MEMORANDUM

TO: RICHARD PUGH, DIRECTOR OF FINANCE – EAST LANSING PUBLIC SCHOOLS

FROM: FREDERICK R. IGNATOVICH, PH.D. – STANFRED CONSULTANTS

SUBJECT: CONSIDERATION OF SOC/NON-RESIDENT STUDENTS IN PROJECTING ENROLLMENTS FOR EAST LANSING PUBLIC SCHOOLS

DATE: 12/7/2016

In preparing enrollment projections for districts with a combined resident and school of choice/non-resident enrollment, we use a rigorous and thorough procedure that includes both statistical and qualitative analyses: (1) assuring that the data used is audited and accurate historical birth data (for the region) and historical enrollment data, (2) analyzing historical enrollments to identify student migration patterns for the district and individual grade levels, (3) examining local demographic, housing, and economic conditions to assess factors and trends affecting enrollments, (4) conducting a school of choice/non-resident and/or cooperative programs analysis to determine their effects on enrollments, (5) reviewing the educational programs and historical changes in programs that affect student progress through the school system (such as developmental and full day kindergarten, classification of high school students, classification of special education students, and alternative education programs), (6) examining changes in neighboring public and non-public schools that may affect enrollments in their schools or in your district, (7) reviewing prior projections to determine the accuracy and validity of prior projections and suggested recommendations for budget and facilities planning purposes, (8) deciding whether trends, changes in programs or local conditions, warrant adjustments to grade level projections, (9) producing three sets of projections that assume different degrees of volatility based on the district's enrollment history with each set, consisting of a low, most likely, and high projection, (10) reviewing the final projections and purpose for their use to determine which set best represents the current and anticipated factors affecting enrollments and where within that set to expect enrollments to fall and, (11) providing follow-up support concerning the projection procedure and/or projections to assist in the informed use of the projections. This procedure was used to produce the enrollment projections completed last school year on 1-21-16 and the most recent projections dated 12-5-16 that will be submitted to the Michigan Department of Treasury as part of the school bond loan approval process.

Given the procedure outlined above the question you have asked me to address is: "Could you provide me a written statement on how current and future SOC (School of Choice) /non-resident students are incorporated into your enrollment projections?"

Current and Historical SOC/non-resident Enrollment Analysis

First, I'll address the accounting for current and historical enrollment of SOC/non-resident students. Historical general education fall count day reports combines resident and non-resident students for each grade according to FTE (full time equivalent) status. Only one number is reported per grade, but each number consists of (a) the number of returning SOC/non-resident students (from the previous school year), (b) the number of new SOC/non

resident students who were not enrolled the previous year, (c) the number of returning resident students, and (d) the number of new resident students who were not enrolled the previous year. Major benefits of using the fall count day report are: it is done at the same time of the school year each year, it is available for an extended number of years, and it is audited each year. Using 15 years of historical fall grade by grade FTE enrollment data, we produce a matrix of cohort survival ratios that summarize the changes that occur to the number of students at a grade level as they progress to the next grade. This is done for each grade level 1 thru 12 for fifteen years. For the K level we produce a survival rate based on K enrollment compared to the number of regional resident births five years earlier for twenty years. We also compute the average survival ratio and standard deviation for the history of survival ratios at each grade level. These grade level statistics reflect the history of changes that occur as students move from one grade to the next and include the effects of returning SOC/non-resident students and the addition of new SOC\non-resident students (an important factor to account for in projecting total enrollment).

Since the SOC\non-resident numbers are confounded with the resident numbers, we do a separate analysis to examine the number and source of SOC\non-resident students at fall count day over an extended number of years. Based on our most recent analysis, I have summarized the data by Total Number and Major Source of SOC/non-residents in the table that follows:

SOC/NON-RESIDENTS FALL FTE FOR SELECTED YEARS

TOTAL AND MAJOR SOURCES

YEAR	2005	2007	2009	2011	2013	2015	2016*
TOTAL FTE	707.5	681.1	739.0	817.3	817.6	906.3	898.9
BATH SCHOOLS	30.0	27.5	25.3	30.0	23.3	27.8	27.7
HASLETT PUBLIC	34.0	42.5	37.4	43.0	40.0	34.8	37.0
HOLT PUBLIC	22.0	17.1	14.3	9.0	18.0	37.8	25.3
LANSING PUBLIC	536.5	502.6	542.8	610.5	630.7	720.0	724.0
OKEMOS PUBLIC	32.0	35.8	54.0	46.8	44.8	32.2	38.2
OTHER DISTRICTS	53.0	55.6	65.2	78.0	60.8	53.7	46.7

*** 2016 DATA IS UNAUDITED AND THUS PROVISIONAL**

Analysis of this data results in the following conclusions: 1) the primary source of SOC/non-resident students is Lansing School District residents and the number has increased over an 11 year interval, 2) the other major sources of SOC/non-residents students have been relatively constant over the 11 year interval, 3) the increase in Total FTE occurred during a period of declining enrollments in the region and both weak and stable economic conditions, and 4) the slight decrease in Total FTE from Fall 2015 to Fall2016 is probably due to zero available slots for new SOC/non-residents at 5 grade levels (Grades 2,6,8,9,10).

A review of an East Lansing Public Schools spreadsheet entitled "Schools of Choice Application Recap" shows that the number of applications received for available "Slots" has generally been greater than the "Slots" available over the last six years . In particular, the number of slots and applications at the Kindergarten level have been the largest of all the grades and generally totally filled. As indicated in the prior paragraph, the restriction placed on new SOC/non-resident enrollments at five grade levels for the Fall 2016 reduced the application pool for Grades 2,6,8,9,10, while the application pool for Kindergarten was slightly more than double the slots available. It is also clear that changes in policy regarding number of "slots" available at different grade levels directly effects the number of new SOC/non-resident admits in any particular year and contributes to enrollment volatility as available slots vary from year to year. For example, the number of slots available for Fall 2014, 2015, and 2016 were 122, 220, and 128 respectively. Also anecdotal information indicates that if the district makes slots available, they will be filled. Returning SOC/non-resident students are non affected by policy changes from one year to the next because once admitted they are treated as "returning residents" if they maintain continuous enrollment.

In summary, analysis of historical FTE enrollments that includes both returning and new SOC/non-resident students and separate analysis of the number of SOC/non-residents enrolled over time and the acceptance policies and practices for new SOC/non-resident student provides insight into the possible effect of future policies and practices, and projecting alternative enrollment scenarios.

Future SOC/non-resident Enrollment Analysis

Using the East Lansing Public Schools' historical FTE General Education enrollment data (that includes SOC/non-resident students) and the historical birth data for the region (Ingham County resident births) and a propriety computer program, three sets of enrollment projections were generated, with each set containing a low, high, and most likely projection for each grade K thru 12. The first set of projections assumed that future enrollments would follow the pattern that was typical (the 1.0 standard unit projections) over the past fifteen years for students arriving at Kindergarten and students progressing from one grade level to the next. The second set of projections assumed that future enrollments would follow a pattern that was a combination of typical and some volatile events (the 1.5 standard unit projections) over the past fifteen years for students as they progressed from year to year. The third set of projections assumed that future enrollments would follow a pattern that was a combination of the typical and all of the volatile events (the 2.0 standard unit projections) over the past fifteen years for students as they progressed through the grades.

The accuracy and predictive validity of these alternative projections were evaluated by comparing the projection sets to actual enrollment for each of the past three years. This was done by rolling back the clock to three years ago, projecting enrollments for two years ago, and then comparing the projection results with the actual enrollments two years ago. If adjustments were made to the projection ratios used (the grade level cohort survival ratios), then both unadjusted and adjusted projections were produced and compared with actual enrollments for predictive accuracy. A second iteration rolled back the clock two years, and the evaluative process was repeated for the actual enrollments 1 year ago. A third iteration was conducted by rolling back the clock to last year and comparing the three sets of projections to the actual enrollments for the current year. Reviewing the findings of the evaluation process for predictive accuracy provided the following benefits: 1) it provided the basis for a "trend analysis" as to which set of projections and which projection (high, most likely, low) within the set was most accurate over the past three years, and 2) at what grade levels, if any, were the

projections less accurate than desired and, thus, resulting in follow-up analysis to improve predictive validity.

In order to gain insights into contextual factors that influence changes in enrollment, we conducted additional analyses and structured interviews with school personnel and community agents to obtain information and judgments as to the likely influence of these factors on future enrollments. These factors included: 1) the likely continuance of the DK program and the anticipated enrollment in the program, 2) the future affect of non-public schools on the district 3) the current and future affect of Charter schools, 4) developments in the local and regional economy that would affect in and out migration of people, 5) the history and current level of development of new single family housing units in the district, 6) the housing development potential for the land within the district, 7) the historical and current status of the existing home market: # of sales, market time, number of listings, and 8) review of SOC/non-resident data (presented earlier) and a discussion of the district policy and practices concerning SOC/non-residents and anticipated policy and practices in the immediate future. I will not elaborate on items 1 thru 7 but additional information regarding these was collected and considered. I will elaborate on item 8.

In discussing the district's past and current policy and practices regarding SOC/non-resident students a few facts, assumptions, and policy driven practices need to be considered when making projections. First, the district has a long history of providing for SOC/non-resident students and the number of SOC/non-resident students has increased substantially over the years and is currently 25% of the districts FTE General Ed enrollment. Second, it is extremely unlikely (bordering on light years away) that the State of Michigan will reduce or eliminate SOC within or across Intermediate School District boundaries while republicans control either the legislature or the governors office or both. Third, providing for parental choice whether in the form of SOC/non-residents or Charter Schools or Within a Public School District now has 'deep roots' throughout Michigan. Fourth, East Lansing's primary source for SOC/non-resident students is the Lansing School District and that is unlikely to change since East Lansing Public School's entire western border is shared with the Lansing School District . It is relatively convenient (distance wise) to transport SOC/non-resident students from Lansing's east and northeast sides to East Lansing Public School sites. The student population in the Lansing School District has been decreasing for many years due to the affects of declining births and outmigration of students and, in part, induced by a large loss of resident students to surrounding school districts and charter schools. For Fall 2016 count day Lansing School District's total general education count was approximately 10,367 FTE with a Kindergarten count of 954 FTE. The pool of potential SOC/non-resident students from Lansing School District has declined and continues to decline, but it is far from being depleted or insignificant. Fifth, East Lansing's reputation for providing a rich array of programs and learning options coupled with its capacity to provide financial support for these programs will continue to draw new SOC/non-resident students, especially at the Kindergarten level if "slots" are made available. At the Kindergarten level the applicant pool has been consistently greater than the "slots" available for each of the last six years. This fall when slots <u>were not</u> made available at five grade levels, in order to cap enrollments, no applications were made or accepted for those grades. It seems the only way to determine whether an applicant pool exists for a particular grade is to offer slots, market and advertise the opportunity available, and then wait and see. The sixth and final element relative to determining the effect of policy and practices on future SOC/non-resident enrollments is the establishing of capacity limits at each grade level due an array of reasons. The reasons may include educational practice criteria, educational philosophy principles, facilities limitations, economic criteria, and political considerations that influence the

determination of the desired size or number of students for a grade level at a particular school or for the district as a whole.

After completing the predictive validity accuracy analysis and analysis of factors affecting enrollments, adjustments were made at some grade levels to the cohort survival prediction ratios used for the current projections dated 12-5-2016. The adjustments were at the Kindergarten, 1st, 7th, and 9th grade levels and were mostly due to policy implications and their affect on the determination of available SOC-non-resident "slots" in future years. At the Kindergarten and 1st grade levels the adjustments were due to an expected continuation of the Developmental Kindergarten Program and making slots available for SOC/non-resident students and filling them from Kindergarten and 1st Grade applicant pools At the 7th and 9th grade levels the adjustments were due to an expected decrease in future SOC/non-resident slots available due to the desire to have these grade level classes not exceed certain levels. Subsequently, the final projections for all FTE General Education students (consisting of resident and SOC/non-residents) were produced, and suggested use of the projections were provided for budget and facilities planning purposes.