Come Together:

An analysis of fire department consolidation in Milwaukee County's North Shore
ABOUT THE PUBLIC POLICY FORUM

Milwaukee-based Public Policy Forum – which was established in 1913 as a local government watchdog – is a nonpartisan, nonprofit organization dedicated to enhancing the effectiveness of government and the development of southeastern Wisconsin through objective research of regional public policy issues.

PREFACE AND ACKNOWLEDGMENTS

This report was undertaken to provide citizens and policymakers in Greater Milwaukee with an enhanced understanding of the fiscal and programmatic impacts of the decision to consolidate fire and rescue services in Milwaukee County’s North Shore. Report authors would like to thank officials from the North Shore Fire Department for providing us with fiscal and related information that was essential to the analysis conducted in this report, as well as for their assistance in responding to our questions and our requests for historical information. We also wish to thank the many former North Shore public safety, administrative, and elected officials who we interviewed for this report, as well as other fire department officials from Milwaukee County who we consulted for budgetary and service-level information.

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Impartial research. Informed debate.
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Executive Summary

Twenty years ago, leaders from Milwaukee County’s seven North Shore municipalities (Bayside, Brown Deer, Fox Point, Glendale, River Hills, Shorewood, and Whitefish Bay) made the bold decision to share fire and emergency medical services. Relinquishing local control, they created a consolidated department under a shared governance structure to replace their freestanding departments and serve the entire North Shore region.

This decision followed more than a decade of discussion and negotiation, and it was finally prompted by poorly coordinated responses to a pair of major fires and a threat from the City of Milwaukee to charge substantial fees for mutual aid. Despite concerns about equitable service levels and cost sharing, elected officials ultimately determined that consolidation would produce a higher level of fire and rescue services for a lower cost than would be possible if each community continued to provide those services on its own.

On the 20th anniversary of the creation of the North Shore Fire Department (NSFD), this report explores whether the consolidated department has delivered on that promise. Using budget documents and analyses from the past and present – as well as interviews with North Shore leaders who participated in the consolidation effort and who preside over the consolidated department today – we explore whether dollars have been saved and service levels have improved.

The first section of our analysis considers the demographic and economic changes that have occurred in the North Shore in the past 20 years and how those changes may have impacted demand for fire and emergency medical services (EMS). We find that while significant changes to the region’s demographics and economic conditions did not occur, changes in service demand were substantial. Most notably, the North Shore saw a substantial decrease (approximately 18%) in annual fire calls, which we attribute primarily to improvements in fire protection/prevention strategies and technologies; and an even bigger increase (approximately 56%) in EMS calls, which we attribute to various lifestyle factors, including the tendency of elderly individuals to live longer in the community and outside of nursing homes.

Next, we compare pre-consolidation fire and rescue services provided by the distinct municipalities in the North Shore with those provided by the consolidated NSFD. Important distinctions include a reduction in fire stations (from seven to five) and in fire and rescue vehicles (from 31 to 15). Personnel levels also are reduced, though the NSFD’s full-time, professional firefighting force contrasts with the extensive use of public safety officers (police officers who also had firefighting duties) and paid-on-call firefighters in several municipal departments prior to consolidation. Today’s NSFD also has 33 firefighters who are trained paramedics, as compared to 12 in the North Shore in 1994 – reflecting, in part, the increased demand for EMS.

Overall, we observe that despite deploying fewer resources today, the NSFD is providing a higher level of service. Not only is the department’s capacity to provide Advanced Life Support (ALS) service far more advanced in light of its greater number of paramedics, but it also has achieved a substantially higher “ISO” rating for its firefighting capability than any of the individual departments maintained prior to consolidation.

Our study concludes with a detailed analysis of the financial impacts of fire department consolidation in the North Shore. That analysis yields the following insights:
While data limitations preclude definitive conclusions, we find that four of the seven municipalities currently are paying less for fire and EMS services than they would have paid if consolidation had not occurred and their 1993 expenditures simply had increased at the rate of inflation. When we adjusted expenditure amounts to also reflect a level of service for each municipality that is associated with a full-time, fully professional fire department, we found that each of the North Shore municipalities is experiencing operating savings, and that for five of the seven, the savings are exceeding $250,000 annually.

Pre-consolidation municipal fire service expenditures adjusted for inflation and level of service vs. 2014 NSFD charges

- We also reviewed what similar-sized municipalities in Milwaukee County are paying for fire and EMS services and compared those expenditures to the annual NSFD charge for each of the North Shore municipalities. Again, we find that each of the North Shore municipalities likely is paying less today to receive a higher level of service than it would be paying if fending for itself, with the possible exception of Glendale.

- Another source of substantial savings is from fewer vehicle replacements because of the vastly reduced fleet of vehicles. We project that if each municipality had replaced vehicles owned prior to consolidation with new vehicles per existing replacement schedules, then collectively they would have spent up to $3.4 million more than the NSFD actually spent on vehicle purchases in the 20 years following consolidation. Savings for individual municipalities ranged from $199,000 for Whitefish Bay to $739,000 for Bayside.
In addition to these tangible findings, some general observations also emanate from our analysis of the impacts of North Shore fire consolidation:

- **The substantial increase in EMS calls during the past 20 years created a different set of service-level demands that likely could not have been met by the smaller individual departments on a cost-effective basis.** The increased need to respond to medical calls has created a much greater need for trained paramedics, which would have been very difficult for the smaller North Shore communities to accommodate had they maintained independent fire departments with largely volunteer staff. While those communities could have opted to purchase EMS from neighboring municipalities, their ability to be served by a consolidated department over which they have shared governance arguably is advantageous for their residents.

- **Each of the North Shore municipalities appears to be receiving a higher level of fire and rescue service than it could have achieved on its own, even if it was willing to pay more.** The operational advantages of a larger, consolidated department included the ability to set higher requirements for hiring (and thus recruit better-qualified staff) because of greater promotional opportunities; better deployment of resources because of multiple station locations; and uniform training and equipment, which are particularly advantageous during...
major incidents. It is likely no coincidence that the largest suburban departments in Milwaukee County – West Allis, Wauwatosa, and the NSFD – have the highest ISO ratings.

- **Concerns that typically are raised during functional consolidation discussions did not materialize in the North Shore.** Municipalities that engage in consolidation discussions often must overcome fears about a loss of local control over service provision and quality, and the related concern that some jurisdictions will demand and/or receive better service than others. In the North Shore, rather than driving a wedge between the different municipalities and producing resentment about service levels or loss of identity, the consolidation of fire and rescue services has encouraged leaders to pursue additional consolidation, including a consolidated dispatch center, public health department, and cable commission.

- **Both larger and smaller municipalities gave something up to benefit from the collective whole.** Several of the North Shore leaders interviewed for this report cited the willingness of the larger North Shore municipalities to accept a governance structure that gave each municipality one vote on the NSFD board – despite significant differences in population – as instrumental to the consolidation effort. According to these leaders, it engendered trust and goodwill among leaders of the smaller municipalities and encouraged them, in turn, to accept some level of risk that their service needs would be subsumed by their larger neighbors.

These findings and observations prompt us to wonder why – given the apparent benefits that resulted from North Shore fire consolidation – we have not seen a greater impetus for consolidation of other functions in the North Shore, such as police departments and school districts. A related question is why there has not been greater movement to consolidate fire and rescue services in other parts of Milwaukee County and the larger southeast Wisconsin region. In the weeks and months ahead, we plan to widely disseminate these findings in the hope of encouraging greater consideration of service sharing and consolidation among all of our local governmental bodies in Milwaukee County and in the region as a whole.
INTRODUCTION

A combination of strict property tax levy limits and increasing expenditure pressures has led many communities in Wisconsin to reconsider the manner in which they are providing municipal services. In particular, many are exploring ways to share or consolidate services with neighboring municipalities as a means of spreading costs across multiple jurisdictions while maintaining (or even enhancing) existing levels of programs and services.

In many of these cases, those pushing for the exploration of service sharing or consolidation have cited the experience of the North Shore Fire Department (NSFD), a consolidated department comprising seven municipalities in Milwaukee County. In fact, the NSFD has been cited in national and state studies as one of the pre-eminent examples of successful fire department consolidation (and municipal consolidation in general) in the United States.

But what do we really know about the success of the North Shore Fire Department? Have substantial dollars truly been saved and is the provision of fire and emergency medical services (EMS) markedly better than it otherwise would have been?

On the 20th anniversary of the creation of the NSFD, this report explores the department’s performance, both operationally and financially. In particular, we consider what fire and EMS services in the North Shore might look like and cost today if consolidation had never happened, thus providing a framework to assess the department’s success and to provide further insight into the merits of possible replication in other regions.

We begin by providing basic background on the factors that led to the NSFD’s creation. Next, we consider the demographic and economic shifts that occurred in the North Shore during the past 20 years – such as changes in population and housing – that should be considered in objectively assessing the pre-and post-consolidation fire and EMS service models. With that information as context, we then set out to compare pre-consolidation levels of service and costs with today's, and to explore what each North Shore municipality might have been paying for similar levels of service if consolidation never had occurred.

Service consolidation increasingly is seen as one of the best tools in the municipal toolbox for cities, villages, and towns that are struggling to maintain desired levels of services in an era of flat revenues and strong service demands. An optimal way to assess the promise of consolidation is to consider those communities that have taken that route. It is in that spirit that we consider the experience of the North Shore Fire Department, and examine what a consolidated department has meant to the pocketbooks and livelihoods of the residents of Milwaukee County's North Shore.
METHODOLOGY

This report is predicated on the challenging task of exploring the financial impacts of a decision made 20 years ago to consolidate seven municipal fire departments into a single North Shore Fire Department. The fiscal analysis requires consideration of municipal budgets from the early 1990s – a time when those budgets were not published electronically and when financial considerations regarding the provision of fire and emergency medical services were quite different. We also needed to take into account the operational characteristics of seven independent fire departments that ceased operations more than 20 years ago.

For our fiscal analysis, we relied upon data compiled and reported in two reputable analyses: a 1993 report by the TriData Corporation of Arlington, Virginia, which was hired by North Shore leaders to evaluate operational and financial issues and options associated with potential consolidation; and a 2002 report authored by Professor Sammis B. White of the University of Wisconsin-Milwaukee's Center for Urban Initiatives and Research, which analyzed the benefits of consolidation as of that time. Both reports are described in detail in the body of this report.

The TriData report also was our primary source of information for the non-financial characteristics of the seven independent fire departments that existed in the North Shore prior to consolidation, including the location and characteristics of fire stations, the fire and rescue vehicles housed at those stations, call and activity volumes, and fire response times. In addition, TriData information on operating characteristics was supplemented by information received from interviewing fire and municipal officials who served in the North Shore during the pre-consolidation era.

In fact, key informant interviews were a prominent part of our research methodology. Informants included not only current North Shore Fire Department officials (including the chief and finance director), but also current and past municipal and fire department officials from the North Shore, a current municipal fire chief from outside of the North Shore, and others who were involved with the discussions that ultimately produced the decision to consolidate. An additional tool was desk research into fire service and EMS trends nationally.

Specific methodologies used to estimate fire department costs and characteristics for the seven North Shore municipalities had consolidation not occurred are described in detail in each section in which such methodologies are utilized. In all cases, we explain that comparing an existing set of conditions to what might have been involves using a series of speculative assumptions. That is why, in several cases, we use data from national sources or other Milwaukee County fire departments to provide additional context. In the end, while the various analyses we conduct admittedly are imperfect, we believe that they provide valuable and fact-based insight into the fiscal and operational impacts that resulted from the creation of the North Shore Fire Department.
BACKGROUND

Discussions regarding fire department consolidation in Milwaukee County’s North Shore first began to percolate in the 1980s. Service sharing in the seven North Shore communities – Bayside, Brown Deer, Fox Point, Glendale, River Hills, Shorewood, and Whitefish Bay – already was occurring, primarily in the areas of public library and health services. While each of the seven communities had a desire to retain its own independent identity, it was also clear that they shared similar characteristics (as shown in Map 1 on the following page). As small or medium-sized suburban communities, each also faced similar challenges with regard to municipal budgets and service provision.

Prior to consolidation, each North Shore municipality operated its own fire station and maintained its own fire department, though only Shorewood and Whitefish Bay relied exclusively on full-time firefighting staff. The remaining five also used part-time, paid-on-call firefighters. In fact, the two smallest communities – River Hills and Bayside – used a combination of paid-on-call staff and public safety officers, who were responsible for both police and firefighting duties.

Despite their distinct identities, the seven North Shore fire departments worked closely with one another. They had longstanding agreements to provide mutual aid in the event of major fires, and each relied on Glendale for the most serious forms of emergency medical services, as that city ran the only Advanced Life Support (ALS) ambulance in the region. Communications also had begun to be consolidated, with Glendale, Whitefish Bay, and Shorewood sharing a joint dispatch center.

While cooperation was strong, however, making the leap to full consolidation was a formidable challenge, as there was strong sentiment in each of the communities to maintain full local control of public safety functions. In fact, the discussions that emanated in the 1980s may never have translated into action if not for a few decisive events.

Public Policy Forum played important role in North Shore Fire consolidation talks

In the 1980s, the Forum – then known as the Citizens’ Governmental Research Bureau – played an important role in initiating discussions on North Shore fire consolidation. This is not surprising given that Norman Gill – the organization’s director from 1945 through 1984 – was a resident of the Village of Fox Point.

In 1981, the Bureau produced a report recommending the formation of a joint Bayside-Fox Point fire department. While the recommendation was not implemented, it helped precipitate more serious discussions about larger consolidation. In the mid-1980s, when a special committee was formed by Glendale, Fox Point, Shorewood, and Whitefish Bay to consider the potential of a larger consolidated department, the Forum accommodated the use of one of its researchers (Chris Swartz, now the Village Manager in Shorewood) to staff the effort.

Key informants interviewed for this report recall that another critical contribution by the Forum was its assistance in identifying and securing outside assistance for a subsequent study committee that formed in the early 1990s. It was this committee – which included all seven communities – that ultimately developed the consolidated department plan.

First, the Forum received and sorted through proposals received from consultants after the committee issued an RFP for technical assistance to consider and evaluate consolidation options. This was done to ensure that no single community retained too much control over the vendor solicitation process. The Forum also helped secure an outside volunteer (the former head of Wisconsin Bell) to chair the committee meetings and a respected attorney to assist with facilitation. Several stakeholders interviewed for this report cite those facilitation efforts by neutral third parties as key to the study committee’s success.
Map 1: North Shore Community Characteristics

**Brown Deer**
- Population: 12,102
- Median Home: $159,900
- Area (sq. mi.): 4.4
- Equalized Value: $942,430,400

**River Hills**
- Population: 1,607
- Median Home: $630,900
- Area (sq. mi.): 5.3
- Equalized Value: $460,291,500

**Bayside**
- Population: 4,420
- Median Home: $318,200
- Area (sq. mi.): 2.4
- Equalized Value: $564,219,500

**Glendale**
- Population: 12,102
- Median Home: $206,500
- Area (sq. mi.): 5.8
- Equalized Value: $2,046,008,200

**Fox Point**
- Population: 6,740
- Median Home: $286,700
- Area (sq. mi.): 2.9
- Equalized Value: $1,059,864,500

**Whitefish Bay**
- Population: 14,122
- Median Home: $315,600
- Area (sq. mi.): 2.1
- Equalized Value: $2,018,898,700

**Shorewood**
- Population: 13,331
- Median Home: $291,500
- Area (sq. mi.): 1.6
- Equalized Value: $1,431,921,200
Perhaps the most significant were a pair of major fires that exposed serious weaknesses in the mutual aid system:

- The **Harrison Oil Company** fire occurred in Glendale in April 1990. The seven-alarm fire fed on more than 150,000 gallons of engine oil and kerosene and was fought by nearly 130 firefighters from a dozen municipal departments. It took more than eight hours to control the fire, which only occurred after the use of foam from a specialized truck from the General Mitchell International Airport fire station. According to newspaper reports, Glendale Fire Chief Norman Wichman acknowledged afterwards that the fire exposed both the high cost of coordination (Milwaukee later charged Glendale $170,000 for its assistance) and faulty radio communication. A Milwaukee Fire Department official added that many departments at the scene could not communicate with each other by radio, forcing chiefs to issue orders by shouting or sending messengers around the fire scene.

- Just over a year later, in May 1991, Whitefish Bay’s **Food Lane Grocery** caught fire, once again requiring the assistance of neighboring departments to combat the blaze. Eleven suburban departments fought the fire, which completely destroyed the building. In a report released four months later, Chief Wichman (who at the time also was acting fire chief in Whitefish Bay) concluded that the damage might have been contained had firefighters and officers at the scene been trained to the same standards and correctly followed standard policies and procedures. Problems included lack of training in the proper use of hoses, nozzles, and self-contained breathing apparatus.

Subsequent fires at a large residence in River Hills and at the White Oaks apartment complex in Bayside further exposed not only the weaknesses of reliance on mutual aid, but also the inability of small, inadequately trained, and largely volunteer fire departments in those two municipalities to handle large fire events.

A second precipitating factor involved a 1992 decision by the City of Milwaukee to charge other municipalities for mutual aid response at a rate of $25,000 per hour. Previously, most of the North Shore communities received assistance from two City of Milwaukee fire trucks free of charge for the first two hours associated with an incident, with any extra assistance priced at $3,200 per hour.

The increased charge from Milwaukee not only created financial challenges (particularly for the smaller communities), but also made it likely that the larger North Shore departments in Shorewood, Glendale, and Whitefish Bay themselves would need to begin to charge the smaller communities for mutual aid. This change, therefore, added a financial incentive to the operational imperative that had begun to emerge for all of the municipalities to consider a consolidated department that could provide the type of high-quality fire and rescue services that it had become exceedingly difficult and expensive for each department to provide on its own.
Shortly thereafter, following a series of discussions and studies by and among the individual North Shore communities, the communities jointly formed the North Shore Fire Services Study Committee to consider a variety of consolidation options. In 1993, that Committee contracted with the TriData Corporation of Arlington, Virginia, to provide technical support, including an evaluation of operational and financial issues connected with consolidation. TriData’s initial study looked at five alternatives (including maintaining the status quo), and concluded that “consolidation would provide a single fire department that could operate more efficiently and more effectively than the seven individual fire departments, even with the mutual aid system that currently exists.”

Based on the initial study, the Fire Services Study Committee agreed to work towards an agreement for full consolidation. The North Shore Fire Department was officially created effective January 1, 1995, with the signing of an intergovernmental agreement by the seven North Shore communities. That agreement covered issues ranging from the financing of the new department, to the disposition of existing equipment and buildings, to governance. Among its central provisions were the following:

- **Equipment.** An independent appraiser was secured to value all equipment. The new department then purchased what it needed from individual municipalities, with unneeded equipment retained by each municipality to dispose of as it wished.

- **Facilities.** The municipalities agreed to transfer custody, use, and control of five fire houses to the consolidated department, but not ownership (the stations were to be rented by the NSFD at agreed-upon rents). The two remaining stations in Bayside and River Hills – which did not have sleeping quarters – were to be closed. Also, the agreement stipulated that as soon as possible (but supposedly within five years), a new station that would better serve Bayside, River Hills, and Fox Point would be built to replace the Fox Point station. That station subsequently was constructed in Bayside and opened in 2004.

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**CUIR Paper provides rich history of factors that led to NSFD consolidation**

A 2002 report authored by Professor Sammis B. White of the University of Wisconsin-Milwaukee's Center for Urban Initiatives and Research (CUIR) describes the NSFD consolidation as a case study of municipal service consolidation. The author notes that while consolidation intuitively should offer financial benefit to municipal governments, “it seldom happens beyond the sharing of specific pieces of DPW equipment, library resources, or mutual aid on fire suppression.”

The study presents a compelling history of the fire consolidation process in the North Shore and why this effort succeeded where others failed. Dr. White interviewed several key participants and his report summarizes the factors that led the seven North Shore communities to enter into serious discussions. He identifies other important players, including the fire unions and the Public Policy Forum, which helped facilitate the process. The study also compares expenses for fire protection before and after consolidation.

The report concludes “Consolidation of fire services for these seven communities has brought numerous benefits, including monetary savings, much higher quality service, and greater cooperation. The road to these rewards was not without its bumps. Time, effort and political courage are required to make it work.”

• **Personnel.** All firefighters were given the opportunity to apply to the new department and receive the same salary they had previously been receiving if they were hired. Also, a new fire commission comprised of one representative from each of the seven communities was created to oversee all personnel issues.

• **Governance.** The agreement created an NSFD governing board comprised of the top elected official from each of the seven communities. Consequently, each community received one vote despite differences in population – a move that those interviewed for this report viewed as a critical compromise by the larger communities that generated considerable goodwill among the smaller communities and allayed their fears of having their needs subsumed by their larger neighbors.

• **Funding Formula.** The agreement created a funding formula for the NSFD's annual operations that was based on a calculation that equally weighed population, equalized property valuation, and usage. The agreement also contained cost-control language limiting annual increases in operating and capital budgets.
Changes in Population and Service Calls

To assess the fiscal and operational performance of the NSFD and consider "what might have been" if consolidation had not occurred, it is important to consider the demographic and economic changes that have occurred in the North Shore in the past 20 years, as those may have impacted the demand for fire and emergency medical services. In this section, we analyze such changes, using data both from the U.S. Census and the TriData study. We then analyze the volume of fire and EMS calls since consolidation occurred and how demographic changes may have impacted call volumes.

Demographic and Economic Changes

Because the North Shore communities were largely "built out" by 1995, dramatic changes to the region's demographics and economic conditions would not have been anticipated. Our review of relevant data shows that is indeed the case.

The total population of the North Shore communities declined slightly from 1993 to 2014 (4%), as shown in Chart 1.

Chart 1: Population trend in the North Shore, 1993-2014

![Population trend in the North Shore, 1993-2014](image)

Total North Shore population declined by 4% from 1993 - 2014

Source: U.S. Census

1 Because we rely heavily on data from the 1993 TriData report for our pre-consolidation figures, we typically use 1992 or 1993 as the starting point for our trend analyses (as opposed to 1994, which was the year immediately preceding consolidation). In other cases, where we use Census data, we often start our analysis with data from 1990.
Chart 2 shows that most North Shore communities saw slight decreases in population. The largest decline occurred in Glendale, where population decreased by 1,100 (8%). Whitefish Bay is the only North Shore community that saw an increase in population.

Chart 2: Population changes by municipality, 1993 vs. 2014

Despite the 4% decline in the region's population, the number of housing units in the North Shore increased from 28,830 in 1990 to 29,170 in 2013 (3%). Chart 3 shows the changes in the number of housing units that took place during this period in each of the seven municipalities. Most communities experienced very little change. The largest change occurred in Brown Deer, which saw its housing units increase by 422 (8%). Glendale also saw a sizable increase (364 units, or 6.3%), which may be attributed, in part, to the opening of the Bayshore Town Center in 2006, which contains more than 100 residential units.
When considering demand for EMS, the number of elderly residents among the general population can be an important determinant. Chart 4 shows mixed trends among the seven communities with regard to residents age 65 and older. Overall, the population of citizens age 65 and older declined from 17.3% of the North Shore population in 1990 to 16.7% in 2013.
The elderly population is impacted, in part, by the number of nursing homes housed in each community. As shown in Chart 5, in the past 20 years, there has been a significant decline in the number of nursing home services available to North Shore residents. In 1995, Milwaukee’s North Shore suburbs had seven state-licensed nursing home facilities with 1,622 beds. Now, the North Shore only has three nursing home facilities and 332 beds, a decline of 80%. In addition, the average nursing home in the North Shore has about 50% fewer beds (110) than it did 20 years ago. The substantial reduction in nursing home beds in the North Shore – coupled with the small total reduction in the percentage of elderly residents – means there are a greater number of elderly residents living in the community, which can have an impact on EMS calls.

**Chart 5: Nursing home facilities and beds in the North Shore, 1995 vs. 2015**

![Chart 5](chart5.png)

Source: Wisconsin Department of Health Services

The type of development that occurs in a community also can have an impact on both fire and EMS service demand and preparedness, as the development of large industrial or commercial structures can create the need to have specialized capabilities and can dramatically increase the weekday work population. Chart 6 shows that commercial property has grown as a percentage of total developed property in the North Shore since 1993, from 21.2% to 23.1% (measured by equalized value). The increase in square footage at Bayshore Town Center again accounts for some of this increase. Industrial development, which can present unique challenges to fire suppression, declined as a percentage of the total, from 2.3% to 1.0%.
**Chart 6: Mix of development in the North Shore as a percentage of total equalized value, 1993 vs. 2014**

<table>
<thead>
<tr>
<th></th>
<th>Commercial</th>
<th>Industrial</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>20%</td>
<td>5%</td>
<td>75%</td>
</tr>
<tr>
<td>2014</td>
<td>15%</td>
<td>7%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Sources: TriData Study, Wisconsin Department of Revenue

**Changes in Demand for Service**

Given that the changes in the North Shore's population and development were relatively insignificant, it would be logical to assume that the demand for service over the 20-year period would be relatively constant. Service demand can be influenced by a host of additional factors, however, including technological or lifestyle changes.

**Chart 7** compares fire calls by municipality as reported in 1992 and in 2013. The data suggest an 18% decline in fire calls. The premise that there would have been a decline in fire calls over the two decades was not surprising to officials we interviewed, who cited newer technology that reduces the number of false alarms, updates to building and electrical codes, and increased public education about fire prevention. It also should be noted, however, that this finding is skewed by an anomaly with the data for Whitefish Bay; the substantial decline in calls in that municipality (from nearly 500 to about 200) was caused, in part, by the fact that the 1992 fire calls included both calls that resulted from fires in Whitefish Bay and calls related to fires in other communities that prompted a mutual aid response by the Whitefish Bay Fire Department. Consequently, the 1992 call total in Whitefish Bay was artificially inflated, though we cannot determine by how much.
Comparing pre- and post-consolidation EMS calls reveals a different trend. Here we see that calls for service have increased by a large margin over the past two decades, as shown in Chart 8.

Sources: TriData Study, NSFD
Since the general and elderly populations in the North Shore have not increased, this increase of more than 50% in EMS call volume is difficult to explain, at least at first glance. Particularly perplexing is the doubling of EMS calls in Glendale.

Fire officials we interviewed suggested that social factors and changes in provision of medical services must be considered. Over the past 20 years, people have become more habituated to calling 911, often for minor medical issues. Another factor is that people are living longer and are more likely to stay in their own homes as opposed to a nursing home or similar institution, which increases dependence on EMS services. Our finding that nursing home beds in the North Shore have decreased at a far greater pace than the decline in the elderly population supports that contention.

With regard to the huge spike in calls in Glendale, we cannot rule out discrepancies in the data that were reported from 1992. However, fire officials also suggest that the increased number of elderly residents living outside of institutions in that community – as well as the development of the Bayshore Town Center and other commercial development in that city – may have contributed to a real increase in calls.

As shown in Chart 9, survey data from the National Fire Protection Association\(^2\) indicate that across the country, the percentage of fire department calls linked to a need for medical aid (as opposed to fires, hazardous materials, mutual aid, etc.) has increased steadily during the past two decades, also supporting the trend observed in the North Shore. Nationally, about 68% of the calls that come into fire departments are for medical aid. Latest data from the NSFD (encompassing the first six months of 2015) show that 72% of the department's calls are for EMS.

Again, it should be noted that there are several nuances that may call our comparison of pre- and post-consolidation fire and EMS calls into question. We cannot determine conclusively how the 1992 TriData numbers used in our charts were compiled and whether there were efforts to eliminate issues like double-counting. However, after a review of 1995 NSFD call data, we believe that such issues do not substantially cloud our comparison. Data provided by NSFD show that in its first year of operation in 1995, the department received a total of 5,166 calls for service, of which 1,635 were fire calls and 3,531 were for EMS. Those figures approximate the 1992 collective call figures cited by the TriData study (4,984 total calls, of which 1,796 were for fire and 3,188 for EMS). Hence, we can conclude that the 1992 compilations likely had a reasonable degree of accuracy.

**Summary**

Overall, while limitations associated with call volume data preclude definitive conclusions, it stands to reason that the North Shore would have seen a decrease in fire calls during the past two decades given improvements in fire protection/prevention strategies and technologies; and that it would have experienced a substantial increase in EMS calls in light of the factors cited above. The NSFD’s response to these developments has had some fiscal implications that need to be considered when we compare pre- and post-consolidation fire and EMS expenditures later in this report.
Changes in Fire and EMS Operations

This section contrasts the North Shore’s pre-consolidation municipal fire protection service model with the consolidated NSFD in 2015. Our primary means of comparison are analyses of stations, personnel, and apparatus, using pre-consolidation data from the TriData study and interviews with fire and municipal officials who served prior to consolidation. We also consider mutual aid and communications, both of which are extremely important to fire and EMS response.

Fire Stations

Prior to consolidation, each of the seven municipalities operated its own fire station. That contrasts with today’s NSFD, which operates five stations. As mentioned previously, four of those stations were inherited during the consolidation process from Glendale, Shorewood, Whitefish Bay, and Brown Deer (that station was under construction when consolidation occurred in 1995). The Fox Point station originally was part of the NSFD, but when the department built a new station in Bayside in 2004, the Fox Point fire house was closed. Map 2 on the following page details the location of fire stations in the North Shore (both current and pre-consolidation).

By consolidating the number of stations from seven to five, the NSFD was able to substantially reduce operating costs for both apparatus and personnel. (These savings are described in more detail in the following section.) The reduction in the total number of stations also reduced facility costs associated with building maintenance and utilities. In addition, the NSFD minimized its future liability for building replacement, as well as for upgrades to major building systems such as roofs and HVAC.

A concern that typically emerges when communities consider a reduction in the number of stations is that response times will be adversely impacted. This concern also arose during deliberations on a consolidated fire department for the North Shore and it was discussed at length in the 1993 TriData study.

The TriData study cited maximum response times in 1992 of three to four minutes in Shorewood, Whitefish Bay, and most of Fox Point and Brown Deer. Some areas of Fox Point near the lakeshore were estimated to be in the five-minute range, as were some areas of Glendale (though it was noted that units from Whitefish Bay, Shorewood, or Fox Point likely could reach those parts of Glendale in less than five minutes and ostensibly would in the event of major incidents because of automatic response agreements). The Tri-Data report also noted a "built-in delay" in response times for Bayside and River Hills because those stations were not staffed. (At those stations, an engine did not leave until a crew was called, arrived, and assembled, which considerably lengthened response times.)

Efforts to compare the TriData estimates to current NSFD response times are complicated by uncertainty regarding how response times were defined by the TriData analysts. Today, it is common to measure response times from the time a call is received by a Public Safety Answering Point (PSAP), from the time the department is notified by the dispatcher, and from the time it takes the first responding fire truck to travel from the department to the emergency location. It is difficult to know for certain which methodology the TriData report used, but conversations with fire officials indicate a high probability that those times reflected only the travel times from each fire department to the emergency location.
Map 2: Disposition of North Shore Fire Stations

- Current Fire Stations
- Closed/Relocated Fire Stations

Administrative Headquarters Station #31
Bayside Station
Community Risk Reduction Bureau Station #95
Fox Point Station
River Hills Station
Battalion Headquarters Station #82
Station #84
Station #83

Brown Deer
River Hills
Glendale
Fox Point
Whitefish Bay
Shorewood
Assuming that is the case, we can compare the TriData estimates to *average* travel times in the North Shore today. Data received from NSFD indicate the average travel time was 3 minutes and 10 seconds in the first six months of 2015, which appears to compare favorably with pre-consolidation conditions. Two of the municipalities with the shortest travel response times prior to consolidation (Shorewood and Whitefish Bay) retained their stations, so their travel times should not have changed. While the reduction in the number of stations may have lengthened travel times in isolated situations in some municipalities, the notion that travel times across the entire service area are in the same range or improved is consistent with the original speculation of the TriData report, which opined that even a four-station configuration "would provide initial response within four minutes for the great majority of the combined service area."

**Personnel**

In 1995, five of the seven municipalities employed paid, full-time firefighting personnel. River Hills and Bayside used a combination of Public Safety Officers (PSOs) – i.e. police officers who also had firefighting duties – and Paid-on-Call (POC) firefighters who reported to duty only when needed. Fox Point, Brown Deer, and Glendale (though to a far lesser extent) also utilized POCs to supplement their professional firefighting forces.

**Chart 10** shows the breakdown of paid, full-time professional firefighting staff (including command staff) and other firefighting staff (i.e. paid-on-call and public safety officers) among the seven North Shore municipalities immediately prior to consolidation.

**Chart 10: Pre-consolidation fire department staffing in the North Shore**

![Chart 10: Pre-consolidation fire department staffing in the North Shore](chart.png)

Source: TriData Study
In order to assess how staffing levels differ today from the pre-consolidation era, we needed to convert PSOs and POCs to an equivalent of a full-time firefighter. We assume that each PSO spent six hours per week on fire duties, which translates to 15% of a full-time equivalent (FTE) firefighter; and that each POC employee worked eight hours per month, which equates to about 3% of a full time firefighter. Those assumptions were reviewed and deemed reasonable by fire chiefs we interviewed.

Using those assumptions, Chart 11 shows pre-consolidation staffing levels broken down by command staff, firefighters/EMTs, and administrative staff, and compares those staffing levels to NSFD staffing in 2015.³ We see that there was a reduction of 10 full-time equivalent firefighters/EMTs in the North Shore between the pre-consolidation era and today (from 80 to 70), while command staff was reduced by three, from 34 to 31.

The chart also shows that six administrative FTEs currently are employed by NSFD. The need for administrative staff resulted from the creation of an independent department that is not housed in any single municipality. Prior to consolidation, administrative functions related to each department still needed to occur; however, those typically were handled by municipal staff, such as the village or city administrator or finance personnel. Other administrative tasks also may have been handled by the chief or highest-ranking commander. Consequently, no administrative FTEs are reflected for pre-consolidation in the table, as none of the departments directly employed such staff at the time.⁴

Chart 11: Fire department personnel by category, pre-consolidation vs. 2015

<table>
<thead>
<tr>
<th>Category</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command Staff</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>Firefighter/EMTs</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>

Sources: TriData Study and Public Policy Forum analysis

³ The numbers shown for firefighters/EMTs do not distinguish between those firefighters who also have been trained as paramedics and those who have not.
⁴ We would deem both the reflection of no pre-consolidation administrative FTEs in Chart 11 and our omission of pre-consolidation administrative costs from fiscal estimates in the next section as quite conservative, as extensive administrative costs for fire/rescue services were incurred prior to consolidation in each municipality for functions ranging from legal, to human resources, to budget/accounting.
While the North Shore now has 10 fewer firefighter/EMT FTEs than it did prior to consolidation, that does not necessarily mean that service levels have diminished. The shift away from PSOs and POCs to a full-time, professional firefighting staff has many advantages, including better training and preparedness and a quicker response. Of course, that advantage accrues more to Bayside and River Hills, which did not have any full-time firefighting resources prior to consolidation, than to Shorewood, Glendale, and Whitefish Bay, which had a professional firefighting model in place at that time.

One other important change that would have impacted the quality of staffing is the increase in the number of ALS ambulances. Prior to consolidation, there was only one ALS unit in operation, run out of the Glendale Fire Department. Based on ALS staffing, the number of paramedics at that time likely would have been around 12. Today, the NSFD runs three ALS ambulances and a fourth BLS ambulance. Of the 70 full-time firefighters, 33 are paramedics. This shift has provided a higher level of pre-hospital emergency care to North Shore residents than was available before consolidation, though the increased salary levels for paramedics also have produced greater costs per FTE.

Digging further into personnel differences, we see some important organizational changes in command structure. As shown in Chart 12, consolidation produced a reduction in lieutenants and captains, but the addition of five positions of battalion chief. (It should be noted that the two chief/deputy chief positions reflected in the pre-consolidation column were in Glendale and Brown Deer; the Whitefish Bay department had a vacancy when consolidation occurred, and the remaining four municipalities had their police chiefs double as fire chiefs.)

**Chart 12: Command structure, pre-consolidation vs. 2015**

Sources: TriData Study and NSFD
Prior to consolidation, lieutenants served as first-line supervisors but also were charged with incident command when a captain or the chief was not on duty. The addition of battalion chiefs addresses one of the concerns raised in the TriData study, namely that a high-ranking and experienced officer should be available to serve as incident commander. In addition, NSFD and North Shore Fire Commission officials indicated in interviews that the existence of five senior command positions (outside of chief and deputy chief) is important as a means of opening up promotional opportunities within the department, which helps with recruits who have ambitions to advance to senior positions within the department.

Finally, several interviewees suggest that the existence of dedicated administrative staff has allowed NSFD to move beyond managing immediate operations to a focus on higher organizational issues, such as planning, quality improvement, communications, and public education. In addition, the purchase of equipment and supplies in bulk by administrators at a single, consolidated department may produce cost savings that would not have accrued when seven individual departments made such purchases on their own.

**APPARATUS**

Prior to consolidation, each of the seven North Shore municipalities owned and maintained its own fire and EMS vehicles, also known as "apparatus." The major vehicles owned by the departments were pumpers, ladder trucks, ambulances, and tankers. The following are brief descriptions of each type of vehicle and their estimated replacement cost.

**Pumper**

A pumper truck, also known as an engine, is specially equipped to pump water at the site of a fire. These trucks carry between 500-1,000 gallons of water for a rapid fire attack until a dedicated water supply is established. Pumpers carry thousands of feet of fire hose, nozzles, hose couplings, and other equipment. The current estimated cost is $465,000.
Ladder

A ladder truck consists of multiple ground ladders of varying length and purpose; an aerial ladder used to reach elevated levels; rescue equipment for forcible entry; and numerous power tools. Ladder trucks are the most costly fire vehicle and currently cost about $900,000.

Ambulance

Ambulances are equipped with medical equipment for the administration of acute emergency care while sick or injured individuals are being transported to a hospital. The current estimated cost of a new ambulance is $200,000.

Tanker

A tanker, also known as a tender, is a specialized firefighting apparatus designed for transporting water from a water source to a fire scene. Tankers have the ability to extract water from hydrants, lakes, or streams. Tankers typically are used when there is no working fire hydrant within reach and to support other ladder trucks during fire incidents. The current estimated cost of a tanker is $200,000.

Chart 13 compares the number and types of apparatus owned collectively by the seven fire departments just prior to consolidation with the NSFD fleet in 2015. This comparison shows that almost half (15) of the 31 vehicles formerly housed across the North Shore have been eliminated, which is one of the most noteworthy impacts of consolidation.
The substantial reduction in apparatus (from 31 to 16 vehicles) reflects both the elimination of two stations and the consolidated department’s ability to dramatically reduce the number of reserve vehicles needed to serve the North Shore. While first-line vehicles also were reduced (especially pumper trucks and ambulances), the number of reserve vehicles declined even more substantially, from 10 to four. This reduction was possible because rather than needing to maintain seven sets of reserve apparatus, the NSFD can get by with only one set. This winnowing of apparatus has reduced both maintenance expenses and future replacement costs.

**Mutual Aid vs. Consolidated Response**

Mutual aid is a way for departments to call on resources of surrounding jurisdictions when an incident exceeds the resources of a single fire department. It is a common practice for fire departments throughout the country and can be expanded both regionally and across state lines in the case of large-scale fires. Prior to 1995, the seven North Shore municipalities requested and provided mutual aid to one another on a regular basis. As described earlier in the report, mutual aid also was received from Milwaukee and other nearby municipalities for major fire events.

With consolidation, this system of mutual aid within the North Shore was replaced with a unified response by a single department. To an outside observer, the difference may not be apparent. However, a unified response has several advantages over mutual aid, including the following:

- At the scene there is a clear command structure.
- All of the equipment is compatible.
- The firefighters have had the same training on a single set of procedures.
• The department is able to redeploy on-duty staff when a station is emptied rather than calling in off-duty firefighters on overtime.

The NSFD still participates in a larger mutual aid system that it can access for incidents that challenge its own capacity (this agreement also requires the NSFD to aid other departments for such incidents). That system is known as the Mutual Aid Box Alarm System (MABAS), which encompasses fire departments in 51 Wisconsin counties that provide mutual aid to each other when requested.\(^5\) There is no charge for equipment, personnel or services provided under MABAS by one municipality on behalf of another, and any revenues recovered are equitably distributed.

Communications also are critical to emergency response. During a major incident, consolidated communications eliminate the need for multiple aid calls and responses. A single dispatch center also is able to monitor and support the response, helping to coordinate resources. In 1995, fire communications were partially consolidated into three public safety answering points, or PSAPs. Complete consolidation of NSFD communications occurred more recently, in 2012, with the opening of a fully consolidated North Shore dispatch center in Bayside.

**Summary**

Comparing the levels of fire and EMS personnel, infrastructure, and cooperation that were in place just prior to consolidation with today's levels, we observe that the NSFD is able to deploy fewer resources while maintaining and even improving service levels. The number of stations, apparatus, and PSAPs have decreased. Total personnel have not changed substantially, but the shift to more command and administrative positions arguably has improved the effectiveness of the organization. The higher number of paramedics also has improved responsiveness to medical emergencies. Response times appear to be within the same range and coordination at major fires appears to be substantially improved. Other non-tangible improvements are a fully professional force, improved training, a more experienced group of commanders, and greater back office administrative support.

Overall, while it is difficult to make an apples-to-apples comparison of service levels in the North Shore before and after consolidation, it is worth noting that the NSFD has achieved one of the highest possible ratings from the Insurance Services Office, Inc. (ISO). ISO provides information about property/casualty insurance risk to the insurance industry, including an "ISO rating" that is used by some insurance companies to assess the ability of local fire departments to provide fire protection services.

The ISO rates departments on a scale of 1 to 10, with a rating of 1 indicating superior service capacity, and a rating of 10 indicating failure to meet ISO's minimum criteria. Only about 60 departments across the country have achieved a rating of 1, while about 450 have achieved a rating of 2. The NSFD's rating for that portion of its service area served by municipal hydrants is a 2, making it one of only three departments in Milwaukee County to achieve that high a rating (West Allis and Wauwatosa also have 2's). Prior to consolidation, each of the North Shore communities served by municipal hydrants had ISO ratings of either 4 or 5. Also, the portion of the North Shore service area not served by hydrants has received an ISO rating of 4, which is an improvement from the rating of 7 for those areas prior to consolidation.\(^6\)

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\(^5\) MABAS was initiated in Wisconsin in the 1980s as a means of ensuring back-up for individual fire departments in situations where their resources are stretched because of a severe or long-lasting emergency.

\(^6\) North Shore residents who purchase homeowners insurance from companies that use ISO ratings as a basis for determining insurance rates likely received a savings in their premiums as a result of the lower ISO ratings.
Financial Impacts

The previous section describes the physical and operational changes that have taken place with respect to fire department services in the North Shore during the past 20 years. In this section, we explore the financial impacts associated with fire department consolidation.

With regard to operating budgets, our challenge is to explore how much each of the seven North Shore municipalities would be spending for fire department services if consolidation had not occurred. An appropriate comparison requires not only the use of inflationary adjustments to the cost of pre-consolidation fire and EMS services, but also consideration of how much each municipality would be spending to obtain a level of service that is comparable to that which the NSFD is providing today. For those municipalities whose workforces did not contain full-time, professional firefighters, that requires some speculation on our part.

We conduct our analysis first by adjusting pre-consolidation expenditures to today’s dollars, and then by using a series of assumptions to adjust inflation-adjusted expenditure levels to reflect the higher level of service in place for several of the municipalities today. To provide additional context, we also consider fire and EMS expenditures in other Milwaukee County suburbs, and compare what those municipalities are currently spending to the current charges that each of the North Shore municipalities is paying to NSFD. By considering the results of both methodologies, we can draw some conclusions about the financial impact of consolidation.

On the capital side, we start with the inventory of apparatus for each of the seven municipal departments just prior to consolidation and estimate – based on typical replacement cycles – the timing and cost of vehicle replacement that would have occurred. We then compare those hypothetical replacement costs with actual NSFD vehicle replacement costs for the 20-year timeframe. Again, this analysis requires several assumptions, which are explained later in this section.

Overall, it is important to recognize that any effort to compare current NSFD costs to those that would have been incurred without consolidation will be imperfect. For example, in response to heightened demand for EMS (as well as changes in how Milwaukee County reimburses municipalities for paramedic training), the NSFD has made a concerted effort to hire firefighters who also are licensed paramedics. Such firefighters command a higher salary than regular firefighters. There is no way of knowing whether a similar approach would have been taken by each municipality – or just how they would have handled the increase in demand for EMS – had consolidation not occurred.

There are several additional factors that need to be considered when comparing fire and EMS expenditures 20 years ago with those occurring today, including the following:

- While we know that the current NSFD charges to each municipality are based on a “net” NSFD expenditure budget that subtracts EMS and other revenues from total costs, it is impossible for us to determine whether and to what extent that is the case for the pre-consolidation expenditure budgets used in our analysis. The answer to that question may be different for each municipality, but we were unable to obtain the historical budget documents that would be required to reach a definitive conclusion.
Similarly, it is unclear how and whether the municipalities may have budgeted capital expenditures in their respective operating budgets in the pre-consolidation era. We do know that the NSFD fire charge includes expenditures on routine building repairs and vehicle and equipment maintenance, while larger capital expenditures to purchase or replace vehicles and address major facility-related issues are included in a separate capital budget. Consequently, our comparison of pre-consolidation fire and EMS expenditures to current NSFD charges may not be precise.

Significant changes have occurred in the manner in which Milwaukee County shares costs and revenues with municipal fire departments under the countywide EMS system. For example, whereas EMS reimbursement revenues from Medicare, Medicaid, private insurance, and individuals formerly were collected by the County and redistributed to individual departments, individual departments now collect and retain their own revenues. Also, the County's annual support paid directly to municipal departments to offset the cost of EMS services has declined over time. These and other changes have impacted net EMS expenditures in the North Shore in ways that have nothing to do with consolidation or service levels.

Significant changes have occurred with regard to availability of hydrants. In 1994, both Bayside and River Hills relied almost exclusively on wells, which meant that the NSFD needed to be equipped with tanker trucks to provide water to fight fires in those communities. Today, a sizable portion of Bayside has converted (or is in the process of converting) to municipal water, thus lessening that need.

The construction of Bayshore Town Center to replace the previous Bayshore Mall has impacted both service demand and preparedness in numerous ways. For example, the replacement of older structures with newer buildings may have diminished the number of false alarms and fire incidents. Conversely, the increased number of residences and patrons at the new complex may have created a greater overall demand for services and preparedness.

Comparison of Current NSFD Charges with Adjusted Pre-Consolidation Operating Expenses

To determine how much the North Shore communities are spending annually on fire department operations today as compared to pre-consolidation, we first needed to determine annual operating expenditure amounts for each community prior to 1995. To do so, we used 1993 budget data collected by Professor Sammis B. White at UWM's Center for Urban Initiatives and Research for his 2002 study (described earlier in this report).7

In Table 1, we show 1993 expenditure budgets for each community as well as inflation-adjusted amounts that have been converted to 2014 dollars using a Consumer Price Index (CPI) for urban consumers in the Midwest region.8 We also show the charge levied to each North Shore municipality

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7 It should be noted that the expenditure amount for Bayside was derived by taking 15% of the combined police and fire budget, as that community used public safety officers to handle both police and fire department functions.

8 Inflation numbers were derived using the inflation calculator provided on the Bureau of Labor Statistic’s website. http://data.bls.gov/cgi-bin/cpicalc.pl
for its share of NSFD net operating expenditures in 2014 per the allocation formula approved by the NSFD Board. Capital expenditures are charged separately and are discussed later in this section.

**Table 1: Inflated pre-consolidation municipal fire service expenditures vs. 2014 NSFD charges**

<table>
<thead>
<tr>
<th>Municipality</th>
<th>1993 Budget</th>
<th>2014 Inflation Adjusted</th>
<th>2014 NSFD Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>165,000</td>
<td>270,321</td>
<td>720,480</td>
</tr>
<tr>
<td>Brown Deer</td>
<td>1,143,476</td>
<td>1,873,370</td>
<td>2,055,692</td>
</tr>
<tr>
<td>Fox Point</td>
<td>869,795</td>
<td>1,424,995</td>
<td>1,198,088</td>
</tr>
<tr>
<td>Glendale</td>
<td>2,062,636</td>
<td>3,379,240</td>
<td>3,272,373</td>
</tr>
<tr>
<td>River Hills</td>
<td>151,183</td>
<td>247,685</td>
<td>341,647</td>
</tr>
<tr>
<td>Shorewood</td>
<td>1,881,666</td>
<td>3,082,755</td>
<td>2,027,802</td>
</tr>
<tr>
<td>Whitefish Bay</td>
<td>1,473,878</td>
<td>2,414,671</td>
<td>2,004,561</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,747,634</strong></td>
<td><strong>12,693,037</strong></td>
<td><strong>11,620,643</strong></td>
</tr>
</tbody>
</table>

Sources: Professor Sammis White report and PPF analysis

When we compare the inflation-adjusted total for the seven communities with the amount collectively charged to support NSFD operations in 2014, we find that consolidation has provided an overall savings of nearly $1.1 million to the seven communities collectively, as shown in **Chart 14**.

**Chart 14: Inflated pre-consolidation cumulative municipal fire service expenditures vs. 2014 NSFD charges for operations**

Sources: Professor Sammis White report and PPF analysis
Applying this comparison to each municipality individually, we see that three of the seven (Bayside, Brown Deer, and River Hills) are paying more today than they would have paid if they had maintained their 1993 expenditure amounts with an adjustment only for annual inflation, while the other four communities are experiencing savings, as shown in Chart 15.

**Chart 15: Inflated pre-consolidation municipal fire service expenditures vs. 2014 NSFD operations charges**

An important caveat is in order, however, regarding these individual municipal comparisons. As described previously, prior to consolidation, several of the municipalities did not have full-time, professionally-staffed departments. Also, there was only one ALS ambulance for the entire North Shore. Consequently, while Bayside, Brown Deer, and River Hills are paying more today than they would have if their 1993 expenditures had increased by the rate of inflation, they also are benefiting from being served by a full-time department with a robust ALS capability. Fox Point also is receiving that benefit even though it is paying less today than it would have if its 1993 expenditures had increased at the rate of inflation.

To estimate how much those four municipalities would be paying to obtain the same level of fire department services they are currently receiving had consolidation not taken place, we applied cost data from the remaining three municipalities (Shorewood, Whitefish Bay, and Glendale), each of which was served by full-time, professional firefighters prior to consolidation.

Specifically, we determined the average per capita cost for full-time, professional fire department services for those three communities when each operated their own departments in 1993 and
adjusted that amount for inflation. By applying that amount – which came to $221 per capita – to the current populations of Bayside, Brown Deer, Fox Point, and River Hills, we can obtain a rough estimate of how much it would cost each of those communities to provide a similar level of service. For the sake of this expenditure estimate, we assume that Glendale, Shorewood, and Whitefish Bay are receiving the same level of service from NSFD as they received prior to consolidation. That is likely a conservative assumption, as EMS service levels, in particular, likely are quite higher.

**Table 2** adds a column to our previous analysis that shows the inflation- and service-adjusted figures for each municipality, as well as the collective amounts. Comparing the service-adjusted figures to actual 2014 NSFD charges suggests that collectively, the North Shore municipalities would be paying about $2.8 million more for an equivalent level of service had they not consolidated, as depicted in Chart 17.

**Table 2: Pre-consolidation municipal fire service expenditures adjusted for inflation and level of service vs. 2014 NSFD charges**

<table>
<thead>
<tr>
<th>Municipality</th>
<th>1993 Budget</th>
<th>2014 Inf Adj</th>
<th>2014 Inf + Svc Adj</th>
<th>2014 NSF Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>165,000</td>
<td>270,321</td>
<td>978,963</td>
<td>720,480</td>
</tr>
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<td>Brown Deer</td>
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<tr>
<td>Glendale</td>
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<td>River Hills</td>
<td>151,183</td>
<td>247,685</td>
<td>355,926</td>
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<td>Shorewood</td>
<td>1,881,666</td>
<td>3,082,755</td>
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<td>Whitefish Bay</td>
<td>1,473,878</td>
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<td>2,004,561</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,747,634</strong></td>
<td><strong>12,693,037</strong></td>
<td><strong>14,384,772</strong></td>
<td><strong>11,620,643</strong></td>
</tr>
</tbody>
</table>

Sources: Professor Sammis White report and PPF analysis
Fiscal impacts for individual North Shore municipalities that result from comparing 1993 municipal operating expenditures adjusted both for inflation and higher service levels to actual NSFD charges are shown in Chart 18. We find that each municipality is paying less today than it would have been paying had consolidation not occurred. The amount of annual savings varies for each municipality, ranging from $14,279 (4%) in River Hills to more than $1 million (34%) in Shorewood.
Milwaukee County Comparables

In light of the limitations associated with our previous methodology, we also thought it would be instructive to examine fire service expenditure budgets in the other Milwaukee County municipalities (excluding the City of Milwaukee) as further context for what each North Shore municipality might be paying today for fire and rescue services if consolidation had not occurred. We focused only on Milwaukee County municipalities because demand for fire services is somewhat unique to the geographical area served, and because the Milwaukee County municipalities share the same EMS framework. The City of Milwaukee was excluded from our analysis because it is so different in size and density from the other municipalities in the county.

In Table 3, we provide demographic information on the 11 suburban Milwaukee County municipalities, as well as the North Shore communities. The municipalities are listed in order of the size of their populations (from smallest to largest). We also provide information on 12 additional variables that impact fire and rescue budgets.
### Table 3: Demographic characteristics of Milwaukee County suburban municipalities

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<tbody>
<tr>
<td>NSF</td>
<td>River Hills</td>
<td>1,607</td>
<td>618</td>
<td>630,900</td>
<td>1%</td>
<td>24%</td>
<td>19%</td>
<td>5.3</td>
<td>311</td>
<td>26%</td>
<td>460,291,500</td>
<td>5,108,400</td>
<td>12,570,996</td>
</tr>
<tr>
<td>Comp</td>
<td>W. Milwaukee</td>
<td>4,217</td>
<td>2,135</td>
<td>131,200</td>
<td>60%</td>
<td>21%</td>
<td>11%</td>
<td>1.1</td>
<td>3,755</td>
<td>50%</td>
<td>368,960,500</td>
<td>179,878,800</td>
<td>11,464,863</td>
</tr>
<tr>
<td>NSF</td>
<td>Bayside</td>
<td>4,420</td>
<td>1,835</td>
<td>318,200</td>
<td>17%</td>
<td>24%</td>
<td>21%</td>
<td>2.4</td>
<td>1,836</td>
<td>2%</td>
<td>564,219,500</td>
<td>66,244,100</td>
<td>16,022,807</td>
</tr>
<tr>
<td>NSF</td>
<td>Fox Point</td>
<td>6,740</td>
<td>2,918</td>
<td>286,700</td>
<td>16%</td>
<td>24%</td>
<td>18%</td>
<td>2.9</td>
<td>2,313</td>
<td>12%</td>
<td>1,059,864,500</td>
<td>80,825,100</td>
<td>29,401,646</td>
</tr>
<tr>
<td>Comp</td>
<td>Hales Corners</td>
<td>7,757</td>
<td>3,500</td>
<td>226,900</td>
<td>34%</td>
<td>20%</td>
<td>19%</td>
<td>3.2</td>
<td>2,396</td>
<td>9%</td>
<td>629,136,100</td>
<td>184,206,700</td>
<td>17,013,496</td>
</tr>
<tr>
<td>Comp</td>
<td>Saint Francis</td>
<td>9,547</td>
<td>4,907</td>
<td>157,500</td>
<td>53%</td>
<td>12%</td>
<td>19%</td>
<td>2.6</td>
<td>3,675</td>
<td>13%</td>
<td>569,633,300</td>
<td>147,408,300</td>
<td>17,357,809</td>
</tr>
<tr>
<td>NSF</td>
<td>Brown Deer</td>
<td>12,102</td>
<td>5,492</td>
<td>159,900</td>
<td>36%</td>
<td>21%</td>
<td>17%</td>
<td>4.4</td>
<td>2,729</td>
<td>4%</td>
<td>942,430,400</td>
<td>371,376,600</td>
<td>29,877,866</td>
</tr>
<tr>
<td>NSF</td>
<td>Glendale</td>
<td>12,887</td>
<td>6,148</td>
<td>206,500</td>
<td>34%</td>
<td>18%</td>
<td>22%</td>
<td>5.8</td>
<td>2,233</td>
<td>8%</td>
<td>2,046,008,200</td>
<td>1,044,314,200</td>
<td>57,029,850</td>
</tr>
<tr>
<td>NSF</td>
<td>Shorewood</td>
<td>13,331</td>
<td>6,685</td>
<td>291,500</td>
<td>53%</td>
<td>19%</td>
<td>15%</td>
<td>1.6</td>
<td>8,278</td>
<td>58%</td>
<td>1,431,921,200</td>
<td>253,126,100</td>
<td>43,059,506</td>
</tr>
<tr>
<td>NSF</td>
<td>Whitefish Bay</td>
<td>14,122</td>
<td>5,474</td>
<td>315,600</td>
<td>15%</td>
<td>30%</td>
<td>11%</td>
<td>2.1</td>
<td>6,640</td>
<td>40%</td>
<td>2,018,898,700</td>
<td>111,720,900</td>
<td>49,144,890</td>
</tr>
<tr>
<td>Comp</td>
<td>Greendale</td>
<td>14,332</td>
<td>5,975</td>
<td>207,500</td>
<td>31%</td>
<td>22%</td>
<td>22%</td>
<td>6.0</td>
<td>2,525</td>
<td>11%</td>
<td>1,314,167,900</td>
<td>371,269,700</td>
<td>36,492,720</td>
</tr>
<tr>
<td>Comp</td>
<td>Cudahy</td>
<td>18,341</td>
<td>8,099</td>
<td>157,500</td>
<td>47%</td>
<td>22%</td>
<td>16%</td>
<td>4.8</td>
<td>3,834</td>
<td>27%</td>
<td>1,219,166,500</td>
<td>274,286,600</td>
<td>33,450,449</td>
</tr>
<tr>
<td>Comp</td>
<td>S. Milwaukee</td>
<td>21,236</td>
<td>9,232</td>
<td>163,100</td>
<td>40%</td>
<td>22%</td>
<td>15%</td>
<td>4.8</td>
<td>4,408</td>
<td>22%</td>
<td>1,139,880,200</td>
<td>192,142,400</td>
<td>32,054,511</td>
</tr>
<tr>
<td>Comp</td>
<td>Oak Creek</td>
<td>35,053</td>
<td>14,628</td>
<td>214,200</td>
<td>42%</td>
<td>23%</td>
<td>11%</td>
<td>28.5</td>
<td>1,211</td>
<td>4%</td>
<td>2,952,097,300</td>
<td>891,584,400</td>
<td>71,099,324</td>
</tr>
<tr>
<td>Comp</td>
<td>Franklin</td>
<td>36,278</td>
<td>13,639</td>
<td>231,100</td>
<td>30%</td>
<td>22%</td>
<td>13%</td>
<td>34.6</td>
<td>1,025</td>
<td>4%</td>
<td>3,589,694,100</td>
<td>762,107,100</td>
<td>92,916,544</td>
</tr>
<tr>
<td>Comp</td>
<td>Greenfield</td>
<td>37,157</td>
<td>17,656</td>
<td>176,900</td>
<td>43%</td>
<td>17%</td>
<td>21%</td>
<td>11.5</td>
<td>3,190</td>
<td>4%</td>
<td>2,759,844,500</td>
<td>967,029,200</td>
<td>76,620,617</td>
</tr>
<tr>
<td>Comp</td>
<td>Tosa</td>
<td>47,102</td>
<td>21,220</td>
<td>226,600</td>
<td>37%</td>
<td>23%</td>
<td>15%</td>
<td>13.3</td>
<td>3,502</td>
<td>30%</td>
<td>5,350,627,100</td>
<td>1,700,938,800</td>
<td>130,242,366</td>
</tr>
<tr>
<td>Comp</td>
<td>West Allis</td>
<td>60,624</td>
<td>29,417</td>
<td>149,700</td>
<td>47%</td>
<td>21%</td>
<td>14%</td>
<td>11.4</td>
<td>5,306</td>
<td>30%</td>
<td>3,712,641,300</td>
<td>1,162,535,100</td>
<td>107,251,776</td>
</tr>
</tbody>
</table>

Source: U.S. Census

For our comparative analysis, we originally sought to group the communities with substantial similarities across the characteristics cited in the table. No obvious patterns emerged, however, as communities may be similar in terms of one variable yet different across several others. Consequently, our analysis simply groups together communities with populations of less than 10,000 and communities with populations between 10,000 and 22,000. The remaining communities have populations above 30,000 and were deemed too large to draw any meaningful comparisons to the North Shore municipalities.

Finally, it should be noted that there are limitations to comparing the fire/EMS budget of one municipality to another, many of which are similar to the limitations noted above that are associated with comparing 1992 individual municipal fire budgets with that of the NSFD. For example, there may be differences in the manner in which different municipalities include capital costs and certain types of revenues in their fire department operating budgets, and there also may be differences in how administrative costs are charged to departments. Consequently, as with our first methodology, the results of this set of comparisons should not be viewed as definitive, but instead should be viewed as additional context for assessing current fire and EMS costs in the North Shore.

**Communities with populations under 10,000**

Communities with populations under 10,000 include the North Shore communities of River Hills, Bayside, and Fox Point, as well as West Milwaukee, Hales Corners, and Saint Francis. Comparing fire and EMS expenditures among this group of communities is difficult because of differences in the way fire and EMS services are delivered. For example, Hales Corners makes considerable use of...
part-time firefighters, while West Milwaukee contracts for fire and EMS services with the City of Milwaukee.

St. Francis is the only one of the three municipalities outside of the North Shore that operates its own department with professional full-time staff and which, therefore, would have an expenditure budget that would reflect service levels similar to the NSFD. However, because it is plausible that the smaller North Shore municipalities would consider using paid-on-call firefighters or contracting for services with a larger municipality, the existence of these three distinct types of service provision is useful for our comparison.

**Chart 19** shows the 2015 budgeted fire service expenditures for this group of Milwaukee County municipalities, including the NSFD charges paid by the North Shore communities in the grouping.

**Chart 19: 2015 budgeted fire/EMS expenditures for Milwaukee County municipalities with populations under 10,000**

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>$720,480</td>
</tr>
<tr>
<td>Fox Point</td>
<td>$1.2M</td>
</tr>
<tr>
<td>Hales Corners</td>
<td>$956,473</td>
</tr>
<tr>
<td>River Hills</td>
<td>$341,647</td>
</tr>
<tr>
<td>Saint Francis</td>
<td>$1.9M</td>
</tr>
<tr>
<td>West Milwaukee</td>
<td>$1.1M</td>
</tr>
</tbody>
</table>

Sources: Municipal and NSFD budget documents
Based on this information, we would offer the following observations regarding the current fire and rescue costs incurred by the North Shore communities in this grouping:

- **Bayside** – Bayside's current NSFD charge of $720,000 compares favorably with the non-North Shore municipalities in this grouping. If consolidation had not occurred and Bayside had pursued its own fully professional department, then the logical comparable would be St. Francis, which is paying $1.9 million to support its department. While St. Francis has twice the population of Bayside, even cutting the $1.9 million in half would yield a larger total ($950,000) than Bayside is paying today. It is also possible, of course, that a community the size of Bayside would opt to make some use of part-time or paid-on-call staff, in which case the $956,000 currently paid by Hales Corners would appear to be a reasonable proxy for what Bayside might pay under that scenario; or contract for services with a larger neighbor, in which case a reasonable proxy might be the $1.1 million currently paid by West Milwaukee to Milwaukee.

- **Fox Point** – Fox Point's current NSFD charge of $1.2 million also is lower than the $1.9 million paid by St. Francis. Again, some adjustment might be in order given that Fox Point has about 29% fewer residents; still, if we reduce the St. Francis amount by 29%, we see that Fox Point would be paying about $140,000 more than it is paying today if it matched that total. Like Bayside, Fox Point might opt to use paid-on-call staff or contract for services, in which case its current NSFD charge would exceed what Hales Corners and West Milwaukee are spending. However, those options also would produce either a lower level of service or reliance on a larger community for fire and rescue services.

- **River Hills** – It is unlikely that River Hills – which has a much smaller population than the other municipalities in this grouping – would operate its own fully professional department if not part of the NSFD, and much more likely that it would operate with a mix of professional and paid-on-call staff, or that it would contract for services with a larger neighbor. Given its much smaller size, comparing River Hills to Hales Corners or West Milwaukee would not be accurate, nor can we speculate the extent to which River Hills could rely on paid-on-call firefighters (particularly in light of EMS service demands) or how much it would need to pay a larger neighbor. However, as context, we would note that River Hills' $342,000 NSFD charge is only about 36% of Hales Corners' fire and rescue budget and only about 31% of the amount West Milwaukee is paying to Milwaukee.

Finally, for additional context, **Charts 20 and 21** show fire department costs for the municipalities in this grouping per capita and per $1,000 of equalized value. While neither of these approaches represents a perfect mechanism for comparing and contrasting fire department costs among different municipalities, they both are commonly used measures of comparison for various municipal budget analyses. Under both approaches, the North Shore communities generally compare favorably to the other municipalities in the grouping.
Chart 20: Per capita 2015 budgeted fire/EMS expenditures for Milwaukee County municipalities with populations under 10,000

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>$163.00</td>
</tr>
<tr>
<td>Fox Point</td>
<td>$178.04</td>
</tr>
<tr>
<td>Hales Corners</td>
<td>$123.30</td>
</tr>
<tr>
<td>River Hills</td>
<td>$212.60</td>
</tr>
<tr>
<td>Saint Francis</td>
<td>$199.02</td>
</tr>
<tr>
<td>West Milwaukee</td>
<td>$260.85</td>
</tr>
</tbody>
</table>

Sources: Municipal and NSFD budget documents

Chart 21: 2015 budgeted fire/EMS expenditures per $1,000 of equalized value for Milwaukee County municipalities with populations under 10,000

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>$1.28</td>
</tr>
<tr>
<td>Fox Point</td>
<td>$1.13</td>
</tr>
<tr>
<td>Hales Corners</td>
<td>$1.52</td>
</tr>
<tr>
<td>River Hills</td>
<td>$0.74</td>
</tr>
<tr>
<td>Saint Francis</td>
<td>$3.34</td>
</tr>
<tr>
<td>West Milwaukee</td>
<td>$2.98</td>
</tr>
</tbody>
</table>

Sources: Municipal and NSFD budget documents
Communities with populations between 10,000 and 22,000

The North Shore communities in this group include Brown Deer, Glendale, Shorewood, and Whitefish Bay, while the other suburban Milwaukee County communities are Greendale, Cudahy, and South Milwaukee. As shown in Chart 22, Cudahy and Greendale budgeted $2.3 million in 2015 for fire and rescue services while South Milwaukee budgeted $2.4 million. Each of these communities has fully professional fire departments, though Cudahy relies on South Milwaukee for its ALS services.

Chart 22: 2015 budgeted fire/EMS expenditures for Milwaukee County municipalities with populations between 10,000 and 22,000

Based on this information, we would offer the following observations regarding the current fire and rescue costs incurred by the North Shore communities in this grouping:

- **Whitefish Bay, Shorewood, and Brown Deer** – The NSFD charge for each of these communities is a little more than $2 million, which is less than the $2.3 to $2.4 million paid by the other municipalities in this grouping. The three North Shore communities have considerably smaller populations than Cudahy and South Milwaukee, but comparable populations to Greendale. It is also worth noting that Shorewood has the highest population density and oldest structures of all municipalities in this analysis.

- **Glendale** – Glendale’s $3.3 million NSFD charge makes it the one North Shore community that appears to be paying considerably more for NSFD service than municipalities with comparable populations are paying to operate their own departments. However, Glendale’s much larger commercial base – as evidenced by commercial property values that exceed those of Greendale, Cudahy, and St. Francis combined – likely would require it to pay more for fire and rescue services than the $2.3 to $2.4 million that is currently being spent by those communities. How much more, however, cannot be determined.

Sources: Municipal and NSFD budget documents
Finally, as we did for the previous grouping, in Charts 23 and 24 we show fire department costs for the municipalities in this grouping per capita and per $1,000 of equalized value. Glendale stands out for its high per capita costs, but it is on the low side when evaluated based on equalized value. The other North Shore municipalities are comparable to their counterparts under both approaches.

Chart 23: Per capita 2015 budgeted fire/EMS expenditures for Milwaukee County municipalities with populations between 10,000 and 22,000

Sources: Municipal and NSFD budget documents
Capital Costs

As discussed previously, the reduction in fire department apparatus in the North Shore is one of the most striking byproducts of the decision to consolidate. As with operating expenditures, however, determining the resulting "savings" that have accrued to the North Shore communities is challenging.

The NSFD's capital budget is produced using a five-year capital replacement plan. The capital plan is created by taking an inventory of all capital assets including buildings, equipment, apparatus, information technology systems, and various other capital outlays. Information is provided for each asset including age, estimated life, and the priority of need. This information is then reviewed and revised to arrive at the capital budget for the current year and the plan for the next four years. The five-year capital plan is authorized through a resolution approved by the NSFD Board.

Chart 25 shows each municipality's share of NSFD's 2014 capital budget, which totaled $420,000. The distribution of costs among the seven municipalities is based on the financing formula used for the operating budget, which employs factors involving population, equalized value, and usage in each community.
Chart 25: 2014 NSFD capital expenditures by municipality

Source: NSFD

An important financial benefit associated with consolidation is that each municipality is able to share the responsibility of purchasing, maintaining, and replacing apparatus, as opposed to having to manage its own fleet of vehicles. To gain insight into the costs each municipality would have incurred to replace vehicles had consolidation not occurred, we considered the apparatus owned by each municipality just prior to consolidation, and calculated the cost of replacements based on the planned replacement schedule at that time. Cost estimates were based on the current cost estimates of each piece of apparatus cited earlier in this report and converted based on inflation to the year the replacement would have occurred.

The results of our analysis are shown in Table 4. We estimate that vehicle replacement costs for the seven municipalities collectively would have totaled $8.4 million had consolidation not occurred. For individual municipalities, hypothetical replacement costs range from a high of $1.6 million for Shorewood for the replacement of a ladder truck, two ambulances, and two pumpers, to a low of $798,000 for Fox Point and River Hills to replace two pumpers and an ambulance.

Next, we compiled the actual costs the NSFD incurred from replacing apparatus during the same timeframe. The last row in Table 4 shows those results, which indicate that the NSFD replaced 14 vehicles at a combined cost of $5 million from 1995 to 2013, or $3.4 million less than our estimate of what the North Shore communities would have spent collectively without a consolidated department.
Table 4: Estimated replacement vehicles and costs had consolidation not occurred vs. actual NSFD replacement costs from 1995-2013

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Vehicles Replaced</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>Pumper (2) Tanker (2) Ambulance</td>
<td>$1,063,165</td>
</tr>
<tr>
<td>Brown Deer</td>
<td>Pumper (2) Ambulance Ladder</td>
<td>$1,519,821</td>
</tr>
<tr>
<td>Fox Point</td>
<td>Pumper (2) Ambulance</td>
<td>$797,906</td>
</tr>
<tr>
<td>Glendale</td>
<td>Pumper (2) Ambulance (2) Ladder</td>
<td>$1,555,308</td>
</tr>
<tr>
<td>River Hills</td>
<td>Pumper (2) Ambulance</td>
<td>$797,906</td>
</tr>
<tr>
<td>Shorewood</td>
<td>Pumper (2) Ambulance (2) Ladder</td>
<td>$1,568,119</td>
</tr>
<tr>
<td>Whitefish Bay</td>
<td>Pumper Ambulance Ladder</td>
<td>$1,063,792</td>
</tr>
<tr>
<td><strong>Total North Shore Communities</strong></td>
<td><strong>Pumper (13) Tanker (2) Ambulance (9) Ladder (4)</strong></td>
<td><strong>$8,366,017</strong></td>
</tr>
<tr>
<td><strong>Actual North Shore Fire Department Vehicle Replacements</strong></td>
<td><strong>Pumper (5) Tanker (1) Ambulance (5) Ladder (3)</strong></td>
<td><strong>$5,020,497</strong></td>
</tr>
</tbody>
</table>

Several caveats are in order with regard to this comparison. The first is that we cannot determine what the actual purchasing behavior of individual departments would have been if consolidation had not occurred. For example, some departments may not have replaced vehicles per existing replacement schedules, or they may have opted to purchase a used vehicle or attempted to avoid a replacement entirely by engaging in a sharing agreement with a neighboring municipality.

It is also important to note that the NSFD’s capital expenditures actually were lowered by various strategies its leaders pursued, including efforts to achieve better unit pricing on apparatus by replacing multiple vehicles at the same time, or purchasing used apparatus at a reduced cost (as was the case in 1995, when the department purchased a ladder truck for $268,000, as compared to the $576,000 cost estimate listed above).

In light of these considerations, the vehicle savings cited above should be viewed as maximum savings amounts. Yet, it still is reasonable to conclude that considerable savings were achieved in terms of vehicle replacement costs because of the much smaller fleet and the ability to achieve purchasing efficiencies with a larger department.
**Chart 26** breaks down by community what each fire department would have paid to replace fire and rescue apparatus if consolidation had not occurred versus the actual capital expenditures they incurred from the NSFD capital funding formula since 1995. Again, while keeping in mind that the savings may be inflated somewhat by the circumstances discussed above, we see that each community has realized substantial savings.

**Chart 26: Hypothetical vehicle replacement savings per municipality**

<table>
<thead>
<tr>
<th>Community</th>
<th>No Cons</th>
<th>NSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayside</td>
<td>$739K</td>
<td></td>
</tr>
<tr>
<td>Brown Deer</td>
<td>$607K</td>
<td></td>
</tr>
<tr>
<td>Fox Point</td>
<td>$279K</td>
<td></td>
</tr>
<tr>
<td>Glendale</td>
<td>$203K</td>
<td></td>
</tr>
<tr>
<td>River Hills</td>
<td>$673K</td>
<td></td>
</tr>
<tr>
<td>Shorewood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whitefish Bay</td>
<td>$199K</td>
<td></td>
</tr>
</tbody>
</table>

Sources: TriData study, NSFD, PPF analysis

Note: “No Cons” represents each communities’ cost had consolidation not occurred. “NSF” is the North Shore Fire Department cost.

**Summary**

Our analyses of operating and capital expenditures that hypothetically would have been incurred by the North Shore municipalities under a scenario in which each continued to provide for its own fire and EMS services indicates that each of the seven likely has experienced substantial savings.

On the operating side, while acknowledging limitations involved with making accurate comparisons, we find that four of the seven municipalities currently are paying less for fire and EMS services than they would have paid if their 1993 expenditures simply had been adjusted for inflation. That simple methodology does not take into account any of the service improvements that likely would have been demanded by citizens in light of increased usage of EMS and modernized EMS practices, nor does it take into account the probability that smaller municipalities would have been assessed
considerable sums for mutual aid, thus requiring them either to enhance service capabilities themselves or to eliminate their departments and contract for services.

When we did adjust expenditures to reflect a level of service for each municipality that approximates the level currently provided by the NSFD, we found that all seven municipalities are experiencing savings. For five of the seven, the savings are exceeding $250,000 annually.

In light of the limitations associated with our methodology, we also reviewed what similar-sized municipalities in Milwaukee County are paying for fire and EMS services and compared those expenditures to the annual NSFD charge for each of the North Shore municipalities. Again, we find that each of the North Shore municipalities likely is paying less today than it would be paying if fending for itself and desiring a level of service approximating that provided by the NSFD, with the possible exception of Glendale.

Glendale is incurring the largest charge from NSFD at $3.3 million annually, and both of our methodologies suggest it is possible that city would be paying in the same range or even a little less to operate its own department. However, our analysis also suggests that Glendale has saved about $200,000 on vehicle replacements since consolidation has occurred (each of the six other municipalities experienced significant savings on the vehicle replacement side, as well). It is also probable that the operational benefits discussed above that relate to a larger department (e.g. ability to hire better-qualified staff, ability to strategically deploy apparatus, the need for fewer reserve vehicles) have created greater efficiency and a higher level of service for Glendale than it could achieve on its own.
Conclusion

Our review of the impacts of fire department consolidation in Milwaukee County's North Shore shows that each of the seven municipalities likely is spending less today on fire and rescue services than it would have if consolidation had not occurred, assuming that each desired the same high level of service. While the specific financial and operational benefits differ for each community, our analysis also shows that across the North Shore as a whole, considerably fewer resources are being spent to achieve a superior level of service, thus achieving a primary objective of functional consolidation.

Specific findings with regard to operational and cost efficiencies resulting from creation of the North Shore Fire Department include the following:

- Collectively, the North Shore today operates with two fewer fire stations, 15 fewer pieces of apparatus, and seven fewer FTEs than it did prior to consolidation. Yet, despite those reductions, NSFD has achieved higher ISO ratings for firefighting capability than its municipal departments achieved before consolidation, and it now provides a much higher level of emergency medical services across the entire North Shore.

- While data limitations preclude definitive conclusions, our analysis indicates that four of the seven municipalities currently are paying less for fire and EMS services than they would have paid if consolidation had not occurred and their 1993 expenditures simply had increased at the rate of inflation. That analysis assumes that each of the seven departments would be operating in roughly the same fashion as it operated in 1993. When we adjusted expenditure amounts to also reflect a level of service for each municipality that is associated with a full-time, fully professional fire department, we found that each is experiencing operating savings. For five of the seven, the savings are exceeding $250,000 annually.

- In light of the limitations associated with our methodology, we also reviewed what similar-sized municipalities in Milwaukee County are paying for fire and EMS services and compared those expenditures to the annual NSFD charge for each of the North Shore municipalities. Again, we find that each of the North Shore municipalities likely is paying less today to receive a higher level of service than it would be paying if fending for itself, with the possible exception of Glendale.

- Projected savings on the capital side also are substantial, in large measure because of the vastly reduced fleet of vehicles. While it is impossible to predict the purchasing behavior of individual municipalities had consolidation not occurred, we project that if each had replaced vehicles owned prior to consolidation with new vehicles per existing replacement schedules, then they collectively would have spent up to $3.4 million more than the NSFD actually spent on vehicle purchases in the 20 years following consolidation. Savings for individual municipalities ranged from $199,000 for Whitefish Bay to $739,000 for Bayside.

In addition to these tangible findings, some general observations also emanate from our analysis of the impacts of North Shore fire consolidation:
The substantial increase in EMS calls during the past 20 years created a different set of service-level demands that likely could not have been met by the smaller individual departments on a cost-effective basis. Our analysis – while hindered by data limitations – shows that fire calls decreased by 18% from 1992 to 2013, while EMS calls increased by 57%. This increased need to respond to medical calls has created a much greater need for trained paramedics, which would have been very difficult for the smaller North Shore communities to accommodate had they maintained independent fire departments with largely volunteer staff. In addition, the continued use of public safety officers by the smaller municipalities would have been challenged – as one of our interviewees noted, it would have been extremely difficult to sufficiently train one individual in all three skill sets (police, fire, and EMS) per today's standards. While those departments could have opted to purchase EMS from neighboring municipalities, their ability to be served by a consolidated department over which they have shared governance arguably is advantageous for their residents.

Each of the North Shore municipalities appears to be receiving a higher level of fire and rescue service than it could have achieved on its own, even if it was willing to pay more. The operational advantages of a larger, consolidated department that we heard from several individuals interviewed for this report included the ability to set higher requirements for hiring (and thus recruit better-qualified staff) because of greater promotional opportunities; better deployment of resources because of multiple station locations; and uniform training and equipment, which are particularly advantageous during major incidents. It is likely no coincidence that the largest suburban departments in Milwaukee County – West Allis, Wauwatosa, and the NSFD – have the highest ISO ratings.

Concerns that typically are raised during functional consolidation discussions did not materialize in the North Shore. Municipalities that engage in consolidation discussions often must overcome fears about a loss of local control over service provision and quality, and the related concern that some jurisdictions will demand and/or receive better service than others. In addition, some elected leaders feel their citizens will balk at the loss of civic identity if, for example, they are served by fire and rescue vehicles that bear the name of a consolidated department, as opposed to the name of their own municipality. In the North Shore, rather than driving a wedge between the different municipalities and producing resentment about service levels or loss of identity, the consolidation of fire and rescue services has encouraged leaders to pursue additional consolidation, including a consolidated dispatch center, public health department, and cable commission.

Both larger and smaller municipalities gave something up to benefit from the collective whole. Several of the North Shore leaders interviewed for this report cited the willingness of the larger North Shore municipalities to accept a governance structure that gave each municipality one vote on the NSFD board – despite significant differences in population – as instrumental to the consolidation effort. According to these leaders, it engendered trust and goodwill among leaders of the smaller municipalities and encouraged them, in turn, to accept some level of risk that their service needs would be subsumed by their larger neighbors.
Finally, these findings and observations prompt us to wonder why – given the apparent benefits that resulted from North Shore fire consolidation – we have not seen a greater impetus for consolidation of other functions in the North Shore, such as police departments and school districts. A related question is why there has not been greater movement to consolidate fire and rescue services in other parts of Milwaukee County and the larger southeast Wisconsin region.¹

Admittedly, the answer may have something to do with the unique confluence of factors that prompted creation of the NSFD, which included the following:

- Two high-profile fires in which an effective response was lacking and blamed (at least in part) on a lack of coordination.
- A plan by the City of Milwaukee to begin charging substantial sums for mutual aid responses.
- Two vacant fire chief positions among the seven municipalities, and three other chief positions in which the chief doubled as the head of police and fire operations, thus allowing each to remain as police chief after the NSFD was formed.
- The need by multiple municipalities to make substantial investments in new apparatus.
- An unusual level of collegiality among the North Shore’s village and city administrators.

Nevertheless, it would appear that the North Shore’s successful effort to use consolidation as a means both of reducing expenditures and improving services should hold lessons for others in the southeast Wisconsin region and in the North Shore itself, particularly as local governments and school districts continue to struggle with strict property tax levy limits and rising cost pressures. In the weeks and months ahead, we plan to widely disseminate these findings in the hope of encouraging greater consideration of service sharing and consolidation among all of our local governmental bodies in Milwaukee County and in the region as a whole.

¹ We would particularly cite the southern portion of Milwaukee County, where two previous analyses we conducted found potential for substantial savings and service enhancements from various fire department consolidation options. Those reports can be accessed at http://publicpolicyforum.org/sites/default/files/SouthernMilwaukeeCountyFire.pdf and http://publicpolicyforum.org/sites/default/files/SouthShoreFireReport.pdf.