

# WHITE PAPER

## Outcomes Working Group

### Current Educational Outcomes in Texas and Their Impact on the Texas Economy

Recent testimony to the State Commission on Public School Finance (the “Commission”) indicates that Texas is falling far short of its goal, announced by Governor Abbott and the Texas Higher Education Coordinating Board in 2015, of having **60% of adults ages 25-34 attain a post-secondary degree by the year 2030 (“60x30 Goal”)**. Based on current growth trends and ignoring anticipated future demographic changes that are only likely to create additional headwinds, **Texas will miss that critical goal by over two decades<sup>1</sup>**.

Texas’ current status of **roughly 40% post-secondary achievement statewide** is a blend of (i) educated talent that migrates to the state from outside its boundaries and (ii) what we produce with our own education/workforce pipeline. While Texas has been very successful in importing educated talent given our broad and robust job growth (per testimony, roughly half of our annual population growth comes from in-migration<sup>2</sup>), over the last several years our state’s own education pipeline has been reflecting stagnant results, with **only 21%** of our most recent 8<sup>th</sup> grade cohort graduating with any type of post-secondary education ten years later (i.e. six years following their scheduled high school graduation)<sup>3</sup>. This troubling completion rate **falls to just 12% when looking solely at economically disadvantaged students**...a population which represented 79% of the state’s PreK-12 enrollment growth over the last decade. Low income students today now **currently comprise a substantial 6 in 10 public school students in Texas**.

**Based on these current outcomes, we simply cannot import enough talent to meet our state’s 60x30 Goal.** Per a recent report issued by the Dallas Fed, today’s unemployment rates of sub-4% are at historic lows, yet labor participation rates are not increasing because skills needed by unfilled jobs do not match the skillsets reflected within our current unemployed adult population. **Recent Fed surveys indicate that tight labor markets are now the No. 1 concern of business, with 70% of business executives reporting difficulty finding and hiring qualified workers.** This shortage is increasing overall labor costs, with **62% of firms surveyed reporting having to increase wages and benefits** in order to recruit and retain employees, up from 53 percent in early 2018.<sup>4</sup>

The roughly 4 in 5 Texas students that we are annually failing to sufficiently educate to achieve a living wage credential represents both a poor return on the ~\$150,000 we invest in each student’s PK-12 education AND a substantial missed opportunity to capture the tremendous unrealized potential of our Texas youth. The annual starting salary difference for post-secondary credential holders vs. high school graduates can now easily exceed \$20,000, and every year Texas high schools collectively graduate roughly 200,000 seniors who, six years later, have still not attained a post-secondary degree. If each high school graduate could instead obtain an industry certificate or a two/four-year degree in the same ratio as our current post-secondary graduates, they would collectively realize roughly **\$200 billion more** in future lifetime earnings (**an amount equal to roughly 1/8<sup>th</sup> of our current \$1.6 trillion Texas economy**) with each and every graduating class.

Not only is the current opportunity cost for our state’s economy tremendous, **the resulting costs to our state of an undereducated workforce is also substantial and growing.** Our state’s uninsured medical costs for patients without employee-provided health benefits **now exceed \$6 billion annually.** In addition, the costs of incarcerating young men and women in Texas (who far too often are uneducated – national research indicates that 75% of state prison inmates did not complete high school or can be classified as low literate<sup>5</sup>) now exceeds **\$5.7 billion annually<sup>6</sup>**. Our state prisons house roughly **147,000 inmates at an annual cost of ~\$38,000/inmate, equal to more than 3x what we spend annually per student on K-12 education<sup>7</sup>**.

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<sup>1</sup> [Presentation to Outcomes Working Group of Public School Finance Commission, Commit Partnership, 4/18/2018](#)

<sup>2</sup> [“Student Population in Texas”, Texas Demographic Center, 1/23/18](#)

<sup>3</sup> [THECB presentation to Public School Finance Commission, 1/23/2018 “K-12 Efforts Support 60x30 TX Success”](#)

<sup>4</sup> [“DFW’s Continued Breakneck Growth Depends on a Cascade of New Workers”, Dallas Fed, 6/16/18](#)

<sup>5</sup> [The Relationship Between Incarceration and Low Literacy, March 2016.](#)

<sup>6</sup> [State and Local Spending on Corrections and Education, U.S. Dept. of Education Brief, July 2016.](#)

<sup>7</sup> Texas Dept. of Criminal Justice, 2016.

Despite both the urgency and the opportunity represented by these statistics, it is also clear from numerous testimonies to the Commission that:

- simply investing more dollars per student **represents some risk of “more of the same”** without a high degree of confidence regarding an appropriate return on our already significant \$56 billion annual investment in PK-12 education;
- however, **investing more dollars in specific strategies** that are currently showing strong results within our state represents the potential to **substantially accelerate Texas educational outcomes and provide a real, substantive chance to reach our state’s 60x30 Goal while providing more equitable outcomes for all Texas students.**

## What Should Our Outcomes Goal Be?

It is clear that Texas’ changing demographic data, coupled with the continued increasing importance of a post-secondary education, requires a different and much more strategic approach to school finance...one that is focused on targeted investments at critical junctures along our education pipeline where our own data indicates the highest return on investment.

We believe that in arriving at a biennium budget each legislative session, we as a state should review our progress against **a set of established, targeted goals for PK-12 education** and then invest **as efficiently and as effectively as possible to meet those goals** based on what TEA and THECB data shows is currently having the most positive impact on collective educational success. In keeping in alignment with the state’s ultimate 60x30 Goal, we would suggest interim goals of **at least 60% proficiency at TEA’s college/career ready standard at three key “checkpoints” (3<sup>rd</sup> grade, 8<sup>th</sup> grade, and 12<sup>th</sup> grade) along the state’s public PK-12 educational continuum, and the state’s accountability system should also be altered to reinforce their importance in campus and district grades.** Each year, TEA and THECB would collectively report to the Legislature on the State’s combined progress in achieving both 60% proficiency rates and 60% post-secondary completion rates **solely for our own education pipeline.**

It is also clear (in looking at that same 60% goal) **where our collective efforts and investments in PK-12 should be primarily focused – students who are low income and English language learners.** Per Table 1, across all grades and subjects assessed by STAAR, students who are not low income are already collectively meeting our suggested 60% goal statewide at TEA’s “Meets” standard (with some districts as high as 80%+ proficiency for their non-low-income students). However, achievement for our low-income and English language learner students at the “Meets” standard **is not only materially lower, but it also reflects broad disparities among districts and within districts.** This indicates both a high need for focused investment on this subset AND **the potential for great progress** once resources are increased, incentives are put in place, and strategies are altered to reflect best practices already occurring in pockets across the state.

**Table 1**  
**Student Achievement by Demographic Using 2017 STAAR Assessments Across All Subjects**

| Various Populations            | Pct. Of Texas’ K-12 Students | Proficiency at “Meets” Std. Across State of Texas | Proficiency at “Meets” Std. For Highest Performing ISD/Network | Proficiency at “Meets” Std. For Lowest Performing ISD/Network | Proficiency Gap Between Highest/Lowest ISD or Network |
|--------------------------------|------------------------------|---|--|---|---|
| Total Students                 | 100%                         | 44%   | 87%  | 25%   | 62%   |
| Non-Low-Income Students Only   | 41%                          | 60%   | 87% <sup>8</sup>   | 28%   | 59%   |
| Low-Income Students Only       | 59%                          | 33%   | 52% <sup>9</sup>   | 21%   | 31%   |
| English Language Learners Only | 19%                          | 22%   | 40% <sup>10</sup>  | 5%  | 35%   |

<sup>8</sup> Highest performing district is Southlake Carroll ISD (1% economically disadvantaged)

<sup>9</sup> Among districts greater than 5,000 students with at least 25% economic disadvantage. Highest performing districts in 2017 included Sharyland ISD (52% proficiency for low-income students), IDEA (50% proficiency), Los Fresnos ISD (50%) and Wylie ISD (46%).

<sup>10</sup> Among districts greater than 5,000 students with at least a 10% ELL population. Highest performing districts included IDEA (38% proficiency for ELL students), Roma ISD (37% proficiency), and Sharyland ISD (35% proficiency).

## When and Where Should We Invest to Achieve Our Desired Outcomes?

Given our state's relatively high poverty rate (15<sup>th</sup> highest in the U.S.)<sup>11</sup>, the increasing levels of both economic disadvantage and English language learners within Texas' K-12 public school system, and our economy's continued technological displacement of historical living wage jobs, **it is a critical that our state begin now to make the additional needed investments that strategically address key areas of weakness within our public educational/workforce pipeline.** Successful execution will help ensure that ALL Texas students (93% of which attend a public school) have a realistic chance at a quality educational outcome, culminating in a post-secondary credential, that prepares them for success in a rapidly evolving 21<sup>st</sup> century economy.

In arriving at our recommendations on how and when more dollars invested wisely could dramatically accelerate student outcomes, substantial hours of Commission testimony have centered around the following **four common themes**:

1. **Early Intervention is Critical** – We should ensure the option for every child to be ready for school when they arrive in Kindergarten and that they can read by 3<sup>rd</sup> grade, after which they **must read to learn**. With ~225,000 of our students (56%) failing in 2017 to reach the state's "Meets" standard in 3<sup>rd</sup> grade reading (and subsequent STAAR and college readiness achievement not materially exceeding 3<sup>rd</sup> grade reading proficiency), this is clearly where **our education pipeline is first so severely impacted that it cannot sufficiently recover to help meet our state's 60x30 Goal**;
2. **Emphasize Teacher Quality and Their Strategic Placement** – Policy and funding streams should **make certain** that every child is taught by a well-prepared and effective educator, with specific systemic incentives to ensure that:
  - our top college graduates increasingly view teaching as an attractive and impactful profession;
  - every new teacher candidate is incented to seek high quality educator preparation programs;
  - effective teachers are paid well enough to stay in the profession and in the classroom if they desire;
  - a sufficient number of our **better teachers are (i) placed in front of our students facing the most challenges and (ii) are in front of them as early as possible in their educational journey.** The results of the Accelerating Campus Excellence Program, or "ACE", pioneered in Dallas ISD and now in place at several other North Texas ISD's, have shown the tremendous potential of this strategy, with up to 40% to 60% proficiency gains at schools previously rated "Improvement Required" by TEA (equivalent to the bottom ~5% of all schools statewide) for multiple years<sup>12</sup>;
3. **Post-Secondary Achievement is Fundamental** – Smart policy, more flexible graduation requirements, and public funding streams should collectively ensure that every student believes that **some type of education beyond high school** (whether it be an industry certificate, on-the-job training, the military, or a two or four-year degree) **is not only expected, but that it is also viewed as achievable, affordable, and supported during the critical high school to higher education/career handoff.** Per Georgetown University's 2017 study, over 95% of jobs created during the post-2008 recovery have gone to college educated workers, with those reflecting at least some college education **capturing 11.5 million of the 11.6 million jobs created during the recovery.**<sup>13</sup> As just one additional example of our own current substantial skills gap challenge, recent Texas Workforce Commission data in Fall 2017 indicated that there were over 300,000 unfilled posted jobs in Texas despite having over 543,000 unemployed Texans. **We simply cannot continue to allow ~200,000 Texas students to graduate annually from our ~1,800 high schools statewide without doing substantially more to help ensure that they earn a living wage credential aligned with current Texas work force needs.**
4. **Systemic Incentives Matter** – Commission testimony has continually reinforced that our current educational system and its stakeholders **respond to incentives, some of which unfortunately encourage actions to the**

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<sup>11</sup> [Income and Poverty in the United States: 2016, United States Census.](#)

<sup>12</sup> <https://commitpartnership.org/blog/equity-works-ace-results>

<sup>13</sup> [THECB presentation to Public School Finance Commission, 1/23/2018 "K-12 Efforts Support 60x30 TX Success"](#)

**detriment of student achievement and post-secondary success.** A broader list of these incentives can be found in Exhibit 1, with specific examples including:

- Despite the demonstrated critical importance of an early educational foundation, far too often strong K-2<sup>nd</sup> grade educators are placed by principals in the later STAAR tested grades because that is where current state accountability focuses;
- Beginning teachers are not paid more if they attend a higher quality preparation program that requires substantial pre-service training, and better preparation (and resulting teaching effectiveness) are also not rewarded via higher salaries in subsequent years given the fixed annual pay steps found within traditional seniority-based salary systems. In the absence of these rewards, **too often the incentive for a new teacher is to instead obtain a teaching certificate as quickly and cheaply as possible regardless of its quality;**
- High school principals tend to focus more on **STAAR End of Course testing (“EOC’s”) and high school graduation** (based on current state accountability) vs. the more important factors of (i) whether or not their students are sufficiently prepared that **they will not be required to take remediation classes in higher ed** should they pursue that route and (ii) whether or not their students **successfully accessed either a living wage career certificate or a post-secondary education** which are so critical in today’s economy.

As a result, the Outcomes working group strongly feels that:

- state formula funding changes should contain **select, strategic financial incentives that very consciously seek to intentionally alter systemic focus and actions toward improving the three overarching outcome themes noted above;**
- incentives should be **equitably determined** in recognition that students with more challenges will need more resources (i.e. incentives rewarding low income student achievement should be materially higher than incentives rewarding non-low-income student achievement);
- once financial incentives are in place, current policies should also be altered to provide districts and campuses with **significantly more flexibility in how Title 1 and instructional allotment dollars are spent** in order to allow them to meet these important incentives.

## Recommendations of the Outcomes Working Group

1. It is the first recommendation of the Outcomes working group that any school finance legislation recommended by the Commission include sufficient incremental dollars (above and beyond current funding levels) that:
  - **are dedicated to investing in strategies supporting three specific, overarching goals** that are all proven by data as highly impactful in substantially improving PK-12 results and creating an educated work force outcome that ultimately meets the State’s 60x 30 Goal:
    - **Outcome No. 1 (“Ready to Learn”)** - improving 3<sup>rd</sup> grade reading achievement;
    - **Outcome No. 2 (“Ready to Teach”)** - increasing the quality, retention and equitable/impactful placement of our public school teaching force;
    - **Outcome No. 3 (“Ready to Earn”)** - improving career and post-secondary readiness and access.
  - **are ultimately funded long term through an adjusted school finance formula (vs. grants)** to convince educators and school boards to invest the dollars needed based on confidence that they will have sufficient time and consistency of funding to implement the strategies that can help them meet the intended goals;
  - **are in part funded via specific incentives within the formula funding, tied to specific goals at critical “gates”** within a Texas’ student’s educational journey that represent our current largest areas of student academic “melt”. Recognizing that educating students who are in poverty and/or who are English language learners require more resources vs. their more affluent, native English peers, incentive amounts should be notably differentiated in reflection of the much higher challenges and resources required over the multi-year period leading up to that “gate” (i.e. 3<sup>rd</sup> grade, 8<sup>th</sup> grade, and 12<sup>th</sup> grade). For example, the incentive amount for a low-income student could be 3 to 4 times the incentive amount per student for a non-low-income student to reflect the current disparities in achievement between the two populations.

Incentive payments should be (i) **fiscally appropriate but also large enough** that their potential receipt alters district and campus principal behavior and (ii) should be calculated in such a way as to **minimize the high stakes nature of any one assessment** (perhaps by rewarding proficiency on a multi-year trailing average of measured outcomes). This would also have the benefit of lessening the volatility of any school's funding stream.

Suggested incentives are as follows:

- **Incentive No. 1** – given the critical nature of being able to “read to learn” across all subjects after 3<sup>rd</sup> grade, the working group recommends that each district or charter network annually receive incremental funding above the basic allotment for every 3<sup>rd</sup> grader achieving reading proficiency at the state's “Meets” standard. As proficiency increases (or decreases) in the future, incentive amounts would grow or decline.

**Why This Incentive is So Important:** In 2016-17, only 44% of all 3<sup>rd</sup> grade students met this standard (preliminary STAAR data indicates that 3<sup>rd</sup> grade proficiency fell another 3% in 2018 to 41%). TEA data indicates that 3<sup>rd</sup> grade students who met the state's “Meets” reading standard in 2011-12 (vs. those who didn't) were:

- **2.8x more likely** to achieve the state's “Meets” standard in **8<sup>th</sup> grade reading five years later;**
- **2.0x more likely** to either achieve the state's “Meets” standard in **8<sup>th</sup> grade math or, more importantly, take the more difficult Algebra 1 course in 8<sup>th</sup> grade;**

**Need for Additional 3<sup>rd</sup> Grade Reading Investment:** With only 6 in 10 children statewide currently coming to school assessed as Kindergarten ready (and only 33%/23% of low income/ELL students meeting the state's 3<sup>rd</sup> grade reading standard), it is critical that the **state invest now in our earliest years** (beyond this proposed outcome incentive) to materially improve current 3<sup>rd</sup> grade reading results. Therefore, in addition to Incentive No. 1, we would propose that **districts also receive an additional weight for every K-3<sup>rd</sup> grade student who is either low income and/or an English language learner such that total monies received would be sufficient for a district or charter network to provide full-day Pre-K to all eligible students.** Districts and charter networks receiving this specific weight would agree to overall systemic changes (as outlined below) to meet the state's required goals, with these specified parameters, coupled with the proposed Incentive No. 1 funding, collectively ensuring that this significant investment to improve 3<sup>rd</sup> grade reading outcomes is wisely stewarded.

**At each district's discretion, dollars from this 3<sup>rd</sup> grade reading investment would be sufficient enough to be used to fund:**

- full day Pre-K (testimony showed that students who were Kinder ready were more than 3x more likely to meet the state standard for 3<sup>rd</sup> grade reading vs. those students who weren't);
- tutoring interventions;
- expanded dual language programming;
- specialized multi-year early childhood professional development, likely including literacy coaching and just-in-time support;
- a longer school year to reduce the negative impact of “summer slide”;
- personalized learning pilots

**Every district/network receiving this additional weight would commit to the following to enhance continuous improvement efforts in the early childhood education years:**

- a. Districts would agree to use a common state-designated Kindergarten readiness indicator in order to benchmark the efficacy of their Pre-K efforts vs. similar districts. This assessment would also be shared with parents within 60 days following assessment to better inform their future decisions, not only for their Kindergarten but also for their student's younger siblings;
- b. If monies are to be directed toward improving/increasing Pre-K efforts, offerings must meet all of the quality standards as outlined in HB 4, including student/teacher ratios;
- c. To support continuous improvement effort, each district/network will also track where students attended Pre-K before (if at all) and will report annually to TEA the following:

- i. the Kindergarten readiness of both eligible and ineligible students who (i) attended their public Pre-K; (ii) who attended Pre-K elsewhere; (iii) did not attend Pre-K.
  - ii. the number and percent of eligible Pre-K students served by the district in public Pre-K, delineated between direct district offerings vs. partnerships with private providers;
  - iii. the number and percent of students (both Pre-K eligible and non-PreK eligible) meeting the State's Meets standard in 3<sup>rd</sup> grade reading and math who also attended the district in Kindergarten and who:
    - 1. were assessed as K ready four years earlier vs. those who were not;
    - 2. attended district Pre-K vs. those who did not
- **Incentive No. 2** - each district or charter network would receive additional recognition in the accountability system and receive an incentive amount (again meaningfully differentiated in size between low-income and non-low-income students) for every 8<sup>th</sup> grader achieving reading and/or Algebra 1 proficiency at the state's "Meets" standard. These incentives would help ensure substantially more students are both ready for high school and are taking the higher-level math courses critical to STEM skills and post-secondary attainment (today only one in four 8<sup>th</sup> graders in 2017 statewide took Algebra 1 in 8<sup>th</sup> grade, despite its long-term correlation to students successfully taking higher math classes and enrolling in post-secondary education).

**Why This Incentive is So Important:** TEA data indicates that students who met the state's "Meets" 8th grade reading and math standards in 2011-12 (vs. those who didn't) were:

- **80% less likely to drop out during their high school years;**
- **10% to 20% more likely to graduate high school within five years;**

Dollars from this incentive would likely be invested by middle schools to fund critical remediation efforts, increase early CTE offerings aligned with high demand fields in middle school to grow student engagement, fund additional counseling staff to support HB5-related student decisions on endorsements/career pathways, launch/add to personalized learning pilots, etc.

- **Incentive No. 3** - each district or charter network would receive additional recognition in the accountability system and **receive an incentive amount** (highly differentiated between low income and non-low-income recipients) for every graduating high school senior **who is assessed in high school as not requiring remediation in higher ed** (per SAT, ACT, or TSI) **and either** (i) successfully achieves **an industry-accepted certificate associated with a living wage career within top in-demand jobs determined regionally by its local work force commission** or (ii) successfully enrolls in post-secondary education or the military. By providing the resources and incentives to increase a high school's focus on ensuring each and every student does not require remediation post high school and subsequently accesses a career, the military or enrolls in a post-secondary institution (vs. just high school graduation), the following systemic benefits should occur:
  - **Significantly Better Alignment Between Graduation Rates and Readiness Rates** – today roughly 90% of Texas high school students graduate in four years, but less than 40% reflect post-secondary readiness as evidenced by a SAT, ACT or TSI assessment. As a result, far too many seniors who believe (through the granting of a high school diploma) that they are ready for the next level of education are instead told by higher education once they arrive that they are not, requiring them to take remedial classes for no college credit at their expense (post-secondary completion rates for those students required to take remediation in higher ed is very often less than 10%). By financially incenting districts to focus on eliminating the need for development education classes post high school, remediation efforts can instead be pushed into grades 9-12 where they belong and can preserve critical student loan and Pell grant dollars for credit-bearing classes toward a student's post-secondary degree or industry-certification.
  - **Substantial Access of Federal Dollars to Benefit Texas Students and Economy** - only 40% of the Texas' 240,000 low income 8<sup>th</sup> graders enroll in college four years later; the other 60%

(at an average Pell grant award of \$3,700 per student/year) represents **over \$525 million per year per cohort of untapped federal resources available for their post-secondary education**. Through this proposed incentive, high schools will now have the counseling and student support resources to adequately assist FAFSA completion to access these untapped federal dollars.

- **Increased High School Graduation Rates and Alignment of Curriculum to Post-Secondary Pathways Meeting Workforce Needs** - Current workforce needs, associated salaries and required credentials/pathways **are not adequately disseminated to middle school and high school students** due to overloaded and often undertrained counselors/advisors, helping create significant mismatches between what students pursue and what the regional work force needs/requires. In addition, the lack of student flexibility to take a coherent sequence of CTE courses, coupled with the lack of transparency on the applicability of high school course work to a career, too often leads to low income students failing to complete their high school degree (**33% of economically disadvantaged 8<sup>th</sup> graders don't graduate high school four years later**) as courses too often feel irrelevant and without purpose.
- **Greater Knowledge and Ownership Within High School Staff of Each Student's Post-Secondary or Career Success** - Public high schools are currently neither held fully accountable nor financially incentivized to (i) maximize the number of students accessing and completing a post-secondary education or (ii) minimize the number of students requiring remediation in college. While the data is publicly available, high school transparency into the post-secondary outcomes of their graduates is typically not common given its difficulty in collection and creates a real disconnect that precludes continuous improvement efforts.

Funds from this proposed incentive would likely be used to:

- reduce high school counselor loads (which currently approach 1 per 500 students), perhaps by (i) hiring college access counselors with higher ed admission experience to support FAFSA completion and post-secondary applications and (ii) training CTE teachers to assist with advising on high in-demand jobs and certifications required, provide FAFSA completion support, etc.;
  - support funding critical remediation efforts in high school;
  - increase early college and P-Tech offerings which can substantially reduce the student cost of post-secondary attainment;
  - implement/expand JROTC programs, which allow those who ultimately enlist to receive paygrade advancement and also helps those enrolling in post-secondary to qualify for ROTC scholarships.
- **Incentive No. 4 - we would recommend providing optional funding via weights in the school finance formula** to provide districts with the substantial and necessary funds to pay meaningfully higher salaries, including stipends for ACE-like efforts, to their most effective teachers and campus leaders should they elect to implement a multiple measure evaluation system to determine who those effective teachers are. In the spirit of using compensation to incent better preparation and ongoing coaching of new teachers, we would suggest (i) a portion of dollars received would also be required to be used by districts to pay signing bonuses to the portion of their beginning teachers that choose to attend preparation programs featuring more rigorous clinical residency requirements (i.e. 500 hours or more of practice teaching) and (ii) teachers receiving the highest salaries under each district's evaluation system would also be expected to serve as a mentor/coach to both student teachers and beginning teachers new to the district..

School districts who opt into this evaluation and pay incentive would individually (or in collaboration with surrounding other districts due to cost efficiencies) submit their own differentiated evaluation system to TEA for approval. The ultimate goal would be that a district's better teachers would be able to earn 10% to 20% more than they do today under seniority-based compensations systems, and that teachers willing to teach in much harder-to-staff low income (75% economically disadvantaged or greater) or rural schools be able to earn up to twice those amounts.

Multiple evaluation measures, developed by local districts in partnership with all stakeholders including teachers, would include, but would not be limited to, campus leader observations, teacher peer review, student surveys, and student achievement growth. Due to overall costs, we would suggest that this incentive be phased-in over 10 years by approving district evaluation systems (as they are constructed and approved by local districts and approved by TEA) covering no more than 10% of the state's teachers on a cumulative basis per year (i.e. after three years no more than 30% of the state's teachers would be covered, after five years no more than 50% of the state's teachers would be covered, etc.). Should the number of districts submitting evaluation systems exceed this cap in any one year, preference should be given by TEA toward those districts serving greater percentages of low-income students.

**We believe this step is an incredibly critical one for school finance legislation in that it would:**

- **Attract more of our best and brightest to the teaching profession** given that teachers are consistently cited as THE most important in-school factor in student outcomes<sup>14</sup>. Per a 2010 study by McKinsey<sup>15</sup>, only 1 in 4 new U.S. teachers come from the top third of their college graduating class, and compensation was the primary differentiating factor cited by top-third graduates who declined a career in education in favor of their chosen industry. Per a 2017 report by ACT, only 1 in 5 students who declared their intention to major in education met ACT college ready benchmarks<sup>16</sup>;
- **Incent prospective teachers to complete more rigorous (and more expensive) education preparation programs reflecting substantially higher levels of (i) clinical residency experience** (500 to 1500 hours vs. the current state minimum of only 15 hours) and/or (ii) ongoing coaching support. Under current seniority-based pay systems (where starting salaries are not adjusted to reflect the rigor of each beginning teacher's preparation program, and subsequent raises are generally fixed lockstep increases not tied to a teacher's effectiveness), **there is little financial incentive for prospective teachers to seek preparation through more rigorous programs**. Because the large majority of new alternatively certified teachers receive the minimal clinical residency experience required by the state, and more often than not are hired into districts reflecting poverty greater than the state average, this current systemic challenge only exacerbates our state's current opportunity and achievement gaps.

One reflection of this systemic challenge is that in the 2016-17 school year, TEA reported that 745, or 4% of beginning teachers statewide who were prepared by alternative certification programs (which typically require the minimal clinical residency experience) **left public school districts and their estimated 63,600 students during their initial probationary period as the lead teacher of record before their first school year was completed**<sup>17</sup>, very often requiring the use of a substitute teacher for the rest of the year for those students. Some smaller ACP providers saw 15% to 20% of their teachers leave during their first year.

- Multi-measure evaluation systems would help ensure that districts know **whether their more effective educators are being equitably distributed** across the district, allowing them to make adjustments and create financial incentives to provide critical equity where needed;
- **These systems would also help ensure retention of better teachers** through higher pay earned earlier in their career while also reducing the systemic incentive for our best teachers to want to leave the classroom for higher paying administrative roles in order to adequately provide for their families;

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<sup>14</sup> [Rand Education, \*Teachers Matter: Understanding Teacher Impact on Student Achievement\*](#)

<sup>15</sup> [Closing the Teaching Talent Gap, McKinsey & Co., 2010](#)

<sup>16</sup> [The Condition of College and Career Readiness 2017, National ACT](#)

<sup>17</sup> Assumes equal distribution across grades, with teachers in Grades K-4 educating 22 students on average and teachers in Grades 5-12 educating 125 students.



- Finally, robust evaluations would allow districts to: (i) systemically **assign student teachers to be trained by their better teachers, enhancing their preparation; and (ii) provide robust feedback to education preparation programs** on the preparation of new teachers, which today is woefully non-existent and would create a critical continuous improvement loop to help teaching programs get better.

All applying districts/charter networks would track and provide to TEA the number, percentage and annual retention of teachers reaching each of their respective distinction levels within the district and the certifying entity for each teacher at each distinction level so that (i) overall feedback statewide to each educator preparation program could be given on the specific teachers they trained and (ii) TEA and the legislature would have a better sense on the efficacy of this proposed statewide incentive.

## Additional Recommendations

2. **Adjust compensatory education funding (currently \$3.9 billion annually) in recognition that “free and reduced lunch” percentages are a very simplistic measure** and do not adequately reflect the varying levels of poverty that exist throughout the state. Instead, compensatory funding would be allocated based on the census tract for each student, with weights increasing as poverty intensity increases, similar to the census block schedules used by Dallas ISD and San Antonio ISD. Compensatory education funding would not be increased by this proposed adjustment but instead would be better allocated to appropriately reflect varying levels of student challenges associated with the variations in median household income, home ownership, parental status, and educational attainment associated with each student.
3. **Strongly consider eliminating the five end-of-course (“EOC”) STAAR assessments and replacing with either SAT, ACT, or TSI assessments that can measure growth based on a pre-SAT/ACT or TSI assessment given in 9<sup>th</sup> grade vs. a SAT/ACT or TSI assessment given in the 11<sup>th</sup> grade.** This level of growth, while not impacting a student’s ability to graduate, would be combined with other important metrics historically viewed as critical in achieving a post-secondary credential (such as dual credit attainment and FAFSA completion) to factor into overall high school accountability. Eliminating the cost of EOC’s (estimated by TEA at roughly \$27 million) would (i) provide the funding for a statewide SAT/ACT criterion-based assessment; (ii) would result in a metric (SAT/ACT) that is much more understood and used outside of the K-12 system by higher ed and industry than EOC’s; and (iii) would, most importantly, narrow high school campus leadership’s focus to fewer metrics that matter. Replacing state end-of-course exams with universal SAT/ACT assessments has already occurred in several U.S. states, including Michigan and Indiana, for the reasons outlined above. Before the Commission makes a final recommendation on this point, we would suggest inviting additional testimony from current Texas high school principals and from other states that have pursued this route.
4. **For districts choosing to implement a full day Pre-K program, consider crediting the appropriate full-day attendance for purposes of funding within the Foundation School Program.** If school districts opt to provide full-day Pre-K for some or all of their students, their WADA calculation would reflect a full day allotment more reflective of their program expenditures. This consideration (for participating districts) would provide a certain level of additional funding for Chapter 42 school districts while simultaneously reducing potential recapture payments for Chapter 41 school districts.
5. English language learners represent 1.0 million students, or roughly 1 in 5 Texas students. While 120 different languages are spoken in our schools, 90% of our ELL students speak Spanish. Given compelling data on the long-term effectiveness of dual language strategies and the ineffectiveness of ELL pullout strategies, **it is our suggestion that (i) TEA financially incent dual language strategies and (ii) disallow ELL pullout strategies as an accepted approach toward ELL instruction for larger districts exceeding 5,000 students (this subset of districts educates roughly 80% of all Texas students).**
6. **Align the current CTE weight of 1.35 (equivalent to \$2.2 billion annually) toward CTE programs of study that are vigorously tied to the attainment of living wage credentials aligned with current workforce need and/or which provide students with critical financial literacy skills.** Programs that do not produce career-ready certificates aligned with regional workforce needs (as determined by regional industry/workforce commission

coalitions) should be phased out from eligible funding. In addition, we would suggest considering (i) allowing courses covering technical applications and computer science to qualify as CTE courses to incent districts to encourage students toward STEM and computer science pathways; (ii) change high school graduation requirements to allow a CTE course to substitute for a student's fine arts requirement to allow students to have a more coherent sequence and pathway towards an industry certification should they desire to go that route; (iii) allow CTE weights to be applied to 8<sup>th</sup> grade students taking high school CTE courses to further their interest in a CTE path and allow for a more coherent sequence/pathway.

7. **Amend legislation to allow school reconstitution for failing ISD elementary and middle school campuses with an ACE-like school turnaround plan (where better educators have been purposely placed at the struggling campus) with the state providing matching funds to reduce district costs.** Early learning is critical to a child's success, and the negative impact to a student of being within a highly challenged school for five straight years will very likely never be overcome. The ACE program has shown tremendous success in allowing elementary and middle schools to get off the state's Improvement Required list after being on it multiple straight years (for example, preliminary data indicates that all 13 ACE elementary campuses across Dallas ISD and Ft. Worth ISD met standard in their first year), and we believe that the state should act with much more urgency on behalf of our younger learners if districts are not taking the necessary steps quickly to reconstitute highly challenged schools with better veteran educators.
8. **To reduce prison recidivism and its associated costs to the state, TEA should amend the accountability system to not penalize school districts in helping formerly incarcerated individuals receive their high school diploma or GED.**
9. **State funding should target professional development training towards schools/districts willing to launch blended learning and personalized learning pilots that help students matriculate faster than their peers if they desire, providing net savings in the long run to the state due to paying for less seat time.**
10. **Schools should be incentivized with additional state funding if the high school achieves the post-secondary readiness academic distinction.** In addition, additional state funding should be awarded if the high school achieves the post-secondary readiness academic distinction.
11. **Allow 3 and 4-year old children of Texas public school educators to be eligible for free public full-day Pre-K funding** to (i) increase the attraction and retention of working in public education in Texas and (ii) increase the diversity of public school Pre-K classrooms, which today are principally limited to economically disadvantaged and English language learner students.

## **Concluding Remarks and Providing a Perspective on Potential Costs of Recommendations**

In closing, it is important for all of us as Texans to remember that achieving our 60x30 Goal is long dated work requiring immediate action...students who will graduate high school in 2030 will be in 1<sup>st</sup> grade this coming fall. **For us to succeed requires very substantive, immediate action on the part of the state** – we simply cannot “tweak” our K-12 system to meet this critical objective. Only by making strategic, impactful investments above current levels in the key areas noted, and implementing the innovative structural formula changes that are necessary, can we ensure Texas remains a thriving economy that all of its citizens can participate in.

We fully recognize that what is recommended herein will likely require significant investment which could initially approach \$1.0 billion annually (\$2.0 billion per biennium), likely growing steadily to \$2.5+ billion annually by 2030 if all stretch goals are achieved and all highly effective teachers statewide are receiving additional pay due to universal opt-in of school districts. However, to put investments of this size in perspective, the following is worth noting:

- **An initial \$1.0 billion annual increase would equate to ~\$200 per Texas student.** This would represent only a 4% increase in the current basic allotment of \$5,140 and would still place Texas K-12 funding per student (inflation adjusted) **below** the 2008 levels funded a decade ago even after the increase.

- **An ultimate \$2.5 billion annual increase would equate to ~\$450 per Texas student** and would only be achieved if (i) all school districts have opted into multi-measure evaluation systems that allow them to pay and retain their effective teachers more and (ii) Texas has **378,000 more 3<sup>rd</sup>, 8<sup>th</sup>, and 12<sup>th</sup> graders meeting stretch goals** including post-secondary readiness and college/career enrollment/placement. This level of proposed increase would still place Texas in the lowest quartile nationally of spending per student, **albeit with much higher results than today.**

The suggested investments outlined herein also have the potential to pay for themselves several times over given that a more educated work force can:

- create **up to \$4 billion** in incremental potential yearly earnings (equal to **0.25% of current state GDP**) based on the potential \$20,000+ annual salary differential between a post-secondary credential aligned with work force and a high school degree) and up to **\$250 million** in additional state sales taxes for **each yearly graduating cohort**. Per Exhibit 3, every student who completes a post-secondary credential vs. just a high school degree **will generate ~\$15,000 in additional sales taxes for the state of Texas on a net present value basis (equating to over \$1,000/per year/per grade) which is a multiple of the potential investment levels suggested herein.**
- success can also reduce the growth in the approximate **\$12 billion currently spent annually by Texas taxpayers** for (i) uninsured medical costs associated with undereducated adults unable to obtain living wage jobs with employer-provided benefits and (i) the incarceration of poorly educated adults in our state prisons and county jails.

We sincerely appreciate the opportunity to share our thoughts on this incredibly important subjecting affecting the future of our state.

Respectfully submitted,

Rep. Diego Bernal  
San Antonio  
Vice Chairman  
House Public Ed.  
Committee

Melissa Martin  
Educator  
Galena Park ISD

Dr. Doug Killian  
Supt., Pflugerville ISD

Sen. Larry Taylor  
Friendswood  
Chairman  
Senate Public  
Ed. Committee

Todd Williams  
Commit Partnership  
Dallas, TX

**Exhibit 1**  
**Examples of Systemic Challenges in K-12 That School**  
**Finance Proposal Should Seek to Positively Address**

**Early Childhood**

- Despite abundant data that shows the longitudinal benefit of full-day Pre-K on future 3<sup>rd</sup> grade reading outcomes, **the state of Texas only funds half day Pre-K and only for students judged “at risk” due to income, limited English proficiency, etc.**
- **With only 40% of eligible 3 and 4-year-old students attending public Pre-K statewide, roughly 140,000 eligible students are not attending** primarily due to:
  - parental awareness on its importance/availability;
  - lack of full day state funding for working parents;
  - lack of available classroom seats where students are located.<sup>18</sup>
- **No common Kindergarten readiness assessment** is required to benchmark Pre-K quality across school districts and campuses statewide to assist districts in their continuous improvement efforts;
- State accountability system too often **incentivizes the placement by principals of their better teachers away from the foundational grades of Pre-K thru 2<sup>nd</sup>** to the standardized tested grades of 3<sup>rd</sup> grade and above, and far too often, less effective teachers are concurrently placed by principals in these critical but non-tested grades (vs. being professionally developed or coached out of the profession). This practice can have a material effect;
- Despite the critical importance of early foundational grades (particularly for low income students and English language learners), it is standard practice in most districts to financially incentivize (thru salary increases) higher performing elementary school principals to relocate to larger middle and high schools.

**Educator Recruitment, Quality and Retention**

- Certified teachers prepared by Texas schools of higher education **have declined roughly 15% since 2012**, while demand for beginning teachers has increased by 83% due to both population growth, teacher retirements, and the “churn” associated with less prepared teachers “burning out” and leaving the profession early. This has created **an annual gap of over 18,000+ teachers in 2017 (more than 4X the gap compared to 2012)** that must be filled primarily by alternative certification programs.
- Unfortunately, the large majority of alternative certification programs **do not require meaningful clinical student teaching experience prior to certification issuance** (the state required minimum is only 15 hours) and too often provide little coaching support in the first year of teaching. Beginning teachers are not paid more if they attend a higher quality preparation program that requires substantial pre-service training or provides ongoing coaching, and better preparation (and resulting teaching effectiveness) do not result in higher salaries in subsequent years given the fixed pay found within a seniority salary system. As a result, **too often the incentive is to obtain a teaching certificate as quickly and cheaply as possible regardless of its quality.**
- The majority of teachers trained by higher education typically **begin their career in lower poverty suburban campuses**, while the majority of beginning teachers prepared by alternative certification begin their career in **higher poverty urban campuses**. Beginning teachers in low income schools (as a percentage of the campus teaching force) typically **comprise a percentage that is 2.5x higher than that found in their more affluent counterparts.**
- **Only 10% of statewide teacher certifications are in STEM fields.**

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<sup>18</sup> Texas Education Agency Texas Public Education Information Resource: <http://www.texaseducationinfo.org/>

- Seniority-based compensation systems (which pay the same amount regardless of student challenge assumed) **too often result in better, more experienced teachers gravitating over time toward lower poverty schools with greater parental involvement, exacerbating the opportunity gap** for low income children and hindering student achievement for students who need our better teachers the most. This is clearly demonstrated in Texas' own achievement data; low income students educated within affluent districts (<20% economically disadvantaged) have a **9% higher proficiency on STAAR assessments** across all subjects/grades than low income students in high poverty (>80% economically disadvantaged) districts.
- Principal certification is not rigorous, and per national research, only 15% of those serving as principals were viewed by staff as the most qualified to serve in that position<sup>19</sup>. Principal mobility is high, which inhibits creating a consistent campus culture, due in part to salary incentives which encourage school leaders to move to larger campuses serving higher grades even though data consistently shows that subsequent academic achievement in later grades never materially exceeds that seen in elementary schools.
- Underfunded school districts lack the systems to **robustly evaluate their principals/teachers and don't systemically understand through data (i) who their better teachers are; or (ii) where they were trained**, significantly hindering their success in using their collective hiring ability to substantially influence the continuous improvement of their educator preparation pipelines.

### Post-Secondary Access and Completion

- Public high schools are neither held fully accountable nor incentivized to (i) maximize the number of students accessing and completing a post-secondary education or (ii) minimize the number of students requiring remediation in college. High school transparency into the post-secondary outcomes of their graduates is not common; **accountability generally ends with high school graduation**.
- As a result, Texas today reflects a collective 90% high school graduation rate, but **only 16% of graduates reflect a college ready SAT/ACT (increasing to ~35% when TSI included)** because readiness assessments and remediation efforts tend to be **deferred until college (where the student is financially responsible) vs. in high school where they belong**<sup>20</sup>.
- **Resources within constrained public school budgets mirror system incentivizes**. The large majority of area public high schools staff their college access counselors at **roughly 400:1 (equivalent to 5 minutes per student per week)**, which is inadequate for schools comprised primarily of low income, largely first-generation students.
- Texas' average community college tuition rate is the third lowest in the country (<\$2,000/year) and is roughly half of the average U.S. Pell grant. However, per THECB longitudinal data, only 40% of the Texas' 240,000 low income 8<sup>th</sup> graders enroll in college four years later; the other 60% (at an average Pell grant award of \$3,750 per student/year) represents **over \$525 million per year per cohort of untapped federal resources available for their post-secondary education**<sup>21</sup>. Said differently, low income Texas students who are U.S. citizens and thus Pell eligible **have been able to go to community college for free for well over a decade** but have failed to do so primarily due to the lack of sufficient support provided by high schools struggling with inadequate funding and misaligned accountability incentives.
- **Current workforce needs, associated salaries and required credentials/pathways are not adequately disseminated by industry to students** via advisors in either high school or college, creating significant mismatches between what students pursue and what the regional work force requires.

<sup>19</sup> Bain School Leadership Study 2013, based on survey of 7 urban districts and CMOs, n=4200.

<sup>20</sup> College ready is defined as percentage of test takers who score a 24 on the ACT and/or 1110 on SAT. Sourced from the Texas Education Agency: <https://rptsvr1.tea.texas.gov/perfreport/tapr/2017/state.pdf>

<sup>21</sup> Texas Higher Education Coordinating Board: <http://www.txhighereddata.org/index.cfm?objectId=F2CBE4A0-C90B-11E5-8D610050560100A9>

## Exhibit 2

### NPV of Additional State Sales Tax Revenue

**Assumptions**

|  |       |
|--|-------|
| Sales Tax Rate                                 | 6.25% |
| Percent of Income Spent on Sales Taxable Items | 33%   |
| Discount Rate (30 Year T-Note)                 | 3.08% |

|                              | Projected Initial Annual Salary |          | Annual Merit Increase Due to Experience | Median Texas Salaries |
|------------------------------|---------------------------------|----------|---|-----------------------|
|                              | Annual Salary                   | Per Hour |   |                       |
| Median Lifetime Earnings of: |                                 |          |   |                       |
| HS Diploma                   | \$ 22,000                       | \$ 10.58 | 1.0%                                    | \$ 27,534             |
| Associates Degree            | \$ 33,000                       | \$ 15.87 | 2.0%                                    | \$ 35,270             |
| Bachelors Degree             | \$ 47,000                       | \$ 22.60 | 3.0%                                    | \$ 52,134             |

Source: US Census - Factfinder for 2016 (ACS)

Source: US Census - Factfinder for 2016 (ACS)

Source: US Census - Factfinder for 2016 (ACS)

|  |       |
|--|-------|
| Number of Years Worked                         | 40    |
| Annual Inflation                               | 2.0%  |
| Annual Likelihood of Outbound Migration        | 1.50% |
| Projected Pct. of P.S. Degrees that are B.A.'s | 35%   |

| Year #        | Populace Retained After Outbound Migration | Projected Salary    |                     |                     |   | Projected Salary and Sales Tax Collection Differential |  |   |                                  |      |
|---------------|--|---------------------|---------------------|---------------------|---|--|--|---|----------------------------------|------|
|               |  | High School Diploma | Associates Degree   | Bachelors Degree    | Incremental Annual Sales Tax on Associates vs. HS Diploma | Incremental Annual Sales Tax on Populace Retained      | Incremental Annual Sales Tax on Bachelors vs. HS Diploma | Incremental Annual Sales Tax on Populace Retained | Sales Tax Weighted by Attainment |      |
|               |  |                     |                     |                     |   |  |  |   |                                  | Pct. |
| 1             | 98.50%                                     | \$ 22,000           | \$ 33,000           | \$ 47,000           | \$ 11,000   | \$ 223   | \$ 25,000  | \$ 508  | \$ 323                           |      |
| 2             | 97.02%                                     | \$ 22,660           | \$ 34,320           | \$ 49,350           | \$ 11,660   | \$ 233   | \$ 26,690  | \$ 534  | \$ 339                           |      |
| 3             | 95.57%                                     | \$ 23,340           | \$ 35,693           | \$ 51,818           | \$ 12,353   | \$ 243   | \$ 28,478  | \$ 561  | \$ 355                           |      |
| 4             | 94.13%                                     | \$ 24,040           | \$ 37,121           | \$ 54,408           | \$ 13,081   | \$ 254   | \$ 30,368  | \$ 590  | \$ 371                           |      |
| 5             | 92.72%                                     | \$ 24,761           | \$ 38,605           | \$ 57,129           | \$ 13,844   | \$ 265   | \$ 32,368  | \$ 619  | \$ 389                           |      |
| 6             | 91.33%                                     | \$ 25,504           | \$ 40,150           | \$ 59,985           | \$ 14,646   | \$ 276   | \$ 34,481  | \$ 650  | \$ 407                           |      |
| 7             | 89.96%                                     | \$ 26,269           | \$ 41,756           | \$ 62,984           | \$ 15,486   | \$ 287   | \$ 36,715  | \$ 681  | \$ 425                           |      |
| 8             | 88.61%                                     | \$ 27,057           | \$ 43,426           | \$ 66,134           | \$ 16,369   | \$ 299   | \$ 39,076  | \$ 714  | \$ 444                           |      |
| 9             | 87.28%                                     | \$ 27,869           | \$ 45,163           | \$ 69,440           | \$ 17,294   | \$ 311   | \$ 41,571  | \$ 748  | \$ 464                           |      |
| 10            | 85.97%                                     | \$ 28,705           | \$ 46,969           | \$ 72,912           | \$ 18,264   | \$ 324   | \$ 44,207  | \$ 784  | \$ 485                           |      |
| 11            | 84.68%                                     | \$ 29,566           | \$ 48,848           | \$ 76,558           | \$ 19,282   | \$ 337   | \$ 46,992  | \$ 821  | \$ 506                           |      |
| 12            | 83.41%                                     | \$ 30,453           | \$ 50,802           | \$ 80,386           | \$ 20,349   | \$ 350   | \$ 49,933  | \$ 859  | \$ 528                           |      |
| 13            | 82.16%                                     | \$ 31,367           | \$ 52,834           | \$ 84,405           | \$ 21,467   | \$ 364   | \$ 53,039  | \$ 899  | \$ 551                           |      |
| 14            | 80.93%                                     | \$ 32,308           | \$ 54,947           | \$ 88,626           | \$ 22,640   | \$ 378   | \$ 56,318  | \$ 940  | \$ 575                           |      |
| 15            | 79.72%                                     | \$ 33,277           | \$ 57,145           | \$ 93,057           | \$ 23,868   | \$ 392   | \$ 59,780  | \$ 983  | \$ 599                           |      |
| 16            | 78.52%                                     | \$ 34,275           | \$ 59,431           | \$ 97,710           | \$ 25,156   | \$ 407   | \$ 63,434  | \$ 1,027  | \$ 624                           |      |
| 17            | 77.34%                                     | \$ 35,304           | \$ 61,808           | \$ 102,595          | \$ 26,505   | \$ 423   | \$ 67,292  | \$ 1,073  | \$ 651                           |      |
| 18            | 76.18%                                     | \$ 36,363           | \$ 64,281           | \$ 107,725          | \$ 27,918   | \$ 439   | \$ 71,362  | \$ 1,121  | \$ 678                           |      |
| 19            | 75.04%                                     | \$ 37,454           | \$ 66,852           | \$ 113,111          | \$ 29,398   | \$ 455   | \$ 75,658  | \$ 1,171  | \$ 706                           |      |
| 20            | 73.91%                                     | \$ 38,577           | \$ 69,526           | \$ 118,767          | \$ 30,949   | \$ 472   | \$ 80,190  | \$ 1,222  | \$ 735                           |      |
| 21            | 72.80%                                     | \$ 39,734           | \$ 72,307           | \$ 124,705          | \$ 32,573   | \$ 489   | \$ 84,971  | \$ 1,276  | \$ 764                           |      |
| 22            | 71.71%                                     | \$ 40,926           | \$ 75,199           | \$ 130,940          | \$ 34,273   | \$ 507   | \$ 90,014  | \$ 1,331  | \$ 795                           |      |
| 23            | 70.64%                                     | \$ 42,154           | \$ 78,207           | \$ 137,487          | \$ 36,053   | \$ 525   | \$ 95,333  | \$ 1,389  | \$ 828                           |      |
| 24            | 69.58%                                     | \$ 43,419           | \$ 81,336           | \$ 144,362          | \$ 37,917   | \$ 544   | \$ 100,943   | \$ 1,449  | \$ 861                           |      |
| 25            | 68.53%                                     | \$ 44,721           | \$ 84,589           | \$ 151,580          | \$ 39,868   | \$ 564   | \$ 106,858   | \$ 1,510  | \$ 895                           |      |
| 26            | 67.51%                                     | \$ 46,063           | \$ 87,973           | \$ 159,159          | \$ 41,909   | \$ 584   | \$ 113,096   | \$ 1,575  | \$ 930                           |      |
| 27            | 66.49%                                     | \$ 47,445           | \$ 91,492           | \$ 167,117          | \$ 44,046   | \$ 604   | \$ 119,672   | \$ 1,641  | \$ 967                           |      |
| 28            | 65.50%                                     | \$ 48,868           | \$ 95,151           | \$ 175,472          | \$ 46,283   | \$ 625   | \$ 126,604   | \$ 1,710  | \$ 1,005                         |      |
| 29            | 64.51%                                     | \$ 50,334           | \$ 98,957           | \$ 184,246          | \$ 48,623   | \$ 647   | \$ 133,912   | \$ 1,782  | \$ 1,044                         |      |
| 30            | 63.55%                                     | \$ 51,844           | \$ 102,915          | \$ 193,458          | \$ 51,071   | \$ 669   | \$ 141,614   | \$ 1,856  | \$ 1,085                         |      |
| 31            | 62.59%                                     | \$ 53,400           | \$ 107,032          | \$ 203,131          | \$ 53,632   | \$ 692   | \$ 149,732   | \$ 1,933  | \$ 1,127                         |      |
| 32            | 61.65%                                     | \$ 55,002           | \$ 111,313          | \$ 213,288          | \$ 56,312   | \$ 716   | \$ 158,286   | \$ 2,013  | \$ 1,170                         |      |
| 33            | 60.73%                                     | \$ 56,652           | \$ 115,766          | \$ 223,952          | \$ 59,114   | \$ 740   | \$ 167,300   | \$ 2,095  | \$ 1,215                         |      |
| 34            | 59.82%                                     | \$ 58,351           | \$ 120,397          | \$ 235,150          | \$ 62,045   | \$ 765   | \$ 176,798   | \$ 2,181  | \$ 1,261                         |      |
| 35            | 58.92%                                     | \$ 60,102           | \$ 125,212          | \$ 246,907          | \$ 65,111   | \$ 791   | \$ 186,805   | \$ 2,270  | \$ 1,309                         |      |
| 36            | 58.04%                                     | \$ 61,905           | \$ 130,221          | \$ 259,253          | \$ 68,316   | \$ 818   | \$ 197,348   | \$ 2,362  | \$ 1,358                         |      |
| 37            | 57.17%                                     | \$ 63,762           | \$ 135,430          | \$ 272,215          | \$ 71,668   | \$ 845   | \$ 208,453   | \$ 2,458  | \$ 1,409                         |      |
| 38            | 56.31%                                     | \$ 65,675           | \$ 140,847          | \$ 285,826          | \$ 75,172   | \$ 873   | \$ 220,151   | \$ 2,557  | \$ 1,462                         |      |
| 39            | 55.46%                                     | \$ 67,645           | \$ 146,481          | \$ 300,117          | \$ 78,836   | \$ 902   | \$ 232,472   | \$ 2,659  | \$ 1,517                         |      |
| 40            | 54.63%                                     | \$ 69,675           | \$ 152,340          | \$ 315,123          | \$ 82,665   | \$ 931   | \$ 245,449   | \$ 2,766  | \$ 1,573                         |      |
| <b>Totals</b> |  | <b>\$ 1,658,828</b> | <b>\$ 3,135,842</b> | <b>\$ 5,677,589</b> | <b>\$ 1,477,014</b>                                       | <b>\$ 20,566</b>                                       | <b>\$ 4,018,762</b>                                      | <b>\$ 55,320</b>                                  | <b>\$ 32,730</b>                 |      |
| <b>NPV</b>    |  | <b>\$840,912</b>    | <b>\$1,530,843</b>  | <b>\$2,673,525</b>  | <b>\$689,931</b>  | <b>\$10,162</b>  | <b>\$1,832,613</b>                                       | <b>\$26,639</b>                                   | <b>\$15,929</b>                  |      |