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### The Outlook for Onondaga County's Finances: Baseline Scenario

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**THE OUTLOOK FOR ONONDAGA COUNTY'S  
FINANCES: BASELINE SCENARIO**

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## Executive Summary

This is the third of four reports to the Onondaga Lake Management Conference about the economic and fiscal implications for Onondaga County of court-mandated expenditures for sewer-related remediation of Onondaga Lake.

The past decade has been a time of increasing financial constraints for virtually all local governments, and Onondaga County is no exception. The large drop in federal aid, especially for local infrastructure, as well as the increasing delegation of responsibilities to county governments in areas such as social services and health have put pressure on local budgets. Local governments have been forced to rely ever more on their own sources of revenue, yet the increasing competition among governments to retain business firms and to attract new ones has limited potential tax increases. The only recourse for many local governments has been to make significant expenditure reductions.

Onondaga County has weathered the latest period of fiscal change in reasonably good financial shape. The county's bond rating remained high, symbolizing the confidence that the investment community has in the county's ability to manage its financial affairs prudently. Debt service payments have fallen and Onondaga County has held down growth in other expenditure categories and actually reduced the number of full-time equivalent county employees during the 1990s. Our analysis of the county's fiscal condition, however, identifies several areas of concern;

Tax burdens from county taxes are quite high compared to a selected sample of central city counties in upstate New York and around the country. Property tax burdens are especially high; as a percent of personal income they were 37 percent above the state average in 1994.

The county's sewer rates are well above the average of other metropolitan sewer systems (based on a national sample of metropolitan sewerage agencies).

Despite holding the line on spending growth during the 1990s, county spending as a percent of personal income remains above almost all counties in the comparison group of central city counties. Spending was particularly high for fringe benefits, debt service, public safety, parks and recreation and home and community (utilities).

One area where spending has been below average over the last decade—capital spending for wastewater treatment—could have significant consequences for debt burdens and sewer rates over the next several decades. Debt service for wastewater treatment projects relative to the volume of flow treated in 1992 was only one-third the level found in the

median metropolitan sewerage system. Capital spending over the last decade has never come close to matching the planned capital spending in the county's capital improvement plans (CIP).

The future fiscal environment facing county governments is filled with uncertainties. In this report, we examine an important source of uncertainty facing the county—future increases in wastewater treatment costs and user fees to be borne by county residents, even without costs associated with lake remediation. We develop several alternative estimates of the baseline (without remediation) scenario which allow for differences in growth rates for O&M and capital costs over the next quarter century, the amount of planned capital improvements in the sanitary district which are actually funded, and the type of debt structure used by the county. Not surprisingly, the alternative forecasting assumptions produce large variation in the projected growth in district expenditure and the consequent rise in user fees.

Under the two medium estimates, rates will rise to between \$381 and \$619 per unit by 2020. The rate projected by the county in the January 1996 draft MCP falls between our medium-high and high estimates. At the medium-high rate level, Onondaga County is projected to have a rate burden of 1.6 percent of median income in 2020 and 1.9 percent of income in 2035. Under the medium-low estimate sewer fees remain below the one percent (of median income) threshold for low rate burdens.

Under high growth assumptions, sewer fees are projected to grow by 4 percent per year above the rate of inflation and will reach \$888 per year (in 1993 dollars) by the year 2020. The sewer burden in 2020 would be 2.3 percent of median household income which is considered to be a high burden using the EPA financial capability methodology.

In contrast, under the low estimate real rates are projected to grow slower than inflation after 1996, dropping to \$247 per unit (in 1993 dollars) by 2020. The household burden relative to median household income will remain well below the one percent threshold judged to be a low burden.

One of the key areas of uncertainty surrounding these rate forecasts is how the investment community will respond to significant increases in debt burden which are likely to accompany even the medium-low baseline estimate. Outstanding county debt was about \$284 million as of March 1996. Even under the medium-low scenario, this debt burden (in 1993 dollars) would increase by 50 percent by the year 2020. Under the high scenario,

debt outstanding would rise three-fold even assuming no additional increases in debt outstanding for capital spending other than wastewater facilities. Given that county debt burdens are already above Moody's medians, such a large growth in outstanding debt will not go unnoticed. At what point these large increases in GO debt will trigger a downgrading of bond ratings cannot be forecast with any certainty; however, the possibility surely must be considered in rate projections. Accordingly, we assume for all projections except the low estimate, that the county's GO bond rating would be downgraded.

The large differences in the future rates facing county residents under these alternative estimates highlight the need for more long-range planning by the county government, in general, and the Department of Drainage and Sanitation in particular. The last comprehensive plan for wastewater treatment for Onondaga County was completed almost three decades ago, before formation of the consolidated sanitary district and most federal (and state) legislation regulating wastewater treatment. Given the long-term nature of commitments to wastewater treatment projects, mistakes in planning will be around for a long time. Without such a comprehensive review of future needs, including thorough engineering studies of existing plants, any forecasts of baseline expenditures and sewer fees will be no more than informed speculation.

# **The Outlook for Onondaga County's Finances: Baseline Scenario**

## **Introduction**

Two issues lie at the center of the controversy regarding what remediation of Onondaga Lake should be undertaken by the county. The first question involves the physical sciences: What remediation efforts involving the wastewater treatment system will most effectively enable the county to cease its violations of environmental standards? The second question is an economic one: How able is the county (and its residents) to bear the large costs that would be associated with court-mandated remediation? No matter how scientifically compelling a remediation plan might be, its practical value will be greatly diminished if its costs would place an excessive burden on the county and its residents.

The scientific issues involved in lake remediation have been studied by a variety of environmental specialists. The results of the many studies have not produced a single plan with which all experts agree but, rather, several competing plans. Despite the absence of a consensus view about a single remediation methodology, there is agreement that even the least costly of the proposed plans would involve expenditures over several years totaling hundreds of millions of dollars. In view of the fact that Onondaga County's annual spending for all capital outlays, including general government facilities, correction facilities, highways and the like, as well as wastewater facilities, have averaged only about \$41 million during the last decade, it is unlikely that anyone could dispute the conclusion that lake remediation will impose a significant financial burden on the county.

Therefore, it only makes sense for those responsible for choosing a remediation plan to be informed about the county's financial capacity to carry out lake remediation while avoiding doing serious long-term damage to its finances and to those of its residents and their employers. The objective of this paper is to aid the decision makers by providing information about the county's present financial

condition and about its likely fiscal condition during the years when lake remediation would be undertaken.

The first section begins by examining trends during the last 15 years in the county's revenues, expenditures, tax burdens, and debt burdens and by comparing Onondaga County's finances with those of a variety of other counties, both other upstate New York counties and counties elsewhere in the United States. We then address the question of the county's capacity to carry debt by examining the assessments of Onondaga County's creditworthiness provided by the three bond rating agencies. Finally, using a bench marking methodology devised by the U.S. Environmental Protection Agency (EPA), we offer a rough, summary measure of the county's current financial capacity to bear wastewater system costs.

In the second section, we narrow our field of vision and examine the levels of the fees paid by residents and other users of the county's wastewater system. We compare those fees against both the fees paid by customers of other metropolitan wastewater systems and benchmarks suggested by the EPA. This section also contains our low, medium, and high projections of the county's future wastewater fees until the year 2035 in the event that no remediation expenditures would be required. We refer to this as the **baseline scenario**.

## **Assessment of Onondaga County's Fiscal Condition: Revenues, Expenditures, and Indebtedness**

The fiscal condition or health of a state or local general purpose government has been defined as the probability that it "will be able to meet both (a) its financial obligations to creditors, consumers, employees, taxpayers, suppliers, constituents, and others as they become due, and (b) the service obligations to constituents, both currently and in the future" (Berne 1992, p. 1). The purpose of this section is to assess Onondaga County's fiscal health at the present time. Of particular concern here is how Onondaga County's fiscal condition measures up against other counties in New York and elsewhere in the United States with respect to its expenditures, revenues, and debt burden.

This assessment of fiscal condition is divided into four parts. The first part examines county government revenue and expenditure levels and trends since 1980 in Onondaga County and in five other

upstate New York counties containing central cities: Albany, Broome, Chemung, Erie, and Monroe. This analysis draws on the local government fiscal data that are collected and published annually by the office of the New York State Comptroller. Next, we examine aggregate revenue and expenditure levels and trends for all general purpose governments (e.g., county, towns, etc.) and school districts within Onondaga and the five upstate New York comparison counties, once again by reference to Comptroller's data.

In the third part of this fiscal condition assessment, we draw upon data from the U.S. Census Bureau's *1992 Census of Governments*, the only published source of definitionally comparable state and local finance data for governments in all 50 states. By using the Census of Governments data, we are able to broaden the composition of the comparison group to include some counties located outside New York.

Part four addresses the important matter of current levels of indebtedness and the burdens they impose on taxpayers. Using data from Moody's credit reports for Onondaga and selected other counties in upstate New York and elsewhere in the country, we compare debt ratings, debt per capita, and debt as a percentage of full value of taxable property among counties in the group. In addition, we will assess each county's financial condition by means of a methodology developed by EPA for use in measuring the financial capability of municipal governments to implement combined sewer overflow (CSO) controls and in developing implementation schedules for such CSO controls.

### **Revenue Levels and Trends: Onondaga County and Selected Upstate New York Counties**

One of the most dramatic developments in local government finances during the last one and one-half decades has been the growing reliance by these units on their own revenue sources to meet their growing expenditure needs. This fact is demonstrated vividly in Table 1 where we report the relative shares of revenue raised from their own sources and from intergovernmental aid by Onondaga County and by five other upstate New York counties with central cities.<sup>1</sup>

In 1980, own sources accounted for between about 41 percent and 49 percent of the total revenues raised by the upstate New York counties. Onondaga County's share of total revenues that

came from its own sources was 45 percent. Fourteen years later, the Onondaga County own source share was above 60 percent, and the other five counties had experienced similar shifts in the dependency on own source revenue. Although the share of total revenues coming from state aid was lower in 1994 than it was in 1980 for four of the six upstate counties, the reductions were modest. For Onondaga County the state aid share in 1994 was virtually unchanged from 1980. Only Monroe County had more state aid as a proportion of its total revenues in 1994 than in 1980. The story with respect to the federal aid share of total revenues was much different. Onondaga County's share of total revenues from federal aid fell by 17 percentage points, and the decrease for the other five counties ranged from about 13 percentage points for Monroe County to a high of almost 19 percentage points for Albany County.

Necessarily, declines in the shares of total revenue coming from intergovernmental aid must mean increased dependence on taxes and other local revenue sources if total revenue reductions are to be avoided. This was the case for the upstate New York counties in the years since 1980. For Onondaga County the share of total revenues accounted for by taxes grew from 33 percent in 1980 to 50 percent in 1994, a substantially higher proportion than in the next highest county, Monroe, which derived 42 percent of its revenues from taxes in 1994. Onondaga County also became more dependent on property taxes as a revenue source than any of the other counties, its share of total revenues derived from property taxes grew from 20 percent in 1980 to nearly 35 percent in 1994. Monroe County was again the second most dependent on property taxes, but at a 25 percent level it was well below Onondaga County in property tax dependency in 1994. Onondaga County's reliance on its second most important tax source, the sales tax, grew very little between 1980 and 1994, when the sales tax share of total revenue was 10 percent. At that level, Onondaga was least dependent of the six counties on the sales tax and it lagged the most dependent county's (Albany) share by 17 percentage points. In contrast, other upstate counties are heavier users of nontax direct revenue sources such as fees and charges, to finance county departments.

Annual growth in revenue per capita, adjusted for inflation, accelerated in the first half of the 1990s relative to the growth rate in the previous decade for all counties except Chemung. But at an annual rate of increase of 1.23 percent during the 1990-1994 period (which was the second slowest rate

of growth among the six counties), Onondaga County's revenue growth was hardly robust. Significantly, Onondaga County's tax revenue growth rates during the 1990s were sharply lower than they were during the earlier decade when federal aid was declining rapidly. It is also worth noting that Onondaga County was the only one of the six counties that experienced declines in real federal aid per capita and departmental revenue in the 1990-1994 period (Table 2).

At \$914, real total per capita revenue in Onondaga County in 1994 was 13 percent above the average for all counties in New York and the fourth highest among the six upstate counties. (Monroe was highest at \$980 and Broome was lowest at \$810.) Onondaga's real per capita total tax revenue of \$455 was 127 percent of the state average and real per capita property taxes of \$316 were 152 percent of the state's all-county average. Both tax levels were higher than those in any of the five comparison counties. In contrast, Onondaga County's real per capita sales tax revenue of \$89 was the lowest of the six upstate counties and only 64 percent of the average for all New York counties (Table 3).<sup>2</sup>

Departmental revenue was less than 60 percent of the state average and well below that of other upstate central city counties.

When measured in relation to personal income, Onondaga County's revenues in 1994 were closer to state averages. The county's total revenue as a percentage of personal income was 5.3 percent above the state average in 1994, with total tax revenue at 115 percent of the average, property tax revenue at 137 percent, and sales tax revenue at 58 percent. The county's federal aid and state aid as percentages of the state average were also lower than when computed on a per capita basis although they continued to exceed the state average. One of the five comparison counties, Chemung, had a higher ratio of revenue to personal income, but as was true when burden was measured on a per capita basis, none of the other five counties matched Onondaga with respect either to total tax revenue or its property tax revenue as a percentage of personal income (Table 4).

### **Expenditure Levels and Trends: Onondaga County and Selected Other Upstate New York Counties**

The last decade has been a time of transition as well with regards to the functional responsibilities of local governments. The federal and state governments have shifted increasing responsibilities,

especially in the areas of social service and health, onto local governments. Many county governments are under pressure to enlarge and improve their correction facilities and to effect environmental improvements. An increasing share of Onondaga County's budget has shifted towards contract services for services such as economic assistance and health functions, and fringe benefits. There was a substantial drop from 1985 to 1994 in the share of the budget spent on debt service payments (Table 5).

Growth in Onondaga County's spending, measured as the annual percentage change in real expenditures per capita, slowed to 1.09 percent annually during 1990-94 compared to a 1.30 percent rate in the 1980s. Only one of the five comparison counties, Chemung, also managed to curb its spending rate in the 1990s while Albany County's and Broome County's annual spending rates each accelerated to above 7 percent (Table 6).

Onondaga County's recent deceleration in the rate of growth of its real expenditures per capita included actual declines in several spending categories. On an object of spending basis, reductions were achieved in salaries and wages, capital expenditures, and debt service, continuing a trend, in the latter two cases, that also characterized the 1980s. On a functional basis, real spending per capita on health, transportation, home and community, and parks and culture all fell during the 1990-94 period.

Despite having an annual growth rate in real spending in the 1990s that was lower than all but one of the comparison counties, Onondaga County's real per capita outlays in 1994 were above those of any of the comparison counties. At \$1,096 per capita in 1994, the county's outlays were 131 percent of the average for all counties in the state and almost 9 percent larger than spending in the next highest spending county (Monroe) in the comparison group. On an object basis, its spending per capita on salaries and wages and on fringe benefits was above the state average and higher than any of the comparison counties; the county's spending in the other object classes was also above the state average and most comparison counties. On a functional basis, Onondaga had the highest per capita spending among the six upstate counties for public safety, home and community, and parks and culture. Its spending on each of these functions was substantially above the average for all counties in the state as was spending on economic assistance and general government (Table 7).

Onondaga County's 1994 expenditures as a percentage of personal income were the highest of the six upstate New York counties and 17 percent above the average for all counties in the state. Whether classified by object of expenditure or by function, Onondaga County's expenditures as a percentage of personal income are at or near the top in virtually all categories. Its expenditure/ personal income ratios also exceeded the averages for all counties in the state for all objects of spending except wages and salaries and for all functions except health and transportation (see Table 8).

### **Revenue and Expenditure Levels and Trends: All General Purpose Governments and School Districts in Onondaga County and in Selected Upstate New York Counties**

As we have shown earlier in this discussion, Onondaga County is becoming increasingly dependent on its tax base, especially its property tax base, to generate the revenue it needs to provide current levels of service. A fundamental question is: Can Onondaga County's future property tax base bear the burden of providing sufficient incremental revenues to carry on the ordinary business of government as well as the extraordinary demands that inevitably will arise? Our analysis to this point has shown that Onondaga County is already heavily reliant on the property tax relative both to other upstate counties with similar characteristics and to all counties in New York State. While that evidence is hardly sufficient to justify concluding that the county's future property tax base won't be able to meet the future demands that might be made on it, it is worth a cautionary note.

Moreover, it is important to recognize that the other general purpose governments (e.g., cities, towns, and villages) and school districts located within the county also draw on the property tax base to finance their expenditures. Hence, the total property tax burden borne by property owners consists of both the property taxes levied by the county and those levied by the underlying jurisdictions. Necessarily, then, our analysis should include an examination of the aggregate finances of the county and its overlapping jurisdictions. We will now address that matter.

When account is taken of revenues raised by all general purpose governments and school districts within a county, Onondaga County's 1994 real per capita revenues equal the average for all New York counties and are in the middle among the five upstate comparison counties.<sup>3</sup> The county's total tax revenues and property tax revenues are 108 percent and 104 percent, respectively, of the state average.

Total real per capita federal aid for Onondaga County is 111 percent of the state average, and real state aid per capita is at the 98 percent level (Table 9).

Total revenue raised by all governments in Onondaga County as a percentage of personal income in 1994 was only 89 percent of the state average, but this level was above all but one of the comparison county government groups. Each of the components of Onondaga County's 1994 revenues, with the single exception of the other tax category, was also lower in relation to personal income than the all county state average (Table 10).

Real per capita total expenditures for all general purpose governments and school districts within Onondaga County totaled \$2,741 in 1994, placing them at 107 percent of the state average. Per capita fringe benefits by governments in the county were the highest among the six upstate counties, and Onondaga County governments' spending for other objects was among the highest in the group. Two of the five comparison county government groups, Albany and Monroe, had similar spending levels, and the three counties with lower spending levels were eight percentage points or more below Onondaga County outlays. On an object basis, spending per capita by all governments in the county on fringe benefits and debt service significantly exceeded the state averages. On a functional basis, Onondaga County spending per capita on economic assistance, public safety, general government, and parks and culture also was well above the state averages. In each of these cases, the county had expenditures well above most comparison counties (Table 11).

Total expenditures as a percentage of personal income for all governments in Onondaga County totaled 16 percent of personal income or 96 percent of the state average in 1994, with fringe benefits, debt service, economic assistance, public safety, general government and parks and culture all being greater than the state averages for those categories. But of those spending classifications, only spending for public safety and parks and culture exceeded the state average by more than 20 percent. All five comparison counties had lower total expenditures as a percentage of personal income than Onondaga County's 15 percent. With respect to individual spending categories, spending by governments in Onondaga County as a percentage of personal income was usually near the top among the upstate counties (see Table 12).

## **Revenue and Expenditures: Onondaga County and Selected Other Counties in Upstate New York and Elsewhere in the United States**

Our analysis to this point has focused on a comparison of Onondaga County's finances with those of five other upstate New York counties with central cities. We now turn to a comparison of the county's finances vis-a-vis three upstate New York counties and ten central city counties located outside New York. For purposes of assuring comparability, this analysis draws on U.S. Bureau of the Census, *Census of Governments* data for 1992, the latest year for which such data are available. As in the previous section, the data discussed here refer to general revenues and expenditures for all general purpose governments and school districts within each county. To control for cost-of-living differences across counties we divide revenue and expenditure data by county personal income, rather than population.

A striking feature of both the revenue and expenditure data (see Tables 13 and 14) is the range between the county with the highest total and the county with the lowest. In the case of revenues, Onondaga County has the highest revenue as a percent of personal income, 10.7 percent which contrasts with a rate of 5.7 percent in Lancaster, Pennsylvania. Erie and Monroe Counties in New York and Fulton County, Georgia had revenue burdens only slightly below those in Onondaga County. Onondaga County ranks high on its tax burden, especially for property taxes, and in the level of state aid it receives. But the distinction of having the highest tax burden among the comparison counties fell to Fulton County, Georgia, while the lowest tax burdens are in Hampden, Massachusetts and Pierce County, Washington, with half the burdens of Onondaga County (Table 13).

Relative spending among the 14 counties also varied widely as did revenues. Denver earned the number one ranking for total expenditures with a rate of 13.7 percent of personal income. Onondaga, Erie and Monroe counties were not far behind with burdens of 12.8 percent, 11.8 percent and 11.6 percent, respectively. Hampden, MA, Lancaster, PA and Davidson, TN all have expenditure burdens below 7 percent. Expenditure burdens in Onondaga County were consistently among the highest for education, public welfare, health, highways and corrections (Table 14).

## Indebtedness and Debt Ratings

Onondaga County's general obligation debt is well-regarded by the credit rating agencies.

Moody's has long awarded the county's bonds an Aa designation, its second highest rating. According to Moody's: "Bonds that are rated **Aa** are judged to be of high quality by all standards. Together with the **Aaa** group they comprise what are generally known as high grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as in **Aaa** securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present that make the long-term risks appear somewhat larger than in **Aaa** securities" (Moody's 1996, p. 46). Standard & Poor's and Fitch have also awarded their second highest rating to Onondaga County general obligation debt.

Understandably, county officials would prefer to avoid taking any action that would lead to a lower bond rating and the higher borrowing costs that would be associated with a downgrade.<sup>4</sup> Doubtless, a rating downgrade would always be a **possibility** if lake remediation financing or any other capital expenditure were to lead to large increases in the county's debt burden. But it does not follow as a matter of course that a rating downgrade is a **probability** under such circumstances. The fact is there is no simple formula that can be applied to predict a jurisdiction's future bond rating. Although an increasing debt burden would usually be regarded as a negative factor, the relationship between debt burden and bond rating is not a simple matter of higher debt burden/lower rating or lower debt burden/higher rating.

Although the debt rating agencies do not provide neat formulas into which an analyst can insert quantitative values for pertinent variables and then derive a rating, they do emphasize that their assessments of a jurisdiction's creditworthiness take account of far more than debt per capita or debt as a percentage of full value of taxable property. To quote from Moody's: "In general, [the relevant factors] are debt position and debt management, the local economy, the issuer's finances, legal documents, and the strength of local management. No one of these factors is considered to be the most important at the start of our analysis; as analysis proceeds, however, one element may take on more importance than the others because it represents a particular strength or vulnerability for the credit." (Moody's 1993, p. 1).

Onondaga County's situation is a good case in point that more than debt levels are important to a determination of a jurisdiction's bond rating. For example, the county's direct net debt, measured both on a per capita basis and as a percentage of the full market value of its property tax base, exceeds the median values of these measures for all comparably-sized counties whose general obligation bonds are rated by Moody's. Its overall net debt as a percentage of taxable property values, 3.5 percent, is a full percentage point above the Moody's median value. Moreover, despite having overall debt per capita that is larger than Broome County's and Chemung County's overall net debt per capita, and larger overall net debt as a percentage of taxable property values than Albany, Broome, and Chemung Counties, Onondaga County has a higher debt rating than any of the upstate counties in the comparison group.

That a county may have even higher levels of debt burden than Onondaga County and still maintain a Aa rating is borne out by three of the counties in the outside New York comparison group. Nashville/Davidson County's direct net debt per capita exceeds Onondaga County's by 145 percent, Denver County's exceeds it by 93 percent, and Fulton County's is 40 percent higher. Fulton County's overall net debt also exceeds the Onondaga County level by 137 percent, and both Denver County's and Nashville/Davidson County's direct net debt as a percentage of full market value of property are above Onondaga County's (see Table 15).

The reports issued by each of the three credit rating agencies in connection with Onondaga County's most recent issue of general obligation debt confirm the diversity of the factors that bear on a debt rating. In addition to the county's moderate debt levels, positive rating factors identified by one or more of the three agencies include: diversity of the economy, relatively low unemployment levels, and quality of financial management as reflected "by sound budgetary controls, stable year-end fiscal balance,...steady, but moderate, increases in the property tax levy," and reductions in expenditures and borrowing needs.

On the negative or problematic side, two of the three ratings agencies expressed concern about Onondaga Lake remediation costs (Moody's and Fitch), Standard & Poor's is concerned about the pace of economic growth, county revenue growth and expenditure pressure, and adverse effects from

“potential state and federal program and funding changes.” In Fitch’s view, “Downtown Syracuse continues to be problematic in terms of economic development” (see Table 16).

### **Financial Capability Assessment: EPA Scoring Method**

In this concluding section of our analysis of Onondaga County’s financial condition, we will apply a methodology devised by the EPA to measure the “financial capability” of a community to bear wastewater system costs. The EPA methodology is described in a 1997 document, *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development*, (EPA 1997).

The financial capability assessment methodology was developed by the EPA in connection with its “Combined Sewer Overflow (CSO) Policy, which establishes a consistent national approach for controlling discharges from combined sewer systems throughout the NPDES [National Pollutant Discharge Elimination System] permit program” (Cook 1997, p. 1) EPA’s CSO control policy “recognizes the site-specific nature of CSOs and their impacts, and provides the necessary flexibility to tailor controls to local situations” (Cook 1997, p. 1). Among several site-specific factors identified by EPA, “[f]inancial capability in particular, is identified as a factor that may warrant a phased approach to implementation of CSO controls” (Cook 1997, p. 2).

The EPA financial capability assessment methodology involves two phases. In the first phase, the average cost per household for wastewater treatment and CSO controls as a percentage of median household income is determined, and the wastewater system is classified according to whether its costs impose a “low,” “mid-range,” or “high” financial burden on ratepayers. This is referred to as the “Residential Indicator” (EPA 1997, p. 10). We will return to this issue in the next section when we examine the current and prospective user fees associated with operating Onondaga County’s wastewater system.

Our concern here is the second phase of the EPA financial capability assessment methodology—determining a *jurisdiction’s* financial capability to implement CSO controls or, in EPA parlance, the “Permittee Financial Capability.” Six measures are used to classify a jurisdiction’s financial capability as “weak,” “mid-range,” or “strong” (EPA 1997, p. 10). The six measures are grouped into three classifications, each of which contains two of the measures. The classifications and measures are:

**Debt**

1. Bond rating
2. Overall net debt as a percentage of full market value of taxable property

**Socioeconomic**

3. Unemployment rate
4. Median household income

**Financial Management**

5. Property tax collection rate
6. Property tax revenues as a percentage of full market value of taxable property

The process of determining a jurisdiction's ("permittee's") financial capability is straight-forward. First, values for each of the six measures are determined. Then each of the values is evaluated against a benchmark proposed by the EPA and given both a numerical score and a weak, mid-range, or strong rating. Finally, the average of the six individual scores is calculated and that average is compared to an EPA benchmark to determine whether the jurisdiction's overall financial capability is weak, mid-range, or strong (EPA 1997).

Application of the EPA methodology to Onondaga County produces results that are consistent with our earlier findings about the county's financial condition. That is to say, the financial situation present a mixed picture. On the one hand, its bond rating and its unemployment rate are strong. But on the other hand, its overlapping debt, median household income, property tax revenue, and property tax collection rate are only in the mid-range of the EPA benchmarks. On an overall basis, the county's average score of 2.3 places it in mid-range, slightly below the 2.5 level that is the lower limit for a jurisdiction with strong financial capability (Table 17).

The primary virtue of the EPA financial capability assessment methodology is its ease of application. But we are not recommending it in place of a more intensive and exhaustive examination of a community's financial condition. It is, in our judgment, a rather crude and arbitrary approach. For example, it relies on so few measures to portray financial capability, it ignores the burden on residents from taxes other than the property tax, and it does not allow for differentials among communities in either their legal ability to tap revenue sources other than the property tax or their state-mandated legal

obligation to provide services. Moreover, the EPA provides no basis for its benchmark values or their designations as weak, mid-range, or strong.

## **Sewer Rate and Expenditure Analysis and Projections**

The analysis of the fiscal health of Onondaga County showed that the county is in reasonably good shape presently. However, significant changes in the fiscal environment facing the county over the next quarter century could jeopardize this position, even without Onondaga Lake remediation costs. For example, the recent passage of welfare reform legislation by Congress could have major effects on county social service programs. Other future modifications of federal or state funding or regulation could have equally significant impacts.

In this section, we examine an important source of uncertainty facing the county—future increases in waste water treatment costs and consequent increases in the sewer use rates or fees that county residents would be required to pay even in the absence of any incremental costs associated with lake remediation. Using information about trends in actual sewer system expenditures and informed assumptions about future growth in such spending, we develop a baseline scenario (i.e., a future without remediation spending) with four levels of estimates of user charges that are intended to reflect the range of annual user fee levels to be faced in the next 25 years.

This analysis is carried out in several stages. First, actual rates of change in operating and maintenance (O&M) expenditure between 1979 and 1993 are used as the basis for projecting future O&M outlays. Second, we use data from the county's annual Capital Improvement Plan (CIP) and from the Annual Reports of the Department of Drainage and Sanitation to develop four estimates—low, medium-low, medium-high and high—of annual capital spending for wastewater treatment projects for the period between 1997 and 2020.

In the third stage, we compare sewer fees in Onondaga County with rates in other metropolitan sewer systems and forecast increases in rates under the baseline scenario. In developing rate forecasts, we assume that a large (85 percent) proportion of future capital spending will be financed by 20 year debt issues requiring level debt service payments (the 15 percent balance of annual capital spending is assumed

to come from the county's operating budget), and estimate the annual debt service costs for general obligation (GO) bond financing. In estimating the interest costs for all but the low scenario, we allow for the higher interest costs associated with the possible downgrading of GO bonds as the debt burdens in the county rise. These estimates, along with those made for future O&M expenditures and for the 15 percent of capital outlays to be funded out of the operating budget, are combined to produce estimates of aggregate wastewater system costs.

Since the county has financed drainage and sanitation costs almost entirely with user fees since the creation of the consolidated sanitary district in 1978, we assume that it will continue this practice.<sup>5</sup> Therefore, our last step in the forecasting exercise is to convert our estimates of future O&M and capital costs into four different estimates for sewer rates in the sanitary district without remediation until year 2020. These projected rates are compared to affordability benchmarks developed by the EPA.

Before proceeding with this analysis, it is important to offer a caveat. Any attempt to forecast decades into the future is risky. Significant uncertainties exist over future environmental regulations, interest costs and inflation rates, and unexpected problems with the existing sewer system could also arise. These uncertainties are compounded by the lack of a comprehensive long-range plan for the consolidated sanitary district. The last such plan was completed almost three decades ago (1968) before creation of the consolidated district and passage of most federal regulation affecting wastewater treatment. As stated in the report "County Growth & Infrastructure" (*2010 Development Guide*), "There is a need to update the Comprehensive Sewerage Study based on current growth trends, new treatment plant capacities and effluent standards." (p. D29). Without such a comprehensive review of future needs, including thorough engineering studies of existing plants, any forecasts of baseline expenditures and sewer fees will be rough approximations at best.

## **Operating and Maintenance Expenditures**

**Trends Since 1979.** The last decade has been a time of major changes nationally for sewer systems. Continued tightening of federal and state regulation and loss of external grants to support required system upgrades have saddled local governments with rising expenditures to operate and maintain their sewer systems. For Onondaga County this meant total O&M expenditure growth of over

10 percent per year from 1979 to 1993, or twice the growth rate for the rest of the county budget (Table 18). The county's O&M growth on a unit basis was over 9 percent per year for the entire 1979-1993 period, and it surged to 13 percent annually during the 1980s. Even after adjustment for inflation, O&M unit expenditures grew by over 5 percent per year during the period, although growth slowed dramatically in the 1990s (Table 19). Growth in nominal expenditures has been 4.4 percent per year since 1989, only 0.7 percent above the rate of inflation. On a per unit basis there has been no growth in O&M expenditures since 1989.

What accounts for this rapid growth in O&M spending? To answer this question, we have divided O&M expenditures into personnel and non-personnel categories. By far the fastest growth in O&M expenditures was in the non-personnel category with annual growth of close to 13 percent per year. Within this broad group, maintenance, rent and utility expenditures (one-third of 1993 expenditures) grew by 7.7 percent per year, supplies and materials (18 percent of total) grew by 14.3 percent per year, and other non-personnel expenditures (50 percent) by 19.5 percent per year.<sup>6</sup> Personnel expenditures grew by 8 percent per year, while the number of regular personnel grew by 2 percent. Regular employee salaries represent three-quarters of the personnel expenditures, with salaries and fringe benefits both growing about equally. Expenditure growth in all of these categories has slowed dramatically since 1989.

Based on a national sample by the Association of Metropolitan Sewerage Agencies (AMSA), the growth in members' O&M expenditures from 1984 to 1994 was 8.4 percent per year, several percentage points lower than experienced by Onondaga County.<sup>7</sup> Since 1990, however, the growth rate for the county has been below the national average. County O&M expenditures per household in 1993 were in the 90th percentile of a sample of metropolitan sewer systems responding to the AMSA survey. (See sewer rate comparison below for a more complete discussion of how the sample was selected.)

**Projections.** As discussed previously, projecting operating and maintenance expenditures into the future is difficult because of uncertainties about new regulations in the future and how they will affect treatment costs, the inflation rate for materials and supplies used by treatment plants, and the impact of future capital investment on operating and maintenance costs. With regards to the latter,

maintenance costs may go down if existing plants are upgraded; however, the impact of capital investment on other operating expenditures is less clear.<sup>8</sup>

AMSA surveys provide strong evidence that O&M expenditures in sewerage agencies have been rising much faster than inflation. O&M expenditures for AMSA members grew by over 8 percent per year from 1984 to 1994, while the annual growth in the consumer price index was only 3.6 percent. User fees by AMSA members have grown 3.8 percent faster, on average, than the CPI during this period. AMSA is now forecasting O&M expenditure growth to accelerate to over 10 percent per year in the next 15 years.

The AMSA forecast for future O&M spending growth rates may be appropriate for at least those of its members serving rapidly growing metropolitan areas in the South and West where the expenditure growth includes significant increases in the quantity of inputs need. However, the AMSA forecast is likely to overstate growth in a slow growing area, such as Onondaga County, where most O&M growth will be due to price increases or increases in the quality of the inputs required. Based on historical trends in Onondaga County, we think a rate between 2 and 4 percent above the inflation rate is suitable as a basis for our two medium level forecasts of the county's O&M spending on its sewer system. Our low end forecast is based on a rate of growth equal to growth in consumer prices which has been the trend the last several years. Our high estimate assumes a resurgence of the rapid growth during the 1980s to a rate 6 percent above the inflation rate.

Not surprisingly, projected O&M expenditures in 2020 will vary widely depending on which of our four assumed growth rates is used. Our high estimate of real O&M expenditures (1993 dollars) in 2020 is nearly \$140 million (Figure 1 and Table 20). At this level they would be almost 5 times higher than if O&M spending grows at the inflation rate. Estimated O&M costs per unit from 1996 to 2020 under the four cases are plotted in Figure 2.<sup>9</sup> Focusing on the two medium scenarios, growth from 1996 to 2020 in O&M expenditures per unit range from 47 percent to 135 percent. Real O&M expenditures are projected to be between \$249 and \$421 per unit by 2020. Assuming these same growth rates continue through 2035, O&M expenditures per unit will range between \$310 and \$702 per unit.

The large discrepancies between the O&M growth rate forecasts highlight the importance of long-range planning by the county. Without a careful analysis of future facility needs and the O&M costs that they imply, the probability of large forecasting errors is quite high. Given that O&M expenditures are likely to represent a large majority of the sewer district's annual expenditures, accurate forecasting of O&M costs will be crucially important if the county is to avoid seriously mis-estimating the full financial impact of lake remediation.

### **Capital Expenditures**

Future sewer rates paid by district residents will also greatly affected by the capital spending needs facing the district over the next quarter century. Sewer rates in the district are determined on the basis of the district's cash outflow. That is, total cash expenditures for O&M and for capital improvements are divided by the number of billing units to determine the sewer charge per unit. For the purposes of this computation, cash expenditures for capital projects include both expenditures from the annual operating budget to finance capital purchases and debt service payments.

Capital expenditure as recorded in the CIP is the total construction cost (or purchase price) of capital assets in the year these contracts are paid. Since most of these capital expenditures are financed by debt, they affect user charges in future years as debt service payments.

**Cash Outflows to Finance Capital Spending.** Annual cash outflows for capital purchases financed with current revenues and for debt service have been erratic since 1979 (Table 18) . The low point in spending was \$5.4 million in 1983 and the high point was almost three times this large in 1985. Overall, there has been little growth in cash outlays in nominal dollars to finance capital purchases and significant declines in spending adjusted for inflation. In unit terms, even nominal spending declined during the 1979-1993 period (Table 19).

When compared to other metropolitan sewerage systems, Onondaga County appears to be below average in its spending for capital projects. The average spending by AMSA members per household for debt service and capital financed with current revenue was \$215 in 1992 and the median was almost \$150 (AMSA 1993). In contrast, Onondaga County spent around \$74 per household which placed it in the 28th percentile of the 82 sewerage systems responding to the AMSA survey. While this sample is

probably not representative of all sewer systems, it may provide a reasonable picture of large metropolitan systems.

**Actual Versus Planned Capital Expenditure.** To examine the spending by the county for construction or purchase of capital assets in a particular year, data have been drawn from the Onondaga County's Capital Improvement Plan (CIP) since 1987. Projected and actual capital spending by year and treatment plant are compiled from CIPs from 1987 to 1995 and results are presented in Table 21.<sup>10</sup> Based on the actual expenditures reported in the CIPs, capital expenditure for wastewater facilities has been highly erratic but generally on a downward trend. For example, spending varied from a low of only \$252,000 in 1985 to a high of \$10.9 million in 1989, and average capital spending for the 1985-89 period was \$4.2 million. Between 1990 and 1995, however, annual capital spending averaged only \$2.4 million.

Despite the apparent slowdown in the county's capital expenditure for wastewater facilities, we know of no basis for inferring that this reflects a diminution in the sanitation system's need for new and upgraded facilities. Quite the contrary, in fact, judging from the six-year CIPs published by the county each year. Because each year's CIP reports both the actual capital spending that took place in the immediately preceding year and capital outlays proposed to be spent during the current year, it is an easy matter to compare the amount of capital spending that was planned for a particular year with the amount actually funded. And to the extent that the amounts proposed to be spent are reasonable proxies for capital needs, comparing the planned and actual capital spending totals over a period of years should permit at least a general inference about the county's success in meeting its wastewater facility needs.

As the data in column three of Table 21 make clear, annual capital spending during the last decade has consistently lagged far behind the amount proposed to be spent. It is no exaggeration to describe the shortfalls between the planned and actual amount as astonishing. Only once since 1987 did actual capital spending reach 50 percent of the planned amount, and the percentage was below 10 percent on three occasions. If the capital spending amounts proposed in the CIPs are reasonable proxies for capital needs, the evidence surely suggests that capital facilities in the county's sanitary district have been systematically under funded for many years.<sup>11</sup>

Adding to the plausibility that systematic under funding has been commonplace for many years is the fact that a large portion of the county's sanitation facilities was either constructed or received major upgrades during the late 1970s and early 1980s. This would have provided the county with breathing room to defer some desirable but not critically urgent capital projects without significant deleterious effects in the short-run. Assuming there were political constraints on how much user fees could be raised, underfunding of capital outlays would have eased pressure on the county to effect substantial savings in drainage and sanitation operating costs. But deferred maintenance and upgrading of existing plants could have important fiscal consequences for the county over the next several decades.

**Projections.** As indicated previously, it would be preferable to base forecasts of capital needs for the consolidated district on a comprehensive long-range plan which considers depreciation and useful life of existing capital facilities, changes in wastewater treatment technology, regulatory changes likely to increase capital requirements, and geographic growth patterns in the county and the potential for capacity constraints at particular plants. Without such a plan, forecasts of baseline capital spending are subject to potentially large margins of error.

Unfortunately, the only information available to us about the county's future needs for wastewater facility improvements comes from the County's Annual Capital Improvement Plan (CIP). Our analysis is based on information contained in the 1996-2001 CIP, the most current report available when we prepared our projections. The 1996-2001 CIP includes drainage and sanitation projects (without Metro remediation) costing \$13.5 million in 1996, rising to \$26.2 million in 1998 and then declining to \$23.8 million by the year 2001. For our high estimate, we assume that the county will fully fund this CIP. We assume that annual capital spending after 2001 will equal the average annual spending called for in the 1996-2001 CIP plus an annual increment based on a growth rate of 6 percentage points above inflation. We consider this the high estimate, since actual capital spending in the last decade has rarely come close to planned spending levels. If capital spending grows by a real rate of 6 percent per year, it would total over \$56 million in 1993 dollars by 2020 and \$131 million by 2035 (Table 22 and Figure 3).

In making our low estimate, we assume that 50 percent of the amounts called for in the 1996-2001 CIP are actually funded and that capital expenditures rise at the forecasted inflation rate for

personal consumption expenditures (PCE). Admittedly, even an assumed 50 percent of CIP-funding level is well above what has occurred during the last decade. But if the amounts called for in previous CIPs have been realistic estimates of capital needs, failure to meet those needs for so long suggests that the county will eventually have to play catch-up on its deferred capital spending. Under the low estimate, real capital spending averages \$9.4 million from 1996 to 2001 and remains at this level through 2035.

The two medium scenarios are based on 50 percent and 75 percent funding of the CIP, respectively, and real growth rates of 2 percent and 4 percent. Under the medium-low estimate, real expenditures reach \$14 million by 2020 and \$18 million by 2035. This compares to capital spending of \$29 million in 2020 under the medium-high scenario and \$52 million in 2035. Given that capital spending (1993 dollars) averaged \$5.2 million from 1985 to 1995, even the low estimate shows substantial spending growth.

## **Sewer Rates**

**User Fee Comparison.** We begin by comparing Onondaga County's sewer rates to other metropolitan sewer systems nationally. Besides this relative comparison, sewer rates are evaluated against several benchmarks suggested by the U.S. Environmental Protection Agency (EPA). Ideally, Onondaga County's user fees would be compared with a representative national sample of sewer systems. Such a comparison would control for differences in type of rate structure used, the number and type of customers served, the level of treatment and geographic factors affecting system costs. Unfortunately, no such sample exists. Raftelis (1993) describes a study carried out by Ernst and Young (of which he was project director) of sewer and water systems in the 100 largest metropolitan areas to collect information on sewer and water rates. While the survey provided valuable information on sewer rates, comparison of rates across systems was not possible because of differences in accounting systems and rate structures used.

AMSA (1993) provides a survey of metropolitan sewerage agencies on a regular basis. Besides reporting rate information, the survey provides details on O&M and capital costs, the number of persons and customers served and the average daily flow by type of users. The survey is not random in design

nor are the financial (or treatment) data audited for accuracy. Despite these limitations, this is the best source available presently for making rate comparisons.

Apogee (1993a) used the AMSA data in a rate comparison prepared for the Lake Management Conference. Their objective was to make rate comparisons between Onondaga County under various remediation plans and responding AMSA members for 1997. Estimated 1997 rates for AMSA members were calculated by using estimated debt service payments to finance capital spending plans in local CIPs.<sup>12</sup> O&M spending was not included in rate calculations since it was assumed not to vary significantly (on a per capita basis) across sewer systems. Rates were calculated by dividing debt service costs by the number of households. Total debt service costs were used in one set of Apogee's calculations and the estimated residential portion of debt service costs (based on estimated residential share of daily flow) was used in another set. The sample selection process was fairly elaborate. First, a regression model was developed to explain variation in costs and included factors such as daily flow, type of plant, total capacity and service area. The results of the regression model were used to identify a sample of 25 sewer systems with a similar daily flow and where at least 10 percent of flow was treated in secondary plants.

While the Apogee method provides a good starting point, we modify this approach in several ways. First, we include O&M expenditures as well as debt service costs in our rate calculations since both the relative and absolute levels of sewer rates are important.<sup>13</sup> There is no reason to believe that the assumption made by Apogee (1993) of similar O&M costs across sewer systems is correct. We based our comparison on actual spending in 1992, since projections of capital spending in CIPs are often too optimistic (as illustrated for Onondaga County). Following Apogee, we make two types of rate estimates:

1. Total costs are divided by the number of households. This approach implicitly assumes that all charges on commercial and industrial consumers are shifted to households, presumably through higher prices.<sup>14</sup>
2. Residential costs are divided by the number of households, where residential costs are assumed to be related to the residential share of daily flow. This approach assumes that no industrial and commercial sewer charges are shifted onto resident households.

Unlike the Apogee study we make few restrictions on the sample against which Onondaga County is compared. We eliminated systems with missing observations or that principally provide wholesale services. Other restrictions were not placed on the sample; instead, we examined the characteristics of systems with rates above and below Onondaga County. Specifically, the medians of service population, service area, and daily flow were calculated for districts with rates above and below those of Onondaga County (for the various rate estimates). As there appear to be no systematic differences between metropolitan sewer systems with higher and lower rates than Onondaga County, our sample size totaled 81 (including Onondaga County) where Apogee's sample contained only 26 systems. Total costs per household are estimated to be \$338 in Onondaga County in 1992.<sup>15</sup> Out of a sample of 81 metro sewer systems, Onondaga County is ranked 52, the 64th percentile (Figure 4).<sup>16</sup> Using the estimated residential flow in 1993, 78.6 percent of costs are assumed to be residential.<sup>17</sup> The estimated cost (exclusive of costs associated with commercial and industrial users) per household is \$281 (Figure 5) with Onondaga County ranked 64th out of 81 systems (80th percentile).

When all sewer system costs are allocated to households, the resulting estimate of Onondaga County's sewer rate per household in 1992 is 1.14 percent of median income, placing it 48th among the 81 systems in the sample (Figure 6). When only the residential share of sewer system costs is used, the estimated sewer rate in 1992 is 0.89 percent of median income, which places it in the 78th percentile of the sample (Figure 7).

While care must be exercised in generalizing these results to all sewer systems nationally, Onondaga County does appear to have relatively high rates presently. Under any measure of rates we have looked at, Onondaga County's rates are above the median and its residential rates are within the top 25 percentile. Given that the county appears to have been under funding capital costs, rates would even be higher if the CIP had been fully funded. For example, if capital costs were double what they actually were in 1992, residential rates would rise to \$326 per households (higher than 87 percent of sewer systems) and 1.08 percent of median income.<sup>18</sup> The relatively high rates can be explained by the high O&M costs in the sanitation district.

Affordability of sewer fees is an important issue both for local governments and their residents and for federal and state agencies imposing environmental regulations that involve additional spending by wastewater systems. Unfortunately, affordability involves multiple dimensions which can be difficult to measure with precision. As we noted in the fiscal condition analysis section, the EPA has developed its own comparatively simple method of measuring affordability and we will now illustrate how that methodology may be used.

The EPA methodology breaks down affordability determination into a two-stage process. In the first stage, an estimate of residential user fees per household as a percent of median household income is computed. EPA's approach to rate estimation is similar to the method we use in this analysis. In the second stage, local government financial capability is estimated. We applied the EPA approach to measuring financial capability in our earlier discussion and we found that it would classify Onondaga County as having "strong" capability based on the county's bond rating and unemployment rate while the county placed in the "mid-range" in relation to debt burden, property tax burden and collection rate and median income. The overall rating of Onondaga County's financial capability was 2.3 or mid-range using the EPA's simple scoring method. Given the county's financial capacity rating, a household user charge equal to one percent or less of median income is considered to be a low burden and between one and two percent is considered to be a medium burden. Onondaga County's burden of 0.89 in 1992 is therefore borderline between low and medium. In the next section, we will examine what would happen to the county's rate burden if future sewer rates for the baseline scenario were to grow at annual rates ranging between two and six percent above the rate of inflation.

Before proceeding with our forecasts, it is important to reiterate our reservations about the EPA methodology. The EPA financial capability matrix is no more than a rough guideline on affordability of sewer rates. It is based on standard industry criteria, but it provides little or no detail on the underlying health of the local economy, the financial management practices of the local government, the magnitude of other long-term liabilities facing the local government (e.g., pension obligations, mandates for other major capital projects) and the impact of user fees on lower income, central city residents.

Consideration of several of these factors suggests that the financial capability assessment of Onondaga County may be too optimistic. As described in detail in our previous reports, the Onondaga County economy has experienced only slow growth over the last several decades. There continues to be loss of manufacturing employment, net migration out of the area by working age adults and a growing percentage of single parent households which are often in poverty. The city of Syracuse, which represents the majority of the consolidated sewer district, has been particularly hard hit by these socio-economic transitions. The median household income in the city was \$21,242 in 1989, two-thirds of the income for the county as a whole. Sewer rates represented 1.3 percent of median city income in 1992.

**User Fee Projections.** Given the uncertainties surrounding future O&M and capital costs, we have developed a range of rate forecasts. Factors affecting the rate scenarios are summarized in Table 23. Besides differences in the growth rates for the O&M and capital costs and the assumptions about the percent of the CIP which is funded, we looked at several debt financing plans. Debt is assumed to be used for 85 percent of capital spending (current revenue is assumed to fund the rest) and all loans are assumed to be structured to have equal annual payments and a 20 year term.<sup>19</sup> A separate bond issue is assumed used in each year to finance 85 percent of capital spending in that year (“cash-flow” financing).<sup>20</sup> We look at only GO bond financing since revenue bonds cannot be issued without the creation of a public authority. Since debt burdens would increase significantly under even the medium-low baseline estimate, it is possible that the county bond rating would be downgraded if all this debt were financed with GO bonds. We have looked at the case, under the medium-low estimate, where the GO bond rating is downgraded to ‘A’, and under the two high scenarios where the rating is downgraded further to ‘Baa’.<sup>21</sup> The resulting increases in interest rates are projected to be 25 basis points—6.0 percent to 6.25 percent.

Table 24 summarizes the sewer rate forecasts from 1996 to 2035 for the four different estimates of the baseline scenario.<sup>22</sup> Under the medium-low estimate, sewer rates rise at an annual rate of approximately 3.4 percent in nominal dollars and 1.1 percent per year in 1993 dollars. Rates reach \$382 per unit in 1993 dollars by 2020, almost 40 percent above the rate in 1995 (Figure 8). Relative to median household income, sewer rates reach 0.96 percent by 2020 and 1.09 percent by 2035 (Table 24 and Figure 9), which are considered on the border between low and medium rate burdens using EPA

guidelines. Under the medium-high estimate, real rates grow by 3.0 percent per year, reaching \$621 per unit in 2020 and \$991 per unit by 2035. Relative to median income, rate burdens climb to 1.56 percent by 2020 and 2.35 percent by 2035, considered medium to high burdens by the EPA. The nominal sewer rates estimated by the county in the January 1996 Draft MCP, \$1,256 in 2020, fall somewhere between our medium-high and high estimates.<sup>23</sup>

Under the high scenario, sewer rates will rise by close to five percent above the rate of inflation and will equal \$1,851 per year (\$1000 per year in 1993 dollars) by 2020. Relative to median household income, rates would take 2.5 percent of income in 2020 and 5.06 percent of income in 2035; both would be classified as very high rate burdens using EPA guidelines. With the low scenario, rates are projected to grow by 1.9 percent per year in nominal dollars and will actually decline by 15 percent once inflation has been taken into account. Relative to median income rates under the low estimate remain well below the one percent threshold during the whole period.

## Endnotes

1. More detailed information about revenues and expenditures in the six upstate counties is available from the authors upon request.
2. The low relative sales tax burden for Onondaga County is partially due to a lower tax rate than in Albany, Erie and Monroe counties. However, the fact that tax burdens are well below the state average is surprising given that the 3 percent rate in Onondaga County is shared by most counties in the state. To investigate this further we requested information from the New York Department of Taxation and Finance on sales tax disbursements to county governments. For 1993, \$146 million in sales taxes revenue was distributed to Onondaga County according to state tax department records. In contrast, the sales tax revenues of all governments in Onondaga County according to New York Comptroller data was only \$110 million.
3. Data for Syracuse recorded in FY 1994 only reflects a six-month period since the city changed it's fiscal year. We used half of the totals for 1995 in Syracuse to approximate the full 1994 fiscal year.
4. We will address the financial implications of a bond rating downgrade in a later section of this report when we forecast baseline capital expenditures (i.e., future county spending for wastewater facilities excluding capital expenditures require for lake remediation).
5. The county's user fees system "assigns one unit per single family residence and three-quarters of a unit for each multi-family residence. Nonresidential customers are assigned billing units based on proportional flows, with every 146,000 gallons of metered water demand or metered wastewater flow assigned a single billing unit." Financial Position Chapters, Onondaga County Draft Municipal Compliance Plan, September 1994.
6. Due to differences in category definitions and level of detail provided, it is difficult to provide a more detailed breakdown of the "other" category. It includes fees for non-employee services, travel and training, services provided by other departments or municipalities and automotive equipment, furniture and fixtures.
7. AMSA regularly surveys its 153 members to collect information on costs, demand and user fees. Survey response is commonly about two-thirds of these agencies. The full details of this survey are published in *The AMSA Financial Survey*, with the most recent for 1993. The O&M cost figures cited in the text are from a summary pamphlet published by AMSA called "The Cost of Clean".
8. A new plant should reduce corrective maintenance costs in the short-run. However, as regulatory requirements and technology change, both preventative maintenance and operating costs for chemicals and other supplies may rise even in a new plant.
9. The estimates are based on the assumption that the number of units served will grow at the same rate as population. Actual unit growth between 1979 and 1995 was 0.5 percentage points faster than population growth. The annual growth rate in units is

projected to be 0.4 percent. We will discuss forecasting assumptions in more depth later in the report. The January 1996 Draft MCP assumes that units, households and population do not increase in the future.

10. A detailed presentation of CIP information by treatment plant is available from the authors upon request. Data are organized by plant by assigning capital spending for pump stations and trunk sewers to a particular plant.
11. Before concluding definitively that there is systematic under funding, three other explanations of these large discrepancies should be examined. First, the actual capital spending figures in the CIP may not be accurate. Second, the CIP may simply serve as a “wish list” of capital projects which bears little resemblance to the essential capital needs of county departments. Department managers may ask for more funds than they need as a strategy to maximize the budget they receive. Finally, our comparisons of actual versus planned capital spending may overstate planned spending. Planned projects not funded in one year are likely to be recorded as planned spending in the CIP for the next year. Thus, a proposed capital project may appear as a planned expenditure in more than one year’s CIP. Concerning the latter two explanations for the capital spending gap, there is no way to confirm their validity without detailed tracking of individual capital projects and an assessment of district capital needs over the last decade.
12. The most recent version of the survey only collected information on requested capital spending, not debt service payments (AMSA 1993). It is not clear how Apogee converted the amounts contained in the capital spending plans into debt service payments or how existing debt service commitments for future years were determined.
13. For Onondaga County, we include a \$53 local retail charge for 1992 based on information in the MCP that this charge was \$60 in 1996. Since information on such charges is not available for other systems, they are not included (even though they may exist).
14. This approach also implicitly assumes that the shifting of business sewer rates onto households is in direct proportion to the sewer rates they already pay.
15. To calculate costs per household for Onondaga County, we needed to estimate the population and households in the service area. Using population estimates in the *1990 Census* for geographic areas in Onondaga County, we estimated the percentage of population, households, median income and area within the consolidated district. These estimates are clearly rough approximations and could benefit from more detailed information on the distribution of population within the county.
16. The rate estimates for all systems in the sample are available from the authors upon request.
17. The breakdown of flow by type of user was developed by the Department of Drainage and Sanitation and reported in the January 1996 Draft MCP.
18. An important task for the county is to determine the reasons for its relatively high sewer rates so it can better control them.

19. The assumption of 15 percent financing from current revenues is made based on looking at past capital spending patterns. We assume that no federal or state aid is available and that SRF loans are not used for baseline capital spending.
20. Apogee (1993b) looked at the costs of “cash-flow” financing (annual bond issues) compared to the issuance of fewer loans of larger size. In their analysis of these alternatives, they found cash-flow financing was slightly less expensive. To simplify our debt analysis, we assume that short-term construction financing is not necessary.
21. GO bonds are assumed to have underwriting costs equal to about 1 percent of the amount borrowed. Detailed presentation of loan components and a summary of debt service payments is available from the authors upon request.
22. Besides forecasting O&M and capital costs and developing different loan programs, we forecast the number of units and households and the median household income. We used the REMI forecasts of both population and per capita personal income for the baseline (non-remediation) case. Households are forecast using the population projections and estimated changes in household size from 1990 to 2010 developed by the Syracuse-Onondaga County Planning Agency and reported in the “County Growth and Infrastructure” report (p. A17) from Onondaga County (1990). Households are forecast to grow by a rate of 1.1 percent per year. Units are estimated assuming that they increase at the same rate as population; the average annual growth rate from 1996 to 2035 is 0.4 percent. Median income is forecast assuming that it grows at 82.5 percent of the rate for per capita income based on historical differences in the growth rates from 1979 to 1989; the average annual growth rate from 1996 to 2035 is 2.8 percent.
23. Included in both the county’s and our forecasts are the local retail charges which are estimated to be \$60 in 1996. We assume this charge will keep pace with the consumer price index over the next quarter century, which will put it at \$104 per unit in 2020. In contrast, the county assumes in its January 1996 Draft MCP, that the charge will rise to \$239 per unit by 2020.

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**Table 15. General Obligation Debt Ratings and Measures of Indebtedness: Onondaga County, Selected Other Central City Counties, and Moody's Median<sup>a</sup> County**

	<b>Rating</b>	<b>Direct Net Debt Per Capita (dollars)</b>	<b>Overall Net Debt Per Capita (dollars)</b>	<b>Direct Net Debt as Percent of F.V. (percent)</b>	<b>Overall Net Debt as Percent of F.V. (percent)</b>
<b>Median</b>	NR	324	1,397	0.7	2.5
Onondaga	Aa	604	1,245	1.7	3.5
Albany	A	477	1,430	0.9	2.8
Broome	A	403	723	1.2	2.2
Chemung	A	447	581	2.0	2.6
Erie	Baa1	292	1,259	0.9	4.0
Monroe	A1	532	1,396	1.4	3.6
Lancaster, PA	A1	105	702	0.3	1.7
Nashville/Davidson, TN	Aa	1,482	1,639	2.3	2.6
Fulton, GA	Aa	846	2,952	1.1	4.0
Bernalillo, NM	Aa1	261	1,126	0.5	2.3
Denver, CO	Aa	1,168	1,560	2.5	3.3
Pierce, WA	A1	49	1,014	0.1	2.3

<sup>a</sup>Median values are for counties with populations ranging between 250,000 and 999,999.

Source: Median values are from Moody's Investors Service, Public Finance Department, *1996 Medians*. Ratings and measures of indebtedness are from the *Moody's Municipal Credit Report* prepared in connection with each county's most recent issue of general obligation debt. The dates of the credit reports were: Onondaga, March 4, 1996; Albany, April 28, 1994; Broome, April 14, 1993; Chemung, June 9, 1994; Erie, October 25, 1995; Monroe, May 18, 1995; Lancaster, April 27, 1994; Nashville/Davidson, June 24, 1996; Fulton, September 9, 1995; Bernalillo, July 1, 1996; Denver, September 7, 1995; and Pierce, May 25, 1994.

**Table 16. Positive and Negative Factors Influencing Onondaga County's Debt Rating**

	Identified by:		
	Moody's	Standard & Poor's	Fitch
<b>Positive Factors</b>			
Moderate debt level	X	X	X
Quality of financial management	X	X	X
Strength, stability, diversity of economy	X	X	X
Unemployment level	X	X	X
<b>Negative Factors</b>			
Cost of lake remediation	X		X
Slower revenue growth and pressure on expenditures		X	
Slower economic growth		X	
Potential state and federal program and funding		X	
Downtown Syracuse economy			X

Source: Moody's Municipal Credit Report, March 4, 1996; Standard & Poor's Creditweek Municipal, February 26, 1996; and Fitch Public Finance Tax Supported: New Issue, February 26, 1996.

**Table 17. Financial Capability Assessment of Onondaga County  
Using EPA Rating Method<sup>a</sup>**

Indicator	Level	EPA Rating	EPA Score
Bond Rating	AA	Strong	3
Overlapping net debt as a percent property values	4.6%	Mid-range	2
Unemployment rate (1994) (Onondaga County rate minus national average rate)	-1.5%	Strong	3
Median household income (1989) (percent of U.S.)	100.1%	Mid-range	2
Property tax revenue as a percent of property value (all governments in county)	3.1%	Mid-range	2
Property tax collection rate	94.2%	Mid-range	2
Average score			2.3

<sup>a</sup>Based on financial capacity methodology developed in the draft report published by the EPA, *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development*, March 21, 1996.

Source: The bond rating and the municipal values are based on data in Moody's Investors Service, *Moody's Municipal Credit Report, Onondaga County New York*, March 4, 1996. The EPA ratings and scores are based on benchmarks contained in the EPA document, *Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development*, March, 1997, pp. 20-40.

**THE OUTLOOK FOR ONONDAGA COUNTY'S  
FINANCES: BASELINE SCENARIO**

**APPENDIX TABLES**

Provided upon request.

## **APPENDIX C**

### **ANALYSIS OF ONONDAGA COUNTY CAPITAL IMPROVEMENT PLANS**

Provided upon request.