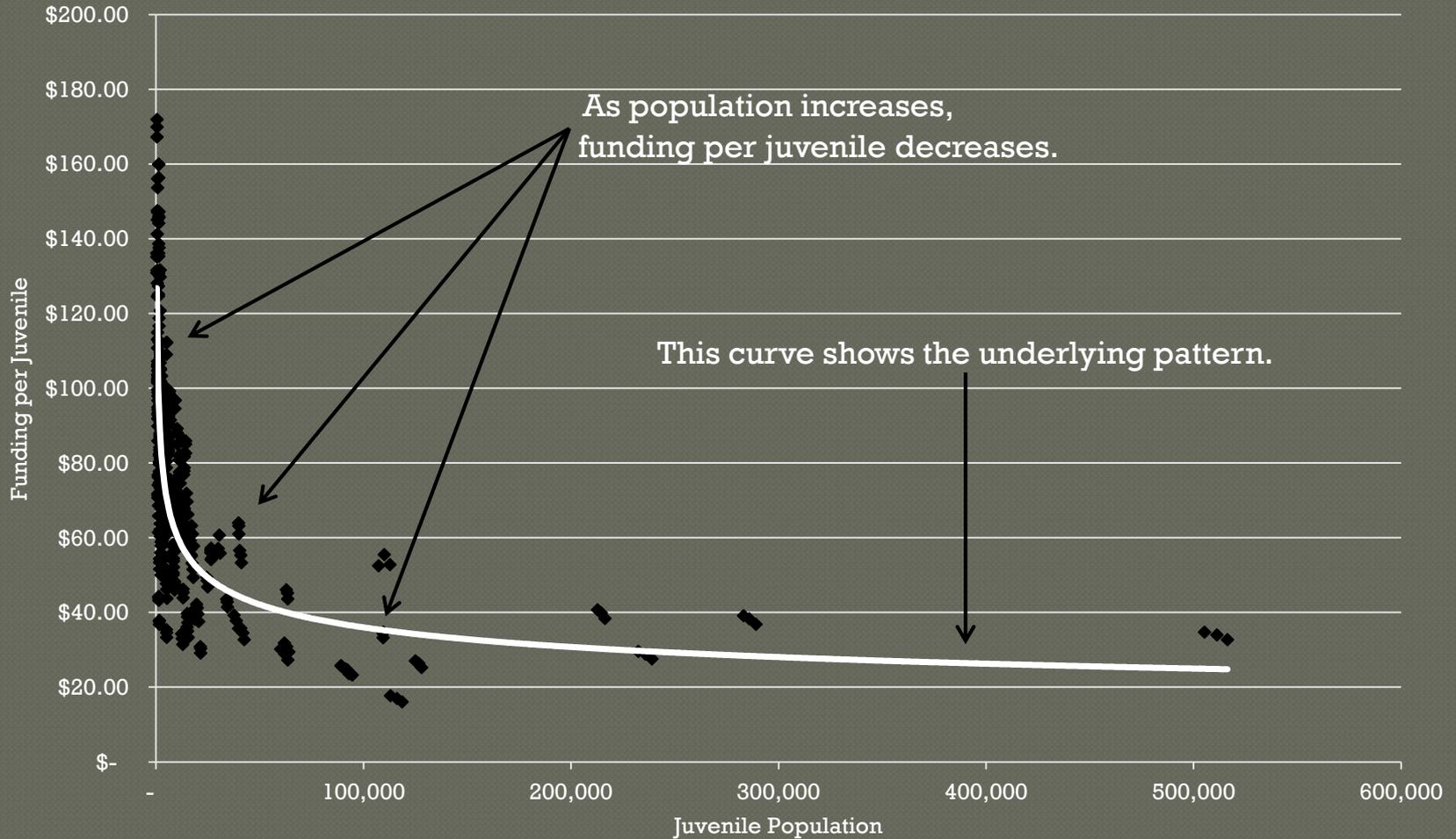
$$\hat{P}_{FY_t} = \frac{1}{3} P_{CY_{t-1}} + \frac{2}{3} P_{CY_t}$$

# Factor: Juvenile-Age Population

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- Graphing actual initial allocations from the last three years against juvenile-age population figures ( $\hat{P}$ ) shows a clear trend.

# Funding per Juvenile



# Factor: Juvenile-Age Population

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- If the underlying pattern were equally applied across all departments, each of the points would fall exactly on the trend line.
- Instead, some are above, and some are below.
- Achieving a more equal application of the underlying pattern means bringing each point onto, or closer to the trend line.

# Factor: Juvenile-Age Population

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- We begin by compressing the trend line such that it would have accounted for only 40 percent of FY16 initial allocations. This is because not all formula funding will be population-driven.
- Next, we use the compressed trend line to identify the target funding level per juvenile for a given population size.
- That funding level per juvenile will then be multiplied by the population to arrive at a funding amount.



# Factor: Juvenile-Age Population

$$F_{\hat{P}} = (\$201.58 * \hat{P}^{-0.227}) * \hat{P}$$

○ For example:

Estimated Population	Funding Per Juvenile	Total Population Funding
15,000	$\$201.58 * 15,000^{-0.227} =$ \$22.75	$\$22.75 * 15,000 =$ \$341,207
75,000	$\$201.58 * 75,000^{-0.227} =$ \$15.79	$\$15.79 * 75,000 =$ \$1,184,126
200,000	$\$201.58 * 200,000^{-0.227} =$ \$12.64	$\$12.64 * 200,000 =$ \$2,527,657

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# *Formal Referrals*

# Factor: Formal Referrals

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## ○ Definition:

*A formal referral occurs when the juvenile probation department has jurisdiction and venue, the department receives the paperwork alleging an offense, and face-to-face contact with the juvenile occurs.*

Under this definition, referral numbers are not easily manipulated. The majority of reports and data requests produced by TJJD include only formal referrals in the analysis.

# Factor: Formal Referrals

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- Referral data source: probation department reporting to TJJD (Electronic Data Interchange)
  - Data is reported each fiscal year, and “stabilizes” by around the end of the calendar year.
  - For very small departments, referrals may be zero in a given year. For all departments, though more so for small ones, referrals may vary considerably from year to year.

# Factor: Formal Referrals

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- For these reasons:

- Referral data used will include a time lag;
- Each department's figure in each year is adjusted up by 1; and
- A three-year moving average is used in place of a single year.

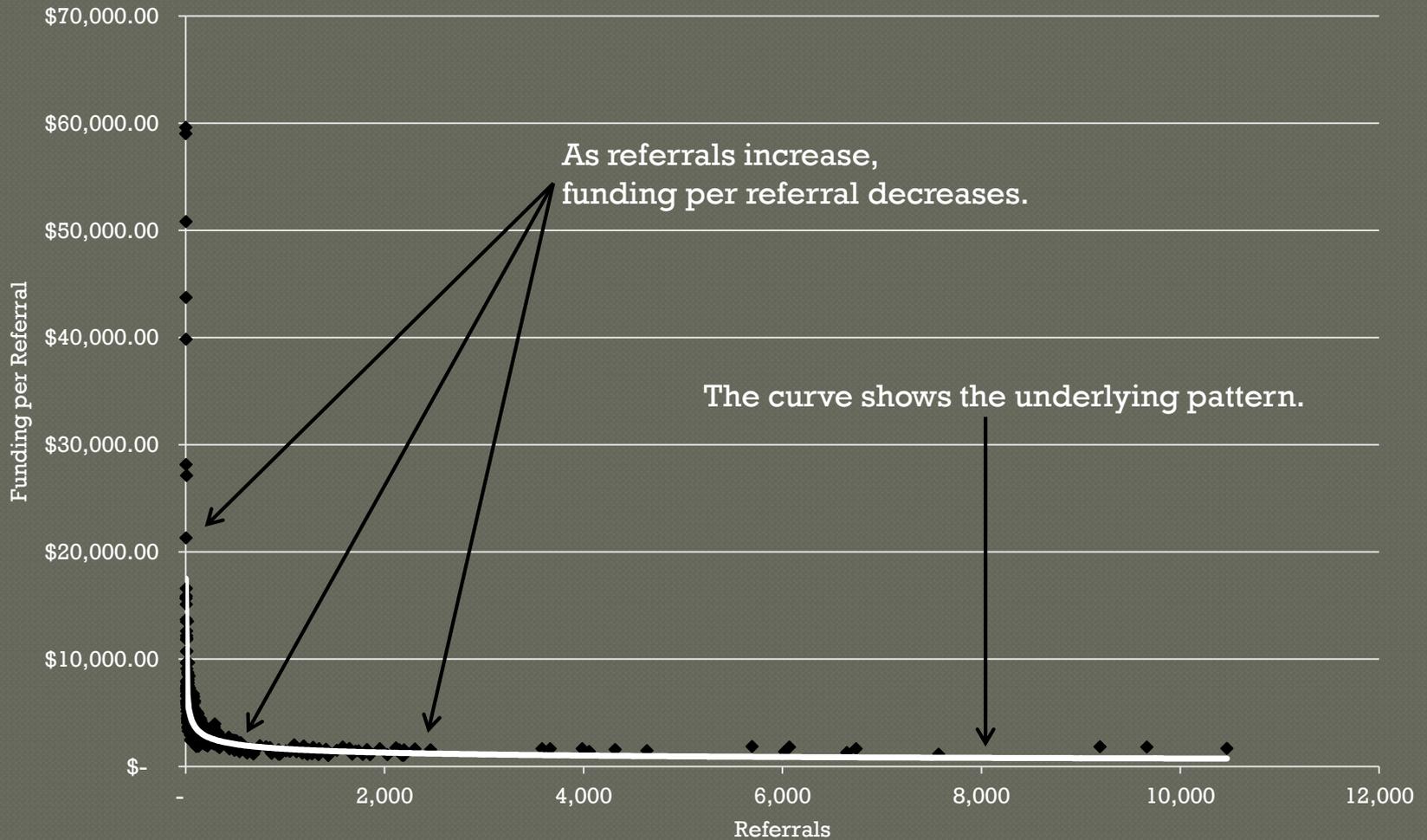
$$\hat{R}_{FY_t} = \frac{(R_{FY_{t-4}} + 1) + (R_{FY_{t-3}} + 1) + (R_{FY_{t-2}} + 1)}{3}$$

# Factor: Formal Referrals

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- As with population, graphing actual initial allocations from the last three years against formal referral moving average figures ( $\hat{R}$ ) shows a clear trend.

# Funding per Referral



# Factor: Formal Referrals

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- As with population, a more equal application of the underlying pattern means moving departments closer toward the trend line.
- Once again, this is accomplished by using a compressed version (40%) of the trendline to identify a target funding level per referral, and then multiplying that figure by referrals.



# Factor: Formal Referrals

$$F_{\hat{R}} = (\$8,558.28 * \hat{R}^{-0.344}) * \hat{R}$$

○ For example:

Average Referrals	Funding Per Referral	Total Referral Funding
10	$\$8,558.28 * 10^{-0.344} =$ \$3,879.97	$\$3,879.97 * 10 =$ \$38,800
500	$\$8,558.28 * 500^{-0.344} =$ \$1,011.89	$\$1,011.89 * 500 =$ \$505,945
2,000	$\$8,558.28 * 2,000^{-0.344} =$ \$628.48	$\$628.48 * 2,000 =$ \$1,256,956

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*Adjustments/  
Funding Floor and Ceiling*

# The Need for Adjustment

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- The population and referral components combine for an unadjusted funding level.
- For example (unadjusted):

Pop. ↓ Ref. →	10	100	1,000
1,000	\$80,850	\$217,952	\$839,515
10,000	\$288,190	\$425,292	\$1,046,855
100,000	\$1,517,871	\$1,654,973	\$2,276,536

# The Need for Adjustment

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- Unadjusted funding levels represent the equal application across all departments of the underlying funding patterns.
- However, unadjusted funding levels would be *significantly* different than historical years (range of -49% to +65%).

# The Need for Adjustment

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- Therefore, in keeping with the goal to mitigate major funding shifts, a funding floor and ceiling are applied.
- The floor and ceiling are based on a proportion of a department's FY16 allocations and are phased in over four years.
- TJJJ's intent is to reevaluate the formula at the end of those four years.

# Funding Floor/Ceiling

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- In concept, the funding floor for each department is 90% of its initial FY16 State Aid allocation, phased in over four years:
  - FY17: 98% of FY16 initial allocation
  - FY18: 95%
  - FY19: 92.5%
  - FY20: 90%

# Funding Floor/Ceiling

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- Similarly, in concept the funding ceiling for each department is 105% of its initial FY16 State Aid allocation, phased in over four years:
  - FY17: 102% of FY16 initial allocation
  - FY18: 103%
  - FY19: 104%
  - FY20: 105%

# Funding Floor/Ceiling

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- However, note that actual funds available for State Aid will change over time as the Legislature responds to supervision trends and policy developments, if applicable.
- The actual funding floor/ceiling should respond in like fashion.

# Funding Floor/Ceiling

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- Consider the ratio of total funding (TF) available for State Aid in a given fiscal year (t) compared to FY16:

$$\frac{TF_{FY_t}}{TF_{FY_{16}}}$$

- This ratio can be used to adjust the funding floor and ceiling up or down over time to proportionally match changes in total State Aid funding.

# Funding Floor/Ceiling

- Combining this with information on previous slides, we have the following funding floor/ceiling percentages for FY17-20:

Departmental State Aid Funding Floor/Ceiling  
(As a Proportion of Its Initial FY16 State Aid Allocation)

	FY17*	FY18	FY19	FY20
<b>Floor</b>	$0.98 * \frac{TF_{FY17}}{TF_{FY16}}$	$0.95 * \frac{TF_{FY18}}{TF_{FY16}}$	$0.925 * \frac{TF_{FY19}}{TF_{FY16}}$	$0.90 * \frac{TF_{FY20}}{TF_{FY16}}$
<b>Ceiling</b>	$1.02 * \frac{TF_{FY17}}{TF_{FY16}}$	$1.03 * \frac{TF_{FY18}}{TF_{FY16}}$	$1.04 * \frac{TF_{FY19}}{TF_{FY16}}$	$1.05 * \frac{TF_{FY20}}{TF_{FY16}}$

\* $TF_{FY17} = TF_{FY16}$ , resulting in funding floor/ceiling proportions for FY17 of 0.98 and 1.02, respectively.

# Funding Floor/Ceiling

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## FY17 Exceptions

(I) Departments for whom in each of FY14 and FY15, total expenditures in Grants A, C, and N were below 90% of their initial FY16 State Aid allocation.

- Floor: no change
- Ceiling: 100% of initial FY16 State Aid allocation

*This exception has the effect of preventing an increase for departments that have significant capacity within their current allocation.*

# Funding Floor/Ceiling

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## FY17 Exceptions

(II) Departments for whom in each of FY14 and FY15, total expenditures in Grants A, C, and N were below 95% of their FY16 initial State Aid allocation, but one or both did not fall below 90% of their FY16 initial allocation.

- ◉ Floor: no change
- ◉ Ceiling: 101% of initial FY16 State Aid allocation

*This exception has the effect of capping the allowable increase for departments who have meaningful capacity within their current allocation.*

# Funding Floor/Ceiling

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## ○ Under the proposed methodology, for FY17:

- 99 departments (59.6%) will see a 2% decrease in baseline State Aid in FY17,
- 8 (4.8%) will see a decrease of 0% to 2%,
- 8 (4.8%) will see no change
- 9 (5.4%) will see an increase of 0% to 2%,
- 42 (25.3%) will see a 2% increase, and
- \$1.8 million will be set aside to be added to the discretionary pool (HRC 223.001[c]).

# Funding Floor/Ceiling

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## FY18-FY20 Exceptions

It is TJJD's intent to appropriately adapt FY17 exceptions to apply to FY18-FY20 and to continually examine expenditure patterns to determine whether other exceptions are warranted.

It is TJJD's further intent that any adjusted floor/ceiling levels will fall within the range for each fiscal year shown above.

*These exceptions help to ensure efficient use of available funds.*

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# *Examples*

# Examples

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- The following are contrived examples intended to show the impact of the proposed State Aid formula methodology on individual departments.
- Actual departmental allocations will be distributed after an agreed-to funding methodology is established.

# Examples

	$\hat{P}_{FY_{16}}$	$\hat{R}_{FY_{16}}$	FY16 Funding	$\hat{P}_{FY_{17}}$	$\hat{R}_{FY_{17}}$	FY17 Funding
Dept. A	8,047	184	<b>\$467,324</b>	8,013	179	<b>\$467,576</b>
Dept. B	8,855	211	<b>\$439,646</b>	9,010	202	<b>\$448,439</b>
Dept. C	13,726	254	<b>\$450,865</b>	13,911	242	<b>\$459,883</b>
Dept. D	14,686	390	<b>\$810,031</b>	14,753	410	<b>\$793,830</b>
Dept. E	23,775	526	<b>\$1,056,737</b>	23,981	501	<b>\$1,035,603</b>
Dept. F	73,747	1,204	<b>\$1,819,874</b>	75,097	1,138	<b>\$1,856,272</b>
Dept. G	139,494	2,790	<b>\$4,559,364</b>	141,147	2,647	<b>\$4,468,176</b>

# Examples

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Dept. G	139,494	2,790	<b>\$4,559,364</b>	141,147	2,647	<b>\$4,468,176</b>

- Dept. A shows decreasing population and referrals. These both suggest a downward trend in the department's allocation.
- However, funding *increases* slightly because this department was historically below the per-juvenile and/or per-referral trend lines.

# Examples

	$\hat{P}_{FY_{16}}$	$\hat{R}_{FY_{16}}$	FY16 Funding	$\hat{P}_{FY_{17}}$	$\hat{R}_{FY_{17}}$	FY17 Funding
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- Depts. B and C show increasing population but decreasing referrals. These have opposite effects on funding.
- When combined with these departments' historical positioning below the per-juvenile and/or per-referral trend lines, the net impact is a funding increase.

# Examples

	$\hat{P}_{FY_{16}}$	$\hat{R}_{FY_{16}}$	FY16 Funding	$\hat{P}_{FY_{17}}$	$\hat{R}_{FY_{17}}$	FY17 Funding
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Dept. G	139,494	2,790	<b>\$4,559,364</b>	141,147	2,647	<b>\$4,468,176</b>

- Dept. D shows increasing population and referrals. These both suggest an upward trend in the department's allocation.
- However, funding *decreases* because this department was historically above the per-juvenile and/or per-referral trend lines.

# Examples

	$\hat{P}_{FY_{16}}$	$\hat{R}_{FY_{16}}$	FY16 Funding	$\hat{P}_{FY_{17}}$	$\hat{R}_{FY_{17}}$	FY17 Funding
Dept. A	8,047	184	<b>\$467,324</b>	8,013	179	<b>\$467,576</b>
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Dept. G	139,494	2,790	<b>\$4,559,364</b>	141,147	2,647	<b>\$4,468,176</b>

- Depts. E, F, and G show increasing population but decreasing referrals. These have opposite effects on funding.
- When combined with these departments' historical positioning relative to the per-juvenile and/or per-referral trend lines, the net impact is a funding decrease for Depts. E and G, and an increase for Dept. F.

# Summary

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- The funding methodology draws each department closer to its theoretical location on the per-juvenile and per-referral funding trend lines, resulting in increases in some places and decreases in others.
- The funding floor and ceiling limit the magnitude of funding changes to within  $\pm 2\%$  for FY17.

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*Questions may be directed to:*

Mike Meyer

Mike.Meyer@tjtd.texas.gov

(512) 490-7657