

## ECONOMIC INDICATORS

**Trend in the Cuyahoga County Sales Tax Collection Level 1991-2017**  
**Current Level Up 5.88% over One Year; Falls to 2.4% below 2001 Peak**  
**Annualized Loss Since 2001 is -\$5.49 Million per Year**  
**February 2017 is Eightieth Straight Positive Month**  
**Consecutive Positive Growth Streak Reaches Seven Full Years Plus 8 Months**  
**All-Time Record Positive Growth Streak Set Again**  
**Growth Rate Slows Slightly in May**  
**Rate of Increase Still Below 12.76% Growth All-Time Peak in October 1994**  
**Rate of Increase now Farther Below Recent 6.81% Increase in May 2005**  
**Rate of Increase in 2017:**  
**5.5% in Jan; 6.2% in Feb; 6.4% in Mar; 5.9% in Apr; 5.9% in May**  
**Previous Record Streak was January 2000 (30 Months) for Local Sales Tax Collections**  
**Data Heavily Distorted upward by One Time Retroactive Payment in June 2016**  
**This Represents Dramatic Improvement over Catastrophic Late 2009 Performance**  
**Growth Caused by Slight Local Economic Improvement; But That Improvement Still Slow**  
**Growth Coincides with Slowing Local and Statewide Job Growth**  
**Ohio Economy Still not Recovered from 2000 Recession**  
**Ohio now below USA Job Growth Rate for 52 Consecutive Months**  
**Future 2017/2018 Growth will slow dramatically from Medicare Managed Care Tax Repeal**

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### Summary

The newly available May 2017 figure on sales taxes collected in Cuyahoga County finds that this level *increased* by 5.88% in comparison to the same level in April 2017. The new growth figure represents very slightly slowing but still positive growth in the current rate of increase relative to last month's April 5.92%. The current rate of increase this month fell further behind the 6.81% recent peak rate of increase seen during May 2005. The 2.9% growth in December 2012 was a sharp slowing in comparison to the 4.2% growth in December 2011. Most 2013 months generated a slowing rate of increase, but *all* 2013, 2014, 2015, 2016, and 2017 months registered increases. The growth rate during the fifth month of 2017 currently measures a continuing but currently very slightly slowing rate of growth, with continuing monthly volatility.

***April 2017 is the eightieth consecutive monthly increase in the real sales tax level. That positive streak dramatically exceeds the thirty consecutive months of increase in the Cuyahoga County real sales tax level in June 2005. Prior to that, the record for consecutive monthly increases in the real Cuyahoga County sales tax level was 30 consecutive months between August 1997 and May 2001. The current streak of monthly increases for seven full consecutive years and eight additional months is clearly very favorable news, particularly in comparison to the continual record-breaking disastrously horrible performance of the sales tax during two previous years in 2010 and 2011.***

The real inflation-adjusted tax collection level was negative during all twelve months of 2008, and all twelve monthly figures for 2009 were all sharply and very alarmingly negative. **January, February, and March 2010 were three of the eleven worst declines in the Cuyahoga County sales tax of any**

month during the last 25 years. January, February, March, April, and May 2009 ranked fifth, eighth, and eleventh, ninth, and fourteenth respectively, on the list of the worst monthly declines in the Cuyahoga County sales tax level during the last 25 years. The worst monthly plunge during the last 24 years was the -10.98% decline in December 2009. **The fact that each of the twelve months of 2010 were not the worst monthly plunge in twenty years broke the highly discouraging trend of six consecutive months in which the Cuyahoga County sales tax broke the all-time record for worst ever monthly plunge in the sales tax revenue level, which had taken place earlier in 2009.** Those extremely discouraging figures during 2009 and during all 2010 months until October were caused by the fact that the 2000-2011 recession in Ohio's labor market was deeper and lengthier than the historically horrible 1979-1983 recession in Cuyahoga County. The national 2007-2009 "Great Recession" dramatically deepened the impact of the 2000s labor market recession in Cuyahoga County to catastrophic levels not seen in many decades.

But, the last three months of 2010, all twelve months of 2011, all twelve months of 2012, all twelve months of 2013, all twelve months of 2014, all twelve months of 2015, all twelve months of 2016, and all months of 2017 so far finally reached growth and increases in the Cuyahoga County Sales Tax level. The peak of that growth so far is the March 2016 level, with 6.43% real growth.

The new 5.88% positive but very slightly slowing growth level for May 2017 is the 80<sup>th</sup> consecutive month with an increase in the inflation-adjusted level of sales tax collections in Cuyahoga County. The May 2013 growth rate fell below 2%, as did July 2014, October 2014, and December 2014. But, the sharply improving May 2015 growth rate finally rose above 4%. **The current May 2017 very slightly slowing sales tax growth rate of 5.88% remains below the recent March 2017 peak growth rate of 6.43%, but it is the eightieth consecutive month with positive growth that has fortunately replaced the former extremely deep monthly losses. That positive streak now has reached seven full years and eight additional months. This streak is the longest all-time record streak for consecutive months that the Cuyahoga County inflation-adjusted sales tax level has seen real inflation-adjusted growth.**

The peak level of the real monthly Cuyahoga County sales tax collection was experienced in February 2001. Since that peak, the current level of the monthly Cuyahoga County inflation adjusted sales tax has declined by 2.39%, despite the slowing of the rate of decline during all 2010 months and the actual increases in October, November, and December 2010, and actual increases during all 2011, 2012, 2013, 2014, 2015, 2016, and 2017 months. **The end of declines in this figure in the March 2017 data was a major positive development, but the return to negative territory last month in April 2017 was a major negative development.** Entities who rely on the sales tax for revenues have been suffering catastrophic damage from the real decline in that tax collection level during the last sixteen years, so this return to a negative figure is highly damaging.

**On an annualized basis, this yearly decrease relative to 2001 is currently -\$5.49 million in Cuyahoga County alone.** This new increase is directly proportional to a corresponding decline in retail sales during the last sixteen years in Cuyahoga County. **The end to further damage from this huge decline in October, November, and December 2010, and during all 2011, 2012, 2013, 2014, 2015, 2016, and 2017 months is obviously a very favorable development.**

The 2000-2011 loss of -129,590 jobs in Cuyahoga County, a decline of a very large -16.0% in Cuyahoga County's employment, caused a -\$1.47 billion annual decline in Cuyahoga County's aggregate wages for all workers. That decline was -4.2% of all local wages. That frightening plunge in local earnings paralleled a -6.6% statewide decline in Ohio's aggregate wages. The extremely deep 2007-2009 national

recession and the resulting massive aggregate paycheck losses made the 2000-2007 Ohio labor market recession worse and caused the record-breaking declines in sales tax revenues in Cuyahoga County and across the entire state of Ohio. Despite the end of job losses in Ohio and Cuyahoga County through the end of the first quarter of 2012, average wages continued to fall in most industries across the state and county. Associated sales tax losses continued during 2010 until the extremely welcome small increases in October, November, and December 2010 and in all months of 2011, 2012, 2013, 2014, 2015, 2016, and 2017. With local economic fundamentals still relatively weak with continuing declines in average wages of workers in Cuyahoga County through second quarter of 2013 and in Ohio during the third quarter of 2013 until mean earnings finally stopped declining in Ohio during the fourth quarter of 2014, the highly welcome May 2017 sales tax gain still does not yet clearly establish a solid and firm trend for future months. Both the national USA economic recovery and the parallel economic recovery in Ohio remain slow and recently weakening. The most recent data on employment find that Ohio currently has a streak of fifty-two consecutive months when the job growth rate in Ohio has been slower than the USA national average. This horrible streak returned following a downward revision to Ohio jobs in 2016 that exceeded 100,000. In addition, the continuing volatility in the USA and worldwide equity markets is having a negative impact that has not yet been precisely measured on economic growth. These recent findings, along with a recently enacted interest rate increase by the US Federal Reserve Bank will put downward pressure on sales tax collections during forthcoming 2017 months.

Unfortunately, updated monthly Ohio figures were delayed considerably in unprecedented fashion as a result of the federal government shutdown in 2013. September and October data on Ohio employment were not released until November 22, 2013. So, in unusually damaging fashion, routinely available data on Ohio employment were not available at any time during October 2013. This of course increased our ignorance of the current Ohio employment situation during most fall months in 2013. But, given the belated release of these data, we now know that Ohio's recovery continued to be weak and continuously below national norms during late 2013 and through newly revised data up through March 2017.

**A substantial gain in the expanded sales tax base from Managed Care Medicaid plans was a key contributor to the more positive figures during the early months of 2011.** The end to job losses in Cuyahoga County barely arrived during the third quarter of 2011, only as a result of increased federal employment in Cuyahoga County. The monthly size of the increased sales tax collection from the expanded Medicaid base varies from month to month, but the monthly figure is roughly \$500,000 in Cuyahoga County. The actual size in dollars of the real Cuyahoga County sales tax increase between July 2010 and July 2011 was \$1,280,381. Thus, on a net basis about one-third of the 3.8% August 2011 increase was accounted for by the base expansion that resulted from the new sales tax on Medicaid managed care firms. All subsequent months in the 12 month moving average now have the Medicaid managed care sales tax in both this year's data and last year's data. Thus, the influence of the base expansion on sales tax collection trends diminished considerably during all of 2012, 2013, 2014, 2015, 2016 and 2017 months as the base expansion is now built into both last year's level and also in current 2016 data. Thus, the base expansion from the Medicaid Managed Care sales tax currently has no impact on current year to year comparisons in 2017. But, it now is clear that the forthcoming repeal of the Managed Care Medicaid sales tax will have an additional catastrophically downward impact on the sales tax trend, particularly in 2017 and 2018. **Data from the Ohio Office of Budget and Management find that recent growth in both the Cuyahoga County and Ohio sales tax trend has mainly been caused by growth in the Managed Care Medicaid sales tax. The repeal of this tax will cause both a loss of sales tax revenue from the tax elimination and also will substantially negatively impact the rate of forthcoming sales tax growth during 2018, although the timing of that will depend upon the passage of the new biennial state budget, where the details will not be known until summer 2017.** Additional growth in the Cuyahoga County Sales Tax level during future 2017 months will have to rely

on actual growth in local employment and earnings. The repeal of this tax will therefore cause a slowdown in sales tax revenue growth.

An extremely unfortunate additional factor arrived during the fall of 2013. The federal government shutdown and the possibility that the United States might exceed its debt ceiling during October 2013 provided a serious threat for additional slowing of the economic growth rate in both the United States and in Ohio. An additional very serious problem from this damaging political collapse is that all normal updated data sources on employment and earnings were no longer released, either in a timely fashion or at all. Thus, there was no conclusive means to measure what was currently happening either in the United States economy or in the Ohio labor market. This was a dangerous unprecedented situation that was fully resolved only in December 2013.

**A massive future problem caused by the forthcoming elimination of the Managed Care Medicaid sales tax altogether is a very large sales tax cut that will dramatically impact revenues all 88 Ohio counties and at nearly all Ohio transit authorities. This catastrophic development also will lower tax revenue receipts by the state of Ohio itself, unless the 2017 biennial budget contains provisions to mitigate this major problem.**

The statewide nominal Ohio automobile sales tax level for February 2017 and the non-automobile sales tax were not released in a timely fashion by Ohio OBM, given the annual revisions to OBM databases. But, both the February, March, and April 2017 nominal data are now available, and they find that the non-automobile sales tax increased over April 2016 by a small 0.3%, with the automobile sales tax also increasing over 2016 by a more robust 3.6%. Overall Ohio sales tax collections increased in April 2017 by 0.8%, a figure well below the current 2.7% level of inflation.

The good news in local sales tax collections is still largely unrelated to the lengthy shrinkage in the local private sector labor market from the 2000s recession, except for an extremely welcome recent increase of 1,329 Manufacturing jobs in Cuyahoga County during the third quarter of 2009 that was the chief cause of the current local labor market recovery. Another small increase of 496 Manufacturing jobs during the fourth quarter of 2010, an increase of 1,229 Manufacturing jobs during the first quarter of 2011, an increase of 1,969 Manufacturing jobs during the second quarter of 2011, an increase of 1,614 Manufacturing jobs during the third quarter of 2011, an increase of 1,966 Manufacturing jobs during the fourth quarter of 2011, an increase of 1,923 Manufacturing jobs during the first quarter of 2012, and a continuing increase of 1,969 Manufacturing jobs during the second quarter of 2012, but a recent *loss* of 169 Manufacturing jobs during 3Q 2013, were an extremely beneficial increase in Cuyahoga County's employment within the very important Manufacturing industry that has been the main factor driving the local recovery for eleven consecutive quarters prior to the more negative recent 3Q 2013 figure. The end of local Manufacturing growth during 3Q 2013 is a discouraging development going forward. Another Manufacturing loss during 3Q 2014 was highly alarming. **The resulting local recovery from the 2000s recession is genuine, but that recovery remains quite slow. At the current extremely slow rate of increase it will take the Ohio labor market more than 6 years to recover the very large figure of 139,100 jobs that Ohio lost during the last 16 years. That recovery is genuine, but it remains an extremely slow recovery. In Cuyahoga County, at the current slow rate of recovery it would take a startlingly lengthy period of more than 664 years to recover the jobs that Cuyahoga County lost during the lengthy and deep 2000s recession that lasted more than a full decade. All of northeast Ohio is in a similar situation. At the current very slow rate of recovery, northeast Ohio will need six years to recover the still very large -132,800 jobs that it has lost since 2000. Further, among the sixteen counties of northeast Ohio, only one county, Carroll County, has recovered the jobs that it lost during the 2007 "Great Recession." That has been true for three consecutive quarters for**

which data are available. So, while the Ohio, northeast Ohio, and Cuyahoga County economy are all generating current job growth, that rate of growth remains too slow to produce a full recovery of jobs previously lost.

During the second quarter of 2014, a 303 loss of Cuyahoga County jobs in Local, State, and Federal Government jobs during the past year is still the chief industrial culprit in the current slow rate of growth in total employment in Cuyahoga County. But, in newly available 3Q 2014 data, the largest industrial loss of jobs in Cuyahoga County returned to a loss of -1,283 jobs in Finance and Insurance. A -3.4% decline in Cuyahoga County jobs in Government during the past year continues to be a substantial industrial decline that is slowing down the current rate of job growth in Cuyahoga County. An additional current loss of 451 Cuyahoga County jobs in Manufacturing is a continuing discouraging problem that is causing the excessively slow growth. Statewide, Ohio lost -1,856 jobs in Local Government and State Government during the past year through 4Q 2013 in the most recently available data by industry from the QCEW Quarterly Census of Employment and Wages, the complete count of jobs and wages in all 88 Ohio counties. This loss of Ohio's Government employment and a loss of -1,318 jobs in Ohio Finance and Insurance were the two largest losses of jobs in any industry within Ohio during a time when the state was actually experiencing a very slow recovery that produced overall employment gains.

Thus, the primary cause of very slow growth during the ongoing labor market recovery is known. It has been large cuts in state funding for school districts as well as large cuts to municipalities and counties in the Local Government Fund, as well as cuts to State and Federal Government employment. Outside Government, the Ohio labor market is currently recovering. But, the slow pace of the ongoing labor market recovery in Ohio is primarily being caused by the large current losses in Government, Finance and Insurance, and Manufacturing employment.

A further very ominous development that emerged in the complete count of employment and wages for the fourth quarter of 2011 in Ohio is that despite the beginning of slow job growth across the state, a very large loss in aggregate real wages emerged. Nearly all industries suffered losses in both total wages and mean real wages during 2011. The total loss across Ohio in wages during 2011 was -\$6.56 billion. The same 2011 loss of wages in Cuyahoga County was -\$1.47 billion.

Since then, aggregate wages have recovered sharply. In 4Q 2014 data, average earnings of a job in both Cuyahoga County and Ohio increased by 1.4% in Ohio and by 1.1% in Cuyahoga County, finally bringing a prior loss in mean earnings to an end. The mean earnings growth is encouraging, even though mean earnings are not currently growing across all industries. Nevertheless, despite the continued impact of the 2000-2011 labor market recession in Cuyahoga County and Ohio that was seen in 2011 from sharply declining aggregate and average real wages, both the Cuyahoga County and Ohio sales tax collections continued to grow on an inflation adjusted basis during the same period of time. The wage cuts contributed to the slowing rate of increase in sales tax collections through April 2017. But, the slightly slowing 5.88% May 2017 sales tax growth rate measures a rate of increase in Cuyahoga County that now is below the recent 6.43% peak March 2017 rate of increase. The rate of increase slowed very slightly in comparison to last month's April 2017 5.92%. In addition, this figure is still heavily distorted upward by a one time payment of previously delinquent taxes that were paid in June 2016.

There always is a three month lag between the actual collection of the sales tax revenue and its tabulation and distribution of that tax revenue by the Ohio Department of Taxation. Thus, the May 2017

sales tax revenues were actually collected by retail merchants in February 2017. The known continued weak growth of the Cuyahoga County labor market will have a dampening impact on forthcoming sales tax figures during future months of 2017. Mixed indications during 2015, 2016, and 2017 clearly indicate an ongoing national economic recovery in both the United States and in Ohio. That recovery continues to be quite slow, however, and the recovery is slowing substantially because of large cuts in government employment at the federal, state, and local levels across Ohio and the USA. A recent interest rate increase by the Federal Reserve Bank threatens to be another influence slowing down the rate of employment growth.

**The July 2016 Ohio job growth at first appeared to be better than numerous prior months, since Ohio experienced increases in both Manufacturing and Government. This short run development verified analysis in this report during numerous prior months, which found that weak Manufacturing data and actual cuts in Government employment have been the ongoing cause of too slow employment growth in Ohio. But, the annual benchmark revision to Ohio employment for 2016 revised all of that improvement away.**

The annual benchmark revision to Ohio job data that was made in March 2017 plus a large upward revision to the February 2016 figure startlingly found that Ohio's job growth during 2015 and 2016 continued to be weak. Therefore the recent growth in both the Cuyahoga County and Ohio sales tax level has not been caused by robust growth in the Cuyahoga County or Ohio labor market.

Further, rising inequality of earnings has produced growth in total wages paid in Ohio as wages rise for high wage workers while they continue to fall for low wage workers. That growth has appeared in the monthly sales tax collection level figures. The very positive streak of eighty consecutive months with increases in the sales tax collection level in Cuyahoga County has built up a very solid base that should buffer probable forthcoming future weaker months during 2017.

A key factor contributing substantially to the solid current sales tax collection level increases in both Ohio and in Cuyahoga County is an ongoing sharp rise in the level of income inequality in both Ohio and in the United States. High income households have continually rising incomes while the median income has fallen sharply in Ohio. This phenomenon has resulted in welcome increases in sales tax collection levels even as incomes continue to fall for typical Ohio, Cuyahoga County, and Cleveland workers.

The fact that the May 2017 sales tax collection level is no longer being compared in the twelve month moving average to any of the 20 worst months during the last 20 years of local sales tax collections in early 2011 continues to be a factor that recently slowed both the county's and the state's rate of increase. Sales tax collections six years ago were so brutally bad that even a small improvement showed up as growth in the current figure last year. Now that last year's figure is no longer plunging at historically catastrophically high levels, it is somewhat more difficult to generate current increases this year. While the current growth is extremely welcome, its causes include time lags in the distribution of the revenues, the diminished impact of the sales tax base expansion, genuine current aggregate earnings growth above inflation, and also a comparison to a less brutally bad series of months one year ago. Thus, going forward some continued weakening of the monthly figure can be anticipated during future 2017 months. Ongoing large declines in the price of oil worldwide, a concurrent substantial volatility in USA equity and bond markets, and the first in a series of interest rate increases by the Federal Reserve Bank are also having a dampening impact on growth that has greatly complicated forecasts of future trends.

**Overall, the new May 2017 Cuyahoga County Sales Tax Level is a very encouraging positive and increasing figure for the eightieth consecutive month. This is yet another all-time record growth streak of 80 consecutive months in the real inflation-adjusted Sales Tax Collection Level in Cuyahoga County. But, future trends are complicated by the forthcoming elimination of the Medicaid Managed Care sales tax that will have devastating consequences to most Ohio transit authorities, all 88 Ohio counties, and the state of Ohio itself as sales tax revenues will decline very substantially during late 2017 or into 2018, unless this impact is mitigated by the forthcoming 2017 biennial budget.**

## **Definitions**

The Cuyahoga County sales tax collection level is measured in this report by using a constant 1% collection in all months between 1990 and the current month. Changes in the rate at which the tax is collected do not impact the trend in the data under this approach. Since the monthly sales tax figure is notoriously volatile during individual months, an unusually long 12 month moving average minimizes that volatility so that the underlying economic trend is clearer. Data are adjusted for inflation by the Consumer Price Index, and are expressed in current dollars. In this updated report, February 2017 dollars represent the current inflation adjustment. Percentage changes from year to year are generated by a comparison to the current real 12 month moving average with the real 12 month moving average during the same month of the prior year.

Some technical quirks distort the time series in the sales tax collection level as a measure of underlying retail sales trends. The base of industries on which the sales tax is collection has been expanded twice in recent years by the fact that some service industries began to pay the sales tax for the first time in history in 2004. That artificially inflated the increase in the sales tax from the broadening of the base on which the tax was collected, rather than from trends in the local economy. Data for all months in 2010 and 2011 are very substantially inflated by a new sales tax charged on premiums paid to managed care Medicaid health insurance firms. That base expansion is carried over in the twelve month moving average for all months in 2011, but, its impact on current year over year growth in 2015 has disappeared, except for growth from increases in medical insurance costs above inflation. **The forthcoming elimination of the Medicaid Managed Care sales tax will have a drastic negative impact of sales tax revenues collected late in 2017 and into 2018 on a still uncertain timetable, as well as a drastic negative impact on the rate of sales tax growth during that same period of time.**

Effective with the Economic Indicators report on the Cuyahoga County sales tax collection level for March 2013, revisions to numerous prior months' inflation measures from the Consumer Price Index have been implemented in this report. Thus, there are small changes to numerous prior months' measures of change in the sales tax collection level, even though the general trend in these figures is little changed.

The sales tax is an important revenue stream for governments in all 88 Ohio counties and for the state of Ohio itself. It also is a major local funding source for nearly all public transit authorities in Ohio. So, the level of sales taxes collected is an important figure for the financing of these government entities, and therefore the level of taxes collected is vital during budget preparation and management. In addition, the level of sales taxes collected is also a good measure of the condition of local business cycles in the economy. The tax collection level is directly proportional to the level of local retail sales, and thus it is also an important barometer of conditions over time in the local business cycle.

## The Data

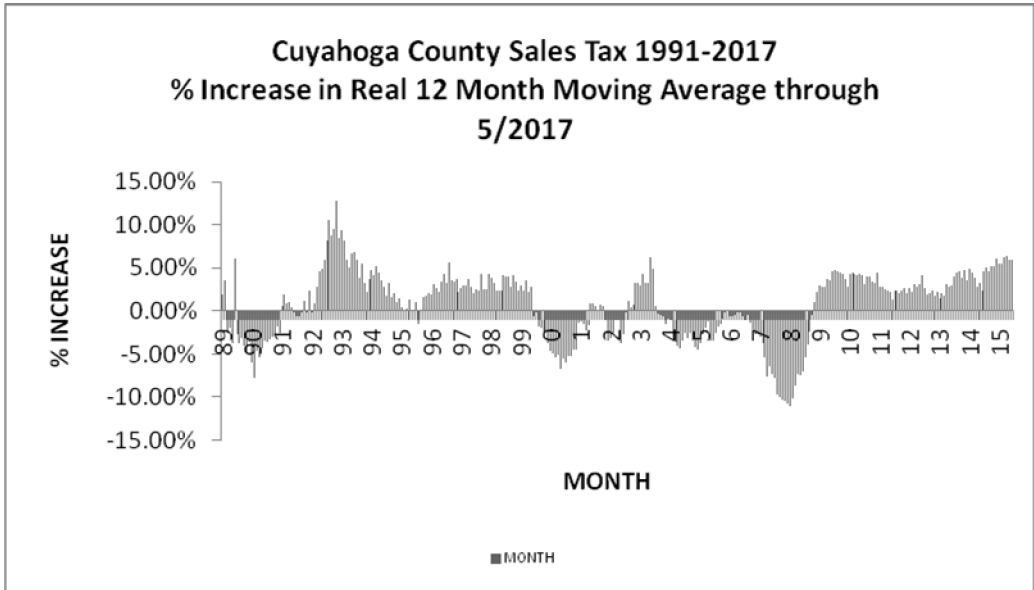
Between 2001 and 2011 the level of the Cuyahoga County sales tax was consistently weak. During the fourth quarter of 2004 and the first two quarters of 2005, the level of sales tax collected increased. **But, this 2004 and 2005 growth was not related to local retail business conditions.** It was instead related to an expansion of the base of firms on which the sales tax is charged. With the exception of this favorable period, the level of sales tax collected in Cuyahoga County was consistently negative between 2001 and 2010. But, growth rates improved during all four quarters of 2011, 2012, 2013, 2014, 2015, 2016, and early 2017 months. The new data for May 2017 that are measured in this report once again find continued albeit slightly slowing growth in the local level of sales tax collections. The lengthy eleven year 2000s recession in Ohio's labor market was the cause of this prior severe and continual weakness. That weakness became dramatically worse when the extremely deep 2007-2009 national recession started. That weakness caused unprecedented large declines in sales tax collections throughout Ohio, until a local trough was finally reached during the fourth quarter of 2010. Since then, the level of sales taxes collected has consistently improved, albeit with erratic rates of growth that have been noticeably variable from month to month.

In newly updated data for May 2017, which reflect sales taxes that were actually collected in February 2017 by local retail firms, the real twelve month moving average of the Cuyahoga County sales tax collection level *increased* by a positive though slightly slowing 5.88%. That current growth rate has slowed to fall below the recent peak growth rate of 6.43% measured in March 2017, and is falling slightly further behind the 6.23% monthly increase during April 2005. **The new April 2017 increase is the eightieth consecutive monthly increase in the inflation adjusted Cuyahoga County sales tax collection level, an extremely positive development.** The 4.42% increase in November 2012 slowed for six consecutive months through a 1.34% May 2013 increase. That slowing rate of increase ended in June 2013 with a faster increase of 2.40%. Since then, the monthly rate of increase was erratic from month to month but has been a generally improving rate of increase until renewed slowing growth rates during the many months of 2016. The new May 2017 data still measure a growth rate that has consistently improved lately, except for this month's current slight slowdown. Cuyahoga County had not previously had eighty consecutive months with an increase in the real level of the local sales tax during any prior month.

The level had increased by a tiny amount of less than 0.1% in April 2008, but during all other 2008 months there were small declines in the local sales tax collection level. Small 0.3% increases in both October and November 2007 were the only other monthly increases since 2000 that were not caused or heavily influenced by expansion of the base of firms on which the sales tax is collected. **The 0.07% increase in April 2008 was not genuine. It was caused by a one time late payment of delinquent tax receipts by one of Ohio's largest retail firms, which by law remains unidentified by the Ohio Department of Taxation. Another one time audit settlement for delinquent taxes inflated the January 2010 figure slightly. Another large one time audit settlement for delinquent taxes inflated the June 2016 figure substantially, thus artificially inflating the October 2016 data.** But, the new figure for May 2017 is another extremely welcome albeit slightly slowing 5.88% increase.

The new April 2017 5.88% growth figure is the eightieth consecutive one month real increase in the Cuyahoga County sales tax collection level. The current rate of increase remains a level below the recent peak increase of 6.43% set in March 2017. The continual recent consecutive month trend of real increases has of course been highly welcome.





During the last twenty years, Cuyahoga County’s twenty worst months for sales tax revenue growth were heavily concentrated in 2009 and 2010 alone. Astonishingly, sixteen of the twenty worst monthly declines in the rate of Cuyahoga County sales tax growth during the last 20 years were suffered during 2009 and 2010. The six worst months were consecutive in July, August, September, October, November, and December 2009. Seven of the nine months of 2010 were among the top forty worst monthly declines during the last twenty years. This massive plunge in Cuyahoga County sales tax revenues during 2009 and 2010 was clearly unprecedented in modern times. The depth of the recession during 2009 and 2010 in Cuyahoga County was worse than any other period of time since the 1930s.

## Cuyahoga County Sales Tax Collection Level

Year over Year % Increase

12 Month Real Moving  
Average

December 2012 Dollars, CPI Deflator

20 Worst Months 1990-2013

Source: Ohio Department of Taxation, Greater Cleveland RTA, and George Zeller

	<u>Month</u>	<u>Prior Year Month</u>	<u>This Month</u>	<u>\$ Incr</u>	<u>% Incr</u>
1	December 2009	\$15,297,975	\$13,614,913	-\$1,683,061	-11.0%
2	November 2009	\$15,381,734	\$13,731,265	-\$1,650,469	-10.7%
3	January 2010	\$15,221,235	\$13,611,518	-\$1,609,717	-10.6%
4	October 2009	\$15,415,614	\$13,824,622	-\$1,590,992	-10.3%
5	September 2009	\$15,505,837	\$13,926,905	-\$1,578,932	-10.2%
6	August 2009	\$15,623,311	\$14,091,445	-\$1,531,866	-9.8%
7	July 2009	\$15,727,662	\$14,236,952	-\$1,490,710	-9.5%
8	February 2010	\$15,017,409	\$13,622,508	-\$1,394,901	-9.3%
9	April 2010	\$14,799,067	\$13,570,775	-\$1,228,292	-8.3%
10	March 2010	\$14,781,602	\$13,556,142	-\$1,225,459	-8.3%
11	May 2009	\$15,691,702	\$14,461,814	-\$1,229,888	-7.8%
12	May 2010	\$14,641,852	\$13,506,780	-\$1,135,072	-7.8%
13	January 1992	\$14,780,836	\$13,642,985	-\$1,137,851	-7.7%
14	June 2009	\$15,620,160	\$14,461,814	-\$1,158,345	-7.4%
15	March 2009	\$15,830,294	\$14,799,067	-\$1,031,227	-6.5%
16	April 2002	\$17,640,503	\$16,521,035	-\$1,119,467	-6.3%
17	June 2010	\$14,461,814	\$13,608,950	-\$852,865	-5.9%
18	April 2009	\$15,674,700	\$14,799,067	-\$875,633	-5.6%
19	June 2002	\$17,416,543	\$16,449,751	-\$966,791	-5.6%
20	May 2002	\$17,320,768	\$16,445,621	-\$875,147	-5.1%

**Fortunately, the small 0.95% October 2010 sales tax increase broke a streak of 34 consecutive months when the Cuyahoga County real inflation-adjusted sales tax collection level had declined in comparison to the level collected during the same month in the previous year. Since that October 2010 increase, the Cuyahoga County real sales tax collection level has increased for eighty consecutive months over a period that has now reached seven full years and eight additional months. These recent increases have been highly welcome indeed.** Nevertheless, the stunning concentration of months in 2009 and 2010 among the forty worst sales tax declines during the last twenty years in Cuyahoga County created a very deep deficit in such collections that will require vigorous growth for many months or even years before collection levels return to historically normal levels.

**The December 2009 -11.0% decrease was the worst one month decline during any month between 1990 and 2013. A decline of -0.8% in the September 2010 twelve month moving average of the Cuyahoga County sales tax was the first decline of less than 1% for local sales tax collections since**

**December 2005, showing that the end of record-breaking plunges from last year were beginning. This month's positive but still slightly technically distorted May 2017 increase of 5.88% stands in very sharp contrast to the historically gigantic plunge of -10.7% that the sales tax experienced in December 2009. This is an extremely positive development. But, this increase came despite continued relative weakness and only a very slow recovery in the Ohio and Cuyahoga County labor markets.**

**The annual rebenchmarking of Ohio's monthly Current Employment Statistics job estimates in the January 2014 data found that Ohio's job losses during the 2000s recession were -340,600 even after the annual revision to the data. A loss of -206,500 Ohio jobs as a result of the fact that Ohio has not yet recovered from the very deep 2007 "Great Recession" remains a key cause of this issue. A similar situation remains following the January 2015 benchmark revision. Even though job destruction has finally ended in Cuyahoga County and in the state of Ohio during 2011, 2012, 2013, 2014, and 2015, employment growth continues to be weak and very slow in both Ohio and in the United States. The increases and the level of Cuyahoga County sales tax collection levels for seventy-seven consecutive months will be more difficult to sustain in future months, given the continued relative weakness in the Ohio labor market during all 2012, 2013, and 2014 quarters. It is also known that that average wages generated by Ohio jobs are currently declining statewide in Ohio by -0.1%. A gain of zero jobs during 2015 in the state of Ohio following the annual benchmark revision to the data and following a downward revision to the January 2016 data also was a highly discouraging pattern across the state of Ohio. Even after these very recent slow improvements, there are still more than a hundred thousand of Ohio workers who are having difficulty finding a job, since Ohio's growth rate is still too slow and below the national average.**

**The most recent Ohio job data for March 2017 find that Ohio's current slowing 0.83% job growth rate is below the current 2.13% USA job growth rate. March 2017 was the 52nd consecutive month when Ohio's job growth rate was below the USA national average. Continuing slow growth in Ohio jobs during the fourth quarter of 2013, during 2014, 2015, 2016, and so far during 2017 increased the gap between the United States employment growth rate and the Ohio job growth rate.**

**Nevertheless, the breaking and extending of the long streak of declines in the local sales tax collection level in Cuyahoga County is *extremely welcome news*. However, as this year's figure is now being compared with growing figures for last year, the growth will be increasingly difficult to sustain, particularly with a large sales tax cut currently scheduled for late in 2017 or sometime in 2018 when the Managed Care Medicaid sales tax is eliminated in Ohio.**

The horribly negative monthly trends, particularly in 2009 and during the first three quarters of 2010, have resulted in a large long term decline in the level of real sales tax collected in Cuyahoga County. The peak level of inflation-adjusted sales tax collections in Cuyahoga County was fifteen years ago in March 2001. The size of the decline during the fifteen year period since March 2001 had been large, but the favorable March 2017 data finally returned the current figure to the March 2001 level. But, slower growth in April 2017 returned the current figure to a level below the March 2001 figure. If the terrible impact of the 2000s recession in Cuyahoga County is to be eliminated by a recovery, that recovery will require numerous positive months over a period of several years. The recession caused such massive plunges in the Cuyahoga County sales tax level that it will be quite some time before normal conditions resume, even if the May 2016 through May 2017 increase is sustained in subsequent months. It will take a very long time to dig out of a hole this deep.

**Cuyahoga County Real Sales Tax Growth February 2004 to May 2017**  
**Peak 12 Month Real Moving Average to Current Level**  
**Real Sales Tax Level in February 2017 Dollars, CPI Deflator**

<u>MONTH</u>	<u>SALES TAX LEVEL</u>
February 2001 Monthly Peak	\$19,160,057.71
May 2017 Current Month	\$18,702,729.79
2004-2017 Dollar Increase	-\$457,328
2004-2017 % Increase	-2.39%

This -2.39% decrease is still somewhat distorted upward. That loss of tax revenue from the 2000s recession and the 2007 “Great Recession” has been extremely damaging to both entities dependent on the sales tax for their revenues, and also for retail merchants who have suffered a corresponding decline in sales within Cuyahoga County. These still discouraging figures are a result of the fact that the local 2000-2011 recession was much deeper and more lengthy than the horrible 1979-1983 recession in Cuyahoga County’s labor market. Cuyahoga County’s loss of -108,936 jobs, a very large loss of -13.5% of the county’s jobs between 2000 and 2014 caused an enormous simultaneous loss of -\$2.97 billion in annual real inflation-adjusted aggregate payroll within the county, a very large loss of -7.8% of all Cuyahoga County aggregate paychecks. That staggering enormous loss of jobs and paychecks caused the gigantic sales tax decline since the February 2001 monthly peak.

The record breaking declines in the real Cuyahoga County sales tax levels during 2009 and 2010 were generally not caused by inflation. The Consumer Price Index measured year over year deflation during all six consecutive months when the sales tax fell by increasingly record-breaking amounts between July and December 2009. Instead, those record-breaking monthly sales tax declines were entirely caused by the record breaking plunge in Cuyahoga County retail sales for six consecutive months. The United States Bureau of Labor Statistics in fact measured -0.4% deflation on an annual basis during 2009. However, ominously, BLS measured year over year annual inflation of 1.6% in 2010. So, the 2010 sales tax figures were influenced by the small level of inflation that took place during the last two months of 2009 and the all twelve months of 2010. These recent inflation figures deepened the depth of the long term decline in Cuyahoga County inflation-adjusted sales tax collection level. The small October 2010 through July 2012 increases in the sales tax level were above the inflation level for all months of both the third and fourth quarters of 2010, all four quarters of 2011 and 2012, and during the first three quarters of 2012. The February 2017 inflation rate used in this month’s report currently still is a slow but slightly increasing rate of 2.7%. Therefore, recently continuing relatively low levels of inflation are not a noticeable factor that caused the growth rate in the real Cuyahoga County sales tax collection level to slow during various recent 2013, 2014, 2015 and 2016 months, although that influence is starting to return in 2017.

An examination of the subcategories of the Cuyahoga County sales tax performance during 2010 and early 2011 shows that a large majority of the improvement during those months was concentrated in “Direct Pay Tax Return Payments.” This subcategory is heavily dominated by the new Medicaid Managed Care sales tax. Monthly year over year gains in this category ranged from \$154,000 to \$610,000 in various months, with the largest gains concentrated in months such as October 2010. Most months were in the \$500,000 range. Thus, it appears that the monthly proceeds from the Medicaid

Managed Care Sales Tax base expansion are approximately \$500,000 in Cuyahoga County. **But the now scheduled elimination of the Managed Care Sales Tax in Ohio will certainly have a dramatic and catastrophic downward impact on sales tax revenues late in 2017 and then into 2018 in all 88 Ohio counties, in Ohio statewide, and also for nearly all Ohio transit authorities, not only because of the loss of revenue from this tax cut, but also as a result of the loss of Ohio's leading cause of sales tax growth since the Managed Care Sales Tax was implemented in Ohio.**

In data for the summer of 2011, the increase in the real moving average of the Cuyahoga County Sales Tax Level between August 2010 and August 2011 in absolute real dollars was \$687,652. This new expansion of the base on which the sales tax is charged was a factor in the increases during most 2011 months. But, since all of the months during which the Medicaid Managed Care sales tax was collected are now in both the 2011, 2012, 2013, 2014, 2015, 2016 and 2017 monthly figures, the influence of the base expansion is now eliminated in the year over year March 2017 figure on *growth* in the Cuyahoga County sales tax level. Going forward, the influence of this factor on the sales tax trend has entirely disappeared as an influence on the trend in 2013, 2014, 2015, 2016, and 2017 except for above inflation growth in the cost of health insurance, should that longtime trend continue.

**But, it is known that the elimination of the Medicaid Managed Care sales tax will have a catastrophic downward effect on the level of total sales taxes collected across Ohio and in Cuyahoga County during late 2017 or during 2018, depending upon the specifics in the new Ohio biennial state budget that should sometime in June.**

**Steady declines in the rate of the sales tax plunge were present during all twelve months of 2011, and were highly welcome indeed. Actual increases for eighty consecutive months between October 2010 and May 2017 have been a very welcome and extremely positive improvement. But, it will be considerably more difficult for monthly figures to continue growth during future 2017 and 2018 months unless local employment and earnings begin to grow robustly instead of very slowly. The fact that Cuyahoga County's job losses ceased during the third and fourth quarters of 2010 and during all quarters of 2011, 2012, 2013, and during the first three quarters of 2014 was a very helpful leading indicator. New data finding that despite job growth in Ohio and in Cuyahoga County during 2012 and 2013, average earnings generated by an Ohio job fell slightly by -0.1% during 2012 and 2013, is also very problematic. Instead of robust recovery in employment and earnings, both Ohio and the United States are currently experiencing quite slow labor market recoveries. Falling wages of surviving jobs except for increases for very high wage workers and large cuts in Government employment are slowing down the recovery. Newly released revisions to data for 2016 months between January and December find that Ohio has still not recovered the jobs that it lost as a result of the mild 2000s national recession, a rate of growth that is obviously too slow. Government employment losses continued to be a major problem in the data through March 2017. This negative public policy trend is still slowing down the rate of recovery substantially.**

An extremely welcome recent increase of 1,329 Manufacturing jobs in Cuyahoga County during the third quarter of 2010 and during subsequent quarters through an increase of 79 Manufacturing jobs during the second quarter of 2013 has been the chief cause of the currently ongoing local labor market recovery. The resulting local recovery from the 2000s recession is genuine, but that recovery remains quite slow. The Manufacturing job growth unfortunately ended during the third quarter of 2013 in Cuyahoga County, when Cuyahoga County *lost* 451 Manufacturing jobs.

At the current extremely slow rate of employment increases, it will take the Ohio labor market nearly 13 years to fully recover the -114,200 jobs that Ohio lost during the last sixteen years. The ongoing current recovery is genuine, but it remains extremely slow. **In Cuyahoga County, at the current slow rate of recovery will take a literally astonishing 664 years to recover all of the -139,202 jobs that Cuyahoga County lost during the lengthy and deep 2000s recession.**

In Ohio and also elsewhere in the United States, a gigantic -42,288 loss of Ohio jobs in Federal, State and Local government jobs during the past decade (-5.8%) is still the chief industrial culprit that is causing the current slow rate of growth in total employment. This statewide Ohio decline in Government jobs is by far the biggest long run factor slowing down the current rate of job growth in both Cuyahoga County and in the state of Ohio. In Cuyahoga County and in Ohio the return of substantial employment losses in Ohio is also very troubling. The current 0.0% job growth rate in Cuyahoga County is highly alarming.

**Cuyahoga County Employment Growth by Industry, 3Q 2013 to 3Q 2014**

**Source: George Zeller from ODJFS NAICS QCEW ES-202**

<u>NAICS INDUSTRY</u>	<u>JOBS 3Q 2013</u>	<u>JOBS 3Q 2014</u>	<u>13-14 JOBS # INCR</u>	<u>13-14 JOBS % INCR</u>
Agr, forestry fishing hunting	214	228	14	6.5%
Administrative and waste services	45,804	47,972	2,168	4.7%
Real estate and rental and leasing	13,427	13,675	248	1.8%
Local Government	69,618	70,720	1,102	1.6%
State Government	4,007	4,053	46	1.1%
Wholesale trade	32,402	32,747	345	1.1%
Construction	21,503	21,712	209	1.0%
Utilities	1,407	1,417	10	0.7%
Professional and technical services	44,246	44,474	228	0.5%
Accommodation and food services	55,694	55,799	105	0.2%
Other services, except public admin	20,656	20,623	-33	-0.2%
Health care and social assistance	127,948	127,742	-206	-0.2%
Arts, entertainment, and recreation	13,637	13,568	-69	-0.5%
Retail trade	62,798	62,442	-356	-0.6%
Manufacturing	70,073	69,622	-451	-0.6%
Educational services	18,723	18,568	-155	-0.8%
Federal Government	15,663	15,451	-212	-1.4%
Mgt companies and enterprises	21,938	21,556	-382	-1.7%
Finance and insurance	38,152	36,869	-1,283	-3.4%
Transportation and warehousing	19,718	18,965	-753	-3.8%
Information	12,885	12,311	-574	-4.5%
Mining	335	290	-45	-13.4%
<b>TOTAL EMPLOYMENT</b>	<b>710,848</b>	<b>710,804</b>	<b>-44</b>	<b>0.0%</b>

In the short term, the government employment losses increased as a result of the shutdown of the United States federal government, an ominous situation that has only resolved very late in 2013.

One key factor is noticeable as a cause of the current eighty month positive streak in the sales tax trend. The positive trend has been heavily concentrated in growth that has taken place in sales taxes collected

on automobile sales. Sales taxes collected on goods other than automobiles have shown a noticeably less robust recent trend. This has been a major cause of the recently improved levels of sales taxes collected in both Cuyahoga County and in Ohio during most 2012, 2013, 2014, 2015, 2016, and 2017 months. The most recent April 2017 non-automobile Ohio sales barely increased by 0.3% (a figure that is further slowed when adjusted for January 2017 inflation). The same current monthly figure for the automobile sales tax was also relatively modest with an increase of 3.6%. Combined, the sales tax categories generated a small 0.8% nominal increase across Ohio in combined April 2017 sales taxes collected from all sources that are now somewhat slower after an adjustment for the January 2017 still slow but slightly increasing 2.7% rate of inflation.

In another favorable development, for the second consecutive, month, the Ohio Office of Management and Budget reports a highly encouraging March 2016 to March 2017 nominal *increase* of 9.0% in Ohio personal income tax collections prior to the 2.7% adjustment for inflation that lowers the real growth rate further. **The negative income tax trend during prior 2016 months had been a distorted current measure of economic trends, since its cause was a significant reduction in the rate of income tax legislated in Ohio.** The April 2017 increase improved, but the nominal decrease in income tax collections in Ohio remains negative at -2.9% for fiscal year 2017. Overall, the current Cuyahoga County sales tax collection level growth currently is slightly better than still weak levels of growth being seen elsewhere in the state of Ohio through April 2017, albeit on a statistically distorted basis.

The nominal values of the 2010 sales tax collections were highly volatile from month to month. The technical factors and some timing issues in the collection of the tax led to that volatility. Similar monthly volatility has extended into 2011, 2012, 2013, 2014, 2015, 2016 and 2017. As a result, the smoothing of month to month volatility in the tax collection level by the real twelve month moving average has become increasingly important as a measure of the actual trend in Cuyahoga County sales tax collections and the underlying local economic trend. This report removes that volatility by the use of the twelve month real moving average.

The record-breaking monthly plunges in Cuyahoga County retail sales and sales tax collections for the last six months of 2010 were an enormous decimation of the level of resources available from the sales tax for the financing of government operations. Those plunges created a large budget deficit hole that will take quite a while to completely dig out of.

The record-breaking monthly plunges during the latter half of 2009 no longer impact the twelve month moving average for any 2011, 2012, 2013, 2014, 2015, 2016, or 2017 month. Thus, it will also be more difficult to register increases in the sales tax during future 2017 months, since the horrible 2009 and 2010 months are no longer the basis of comparison with current figures. Thus, actual increases in sales tax collections will therefore be increasingly influenced by trends in the local Cuyahoga County economy, and not by technical factors caused by the large expansion of the base on which the Ohio sales tax is collected or the mammoth record-breaking declines in 2009 and 2010.

Overall, the positive 5.88% monthly May 2017 increase in the Cuyahoga County real sales tax collection level for the eightieth consecutive month is an extremely welcome development. Thus, given continued signs of relative weakness and slow growth rates in the local economic fundamentals, it will be important to carefully examine data for future 2017 months before an improving long term trend can be documented with certainty. The welcome end of Cuyahoga County's job losses in 3Q and 4Q 2010 data as well as in fresh 2012, 2013, 2014, 2015, 2016, and 2017 data is a positive sign looking forward. New data showing that average wages of jobs in have declined slightly in both Cuyahoga County and in Ohio is a further cause for concern, although that problem moderated during 3Q 2014. Newly

downwardly revised weak Ohio job growth during more than the last full year is another major cause for concern. **This is particularly true since Ohio currently has a streak of 52 consecutive months of employment growth below the USA national average through March 2017. Further, the impact of the ongoing substantial decline in the price of oil, worldwide equity and bond market volatility, and the first of several forthcoming interest rate increases by the Federal Reserve Bank is continuing to defy accurate impact projections from virtually all analysts.**

**The one-time distortion from payment of delinquent taxes in June 2016 will continue to upwardly distort the Cuyahoga County sales tax figure for future 2017 months until July. Further, in addition the 2017 figures will dramatically fall when the Medicaid Managed Care Sales Tax is eliminated in Ohio.**

### **Acknowledgment**

George Zeller thanks the Cuyahoga County Board of Commissioners for their important financial support that made this report possible.

### **Monthly Data**



**Cuyahoga County Monthly Sales Tax Receipts, 1991-2017**  
**Year-to-Year Percent Increase in Real 12 Month Moving Average**  
**Using February 2016 Dollars and the Consumer Price Index Deflator**

<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>
12/90	2.0%	5/95	6.8%	10/99	2.5%	3/04	-0.8%	8/08	-0.9%	1/13	2.8%
1/91	3.6%	6/95	5.9%	11/99	4.2%	4/04	-3.5%	9/08	-1.6%	2/13	2.5%
2/91	-2.5%	7/95	3.9%	12/99	3.8%	5/04	-2.7%	10/08	-2.2%	3/13	2.3%
3/91	-2.0%	8/95	5.4%	1/00	2.5%	6/04	-0.3%	11/08	-2.0%	4/13	2.2%
4/91	-3.8%	9/95	3.2%	2/00	1.6%	7/04	0.9%	12/08	-2.2%	5/13	1.3%
5/91	-2.7%	10/95	2.2%	3/00	1.6%	8/04	0.2%	1/09	-3.7%	6/13	2.4%
6/91	-2.8%	11/95	3.7%	4/00	1.8%	9/04	0.6%	2/09	-5.4%	7/13	2.3%
7/91	-3.8%	12/95	4.7%	5/00	3.6%	10/04	3.1%	3/09	-7.6%	8/13	2.1%
8/91	-3.1%	1/96	4.2%	6/00	3.5%	11/04	3.1%	4/09	-6.4%	9/13	2.3%
9/91	-4.0%	2/96	5.3%	7/00	3.4%	12/04	2.5%	5/09	-7.3%	10/13	2.7%
10/91	-4.9%	3/96	4.4%	8/00	2.3%	1/05	4.0%	6/09	-7.8%	11/13	2.1%
11/91	-3.7%	4/96	3.6%	9/00	3.8%	2/05	2.9%	7/09	-9.7%	12/13	2.6%
12/91	-5.9%	5/96	2.8%	10/00	3.0%	3/05	3.0%	8/09	-10.0%	1/14	2.3%
1/92	-7.7%	6/96	1.8%	11/00	2.1%	4/05	5.9%	9/09	-10.35%	2/14	3.2%
2/92	-4.6%	7/96	3.2%	12/00	2.7%	5/05	4.7%	10/09	-10.45%	3/14	2.8%
3/92	-5.3%	8/96	1.7%	1/01	2.2%	6/05	0.6%	11/09	-10.8%	4/14	3.0%
4/92	-4.3%	9/96	2.1%	2/01	3.4%	7/05	-0.2%	12/09	-11.0%	5/14	4.1%
5/92	-3.5%	10/96	1.0%	3/01	2.2%	8/05	-0.5%	1/10	-10.2%	6/14	2.7%
6/92	-3.6%	11/96	1.5%	4/01	2.9%	9/05	-0.8%	2/10	-8.6%	7/14	1.9%
7/92	-3.3%	12/96	0.4%	5/01	-0.7%	10/05	-1.9%	3/10	-7.4%	8/14	2.1%
8/92	-3.0%	1/97	0.0%	6/01	-0.3%	11/05	-1.2%	4/10	-7.5%	9/14	2.3%
9/92	-2.9%	2/97	0.3%	7/01	-1.7%	12/05	-1.2%	5/10	-7.0%	10/14	1.7%
10/92	-1.8%	3/97	1.3%	8/01	-1.8%	1/06	-3.4%	6/10	-5.3%	11/14	2.1%
11/92	-2.5%	4/97	0.0%	9/01	-2.8%	2/06	-3.8%	7/10	-3.9%	12/14	1.4%
12/92	0.6%	5/97	-0.5%	10/01	-2.2%	3/06	-4.3%	8/10	-2.4%	1/15	2.1%
1/93	2.0%	6/97	1.0%	11/01	-3.5%	4/06	-4.5%	9/10	-0.5%	2/15	1.8%
2/93	0.9%	7/97	-1.5%	12/01	-4.3%	5/06	-3.6%	10/10	0.9%	3/15	3.1%
3/93	1.0%	8/97	0.1%	1/02	-4.5%	6/06	-2.8%	11/10	2.2%	4/15	2.8%
4/93	0.4%	9/97	1.6%	2/02	-4.9%	7/06	-3.5%	12/10	3.0%	5/15	2.9%
5/93	0.0%	10/97	1.7%	3/02	-4.6%	8/06	-2.8%	1/11	2.9%	6/15	4.1%
6/93	-0.6%	11/97	2.0%	4/02	-6.3%	9/06	-3.3%	2/11	2.9%	7/15	4.4%
7/93	-0.6%	12/97	2.0%	5/02	-5.1%	10/06	-3.8%	3/11	3.6%	8/15	4.6%
8/93	0.0%	1/98	3.1%	6/02	-5.6%	11/06	-4.0%	4/11	3.6%	9/15	3.9%
9/93	1.2%	2/98	2.6%	7/02	-4.8%	12/06	-3.3%	5/11	4.6%	10/15	4.8%
10/93	-0.2%	3/98	2.2%	8/02	-4.8%	1/07	-2.4%	6/11	4.7%	11/15	3.6%
11/93	2.3%	4/98	3.4%	9/02	-4.2%	2/07	-1.6%	7/11	4.6%	12/15	4.8%
12/93	-0.1%	5/98	4.3%	10/02	-4.3%	3/07	-0.8%	8/11	4.4%	1/16	4.5%
1/94	0.8%	6/98	3.2%	11/02	-1.3%	4/07	-3.2%	9/11	4.3%	2/16	3.8%
2/94	2.8%	7/98	5.7%	12/02	-1.4%	5/07	-3.2%	10/11	3.6%	3/16	2.8%
3/94	4.6%	8/98	3.6%	1/03	-1.7%	6/07	-2.4%	11/11	2.8%	4/16	3.3%
4/94	4.8%	9/98	3.3%	2/03	-2.5%	7/07	-1.5%	12/11	4.2%	5/16	2.4%
5/94	5.9%	10/98	3.6%	3/03	-2.1%	8/07	-1.2%	1/12	4.4%	6/16	4.6%
6/94	8.2%	11/98	2.3%	4/03	0.5%	9/07	-0.7%	2/12	4.3%	7/16	5.1%
7/94	10.5%	12/98	2.6%	5/03	0.7%	10/07	-0.1%	3/12	4.1%	8/16	4.6%
8/94	8.7%	1/99	2.8%	6/03	0.4%	11/07	-0.3%	4/12	4.3%	9/16	5.2%
9/94	9.5%	2/99	2.9%	7/03	-0.1%	12/07	-1.0%	5/12	4.2%	10/16	5.1%
10/94	12.8%	3/99	3.6%	8/03	0.5%	1/08	-1.0%	6/12	3.2%	11/16	6.0%
11/94	8.5%	4/99	2.7%	9/03	0.3%	2/08	-0.8%	7/12	4.1%	12/16	5.4%
12/94	9.3%	5/99	2.0%	10/03	-1.2%	3/08	-0.4%	8/12	4.0%	1/17	5.5%
1/95	8.2%	6/99	2.5%	11/03	-3.6%	4/08	0.0%	9/12	3.3%	2/17	6.2%
2/95	5.9%	7/99	2.2%	12/03	-3.1%	5/08	-0.2%	10/12	3.3%	3/17	6.4%
3/95	5.0%	8/99	4.2%	1/04	-2.4%	6/08	-0.6%	11/12	4.4%	4/17	5.9%
4/95	6.7%	9/99	2.4%	2/04	-0.9%	7/08	0.1%	12/12	2.9%	5/17	5.9%

Source: Greater Cleveland RTA and George Zeller