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**An Economic Analysis of the Proposed Durham County School Impact
Fee**

Prepared by

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Executive Summary

RESI was commissioned to detail the resulting economic impacts due to the proposed impact fee. Our findings are summarized below.

For the current proposed impact fee of \$2,000 for single-family homes and \$1,152 for multi-family homes, the impacts over a ten-year period are:

1. Loss of New Housing Impacts

- 120 new homes would not be built;
- 220 jobs would be permanently lost;
- \$6.7 million in wages would be permanently lost;
- \$539,290 in lost property tax and sales tax revenue for Durham County.

2. Spillover Impacts

- Existing home prices would rise by \$1,700;
- 280 fewer families could afford to purchase homes in Durham County;
- 260 jobs would be permanently lost;
- \$7.5 million in wages would be permanently lost;
- \$567,730 in lost property tax and sales tax revenue for Durham County.

For a proposed impact fee of \$5,000 for single-family homes and \$3,000 for multi-family homes, the impacts over a ten-year period are:

1. Loss of New Housing Impacts

- 250 new homes would not be built;
- 470 jobs would be permanently lost;
- \$14.1 million in wages would be permanently lost;
- \$1.12 million in lost property tax and sales tax revenue for Durham County;

2. Spillover Impacts

- Existing home prices would rise by \$3,664;
- 610 fewer families could afford to purchase homes in Durham County;
- 570 jobs would be permanently lost;
- \$16.3 million in wages would be permanently lost;
- \$1.23 million in lost property tax and sales tax revenue for Durham County.

Under all impact fee scenarios, there is a cost to housing affordability. The imposition of impact fees in Durham County would raise the general price level of housing in the county because of the interaction of the new homes, existing homes and rental markets. Moreover, because of the current homeownership status of minorities in Durham County (a majority of renters in the County are minorities) and because of relatively lower income levels among minority communities, these groups will be affected disproportionately by the imposition of impact fees. This is not surprising given the regressive nature of flat fee structures.

Durham County Impact Fee Study

I. Objectives

A. Measuring Impacts

This study is designed to quantify the economic impacts that would accompany the imposition of an impact fee in Durham County. The County has proposed the imposition of a school impact fee of \$2,000 for the construction of a single family home and \$1,152 for a multi-family home (townhouse).

To provide policymakers, citizens and businesses with insight into the economic consequences of imposing impact fees, RESI analyzed the impact of varying levels of impact fees against three types of housing units: condominiums (median price \$159K), townhomes (median price \$134K) and single family homes (median price \$168K).¹ This analysis measures the impact of fee adoption on employment, personal income and tax revenues. It also presents information with regard to the extent to which housing affordability is compromised.

B. Objectivity, in Appearance and in Fact

Because of the nature of the issues at stake, RESI sought to ensure both the appearance and existence of impartiality. The methodology employed is driven both by publicly available data and by an input-output economic impact model routinely utilized by university and other sets of researchers. To the extent that data were utilized that did not originate from a government agency, RESI compared those data to available government benchmarks to test for plausibility and reasonableness.

II. Background

A. The Role of Impact Fees - Generally

Impact fees are defined as one-time charges levied against new development projects requiring additional government capital expenditures to serve the development.² In general, impact fees are designed to generate revenues to finance schools, roads, parks and recreation and public safety.

The level of impact fees a jurisdiction can levy is limited by relevant case law.³ The rational nexus test that has developed is comprised of three elements. The first is that the need for the fee must be reasonably related to new growth. The second is that the amount of the fee must be proportionate to the cost of the required infrastructure. A final

¹ Price data provided by Homebuilders Association of Durham and Orange Counties for the 12 months ending March 31st, 2003.

² Impact Fee Study Committee Report to the County Executive, December 8, 2000, p.2.

³ Id, p. 4.

requirement is that the fees collected must be utilized to support new growth.⁴ There are two sub-requirements in connection to this final requirement. Fees collected from a particular geographic area must be spent within that area and must be spent within a reasonable period of time.⁵ These requirements serve to distinguish impact fees from general taxation.

Durham County has specifically identified that the impact fees would be used exclusively for school construction and would be imposed on new construction. Presumably, the rational nexus originates from the notion that new homes generate additional school enrollment, and therefore the need for expanded school capacity.

B. The Role of Impact Fees in Durham County

This would be the first time that a School Impact Fee has been imposed on new construction in Durham County. There is a question of its legality. According to a separate study conducted by Tischler & Associates, impact fees could be raised as high as \$5,000.

C. The Issue at Stake in this Matter

This research focuses on the optimal level of impact fees in Durham County. Realistically, the possibilities range from \$0 to some positive dollar amount. From an economic standpoint, the tradeoffs associated with impact fees look similar to those that accompany questions of optimal levels of taxation.

The benefit of higher impact fees comes in the form of higher government revenues, though the ways in which that money can be spent is constrained. The cost of higher impact fees is associated with the number and types of transactions (e.g., home purchases, household spending) that do not occur because of the presence of additional levies. Taxes and impact fees have the effect of shrinking the market. This report identifies the extent to which impact fees at various proposed levels would limit the number of new homes purchased in Durham County, and how that would impact the overall macroeconomy of the study area.

There is another broader, less quantifiable impact. Unlike taxes on gasoline, cigarettes and a host of other items, impact fees are levied against housing, a social good that governments generally promote. Homeownership is related to community involvement, housing stock maintenance, social stability and shared well being. As a result, governments at all levels frequently enact programs seeking to encourage homeownership, including financing programs that improve housing affordability. Impact fees have the unfortunate consequence of countering the effects of programs that promote homebuying activity, especially if they are set higher than is justified by public finance needs.

⁴ Id.

⁵ Id, p. 3-4.

Moreover, impact fees are highly regressive. As this study shows, impact fees have a disproportionate impact on the prices of lower-end homes. Under a scenario in which a \$2,000 impact was in place, the price of a single-family detached \$120,000 home would rise fully 2.1 percent. The impact on a home priced at \$250,000 would be proportionately less.

III. Methodology

A. A Focus on Precluded Households

RESI was tasked with determining the impact of the imposition of an impact Durham County on new households. To complete the analysis, RESI disaggregated households into two income groupings:

- (1) \$30K~\$50K – relevant to homes priced at or near \$140,000
- (2) \$50K~\$70K – relevant to homes priced at or near \$170,000

For each of the impact fees imposed, we determined the number of households that would be precluded from buying a home in the county based on the increase in housing prices attributable to larger impact fees. The midpoint elasticity of home demand for each of the three housing price points was also relevant to this portion of the analysis. Since the basis for comparison is no impact fee, RESI compared the number of families that would fail to purchase a home (at the three median price points) under the proposed impact fee regimes.

Homes Not Built Due to Additional Impact Fees				
Fee	Townhome⁶ \$134,000	Condo \$159,000	Single Family Home \$168,000	Total
\$2,000	1	0	11	12
\$5,000	2	0	23	25

B. Assumptions

The determination of the number of households precluded from purchasing a new home in Durham County was based on the following assumptions:

- (1) For every dollar in additional impact fees, the home price will rise by \$1.25 (carrying costs + \$impact fee);
- (2) For all new home purchases, RESI assumed a 6.5 percent mortgage rate, and that the home purchaser would put 10 percent down and pay 45 basis points for private mortgage insurance;
- (3) For the house to be affordable, we assumed that the mortgage, insurance and taxes would not exceed 28 percent of household income. According to the

⁶ For Condos and Townhomes, the impact fees were assumed to be \$1,152 under the \$2,000 Impact Fee regime and \$3,000 under the \$5,000 impact fee regime.

National Association of Home Builders, a house is considered affordable if mortgage payments, property taxes, and insurance do not exceed 28 percent of household income.

- (4) For the purposes of estimating the change in households, RESI used the distribution of new homes sold for the period ending 3/31/03. The distribution was as follows:

Condos	22 sold, average price \$171,000, median price \$159,000
Townhomes	203 sold, average price \$146,677, median price \$134,000
Singe Family	1,421 sold, average price \$191,280, median price \$168,00

Explaining Assumption 1

The fact that the home prices rise by more than the amount of the impact fee is strikingly counterintuitive. This occurs because as the cost of construction increases, other costs such as commissions and financing also rise. Moreover, because rates of return in the homebuilding industry need to remain competitive with those obtainable from alternate investments, profit margins will stay relatively stable with cost increases passed on to the homebuyer, including a mark-up on the amount of the fee itself.

Indeed, the \$1.25 figure appears to be a conservative estimate of price increase. Based on this figure, new home prices will rise between 0.94 and 2.97 percent in Durham County. According to Singell and Lillydahl (1990), overall home prices are more likely to rise by 7 percent given a proportionate increase in impact fees. These authors conducted this study, however, when a different interest rate environment prevailed.

C. The Role of Implan

The number of households lost was multiplied by the average household's disposable income and that loss in household spending was then input into IMPLAN, an input/output model.

In order to help quantify the economic impact of households moving into an area, RESI used an IMPLAN input/output model designed specifically for households. The model enumerates the employment and income impact of each dollar earned and spent by the new households across a broad range of industries. Three measures of lost economic activity were calculated by IMPLAN: employment, personal income, and taxes.

Employment

To quantify the economic impact of a new households entering into an area, economists measure three types of economic impacts: direct, indirect, and induced impacts. The direct economic effects are generated as the new households spend on consumption goods and services existing business and new business will create jobs and hire workers to fill new positions. The indirect economic impacts occur as new firms purchase goods and services from other firms. In either case the increases in employment generate an increase in household income, as new job opportunities are created and income levels

rise. This drives the induced economic impacts that result from households increasing their purchases at local businesses.

Personal Income

The IMPLAN model estimates the annual flow of personal income in 2001 dollars, (defined as the sum of salaries and wages, other labor income and proprietors' income less transfer payments, dividends interest and rent).

Tax Revenue Collection Impact

The fiscal impacts are primarily driven by shifts in income tax revenues, sales tax revenues and additional real property tax revenues generated by new households moving into the state or county. These figures are generated at the local, state and federal levels.

Multipliers

Economists rely on industry multipliers to determine indirect and induced effects of industry segments or firms. Multipliers represent the relationship between direct effects and the sum of the direct, indirect and induced effects. For example, if the employment multiplier for a specific industry is 2.4, then for every job created in that industry a total of 2.4 jobs will be created.

III. Results and Analysis

Impacts of Displaced Households and Homes not built

Not surprisingly, the extent of economic activity lost is a function of the increase in impact fees. This function was consistent across employment, personal income and tax revenues. The amount of economic displacement rises more than proportionately as one considers larger increases of the impact fee in Durham County. This result is generally consistent with tax analyses performed by other economists, who find that dead-weight loss and other measures of inefficiencies rise exponentially given linear increases in the underlying tax.

A. Employment

An impact fee of \$2,000 per new single-family detached home and \$1,152 per new multi-family dwelling would reduce Durham County employment by 22 jobs. This figure rises to 47 jobs at the impact fee level of \$5,000.

Durham County Employment Impact <i>Additional Losses Due to Impact Fees</i>				
	Direct	Indirect	Induced	Total
\$2,000	13	5	4	22
\$5,000	27	11	9	47

B. Personal Income

An impact fee of \$2,000 per new single-family detached home would reduce Durham County's personal/labor income by \$671,842. This figure rises to \$1,405,081 at the impact fee level of \$5,000.

Durham County Labor Income Impact, 2003 \$ <i>Additional Losses Due to Impact Fees</i>				
	Direct	Indirect	Induced	Total
\$2,000	\$355,402	\$187,702	\$128,738	\$671,842
\$5,000	\$743,836	\$392,008	\$269,237	\$1,405,081

C. Tax

An impact fee of \$2,000 per new single-family detached home would reduce Durham County and North Carolina's annual tax collections by \$77,126. This figure rises to \$161,286 at the impact fee level of \$5,000.

Durham County/North Carolina Tax Impact, 2003 \$		
<i>Additional Losses Due to Impact Fees</i>		
Impact Fee Level	\$2,000	\$5,000
Property Tax*	\$29,238	\$61,072
Income Tax	\$12,942	\$27,065
Sales Tax*	\$24,691	\$51,683
Other	\$10,255	\$21,466
Total	\$77, 126	\$161,286

* Durham County Taxes

D. Other Impacts including Impact on Price

Since the new homes market and existing homes market are related to one another, anything that affects the prices in one market will affect prices in the other. This is because existing homes act as a substitute (albeit an imperfect one) for new homes, and vice versa. The imposition of impact fees will therefore increase the general price level of housing in the County. Indeed, if one considers that rental unit pricing is affected by the cost of home purchase, one would also expect to see some increase in rents with the imposition of impact fees on new homes.

The Price of Homes Rise Generally with Impact Fees

According to the Home Builder's Association of Durham and North Carolina, approximately 1,646 new homes were sold in Durham County for the 12-month period ending 3/31/03 and 3,074 existing home were sold in that same period. Based on these data, we calculated that the median price for all homes sold in Durham County is \$148,260 and with the adoption of the current impact fee ordinance, the price for an existing home is expected to increase by approximately \$1,700. If the impact fee is increased to \$5,000 (\$3,000 for multi-family homes), the price of an existing home is expected to rise by approximately \$3,664.

Based upon 2000 census data, RESI determined that the adoption of the impact fee ordinance as it is currently proposed, would preclude an additional 28 households from purchasing an existing home in Durham County. If the impact fee were raised to \$5,000, then it would preclude an additional 61 households from purchasing an existing home in Durham County.

This would translate into a loss of approximately \$1.6 million of household expenditures in Durham County with the adoption of the existing impact fee proposal. Similarly, if the fees are raised to \$5,000 then the loss of household expenditures rise to \$3.6 million.

The effect of the impact fee is not just limited to those households that are priced out of the housing market, but also impacts the budgets of all future homebuyers in Durham County. If the current impact fee ordinance is adopted, it will cost Durham County homebuyers an additional \$630,000 a year in increased mortgage payments. This represents a loss of expenditures in the county that could have otherwise taken place. If the fee is raised to \$5,000, then the cost to Durham County homebuyers increases to \$1.44 million.

The loss of household income due to these fees can be translated into lost jobs and wages. These are shown below.

Durham County Employment Impact				
<i>Additional Losses Due to Impact Fees on Existing Home Sales</i>				
	Direct	Indirect	Induced	Total
\$2,000	18	3	5	26
\$5,000	40	6	11	57

Durham County Labor Income Impact, 2003 \$				
<i>Additional Losses Due to Impact Fees Existing Home Sales</i>				
	Direct	Indirect	Induced	Total
\$2,000	\$500,595	\$103,499	\$143,195	\$747,289
\$5,000	\$1,088,575	\$225,064	\$311,386	\$1,625,025

Durham County/North Carolina Tax Impact, 2003 \$		
<i>Additional Losses Due to Impact Fees Existing Home Sales</i>		
Impact Fee Level	\$2,000	\$5,000
Property Tax*	\$20,650	\$44,905
Income Tax	\$13,962	\$30,362
Sales Tax*	\$36,123	\$78,551
Other	\$14,706	\$31,979
Total	\$85,441	\$185,797

E. Housing Affordability

Any tax or impact fee will generate higher prices for consumers. Impact fees in Durham County are no exception. RESI finds that housing prices will increase between 0.94 percent and 2.97 percent depending on the type of home under consideration and the level of the impact fee. For instance, the 2.97 percent figure applies a single family home priced at \$168,000 when a \$5,000 impact fee is in place. Conversely, the 0.94 percent figure applies to a condo priced at \$159,000 when \$1,500 impact fee is in place.

It is worth noting that impact fees are regressive. Because they are flat fees, they tend to disproportionately raise the price of lower-end single-family detached homes, and have less relative impact on high-end homes. This serves as another factor working against the public policy rationale behind impact fees.

Some readers of this report might conclude that because the imposition of impact fees leaves much of the market intact, the housing affordability issues are not serious. This would be an improper conclusion. Though most buyers will choose to pay the impact fee as part of the home purchase price, the fact remains that these buyers will have less income left over to buy other goods, including from local retailers. This situation is analogous with an increase in the price of milk. A hypothetical 20 percent increase in the price of milk would deter only a few buyers, but from a social perspective, such an increase in price is costly because consumers can now afford not only less milk, but also fewer other goods. Perhaps even more on point is a hypothetical increase in gasoline prices. Because of the nature of gasoline (a necessity for many households/businesses), even a large increase in gasoline prices generates few lost sales, but the cost to society remains great. If these increases are substantial enough, they can cause an entire economy to stall.

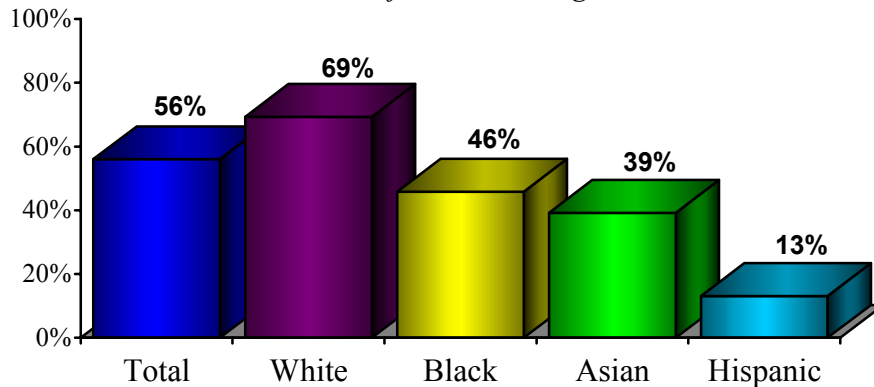
Possibly of greater interest than the macroeconomic impact of impact fees are the distributional implications. As stated above, the impact fee as a flat fee is regressive since the final cost of the home does not feature in the determination of the fee paid. Middle income households will be more affected than upper middle income households, lower middle income households will be more affected than middle income households, and so on.

One can utilize Durham County-specific data to cast further light on the issue of local housing affordability. According to the U.S. Census 2000, Summary File (SF 1), as of 1999 the overall home ownership rate in Durham County was 56 percent. That is, 56 percent of the population inhabited a dwelling that they or a family-member owned. The balance of the population in occupied housing units occupied rental units.

This level of homeownership is not particularly high by national standards, where almost 69 percent of the population lived in an owner occupied dwelling. In North Carolina, the corresponding figure was nearly 71 percent according to 2000 Census statistics. Durham County's relatively low home ownership rate persists despite the fact that its average household incomes are considerably higher than in the balance of North Carolina. The 2002 income estimate suggests that Durham County's average household income was \$59,688 for that year while it was \$53,977 statewide. There may be numerous reasons for the relatively low homeownership rate in

the county, but undoubtedly a leading contributing factor is the large number of college students in the community either living on campus or in a rental unit.

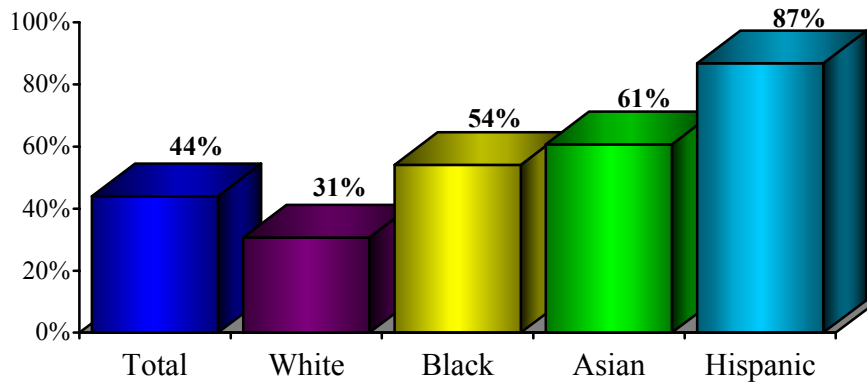
**Durham County Population in Owner-Occupied
Housing Units By Race, 2000**
Percent of Total Housing Units



More revealing is the demographic breakdown of homeownership in Durham County. Among whites, the homeownership rate in the county is 69.3 percent. This is roughly 8 percent lower than the white homeownership rate statewide, again because of the presence of large numbers of students arriving from outside the community and establishing their own (typically small) households.

Among African-Americans, the homeownership rate in Durham County is 45.8 percent, or 23.5 percent below that of their white counterparts. The statewide disparity between white and black homeownership is less (22.3%). Indeed, the disparity between white and black homeownership in the county is large enough that though whites represent 51.44 percent of the County's population and blacks represent 39.42 percent, blacks represent a majority of those who occupy rental housing. According to the 2000 Census, 45,584 blacks lived in renter occupied housing compared to 33,696 whites.

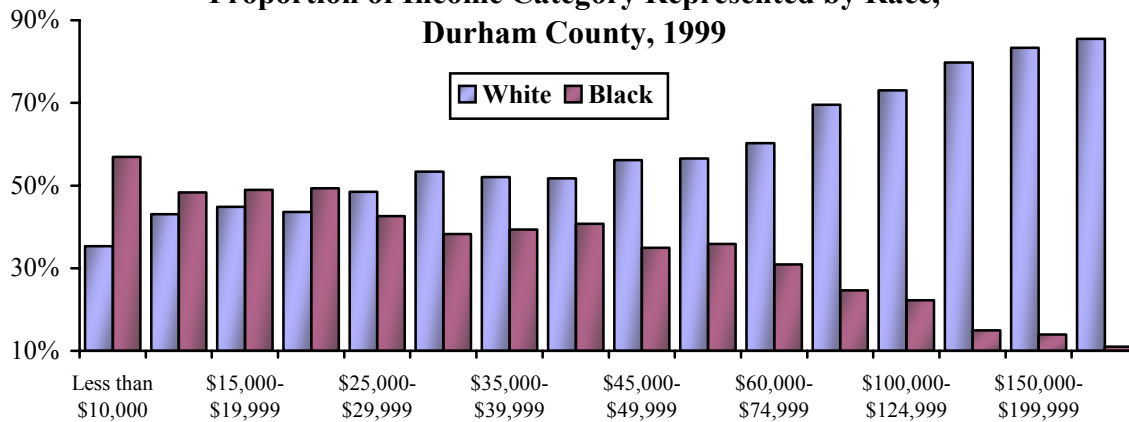
**Durham County Population in Renter-Occupied
Housing Units By Race, 2000**
Percent of Total Housing Units



It can be concluded that a higher proportion and absolute number of blacks aspire to owner-occupied status than whites. Therefore, any policies that compromised housing affordability would disproportionately fall upon the shoulders of African-Americans.

This conclusion can be confirmed by an analysis of Durham County-specific income data by race. According to Census 2000 Summary File 3 (SF 3), African-Americans are overrepresented in lower income levels and underrepresented in higher income levels. For instance, though African-Americans represent 39.42 percent of the population, they represent nearly half of all households earning between \$20,000 and \$24,999 countywide. Indeed, without exception, African-Americans are overrepresented in household income categories below \$30,000/annum. Also without exception, African-Americans are underrepresented in income categories above \$45,000/annum. African-Americans tend to be proportionately represented in income categories between \$30,000 and \$45,000, precisely the segment that would be most affected by higher home prices since these income levels tend to be occupied by a high proportion of renters who aspire to home ownership.

**Proportion of Income Category Represented by Race,
Durham County, 1999**



On a proportional basis, Hispanics would perhaps be even more impacted by impact fees. Among Durham County Hispanics, the homeownership rate was just 13.1 percent according to Census 2000 data. Though this group represents 7.7 percent of the County's population (4.8% of its households), it represents only 1.8 percent of all owner occupied units. Like African-Americans, Hispanics tend to be overrepresented in lower income categories and underrepresented in higher categories. Hispanics are overrepresented in all household income categories below \$45,000/annum, and underrepresented in all income categories above \$45,000.

IV. Conclusion

In conclusion, the imposition of impact fees would lead to a truncation in the size of the housing market in Durham County. Fewer homes would be built, and fewer households would inhabit the County, leading to lost employment, income and County revenues. The imposition of impact fees would also generate a general increase in the price level for homes. This would disproportionately impact minority communities since these communities occupy rental housing with greater relative frequency than other groups, and because they are overrepresented in income groups that would otherwise be able to purchase a home.

Summary of Impacts				
Impact	\$2,000 Impact Fee		\$5,000 Impact Fee	
	Annual Impact	2004-2014 Impacts	Annual Impact	2004-2014 Impacts
Homes	-12	-120	-25	-250
Jobs	-22	-220	-47	-470
Wages	-\$671,842	-\$6,718,420	-\$1,405,081	-\$14,050,810
Taxes	-\$53,929	-\$539,290	-\$112,755	-\$1,127,550
	Spillover		Spillover	
Homes	-28	-280	-61	-610
Jobs	-26	-260	-57	-570
Wages	-\$747,289	-\$7,472,890	-\$1,625,025	-\$16,250,250
Taxes	-\$56,773	-\$567,730	-\$123,456	-\$1,234,560

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