

INVENTORY OF CONSTRUCTION INDUSTRY PENSION PLANS FIFTH EDITION

A summary and analysis of key trends in plan demographics, cash flows, investments, funding, costs, and expenses from 2006 through 2015 for multiemployer defined benefit pension plans in the construction industry.



INVENTORY OF CONSTRUCTION INDUSTRY PENSION PLANS FIFTH EDITION

Principal Author

Cary Franklin, FSA
Horizon Actuarial Services, LLC

Contributing Editor

John McNerney, General Counsel
Mechanical Contractors Association of America

Special thanks are due to Lindsey Settle, Michelle Wellen, and Paul Dunlap of Horizon Actuarial Services, LLC (Horizon) for their significant contributions in the development of the inventory and the analysis included in this report. Thanks are also due to Richard J. Sawhill of the ARCA/MCA of Southern California for his contributions in reviewing the report and providing commentary.

The Mechanical Contractors Association of America, Inc. (MCAA) and Horizon have made every effort to ensure that this publication is as complete and accurate as possible, but no warranty is implied. The information provided is on an “as is” basis. The authors of this publication, the MCAA and Horizon, shall not have liability or responsibility for errors or omissions, nor is any liability assumed for damages resulting from the use of the information contained herein. The information contained herein should not be construed as legal or actuarial advice. The reader must consult with legal counsel to determine how laws discussed herein apply to the reader’s specific circumstances.

© 2012 – 2017, the Mechanical Contractors Association of America, Inc.
and Horizon Actuarial Services, LLC. All rights reserved.

Published: February 2018

The material contained herein is owned by the Mechanical Contractors Association of America, Inc. and Horizon Actuarial Services, LLC and is protected under the copyright laws of the United States of America (Title 17, United States Code) as well as the copyright laws of other jurisdictions. The duplication, reproduction, exhibition, dissemination, or transmission of this publication in any form by any means without the prior written consent of the MCAA and Horizon is strictly prohibited.



**Mechanical Contractors
Association of America, Inc.**

1385 Piccard Drive
Rockville, MD 20850
Phone: 301.869.5800

www.mcaa.org



Horizon Actuarial Services, LLC

8601 Georgia Avenue, Suite 700
Silver Spring, MD 20910
Phone: 240.247.4600

www.horizonactuarial.com

Table of Contents

Introduction and Executive Summary	1	Section VII: Plan Costs	33
Purpose	1	Annual Plan Costs	33
Summary	1	Cost of Benefit Accruals	34
Highlights	2	Cost of Operating the Plan	35
MCAA Commentary	4	Cost of Unfunded Liabilities	36
Section I: Methodology	5	Adjustable Benefits	37
Form 5500 Data	5	Employer Contributions	37
Data Quality	5	Contributions vs. Costs	38
Construction Industry Plans	5	Differences by Plan Size	39
Number of Plans in the Inventory	5	Section VIII: Plan Expenses	44
Comparison with Prior Editions	6	Investment Fees	44
Distribution of Plan Years	6	Per-Participant Operating Expenses	46
Large, Medium, and Small Plans	7	Total Operating Expenses	48
Snapshot Distribution Graphs	7	Administrative and Other Expenses	49
Quartile Bar Graphs	8	Professionals Fees	50
Section II: Plans in the Inventory	9	Appendix A:	51
Plans by Asset Value	9	Detailed Results by Trade	
Plans by Number of Participants	9	Construction Industry Trades	51
Plans by Number of Contributing Employers	10	Asset Values by Trade	52
Plans by Trade and Geographic Region	10	Number of Participants by Trade	53
Section III: Plan Demographics	12	Number of Employers by Trade	54
Types of Participants	12	Participant Ratios by Trade	55
Number of Participants	12	Net Cash Flows by Trade	56
Participant Ratios	13	Annualized Returns by Trade	57
Differences by Plan Size	14	Investment Return Assumptions by Trade	58
Section IV: Plan Cash Flows	16	Market Value Funded Percentages by Trade	59
Types of Cash Flows	16	PPA Certification Statuses	60
Aggregate Cash Flows	16	Contributions by Trade	61
Cash Flows as a Percentage of Assets	17	Contributions vs. Costs by Trade	62
Differences by Plan Size	17	Appendix B:	63
Section V: Plan Investments	19	Plumbers and Pipefitters Plans	
Year-by-Year Returns	19	<i>Exhibits showing results specifically for</i>	
Differences by Plan Size	19	<i>construction industry plans covering</i>	
Annualized Returns	21	<i>Plumbers and Pipefitters</i>	
Differences by Plan Size	21	Appendix C: Summary Exhibits	73
Assumed Returns	23	<i>Construction Industry Plans:</i>	
Differences by Plan Size	24	Exhibit C.01: Key Results	74
Section VI: Plan Funding	25	Exhibit C.02: Plans by State and PPA Status	75
Funded Percentages	25	<i>All U.S. Multiemployer Pension Plans:</i>	
Differences by Plan Size	26	Exhibit C.03: Key Results	76
PPA Certification Status	28	Exhibit C.04: Plans by State and PPA Status	77
Correcting Funding Shortfalls under PPA	29	Appendix D: Plan Listing	78
Tax-Deductible Limits	29	Construction Industry Plans by State	
Funding Relief: WRERA 2008	30	Plan Listing (Attachment)	
Funding Relief: Pension Relief Act of 2010	30		
Multiemployer Pension Reform Act of 2014	31		

Introduction and Executive Summary

The Mechanical Contractors Association of America, Inc. (MCAA) and Horizon Actuarial Services, LLC (Horizon) have partnered to compile this comprehensive inventory of historical data for multiemployer pension plans in the construction industry. This fifth edition of the inventory was compiled during 2017.

Purpose

The purpose of this report is to summarize and analyze key trends in construction industry multiemployer defined benefit plan demographics, cash flows, investments, funding, and costs over the ten-year period from 2006 through 2015. By analyzing these trends, readers and users of this report can better understand how construction industry plans have evolved over the past decade and where they may be headed in the future.

MCAA and Horizon have developed this inventory, analysis, and report for the benefit of all stakeholders acting in the best interest of maintaining and strengthening multiemployer plans for plan participants and beneficiaries and sponsoring employers jointly. It is hoped that the analysis provided in this report will guide responsible public officials making legislative and regulatory judgments affecting these plans, as well as judgments about these plans made by industry leaders, sponsoring employers, labor organizations, plan trustees and administrators, plan professional advisors, and plan participants.

This report also examines plan investment fees and operating expenses for construction industry plans. Plan trustees, administrators and sponsors may find this section of the report useful as a comparison and benchmarking tool for their plans as compared with other plans in their same size category.

In addition to the broad analysis in this report, which covers all plans in the construction industry, this report also contains four appendices:

Appendix A includes detailed exhibits that show how plans covering members of different trades within the construction industry compare with each other. The exhibits in Appendix A analyze many of the same plan characteristics and statistics covered in the main body of the report.

Appendix B includes separate exhibits for the subset of multiemployer plans covering members of the United Association of Plumbers and Pipefitters ("UA"). These exhibits may be useful as a

comparison tool for trustees of plans covering Plumbers and Pipefitters.

Appendix C includes summary exhibits for all construction industry plans, including the number of plans by state and by certification status under the Pension Protection Act of 2006 (PPA). Also included for reference are the same summary exhibits for multiemployer plans in all industries.

Appendix D provides a listing of the construction industry plans included in the inventory, as well as their PPA certification statuses. The plans are listed by state and by city within each state. There is also a summary showing the number of plans domiciled in each state along with the number of participants and plan assets of plans in those states.

If you are an employer participating in one or more of these plans, the information in Appendix D may help you (and your accounting firm preparing audited financial statements) to comply with the disclosure requirements for multiemployer plans required by the Financial Accounting Standards Board (FASB).

Summary

It should come as little surprise that this inventory shows that the ten-year period from 2006 through 2015 was turbulent for construction industry pension plans. Financial markets have been volatile, and 2008 saw the biggest stock market collapse since the Great Depression. Construction work hours and employment also plummeted as a result of the financial crisis, compounded by restrictions in lending for private projects and cutbacks in public sector investment in building and other infrastructure projects.

Furthermore, industry demographic trends have worsened over the period covered by the report, as the number of active working participants has steadily declined relative to the numbers of inactive and retired participants in these plans. This makes it more and more difficult for plan trustees to correct any funding shortfalls by looking only to increase contribution rates for active workers.

Despite the turbulence of the past decade, this edition of the report shows some encouraging signs:

- Two-thirds of all construction industry plans were certified in the green zone for 2015, a significant improvement since 2009 when only 37.5% of plans were in the green zone.
- Roughly 75% of all construction industry plans are projected to become 100% funded within 15 years.

Introduction and Executive Summary

- Only 2.4% of construction plans were certified in “critical and declining” status for 2015, meaning that they are expected to become insolvent within 20 years.
- The number of active participants has grown modestly since 2011.

When analyzing results separately by plan size, the report shows that large plans are more efficient at delivering benefits than smaller plans. Specifically, large plan investment fees (as a percentage of assets) and operating expenses (dollars per participant) tend to be lower as compared with smaller and medium size plans. Similarly, annualized investment returns for larger plans are proven greater than the returns for smaller plans for the past decade, though smaller plans did outperform larger plans during 2008 and 2009.

Highlights

The following are highlights from the analysis of the data in the 2017 edition of the inventory:

- **Total number of plans:** Based on the latest available Form 5500 data (in most cases, for plan years ending on or about December 31, 2015), there are 777 multiemployer defined benefit pension plans in the construction industry. Of those plans, 770 are solvent; the remaining 7 are insolvent and receiving assistance from the Pension Benefit Guaranty Corporation (PBGC).
 - **Total asset value and covered participants:** The 770 solvent construction industry plans have total assets of \$243 billion, and they cover more than 4 million participants and their beneficiaries.
 - **Number of contributing employers:** More than half of construction industry plans have fewer than 100 contributing employers. However, there are some plans with over 1,000 contributing employers.
 - **Maturing plan demographics:** Over the past decade (2006 through 2015) only a few plans logged increases in the number of participants who are actively working and having contributions made on their behalf. In fact, most plans reported decreases in the number of active participants. At the same time, most plans posted increases in the number of participants who are not currently working under the plan, including those who have retired and who are receiving benefits. However, the number of active participants and the ratio of actives to
- inactives have increased over the past 2 to 3 years.
- **Negative plan cash flows:** While most plans over the past decade paid more in benefits and operating expenses than they received in contribution income, there has been modest improvement in the median net cash flow since 2012. Increases in contribution rates as well as increases in asset values due to investment gains in recent years have helped to offset increases in benefit payments due to shifting demographics, with more and more participants retiring and beginning to receive benefits.
 - **Volatility in plan investments:** Investment returns over the past decade were very volatile and included the biggest collapse in the financial markets since the Great Depression. The median investment return for construction industry plans for calendar year 2008 was -23.3%. Over the ten-year period from January 1, 2006 to December 31, 2015, the median annualized return was about 5.1%. For comparison the median annualized return was also about 5.6% over the ten-year period from 2005 through 2014.
 - **Improving plan funding:** Plan trustees have taken significant action to improve their plans’ funding levels in the wake of the 2008 market collapse. As of December 31, 2015, the median funded percentage was 82.0%. This is a significant improvement over the median funded percentage at the end of 2008 (68.1%), though somewhat lower than the median funded percentage at the beginning of 2008 (86.1%).
 - **Improving PPA “zone” statuses:** Similarly, in 2009, following the 2008 market collapse, 37.5% of plans were in the “green zone” under PPA; the remaining 62.5% of plans were in endangered status (“yellow zone”) or critical status (“red zone”). For 2015, the percentage of plans in the green zone increased to 67.6%, leaving 32.4% of plans in endangered status or critical status. While investment gains following 2008 were a major factor in this shift, actions by plan trustees to improve their plans’ funding levels were also significant. Also, in 2015, only 2.4% of plans were in Critical and Declining Status, which is a newly established status indicating that a plan is projected to run out of money within 20 years.

Introduction and Executive Summary

- **Greater efficiency among larger plans:** Not surprisingly, larger plans tend to have lower investment fees as a percentage of assets as compared with smaller plans. Similarly, larger plans tend to have lower per-participant operating expenses than smaller plans. These results demonstrate that larger plans do actually achieve economies of scale in terms of investment management and plan operations and administration.
- **Differing results by trade:** As shown in Appendix A, there are noticeable differences in certain results when comparing plans in different trades within the construction industry. For example, plans in some trades tend to have more favorable demographics than plans in other trades. However, there are no significant differences between trades in certain other results, such as investment performance.

Introduction and Executive Summary

MCAA Commentary

As shown in prior editions of this report, and as reaffirmed in this 2017 edition, multiemployer pension plans in the construction industry have shown great resilience so far in the 21st Century. They have weathered two financial market downturns, ongoing demographic challenges, and an unprecedented slowdown in the construction markets and overall economy.

The past decade has also highlighted structural flaws in the multiemployer pension system. The passage of the Multiemployer Pension Reform Act of 2014 (MPRA) will help some of the most gravely distressed plans. Significant imbalances in the overall system, however, still remain. A substantial number (100 or so) “critical and declining” plans (largely outside the construction industry) are threatening the stability of the multiemployer system overall - and regulatory and legislative action is sorely needed to address that inevitable peril as quickly as possible.

Changes under MPRA

If a multiemployer plan goes insolvent, the Pension Benefit Guaranty Corporation (PBGC) will provide the plan with financial assistance to pay benefits to its participants and beneficiaries up to the PBGC guarantee level, usually much lower than under the plan’s formula. PBGC’s multiemployer program was projected to be unable to sustain the insolvencies of these deeply troubled plans. Failure of PBGC’s multiemployer program would further destabilize the multiemployer pension system.

Prior to the passage of MPRA, few tools existed for the small but significant number of multiemployer plans projected to go insolvent within the next several years. Under MPRA, the trustees of plans in “critical and declining” status may elect to suspend benefits (subject to approval by the Treasury Department and ratification by participant vote), or apply to PBGC for a partition or facilitated merger. However, to date, only 15 plans have applied to Treasury to suspend benefits under MPRA, of which four applications have been approved. Because many more plans still face looming insolvency, additional legislative solutions will be needed both to address the needs of these plans and their participants, and to preserve the solvency of the PBGC.

Additional Reforms Needed

In general, the new tools under MPRA are restricted to plans in critical and declining status. For plans not projected to go insolvent in the next 15 to 20 years, the primary means to correct funding shortfalls are unchanged: increase employer contribution rates, reduce the value of benefits earned by active employees in the future, or both. Plans in critical status may also reduce “adjustable” benefits such as early retirement benefits, but normal retirement benefits remain protected.

In other words, unless a plan is projected to go insolvent, the current system provides very limited tools to address funding shortfalls by modifying benefits that have already been accrued by participants. New employers are unwilling to begin participating in these plans, for fear of having to pay for the existing funding shortfall, or “withdrawal liability.”

The result is an unbalanced risk allocation system that makes the remaining employers participating in these plans inclined (even eager) to exit them. Misperceptions and alarmist rhetoric – especially within the financial community – have had an unnecessarily negative impact on credit and bonding for contributing employers. This in turn hinders these employers’ competitive position in the market relative to firms that offer inferior pension benefits to their employees.

Further legislative changes are needed to give multiemployer plan trustees more tools to correct funding shortfalls and rebalance risks. Most notably, the “Composite Benefit Plan” design proposed by the National Coordinating Committee for Multiemployer Plans (NCCMP) would allow for improved balance of investment risk between employers and participants, while still providing stable lifetime retirement income. The proposed design would also eliminate withdrawal liability concerns for potential new employers, which would help plans reverse negative demographic trends and bringing stability and vitality to the system.

The Composite Benefit Plan (sometimes referred to as a Target Benefit Plan) as originally proposed and modified in Congressional and industry advocacy group negotiations is now expressed in the legislative proposal called the GROW Act (H.R. 4997), Giving Retirement Options to Workers, introduced by Congressman Dr. Phil Roe (R-TN) and Donald Norcross (D-NJ). For more information on that proposal go to: www.saveourfutures.com.

Section I: Methodology

This section of the report provides an overview of the methodology used in compiling the inventory and performing the analysis in this report. It also instructs users on how to read the graphs used throughout the report.

Form 5500 Data

Seven months after the close of the plan year (nine and a half months, with extension), every qualified pension plan must file a Form 5500 with the Internal Revenue Service (IRS) and the Department of Labor (DOL). The purpose of the form is to demonstrate that the plan has met the applicable requirements under the Internal Revenue Code and the Employee Retirement Income Security Act of 1974 (ERISA).

The inventory of construction industry pension plans is based on data from Forms 5500, which are available to the public.

Data Quality

The inventory is only as good as the Form 5500 data on which it is based. If a plan sponsor filled out a portion of the Form 5500 incorrectly, the errors will likely carry through to the inventory, and perhaps to the analysis.

However, since the inventory and analysis addresses general trends and averages, the effects of such errors should be minimal. Also, in certain cases, reasonable adjustments have been made to correct for missing or questionable data. In other cases, plans with missing or questionable data were excluded from the analysis for that plan year.

Please keep these considerations in mind when reviewing the results in this report.

Construction Industry Plans

The first step in compiling the inventory is to identify the multiemployer defined benefit pension plans in the construction industry.

Using Form 5500 data, it is relatively easy to identify which plans are defined benefit pension plans and which are multiemployer plans. However, it is a bit more challenging to identify which plans are in the construction industry.

Every plan lists a [NAICS](#) code on its Form 5500. NAICS stands for “North American Industry Classification System.” Most construction industry plans list themselves under a construction industry NAICS code. However, some construction industry plans list themselves under other NAICS codes, such as pension funds or labor organizations.

Therefore, in determining which plans are in the construction industry, judgment was exercised in some cases to classify certain plans based on their names or the names of their sponsors. For example, a multiemployer defined benefit plan that included the words “Laborers,” “Operating Engineers,” or “Sheet Metal Workers” in its name would likely have been included in the inventory, even if its NAICS code was not a construction industry code.

In general, multiemployer plans covering union staff in construction industry trades were also included in the inventory. The inventory also includes a few plans covering participants in multiple industries. In other words, some plans cover participants in the construction industry as well as another industry.

Number of Plans in the Inventory

In total, the inventory contains 811 construction industry plans that filed a Form 5500 in the past 10 years, since 2006. Many of the exhibits in the report however focus on the 770 plans that have a recent Form 5500 filing (for plan years ending on or about December 31, 2015) and are not receiving financial assistance from the PBGC.

There are a few reasons for the reduction in the number of plans from 811 to 770. Some plans have merged with others, and a small number have gone insolvent (for example, 7 construction industry plans were receiving financial assistance from the PBGC during the latest plan year). A few plans may simply be missing data for their most recent Form 5500 filing. The declines in the plan counts were partially offset by a few new plans that were established in the past 10 years.

Section I: Methodology

Comparisons with Prior Editions

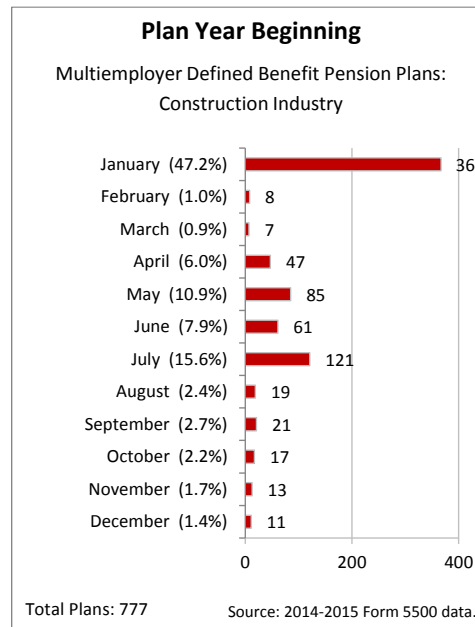
This is the fifth edition of the inventory report, and it is intended to be a stand-alone document. If the reader wishes to compare results in this edition of the report to those in prior editions, the following points should be considered:

- As part of each annual update to the inventory, the underlying historical data in the inventory is refreshed. Therefore, there are small differences in the historical results shown in this edition of the report versus prior editions.
- Exhibits in this edition of the report showing historical results exclude plans that have merged, gone insolvent, or terminated. The first three editions of the report simply excluded plans whose latest asset value was negative or zero. As a result of the change, historical exhibits have a more consistent plan population year after year; results are not affected by plans dropping out of the population due to merger, insolvency, or termination.
- In the first three editions of the report, many exhibits showing historical trends focused on plans with calendar year (January to December) plan years, for the sake of consistency in timing. Focusing only on calendar year plans, however, excluded roughly half of the plans from the study. Most of the historical exhibits in this edition of the report include all plans, regardless of their plan year. Exhibits showing historical investment returns and funded percentages are still analyzed on a calendar year basis, however.
- Exhibits showing historical trends include results for plan years beginning September through December with results for the following plan year. For example, 2015 results would include plan years beginning September 2014 through August 2015. (Note that at the time data is gathered for this report each year, recent Form 5500 results for plan years beginning in August are fully available, but results for plan years beginning in September or later are not.)

Distribution of Plan Years

Exhibit 1.01 below shows the distribution of plans by their plan years.

Exhibit 1.01



Note that nearly half of the plans in the inventory with recent Form 5500 filings have “calendar year plan years,” in other words, plan years that begin in January and end in December.

Also note that 62 plans (about 8.0% of the total) have plan years beginning in September through December. Exhibits showing historical trends include results for these plans in the column for the following plan year.

Section I: Methodology

Large, Medium, and Small Plans

In analyzing certain results, the report lays out separate graphs for “large,” “medium,” and “small” construction industry plans, in addition to the entire population of plans in the inventory.

The report categorizes large plans as those with asset values of at least \$500 million, medium plans as those with asset values of at least \$100 million and less than \$500 million, and small plans as those with asset values of less than \$100 million. (See Section II for the distribution of plans by asset value.)

The dividing lines between the categories are somewhat arbitrary, but they provide interesting breakdowns of the results and meaningful sample sizes within each category. For example, many people may consider a large plan to have an asset value of at least \$1 billion rather than \$500 million. However, using \$1 billion as the dividing line would not provide a large enough sample size for those plans to allow meaningful comparisons.

The asset values used to categorize the plans by size are measured as of the end of the latest plan year for which the plan filed a Form 5500 and are measured at market value. Because the report classifies plans based on their latest asset value, as opposed to their asset value each year, plans will not shift between categories from one year to the next in historical exhibits, as they cross the \$100 million or \$500 million thresholds. This helps create consistent subgroups for comparisons when looking at historical results.

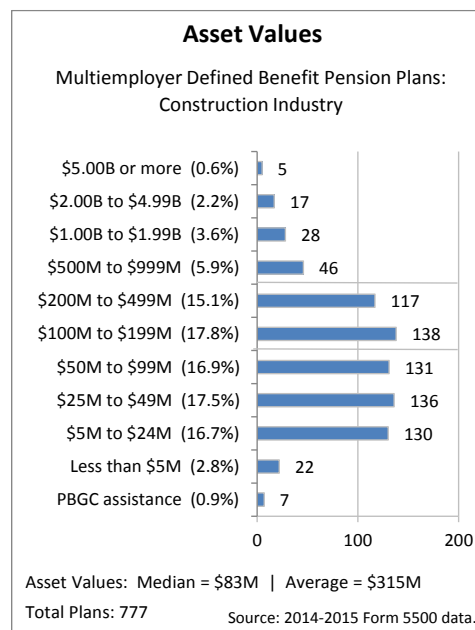
Note, however, that some plans shift between the large, medium, or small categories from the fourth edition of the inventory. Also note that a plan that is quickly approaching insolvency – in other words, its asset value is approaching zero – may be considered a small plan under this definition, even if it covers thousands of participants and would be considered large by other measures. There are very few plans in this category, but this should nevertheless be kept in mind when reviewing the results.

Snapshot Distribution Graphs

This report analyzes both historical trends as well as specific characteristics at a specific point in time. “Snapshot distribution” graphs are used to demonstrate how results are distributed at a specific point in time. See the sample exhibit below, which shows the distribution of plans by asset value (repeated later in the report as Exhibit 2.01).

Note that beside each category, the graph lists the percentage of plans in the population that fall into that category. For example, in the sample graph below, there are 46 plans that fall into the category of “\$500M to \$999M,” which represents 5.9% of the plans in the inventory. Percentages may not perfectly add to 100.0%, due to rounding.

Sample Exhibit



When reviewing the snapshot distribution graphs, note that the scale often widens as the plans get larger. Changing the scale makes the results easier to read and keeps very large plans from skewing the scale.

In general, snapshot distribution graphs will include all 770 construction industry plans in the inventory that filed a Form 5500 in either of the last two plan years ending on or about December 31, 2015 (in other words, based on “2014-2015” Form 5500 data). Plans with missing data are excluded. The seven plans receiving PBGC assistance are also excluded in most charts.

Section I: Methodology

Quartile Bar Graphs

To analyze historical trends, this report will often use “quartile bar” graphs, which show the range of results over the last ten years.

See the sample quartile bar graph below which shows net investment returns over the last ten years. Note the following:

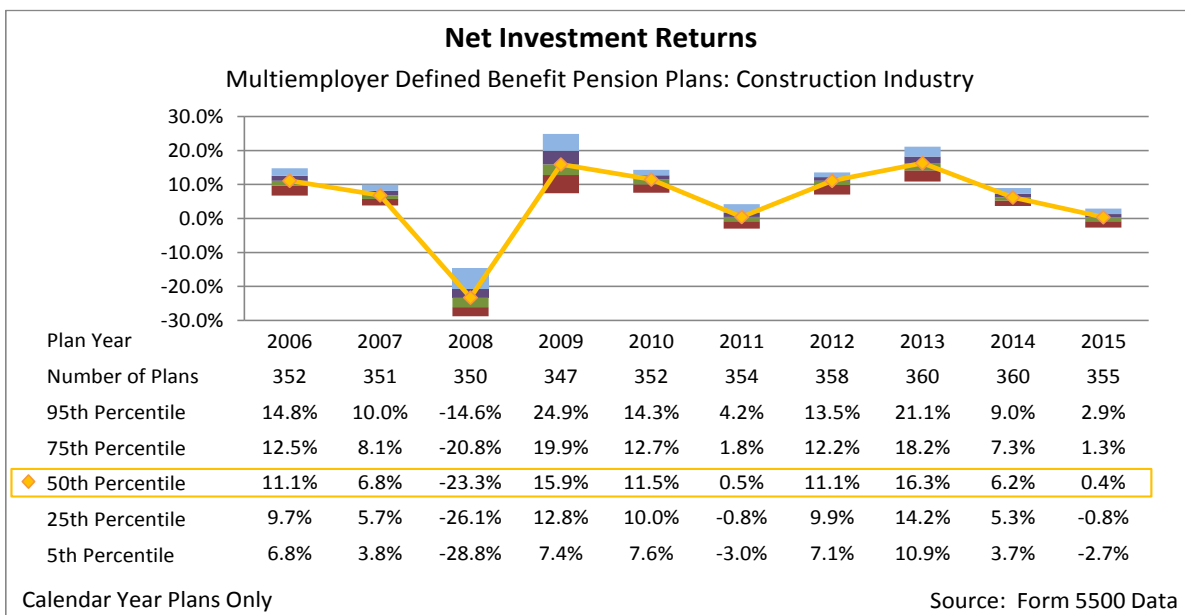
- The bars on the graph are divided into four sections. These represent the top (blue), second (purple), third (green), and bottom (red) quartile results.
- The gold line (—) running between the second and third quartiles represents the median or 50th percentile results. Note that these results are also delineated in a graphic box in the table of numbers below the quartile bars.
- To exclude outliers, results beyond the 95th and 5th percentiles are not shown. Therefore, the top quartile actually shows results from the 75th percentile to the 95th percentile, and the bottom quartile actually shows results from the 25th percentile down to the 5th percentile.
- Even though results above the highest 5 or below the lowest 5 percent are not shown, outliers may still be present. This is especially true in the upper end (when the blue bars are relatively higher).

- The numbers corresponding to the quartiles are shown in the table below the graph. The median results are outlined in gold.
- The title in the table includes a legend indicating which plans are included in the exhibit (such as industry, plan size, or trade). In the bottom left corner, there will be a notation if the exhibit includes only calendar year plans.
- The number of plans included is shown just below the years. Plans may be excluded from the sample in any given year due to missing or questionable data. This is a big reason why the number of plans changes year after year. To a lesser degree, plan terminations and mergers cause the counts to change.

For example, the quartile bar graph below shows historical net investment returns for medium-sized plans in the construction industry. (Medium-sized plans have asset values of at least \$100 million and less than \$500 million, as of their latest Form 5500 filing.) Only results for plans with calendar year plan years are included.

This graph is also included later in the report as Exhibit 5.01B.

Sample Exhibit



Section II: Plans in the Inventory

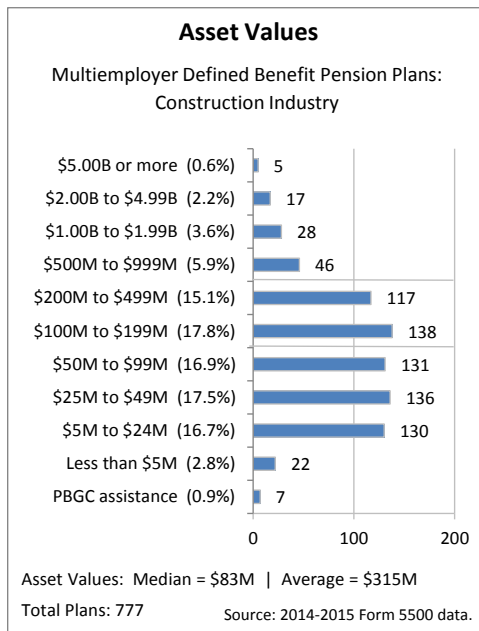
There are 770 solvent multiemployer construction industry plans in the inventory that filed a Form 5500 in either of the last two plan years, ending on or about December 31, 2015. This section shows the distributions of those plans by asset value, number of participants, and number of employers. In total, these construction industry plans have roughly \$243 billion in assets, and they cover more than 4 million participants and their beneficiaries.

Plans by Asset Value

Exhibit 2.01 below shows the distribution of construction industry plans by asset value. The assets are market values of assets as of the end of the latest plan year for which a Form 5500 was filed.

For example, for a calendar year plan, the latest Form 5500 was filed for the plan year beginning January 1, 2015, and the asset value would be as of December 31, 2015. For a plan year beginning on October 1, the latest Form 5500 was probably filed for the plan year beginning October 1, 2014, and so the asset value would be as of September 30, 2015.

Exhibit 2.01



The 770 solvent plans in the inventory had a median asset value of \$83 million. The average asset value was \$315 million, skewed by very large plans in the inventory.

There were 96 plans (12.5% of the total) with asset values of at least \$500 million, which are classified as “large” plans for purposes of this report. Among

these were 50 plans with asset values of at least \$1 billion; only 5 had assets of \$5 billion or more.

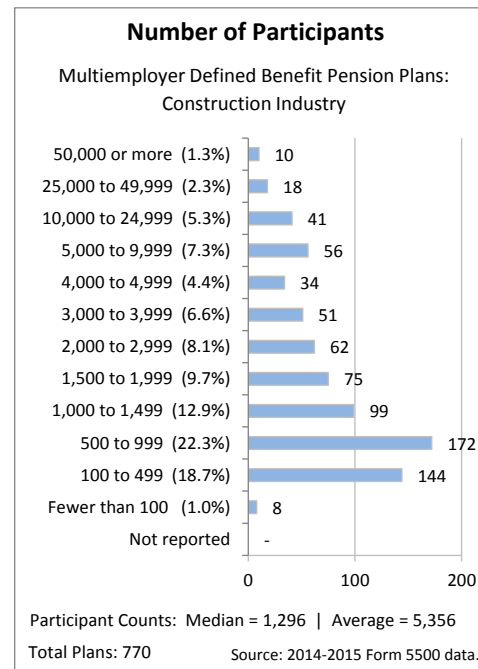
There were 255 plans (32.8% of the total) with assets of at least \$100 million but less than \$500 million. These plans are classified as “medium” in size for purposes of this report.

There were 419 plans (53.9%) with asset values less than \$100 million, which are classified as “small” plans. Among these were 152 plans with reported asset values of less than \$25 million; 22 plans had asset values of less than \$5 million.

Plans by Number of Participants

Exhibit 2.02 shows the distribution of construction industry plans by total number of participants as of the end of the latest plan year, usually on or about December 31, 2015. Participant counts include active participants, inactive participants with vested benefits, retired participants, and other beneficiaries. See Section III for definitions of the different types of participants.

Exhibit 2.02



The median number of participants covered under a construction industry plan is 1,296. The average number (again, skewed by very large plans) is 5,356.

The distribution of plans by number of participants is very similar to the range of plans by asset values. There were 69 plans (9.0%) with at least 10,000

Section II: Plans in the Inventory

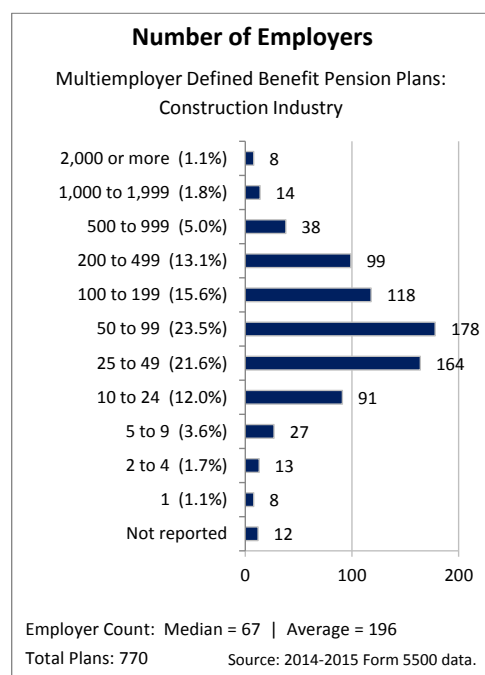
participants. Of those plans, 28 (3.6%) had at least 25,000 participants, and only 10 plans (1.3%) had 50,000 participants or more.

There were 324 plans (42.1%) with fewer than 1,000 participants and 152 plans (19.7%) with fewer than 500 participants. Eight plans (1.0%) had fewer than 100 participants.

Plans by Number of Contributing Employers

Exhibit 2.03 shows the distribution of construction industry plans by number of contributing employers, as of the end of the latest plan year, on or about December 31, 2015.

Exhibit 2.03



The median number of contributing employers in construction industry plans is 67. The average (skewed by larger plans) is 196.

Of the plans that reported the number of contributing employers, 481 of them (63.5%) had fewer than 100 contributing employers, and 139 plans (18.3%) had fewer than 25 employers making contributions to the plan.

There were 22 plans (2.9%) with at least 1,000 contributing employers. Eight of these plans (1.1%) had 2,000 or more employers paying into the plan.

In the middle range, there were 255 plans (33.6%) with between 100 and 999 employers making contributions to the plan.

Plans by Trade and Geographic Region

Exhibit 2.04 on the following page shows the distribution of plans by trade and by geographic region. In addition to the number of plans, this exhibit shows the aggregate asset values and number of covered participants and beneficiaries.

Results are shown for different construction industry trades, in descending order based on the number of plans covering trade members. Note that:

- “Plumbers and Pipefitters” plans include plans covering plumbers, pipefitters, air conditioning, sprinkler, refrigeration, and HVAC service technician trades.
- There were too few plans in trades such as Boilermakers and Elevator Constructors to show them separately. Plans in these trades are included in the “other or mixed trades” category.
- Plans covering multiple trades are also included in the “other or mixed trades” category.
- In general, plans covering Teamsters are considered to be in the transportation industry and are therefore not included in the inventory.

See Appendix A for more detail regarding trade classifications.

Plans are also grouped by geographic region. The following table shows the postal codes of the states (as well as the District of Columbia) included within each region.

Region	States Included
New England	CT, ME, MA, NH, RI, VT
Mid-Atlantic	DE, DC, MD, NJ, NY, PA, VA, WV
Midwest	IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI
South	AL, AR, FL, GA, KY, LA, MS, NC, NM, OK, SC, TN, TX
West	AZ, AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY

See Appendix D for a listing of construction industry plans by state, as well as a summary of plans, total asset values, and covered participants by state.

Section II: Plans in the Inventory

		NE	MidAtl	Midwest	South	West		
Construction Industry Trade	Geographic Region	New	Mid				All-Region Total	
		England	Atlantic	Midwest	South	West		
UA	Plumbers and Pipefitters	Number of Plans	7	40	51	28	18	144
UA		Total Assets	\$ 947	\$ 14,268	\$ 8,442	\$ 2,853	\$ 5,787	\$ 32,297
UA		Number of Participants	10,128	247,811	89,029	41,990	61,126	450,084
IBEW	Electrical Workers	Number of Plans	9	38	38	12	24	121
IBEW		Total Assets	\$ 1,258	\$ 20,083	\$ 7,570	\$ 626	\$ 8,089	\$ 37,626
IBEW		Number of Participants	15,062	653,809	95,082	18,493	96,807	879,253
Laborers	Laborers	Number of Plans	5	37	18	1	15	76
Laborers		Total Assets	\$ 1,905	\$ 8,597	\$ 12,751	\$ 1,388	\$ 6,675	\$ 31,317
Laborers		Number of Participants	29,667	177,664	199,803	44,292	120,017	571,443
BAC	Bricklayers and Allied Crafts	Number of Plans	1	27	23	2	10	63
BAC		Total Assets	\$ 269	\$ 2,546	\$ 1,852	\$ 65	\$ 648	\$ 5,379
BAC		Number of Participants	4,348	98,869	32,520	3,107	11,318	150,162
Iron Workers	Iron Workers	Number of Plans	2	25	15	9	8	59
Iron Workers		Total Assets	\$ 434	\$ 7,157	\$ 3,597	\$ 789	\$ 2,494	\$ 14,471
Iron Workers		Number of Participants	5,976	165,648	46,788	17,717	33,202	269,331
OPCMIA	Cement Masons	Number of Plans	2	16	15	6	15	54
OPCMIA		Total Assets	\$ 31	\$ 1,932	\$ 1,153	\$ 18	\$ 1,394	\$ 4,527
OPCMIA		Number of Participants	622	29,173	16,247	1,134	23,875	71,051
UBC	Carpenters	Number of Plans	4	9	17	9	10	49
UBC		Total Assets	\$ 3,996	\$ 8,734	\$ 15,821	\$ 1,158	\$ 9,846	\$ 39,555
UBC		Number of Participants	51,210	113,087	214,629	35,847	162,105	576,878
SMW	Sheet Metal Workers	Number of Plans	3	11	22	7	9	52
SMW		Total Assets	\$ 100	\$ 4,816	\$ 2,414	\$ 281	\$ 3,647	\$ 11,258
SMW		Number of Participants	2,901	151,511	34,739	5,519	39,946	234,616
Insulators	Insulators and Allied Workers	Number of Plans	2	15	10	9	2	38
Insulators		Total Assets	\$ 128	\$ 1,174	\$ 541	\$ 165	\$ 318	\$ 2,326
Insulators		Number of Participants	1,323	13,209	5,702	3,073	4,489	27,796
IUOE	Operating Engineers	Number of Plans	4	14	7	-	9	34
IUOE		Total Assets	\$ 1,277	\$ 18,096	\$ 8,099	-	\$ 9,059	\$ 36,531
IUOE		Number of Participants	13,708	291,778	76,225	-	118,058	499,769
IUPAT	Painters and Allied Trades	Number of Plans	2	2	18	-	9	31
IUPAT		Total Assets	\$ 383	\$ 2,966	\$ 2,161	-	\$ 1,467	\$ 6,978
IUPAT		Number of Participants	4,700	79,211	26,296	-	21,786	131,993
Roof	Roofers and Allied Workers	Number of Plans	3	7	11	-	2	23
Roof		Total Assets	\$ 126	\$ 223	\$ 2,210	-	\$ 123	\$ 2,683
Roof		Number of Participants	1,554	4,773	38,772	-	2,873	47,972
Other	Other or Mixed Trades	Number of Plans	1	12	9	2	2	26
Other		Total Assets	\$ 196	\$ 7,375	\$ 9,958	\$ 126	\$ 116	\$ 17,771
Other		Number of Participants	2,076	64,630	139,228	3,061	4,508	213,503
Construction Industry Total		Number of Plans	45	253	254	85	133	770
		Total Assets	\$ 11,050	\$ 97,967	\$ 76,569	\$ 7,470	\$ 49,662	\$ 242,718
		Number of Participants	143,275	2,091,173	1,015,060	174,233	700,110	4,123,851

Asset values are shown in millions of dollars.

Source: 2014-2015 Form 5500 data.

National and regional plans are classified geographically based on the address listed on their Form 5500 filings.

Section III: Plan Demographics

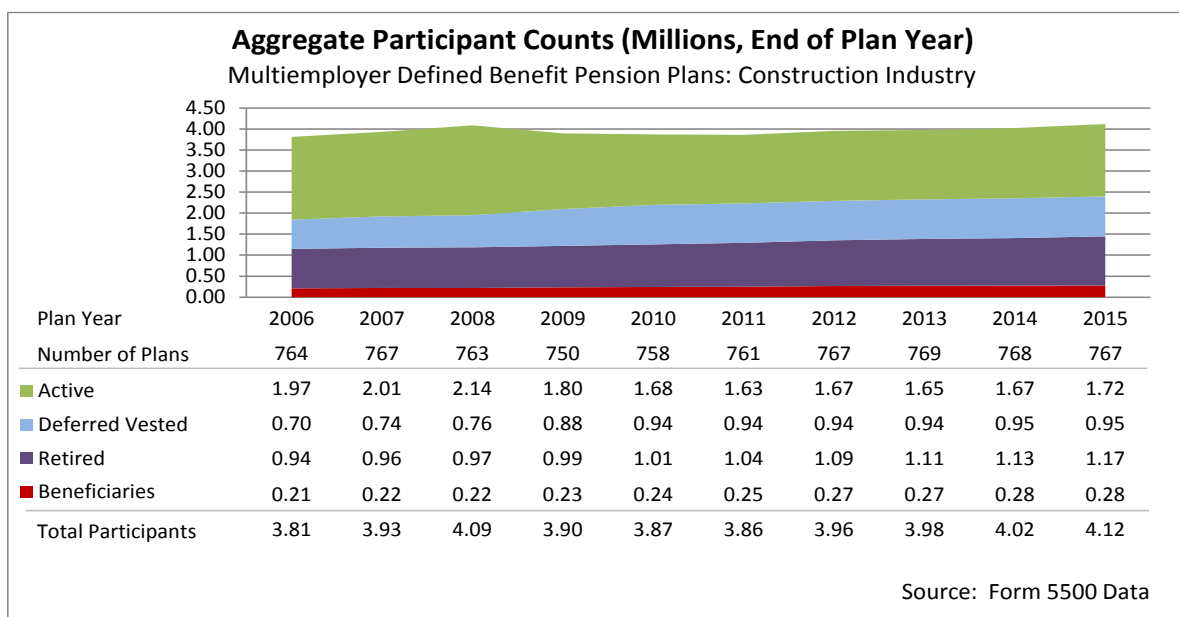
Having favorable demographics is a key factor in the long-term sustainability of a pension plan. In general, it's better for a plan's overall population to have a higher proportion of younger, working participants than older, inactive or retired participants. This section of the report reviews plan demographics and how they have changed over the past decade.

Types of Participants

Following are definitions of the different types of participants shown in the exhibits in this section.

- **“Active”** participants are those individuals who worked enough hours or other measure of contribution, as of the end of the plan year, to earn (accrue) service credits under their plan.
- **“Inactive”** participants are those individuals who were not working enough as of the end of the plan year to accrue service credits, but who are entitled nevertheless to vested benefits due to their prior service under the plan. Inactive participants include:
 - **“Deferred Vested”** participants, who are entitled to vested benefits that are deferred to a future retirement date.
 - **“Retired”** participants, who are currently receiving benefits from their plan.
 - **“Beneficiaries”** who are either receiving survivor benefits earned by a deceased participant, or who are entitled to future survivor benefits.

Exhibit 3.01



Number of Participants

Exhibit 3.01 below shows the aggregate participant counts for construction industry plans over the ten-year period from 2006 through 2015. Counts are those reported by the plan sponsor on the Form 5500 and are as of the end of the plan year. Counts are shown in millions.

The aggregate number of participants increased over the past decade, from 3.81 million at the end of 2006 to 4.12 million at the end of 2015. The number of active participants generally declined from 2006 through 2011 but has grown modestly since then, while the number of inactive participants has increased. Note that in 2015, the number of active participants was the highest in any year since 2009.

The number of inactive participants with deferred vested benefits increased from 0.70 to 0.95 million over the period, with a large spike from 2008 to 2010, likely because of a decline in available work. The number of retired participants increased from 0.94 to 1.17 million over the period, and the number of beneficiaries of deceased participants increased as well, from 0.21 to 0.28 million. At the same time, the number of active participants decreased over the past decade, from 1.97 to 1.72 million, with some fluctuations from year to year.

Section III: Plan Demographics

Participant Ratios

Another way to analyze plan demographics is to look at the *ratio* of active participants to inactive participants. In general, the higher the ratio of active participants to inactive participants, the easier it is for a plan to correct any funding shortfall by increasing contribution rates or decreasing future benefit accruals. On the other hand, a lower ratio usually means that it is more difficult for a plan to improve funding through these means.

As a pension plan matures, the ratio of active participants to inactive participants will naturally decline. Such changes can be manageable if they occur gradually.

However, sudden shifts in demographics due to sharp declines in employment levels are very difficult to manage. Nearly every construction industry pension plan suffered significant declines in demographic balance following the 2008 construction market collapse as many who were eligible to retire chose to do so because of the lack of work. This was made much worse by the severe losses to plan assets due to the stock market collapse that precipitated the economic recession.

Exhibit 3.02 below shows the distribution of these participant ratios for construction industry plans from the end of 2006 through the end of 2015.

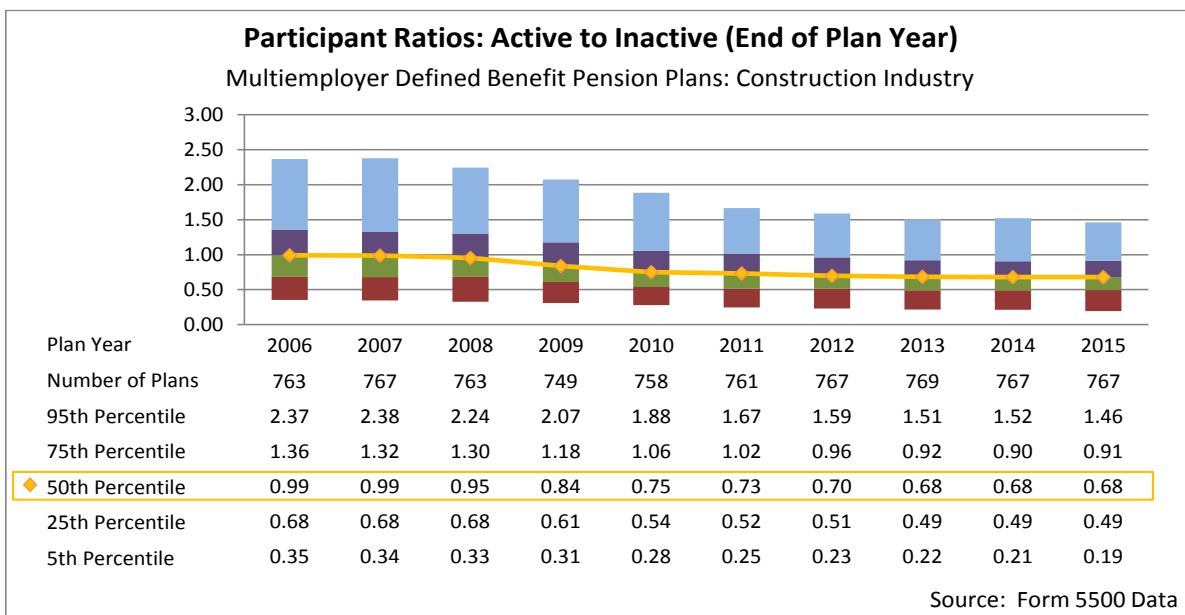
Focusing on the median results:

- At the end of 2006, the median ratio of active participants to inactive participants was 0.99. In other words, for the median plan, there were slightly fewer participants who were actively working and having contributions made on their behalf than there were participants who were not working.
- There was a sharp decline in the median ratio from 2008 to 2010, from 0.95 to 0.75. By the end of 2015, the median ratio had declined further, to 0.68. In other words, at the end of 2015, the median plan had fewer than 7 active participants to every 10 inactive participants.

MCAA Commentary

Without changes to the current system, many plans will not be able to sustain worsening demographic trends over the long term. In the economy overall – and in high-skilled occupations especially – the demand for qualified replacement workers is currently outpacing the supply available in the industry. Legislative changes are needed to encourage new employers and more workers to join these plans, bringing renewed vitality to the system.

Exhibit 3.02 (All Plans)



Section III: Plan Demographics

It's important to note that not all construction industry plans have the same demographic characteristics. Some plans have a healthy balance between active and inactive participants. Others are more mature, with inactive participants significantly outnumbering active participants.

For example, at the end of 2015:

- There were 5% of plans with a ratio of 0.19 or worse (5th percentile). Those plans had more than 5 inactive participants to every 1 actively working participant – a very unhealthy ratio.
- On the other end of the spectrum, 5% of plans had a ratio of 1.46 or better (95th percentile). Those plans had about three active participants to every two inactive participants – a healthy ratio.
- The range in participant ratios from the 25th to 75th percentiles is 0.49 to 0.91, a considerable difference among plans representing the middle 50% of the population.
- Overall, about 75% of all construction industry plans had less than 1 active participant for each inactive participant in the plan.

MCAA Commentary

There are many factors that could cause one plan to have more favorable demographics than another. Perhaps some plans are better off because their unions were better able to organize new employers. Geographically, some markets are more competitive, with strong hours and a backlog of work. Industry leaders and public policy officials should analyze the reasons for and encourage these positive trends.

An expanding share of a robust construction market is far better over the long term than a high percentage share of a stagnant market. The risk imbalance in the current multiemployer funding rules can be a substantial detriment to restoring long-term demographic balance in these plans. Legislative reforms are needed to eliminate the reluctance of new employers to sign on to participate in the multiemployer system and, as importantly, to encourage existing sponsoring employers to remain in participation and contributory status.

Differences by Plan Size

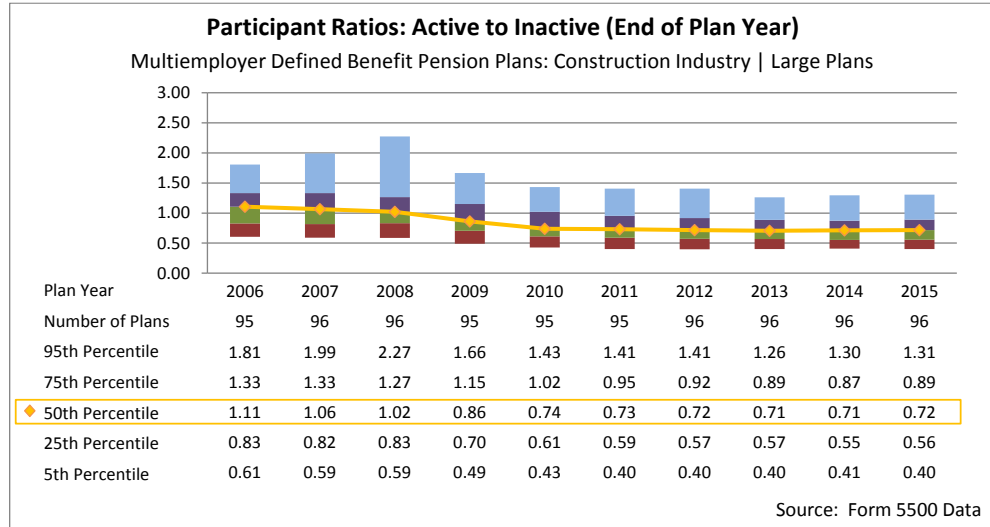
The following page includes three separate exhibits showing the participant ratios for large plans (assets of at least \$500 million), medium plans (assets of at least \$100 million and less than \$500 million), and small plans (assets less than \$100 million).

Note the following:

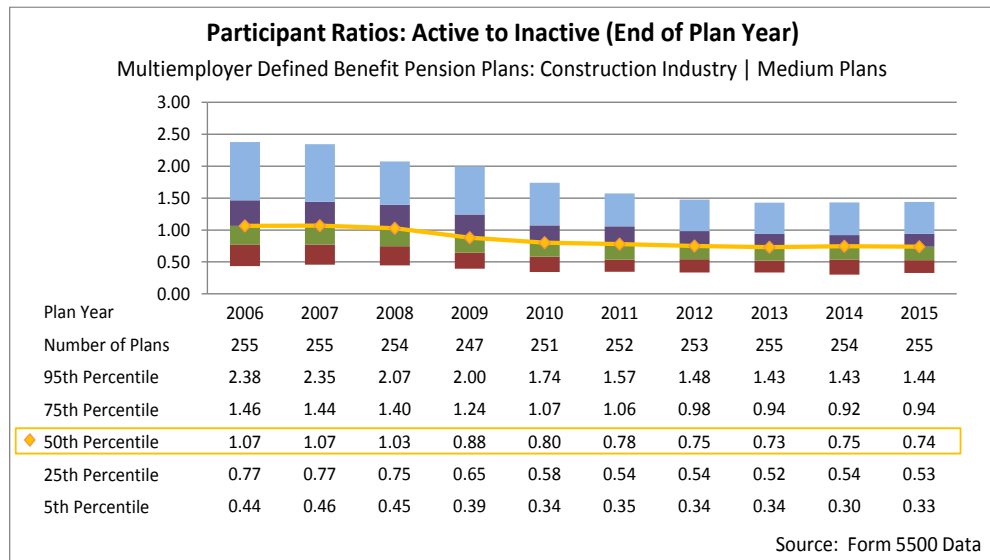
- For the large plans (Exhibit 3.02A), the range of participant ratios is much narrower than for the overall population (Exhibit 3.02). For example, at the end of the 2015 plan year, the range of participant ratios from the 5th to 95th percentiles was 0.40 to 1.31 for large plans, compared with 0.19 to 1.46 for the overall population. The range of participant ratios from the 25th to 75th percentiles was 0.56 to 0.89 for large plans, compared to 0.49 to 0.91 for the overall population.
- Most of the variability in the overall population comes from the small plans (Exhibit 3.02C). For example, at the end of the 2015 plan year, the range of participant ratios between the 5th and 95th percentiles was 0.06 to 1.48, and the range from the 25th to 75th percentiles was 0.45 to 0.87 – both of which are wider than for the overall population.
- Medium plans (Exhibit 3.02B) have somewhat higher 2015 median participant ratios (0.74) than large (0.72) or small (0.63) plans. This may be a somewhat unexpected result.
- There may be a loose relationship between a plan's size and its ability to sustain healthier demographics. Perhaps there is a "sweet spot" where a plan is neither too small nor too large within its jurisdiction? Whatever the case may be, the data in the inventory does not provide any basis for cause-and-effect analysis. The analysis in this report did not investigate this relationship.

Section III: Plan Demographics

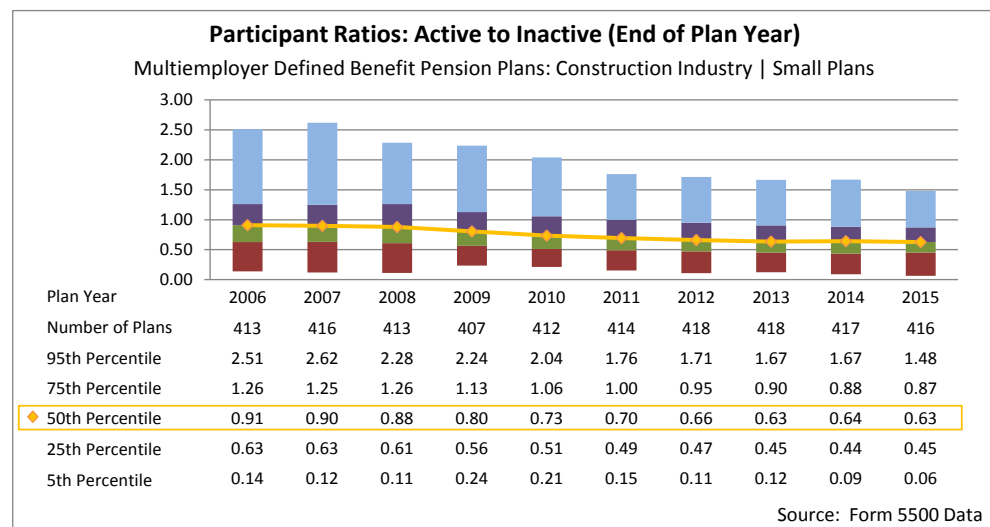
**Exhibit 3.02A
(Large Plans)**



**Exhibit 3.02B
(Medium Plans)**



**Exhibit 3.02C
(Small Plans)**



Section IV: Plan Cash Flows

A plan's cash flows are very closely tied to its demographics. As retired participants begin to outnumber active participants, benefit payments to retirees exceed contributions being made for work done by the active participants. If contributions paid into the plan fall short of cash paid out of the plan, the difference must be made up by investment income, or else the plan's assets will shrink over time.

Types of Cash Flows

Following are definitions of the different types of cash flows shown in the exhibits in this section.

- **Contributions** are made by employers on behalf of the participants in the plan who are actively working. In most cases, this is the sole source of “cash in” for the plan.
- **Benefit Payments** are made by the plan to retired participants and beneficiaries of deceased participants. This is the main source of disbursements, or “cash out” for the plan.
- **Operating Expenses** include the costs of administration, professionals fees (such as for attorneys, auditors, actuaries, and consultants), and insurance and PBGC (Pension Benefit Guaranty Corporation) premiums. They exclude investment fees. Operating expenses are another source of “cash out” for the plan.

If contributions to the plan exceed benefit payments and operating expenses, then the plan has a positive cash flow. On the other hand, if contributions to the plan do not cover benefit payments and operating expenses, then the plan has a negative cash flow.

As plans mature, their cash flows tend to become increasingly negative. As with negative demographic trends, persistence of negative trends in cash flows will threaten a plan's viability – for participants and beneficiaries as well as contributing employers – over the long term.

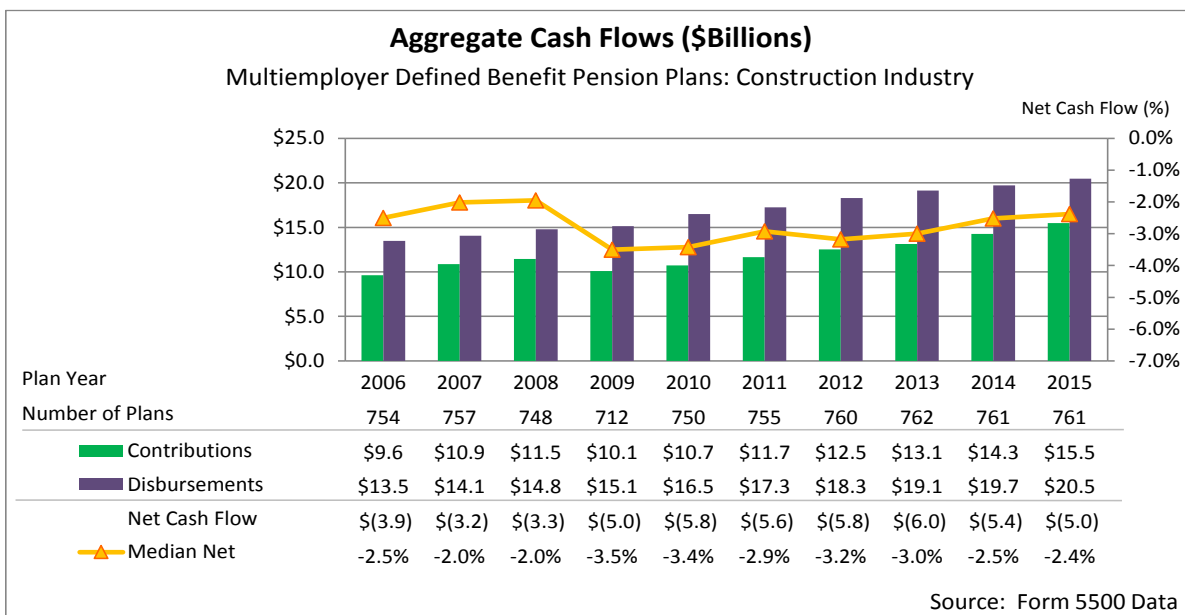
Aggregate Cash Flows

Exhibit 4.01 below shows the aggregate cash flows for construction industry plans over the ten-year period from 2006 through 2015. Amounts are shown in billions of dollars. The median net cash flow, as a percentage of plan assets, is shown for reference.

Aggregate employer contributions increased over the past decade, from \$9.6 billion in 2006 to \$15.5 billion in 2015. The trend was likely driven by increases in employer contribution rates, offset by declines in work hours.

At the same time, plan disbursements also increased, from \$13.5 billion in 2006 to \$20.5 billion in 2015. The combined result is that increasingly negative net cash flows, with the net shortfall growing from \$3.9 billion in 2006 to \$5.0 billion in 2015.

Exhibit 4.01



Section IV: Plan Cash Flows

Cash Flows as a Percentage of Assets

Another way to analyze the effect of positive or negative cash flows on a plan is to express the net cash flow as a percentage of plan assets.

For a plan with a negative cash flow, this percentage represents the return on investment that is needed to keep the plan's asset value from declining. For example, a plan with a negative cash flow of 3.0% of assets must have an investment return of at least 3.0% in order to avoid a decline in its asset value from one year to the next.

Exhibit 4.02 shows the distribution of net cash flows as a percentage of plan assets for construction industry plans from 2006 through 2015. Focusing on the median results, the negative cash flow increased from 2.5% of plan assets to 3.5% of plan assets from 2006 to 2009, with a spike from 2008 to 2009 – due to the downturn in the construction work and the loss of asset values in the stock market decline.

The median negative cash flow improved to 2.4% of assets by 2015, in part as a result of actions taken by plan trustees to improve funding, such as increases to employer contributions and reductions in participant benefits, as well as a rebound in asset values and construction work in some markets.

There is a wide range of results. For example, at the 95th percentile, there are plans that have annual positive cash flow that is over 3% of plan assets.

At the 5th percentile, there are plans that have annual negative cash flow that exceeds 9% of plan assets. Plans with such negative cash flows are likely approaching insolvency.

MCAA Commentary

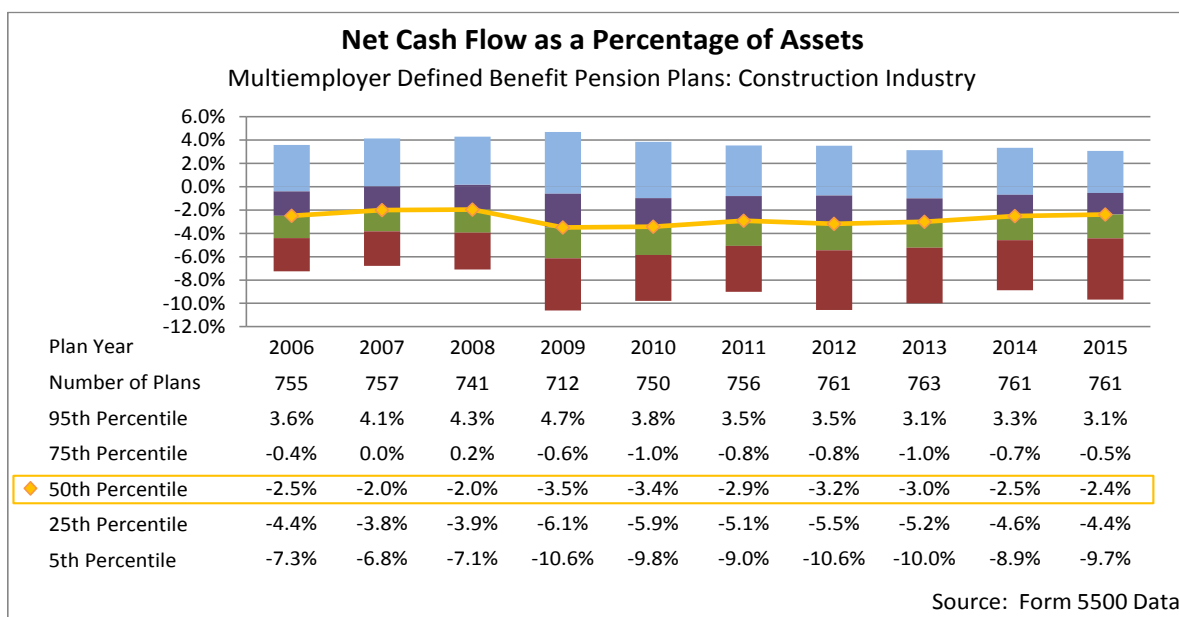
In general, cash flows will grow increasingly negative as a plan matures, causing the plan to rely more and more on investment returns to meet its funding and solvency objectives.

With continued unpredictability in the financial markets, it is especially important for mature plans to have an adequate cushion against adverse investment events. Trustees of maturing plans should consider taking steps to bolster their plans' funding levels in order to buffer against future investment volatility.

Differences by Plan Size

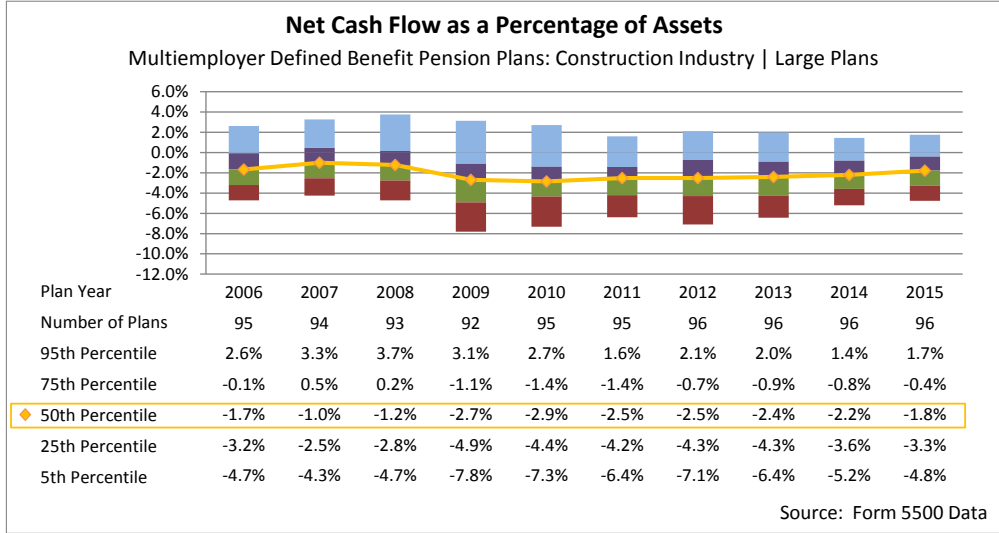
The following page includes three separate exhibits showing cash flows for large, medium, and small plans. As with demographics, general trends for cash flows are similar for all plans, regardless of size. Also, the range of results for small plans is much wider than for large and medium plans.

Exhibit 4.02 (All Plans)

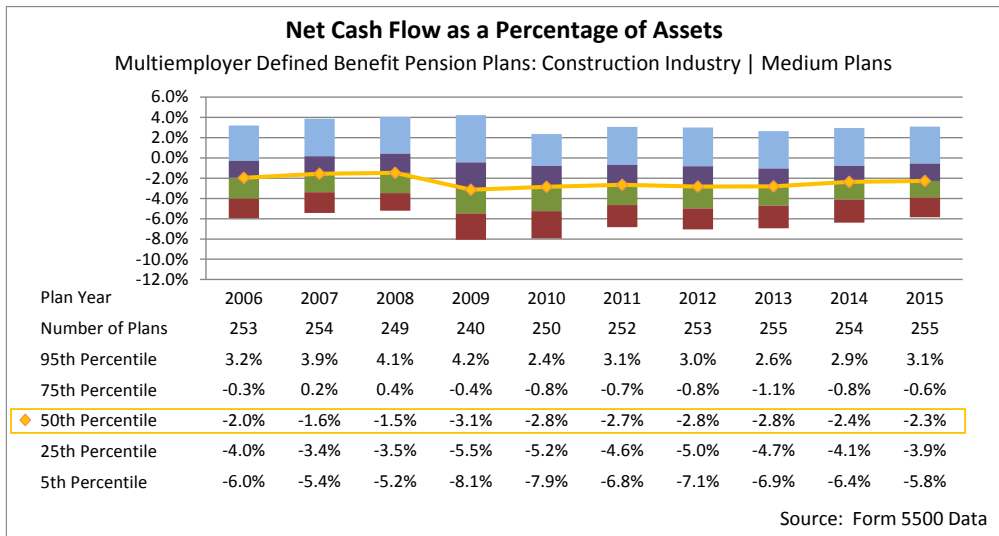


Section IV: Plan Cash Flows

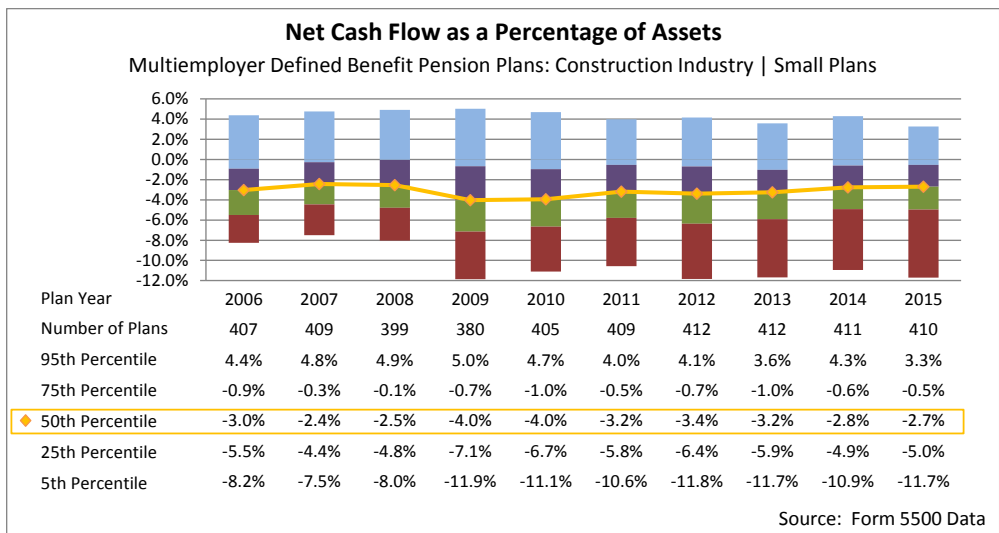
**Exhibit 4.02A
(Large Plans)**



**Exhibit 4.02B
(Medium Plans)**



**Exhibit 4.02C
(Small Plans)**



Section V: Plan Investments

So far, the 21st Century has been turbulent for the financial markets, which in turn made for challenging times for pension plans. This section of the report analyzes the net investment returns for construction industry plans over the ten-year period from 2006 to 2015. Asset returns are examined on a year-by-year basis, as well as annualized over the ten-year period. The report also analyzes the assumed rates of investment return for the plans in the inventory.

Year-by-Year Returns

Exhibit 5.01 shows net investment returns for construction industry plans over the past ten years, from January 1, 2006 through December 31, 2015. For consistency, exhibits in this section include only results for plans with calendar year plan years.

Technical Note: Investment Horizons

The exhibits in this report show results over a ten-year period. In assessing the results in this section of the report, users should bear in mind that pension obligations are very long-term in nature, and ten years is too short a period from which to draw conclusions about investment policies.

Investment returns were very volatile over the past decade. The median returns for construction industry plans were double-digit positive in five

were also negative in one year (-23.3% in 2008) and essentially flat in 2011 and 2015.

It is important to note that all investment returns shown in this section are *net* of fees. It is also important to keep in mind that a plan's investment allocation is a key driver of its investment returns.

Differences by Plan Size

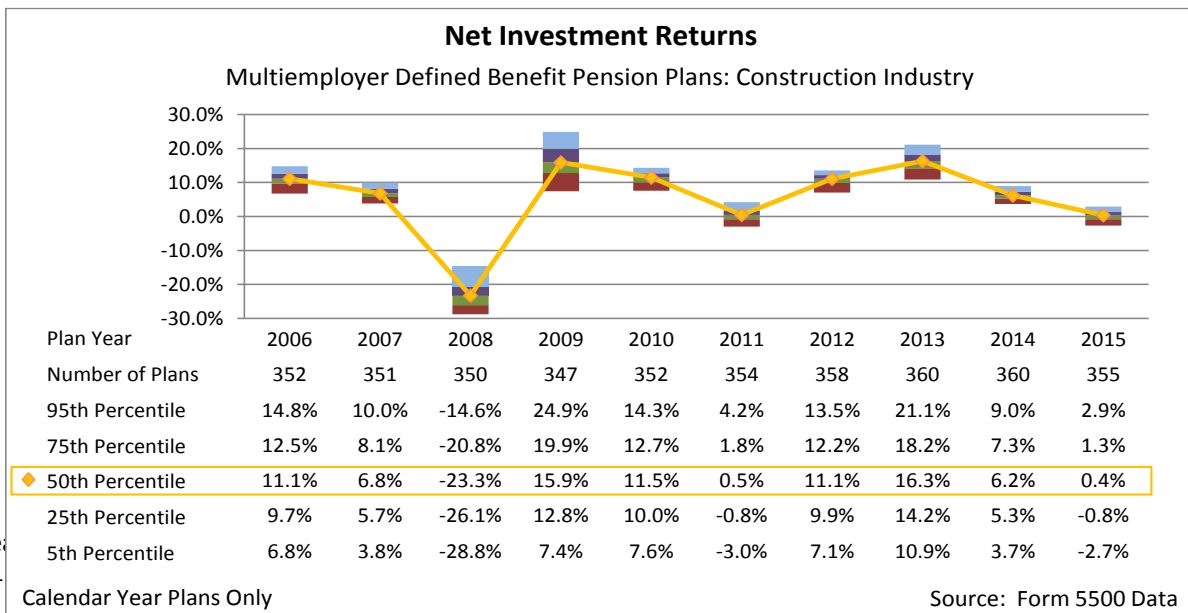
The exhibits on the next page show net investment returns separately for large plans (assets of at least \$500 million), medium plans (assets of at least \$100 million and less than \$500 million), and small plans (assets less than \$100 million).

While the general patterns of investment returns over the past ten years look similar regardless of plan size, there are interesting differences upon closer inspection.

In general, larger plans have more diversified investments, as well as greater access to a wider range of non-traditional asset classes. Therefore, it is not surprising to see that net investment returns over the past ten years were slightly higher for large plans than for medium and small plans. However, medium and small plans seemed to have better returns during the turmoil of 2008 and early 2009.

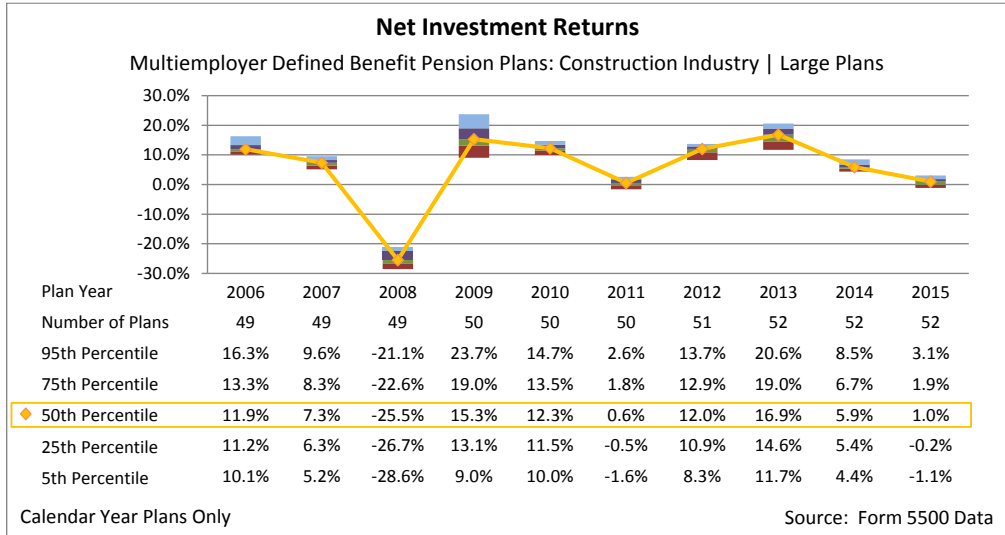
Unfortunately, the available data on the Forms 5500 is not sufficient to determine if there is a relationship between plan asset allocations and investment performance.

Exhibit 5.01 (All Plans)

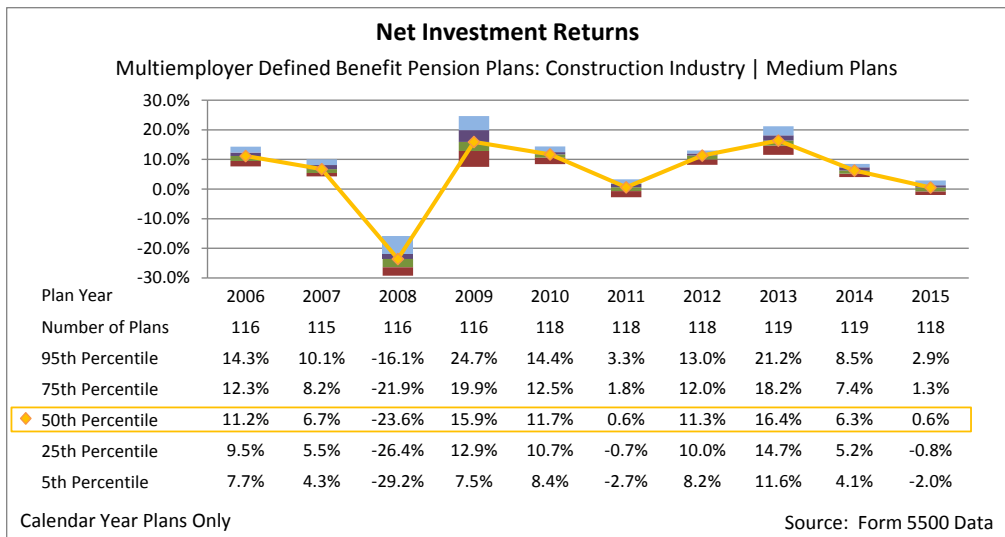


Section V: Plan Investments

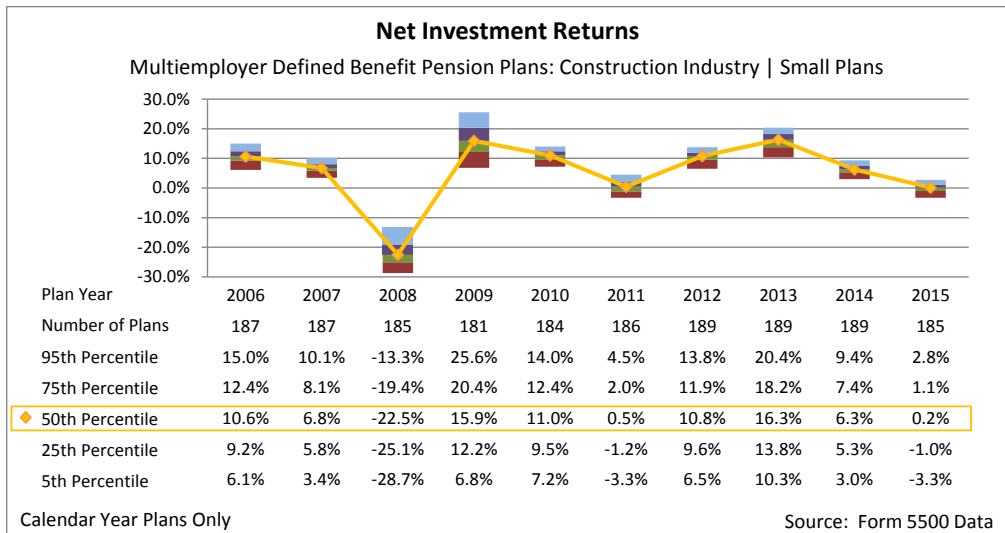
**Exhibit 5.01A
(Large Plans)**



**Exhibit 5.01B
(Medium Plans)**



**Exhibit 5.01C
(Small Plans)**



Section V: Plan Investments

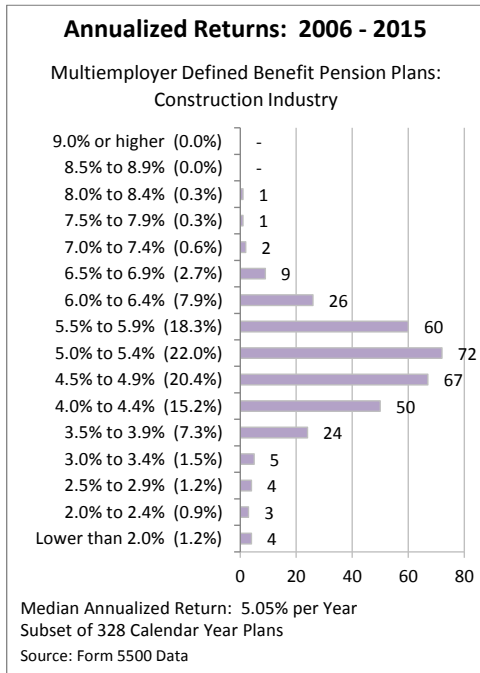
Annualized Returns

The previous exhibits showed net investment returns, year by year, for the ten-year period from January 1, 2006 through December 31, 2015. The following exhibits show *annualized* returns, which allows for better comparisons of investment performance for the entire ten-year period.

Technical Note: Methodology

Annualized investment returns are based on plans with calendar plan years only. Further, only plans for which complete Form 5500 data is available for all ten years from 2006 through 2015 are included. There are 328 such plans in the inventory, which are included in the following exhibits.

Exhibit 5.02 (All Plans)



As shown in Exhibit 5.02 above, the median annualized return for the 328 plans in the sample was 5.05% per year. About 95% of plans in the sample had annualized net investment returns of at least 3.0% but less than 7.0% for the ten years from 2006 through 2015. About 75% of plans had annualized returns of at least 4.0% but less than 6.0%. About 42% of plans had annualized returns of at least 4.5% but less than 5.5%.

Technical Note: Endpoint Sensitivity

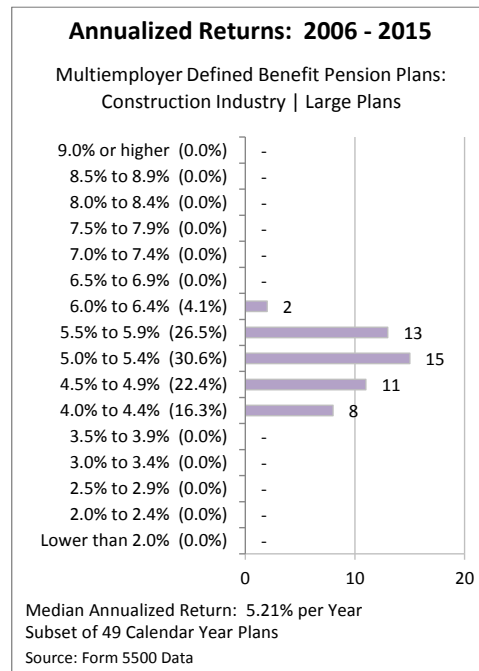
As noted earlier, ten years is too short a period from which to draw conclusions about investment policies. It is also important to keep in mind that the annualized returns analyzed here are very sensitive to the period endpoints. That is, shifting the ten-year period by a year could result in significantly different annualized returns.

For example, the median annualized return for the ten-year period from 2006 to 2015 is 5.05%. The median annualized return for the ten-year period from 2005 through 2014, however, was higher: 5.62%. Note the effect on the ten-year annualized return of replacing a positive year (5.8% in 2005) with a flat year (0.4% in 2015). This result underscores how sensitive annualized returns are to the endpoints.

Differences by Plan Size

See Exhibit 5.02A. Annualized returns for large plans are somewhat higher with a somewhat narrower range than for the overall population. For example, none of the large plans in the sample had annualized returns of less than 4.0% or more than 6.5% per year. Also, the median annualized return was 5.21% for large plans, compared with 5.05% for the overall population.

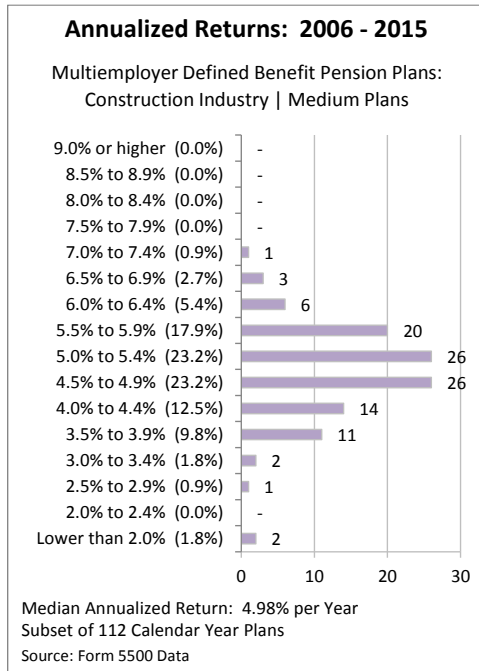
Exhibit 5.02A (Large Plans)



Section V: Plan Investments

As shown in Exhibit 5.02B, there was greater variability in returns for medium plans than for large plans. There were a few medium plans with annualized returns above 6.5%, whereas for the large plans, there were none. The median annualized return for medium plans was 4.98% per year – lower than for large plans and the overall population but about the same as for small plans.

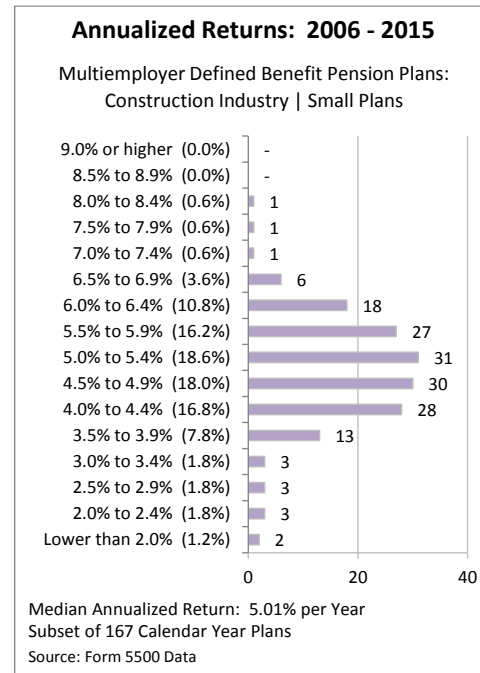
Exhibit 5.02B (Medium Plans)



As shown in Exhibit 5.02C, the distribution of annualized returns for small plans is even wider than for medium plans. At the low end of the spectrum, there were 11 plans with annualized returns of less than 3.5%. There were also 9 plans with annualized returns of 6.5% per year or more.

The median annualized return for small plans was 5.01% per year, lower than for large plans and about the same as for medium plans.

Exhibit 5.02C (Small Plans)



The wider variances in returns for medium and small plans may be due to the fact that large plans are better able to diversify their investments, both with respect to allocations and individual managers. On the other hand, this trend may also be due to the simple fact that the samples of medium and small plans are bigger than for large plans and therefore subject to a wider range of results.

MCAA Commentary

Investment returns for larger construction industry plans tend to outperform returns for smaller plans. This is likely because larger plans are better able to diversify their investments than smaller plans, have more access to more sophisticated types of investments, and tend to have lower manager fees. Over the past decade, investment returns for larger plans have generally outperformed those for smaller plans. Because of this result, and due to the potential savings on administrative and operating expenses, plan trustees may wish to consider mergers where appropriate.

Note that investment fees are analyzed in Section VIII of the report.

Section V: Plan Investments

Assumed Returns

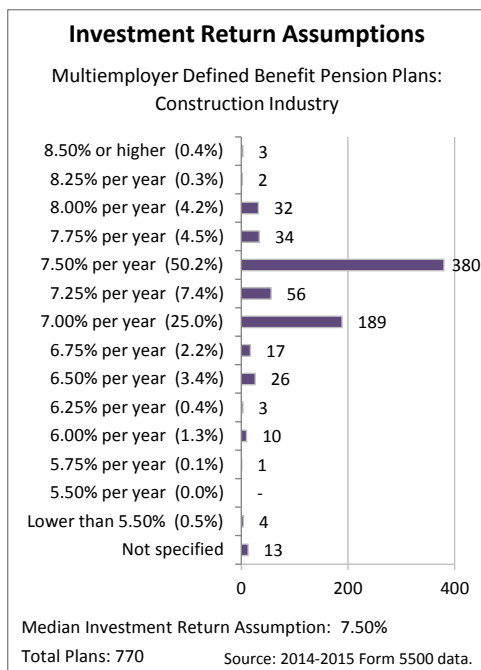
When analyzing the actual investment returns (as done earlier in this section), it is important for users of this report to keep in mind how they compared with the returns the plan *assumed* it would earn.

Multiemployer pension plans are usually invested in a well-diversified mix of stocks, bonds, and alternative investments structured to maximize returns over the long term while minimizing return volatility. The plan actuary must evaluate the plan's asset mix and, based on expectations of future returns, develop an assumption for what the assets are projected to earn over the long term.

As shown in Exhibit 5.03 below, 91.3% of construction industry pension plans use an investment return assumption between 7.00% and 8.00% per year. About half of the plans use an assumption of 7.50%.

In other words, 91.3% of the actuaries for construction industry pension plans assume that their client plans will earn between 7.00% and 8.00% per year on their investments, over the long term. Just over half of the actuaries (50.2%) assume that their client plans will earn 7.50% per year over the long term.

Exhibit 5.03 (All Plans)



Technical Note: Investment Return Assumption

The investment return assumption is also known as the valuation interest rate. This assumption is used to determine the actuarial liabilities and costs of the benefits promised under the plan.

In these exhibits, investment return assumptions are rounded to the nearest 0.25%. Of the 770 plans in the inventory, 13 did not report the plan actuary's assumption on the Form 5500 filing.

Most construction industry pension plans assume they will earn 7.5% per year on their investments. However, from 2006 through 2015, the median construction industry plan earned only 5.05% per year, over that period. Without regard to cash flows, that produced a cumulative underperformance of 21% at the end of the ten-year period.

In other words, as of the end of 2015, the median construction industry plan had an asset value that was 21% lower than the plan would have expected at the beginning of the ten-year period. In the absence of greater-than-assumed returns in the future, investment shortfalls will often have to be made up through higher employer contributions, reduced employee benefits, or a combination of the two.

MCAA Commentary

Given the volatility of investment returns in recent years, some plans are seeking to "de-risk" their investments to achieve longer term stability.

De-risking comes with a cost, however. Lower investment risk generally means lower investment returns, which in turn means contributions must be increased and/or benefits must be reduced in order to achieve the same funding levels. Many plans cannot afford this added cost.

Many healthier plans may be able to afford to de-risk their investments over the long-term. However, if these plans immediately de-risk their assets, their near-term statutory funding requirements could suddenly increase.

Legislative changes are needed to allow plans to recognize the impact of de-risking over an extended period of time (like the Pension Relief Act of 2010 provided for 2008 investment losses). Such a change would enable plans to reduce their investment volatility while not unnecessarily increasing their statutory funding requirements.

Section V: Plan Investments

Differences by Plan Size

Exhibit 5.03A shows the distribution of investment return assumptions for large plans (asset values of at least \$500 million). In this case, the data shows that the distribution of the return assumptions is much narrower for large plans than it is for all plans. Of the 96 large plans shown in the exhibit below, all but 4 (about 96%) are within the range of 7.00% to 8.00% per year. About 63% of large plans use an assumption of 7.50%.

Exhibit 5.03B shows the distribution of investment return assumptions for medium plans (asset values of at least \$100 million and less than \$500 million), which is similar to the distribution for large plans. Of the 254 medium plans shown (excluding the 1 that did not provide an assumption), about 96% are within the range of 7.00% to 8.00%, and about 55% use an assumption of 7.50%. There were a few medium plans (about 4% of them) that use an assumption outside the 7.00% to 8.00% range.

Exhibit 5.03C shows that there is a wider range of return assumptions reflected in the data for small plans (asset values of less than \$100 million) than for the overall population. Still, 87% of small plans use an assumption in the range of 7.00% to 8.00% per year, and about 44% of them use an assumption of 7.50%. About 13% of small plans use an assumption outside of the 7.00% to 8.00% range.

Exhibit 5.03A (Large Plans)

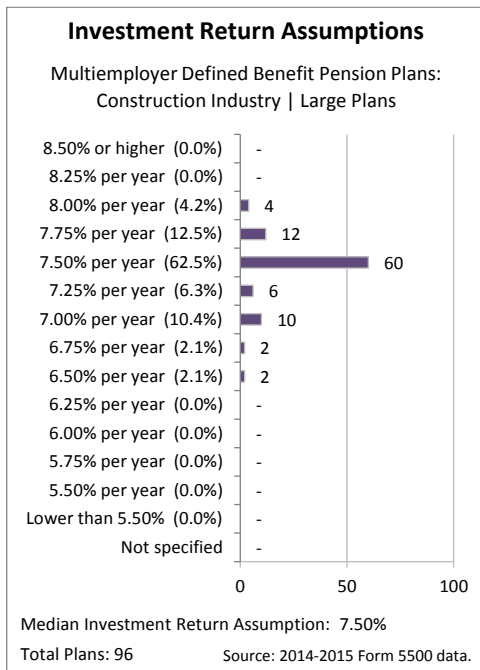


Exhibit 5.03B (Medium Plans)

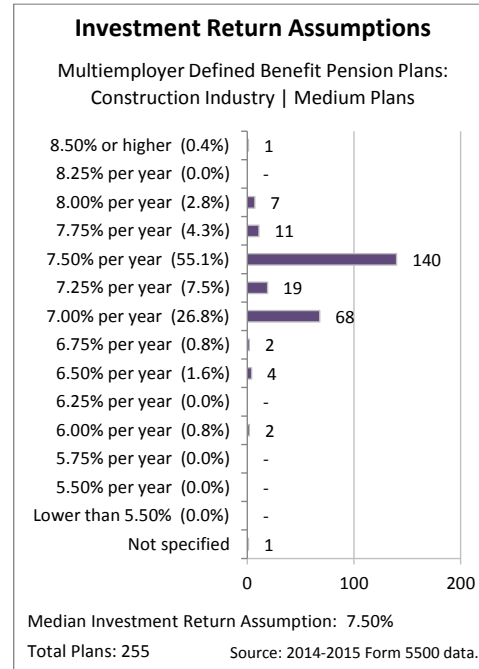
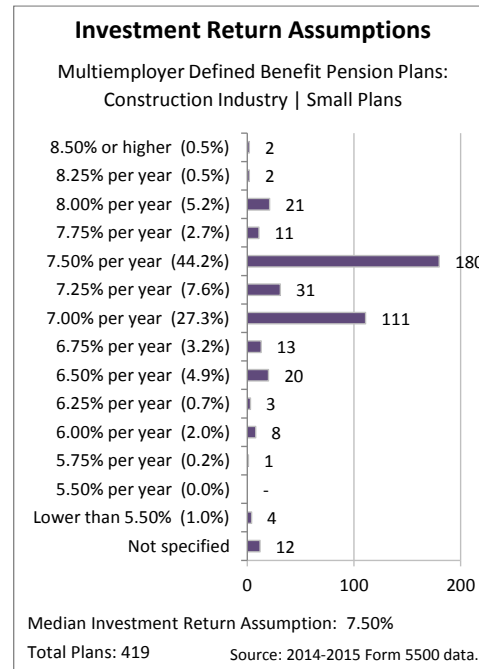


Exhibit 5.03C (Small Plans)



Section VI: Plan Funding

This section of the report analyzes plan funding levels over the past decade, as well as the PPA certification status in recent years. As the results show, plan funding levels have improved in recent years, following the 2008 market collapse. Still, there is much room for further improvement.

Funded Percentages

Before reviewing the results in this section, users must first understand the various methods that may be used to calculate funded percentages for multiemployer pension plans.

For one, under the Pension Protection Act of 2006 (PPA), the funded percentage is calculated as the ratio of the **actuarial value of assets** over the **actuarial accrued liability**. The actuarial value of assets usually smooths (averages) prior investment gains and losses over a five-year period. The actuarial accrued liability is the value of the accrued benefits under the plan, measured at a discount rate that reflects the expected return on plan assets over the long term. As discussed in the prior section, that discount rate is usually between 7.00% and 8.00% per year. Under PPA, a plan that is less than 80% funded based on this measure will be in endangered status, or perhaps even critical status.

On the other hand, the 2012 [Credit Suisse report](#) on multiemployer plans calculates funded percentages differently. Credit Suisse's so-called "fair value"

funded percentage is the ratio of the **market value of assets** over the **current liability**. A plan's current liability is measured based on a conservative interest rate assuming the plan is invested entirely in bonds.

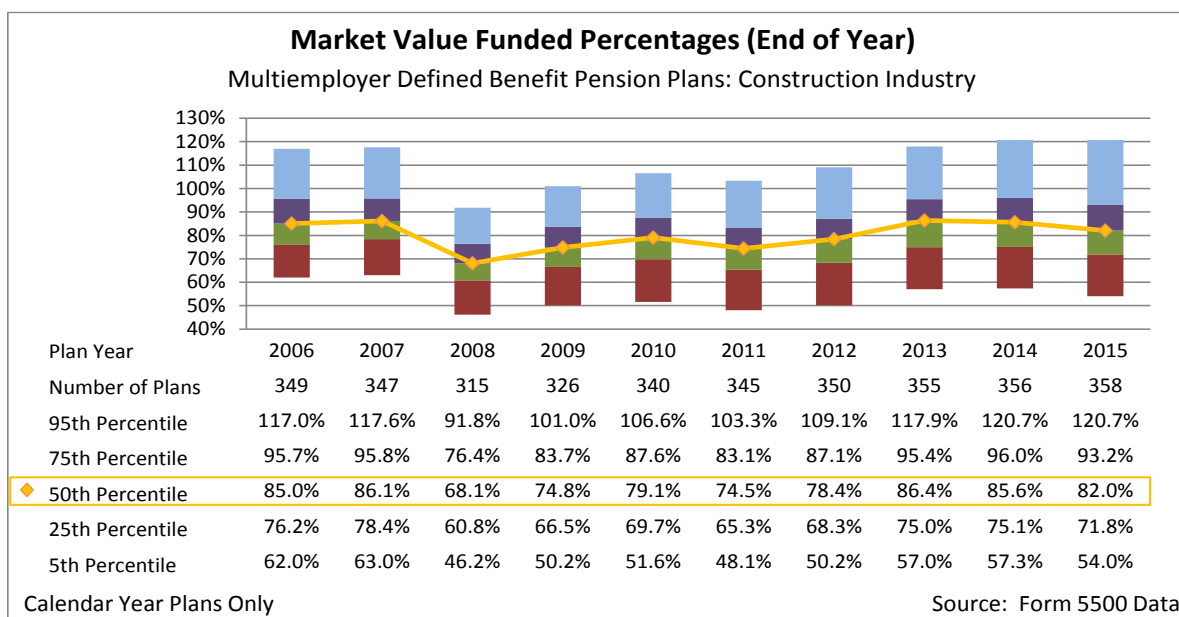
The consensus in the multiemployer plan professional community is the Credit Suisse approach is inappropriate because it disregards the plan's actual investment allocation, which usually includes stocks, bonds, and alternative investments. Most plans have investment allocations that are expected to earn 200 to 400 basis points per year more than an all-bond portfolio.

The funded percentages in this section represent the ratio of the **market value of assets** over the **actuarial accrued liability**. This provides the plan's funded percentage at each point in time, without smoothing prior asset gains and losses, and provides a consistent comparison from plan to plan.

Note that while the funded percentages in this report are based on the market value of assets, it is appropriate to use the actuarial value of assets for purposes of making funding decisions and calculating contribution requirements under PPA.

The funded percentages shown in Exhibit 6.01 below are measured as of December 31; only results for plans with calendar year plan years are included. As shown below, the median funded percentage for multiemployer pension plans in the construction industry decreased from 85.0% at December 31, 2006 to 82.0% at December 31, 2015.

Exhibit 6.01 (All Plans)



Section VI: Plan Funding

The median funded percentage was quite volatile over the last decade, however. The historic investment losses during 2008 brought the median percentage down to 68.1% at December 31, 2008. Positive investment returns from 2009 through 2013 (noting that returns for 2011 were relatively flat) brought the median percentage back up to 86.4% at December 31, 2013. This increase shows the significant market and investment recovery following the market collapse of 2008. However, there is still much room for further improvement.

Earlier in this report, it was noted that there is a wide range of variability in plan demographics, cash flows, and investments. The same goes for funded percentages. As of December 31, 2015, half of construction industry plans were between 71.8% and 93.2% funded (the range between the 25th and 75th percentiles). Five percent of the plans were 120.7% funded or better. Five percent of plans were 54.0% funded or worse.

Technical Note: Actuarial Accrued Liability Data

The actuarial accrued liability is reported as of the beginning of the plan year on the Schedule B or Schedule MB of the Form 5500. In general, the actuarial accrued liability from the succeeding year is used to calculate the end-of-year funded percentages. For example, the funded percentage as of December 31, 2009, uses the actuarial accrued liability as of January 1, 2010. If the actuarial accrued liability is unavailable for a given year, the report uses a one-year "roll-forward" of the prior year figure.

Note that many plans have changed their actuarial cost method over the past few years, which may cause some minor fluctuations in the data. The aggregate effect of method changes is likely minor. For consistency, the actuarial accrued liability under the unit credit cost method (first reported on the Schedule MB beginning with 2008 plan years) is used when available.

Differences by Plan Size

The following page shows historical funded percentages separately for "large" (assets of at least \$500 million), "medium" (assets of at least \$100 million and less than \$500 million), and "small" (assets less than \$100 million) construction industry plans. Again, for consistency, only results for plans with calendar year plan years are included.

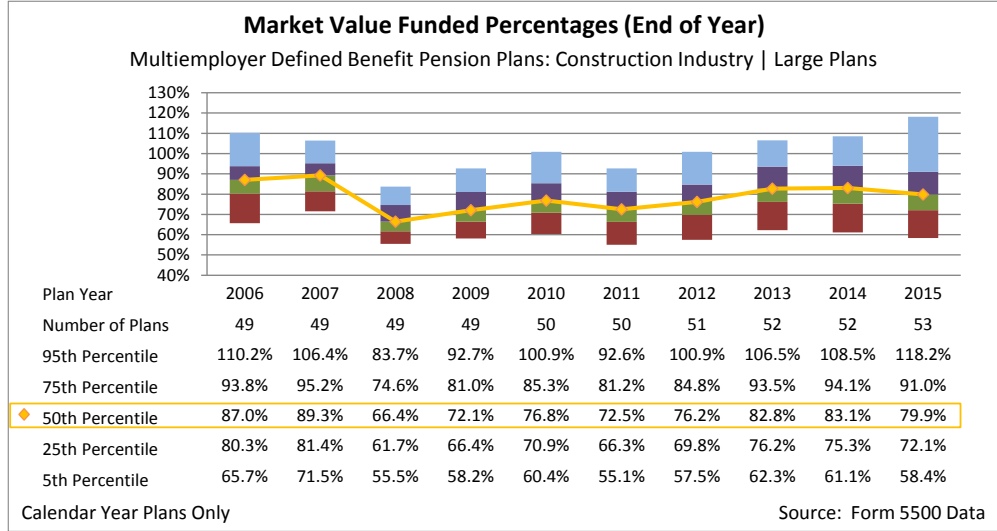
In general, plan size does not appear to have much of a relationship to the median funded percentages or the historical pattern of the funded percentages. However, there are a few differences to note.

One, it was noted earlier that it appears that smaller plans weathered the market collapse of 2008 better than medium and large plans. In other words, net investment losses in 2008 for small plans weren't as great as they were for medium and large plans. This trend is also reflected in the funded percentages. The decline in funded percentages following the 2008 investment losses wasn't as great for small plans (a decline of 16.9 percentage points) as it was for medium plans (19.5 points) and large plans (22.9 points).

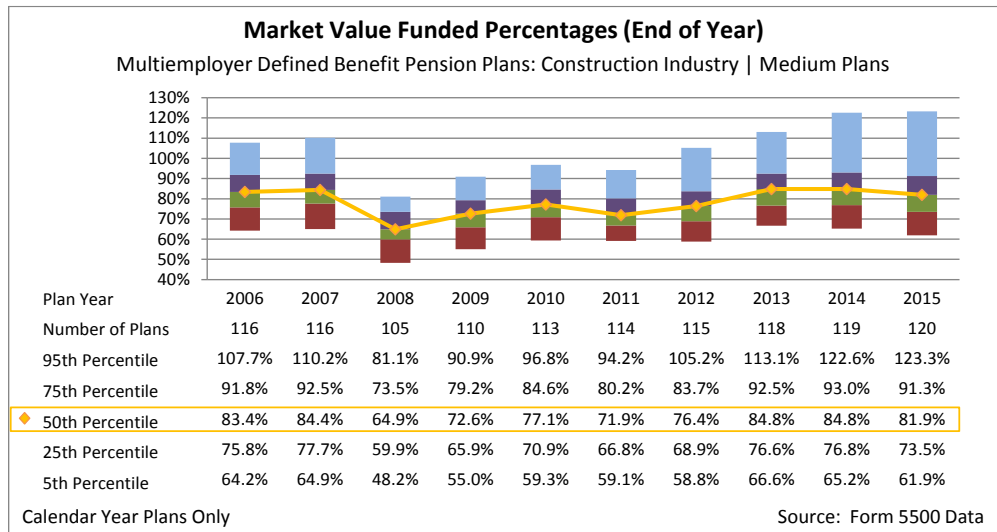
Two, as with other statistics, there is much greater variability among the funded percentages for small plans than for medium or large plans. For example, as of December 31, 2015, 90% of large plans were between 58.4% and 118.2% funded (the range between the 5th and 95th percentiles). For small plans, the same range was 41.2% to 116.3% funded.

Section VI: Plan Funding

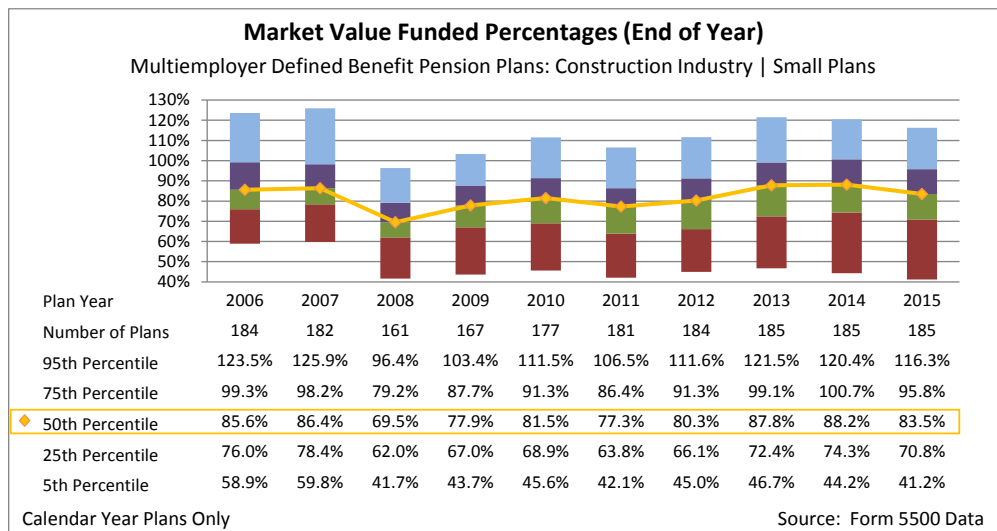
**Exhibit 6.01A
(Large Plans)**



**Exhibit 6.01B
(Medium Plans)**



**Exhibit 6.01C
(Small Plans)**



Section VI: Plan Funding

PPA Certification Status

Under PPA, a multiemployer pension plan’s actuary must certify the plan’s status based on certain tests at the beginning of every plan year.

In simplified terms:

- A plan is in critical status (“red zone”) if it is projected to have a deficiency in its funding standard account in the next four years (five years if the plan is less than 65% funded or if other conditions are met). Additionally, if a plan is projected to be insolvent within the next 20 years, then it is in critical and declining status, which is a newly established status in 2015.
- A plan is in endangered status (“yellow zone”) if it is less than 80% funded **or** if it is projected to have a deficiency in its funding standard account in the next seven years. If both of those criteria are true, then the plan is in seriously endangered status (“orange zone”).
- A plan is in neither critical status nor endangered status (*i.e.*, it is in the “green zone”) if none of the above criteria are met. Exhibit 6.02 summarizes the PPA certification statuses, as reported by each construction industry plan on its Form 5500 filings for the 2009 through 2013 plan years. Data on PPA status was not available for the 2008 plan year (the first year for which PPA rules applied to multiemployer plans) as information from the Form 5500 Schedules MB was not recorded electronically.

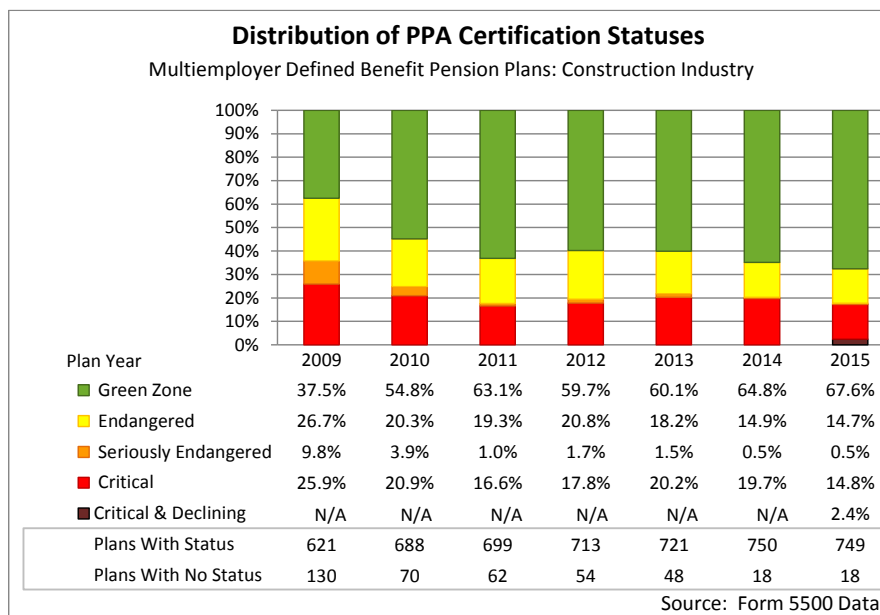
Technical Note: Funding Standard Account

The funding standard account (FSA) is a notional account used to determine minimum required contributions under ERISA. To the extent that actual contributions exceed the requirements as determined by the FSA, the account will build up a credit balance. On the other hand, if contributions fall short of the FSA requirements, the credit balance will deteriorate. Once the credit balance is gone, there is a deficiency in the FSA. Most of the criteria for avoiding endangered status or critical status under PPA (as well as for developing funding improvement plans or rehabilitation plans) involve avoiding deficiencies in the FSA.

Of the plans that reported a PPA certification status for the 2009 plan year, 37.5% were in the green zone, 36.5% were in endangered status or seriously endangered status, and 25.9% were in critical status. The statuses for the 2009 plan year came immediately after the 2008 investment losses, and before the vast majority of plans had begun to take action to improve their funded statuses. Therefore, these statuses represent where construction industry plans stood at (about) their lowest points.

From the 2009 plan year to the 2011 plan year, many plans moved to a better PPA status. Most plans had investment gains during their 2009 and 2010 plan years, which was a major contributing factor to these changes. Pension relief and corrective actions taken by plan trustees (and subsequently, bargaining parties) are other contributing factors.

Exhibit 6.02



Section VI: Plan Funding

For plan years beginning in 2012, the percentage of plans in the green zone decreased slightly, from 63.1% in 2011 to 59.7% in 2012. The reason for the decrease is that the 2012 certifications reflected investment returns for the 2011 plan year, which were generally flat—net losses when compared to assumed returns of 7.0% to 8.0%.

About 64% of plans were at least 80% funded on a market value of assets basis as of December 31, 2014, which would be the measurement date for PPA certifications for plan years beginning January 1, 2015. However, as shown above, about 68% of plans are in the green zone for the 2015 plan year, which requires the PPA funded percentage to be at least 80%. The PPA funded percentage is measured based on the actuarial value of assets, which generally reflects asset smoothing. In other words, the PPA funded percentage for most plans has not completely recognized the investment losses from 2008, while the market value funded percentage has fully recognized them. In addition, beginning in 2015, a formerly green zone plan that would have been in the yellow zone is considered to be in the green zone if it is projected to enter the green zone in 10 years with no contribution or benefit changes, which will result in some plans with less than 80% funding ratios being in the green zone.

Correcting Funding Shortfalls under PPA

If a plan is certified to be in endangered status (yellow or orange zones), then under PPA, its trustees will be required to propose a “funding improvement plan” designed to reduce the plan’s underfunding by one-third over a ten-year period, while also avoiding deficiencies in the funding standard account.

If a plan is certified to be in critical status (red zone), PPA requires its trustees to adopt a “rehabilitation plan” designed to enable the plan to emerge from critical status over a ten-year period. When the trustees of a plan are adopting either a funding improvement plan or a rehabilitation plan, they must consider both increases to employer contributions as well as reductions to participant benefits as measures to correct the funding shortfall over time.

Once the trustees have adopted either a funding improvement plan or a rehabilitation plan, the employers and the unions (the “bargaining parties”) must select one of the “schedules” of contribution increases and/or benefit reductions set forth in the plan adopted by the trustees. If the bargaining parties do not reach an agreement on which

schedule to choose within a certain amount of time, the so-called “default schedule” will be imposed upon them, which usually reduces benefits to the maximum extent allowed by law.

The trustees of plans that are in the green zone are not required under PPA to propose funding improvement plans or rehabilitation plans. Nevertheless, it is widely reported that many of them are considering increases to employer contributions and reductions to participant benefits as a way to ensure against future volatility.

For example, a plan that was 75% funded on a market value of assets basis as of December 31, 2009 (the median funded percentage as of that date for all construction industry plans) may still be 90% funded or better on the basis of the smoothed actuarial value of assets, under PPA. Such a plan might be in the green zone by PPA standards, but its trustees may still recognize that actions are needed to correct the plan’s funding shortfall.

Tax-Deductible Limits

For plan years beginning in 2002 and later, the maximum contribution amount that contributing employers can consider to be tax-deductible was significantly increased. (This rule was part of the Economic Growth and Tax Relief Reconciliation Act of 2001, or “EGTRRA.”) The higher deductibility limits were further codified under PPA.

Under current rules, contribution maximums are based on 140% of the current liability. This effectively means that all employer contributions to multiemployer plans will be tax-deductible, unless the plan is unusually over-funded.

Prior to 2002, tax-deductible limits were much lower, based on 100% of the actuarial accrued liability. The lower limits prevented most multiemployer plans from building up any meaningful cushions to protect against tough times ahead. The lower pre-2002 deductibility limits are often regarded as a contributing factor to the volatility in funding levels resulting from investment losses in 2001 and 2002, and again in 2008 and early 2009.

Section VI: Plan Funding

Funding Relief: WRERA 2008

In the wake of the investment losses of 2008, Congress passed the Worker, Retiree, and Employer Recovery Act of 2008 (WRERA 2008). WRERA 2008 allowed trustees of multiemployer plans a one-time opportunity to delay action in correcting funding shortfalls.

For example, if a plan was in the green zone under PPA for the 2008 plan year, the trustees of that plan could elect to remain in the green zone for the 2009 plan year, even if the 2008 investment losses would have otherwise put the plan in critical status or endangered status. Many called this “pressing the pause button.”

There were two main reasons that a plan’s board of trustees would elect to press the pause button. One, the trustees may have expected there would be a market bounce-back in 2009 (there was), which would make funding targets easier to meet a year later. Two, the trustees may have been seeking more time to piece together what would no doubt be a very difficult action plan to correct a very large funding shortfall.

Observation: WRERA 2008

Anecdotal evidence is that, in the wake of 2008 investment losses, most boards of trustees elected to “press the pause button” under WRERA. That enabled them to delay action for one year and avoid having to adopt funding improvement plans or rehabilitation plans during 2009. As a result, many action plans to correct funding shortfalls were adopted in 2010, with contribution rate increases and benefit reductions first taking effect in 2011.

Funding Relief: Pension Relief Act of 2010

In June 2010, Congress passed the Pension Relief Act of 2010. Among other things, this Act provided special rules allowing multiemployer pension plans to recognize and fund the unprecedented investment losses from 2008 over a longer period of time, for purposes of determining funding requirements under PPA. The decision to elect funding relief, if any, had to be made by mid-2011 at the latest.

If elected by the plan’s trustees, the special rules would affect either or both of the plan’s actuarial value of assets and its funding standard account. It is important to keep in mind that while the special

rules were designed to lower the plan’s funding requirements under PPA, they will not actually improve the plan’s true funded status. In other words, the special funding relief rules don’t put one extra dollar into the plan’s assets, and they don’t result in one less dollar being paid out in benefits.

There is no box to check on the Form 5500 indicating whether or not a plan elected funding relief. The special funding relief rules were first made available in 2010, but if elected, they were effective retroactive to 2009. In other words, the special rules generally would not be reflected in the 2009 Form 5500, but if elected, they would be reflected in the 2010 Form 5500 and would be effective retroactive to 2009. Therefore, it can be deduced that a plan elected funding relief if there was an otherwise unexpected change in its funding standard account credit balance from the 2009 plan year to the 2010 plan year.

Exhibit 6.03 shows the estimated number of construction industry plans that elected to use the special rules.

Exhibit 6.03

Funding Relief Elections (Estimated)

Construction Industry Plans			
Plan Years Beginning January through April			
PPA Status:	All Plans	Elected Relief	% Elected Relief
2009 Plan Year			
Green Zone	136	70	51.5%
Endangered	96	68	70.8%
Seriously Endangered	32	25	78.1%
Critical	90	74	82.2%
TOTAL	354	237	66.9%

As shown in Exhibit 6.03, it is estimated that roughly 67% of construction industry plans elected funding relief. The percentage is higher for plans that were in critical status or endangered status than for plans that were in the green zone.

Note that Exhibit 6.03 includes only plans for which Form 5500 data was available for both the 2009 and 2010 plan years, and which have plan years beginning in January through April.

Section VI: Plan Funding

Technical Note: Effect of Relief on 2010 PPA Status

It is difficult to discern the effects of funding relief on the PPA status of a plan using the available data. When most plan actuaries completed their PPA status certifications for the 2010 plan year, funding relief was not yet available. Further, though funding relief applied retroactively to 2009, guidance from the IRS indicated that, in general, the 2010 PPA status certifications should not be revised. Therefore, it is expected that the vast majority of PPA statuses for 2010 in the inventory do not reflect any effects of funding relief.

It is often (and correctly) noted that a plan's decision to use the special funding relief rules under the Pension Relief Act of 2010 did not actually improve the plan's true funded status.

However, it is also important to note that the special rules allowed plan trustees to develop meaningful action plans to correct their funding shortfalls over a longer period of time. Without the relief, some plans would have been forced to take unnecessarily severe corrective action that would have been crippling to employers, and in turn, the plans themselves.

MCAA Commentary

After electing funding relief, many plans will be in the green zone under PPA. However, that should not be taken to mean that all of these green zone plans are in good shape and don't need further corrective action. PPA has provided a framework for plans in endangered status and critical status to improve or rehabilitate plan funding over time.

Multiemployer Pension Reform Act of 2014

On December 16, 2014, President Obama signed the Multiemployer Pension Reform Act of 2014 (MPRA) into law. Among other things, MPRA made permanent, and provided technical corrections to, the rules under PPA affecting multiemployer plans. It also provided new tools to plans in "critical and declining" status to enable them to avoid insolvency, such as the ability to suspend benefits that were previously protected under ERISA, or to apply to the PBGC for a partition or facilitated merger.

Under MPRA, a multiemployer plan is in critical and declining status if it is in critical status and is projected to be insolvent in the next 15 years, or 20 years if its funded percentage is less than 80% or its ratio of inactive

participants to active participants is greater than 2-to-1. Of the plans certified in critical and declining status for 2015, none have a funded percentage of at least 80% and a ratio of inactive participants to active participants not more than 2-to-1, so the insolvency measurement period is 20 years for all plans in this study.

Under MPRA, a multiemployer plan is in critical and declining status if its actuary certifies that it is projected to be insolvent (in other words, run out of money and be unable to pay benefits) within the next 15 or 20 years. Critical and declining status first applies to certifications completed after MPRA was signed into law, in other words on or after December 16, 2014.

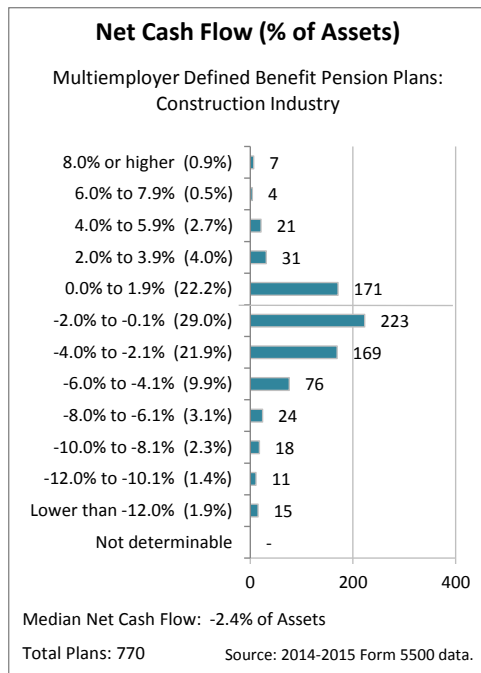
As shown in Exhibit 6.02, 2.4% of construction industry plans (18 plans) were certified in critical and declining status for the 2015 plan year. This result is for plan years beginning January through August 2015, as 2015 was the first year that the Form 5500 recorded critical and declining status certifications. Results for plan years beginning September through December 2014 are included in the results for 2015, however any of these plans that are critical and declining would be included in the critical status results for 2015.

As previously noted, most multiemployer pension plans use expected return assumptions of 7% to 8% per year. Therefore, a plan with negative annual cash flows—benefit payments and expenses exceeding employer contributions—of more than 7% or 8% of assets would generally expect its asset value to decline year after year. A declining asset value may be acceptable for a very mature plan that also has benefit liabilities that are projected to decline at the same rate. For a plan with benefit payments that are projected to increase over time, declining asset values are likely a sign of looming insolvency.

Exhibit 6.04 shows the latest net cash flows (calculated in the same way as earlier in this report) for multiemployer pension plans in the construction industry certified to be in critical status or seriously endangered status in the latest plan year, ending on or about December 31, 2015. In general, we expect the more negative the plan's net cash flow, the more likely it is the plan will be certified in critical and declining status under MPRA.

Section VI: Plan Funding

Exhibit 6.04



Of the 44 plans in the construction industry shown in the exhibit above with negative net cash flows exceeding 8.0% of assets, 13 were in critical and declining status and 15 were in critical status for the 2015 plan year. We expect some of the plans certified in critical status will be certified in critical and declining status in the coming years.

Of course, some plans in this group will not be certified in critical and declining status, and other plans not included in this group will be. For example, if a plan has adopted a rehabilitation plan with future scheduled contribution rate increases, its net cash flows may be projected to improve over time. On the other hand, a plan with a moderately negative net cash flow according to the most recent Form 5500 data may still be projected to go insolvent in the next 15 to 20 years, due to a rapidly aging participant population.

Section VII: Plan Costs

This section of the report analyzes annual plan costs and compares them with employer contributions. To the extent that employer contributions exceed plan costs in a given plan year, the plan's funded status is expected to improve. To the extent that employer contributions fall short of plan costs, then the plan's funded status will deteriorate.

Annual Plan Costs

There are three key components used in determining the annual "cost" of a pension plan:

1. The cost of the benefit accruals, in other words, the benefits that will be earned by plan participants in the coming year.
2. The cost of operating the plan for the year.
3. The cost of paying down some portion of the plan's unfunded accrued liability, in other words, the shortfall between the plan's assets and its past service liabilities.

Of course, future plan experience – including and especially investment returns – is the most significant determinant of the plan's costs. For example, if investment returns are poor, then the cost of paying down some portion of the plan's unfunded accrued liability (the third cost component above) will increase.

As the trustees of different multiemployer plans developed action plans in 2009 and 2010 to improve their plans' funded statuses, they considered these three cost components in setting the appropriate level of future contribution rates.

As previously described, under PPA, trustees are required to incorporate different "schedules" of increases in employer contribution rates and/or reductions in participant benefits when designing a funding improvement plan or rehabilitation plan. After the schedules are adopted by the trustees, employers and unions (the "bargaining parties") must select one of the schedules in collective bargaining.

Technical Note: Costs Per Active Participant

Plans often express employer contributions as dollars and cents per hour, and therefore, it often makes sense to express plan costs as dollars and cents per hour as well.

However, the number of hours worked (or other base unit for employer contributions) is not reported on the Form 5500. While the number of active participants for most construction industry plans has not dramatically declined over the past decade, the number of hours worked per active participant may have. This information cannot be discerned from the Form 5500 filings.

Moreover, it is difficult to choose a single hours-worked assumption that would be applicable to all construction industry plans. Some plans have active participants who work 1,800 or 2,000 hours per year on average. Other plans (especially those in colder regions) might be seasonal and have average hours in the range of 1,000 to 1,200 per year.

For these reasons, this section of the report examines costs and contributions on a per-active participant basis rather than on an hourly basis.

The following pages review each of the components of annual plan costs. The focus will first be on results for all construction industry plans, regardless of their size. Selected exhibits for large, medium, and small plans are included together at the end of this section.

Section VII: Plan Costs

Cost of Benefit Accruals

The first component of the annual plan costs is the cost of benefit accruals for the coming year. Exhibit 7.01 shows how the cost of benefit accruals has changed over the past decade.

Technical Note: Normal Cost

The plan's "normal cost" is reported on the Form 5500 Schedule MB (formerly Schedule B). Generally, the normal cost is the cost of benefit accruals for the plan year plus assumed operating expenses. This analysis removes assumed operating expenses from the normal cost to focus solely on the cost of benefits being accrued each year.

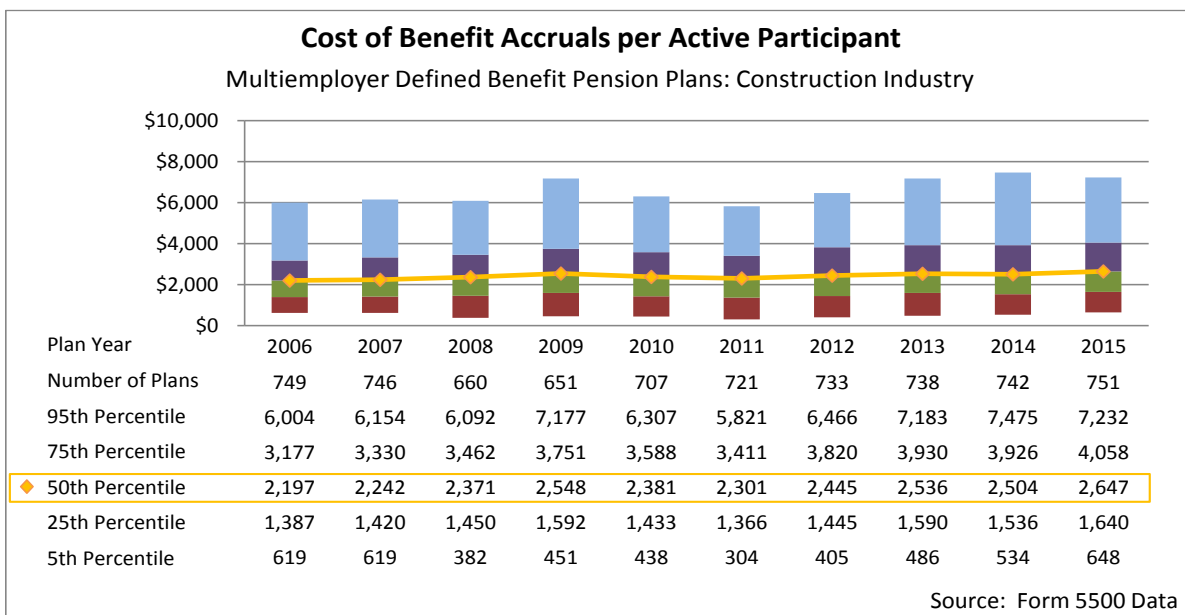
Also note that many plans have changed their actuarial cost method over the past few years, which may cause some fluctuations in the data. The aggregate effect of method changes is expected to be minor. If the normal cost is unavailable for a given year, the average of the normal costs from prior and succeeding plan years was used. Note that all plans were missing normal cost data for plan years beginning in 2008.

In general, the cost of benefit accruals increased modestly over the past decade. For example, the median cost was \$2,197 for 2006, and it was \$2,647 for 2015, with some fluctuations year by year. The cost of benefit accruals per active participant tends to rise each year, to the extent that the average active participant ages and gets closer to retirement.

General aging of active participant populations likely contributed to the overall pattern of increases during the past decade.

The costs of benefit accruals per active participant, however, generally decreased from 2009 to 2010, and again from 2010 to 2011. This decrease was likely due to the effects of many plans reducing the rate of benefit accruals as part of an action plan to improve plan funding levels.

Exhibit 7.01



Section VII: Plan Costs

Cost of Operating the Plan

Exhibit 7.02 below shows the second component of plan costs – operating expenses paid over the past decade, on a per-active participant basis. Operating expenses include the cost of administration, fees paid to professionals (such as for attorneys, auditors, actuaries, and consultants), and insurance and PBGC premiums. They exclude investment fees.

As shown below, operating costs per active participant have risen over the past decade. For example, note that median costs have increased from \$419 to \$649 per active participant, from 2006 to 2015. This amounts to a 54.9% increase over the period, or an average increase of 5.0% per year.

At first glance, the rate at which operating expenses have increased over the past decade may seem high. However, it is very important to note that the cost of operating a pension plan is not directly related to the number of *active* participants in the plan.

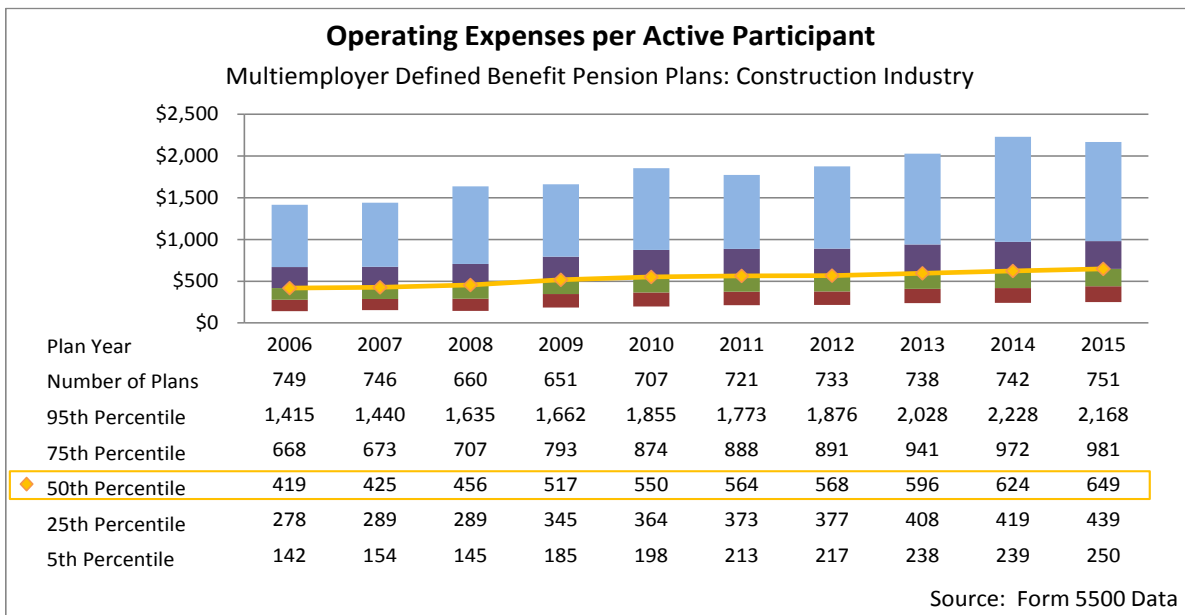
Rather, operating expenses are more closely related to the number of *total* participants, including those who are inactive or retired. There are costs associated with participants after they stop working or are no longer active, such as maintaining their records, putting them into payment status, sending them notices, and paying the associated PBGC premiums.

When operating expenses are expressed on the basis of total participants (including inactive and retired participants), the rate of increase is actually very modest (see Section VIII). However, in this section, the costs of operating the plan are expressed on a per-active participant basis for consistency with the other cost components.

As shown in the discussion of demographics in Section III of the report, the ratio of active participants to inactive participants for most construction industry plans has declined significantly over the past decade. In other words, there are fewer active participants across whom to spread operating expenses. At the same time the total number of participants has increased. The combined effect of these trends is a big reason why each active participant's share of the plan's total operating expenses has increased over the past ten years.

See Section VIII of the report for more detailed information on plan operating expenses, including a comparison of operating expenses for large, medium and small plans.

Exhibit 7.02



Section VII: Plan Costs

Cost of Unfunded Liabilities

The third component of annual plan costs is paying a portion of the unfunded accrued liability, commonly called the “amortization payment.”

The unfunded accrued liability is the amount by which the plan’s asset value falls short of its actuarial accrued liability. In this analysis, the plan asset value is the market value of assets. (Under PPA, the actuarial value of assets would be used.) The actuarial accrued liability is the value of all benefits that are attributable to past service – service already earned as of the date the liability is measured.

Exhibit 7.03 shows the cost of a 15-year amortization of unfunded accrued liabilities. In other words, these costs show what it would take for a plan to pay down its entire unfunded liability in equal installments (per active participant) over 15 years.

The median annual cost of the unfunded liabilities in 2006 was \$2,518 per active participant. Favorable investment returns brought it down to \$1,880 per participant in 2007. The annual cost skyrocketed following the investment losses of 2008 but has shown modest improvement following the investment gains of 2009 through 2013. The median annual cost of the unfunded liabilities in 2015 was \$3,842 per active participant.

Observation: Cost of Unfunded Liabilities

The annual cost of paying down unfunded past service liabilities dramatically increased following the market collapse of 2008. While there has been improvement in recent years, the unfunded liability costs for the highest cost plans are still near post-2008 levels, which illustrates the difficulty of overcoming significant funding shortfalls under current law.

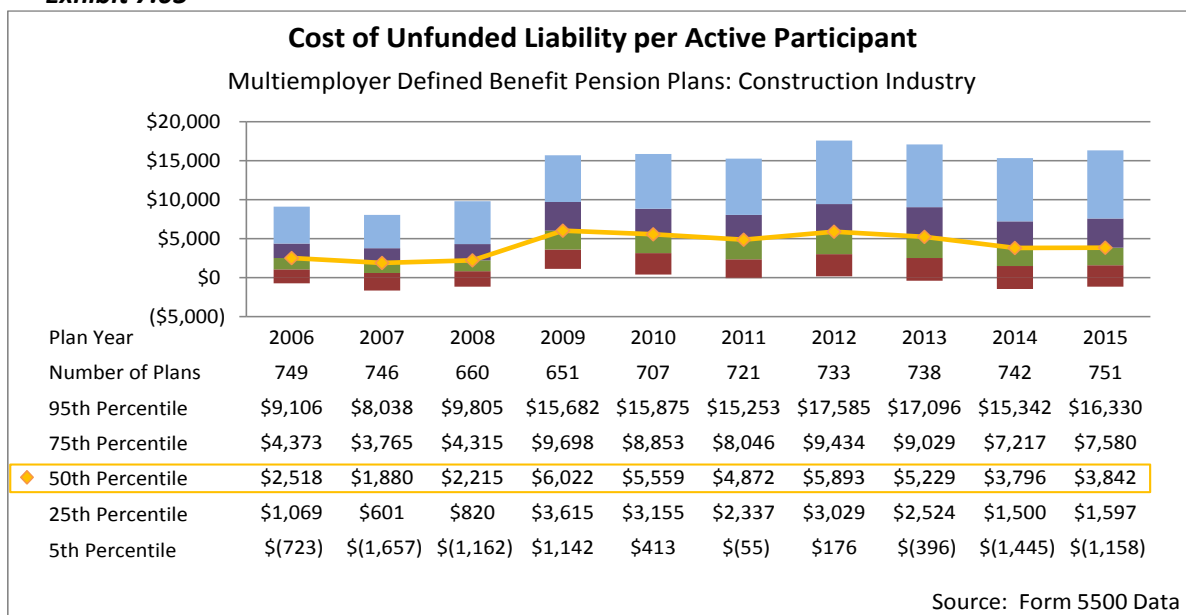
Technical Note: 15-Year Amortization Period

When determining a schedule over which to pay down a plan’s unfunded accrued liabilities, many different payment (amortization) periods could be deemed appropriate.

In general, the more mature the plan, the shorter the amortization period should be. For example, a 10-year period might be appropriate for a very mature plan, and a 20-year period might be more appropriate for a younger plan that has a very high ratio of active participants to inactive participants. This analysis uses a 15-year amortization period for simplicity.

Note that under PPA, changes in the unfunded liability are generally amortized over a period of 15 years. However, the net outstanding amortization period under PPA may be more or less than 15 years, depending on a number of factors.

Exhibit 7.03



Section VII: Plan Costs

Adjustable Benefits

Prior to the passage of PPA, plans were prohibited from reducing benefits that participants had already accrued. When PPA became effective in 2008, it provided a special rule that allowed plans in critical status to reduce or eliminate so-called “adjustable benefits” (such as early retirement benefits) as part of a rehabilitation plan. A participant’s accrued benefit payable at his or her normal retirement date was still protected, as were benefits already being paid to retirees. Nevertheless, the ability to reduce adjustable benefits provided the trustees of plans in critical status with a meaningful tool that could be used in rehabilitating plan funding.

In total, 255 plans in the construction industry indicated that they were in critical status for at least one plan year from 2009 through 2015. Of those 255 plans, 140 of them (54.9%) indicated on their Form 5500 that adjustable benefits were reduced or eliminated as part of a rehabilitation plan.

Unfortunately, Form 5500 data cannot be used to determine the effects of the adjustable benefit reductions on the unfunded accrued liabilities. Therefore, it is impossible to paint a complete picture of which plans reduced or eliminated adjustable benefits or to quantify the impact of the reductions.

Employer Contributions

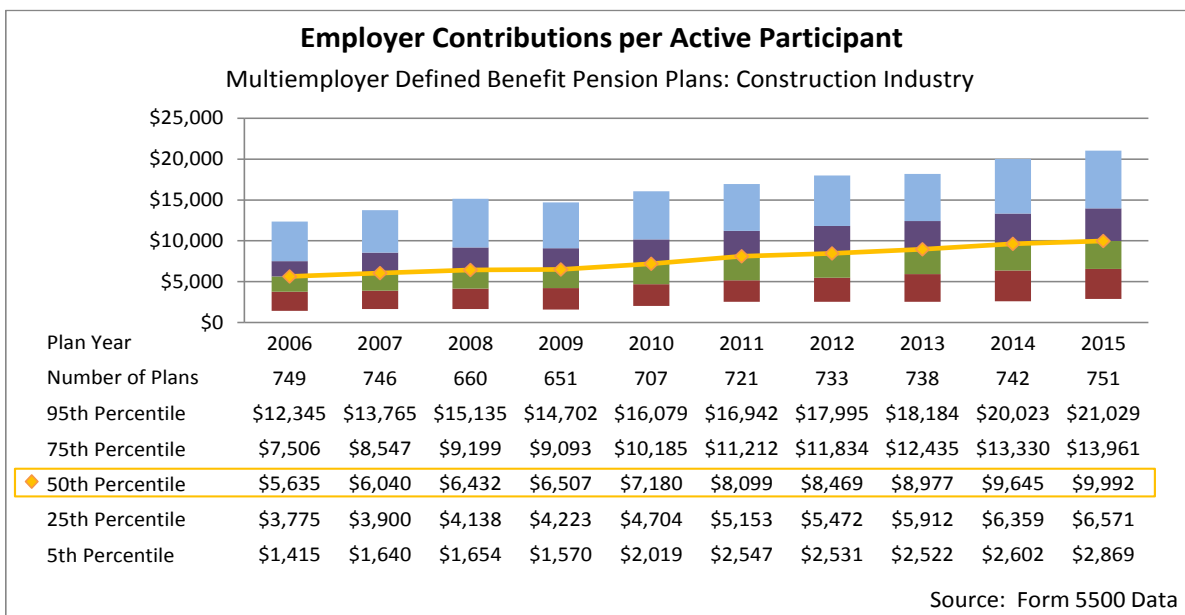
As the previous exhibits have shown, annual plan costs are on the rise. These increasing costs must be covered by increased contributions.

Exhibit 7.04 below shows average employer contributions, per active participant, over the past decade. Average contributions have increased in nearly every year, likely due to action taken by plan trustees to correct the funding shortfalls brought on by the investment losses from 2001- 2002 and 2008.

The small increase in the average contribution per active participant from 2008 to 2009 may seem like an unusual result. However, consider that the vast majority of plans did not begin to increase employer contribution rates in the wake of 2008 investment losses until *after* 2009 had ended. Declines in hours worked per active participant during the ensuing recession may also be a factor.

Average contributions per active participant increased significantly in the latter part of the decade, beginning in 2010, likely a result of many plans requiring higher employer contribution rates. In some cases, the increase in contribution rates may have been offset by continued declines in work levels. In other cases, recovering work levels may have contributed to increases in the average contribution amounts.

Exhibit 7.04



Section VII: Plan Costs

Contributions vs. Costs

As described earlier, to the extent that employer contributions exceed the plan's annual costs, the plan's funding levels are generally expected to improve over time. If employer contributions do not cover annual costs, then the plan's funding levels are generally expected to deteriorate (or perhaps improve very slowly or remain flat) over time.

Exhibit 7.05 shows the *ratio* of employer contributions to annual plan costs from 2006 through 2015. Ratios greater than 1.00 indicate contributions exceed costs; ratios less than 1.00 indicate costs exceed contributions. Recall that annual plan costs include the normal cost (the cost of benefit accruals plus operating expenses) and a 15-year amortization of the unfunded accrued liability. A ratio of contributions to costs exceeding 1.00 implies that the plan will be projected to become 100% funded over a period of 15 years or shorter.

For the median results, the ratio of contributions to costs increased steadily through 2007, as plans recovered from the investment losses from 2000 through 2002. The improvement was driven by investment gains and corrective measures taken by plan trustees to improve plan funding levels. For 2007 and 2008, contributions exceeded costs for the median plan, resulting in ratios greater than 1.00.

Following the 2008 investment losses, however, the ratio of contributions to costs plummeted. For the median construction industry plan, the ratio fell from 1.15 in 2008 to 0.65 in 2009. The investment gains in 2009 and 2010, coupled with many plans taking significant actions to improve plan funding, resulted in a sizeable decrease in contribution shortfalls after 2009. By 2011, the median ratio of contributions to plan costs had risen to 0.95, indicating that contributions were only slightly lower than plan costs.

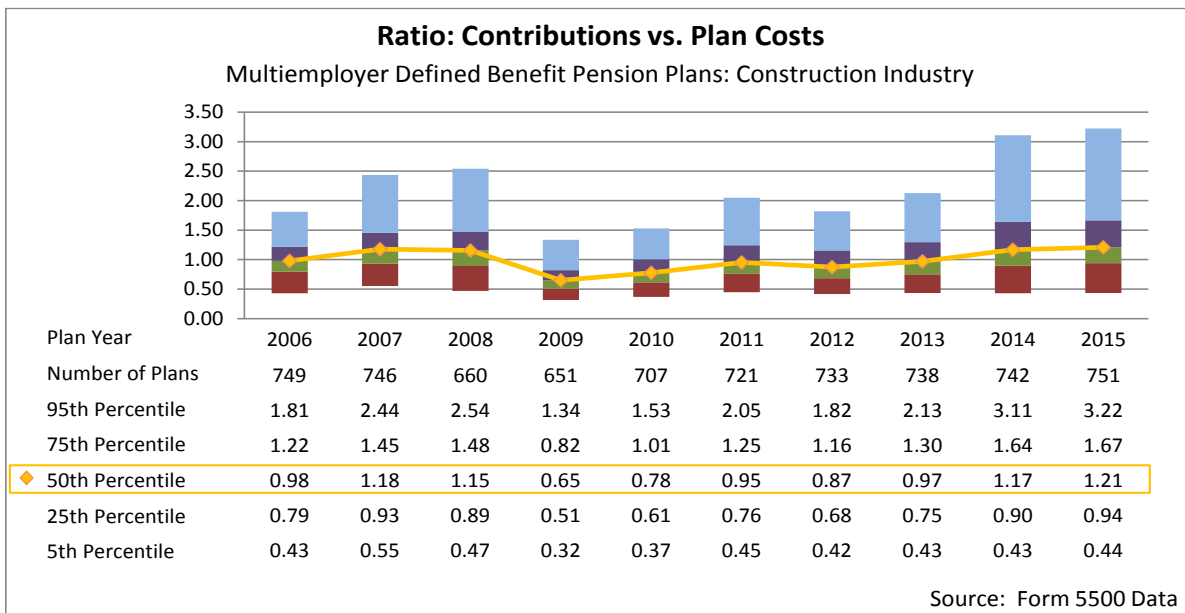
For 2014, the median ratio of contributions to plan costs had increased further to 1.17, largely because of favorable investment returns in 2013. Increases in contributions and other corrective measures taken by plan trustees also would have played a role in the increase. The median ratio of contributions to plan costs for 2015 remained roughly level at 1.21.

MCAA Commentary

Construction industry plans have had a challenging decade, with worsening demographics and investment losses. Several plans have taken action to improve their funding using the tools available under PPA. While demographics and funding have improved in recent years, it is unclear whether the new tools available under MPRA will allow the most troubled plans to address looming insolvencies.

Further legislative changes are needed to allow plan trustees and bargaining parties greater flexibility with plan design. Such changes will bring stability to these plans and to restore their vitality for the future.

Exhibit 7.05



Section VII: Plan Costs

Differences by Plan Size

The following pages show selected exhibits for “large” (assets of at least \$500 million), “medium” (assets of at least \$100 million and less than \$500 million), and “small” (assets less than \$100 million) construction industry plans.

Commentary is included below.

Costs of Benefit Accruals (Exhibits 7.01A-C):

- In general, it appears that large and medium plans have higher costs of benefit accruals per active participant than small plans. This may imply that large and medium plans have higher benefit accrual rates (for those plan years) than small plans.
- It may also imply that large and medium plans have older active participants on average than small plans; older active participants tend to have higher normal costs than younger participants. Unfortunately, there is not enough information in the Form 5500 to confirm this.
- Note that the 95th percentile results are somewhat volatile and may be affected by a variety of factors. Not much stock should be put into those numbers.

Operating Expenses:

See Section VIII of the report for more detailed information on plan operating expenses, including a comparison of operating expenses for large, medium and small plans.

Cost of Unfunded Liabilities (Exhibits 7.03A-C):

- In general, it appears that large and medium plans have higher costs of unfunded liabilities, per active participant, than small plans. This may imply that large and medium plans have generally higher benefit accrual rates (for past service) than small plans.
- The range of results is greater for small plans. The 95th percentile (highest) costs for small plans rose dramatically after 2008. There is a higher percentage of small plans with no unfunded liabilities (negative cost) than for large or medium plans.

Employer Contributions (Exhibits 7.04A-C):

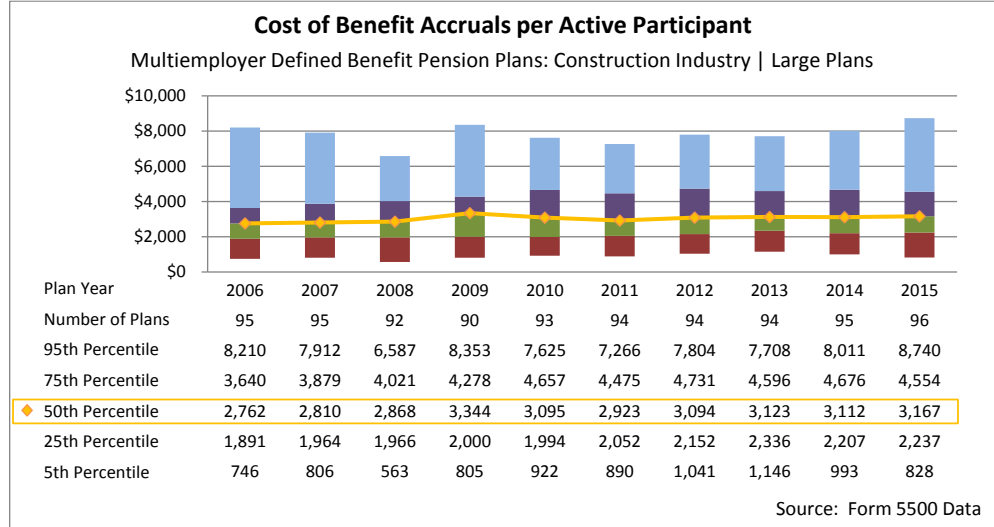
- In general, changes in employer contributions per active participant over the past decade have followed the same pattern, regardless of the size of the plan. In general, contributions per active participant increased through the decade, with significant increases from 2010 through 2015.
- The median contributions per active participant were higher for large and medium plans than for small plans.
- The range of contributions was wider for large and medium plans than for small plans. (This contrasts with other results analyzed in this report, for which small plans usually have wider ranges of results.)

Contributions vs. Costs (Exhibits 7.05A-C):

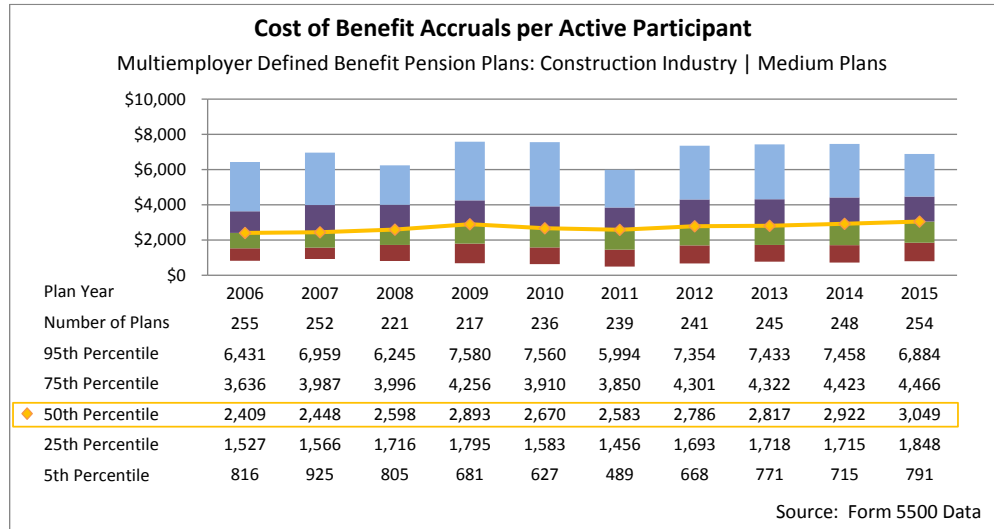
- As with most other statistics, there is a wider range of results for small plans than for large or medium plans.
- Large plans appear to have more of a gap between contributions and plan costs from 2010 through 2015 than medium or small plans. This appears to be related to the fact that large plans generally have a higher cost of benefit accruals than small plans. Medium plans have higher accrual costs, but that is offset by higher employer contributions.

Section VII: Plan Costs

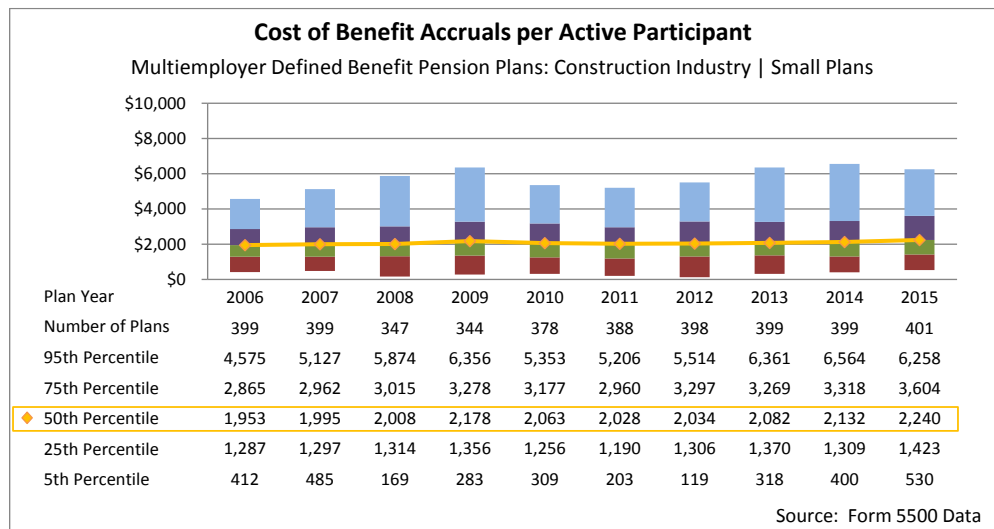
**Exhibit 7.01A
(Large Plans)**



**Exhibit 7.01B
(Medium Plans)**

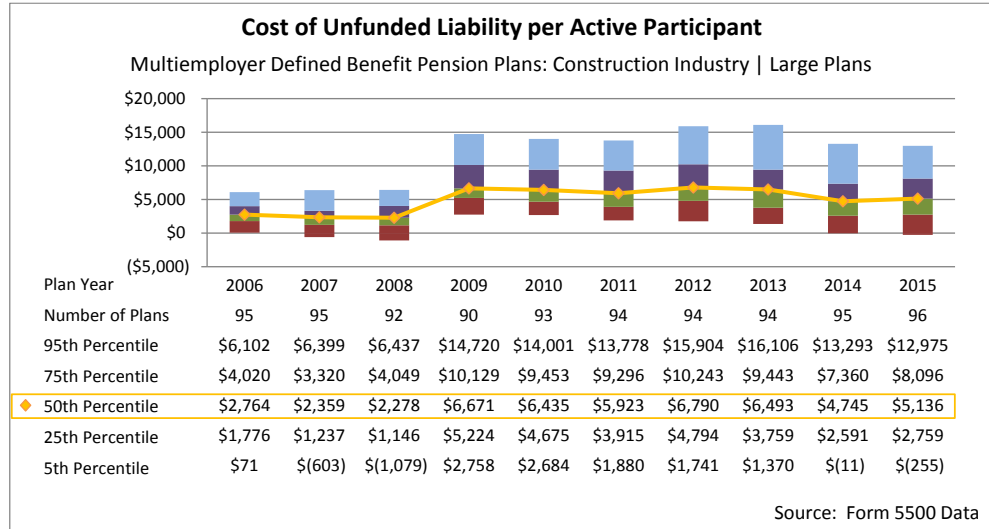


**Exhibit 7.01C
(Small Plans)**

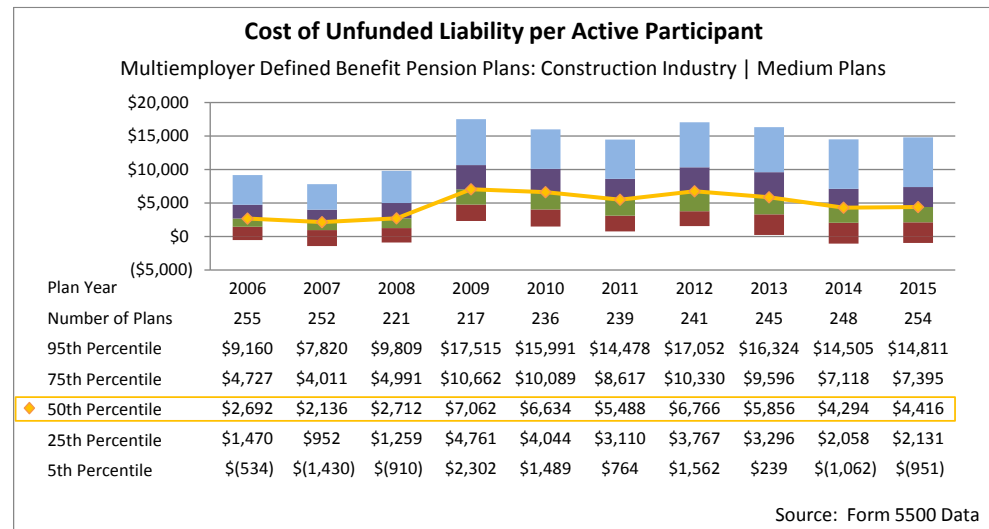


Section VII: Plan Costs

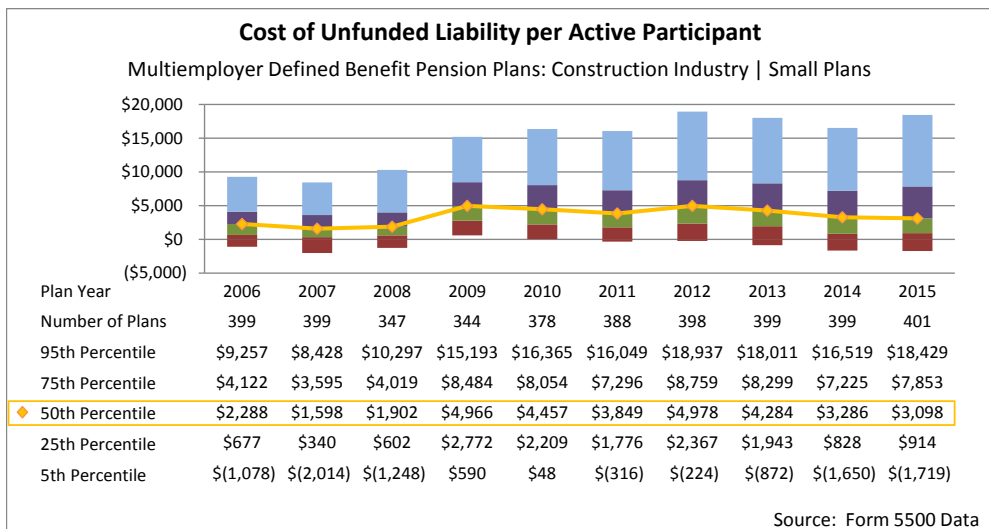
**Exhibit 7.03A
(Large Plans)**



**Exhibit 7.03B
(Medium Plans)**

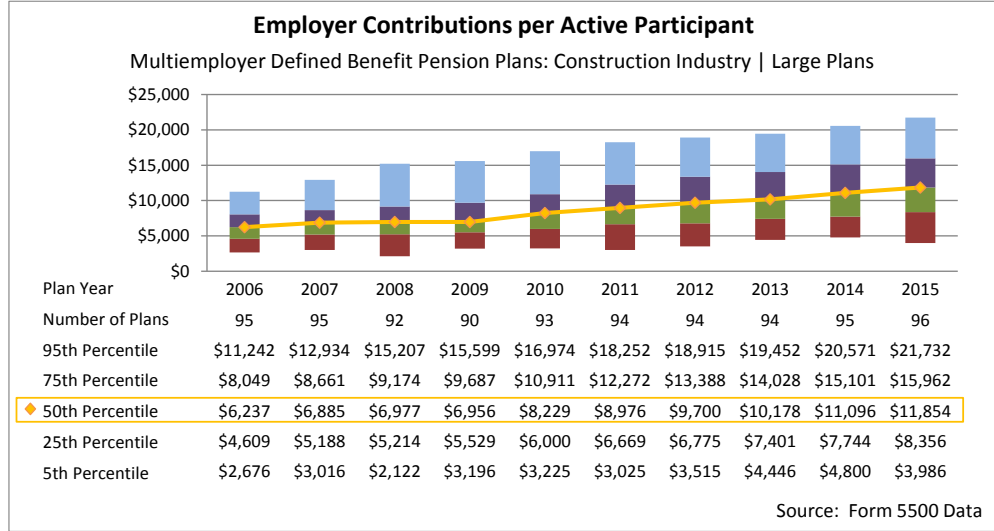


**Exhibit 7.03C
(Small Plans)**

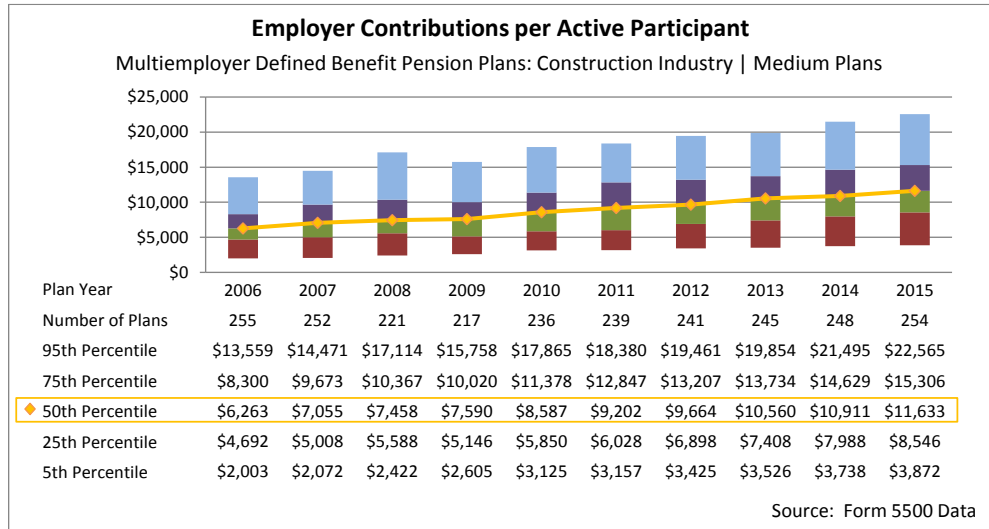


Section VII: Plan Costs

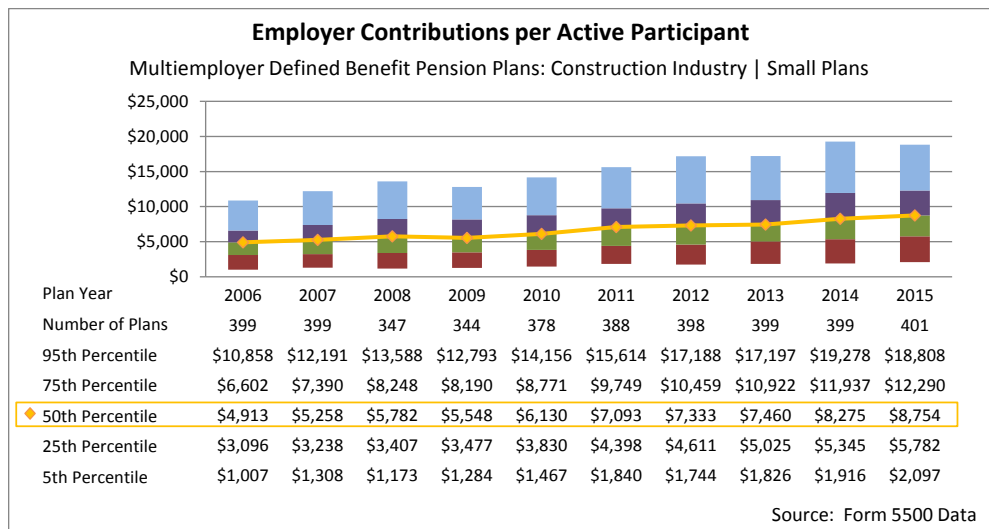
**Exhibit 7.04A
(Large Plans)**



**Exhibit 7.04B
(Medium Plans)**

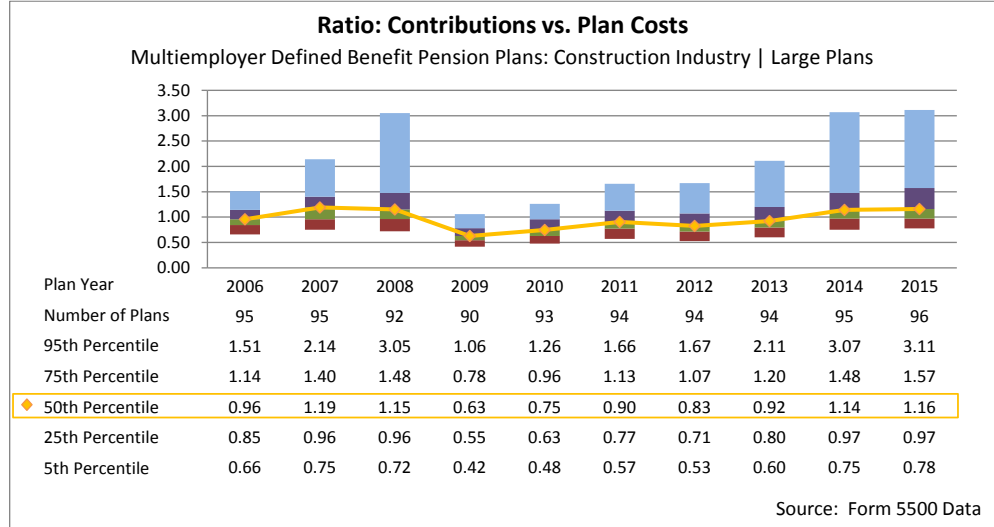


**Exhibit 7.04C
(Small Plans)**

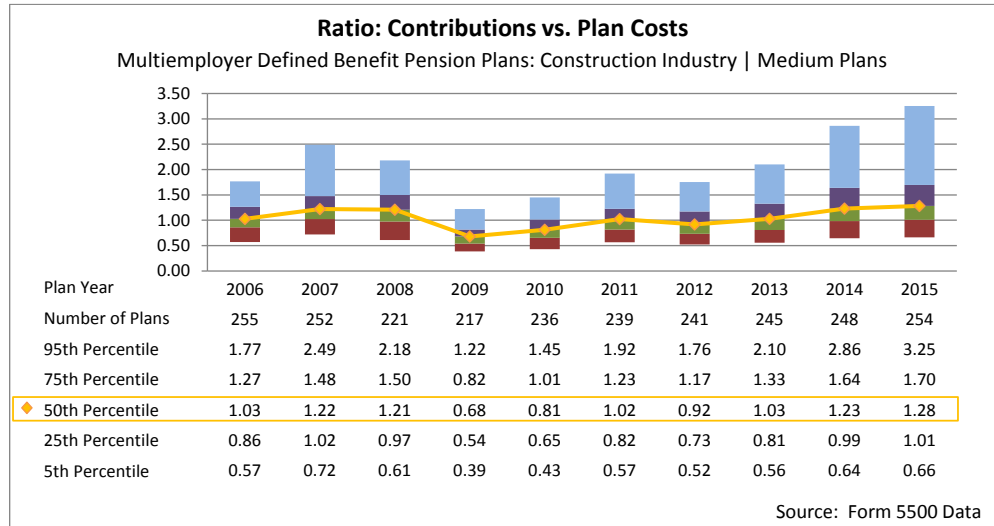


Section VII: Plan Costs

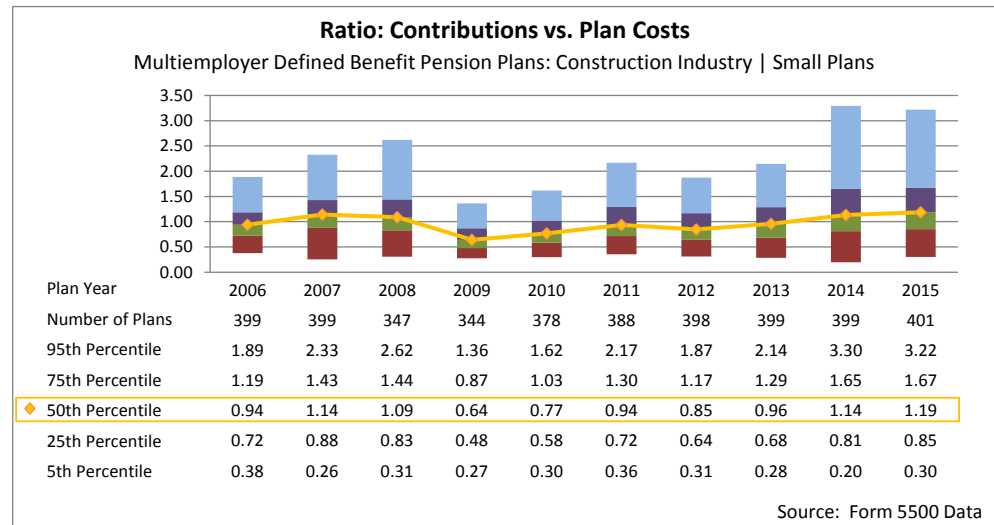
**Exhibit 7.05A
(Large Plans)**



**Exhibit 7.05B
(Medium Plans)**



**Exhibit 7.05C
(Small Plans)**



Section VIII: Plan Expenses

This section of the report takes a closer look at investment fees and operating expenses for construction industry plans. The intent of this section is to provide plan trustees with a sense of how their plans' fees and expenses compare with other plans in the construction industry.

Technical Note: Median and Average Results

The snapshot distribution graphs in this section show both median and average fees and expenses. However, as averages can be skewed by outliers, the commentary below focuses on median results.

Investment Fees

The majority of investment fees are paid to investment managers, usually as a percentage of assets. In general, more active or complicated investment strategies will have higher manager fees; passive or indexed strategies will have lower fees.

In most cases, investment fees will also include fees paid to consultants who advise plan trustees on investment decisions, as opposed to actually investing the money. Sometimes the Form 5500 preparer will classify investment consultant fees as professional fees, in which case they will count as operating expenses for purposes of this analysis.

Exhibit 8.01 below shows historical investment fees, as a percent of plan assets, over the last decade. Investment fees have remained relatively level over the last ten years, with some fluctuations.

Exhibit 8.02 shows the distribution of investment fees during the latest plan year. Median investment fees were 41 basis points ("bps"), or 0.41% of assets. Fewer than 1% of plans paid investment fees over 100 basis points. Similarly, fewer than 4% of plans paid fees less than 10 basis points.

Exhibit 8.02 (All Plans)

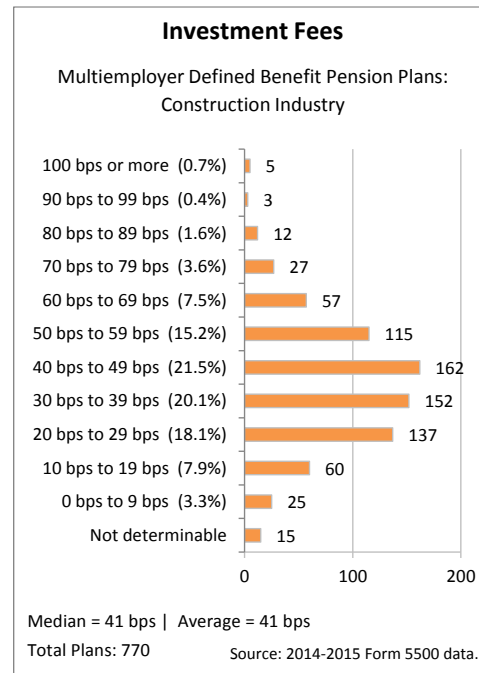
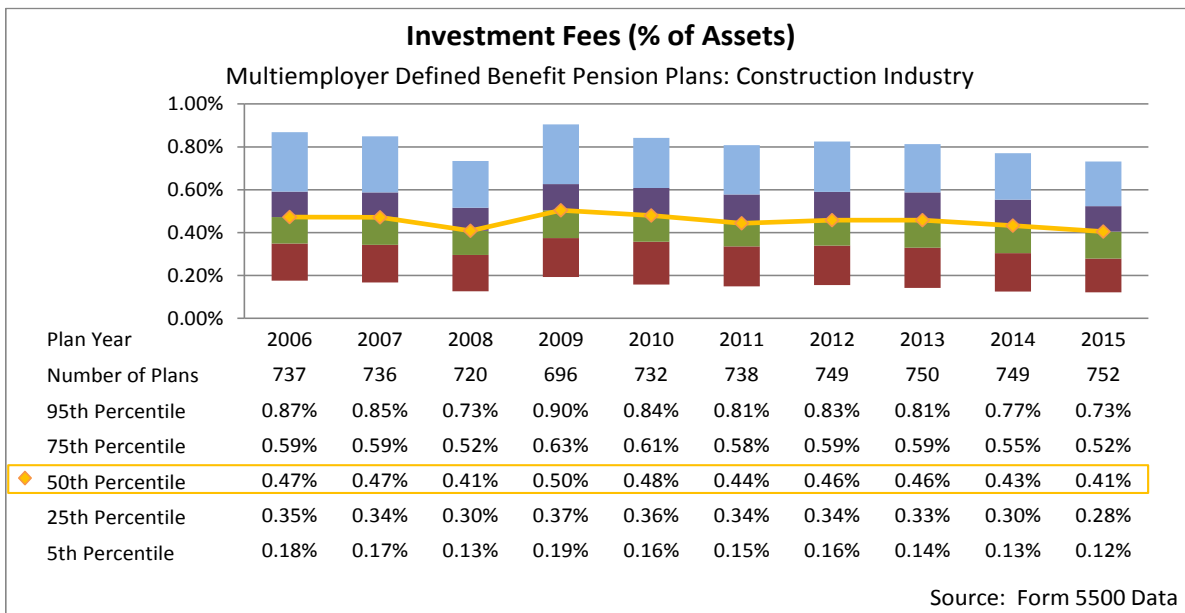


Exhibit 8.01



Section VIII: Plan Expenses

Below are separate exhibits showing investment fees for large (assets of at least \$500 million), medium (assets of at least \$100 million and less than \$500 million), and small (assets less than \$100 million) construction industry plans.

In general, larger plans will have lower investment fees than smaller plans when fees are expressed as a percentage of plan assets. As shown below, median investment fees were about 35 basis points for large plans, 37 basis points for medium plans, and 44 points for small plans. Note that for the 50 very large plans with assets of at least \$1 billion (not shown separately), median investment fees were 34 basis points, slightly lower than for all large plans.

MCAA Commentary

The consolidation of small plans would promote efficiency and economies of scale in plan administration and investments. Plan trustees may wish to consider mergers where appropriate.

Exhibit 8.02B (Medium Plans)

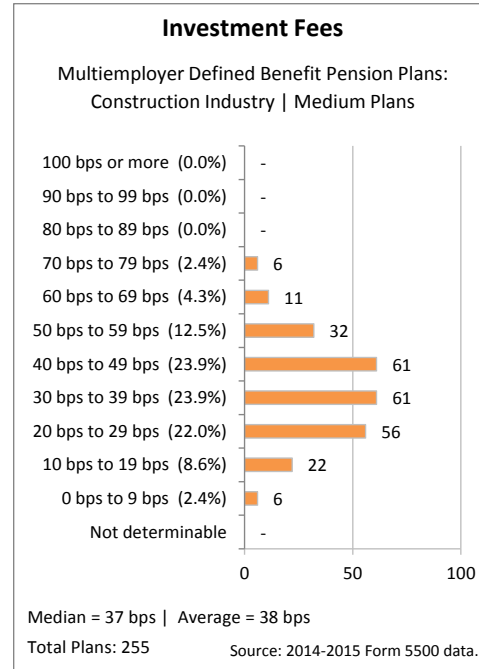


Exhibit 8.02A (Large Plans)

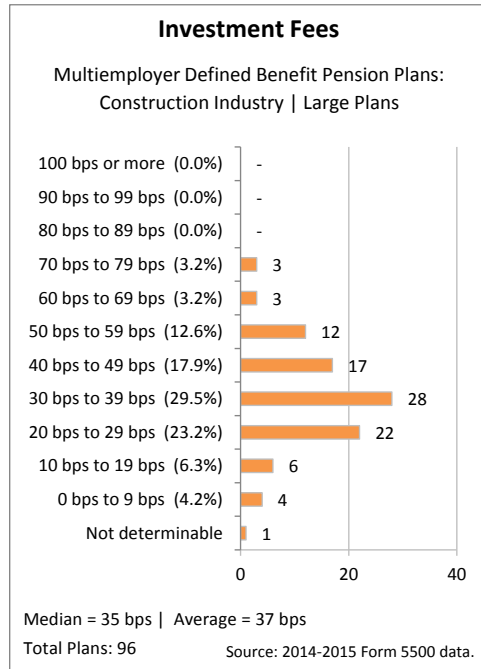
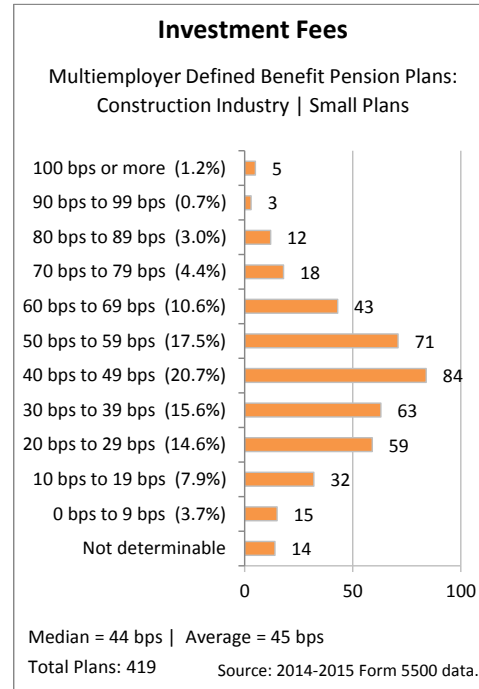


Exhibit 8.02C (Small Plans)



Section VIII: Plan Expenses

Per-Participant Operating Expenses

Operating expenses include the cost of administering the plan, fees paid to professionals (such as attorneys, auditors, actuaries, and consultants), and insurance and PBGC premiums. They exclude investment fees.

Technical Note: Operating Expense Data

Operating expenses shown in this section are as reported on Schedule H of the Form 5500. Detailed information on fees and expenses by individual providers is reported on Schedule C. However, the inventory does not contain sufficient data to perform a comprehensive analysis by type of provider (attorneys, actuaries, auditors, etc.). Instead, Exhibit 8.07 reviews fees paid to professionals in total.

As shown in Exhibit 8.03 below, when expressed as a per-participant cost, operating expenses have increased steadily over the period from 2006 through 2015. Median operating expenses increased from \$197 per participant to \$263 per participant over that period. That is a total increase of 33.5%, or 3.3% per year on average.

Recall that, when expressed as a cost per active participant in Exhibit 7.02, operating expenses appeared to be increasing at a much higher rate. As discussed in that section, it is more appropriate to express operating expenses on the basis of total participants rather than active participants only.

Exhibit 8.04 shows the snapshot distribution of operating expenses per participant, based on the latest Form 5500 filings for all 770 plans in the inventory. Exhibit 8.05 (later in this section) shows operating expenses on the basis of total dollars paid.

Exhibit 8.04 (All Plans)

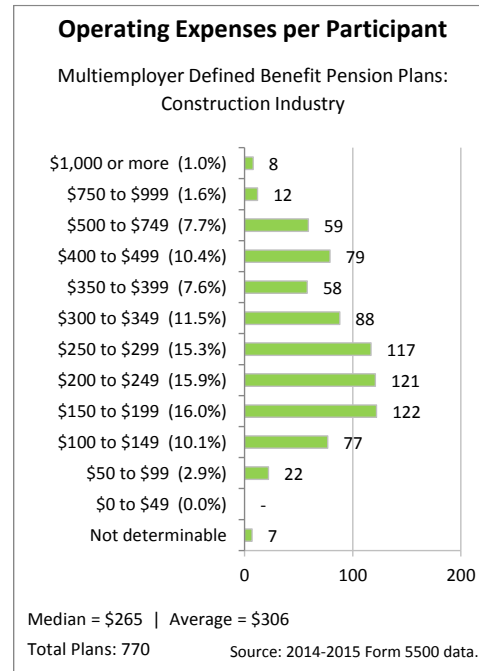
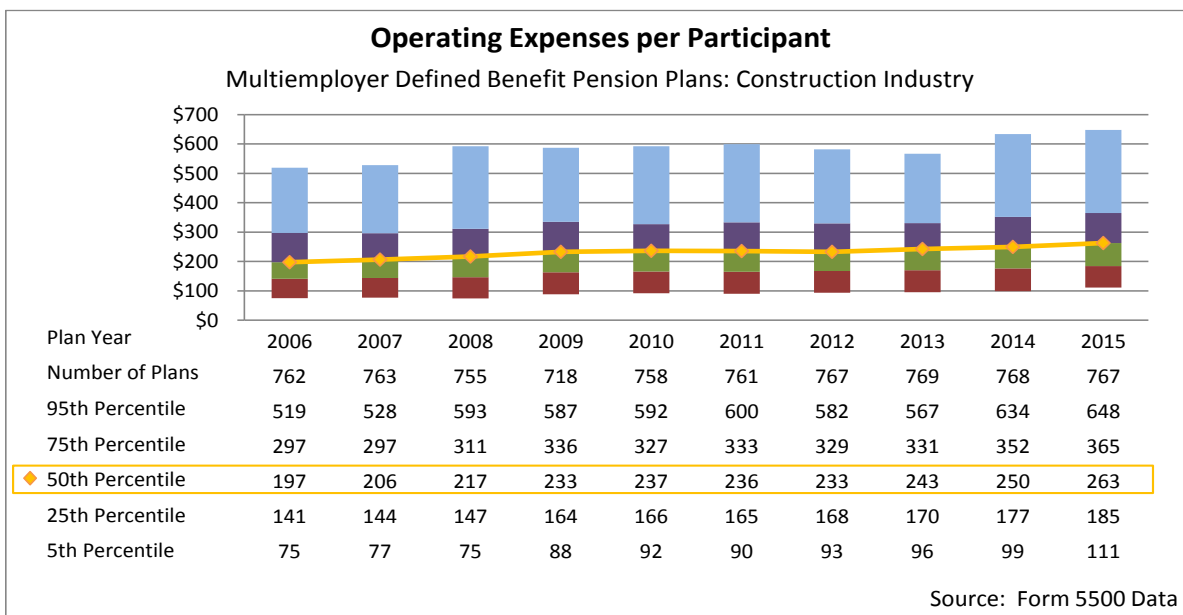


Exhibit 8.03



Section VIII: Plan Expenses

As shown in Exhibit 8.04, median operating cost was \$265 per participant for the latest plan year for which a Form 5500 was filed.

About 76% of plans have operating expenses between \$100 and \$400 per participant. About 1% of plans have operating expenses of over \$1,000 per participant. Less than 3% of plans have operating expenses of less than \$100 per participant.

The following exhibits show per participant operating expenses for large, medium, and small plans. Note that the median operating expense for large plans is \$162 per participant, per year. The median per-participant expense for large plans is significantly lower than for medium plans (\$231 per participant), and it is about half of the median expense for small plans (\$317 per participant).

Exhibit 8.04A (Large Plans)



MCAA Commentary

As previously noted, the consolidation of small plans would promote efficiency and economies of scale in plan administration and investments. Plan trustees may wish to consider mergers when appropriate.

Exhibit 8.04B (Medium Plans)

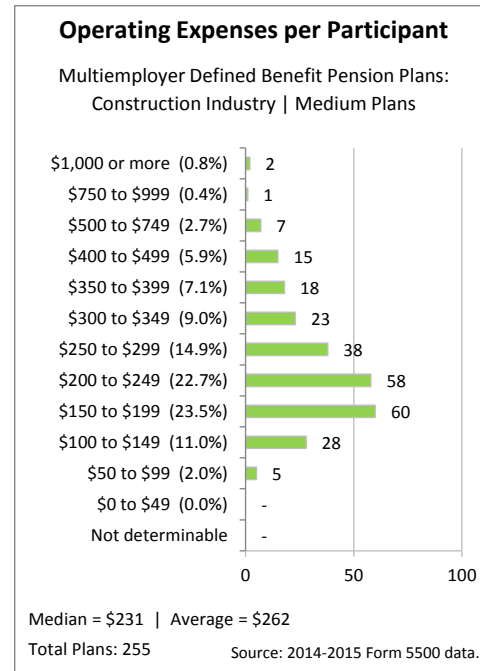
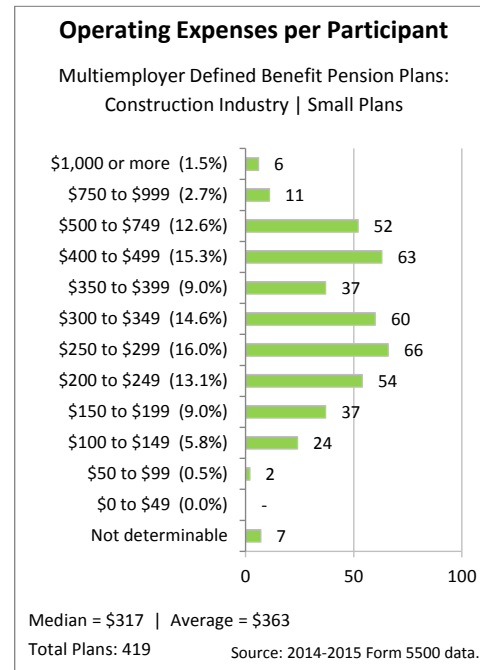


Exhibit 8.04C (Small Plans)



Section VIII: Plan Expenses

Total Operating Expenses

In addition to reviewing operating expenses on a per participant basis, it may be useful for plan trustees to review operating expenses in *total*. The exhibits below are provided for reference.

Exhibit 8.05 (All Plans)

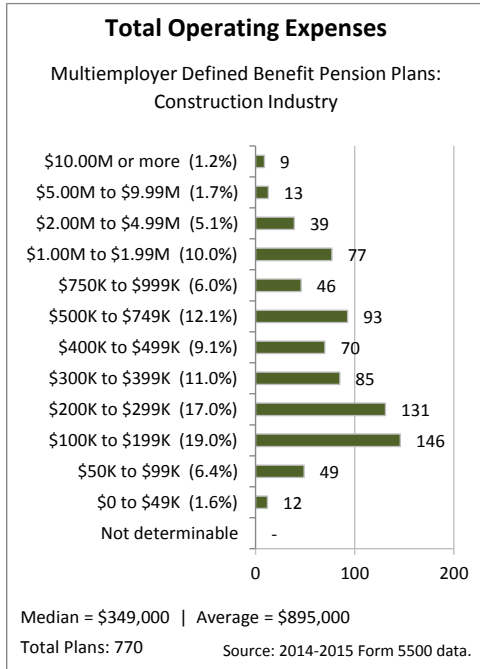


Exhibit 8.05A (Large Plans)



Exhibit 8.05B (Medium Plans)

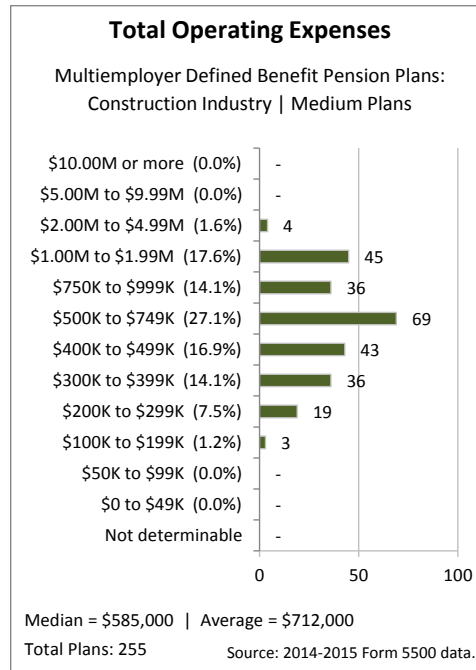
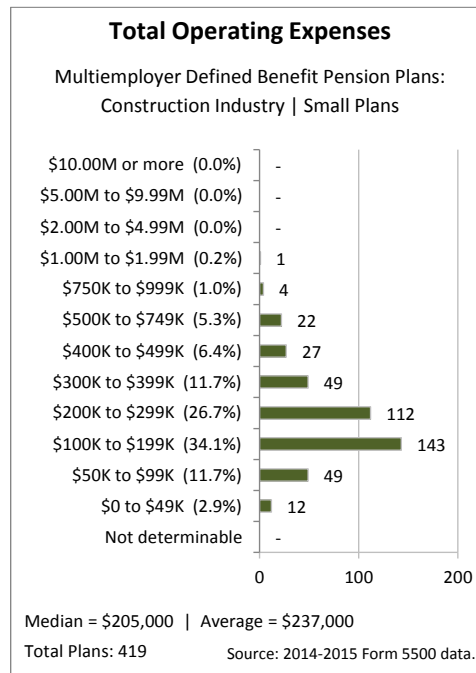


Exhibit 8.05C (Small Plans)



Section VIII: Plan Expenses

Administrative and Other Expenses

As an additional reference, the following exhibits show administrative and other expenses, which include the cost of salaries for fund employees or third party administrator fees, PBGC and insurance premiums, and general administrative costs.

Exhibit 8.06 (All Plans)

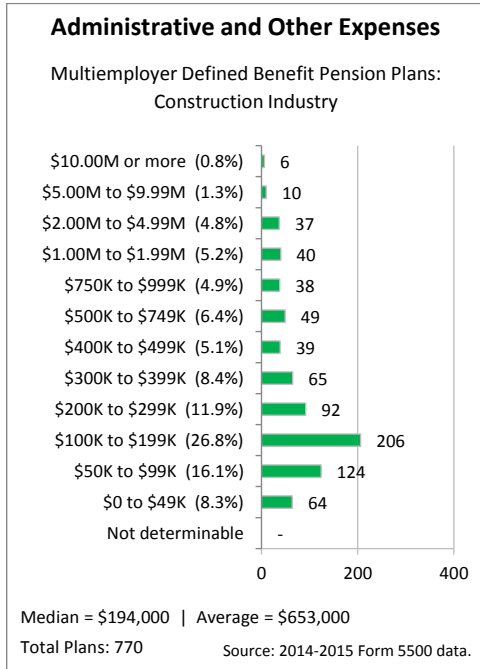


Exhibit 8.06A (Large Plans)

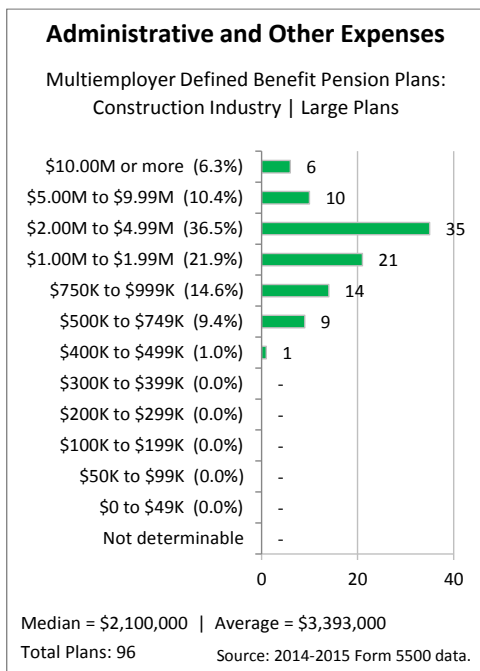


Exhibit 8.06B (Medium Plans)

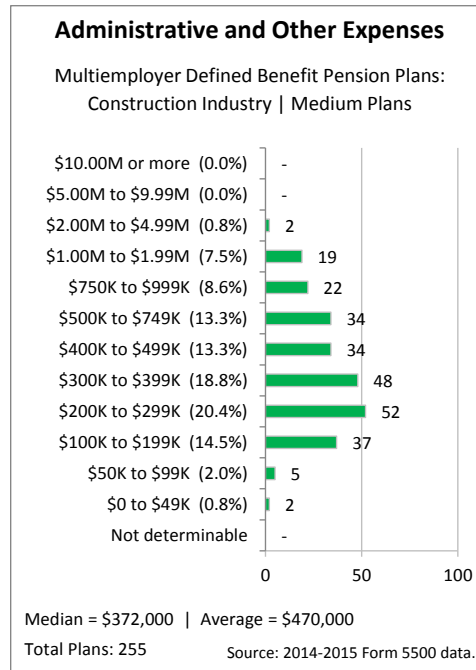


Exhibit 8.06C (Small Plans)



Exhibits showing professionals fees are shown on the following page. The sum of administrative and other expenses along with professionals' fees equals total operating expenses.

Section VIII: Plan Expenses

Professionals Fees

As an additional reference, the following exhibits show professionals fees, which are the total fees paid to attorneys, auditors, actuaries, and consultants.

Exhibit 8.07 (All Plans)

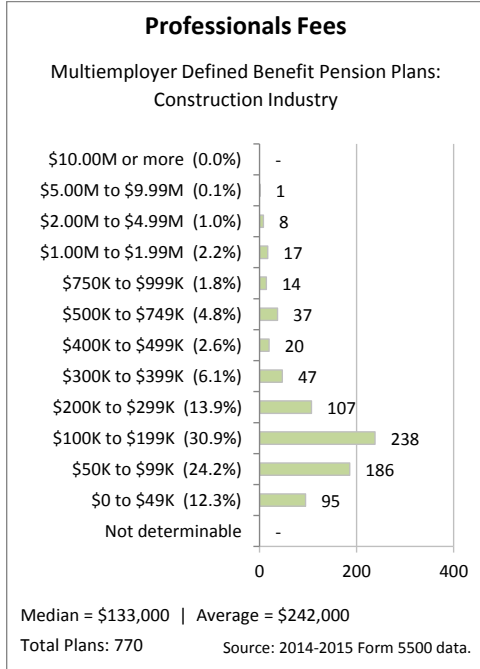


Exhibit 8.07B (Medium Plans)

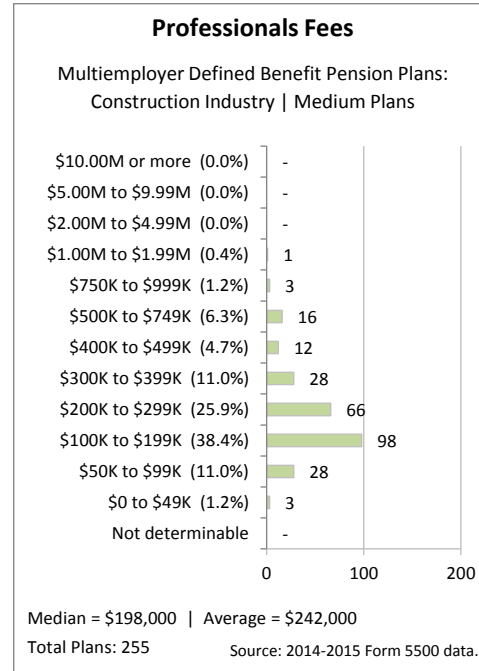


Exhibit 8.07A (Large Plans)

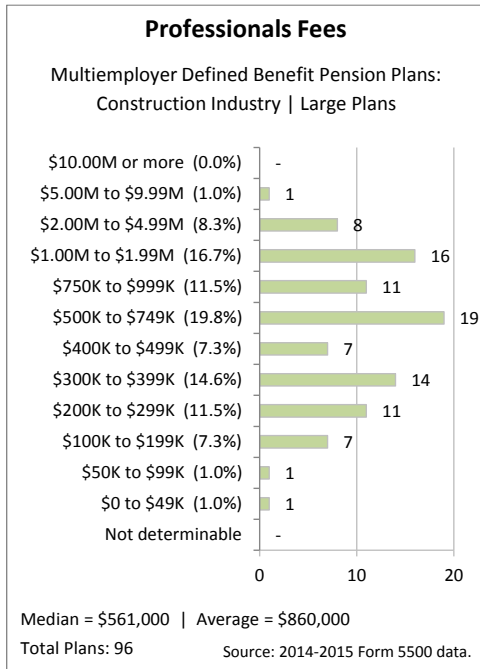
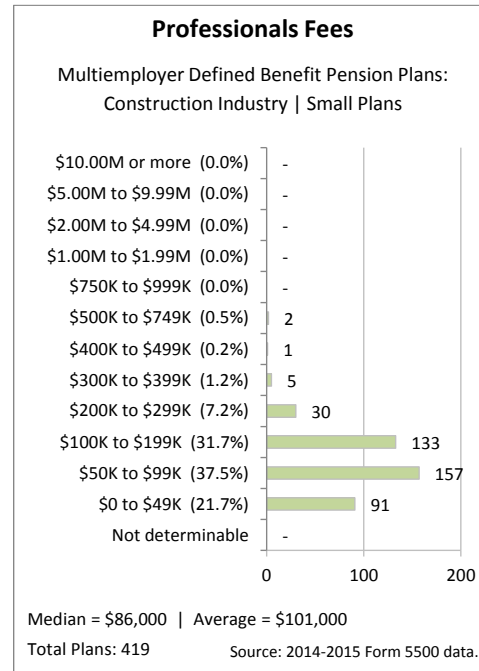


Exhibit 8.07C (Small Plans)



Appendix A: Detailed Results by Trade

Appendix A provides detailed tables showing how plans covering different trades within the construction industry are distributed for selected statistics analyzed earlier in the report. (Fees and expenses are not analyzed here, as they are more related to plan size rather than trade affiliation.)

The tables in this appendix may be useful to trustees when comparing the latest results for their plan(s) against other plans in the same trade.

Construction Industry Trades

This section shows detailed results for the twelve (12) trades that have at least twenty construction industry plans covering their members:

1. The United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry (“Plumbers and Pipefitters” or “UA” – includes air conditioning, sprinkler, and refrigeration trades)
2. International Brotherhood of Electrical Workers (“Electrical Workers” or “IBEW”)
3. Laborers’ International Union of North America (“Laborers” or “LIUNA”)
4. International Union of Bricklayers and Allied Craftworkers (“Bricklayers and Allied Crafts” or “BAC”)
5. International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers (“Iron Workers”)
6. Operative Plasterers’ and Cement Masons’ International Association (“Cement Masons”)
7. United Brotherhood of Carpenters (“Carpenters” or “UBC”)
8. Sheet Metal and Rail Transportation Workers (“Sheet Metal Workers”)
9. International Association of Heat and Frost Insulators and Allied Workers (“Insulators and Allied Workers”)
10. International Union of Operating Engineers (“Operating Engineers” or “IUOE”)
11. International Union of Painters and Allied Trades (“Painters and Allied Trades” or “IUPAT” – includes glaziers, signage, and flooring trades)
12. United Union of Roofers, Waterproofers, and Allied Workers (“Roofers and Allied Workers”)

Other and Mixed Trades

Trades with fewer than twenty construction industry plans covering their members are included in the “other or mixed trades” category. These include the following three trades:

- International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers
- International Union of Elevator Constructors
- International Brotherhood of Teamsters

Note that the inventory does not include plans outside of the construction industry plans, such as Teamster plans considered to be in the transportation industry.

Also note that plans covering two or more distinctly different trades in the construction industry are included in the “other or mixed trades” category.

Exhibit A.01 – Plans by Trade and Size

Exhibit A.01 below summarizes the number of plans by trade and by size. Recall that large plans have asset values of at least \$500 million, medium plans have asset values of at least \$100 million but less than \$500 million, and small plans have asset values of less than \$100 million.

Trade	Large	Medium	Small	Total
Plumbers and Pipefitters	13	56	75	144
Electrical Workers	12	48	61	121
Laborers	21	27	28	76
Bricklayers and Allied Crafts	1	12	50	63
Iron Workers	4	23	32	59
Cement Masons	1	11	42	54
Sheet Metal Workers	4	13	35	52
Carpenters	20	18	11	49
Insulators and Allied Workers	-	7	31	38
Operating Engineers	14	14	6	34
Painters and Allied Trades	2	12	17	31
Roofers and Allied Workers	1	3	19	23
Other or Mixed Trades	3	11	12	26
All Trades	96	255	419	770

Appendix A: Detailed Results by Trade

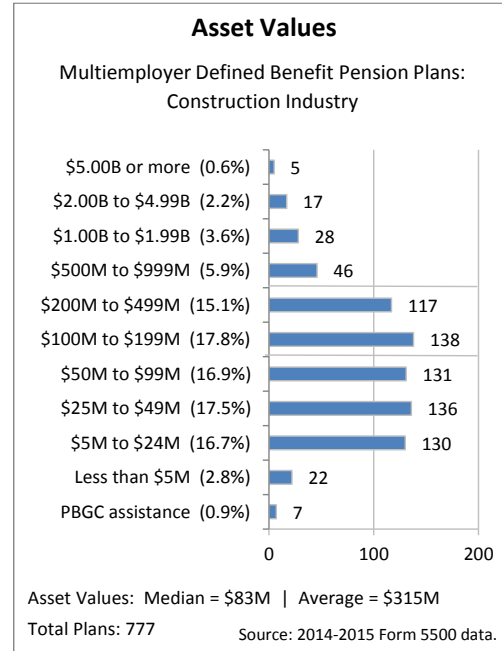
Exhibit A.02 – Asset Values

The following exhibits (Exhibit 2.01 repeated at right) show the distribution of construction industry plans by asset value. The assets are market values of assets as of the end of the latest plan year for which a Form 5500 was filed. In general, these will be for plan years ending on or about December 31, 2015.

As shown in the detailed table below, Operating Engineer and Carpenter plans are distributed more toward higher asset values than plans covering other trades. Cement Mason, Insulator, and Roofer plans are distributed more toward lower asset values.

As shown on the following page, there are similar differences when focusing on the number of participants as seen with asset values. This makes sense – all other things being equal, the more participants a plan covers, the greater its asset value needs to be.

Note that average results are higher than median results, as they are skewed by very large plans.



Asset Values

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
\$5.00B or more	5	0.6%	1	0.7%	1	0.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
\$2.00B to \$4.99B	17	2.2%	1	0.7%	1	0.8%	2	2.6%	-	0.0%	1	1.7%	-	0.0%
\$1.00B to \$1.99B	28	3.6%	1	0.7%	3	2.5%	8	10.5%	1	1.6%	1	1.7%	1	1.9%
\$500M to \$999M	46	5.9%	10	6.9%	7	5.8%	11	14.5%	-	0.0%	2	3.3%	-	0.0%
\$200M to \$499M	117	15.1%	23	16.0%	17	14.0%	14	18.4%	4	6.3%	14	23.3%	4	7.4%
\$100M to \$199M	138	17.8%	33	22.9%	31	25.6%	13	17.1%	8	12.7%	9	15.0%	7	13.0%
\$50M to \$99M	131	16.9%	30	20.8%	22	18.2%	10	13.2%	15	23.8%	10	16.7%	11	20.4%
\$25M to \$49M	136	17.5%	30	20.8%	23	19.0%	6	7.9%	9	14.3%	13	21.7%	8	14.8%
\$5M to \$24M	130	16.7%	14	9.7%	16	13.2%	12	15.8%	21	33.3%	7	11.7%	15	27.8%
Less than \$5M	22	2.8%	1	0.7%	-	0.0%	-	0.0%	5	7.9%	2	3.3%	8	14.8%
PBGC assistance	7	0.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	1.7%	-	0.0%
Totals	777	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	60	100.0%	54	100.0%
Average (\$Million)		315		224		311		412		85		245		84
Median (\$Million)		83		92		96		161		38		81		31

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
\$5.00B or more	-	0.0%	-	0.0%	-	-	1	2.9%	-	0.0%	-	0.0%	2	7.7%
\$2.00B to \$4.99B	6	11.8%	1	1.9%	-	-	4	11.4%	1	3.1%	-	0.0%	-	0.0%
\$1.00B to \$1.99B	8	15.7%	-	0.0%	-	-	3	8.6%	-	0.0%	1	4.2%	1	3.8%
\$500M to \$999M	6	11.8%	3	5.8%	-	-	6	17.1%	1	3.1%	-	0.0%	-	0.0%
\$200M to \$499M	11	21.6%	9	17.3%	4	10.3%	6	17.1%	6	18.8%	2	8.3%	3	11.5%
\$100M to \$199M	7	13.7%	4	7.7%	3	7.7%	8	22.9%	6	18.8%	1	4.2%	8	30.8%
\$50M to \$99M	4	7.8%	12	23.1%	3	7.7%	2	5.7%	5	15.6%	5	20.8%	2	7.7%
\$25M to \$49M	5	9.8%	17	32.7%	9	23.1%	3	8.6%	3	9.4%	4	16.7%	6	23.1%
\$5M to \$24M	2	3.9%	5	9.6%	17	43.6%	1	2.9%	8	25.0%	9	37.5%	3	11.5%
Less than \$5M	-	0.0%	1	1.9%	2	5.1%	-	0.0%	1	3.1%	1	4.2%	1	3.8%
PBGC assistance	2	3.9%	-	0.0%	1	2.6%	1	2.9%	1	3.1%	1	4.2%	-	0.0%
Totals	51	100.0%	52	100.0%	39	100.0%	35	100.0%	32	100.0%	24	100.0%	26	100.0%
Average (\$Million)		807		216		61		1,074		225		117		684
Median (\$Million)		407		55		25		275		92		27		105

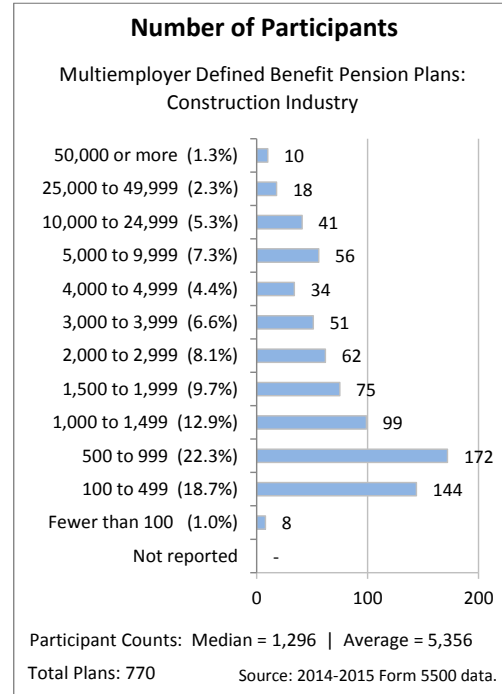
Appendix A: Detailed Results by Trade

Exhibit A.03 – Number of Participants

These exhibits (Exhibit 2.02 repeated at right) show the distribution of construction industry plans by number of participants. Participant counts are those reported on the Form 5500 by the plan administrator and are as of the end of the plan year.

As shown in the detailed table below, Operating Engineer and Carpenter plans are distributed more toward larger numbers of covered participants than plans covering other trades. Cement Mason, Insulator, and Roofer plans are distributed more toward smaller numbers of covered participants.

Note that average results are higher than median results, as they are skewed by very large plans.



Number of Participants

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
50,000 or more	10	1.3%	1	0.7%	1	0.8%	1	1.3%	1	1.6%	1	1.7%	-	0.0%
25,000 to 49,999	18	2.3%	1	0.7%	1	0.8%	5	6.6%	-	0.0%	-	0.0%	-	0.0%
10,000 to 24,999	41	5.3%	2	1.4%	5	4.1%	11	14.5%	-	0.0%	3	5.1%	1	1.9%
5,000 to 9,999	56	7.3%	8	5.6%	7	5.8%	11	14.5%	1	1.6%	4	6.8%	1	1.9%
4,000 to 4,999	34	4.4%	3	2.1%	6	5.0%	5	6.6%	1	1.6%	5	8.5%	1	1.9%
3,000 to 3,999	51	6.6%	9	6.3%	13	10.7%	5	6.6%	2	3.2%	5	8.5%	3	5.6%
2,000 to 2,999	62	8.1%	14	9.7%	8	6.6%	6	7.9%	6	9.5%	6	10.2%	2	3.7%
1,500 to 1,999	75	9.7%	23	16.0%	11	9.1%	6	7.9%	9	14.3%	6	10.2%	2	3.7%
1,000 to 1,499	99	12.9%	24	16.7%	25	20.7%	8	10.5%	7	11.1%	9	15.3%	9	16.7%
500 to 999	172	22.3%	41	28.5%	31	25.6%	9	11.8%	14	22.2%	13	22.0%	11	20.4%
100 to 499	144	18.7%	18	12.5%	12	9.9%	9	11.8%	21	33.3%	7	11.9%	22	40.7%
Fewer than 100	8	1.0%	-	0.0%	1	0.8%	-	0.0%	1	1.6%	-	0.0%	2	3.7%
Not reported	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Average		5,356		3,126		7,267		7,519		2,384		4,565		1,316
Median		1,296		1,180		1,300		3,119		871		1,507		607

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
50,000 or more	1	2.0%	1	1.9%	-	0.0%	1	2.9%	1	3.2%	-	0.0%	1	3.8%
25,000 to 49,999	5	10.2%	-	0.0%	-	0.0%	3	8.8%	-	0.0%	1	4.3%	2	7.7%
10,000 to 24,999	13	26.5%	2	3.8%	-	0.0%	4	11.8%	-	0.0%	-	0.0%	-	0.0%
5,000 to 9,999	10	20.4%	3	5.8%	1	2.6%	7	20.6%	2	6.5%	-	0.0%	1	3.8%
4,000 to 4,999	3	6.1%	1	1.9%	1	2.6%	4	11.8%	1	3.2%	-	0.0%	3	11.5%
3,000 to 3,999	3	6.1%	2	3.8%	-	0.0%	3	8.8%	3	9.7%	1	4.3%	2	7.7%
2,000 to 2,999	4	8.2%	4	7.7%	-	0.0%	3	8.8%	3	9.7%	2	8.7%	4	15.4%
1,500 to 1,999	2	4.1%	7	13.5%	2	5.3%	4	11.8%	1	3.2%	-	0.0%	2	7.7%
1,000 to 1,499	2	4.1%	4	7.7%	1	2.6%	2	5.9%	4	12.9%	2	8.7%	2	7.7%
500 to 999	3	6.1%	20	38.5%	9	23.7%	2	5.9%	8	25.8%	6	26.1%	5	19.2%
100 to 499	3	6.1%	8	15.4%	24	63.2%	1	2.9%	7	22.6%	10	43.5%	2	7.7%
Fewer than 100	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	3.2%	1	4.3%	2	7.7%
Not reported	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Average		11,773		4,512		731		14,699		4,258		2,086		8,212
Median		7,382		911		338		4,632		934		528		1,911

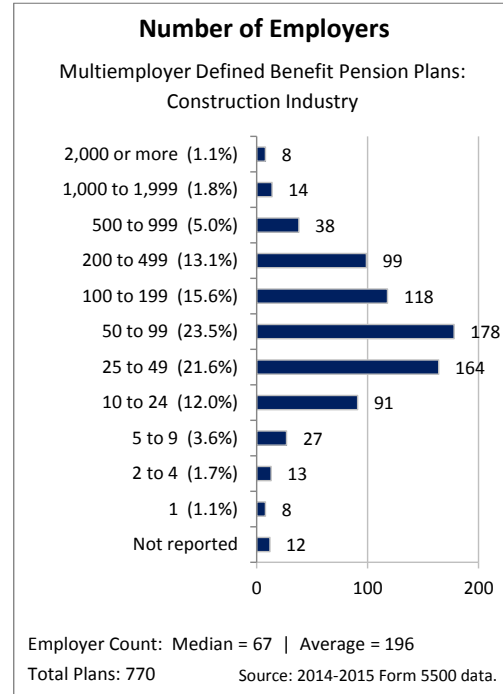
Appendix A: Detailed Results by Trade

Exhibit A.04 – Number of Employers

These exhibits (Exhibit 2.03 repeated at right) show the distribution of construction industry plans by number of contributing employers. Employer counts are those reported on the Form 5500 by the plan administrator and are as of the end of the plan year.

As shown in the detailed table below, Operating Engineer, Carpenter, and Laborer plans are distributed more toward larger numbers of contributing employers than plans covering other trades. Insulator, Roofer, and Sheet Metal Worker plans are distributed more toward smaller numbers of contributing employers.

Note that average results are higher than median results, as they are skewed by very large plans.



Number of Employers

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2,000 or more	8	1.1%	1	0.7%	1	0.8%	-	0.0%	1	1.6%	-	0.0%	-	0.0%
1,000 to 1,999	14	1.8%	-	0.0%	-	0.0%	6	8.0%	-	0.0%	1	1.8%	-	0.0%
500 to 999	38	5.0%	1	0.7%	2	1.7%	11	14.7%	-	0.0%	4	7.0%	2	4.0%
200 to 499	99	13.1%	12	8.3%	18	14.9%	19	25.3%	4	6.3%	9	15.8%	5	10.0%
100 to 199	118	15.6%	19	13.2%	15	12.4%	17	22.7%	11	17.5%	11	19.3%	11	22.0%
50 to 99	178	23.5%	48	33.3%	38	31.4%	16	21.3%	22	34.9%	11	19.3%	12	24.0%
25 to 49	164	21.6%	43	29.9%	37	30.6%	4	5.3%	12	19.0%	8	14.0%	12	24.0%
10 to 24	91	12.0%	14	9.7%	7	5.8%	2	2.7%	9	14.3%	10	17.5%	2	4.0%
5 to 9	27	3.6%	2	1.4%	1	0.8%	-	0.0%	2	3.2%	2	3.5%	2	4.0%
2 to 4	13	1.7%	3	2.1%	1	0.8%	-	0.0%	2	3.2%	1	1.8%	2	4.0%
1	8	1.1%	1	0.7%	1	0.8%	-	0.0%	-	0.0%	-	0.0%	2	4.0%
Not reported	12	N/A	-	N/A	-	N/A	1	N/A	-	N/A	2	N/A	4	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Average		196		118		180		323		125		165		118
Median		67		58		59		188		67		81		65

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2,000 or more	1	2.1%	1	1.9%	-	0.0%	2	6.1%	1	3.2%	-	0.0%	-	0.0%
1,000 to 1,999	4	8.3%	-	0.0%	-	0.0%	3	9.1%	-	0.0%	-	0.0%	-	0.0%
500 to 999	9	18.8%	-	0.0%	-	0.0%	5	15.2%	-	0.0%	1	4.5%	3	12.5%
200 to 499	12	25.0%	5	9.6%	1	2.6%	9	27.3%	4	12.9%	-	0.0%	1	4.2%
100 to 199	8	16.7%	5	9.6%	1	2.6%	7	21.2%	4	12.9%	3	13.6%	6	25.0%
50 to 99	5	10.4%	9	17.3%	3	7.9%	4	12.1%	6	19.4%	-	0.0%	4	16.7%
25 to 49	4	8.3%	17	32.7%	7	18.4%	2	6.1%	11	35.5%	5	22.7%	2	8.3%
10 to 24	4	8.3%	12	23.1%	17	44.7%	-	0.0%	3	9.7%	8	36.4%	3	12.5%
5 to 9	1	2.1%	1	1.9%	7	18.4%	-	0.0%	2	6.5%	5	22.7%	2	8.3%
2 to 4	-	0.0%	2	3.8%	1	2.6%	-	0.0%	-	0.0%	-	0.0%	1	4.2%
1	-	0.0%	-	0.0%	1	2.6%	1	3.0%	-	0.0%	-	0.0%	2	8.3%
Not reported	1	N/A	-	N/A	-	N/A	1	N/A	-	N/A	1	N/A	2	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Average		459		143		33		603		198		64		158
Median		221		39		20		271		42		19		63

Appendix A: Detailed Results by Trade

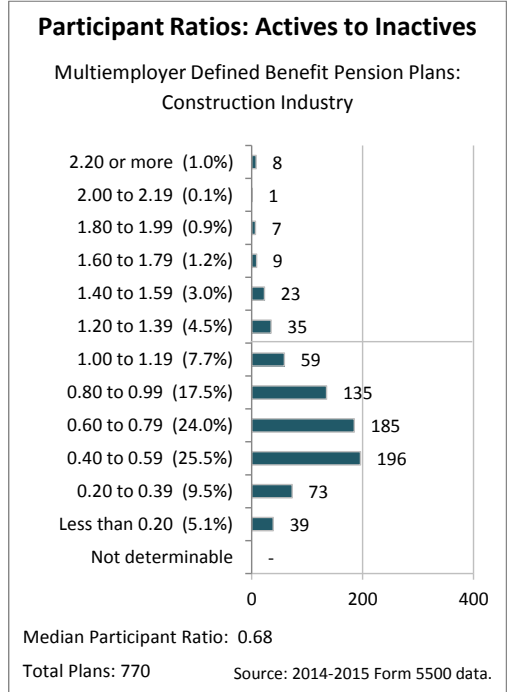
Exhibit A.05 – Participant Ratios

These exhibits (which were derived from the latest results in Exhibit 3.02) show the distribution of construction industry plans by their participant ratios.

The participant ratios in these exhibits represent the number of actively working participants over the number of inactive participants (which includes inactive vested participants, retirees, and beneficiaries) as of the end of the latest plan year.

As described earlier in the report, a higher ratio usually means it is easier for a plan to correct a funding shortfall by increasing contribution rates or decreasing future benefit accruals. A lower ratio usually means that it is more difficult for a plan to improve funding through these means.

As shown below, there are considerable differences in the participant ratios from trade to trade.



Participant Ratios: Actives to Inactives

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2.20 or more	8	1.0%	1	0.7%	1	0.8%	-	0.0%	1	1.6%	-	0.0%	2	3.7%
2.00 to 2.19	1	0.1%	-	0.0%	1	0.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
1.80 to 1.99	7	0.9%	3	2.1%	1	0.8%	-	0.0%	1	1.6%	-	0.0%	1	1.9%
1.60 to 1.79	9	1.2%	3	2.1%	3	2.5%	-	0.0%	1	1.6%	-	0.0%	-	0.0%
1.40 to 1.59	23	3.0%	4	2.8%	8	6.6%	2	2.6%	2	3.2%	2	3.4%	2	3.7%
1.20 to 1.39	35	4.5%	10	6.9%	11	9.1%	3	3.9%	2	3.2%	1	1.7%	2	3.7%
1.00 to 1.19	59	7.7%	17	11.8%	14	11.6%	3	3.9%	1	1.6%	3	5.1%	3	5.6%
0.80 to 0.99	135	17.5%	34	23.6%	30	24.8%	13	17.1%	7	11.1%	8	13.6%	9	16.7%
0.60 to 0.79	185	24.0%	35	24.3%	26	21.5%	17	22.4%	8	12.7%	15	25.4%	11	20.4%
0.40 to 0.59	196	25.5%	30	20.8%	22	18.2%	24	31.6%	19	30.2%	20	33.9%	13	24.1%
0.20 to 0.39	73	9.5%	6	4.2%	-	0.0%	13	17.1%	18	28.6%	5	8.5%	4	7.4%
Less than 0.20	39	5.1%	1	0.7%	4	3.3%	1	1.3%	3	4.8%	5	8.5%	7	13.0%
Not determinable	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Median		0.68		0.80		0.83		0.60		0.51		0.59		0.65

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2.20 or more	-	0.0%	1	1.9%	1	2.6%	-	0.0%	-	0.0%	1	4.3%	-	0.0%
2.00 to 2.19	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
1.80 to 1.99	-	0.0%	-	0.0%	1	2.6%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
1.60 to 1.79	-	0.0%	1	1.9%	-	0.0%	-	0.0%	1	3.2%	-	0.0%	-	0.0%
1.40 to 1.59	2	4.1%	-	0.0%	-	0.0%	1	2.9%	-	0.0%	-	0.0%	-	0.0%
1.20 to 1.39	-	0.0%	-	0.0%	3	7.9%	1	2.9%	-	0.0%	-	0.0%	2	7.7%
1.00 to 1.19	-	0.0%	5	9.6%	2	5.3%	1	2.9%	4	12.9%	4	17.4%	2	7.7%
0.80 to 0.99	3	6.1%	8	15.4%	8	21.1%	6	17.6%	3	9.7%	5	21.7%	1	3.8%
0.60 to 0.79	9	18.4%	16	30.8%	12	31.6%	17	50.0%	10	32.3%	5	21.7%	4	15.4%
0.40 to 0.59	23	46.9%	14	26.9%	5	13.2%	6	17.6%	8	25.8%	5	21.7%	7	26.9%
0.20 to 0.39	7	14.3%	6	11.5%	4	10.5%	-	0.0%	5	16.1%	2	8.7%	3	11.5%
Less than 0.20	5	10.2%	1	1.9%	2	5.3%	2	5.9%	-	0.0%	1	4.3%	7	26.9%
Not determinable	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Median		0.50		0.65		0.74		0.73		0.61		0.79		0.53

Appendix A: Detailed Results by Trade

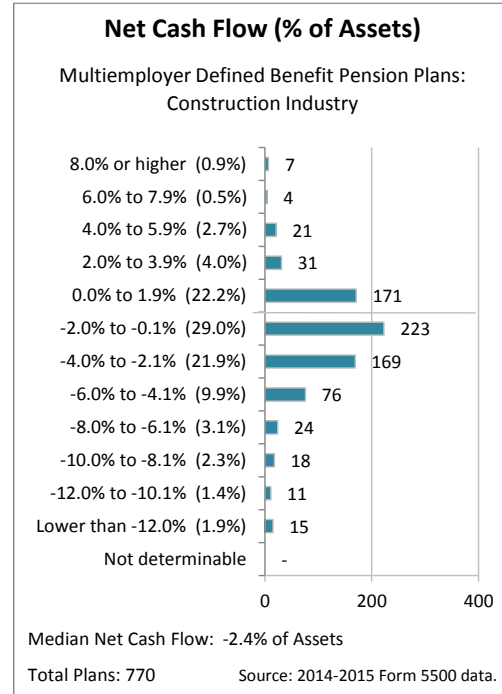
Exhibit A.06 – Net Cash Flows

These exhibits (which were derived from the latest results in Exhibit 4.02) show the distribution of construction industry plans by their net cash flows.

A plan has a positive net cash flow if its contributions exceed its disbursements (benefits paid plus operating expenses); the net cash flow is negative if disbursements exceed contributions. Net cash flows are expressed as a percentage of the average asset value for the plan year.

As shown below, there are considerable differences in net cash flows from trade to trade.

Recall that plans with very negative cash flows – for example, exceeding 8.0% of assets – are more likely to be approaching insolvency and to be certified in critical and declining status under MPRA.



Net Cash Flow (% of Assets)

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.0% or higher	7	0.9%	1	0.7%	2	1.7%	-	0.0%	-	0.0%	-	0.0%	3	5.6%
6.0% to 7.9%	4	0.5%	1	0.7%	1	0.8%	-	0.0%	1	1.6%	-	0.0%	1	1.9%
4.0% to 5.9%	21	2.7%	9	6.3%	3	2.5%	3	3.9%	2	3.2%	-	0.0%	1	1.9%
2.0% to 3.9%	31	4.0%	5	3.5%	4	3.3%	5	6.6%	-	0.0%	2	3.4%	5	9.3%
0.0% to 1.9%	171	22.2%	41	28.5%	30	24.8%	15	19.7%	10	15.9%	12	20.3%	11	20.4%
-2.0% to -0.1%	223	29.0%	41	28.5%	40	33.1%	20	26.3%	18	28.6%	15	25.4%	11	20.4%
-4.0% to -2.1%	169	21.9%	33	22.9%	30	24.8%	14	18.4%	11	17.5%	10	16.9%	10	18.5%
-6.0% to -4.1%	76	9.9%	8	5.6%	8	6.6%	10	13.2%	14	22.2%	8	13.6%	3	5.6%
-8.0% to -6.1%	24	3.1%	2	1.4%	3	2.5%	3	3.9%	2	3.2%	3	5.1%	-	0.0%
-10.0% to -8.1%	18	2.3%	2	1.4%	-	0.0%	3	3.9%	-	0.0%	5	8.5%	3	5.6%
-12.0% to -10.1%	11	1.4%	-	0.0%	-	0.0%	1	1.3%	2	3.2%	1	1.7%	3	5.6%
Lower than -12.0%	15	1.9%	1	0.7%	-	0.0%	2	2.6%	3	4.8%	3	5.1%	3	5.6%
Not determinable	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Median		-2.4%		-1.7%		-2.0%		-2.6%		-3.1%		-3.1%		-2.2%

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.0% or higher	-	0.0%	1	1.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
6.0% to 7.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
4.0% to 5.9%	-	0.0%	1	1.9%	-	0.0%	-	0.0%	1	3.2%	1	4.3%	-	0.0%
2.0% to 3.9%	2	4.1%	2	3.8%	2	5.3%	1	2.9%	1	3.2%	1	4.3%	1	3.8%
0.0% to 1.9%	9	18.4%	10	19.2%	5	13.2%	9	26.5%	6	19.4%	5	21.7%	8	30.8%
-2.0% to -0.1%	14	28.6%	13	25.0%	16	42.1%	11	32.4%	12	38.7%	8	34.8%	4	15.4%
-4.0% to -2.1%	12	24.5%	18	34.6%	8	21.1%	9	26.5%	8	25.8%	4	17.4%	2	7.7%
-6.0% to -4.1%	7	14.3%	4	7.7%	4	10.5%	2	5.9%	1	3.2%	2	8.7%	5	19.2%
-8.0% to -6.1%	2	4.1%	2	3.8%	1	2.6%	-	0.0%	1	3.2%	2	8.7%	3	11.5%
-10.0% to -8.1%	2	4.1%	-	0.0%	1	2.6%	-	0.0%	1	3.2%	-	0.0%	1	3.8%
-12.0% to -10.1%	1	2.0%	-	0.0%	-	0.0%	1	2.9%	-	0.0%	-	0.0%	2	7.7%
Lower than -12.0%	-	0.0%	1	1.9%	1	2.6%	1	2.9%	-	0.0%	-	0.0%	-	0.0%
Not determinable	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A	-	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Median		-3.0%		-2.6%		-2.4%		-2.6%		-2.5%		-2.1%		-3.5%

Appendix A: Detailed Results by Trade

Exhibit A.07 – Annualized Returns

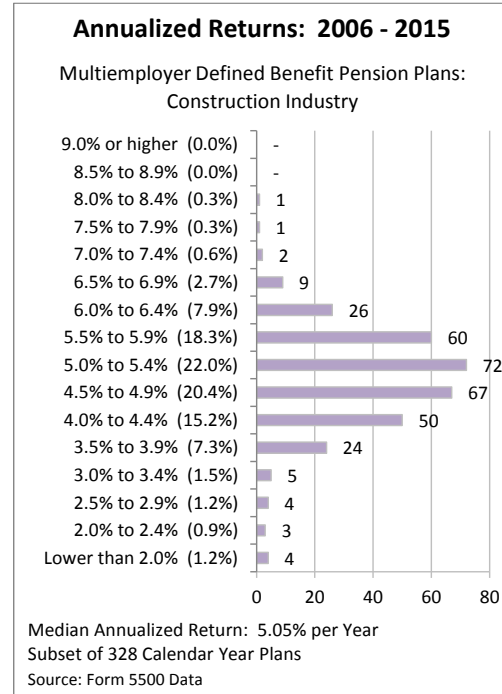
These exhibits (Exhibit 5.02 repeated at right) show annualized investment returns, net of fees, for the ten-year period from 2006 through 2015.

The results on this page include only the 328 construction industry plans that have calendar plan years and also have complete Form 5500 data for each of the ten years from 2006 through 2015.

Given the very small sample sizes in the detailed table below, it may not be appropriate to draw conclusions about differences between plans in different trades.

It is important to keep in mind that a ten-year horizon is too short a period over which to evaluate an investment policy for a pension plan. Further, returns are very endpoint-sensitive; they can change significantly as the measurement period moves by even one year.

Note that the detailed table below combines results at the upper and lower ends of the range.



Annualized Returns: 2006 - 2015

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.0% or Higher	1	0.3%	1	1.6%	-	-	-	-	-	-	-	-	-	-
7.5% to 7.9%	1	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	4.2%	-	0.0%
7.0% to 7.4%	2	0.6%	1	1.6%	1	1.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
6.5% to 6.9%	9	2.7%	2	3.3%	5	9.6%	-	0.0%	1	4.2%	-	0.0%	-	0.0%
6.0% to 6.4%	26	7.9%	4	6.6%	1	1.9%	2	6.3%	3	12.5%	2	8.3%	2	10.5%
5.5% to 5.9%	60	18.3%	15	24.6%	14	26.9%	5	15.6%	2	8.3%	4	16.7%	3	15.8%
5.0% to 5.4%	72	22.0%	7	11.5%	6	11.5%	6	18.8%	7	29.2%	7	29.2%	4	21.1%
4.5% to 4.9%	67	20.4%	11	18.0%	10	19.2%	7	21.9%	6	25.0%	5	20.8%	3	15.8%
4.0% to 4.4%	50	15.2%	7	11.5%	8	15.4%	10	31.3%	3	12.5%	1	4.2%	6	31.6%
3.5% to 3.9%	24	7.3%	8	13.1%	5	9.6%	-	0.0%	2	8.3%	2	8.3%	-	0.0%
3.0% to 3.4%	5	1.5%	2	3.3%	1	1.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Lower than 3.0%	11	3.4%	3	4.9%	1	1.9%	2	6.3%	-	-	2	8.3%	1	5.3%
Totals	328	100.0%	61	100.0%	52	100.0%	32	100.0%	24	100.0%	24	100.0%	19	100.0%
Median		5.05%		4.89%		5.18%		4.81%		5.00%		5.05%		4.85%

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.0% or Higher	-	-	-	-	-	-	-	-	-	-	-	299.7%	-	-
7.5% to 7.9%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	98.7%	-	0.0%
7.0% to 7.4%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	97.7%	-	0.0%
6.5% to 6.9%	-	0.0%	-	0.0%	1	4.8%	-	0.0%	-	0.0%	-	95.0%	-	0.0%
6.0% to 6.4%	1	4.3%	2	8.7%	5	23.8%	1	5.0%	3	37.5%	-	83.9%	-	0.0%
5.5% to 5.9%	5	21.7%	4	17.4%	3	14.3%	2	10.0%	1	12.5%	-	68.0%	2	16.7%
5.0% to 5.4%	7	30.4%	9	39.1%	4	19.0%	8	40.0%	2	25.0%	2	0.7%	3	25.0%
4.5% to 4.9%	4	17.4%	6	26.1%	4	19.0%	3	15.0%	1	12.5%	3	0.7%	4	33.3%
4.0% to 4.4%	3	13.0%	1	4.3%	3	14.3%	3	15.0%	1	12.5%	3	0.7%	1	8.3%
3.5% to 3.9%	1	4.3%	1	4.3%	1	4.8%	2	10.0%	-	0.0%	1	0.7%	1	8.3%
3.0% to 3.4%	-	0.0%	-	0.0%	-	0.0%	1	5.0%	-	0.0%	-	0.7%	1	8.3%
Lower than 3.0%	2	8.7%	-	-	-	-	-	-	-	-	2.0%	-	-	-
Totals	23	100.0%	23	100.0%	21	100.0%	20	100.0%	8	100.0%	9	748.2%	12	100.0%
Median		5.15%		5.27%		5.27%		5.09%		5.40%		4.54%		4.90%

Appendix A: Detailed Results by Trade

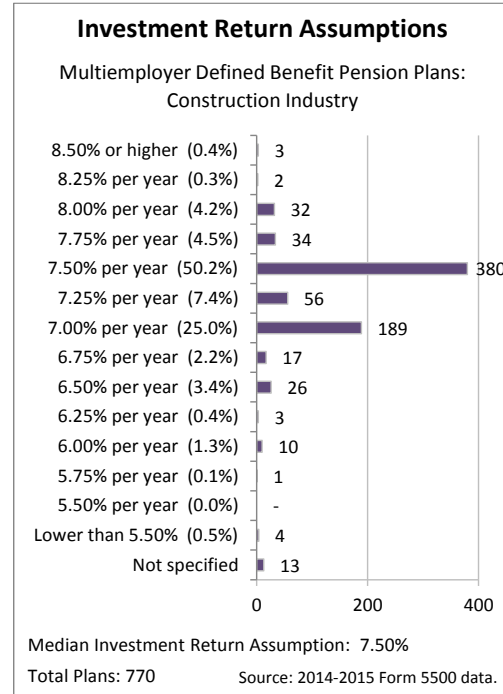
Exhibit A.08 – Investment Return Assumptions

These exhibits (Exhibit 5.03 repeated at right) show investment return assumptions, as reported by each plan’s actuary on the latest Form 5500 Schedule MB, usually for the plan years ending on or about December 31, 2015.

Multiemployer pension plans are usually invested in a well-diversified mix of stocks, bonds, and alternative investments structured to maximize returns over the long term while minimizing return volatility. The actuary to a multiemployer plan must evaluate its asset mix and, based on expectations of future returns, develop an assumption for what plan assets are projected to earn over the long term.

As shown below, there are no significant differences in the distribution of investment return assumptions between plans in different trades.

Note that the detailed table below combines results at the lower end of the range.



Investment Return Assumptions

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.50% or higher	3	0.4%	1	0.7%	-	0.0%	-	0.0%	1	1.6%	-	0.0%	-	0.0%
8.25%	2	0.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	1.8%	-	0.0%
8.00%	32	4.2%	10	6.9%	5	4.2%	-	0.0%	2	3.3%	1	1.8%	4	7.8%
7.75%	34	4.5%	3	2.1%	5	4.2%	5	6.6%	2	3.3%	3	5.4%	-	0.0%
7.50%	380	50.2%	67	46.5%	60	50.0%	47	61.8%	29	47.5%	34	60.7%	22	43.1%
7.25%	56	7.4%	7	4.9%	16	13.3%	4	5.3%	3	4.9%	2	3.6%	2	3.9%
7.00%	189	25.0%	45	31.3%	28	23.3%	16	21.1%	17	27.9%	7	12.5%	15	29.4%
6.75%	17	2.2%	4	2.8%	1	0.8%	1	1.3%	2	3.3%	3	5.4%	-	0.0%
6.50%	26	3.4%	4	2.8%	3	2.5%	1	1.3%	4	6.6%	2	3.6%	4	7.8%
6.25%	3	0.4%	2	1.4%	-	0.0%	-	0.0%	-	0.0%	1	1.8%	-	0.0%
6.00% or Lower	15	2.0%	1	0.7%	2	1.7%	2	2.6%	1	1.6%	2	3.6%	4	7.8%
Not specified	13	N/A	-	N/A	1	N/A	-	N/A	2	N/A	3	N/A	3	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Average		7.30%		7.29%		7.33%		7.32%		7.27%		7.31%		7.07%
Median		7.50%		7.50%		7.50%		7.50%		7.50%		7.50%		7.50%

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
8.50% or higher	-	0.0%	-	0.0%	1	2.6%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
8.25%	-	0.0%	1	2.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
8.00%	1	2.1%	3	5.9%	4	10.5%	-	0.0%	-	0.0%	-	0.0%	2	8.0%
7.75%	6	12.5%	2	3.9%	-	0.0%	5	14.7%	1	3.2%	1	4.5%	1	4.0%
7.50%	27	56.3%	22	43.1%	15	39.5%	19	55.9%	19	61.3%	7	31.8%	12	48.0%
7.25%	4	8.3%	8	15.7%	4	10.5%	2	5.9%	1	3.2%	2	9.1%	1	4.0%
7.00%	8	16.7%	12	23.5%	9	23.7%	6	17.6%	9	29.0%	10	45.5%	7	28.0%
6.75%	1	2.1%	-	0.0%	2	5.3%	1	2.9%	1	3.2%	1	4.5%	-	0.0%
6.50%	-	0.0%	3	5.9%	2	5.3%	1	2.9%	-	0.0%	-	0.0%	2	8.0%
6.25%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
6.00% or Lower	1	2.1%	-	-	1	2.6%	-	-	-	-	1	4.5%	-	-
Not specified	1	N/A	1	N/A	-	N/A	-	N/A	-	N/A	1	N/A	1	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Average		7.39%		7.34%		7.31%		7.38%		7.33%		7.15%		7.32%
Median		7.50%		7.50%		7.50%		7.50%		7.50%		7.00%		7.50%

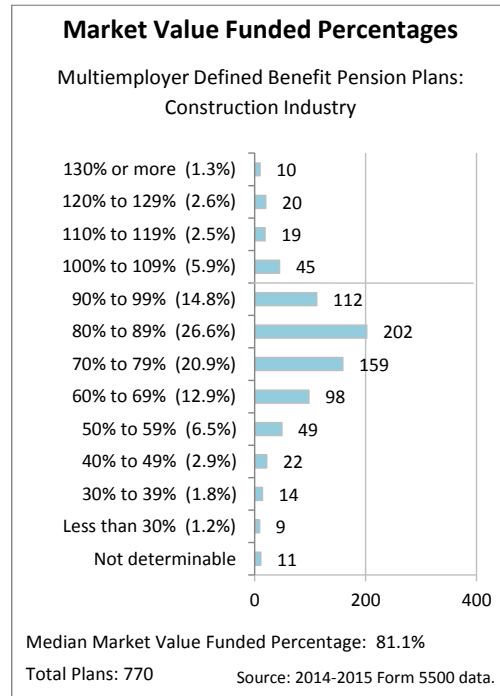
Appendix A: Detailed Results by Trade

Exhibit A.09 – Market Value Funded Percentages

These exhibits (which were derived from the latest results in Exhibit 6.01) show funded percentages as of the end of the latest plan year. For most plans, the latest funded percentage is on or about December 31, 2015.

Funded percentages represent the market value of assets divided by the actuarial accrued liability. Note that there are many different ways to measure a plan’s funded percentage. Also note that funded percentages can change significantly from year to year, depending on investment returns and other factors. See Section VI for more information.

As shown below, there are somewhat significant differences in the funded percentages from trade to trade. However, the differences are not as wide as they are for participant ratios (Exhibit A.05) and net cash flows (Exhibit A.06).



Market Value Funded Percentages

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
130% or more	10	1.3%	3	2.1%	2	1.7%	1	1.3%	-	0.0%	-	0.0%	2	3.9%
120% to 129%	20	2.6%	2	1.4%	2	1.7%	2	2.6%	1	1.6%	1	1.8%	4	7.8%
110% to 119%	19	2.5%	5	3.5%	2	1.7%	1	1.3%	1	1.6%	2	3.6%	1	2.0%
100% to 109%	45	5.9%	10	6.9%	6	5.0%	7	9.2%	2	3.2%	1	1.8%	4	7.8%
90% to 99%	112	14.8%	22	15.3%	20	16.7%	6	7.9%	10	15.9%	6	10.7%	8	15.7%
80% to 89%	202	26.6%	52	36.1%	38	31.7%	17	22.4%	17	27.0%	8	14.3%	7	13.7%
70% to 79%	159	20.9%	24	16.7%	25	20.8%	17	22.4%	12	19.0%	21	37.5%	12	23.5%
60% to 69%	98	12.9%	14	9.7%	17	14.2%	14	18.4%	7	11.1%	8	14.3%	6	11.8%
50% to 59%	49	6.5%	8	5.6%	4	3.3%	5	6.6%	6	9.5%	3	5.4%	3	5.9%
40% to 49%	22	2.9%	3	2.1%	1	0.8%	2	2.6%	2	3.2%	3	5.4%	2	3.9%
30% to 39%	14	1.8%	1	0.7%	2	1.7%	2	2.6%	3	4.8%	2	3.6%	-	0.0%
Less than 30%	9	1.2%	-	0.0%	1	0.8%	2	2.6%	2	3.2%	1	1.8%	2	3.9%
Not determinable	11	N/A	-	N/A	1	N/A	-	N/A	-	N/A	3	N/A	3	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Median		81.1%		84.1%		82.2%		78.7%		79.8%		77.0%		80.7%

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
130% or more	1	2.0%	-	0.0%	-	0.0%	-	0.0%	1	3.2%	-	0.0%	-	0.0%
120% to 129%	1	2.0%	1	2.0%	1	2.7%	1	2.9%	1	3.2%	1	4.5%	2	8.0%
110% to 119%	1	2.0%	1	2.0%	2	5.4%	1	2.9%	1	3.2%	-	0.0%	1	4.0%
100% to 109%	-	0.0%	4	7.8%	3	8.1%	1	2.9%	1	3.2%	3	13.6%	3	12.0%
90% to 99%	7	14.3%	6	11.8%	4	10.8%	9	26.5%	4	12.9%	4	18.2%	6	24.0%
80% to 89%	13	26.5%	17	33.3%	10	27.0%	8	23.5%	6	19.4%	5	22.7%	4	16.0%
70% to 79%	12	24.5%	8	15.7%	7	18.9%	4	11.8%	9	29.0%	4	18.2%	4	16.0%
60% to 69%	9	18.4%	5	9.8%	5	13.5%	7	20.6%	3	9.7%	1	4.5%	2	8.0%
50% to 59%	4	8.2%	4	7.8%	3	8.1%	3	8.8%	3	9.7%	3	13.6%	-	0.0%
40% to 49%	-	0.0%	4	7.8%	1	2.7%	-	0.0%	1	3.2%	1	4.5%	2	8.0%
30% to 39%	1	2.0%	1	2.0%	-	0.0%	-	0.0%	1	3.2%	-	0.0%	1	4.0%
Less than 30%	-	0.0%	-	0.0%	1	2.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Not determinable	-	N/A	1	N/A	1	N/A	-	N/A	-	N/A	1	N/A	1	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Median		77.0%		82.3%		81.2%		83.9%		79.5%		85.9%		85.7%

Appendix A: Detailed Results by Trade

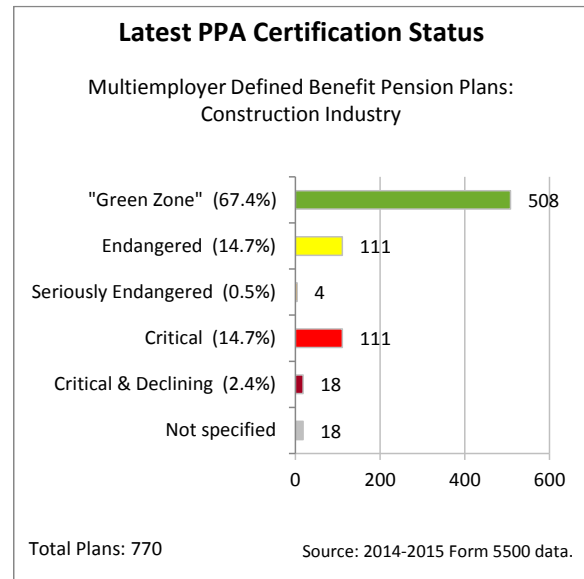
Exhibit A.10 – PPA Certification Statuses

These exhibits show the distribution of certification statuses for construction industry plans under the Pension Protection Act of 2006 (PPA), as reported by each plan’s actuary on the latest Form 5500 Schedule MB, usually for the plan years ending on or about December 31, 2015.

In simplified terms:

- A plan is in critical and declining status if it projected to run out of money within 20 years.
- A plan is in critical status (“red zone”) if it is projected to have a deficiency in its funding standard account in the next four years (five years if the plan is less than 65% funded or if other conditions are met).
- A plan is in endangered status (“yellow zone”) if it is less than 80% funded or if it is projected to have a deficiency in its funding standard account in the next seven years. If both of those criteria are true, then the plan is in seriously endangered status (“orange zone”).
- A plan is in neither critical status nor endangered status (i.e., it is in the “green zone”) if none of the above criteria are met. In addition, a plan is in the green zone if it would have been in the yellow zone, but is projected to emerge to the green zone within 10 years without contribution or benefit changes.

Note that the exhibit below shows the PPA certification statuses for the latest plan year, which ended on or about December 31, 2015. A plan’s latest plan year may be either the 2014 plan year (for example, beginning October 1, 2014) or the 2015 plan year (for example, beginning January 1, 2015). For that reason, the results below differ from those shown in Exhibit 6.02, which shows certification statuses for the 2014 and 2015 plan years separately.



Latest PPA Certification Status

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
"Green Zone"	508	67.6%	103	72.5%	96	80.7%	45	59.2%	38	61.3%	35	62.5%	31	62.0%
Endangered	111	14.8%	23	16.2%	11	9.2%	16	21.1%	8	12.9%	9	16.1%	8	16.0%
Ser. Endangered	4	0.5%	-	-	1	0.8%	2	2.6%	-	-	-	-	-	-
Critical	111	14.8%	16	11.3%	11	9.2%	11	14.5%	11	17.7%	7	12.5%	10	20.0%
Critical & Declining	18	2.4%	-	-	-	-	2	2.6%	5	8.1%	5	8.9%	1	2.0%
Not specified	18	2.4%	2	1.4%	2	1.7%	-	-	1	1.6%	3	5.4%	4	8.0%
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
"Green Zone"	29	59.2%	33	66.0%	21	55.3%	25	75.8%	20	66.7%	15	68.2%	17	68.0%
Endangered	8	16.3%	8	16.0%	5	13.2%	4	12.1%	6	20.0%	2	9.1%	3	12.0%
Ser. Endangered	-	-	-	-	1	2.6%	-	-	-	-	-	-	-	-
Critical	11	22.4%	9	18.0%	10	26.3%	3	9.1%	4	13.3%	5	22.7%	3	12.0%
Critical & Declining	1	2.0%	-	-	1	2.6%	1	3.0%	-	-	-	-	2	8.0%
Not specified	-	-	2	4.0%	-	-	1	3.0%	1	3.3%	1	4.5%	1	4.0%
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%

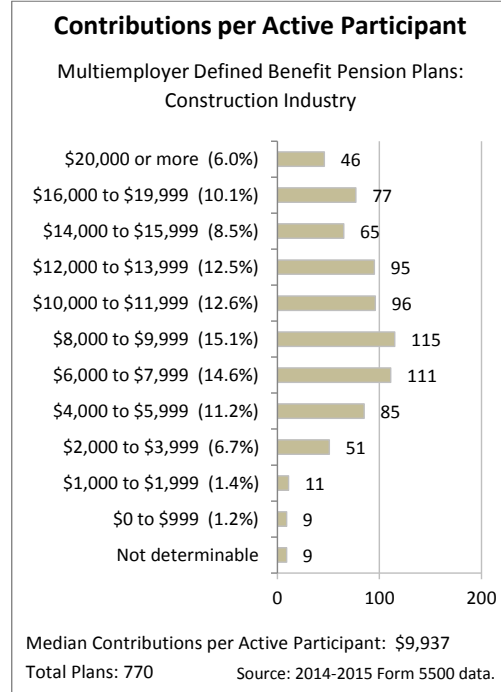
Appendix A: Detailed Results by Trade

Exhibit A.11 – Contributions

These exhibits (derived from the latest results in Exhibit 7.04) show the employer contributions made during the latest plan year, per active plan participant.

Most multiemployer plans increased the employer contribution rates (often combined with reductions in participant benefit accrual rates) in order to improve funding levels following the market collapse of 2008.

Employer contributions are related to – but not directly linked to – annual plan costs. Plan costs include the cost of benefit accruals, operating expenses, and the cost of paying down any unfunded accrued liability that may exist. The following exhibits show the distribution of contributions per active participant. For most plans, these figures apply to the plan year ending on or about December 31, 2015.



Contributions per Active Participant

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
\$20,000 or more	46	6.0%	9	6.3%	2	1.7%	3	3.9%	3	4.8%	7	12.3%	3	5.8%
\$16,000 to \$19,999	77	10.1%	24	16.7%	5	4.2%	8	10.5%	2	3.2%	12	21.1%	3	5.8%
\$14,000 to \$15,999	65	8.5%	13	9.0%	12	10.0%	9	11.8%	2	3.2%	7	12.3%	2	3.8%
\$12,000 to \$13,999	95	12.5%	24	16.7%	14	11.7%	10	13.2%	6	9.5%	4	7.0%	4	7.7%
\$10,000 to \$11,999	96	12.6%	22	15.3%	22	18.3%	7	9.2%	4	6.3%	6	10.5%	8	15.4%
\$8,000 to \$9,999	115	15.1%	18	12.5%	26	21.7%	11	14.5%	8	12.7%	2	3.5%	7	13.5%
\$6,000 to \$7,999	111	14.6%	22	15.3%	15	12.5%	10	13.2%	13	20.6%	6	10.5%	14	26.9%
\$4,000 to \$5,999	85	11.2%	7	4.9%	12	10.0%	10	13.2%	13	20.6%	8	14.0%	6	11.5%
\$2,000 to \$3,999	51	6.7%	2	1.4%	11	9.2%	7	9.2%	9	14.3%	5	8.8%	1	1.9%
\$1,000 to \$1,999	11	1.4%	3	2.1%	1	0.8%	-	0.0%	3	4.8%	-	0.0%	1	1.9%
\$0 to \$999	9	1.2%	-	0.0%	-	0.0%	1	1.3%	-	0.0%	-	0.0%	3	5.8%
Not determinable	9	N/A	-	N/A	1	N/A	-	N/A	-	N/A	2	N/A	2	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Median		\$9,937		\$11,723		\$9,709		\$9,732		\$6,496		\$13,260		\$8,442

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
\$20,000 or more	7	14.6%	4	7.7%	5	13.5%	-	0.0%	-	0.0%	-	0.0%	3	12.0%
\$16,000 to \$19,999	1	2.1%	3	5.8%	4	10.8%	9	26.5%	3	9.7%	1	4.5%	2	8.0%
\$14,000 to \$15,999	3	6.3%	2	3.8%	4	10.8%	5	14.7%	3	9.7%	-	0.0%	3	12.0%
\$12,000 to \$13,999	6	12.5%	12	23.1%	6	16.2%	2	5.9%	3	9.7%	3	13.6%	1	4.0%
\$10,000 to \$11,999	6	12.5%	3	5.8%	7	18.9%	3	8.8%	4	12.9%	2	9.1%	2	8.0%
\$8,000 to \$9,999	8	16.7%	8	15.4%	6	16.2%	6	17.6%	7	22.6%	4	18.2%	4	16.0%
\$6,000 to \$7,999	7	14.6%	9	17.3%	2	5.4%	3	8.8%	5	16.1%	3	13.6%	2	8.0%
\$4,000 to \$5,999	5	10.4%	8	15.4%	2	5.4%	3	8.8%	3	9.7%	6	27.3%	2	8.0%
\$2,000 to \$3,999	4	8.3%	3	5.8%	1	2.7%	1	2.9%	2	6.5%	2	9.1%	3	12.0%
\$1,000 to \$1,999	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1	3.2%	1	4.5%	1	4.0%
\$0 to \$999	1	2.1%	-	0.0%	-	0.0%	2	5.9%	-	0.0%	-	0.0%	2	8.0%
Not determinable	1	N/A	-	N/A	1	N/A	-	N/A	-	N/A	1	N/A	1	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Median		\$9,769		\$9,682		\$12,024		\$11,006		\$9,811		\$7,563		\$8,824

Appendix A: Detailed Results by Trade

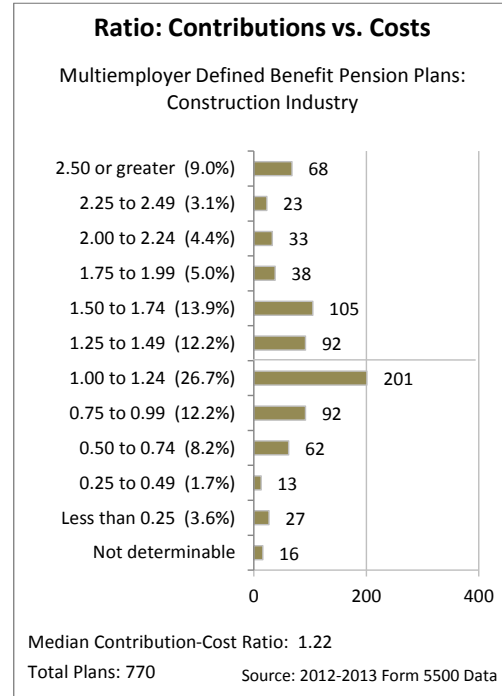
Exhibit A.12 – Contributions vs. Costs

These exhibits (derived from the latest results in Exhibit 7.05) show ratio of employer contributions to annual plan costs for the latest plan year, usually ending on or about December 31, 2015.

Annual plan costs include the cost of benefit accruals, operating expenses, and the cost of paying down the unfunded accrued liability over 15 years.

In general, if there is a contribution surplus (contributions exceed costs) the plan's funding levels are generally expected to improve over time. If there is a contribution shortfall, the plan's funding levels are generally expected to deteriorate (or improve very slowly or remain flat) over time.

Note that the results below do not reflect changes to employer contribution rates or participant benefits that were scheduled to take effect after 2015.



Ratio: Contributions vs. Costs

Category	All Trades		Plumbers and Pipefitters		Electrical Workers		Laborers		Bricklayers and Allied Crafts		Iron Workers		Cement Masons	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2.50 or greater	68	9.0%	15	10.4%	12	10.1%	11	14.5%	3	4.8%	5	9.1%	6	12.0%
2.25 to 2.49	23	3.1%	3	2.1%	5	4.2%	-	0.0%	3	4.8%	1	1.8%	1	2.0%
2.00 to 2.24	33	4.4%	5	3.5%	6	5.0%	2	2.6%	2	3.2%	3	5.5%	3	6.0%
1.75 to 1.99	38	5.0%	15	10.4%	4	3.4%	3	3.9%	-	0.0%	1	1.8%	2	4.0%
1.50 to 1.74	105	13.9%	29	20.1%	19	16.0%	13	17.1%	7	11.1%	4	7.3%	2	4.0%
1.25 to 1.49	92	12.2%	17	11.8%	13	10.9%	12	15.8%	6	9.5%	11	20.0%	6	12.0%
1.00 to 1.24	201	26.7%	34	23.6%	34	28.6%	19	25.0%	15	23.8%	13	23.6%	16	32.0%
0.75 to 0.99	92	12.2%	18	12.5%	19	16.0%	6	7.9%	6	9.5%	8	14.5%	2	4.0%
0.50 to 0.74	62	8.2%	5	3.5%	4	3.4%	7	9.2%	16	25.4%	8	14.5%	6	12.0%
0.25 to 0.49	13	1.7%	2	1.4%	-	0.0%	1	1.3%	3	4.8%	1	1.8%	1	2.0%
Less than 0.25	27	3.6%	1	0.7%	3	2.5%	2	2.6%	2	3.2%	-	0.0%	5	10.0%
Not determinable	16	N/A	-	N/A	2	N/A	-	N/A	-	N/A	4	N/A	4	N/A
Totals	770	100.0%	144	100.0%	121	100.0%	76	100.0%	63	100.0%	59	100.0%	54	100.0%
Median		1.22		1.39		1.23		1.33		1.07		1.17		1.09

Category	Carpenters		Sheet Metal Workers		Insulators and Allied Workers		Operating Engineers		Painters and Allied Trades		Roofers and Allied Workers		Other or Mixed Trades	
	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total	Count	% Total
2.50 or greater	2	4.2%	-	0.0%	4	11.1%	2	5.9%	2	6.5%	3	13.6%	3	12.0%
2.25 to 2.49	1	2.1%	1	2.0%	3	8.3%	3	8.8%	1	3.2%	-	0.0%	1	4.0%
2.00 to 2.24	-	0.0%	2	3.9%	5	13.9%	2	5.9%	2	6.5%	1	4.5%	-	0.0%
1.75 to 1.99	2	4.2%	2	3.9%	3	8.3%	1	2.9%	-	0.0%	3	13.6%	2	8.0%
1.50 to 1.74	4	8.3%	8	15.7%	3	8.3%	3	8.8%	5	16.1%	6	27.3%	2	8.0%
1.25 to 1.49	5	10.4%	8	15.7%	3	8.3%	3	8.8%	3	9.7%	2	9.1%	3	12.0%
1.00 to 1.24	18	37.5%	13	25.5%	10	27.8%	13	38.2%	9	29.0%	3	13.6%	4	16.0%
0.75 to 0.99	10	20.8%	11	21.6%	1	2.8%	4	11.8%	4	12.9%	-	0.0%	3	12.0%
0.50 to 0.74	4	8.3%	2	3.9%	1	2.8%	-	0.0%	2	6.5%	4	18.2%	3	12.0%
0.25 to 0.49	2	4.2%	-	0.0%	1	2.8%	-	0.0%	1	3.2%	-	0.0%	1	4.0%
Less than 0.25	-	0.0%	4	7.8%	2	5.6%	3	8.8%	2	6.5%	-	0.0%	3	12.0%
Not determinable	1	N/A	1	N/A	2	N/A	-	N/A	-	N/A	1	N/A	1	N/A
Totals	49	100.0%	52	100.0%	38	100.0%	34	100.0%	31	100.0%	23	100.0%	26	100.0%
Median		1.04		1.16		1.47		1.09		1.18		1.59		1.07

Appendix B: Plumbers and Pipefitters Plans

Appendix B provides many of the same exhibits shown in the main body of the report, but only for the 144 plans in the construction industry covering members of the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry. This includes the air conditioning, sprinkler, and refrigeration trades.

The exhibits include a "UA" label indicating that they apply to Plumbers and Pipefitters plans only. The exhibit numbers correspond to the numbers in the main body of the report. Please refer to the main body of the report for additional descriptions and commentary regarding the results and exhibits.

Plans in the Inventory

The exhibits on this page show distributions of construction industry plans covering Plumbers and Pipefitters by asset value (Exhibit 2.01-UA), number of participants (Exhibit 2.02-UA) and number of contributing employers (Exhibit 2.03-UA).

Asset values are the market values of assets as of the end of the latest plan year, usually on or around December 31, 2015.

The number of covered participants and number of contributing employers are reported by the plan administrator on the Form 5500. Counts are as of the end of the latest plan year.

Exhibit 2.02-UA

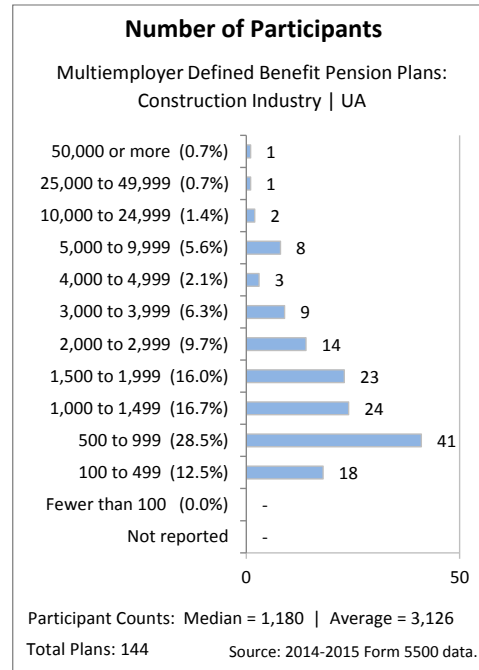


Exhibit 2.01-UA

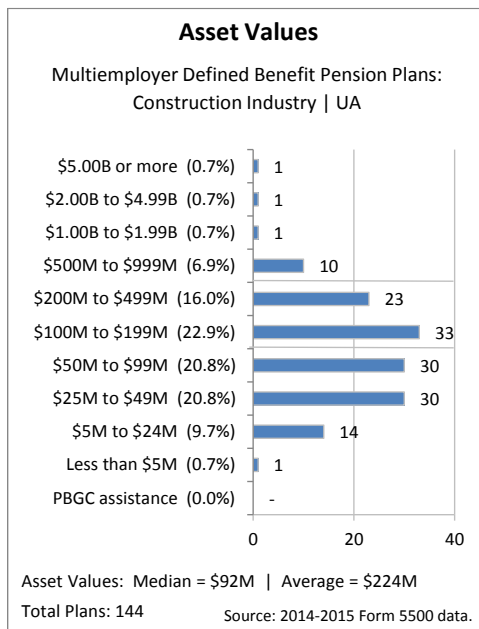
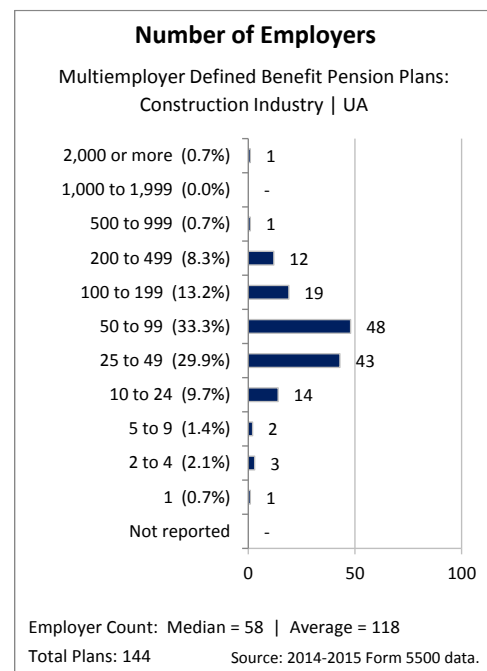


Exhibit 2.03-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Demographics

Exhibit 3.01-UA below shows the median participant counts for Plumbers and Pipefitters plans in the construction industry over the ten-year period from 2006 through 2015. Participant counts are those reported on the Form 5500 and are as of the end of the plan year.

Exhibit 3.02-UA below shows the ratio of active participants to inactive participants. In general, the higher the ratio of active participants to inactive participants, the easier it is for a plan to correct any funding shortfall by increasing contribution rates or decreasing future benefit accruals. On the other hand, a lower ratio usually means that it is more difficult for a plan to improve funding through these means.

As with plans in the construction industry in general, demographics for plans covering Plumbers and Pipefitters have steadily worsened over the past decade. However, changes in demographics for Plumbers and Pipefitters plans were somewhat more favorable (less unfavorable) than for all plans in the construction industry.

For example, as shown in Exhibit 3.02-UA, the median participant ratio for Plumbers and Pipefitters plans decreased from 1.04 at the end of 2006 to 0.80 at the end of 2015.

While this indeed represents a demographic shift, the decline wasn't as great as it was for construction industry plans in general, from 0.99 to 0.68 over the same period.

Exhibit 3.01-UA

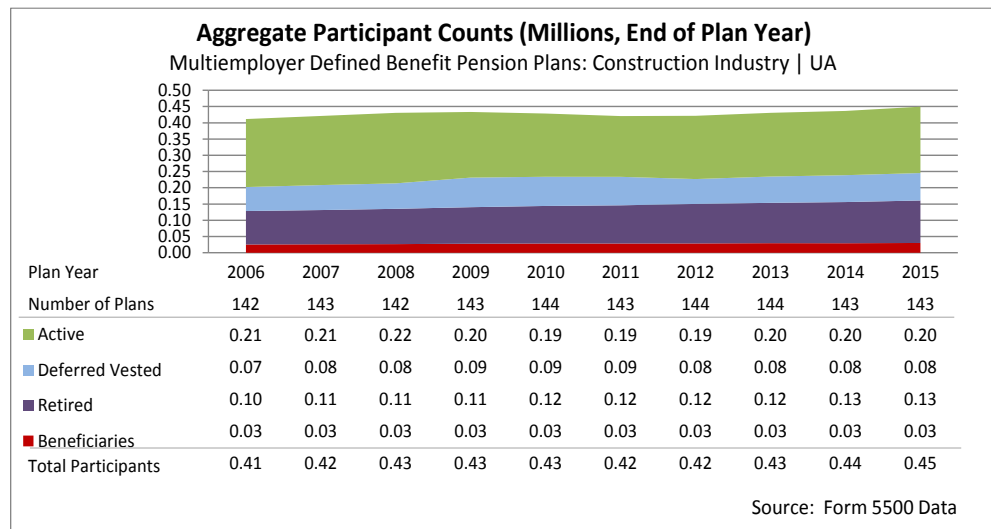
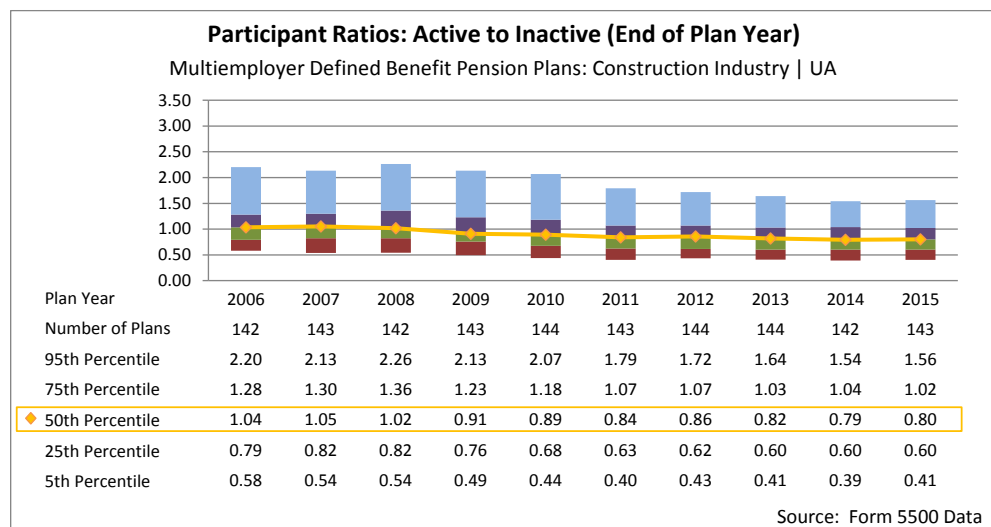


Exhibit 3.02-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Cash Flows

Exhibit 4.01-UA below shows median cash flows for Plumbers and Pipefitters plans in the construction industry over the ten-year period from 2006 through 2015. Employer contributions represent the sole source of “cash in.” Plan disbursements, or “cash out,” include participant benefit payments and operating expenses.

If contributions to the plan exceed benefit payments and operating expenses, then the plan has a positive cash flow. On the other hand, if contributions to the plan do not cover benefit payments and operating expenses, then the plan has a negative cash flow. As plans mature, their cash flows tend to become increasingly negative.

Exhibit 4.02-UA below shows net cash flows from 2006 through 2015, expressed as a percentage of plan assets. For a plan with a negative cash flow, this percentage represents the return on investments that is needed to keep the plan’s asset value from declining. For example, a plan with a negative cash flow of 3.0% of assets must have an investment return of at least 3.0% in order to avoid a decline in its asset value.

As with plan demographics, the trend over the last ten years for net cash flows for Plumbers and Pipefitters plans has been more favorable than for construction industry plans in general. For example, the median net cash flow for Plumbers and Pipefitters plans improved from -2.2% to -1.7% over that period, compared to an increase from -2.5% to -2.4% for all construction industry plans.

Exhibit 4.01-UA

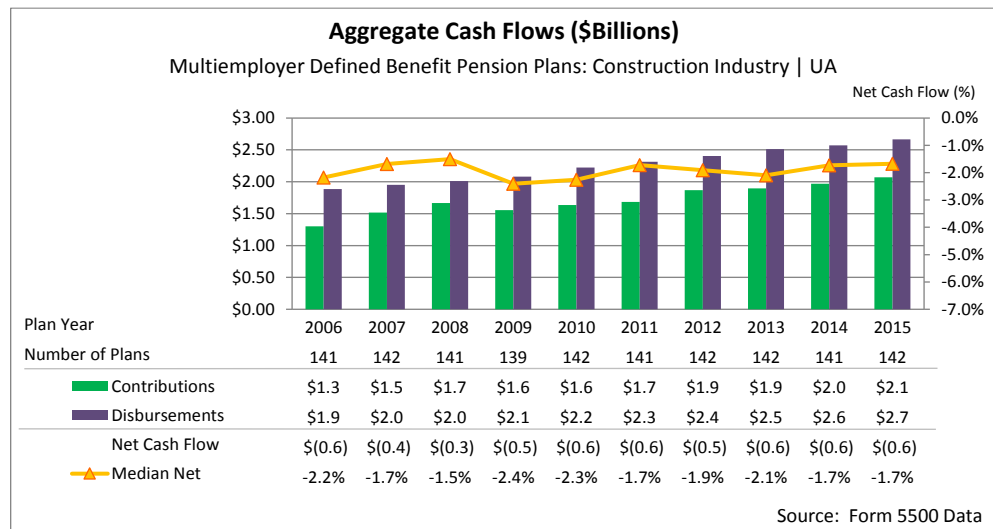
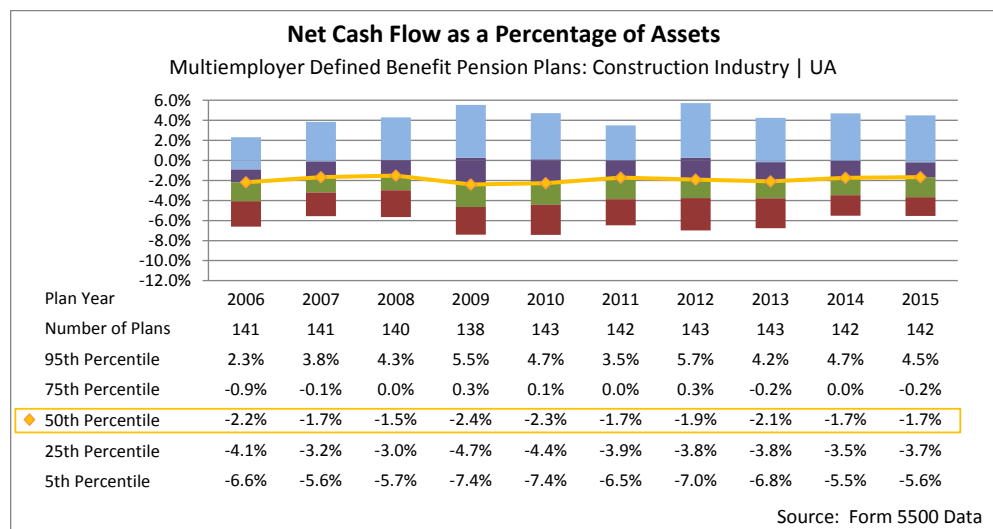


Exhibit 4.02-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Investments

Exhibit 5.01-UA below shows net investment returns from 2006 through 2015 for Plumbers and Pipefitters plans. For consistency of timing, only the plans with calendar plan years were included.

Exhibit 5.02-UA below shows that the annualized net investment return from 2006 through 2015 for Plumbers and Pipefitters plans was 4.89%. For comparison, the median annualized return over that period was 5.05% for all construction industry plans.

Exhibit 5.03-UA below shows investment return assumptions for Plumbers and Pipefitters plans, as reported by the plan actuaries on the latest Form 5500 Schedules MB.

When comparing actual investment returns (and investment return assumptions) between Plumbers and Pipefitters plans and plans in the construction industry in general, differences are relatively small. It is important to keep in mind certain limitations when reviewing these results. See Section V for more information.

Exhibit 5.01-UA

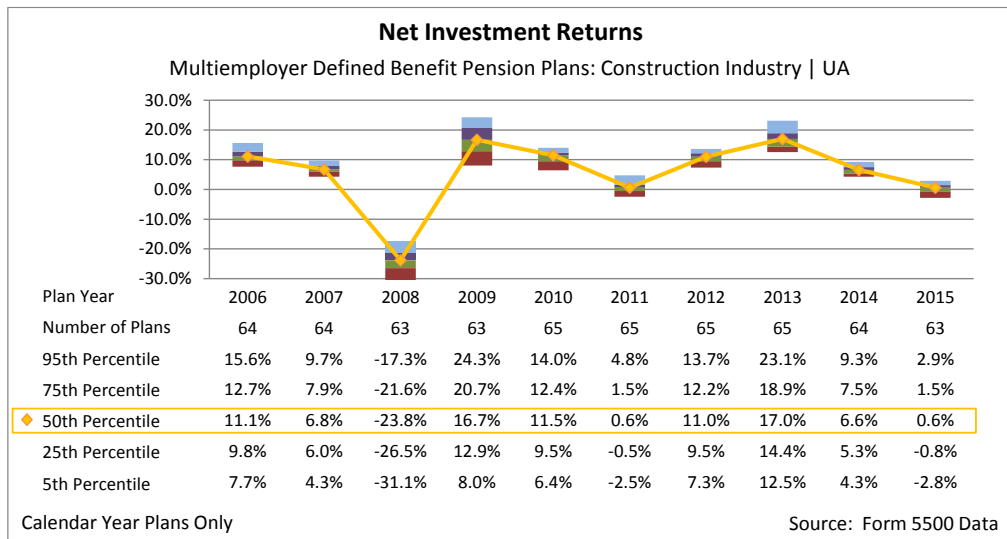


Exhibit 5.02-UA

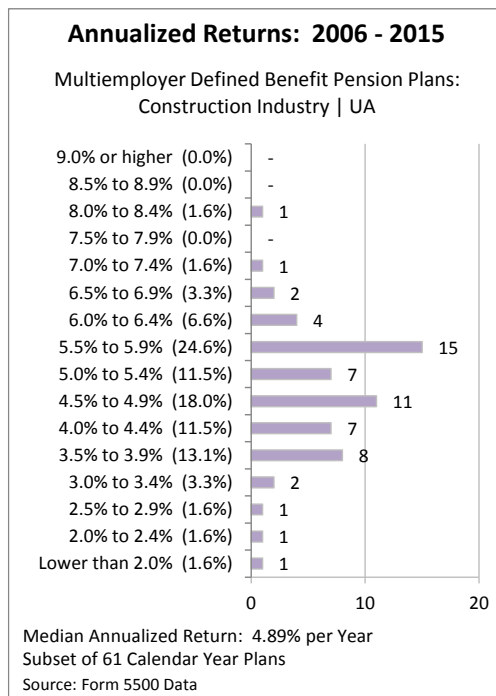
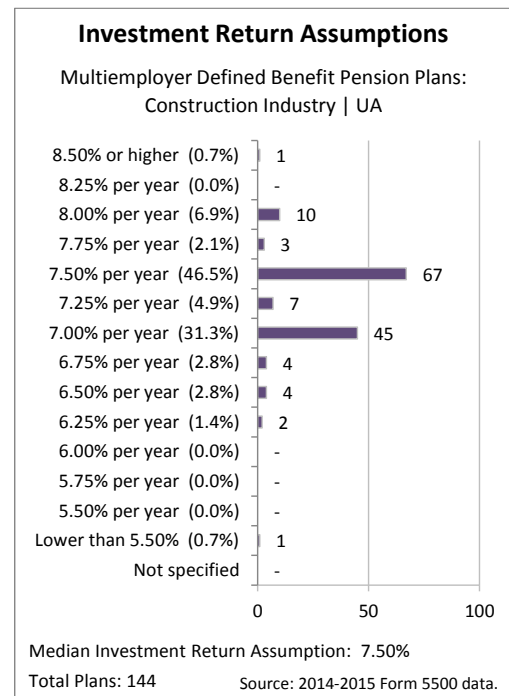


Exhibit 5.03-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Funding

Exhibit 6.01-UA below shows funded percentages for Plumbers and Pipefitters plans in the construction industry for the ten-year period from 2006 through 2015. For consistency in timing, only the plans with calendar plan years were included.

The funded percentages below represent the ratio of the market value of assets over the actuarial accrued liability. Using the market value of assets provides the funded percentage at a point in time, without smoothing prior asset gains and losses. This provides a consistent comparison from plan to plan. (Note, however, that it is appropriate to use the smoothed, actuarial value of assets for purposes of making funding decisions and calculating contribution requirements under PPA.)

The funded percentages shown below are measured as of the end of the plan year, and the results include only plans with calendar year plan years. For example, funded percentages for 2015 are as of December 31, 2015.

As shown in Exhibit 6.01-UA below, the median funded percentage for Plumbers and Pipefitters plans increased from 83.9% as of December 31, 2006 to 85.6% as of December 31, 2015. The funded percentage for construction industry plans decreased over the same period, from 85.0% to 82.0%.

Exhibit 6.02-UA below shows the distribution of certification statuses under the Pension Protection Act of 2006 (PPA) for Plumbers and Pipefitters plans for the 2009 through 2015 plan years.

The distributions of certification statuses are very similar to those for all construction industry plans, in general. For a description of the tests used in certifying the status for a multiemployer plan under PPA, see Section VI of the report.

Exhibit 6.02-UA

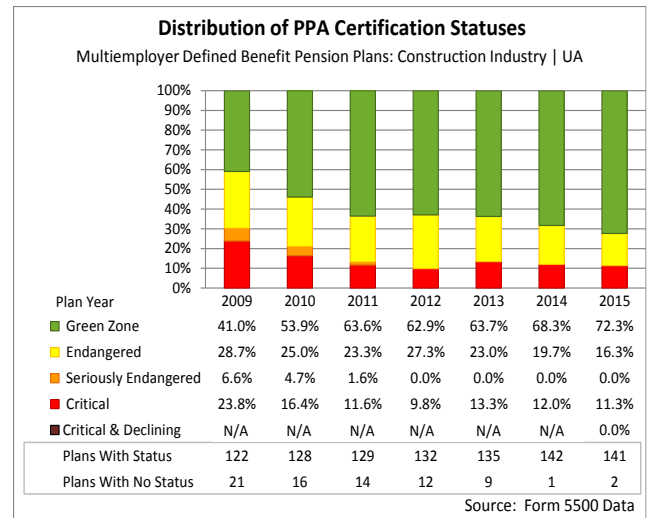
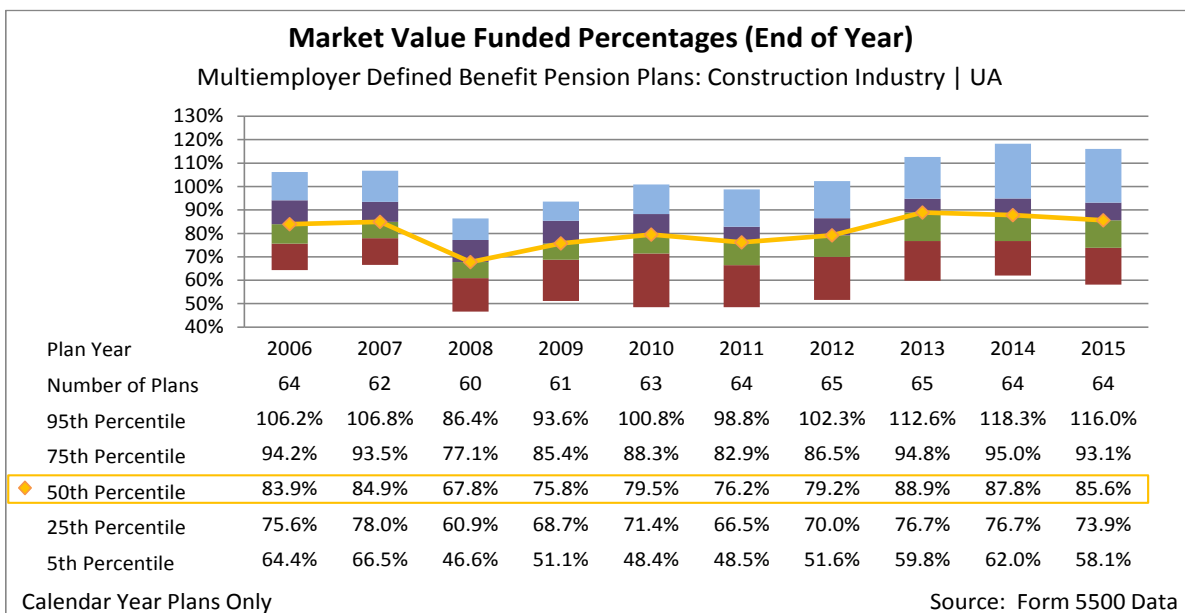


Exhibit 6.01-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Costs and Contributions

As described in more detail in Section VII, there are three components to annual plan costs: (1) the cost of benefit accruals, (2) operating expenses, and (3) the cost of paying down the unfunded accrued liability over a period of time.

Exhibit 7.01-UA below shows the first component – the cost of benefit accruals – for Plumbers and Pipefitters plans for the ten-year period from 2006 through 2015. The costs of accruals (also known as the “normal cost”) are shown on a per active participant basis.

As shown below, normal costs for Plumbers and Pipefitters plans increased over the decade, likely

due in large part to aging of the participant population. However, there were decreases from 2009 through 2011, and again from 2012 through 2014. These declines were likely due to reductions in the rate of benefit accruals.

The second component of plan costs is operating expenses. Later in this section, Exhibit 8.03-UA shows operating expenses per participant over the past decade for Plumbers and Pipefitters plans. (That is why there is no Exhibit 7.02-UA.)

Exhibit 7.03-UA below shows the cost, per active participant, of paying down the unfunded accrued liability over a period of time. The figures below are based on the difference between the actuarial accrued liability and the market value of assets over a period of fifteen years. See Section VII for additional descriptions and commentary.

Exhibit 7.01-UA

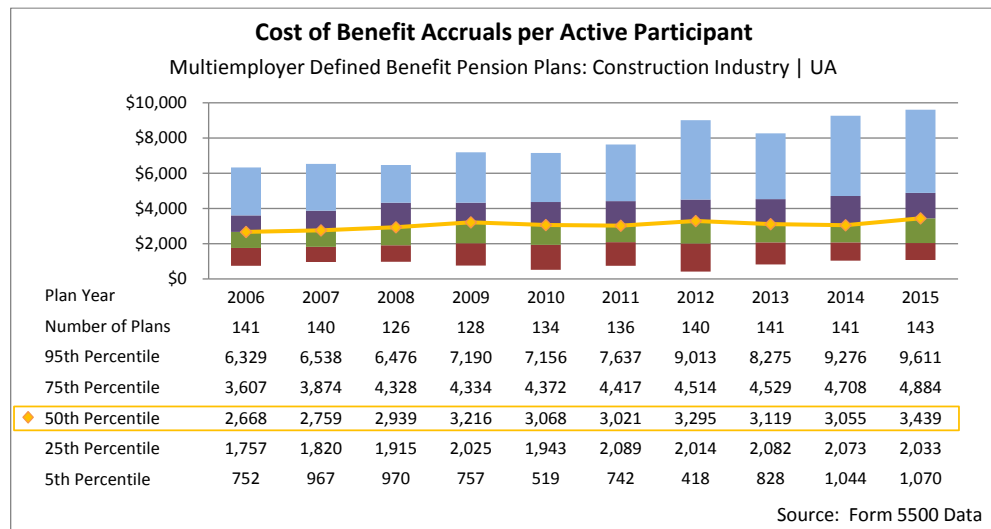
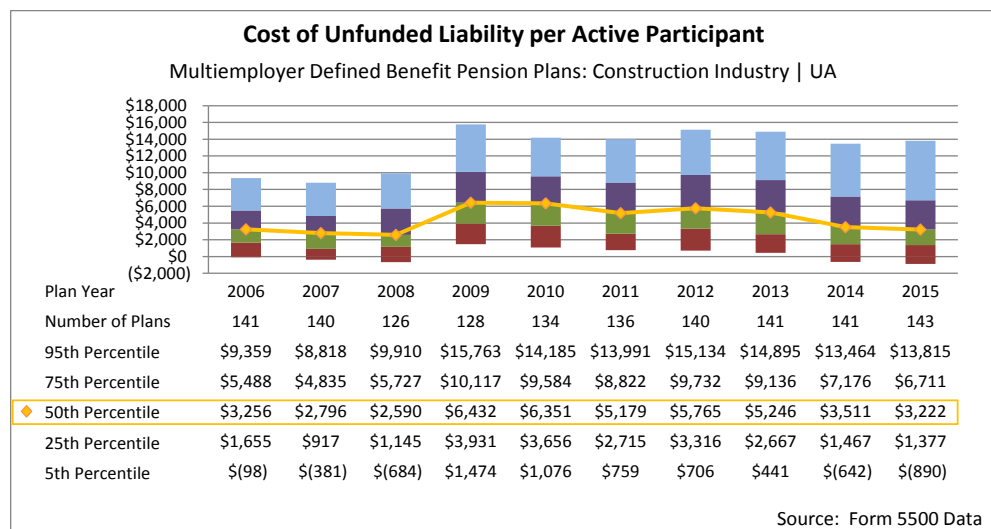


Exhibit 7.03-UA



Appendix B: Plumbers and Pipefitters Plans

Plan Costs and Contributions (cont.)

Exhibit 7.04-UA below shows how contributions for Plumbers and Pipefitters plans, per active participant, have changed over the past decade.

As shown below, in nearly every year, contributions have increased over the prior year. Increases in the early part of the decade were modest. However, contributions increased more significantly in the following years. This was likely a result of increases in contributions to correct the funding shortfalls brought on by the investment losses of 2001 and 2002, and again in 2008 and early 2009.

As described earlier, to the extent that employer contributions exceed the plan's annual costs, the plan's funding levels are generally expected improve

over time. If employer contributions do not cover annual costs, then the plan's funding levels are generally expected to deteriorate (or perhaps improve very slowly or remain flat) over time.

Exhibit 7.05-UA shows the ratio of employer contributions to annual plan costs for Plumbers and Pipefitters plans, from 2006 through 2015. Ratios greater than 1.00 indicate contributions exceed costs; ratios less than 1.00 indicate costs exceed contributions.

As shown below, the median ratio of contributions to costs was less than 1.00 in 2009 and 2010, following the investment losses of 2008. The median ratio of contributions to costs rose above 1.00 for 2011, and has remained above 1.00 through 2015.

Exhibit 7.04-UA

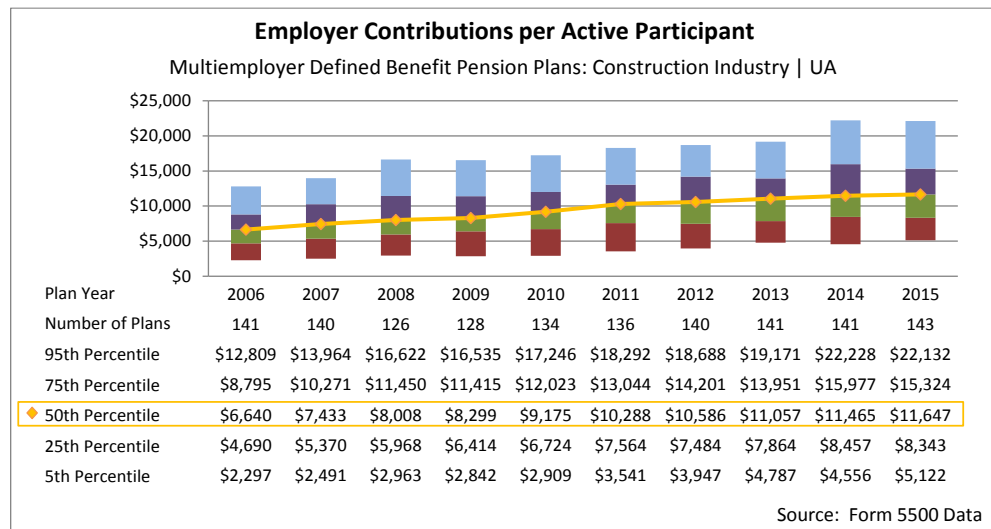
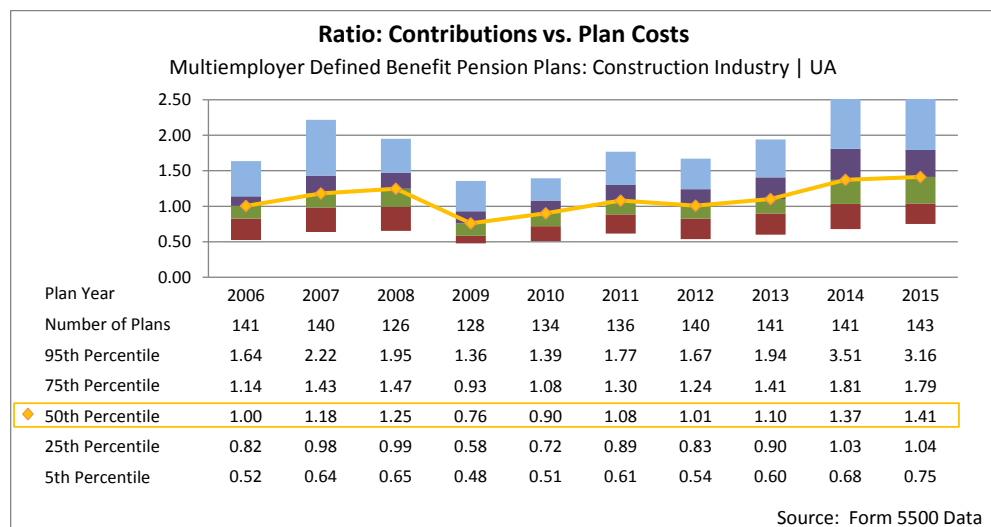


Exhibit 7.05-UA



Appendix B: Plumbers and Pipefitters Plans

The remainder of Appendix B takes a closer look at investment fees and operating expenses for Plumbers and Pipefitters plans in the construction industry. The intent of this section is to provide plan trustees with a sense of how their plans' fees and expenses compare to other Plumbers and Pipefitters plans in the construction industry.

Investment Fees

The majority of investment fees are paid to investment managers, usually as a percentage of assets. In general, more active or complicated investment strategies will have higher manager fees; passive or indexed strategies will have lower fees.

In most cases, investment fees will also include fees paid to consultants who advise plan trustees on investment decisions, as opposed to actually investing the money. Sometimes the Form 5500 preparer will classify investment consultant fees as professional fees, in which case they will count as operating expenses for purposes of this analysis.

Exhibit 8.01-UA below shows historical investment fees, as a percent of plan assets, over the last decade for all construction industry plans covering Plumbers and Pipefitters. With a few exceptions, investment fees have remained relatively level over the last ten years.

Exhibit 8.02-UA shows a snapshot distribution of investment fees during the latest plan year. The average fees were 39 basis points ("bps"), in other words, about 0.39% of plan assets.

Exhibit 8.02-UA

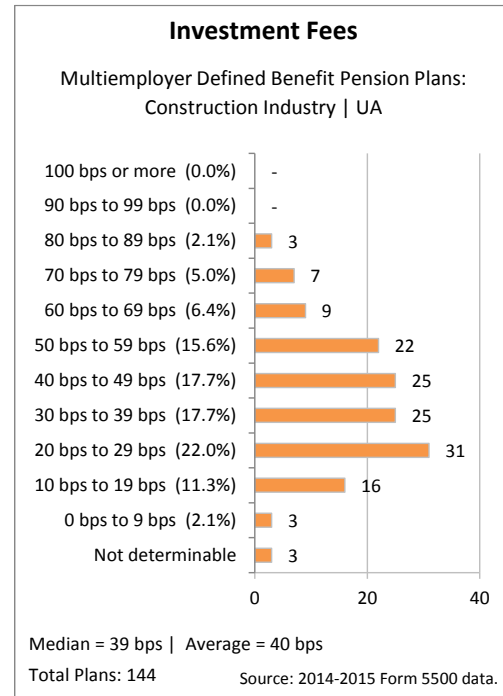
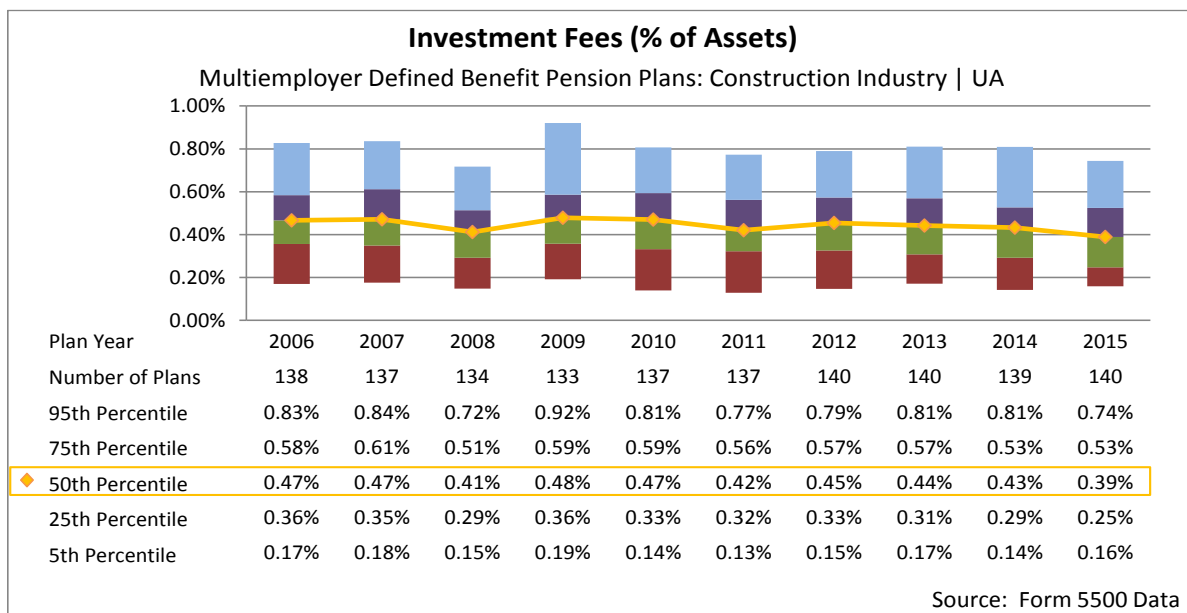


Exhibit 8.01-UA



Appendix B: Plumbers and Pipefitters Plans

Per-Participant Operating Expenses

Operating expenses include the cost of administering the plan, fees paid to professionals (such as attorneys, auditors, actuaries, and consultants), and insurance and PBGC premiums. They exclude investment fees.

As discussed in Section VII, it is more appropriate to express operating expenses on the basis of total participants rather than active participants only, because there are administrative costs associated with both active and inactive or retired participants.

Exhibit 8.03-UA below shows operating expenses over the last ten years for Plumbers and Pipefitters plans in the construction industry, on the basis of total participants.

When expressed as a per participant cost, operating expenses have increased, with some fluctuations, over the period from 2006 through 2015. Median operating expenses per participant increased from \$204 to \$269 over that period – a total increase of 31.9%, or 3.1% per year on average.

Exhibit 8.04-UA shows the snapshot distribution of operating expenses per participant, based on the latest Form 5500 filings for all 144 Plumbers and Pipefitters plans in the inventory. Exhibit 8.05-UA (later in this section) shows operating expenses on the basis of total dollars paid.

Exhibit 8.04-UA

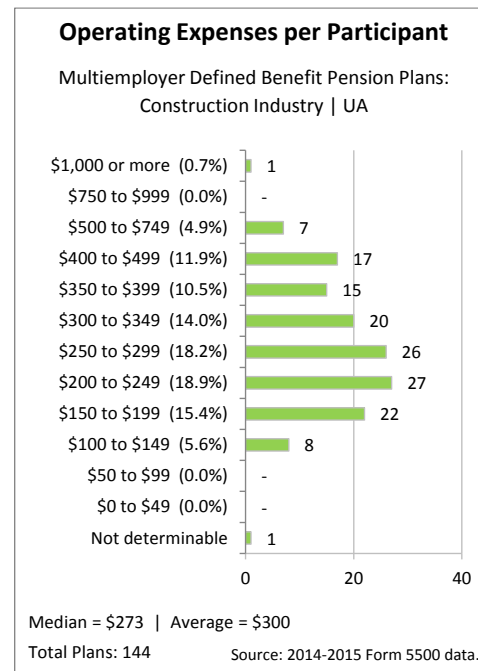
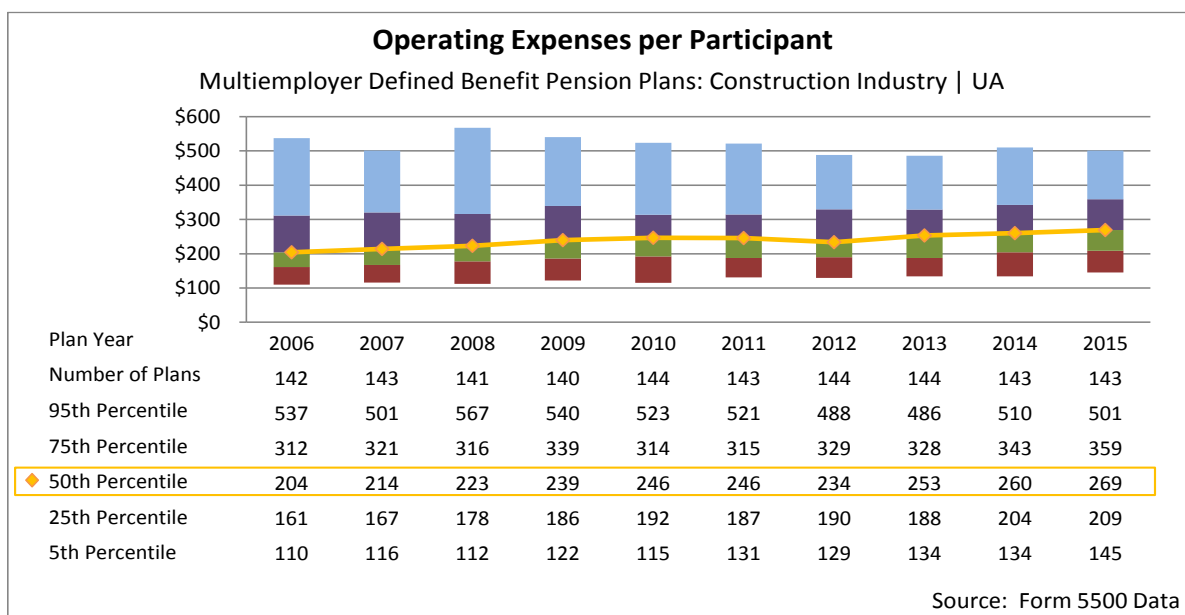


Exhibit 8.03-UA



Appendix B: Plumbers and Pipefitters Plans

Total Operating Expenses

In addition to reviewing operating expenses on a per participant basis, it may be useful for plan trustees to review operating expenses in total.

Exhibit 8.05-UA shows operating expenses in total for Plumbers and Pipefitters plans in the construction industry.

As an additional reference, Exhibit 8.06-UA and Exhibit 8.07-UA, respectively, show total operating expenses split by administrative and other expenses and professionals fees.

Administrative and other expenses include the cost of salaries for fund employees or third party administrator fees, PBGC and insurance premiums, and general administrative costs. Professionals' fees are the total fees paid to attorneys, auditors, actuaries, and consultants.

Exhibit 8.05-UA

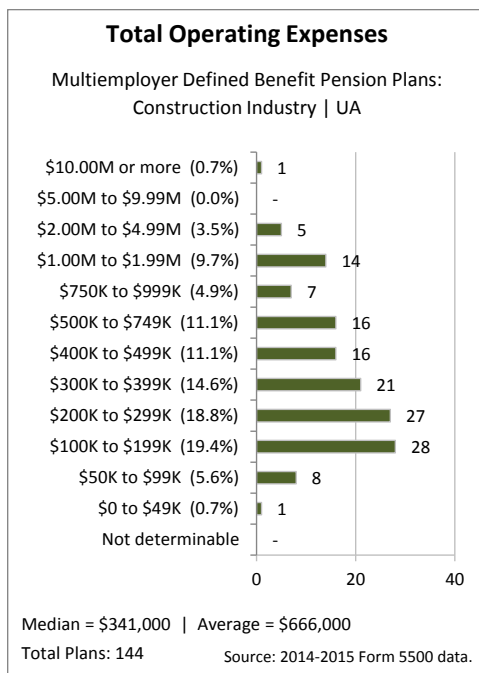


Exhibit 8.06-UA

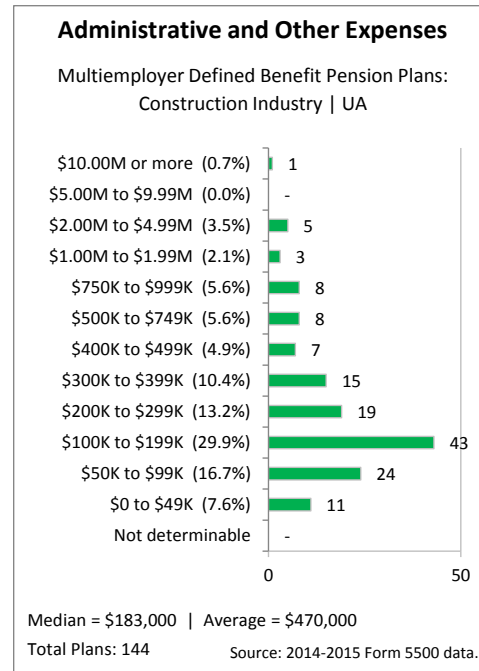
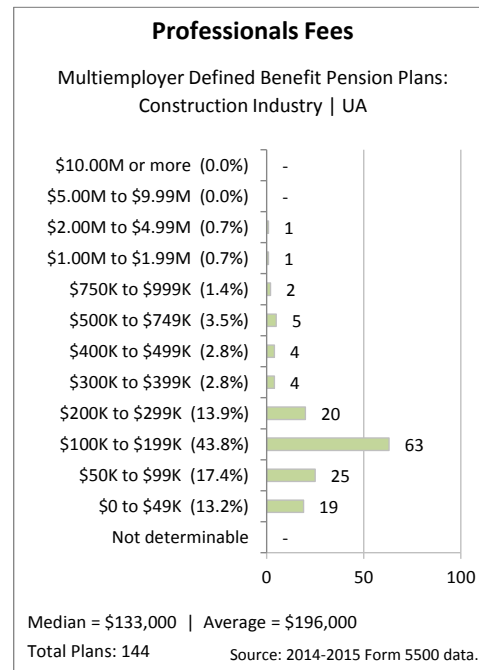


Exhibit 8.07-UA



Appendix C: Summary Exhibits

Appendix C provides two summary exhibits for the 770 multiemployer defined benefit pension plans in the construction industry. Exhibit C.01 shows the distribution of latest results and key historical results from 2006 through 2015, drawing from the results in the main report. Exhibit C.02 shows the number of plans by state and latest certification status under the Pension Protection Act of 2006 (PPA).

While this report focuses on plans in the construction industry, included for additional reference are two summary exhibits showing the same key statistics for all 1,313 multiemployer defined benefit pension plans in the U.S., including those outside of the construction industry. See Exhibits C.03 and C.04.

Considerations when reviewing exhibits in Appendix C:

Number of Plans

Based on the latest available Form 5500 data, in most cases, for plan years ending on or about December 31, 2015, there are 770 multiemployer defined benefit pension plans in the construction industry. There are 1,313 plans in total, across all industries.

According to the PBGC, there are about 1,400 insured multiemployer pension plans in the United States, across all industries. Exhibits C.03 and C.04 show 1,313 plans, and they include only those plans that filed a Form 5500 for the plan year ending on or about December 31, 2015, indicated that they were multiemployer defined benefit plans, and are not receiving financial assistance from the PBGC. The PBGC's list may include some plans that have since been merged together, and it may also include some plans that are technically defined contribution plans. Further, the total of 1,313 multiemployer plans may exclude some plans that for one reason or another do not have a recent Form 5500 filing.

Plan Location

In Exhibits C.02 and C.04, plans are listed by state. Note that the location shown is often for the administrator or other party that filed the Form 5500, and not necessarily for the plan itself.

For example, the Worcester Plumbers & Pipefitters Union Local No. 4 Pension Plan mainly covers participants in Massachusetts, but it is listed under Connecticut (CT), where its administrator is located. Similarly, the Plumbers and Pipefitters National Pension Fund – which covers participants across the nation – is listed under Virginia (VA), where its fund office is located.

PPA Certification Statuses

In simplified terms, a plan is in critical status (“red zone”) if it is projected to have a deficiency in its funding standard account in the next four years (five years if the plan is less than 65% funded or if other conditions are met). A plan is in endangered status (“yellow zone”) if it is less than 80% funded or if it is projected to have a deficiency in its funding standard account in the next seven years. If both of those criteria are true, then the plan is in seriously endangered status (“orange zone”). A plan is in neither critical status nor endangered status (i.e., it is in the “green zone”) if none of the criteria are met.

For simplicity, Exhibits C.02 and C.04 include plans that are in seriously endangered status with those that are in endangered status and plans that are in critical and declining status with those that are in critical status. In addition, plans that did not specify a certification status are included with the plans in the “green zone.”

Key Results May Not Add

When reviewing Exhibits C.01 and C.03, please note that the results in each row are determined independently and cannot be added to obtain the totals shown. For example, the counts for different types of participants were determined separately from (and therefore will not add to) the counts for total participants. Further, the costs and contribution components were determined separately from (and will therefore not add to) the results for contributions vs. costs.

Appendix C: Summary Exhibits

Exhibit C.01 – Multiemployer Defined Benefit Pension Plans: CONSTRUCTION INDUSTRY ONLY

Multiemployer Defined Benefit Pension Plans											
<i>Summary of Form 5500 Data</i>											
Industry:	Construction			Total Number of Plans:	770						
				Calendar Year Plans:	364						
Distribution of Latest Results											
<i>This section shows the distribution of the latest Form 5500 results for 770 multiemployer defined benefit plans in the construction industry. In general, these results are for plan years ending on or around December 31, 2015. Results are shown at every 10th percentile, as well as at the 5th and 95th percentiles. For example, the median (50th percentile) plan is 81% funded on a market value of assets basis. The 5th percentile plan is 48% funded, and the 95th percentile plan is 113% funded. Note that most results below include all applicable plans, regardless of plan year. Therefore, they will differ from those in the report that focus on calendar year plans.</i>											
Percentile	5th	10th	20th	30th	40th	50th	60th	70th	80th	90th	95th
Participant and Employer Counts											
<i>Counts as of End of Plan Year</i>											
Active Participants	56	99	179	255	374	509	705	1,045	1,664	3,479	7,332
Deferred Vested Participants	29	43	92	127	171	229	342	492	782	1,887	4,502
Retired Participants	55	90	154	215	293	404	564	811	1,327	2,671	5,490
Beneficiaries	0	5	25	42	61	88	132	190	306	661	1,310
Total Participants	203	311	508	712	929	1,296	1,758	2,643	4,151	9,170	18,589
Participant Ratio: Active to Inactive	0.19	0.35	0.45	0.53	0.60	0.68	0.76	0.85	0.98	1.23	1.46
Employer Count	8	15	25	35	50	67	86	127	206	399	670
Funding and Investment Results											
<i>Total Results as of the Latest Plan Year</i>											
Market Value of Assets (\$ Million)	\$ 8.4	\$ 14.2	\$ 25.3	\$ 38.2	\$ 54.5	\$ 83.2	\$ 119.3	\$ 178.6	\$ 308.5	\$ 679.4	\$ 1,378.6
Market Value Funded Percentage	48%	58%	67%	73%	77%	81%	85%	89%	95%	103%	113%
Net Cash Flow: % of Assets	-9.6%	-6.6%	-4.8%	-3.9%	-3.1%	-2.4%	-1.7%	-0.9%	0.0%	1.4%	3.3%
Annualized Return: 2006 - 2015*	4.4%	5.1%	5.7%	6.1%	6.4%	6.8%	7.0%	7.3%	7.7%	8.1%	8.7%
* Calendar year plan years only											
Costs and Contributions											
<i>Per Active Participant, for Latest Plan Year</i>											
Cost of Benefit Accruals	\$ 640	\$ 956	\$ 1,368	\$ 1,847	\$ 2,195	\$ 2,644	\$ 3,124	\$ 3,719	\$ 4,382	\$ 5,491	\$ 7,216
Operating Expenses	\$ 248	\$ 316	\$ 404	\$ 482	\$ 553	\$ 652	\$ 759	\$ 908	\$ 1,114	\$ 1,572	\$ 2,241
Cost of Unfunded Liability	\$ (1,151)	\$ (161)	\$ 1,056	\$ 2,094	\$ 2,840	\$ 3,852	\$ 5,336	\$ 6,608	\$ 8,751	\$ 12,500	\$ 16,326
Employer Contributions	\$ 2,858	\$ 4,225	\$ 5,949	\$ 7,321	\$ 8,819	\$ 9,937	\$ 11,430	\$ 13,146	\$ 15,039	\$ 18,170	\$ 21,574
Ratio: Contributions to Costs	0.44	0.65	0.88	1.00	1.09	1.22	1.37	1.56	1.81	2.40	3.22
Historical Results											
<i>This section shows historical Form 5500 results from 2006 through 2015 for multiemployer defined benefit plans in the construction industry. In general, results for (denoted by an asterisk) are for the 364 construction industry plans with calendar year plan years.</i>											
<i>This section also shows the distributions of PPA certification statuses for plan years beginning in 2009 through 2015. For example, for plan years beginning in 2015, about 67.6% of plans were in the green zone, and about 32.4% were in endangered, seriously endangered or critical status.</i>											
Plan Year Beginning	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Total Plan Statistics (Median Results)											
Participant Ratio: Active to Inactive	0.99	0.99	0.95	0.84	0.75	0.73	0.70	0.68	0.68	0.68	
Net Cash Flow: % of Assets*	-2.5%	-2.0%	-2.0%	-3.5%	-3.4%	-2.9%	-3.2%	-3.0%	-2.5%	-2.4%	
Net Investment Return*	11.1%	6.8%	-23.3%	15.9%	11.5%	0.5%	11.1%	16.3%	6.2%	0.4%	
Market Value Funded Percentage*	85.0%	86.1%	68.1%	74.8%	79.1%	74.5%	78.4%	86.4%	85.6%	82.0%	
* Calendar year plan years only											
Costs and Contributions (Median Results)											
<i>Per Active Participant, Per Year</i>											
Cost of Benefit Accruals	\$ 2,197	\$ 2,242	\$ 2,371	\$ 2,548	\$ 2,381	\$ 2,301	\$ 2,445	\$ 2,536	\$ 2,504	\$ 2,647	
Operating Expenses	\$ 419	\$ 425	\$ 456	\$ 517	\$ 550	\$ 564	\$ 568	\$ 596	\$ 624	\$ 649	
Cost of Unfunded Liability	\$ 2,518	\$ 1,880	\$ 2,215	\$ 6,022	\$ 5,559	\$ 4,872	\$ 5,893	\$ 5,229	\$ 3,796	\$ 3,842	
Employer Contributions	\$ 5,635	\$ 6,040	\$ 6,432	\$ 6,507	\$ 7,180	\$ 8,099	\$ 8,469	\$ 8,977	\$ 9,645	\$ 9,992	
Ratio: Contributions to Costs	0.98	1.18	1.15	0.65	0.78	0.95	0.87	0.97	1.17	1.21	
PPA Certification Status											
<i>Plan Year Beginning</i>											
Percentage in "Green Zone"	N/A	N/A	N/A	N/A	54.8%	63.1%	59.7%	60.1%	64.8%	67.6%	
Percentage in Endangered Status	N/A	N/A	N/A	N/A	20.3%	19.3%	20.8%	18.2%	14.9%	14.7%	
Percentage in Seriously Endangered Status	N/A	N/A	N/A	N/A	3.9%	1.0%	1.7%	1.5%	0.5%	0.5%	
Percentage in Critical Status	N/A	N/A	N/A	N/A	20.9%	16.6%	17.8%	20.2%	19.7%	14.8%	
Percentage in Critical and Declining Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4%	

The results in each row are determined independently and cannot be added to obtain the totals shown. For example, the counts for different types of participants were determined separately from (and therefore will not add to) the counts for total participants. Further, the costs and contribution components were determined separately from the ratios of contributions to costs.

Appendix C: Summary Exhibits

Exhibit C.02 – Multiemployer Defined Benefit Pension Plans: CONSTRUCTION INDUSTRY ONLY

Multiemployer Plans by State and PPA Certification Status													
Construction Industry													
State Name	Postal Code	Critical Status			Endangered Status			"Green Zone"			All Plans		
		Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants
Alabama	AL	2	60.9	1,380	-	-	-	6	217.0	5,018	8	277.8	6,398
Alaska	AK	1	49.5	824	-	-	-	2	1,800.9	10,707	3	1,850.5	11,531
Arizona	AZ	1	90.4	2,375	-	-	-	10	587.9	18,318	11	678.3	20,693
Arkansas	AR	1	3.4	116	-	-	-	-	-	-	1	3.4	116
California	CA	8	8,680.4	113,391	11	7,715.5	123,545	40	13,381.3	187,471	59	29,777.2	424,407
Colorado	CO	3	153.3	4,110	-	-	-	4	1,341.1	25,447	7	1,494.5	29,557
Connecticut	CT	7	227.7	5,528	3	103.4	2,127	10	1,719.5	26,819	20	2,050.6	34,474
Delaware	DE	-	-	-	1	119.2	1,165	4	213.1	4,392	5	332.3	5,557
District of Columbia	DC	1	1,004.7	60,759	1	1,366.4	75,504	7	16,852.8	267,082	9	19,223.9	403,345
Florida	FL	-	-	-	1	38.0	1,562	13	951.9	15,477	14	989.9	17,039
Georgia	GA	1	19.9	708	-	-	-	2	119.5	1,783	3	139.4	2,491
Hawaii	HI	-	-	-	-	-	-	10	1,356.1	17,824	10	1,356.1	17,824
Idaho	ID	-	-	-	-	-	-	-	-	-	-	-	-
Illinois	IL	2	939.2	17,467	6	4,162.5	35,880	44	18,983.2	206,130	52	24,084.8	259,477
Indiana	IN	4	469.4	8,525	2	1,020.9	26,052	16	2,743.5	38,669	22	4,233.8	73,246
Iowa	IA	-	-	-	2	191.6	2,068	3	177.3	2,827	5	368.9	4,895
Kansas	KS	1	141.2	8,143	1	7,224.8	91,035	6	1,164.2	21,259	8	8,530.2	120,437
Kentucky	KY	1	65.2	953	1	37.8	605	3	181.4	3,891	5	284.4	5,449
Louisiana	LA	5	436.1	10,790	2	61.9	1,822	4	235.6	5,702	11	733.6	18,314
Maine	ME	-	-	-	-	-	-	-	-	-	-	-	-
Maryland	MD	10	4,180.6	48,665	3	3,102.3	84,120	25	15,919.1	595,572	38	23,202.0	728,357
Massachusetts	MA	2	33.0	899	4	2,125.6	27,116	12	6,227.6	71,660	18	8,386.2	99,675
Michigan	MI	10	5,251.7	86,689	17	3,121.3	60,643	19	2,047.2	28,908	46	10,420.2	176,240
Minnesota	MN	-	-	-	2	1,513.7	20,020	16	5,834.1	86,122	18	7,347.8	106,142
Mississippi	MS	-	-	-	-	-	-	-	-	-	-	-	-
Missouri	MO	1	85.6	1,740	3	574.4	5,973	23	7,166.7	78,754	27	7,826.7	86,467
Montana	MT	-	-	-	-	-	-	-	-	-	-	-	-
Nebraska	NE	-	-	-	-	-	-	6	656.4	12,025	6	656.4	12,025
Nevada	NV	-	-	-	1	355.4	6,024	4	1,388.0	13,016	5	1,743.4	19,040
New Hampshire	NH	-	-	-	-	-	-	1	38.9	540	1	38.9	540
New Jersey	NJ	4	778.1	11,258	1	361.4	4,266	22	4,019.9	52,001	27	5,159.4	67,525
New Mexico	NM	1	8.9	399	-	-	-	1	34.4	3,377	2	43.3	3,776
New York	NY	16	631.7	16,442	15	1,311.3	19,703	71	17,606.1	227,981	102	19,549.1	264,126
North Carolina	NC	-	-	-	-	-	-	-	-	-	-	-	-
North Dakota	ND	-	-	-	-	-	-	-	-	-	-	-	-
Ohio	OH	17	1,331.4	26,690	14	1,469.8	19,111	27	5,946.9	63,914	58	8,748.1	109,715
Oklahoma	OK	-	-	-	-	-	-	4	1,207.7	18,014	4	1,207.7	18,014
Oregon	OR	2	94.0	3,307	2	151.4	2,816	11	3,759.3	45,180	15	4,004.7	51,303
Pennsylvania	PA	15	1,733.2	35,477	9	2,206.1	36,395	31	15,975.5	232,944	55	19,914.8	304,816
Puerto Rico	PR	-	-	-	-	-	-	-	-	-	-	-	-
Rhode Island	RI	1	97.6	1,460	-	-	-	4	451.1	6,721	5	548.7	8,181
South Carolina	SC	-	-	-	-	-	-	-	-	-	-	-	-
South Dakota	SD	-	-	-	-	-	-	-	-	-	-	-	-
Tennessee	TN	2	258.5	7,733	2	175.3	4,084	18	1,125.5	21,932	22	1,559.3	33,749
Texas	TX	3	9.5	1,025	-	-	-	12	2,221.7	67,862	15	2,231.1	68,887
Utah	UT	-	-	-	-	-	-	3	200.7	4,893	3	200.7	4,893
Vermont	VT	-	-	-	-	-	-	1	25.4	405	1	25.4	405
Virginia	VA	2	19.9	647	2	9,333.3	295,114	4	102.4	2,852	8	9,455.6	298,613
Washington	WA	2	253.6	4,171	3	1,134.4	20,482	14	7,144.7	95,283	19	8,532.7	119,936
West Virginia	WV	1	241.2	3,173	3	164.2	2,702	5	724.3	12,959	9	1,129.6	18,834
Wisconsin	WI	1	20.3	459	3	1,802.5	29,938	8	2,529.4	36,019	12	4,352.3	66,416
Wyoming	WY	1	24.4	926	-	-	-	-	-	-	1	24.4	926
TOTAL		129	27,394.4	486,229	115	50,944.3	999,872	526	164,379.5	2,637,750	770	242,718.2	4,123,851

Results are based on Form 5500 data for plan years ending on or about December 31, 2015.

Plans are grouped by the states listed for the plan's address on the Form 5500. Often, the plan's address is the address of the plan administrator. Many plans are regional or national.

Plans in seriously endangered status are included above with plans in endangered status. Plans in critical and declining status are included above with plans in critical status.

Plans that did not specify a status are assumed to be in the "green zone."

Appendix C: Summary Exhibits

Exhibit C.03 – Multiemployer Defined Benefit Pension Plans: ALL PLANS IN ALL INDUSTRIES

Multiemployer Defined Benefit Pension Plans											
Summary of Form 5500 Data											
Industry:	ALL INDUSTRIES				Total Number of Plans:	1,313					
					Calendar Year Plans:	691					
Distribution of Latest Results											
This section shows the distribution of the latest Form 5500 results for 1,313 multiemployer defined benefit plans (all industries). In general, these Form 5500 results are for plan years ending on or around December 31, 2015. Results are shown at every 10th percentile, as well as at the 5th and 95th percentiles. For example, the median (50th percentile) plan is 81% funded on a market value of assets basis. The 5th percentile plan is 44% funded, and the 95th percentile plan is 114% funded. Note that most results below include all applicable plans, regardless of plan year. Therefore, they will differ from those in the report that focus on calendar year plans.											
Percentile	5th	10th	20th	30th	40th	50th	60th	70th	80th	90th	95th
Participant and Employer Counts											
Counts as of End of Plan Year											
Active Participants	2	48	135	229	348	511	724	1,121	2,068	5,241	10,663
Deferred Vested Participants	25	43	97	152	217	327	490	713	1,310	3,836	7,115
Retired Participants	48	85	155	230	341	505	702	1,060	1,738	3,974	7,570
Beneficiaries	0	4	22	40	64	97	145	219	363	755	1,529
Total Participants	183	296	522	780	1,104	1,566	2,082	3,277	5,553	14,772	27,772
Participant Ratio: Active to Inactive	0.00	0.09	0.27	0.42	0.51	0.59	0.69	0.80	0.93	1.22	1.57
Employer Count	3	5	10	20	30	41	59	88	151	314	619
Funding and Investment Results											
Total Results as of the Latest Plan Year											
Market Value of Assets (\$ Million)	\$ 4.1	\$ 9.3	\$ 20.5	\$ 34.5	\$ 50.6	\$ 76.7	\$ 115.1	\$ 172.6	\$ 312.8	\$ 707.0	\$ 1,431.8
Market Value Funded Percentage	44%	55%	65%	72%	77%	81%	85%	89%	96%	105%	114%
Net Cash Flow: % of Assets	-15.0%	-10.0%	-6.4%	-4.9%	-3.8%	-2.9%	-2.2%	-1.2%	-0.2%	1.5%	3.5%
Annualized Return: 2006 - 2015*	4.4%	5.0%	5.7%	6.1%	6.4%	6.8%	7.0%	7.3%	7.7%	8.3%	8.7%
* Calendar year plan years only											
Costs and Contributions											
Per Active Participant, for Latest Plan Year											
Cost of Benefit Accruals	\$ 338	\$ 552	\$ 951	\$ 1,326	\$ 1,763	\$ 2,229	\$ 2,752	\$ 3,413	\$ 4,222	\$ 5,558	\$ 7,711
Operating Expenses	\$ 191	\$ 266	\$ 371	\$ 473	\$ 572	\$ 691	\$ 815	\$ 1,004	\$ 1,331	\$ 2,198	\$ 4,187
Cost of Unfunded Liability	\$ (1,743)	\$ (314)	\$ 499	\$ 1,439	\$ 2,276	\$ 3,293	\$ 4,957	\$ 6,678	\$ 9,661	\$ 15,315	\$ 24,987
Employer Contributions	\$ 963	\$ 1,812	\$ 3,437	\$ 5,333	\$ 6,973	\$ 8,765	\$ 10,383	\$ 12,267	\$ 14,618	\$ 18,524	\$ 22,938
Ratio: Contributions to Costs	0.12	0.39	0.68	0.89	1.01	1.13	1.28	1.46	1.73	2.33	3.22
Historical Results											
This section shows historical Form 5500 results from 2006 through 2015 for multiemployer defined benefit plans (all industries). In general, results for (denoted by an asterisk) are for the 691 plans with calendar year plan years.											
This section also shows the distributions of PPA certification statuses for plan years beginning in 2009 through 2015. For example, for plan years beginning in 2015, about 63.4% of plans were in the green zone, and about 36.6% were in endangered, seriously endangered or critical status.											
Plan Year Beginning	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Total Plan Statistics (Median Results)											
Participant Ratio: Active to Inactive	0.86	0.85	0.83	0.74	0.67	0.65	0.62	0.60	0.61	0.60	
Net Cash Flow: % of Assets*	-3.0%	-2.6%	-2.7%	-4.3%	-4.0%	-3.6%	-3.8%	-3.7%	-3.2%	-3.0%	
Net Investment Return*	11.1%	6.8%	-23.5%	16.3%	11.7%	0.6%	11.1%	16.1%	6.2%	0.3%	
Market Value Funded Percentage*	87.6%	88.8%	67.6%	74.8%	78.8%	74.6%	77.9%	85.2%	85.6%	81.9%	
* Calendar year plan years only											
Costs and Contributions (Median Results)											
Per Active Participant, Per Year											
Cost of Benefit Accruals	\$ 1,865	\$ 1,914	\$ 1,945	\$ 2,149	\$ 1,999	\$ 1,980	\$ 2,035	\$ 2,090	\$ 2,128	\$ 2,240	
Operating Expenses	\$ 421	\$ 428	\$ 467	\$ 534	\$ 568	\$ 581	\$ 590	\$ 614	\$ 643	\$ 688	
Cost of Unfunded Liability	\$ 1,842	\$ 1,428	\$ 1,737	\$ 5,621	\$ 4,886	\$ 4,161	\$ 5,194	\$ 4,575	\$ 3,431	\$ 3,293	
Employer Contributions	\$ 4,537	\$ 4,899	\$ 5,394	\$ 5,462	\$ 5,964	\$ 6,730	\$ 7,236	\$ 7,541	\$ 8,209	\$ 8,779	
Ratio: Contributions to Costs	0.92	1.09	1.06	0.60	0.73	0.90	0.82	0.91	1.11	1.13	
PPA Certification Status											
Plan Year Beginning											
Percentage in "Green Zone"	N/A	N/A	N/A	N/A	50.4%	59.4%	56.5%	57.1%	61.3%	63.4%	
Percentage in Endangered Status	N/A	N/A	N/A	N/A	17.2%	15.3%	16.5%	15.3%	12.7%	12.1%	
Percentage in Seriously Endangered Status	N/A	N/A	N/A	N/A	3.8%	1.3%	1.6%	1.2%	0.4%	0.3%	
Percentage in Critical Status	N/A	N/A	N/A	N/A	28.5%	24.1%	25.4%	26.5%	25.6%	18.3%	
Percentage in Critical and Deducing Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.9%	

The results in each row are determined independently and cannot be added to obtain the totals shown. For example, the counts for different types of participants were determined separately from (and therefore will not add to) the counts for total participants. Further, the costs and contribution components were determined separately from the ratios of contributions to costs.

Appendix C: Summary Exhibits

Exhibit C.04 – Multiemployer Defined Benefit Pension Plans: ALL PLANS IN ALL INDUSTRIES

Multiemployer Plans by State and PPA Certification Status													
All Industries													
State Name	Postal Code	Critical Status			Endangered Status			"Green Zone"			All Plans		
		Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants	Number of Plans	Assets (\$Million)	Covered Participants
Alabama	AL	3	433.2	27,720	-	-	-	8	250.4	5,655	11	683.6	33,375
Alaska	AK	2	613.7	9,863	-	-	-	2	1,800.9	10,707	4	2,414.7	20,570
Arizona	AZ	1	90.4	2,375	-	-	-	13	1,443.3	64,434	14	1,533.7	66,809
Arkansas	AR	1	3.4	116	-	-	-	-	-	-	1	3.4	116
California	CA	23	19,901.7	525,508	15	7,920.0	130,156	80	32,751.1	532,722	118	60,572.7	1,188,386
Colorado	CO	4	902.3	33,908	-	-	-	6	2,436.1	90,086	10	3,338.4	123,994
Connecticut	CT	7	227.7	5,528	3	103.4	2,127	13	2,721.3	56,658	23	3,052.4	64,313
Delaware	DE	-	-	-	1	119.2	1,165	5	224.4	7,445	6	343.6	8,610
District of Columbia	DC	5	5,504.7	289,591	2	1,619.8	81,685	13	30,779.2	576,354	20	37,903.6	947,630
Florida	FL	2	253.4	3,357	2	480.9	6,831	14	1,017.4	16,552	18	1,751.8	26,740
Georgia	GA	4	2,099.9	19,426	-	-	-	4	4,215.3	264,599	8	6,315.1	284,025
Hawaii	HI	1	5.9	177	2	216.1	1,390	15	2,152.6	43,885	18	2,374.6	45,452
Idaho	ID	-	-	-	-	-	-	-	-	-	-	-	-
Illinois	IL	14	20,505.4	523,896	11	5,630.1	64,789	73	29,620.4	552,232	98	55,755.9	1,140,917
Indiana	IN	5	775.2	25,445	2	1,020.9	26,052	24	3,318.6	49,718	31	5,114.8	101,215
Iowa	IA	-	-	-	2	191.6	2,068	3	177.3	2,827	5	368.9	4,895
Kansas	KS	1	141.2	8,143	1	7,224.8	91,035	7	1,274.6	21,926	9	8,640.6	121,104
Kentucky	KY	1	65.2	953	1	37.8	605	4	257.5	12,542	6	360.5	14,100
Louisiana	LA	6	577.0	14,058	2	61.9	1,822	4	235.6	5,702	12	874.5	21,582
Maine	ME	-	-	-	-	-	-	-	-	-	-	-	-
Maryland	MD	21	11,038.5	261,262	6	5,548.0	111,041	44	23,145.1	672,283	71	39,731.6	1,044,586
Massachusetts	MA	3	44.8	1,456	5	2,127.7	27,191	17	10,827.0	164,608	25	12,999.5	193,255
Michigan	MI	12	5,327.9	88,510	18	3,122.0	60,674	21	2,074.4	29,446	51	10,524.4	178,630
Minnesota	MN	1	103.2	5,952	3	1,516.9	20,098	28	8,447.1	158,508	32	10,067.2	184,558
Mississippi	MS	-	-	-	-	-	-	2	32.3	435	2	32.3	435
Missouri	MO	5	225.1	9,932	4	610.8	8,631	35	9,164.5	134,774	44	10,000.4	153,337
Montana	MT	-	-	-	-	-	-	-	-	-	-	-	-
Nebraska	NE	-	-	-	-	-	-	6	656.4	12,025	6	656.4	12,025
Nevada	NV	-	-	-	1	355.4	6,024	6	3,522.1	117,352	7	3,877.5	123,376
New Hampshire	NH	-	-	-	-	-	-	1	38.9	540	1	38.9	540
New Jersey	NJ	30	3,249.2	105,051	7	2,482.4	38,048	48	6,639.6	113,480	85	12,371.2	256,579
New Mexico	NM	1	8.9	399	-	-	-	1	34.4	3,377	2	43.3	3,776
New York	NY	65	12,149.9	774,716	22	3,080.3	97,650	157	43,988.3	1,058,267	244	59,218.5	1,930,633
North Carolina	NC	-	-	-	-	-	-	2	40.9	995	2	40.9	995
North Dakota	ND	-	-	-	-	-	-	-	-	-	-	-	-
Ohio	OH	23	2,276.0	71,334	14	1,469.8	19,111	46	7,303.9	100,988	83	11,049.8	191,433
Oklahoma	OK	-	-	-	-	-	-	4	1,207.7	18,014	4	1,207.7	18,014
Oregon	OR	5	466.5	19,061	2	151.4	2,816	17	4,982.6	95,307	24	5,600.5	117,184
Pennsylvania	PA	25	4,021.4	162,052	11	2,675.2	49,212	45	17,804.3	300,967	81	24,500.8	512,231
Puerto Rico	PR	1	9.9	4,329	-	-	-	1	145.8	1,091	2	155.6	5,420
Rhode Island	RI	1	97.6	1,460	-	-	-	4	451.1	6,721	5	548.7	8,181
South Carolina	SC	-	-	-	-	-	-	1	296.2	1,950	1	296.2	1,950
South Dakota	SD	-	-	-	-	-	-	1	88.2	1,830	1	88.2	1,830
Tennessee	TN	5	1,893.8	90,210	2	175.3	4,084	20	1,393.1	24,385	27	3,462.1	118,679
Texas	TX	3	9.5	1,025	1	0.4	23	14	2,521.8	71,426	18	2,531.7	72,474
Utah	UT	2	287.6	21,866	-	-	-	3	200.7	4,893	5	488.3	26,759
Vermont	VT	-	-	-	-	-	-	1	25.4	405	1	25.4	405
Virginia	VA	3	38.5	1,020	4	10,321.7	306,580	6	455.6	5,002	13	10,815.8	312,602
Washington	WA	10	4,456.6	211,043	3	1,134.4	20,482	23	45,384.0	692,176	36	50,975.0	923,701
West Virginia	WV	2	534.6	8,612	3	164.2	2,702	7	1,107.8	15,902	12	1,806.6	27,216
Wisconsin	WI	2	412.2	17,623	3	1,802.5	29,938	10	3,119.1	42,797	15	5,333.8	90,358
Wyoming	WY	1	24.4	926	-	-	-	-	-	-	1	24.4	926
TOTAL		301	98,776.4	3,347,903	153	61,364.8	1,214,030	859	309,774.2	6,163,988	1,313	469,915.3	10,725,921

Results are based on Form 5500 data for plan years ending on or about December 31, 2015.

Plans are grouped by the states listed for the plan's address on the Form 5500. Often, the plan's address is the address of the plan administrator. Many plans are regional or national.

Plans in seriously endangered status are included above with plans in endangered status. Plans in critical and declining status are included above with plans in critical status.

Plans that did not specify a status are assumed to be in the "green zone."

Appendix D: Plan Listing

Appendix D provides a listing of the multiemployer defined benefit pension plans in the construction industry that were included in the inventory. Note that only the 770 plans that filed a Form 5500 for 2014 or later are included.

The plans are listed alphabetically by state (postal code) and then by city. Note that the location shown is often for the administrator or other party that filed the Form 5500, and not necessarily for the plan itself. For example, the Worcester Plumbers & Pipefitters Union Local No. 4 Pension Plan mainly covers participants in Massachusetts, but it is listed under Connecticut (CT), where its administrator is located. Similarly, the Plumbers and Pipefitters National Pension Fund – which covers participants across the nation – is listed under Virginia (VA), where its fund office is located.

For reference, the listing shows plan asset values and participant counts as of the end of the latest plan year for which a Form 5500 was filed. This listing may be useful to employers who wish to learn more about the construction industry multiemployer plans in which they participate.

Much can be learned about a plan from its Form 5500, and the Department of Labor makes Form 5500 filings (for 2009 and later) available for public inspection on its [EFAST2 website](#). To find a Form 5500 filing for a given plan, click on the link for “Form 5500 search” and then enter the plan’s employer identification number (EIN) and plan number. The EIN and plan number for every plan in the inventory are shown in the attached listing.

Employers may also use this listing and EFAST2 to gather information needed for the disclosure requirements required by the Financial Accounting Standards Board (FASB) regarding participation in multiemployer plans.

More information on the FASB requirements and how to comply with them – including a sample disclosure exhibit and frequently asked questions – can be found on the [MCAA website](#) and the [Horizon Actuarial website](#). The standard itself (Subtopic 715-80) can be found on the [FASB website](#).

For reference, Exhibit D.01 to the right summarizes the plans in the listing by state (similar to what is shown in Exhibit C.01). Total plan asset values and the total number of participants are also shown. The asset values and participant counts are as reported in each plan’s latest Form 5500 filing.

In total, the 770 construction industry plans in the inventory represent \$243 billion in assets and cover over 4 million participants and beneficiaries.

Exhibit D.01

Construction Industry Plans by State				
State Name	Code	Number of Plans	Total Assets (\$Millions)	Total Participants (Thousands)
Alabama	AL	8	277.8	6.4
Alaska	AK	3	1,850.5	11.5
Arizona	AZ	11	678.3	20.7
Arkansas	AR	1	3.4	0.1
California	CA	59	29,777.2	424.4
Colorado	CO	7	1,494.5	29.6
Connecticut	CT	20	2,050.6	34.5
Delaware	DE	5	332.3	5.6
District of Columbia	DC	9	19,223.9	403.4
Florida	FL	14	989.9	17.0
Georgia	GA	3	139.4	2.5
Hawaii	HI	10	1,356.1	17.8
Idaho	ID	-	-	-
Illinois	IL	52	24,084.8	259.5
Indiana	IN	22	4,233.8	73.3
Iowa	IA	5	368.9	4.9
Kansas	KS	8	8,530.2	120.4
Kentucky	KY	5	284.4	5.5
Louisiana	LA	11	733.6	18.3
Maine	ME	-	-	-
Maryland	MD	38	23,202.0	728.4
Massachusetts	MA	18	8,386.2	99.7
Michigan	MI	46	10,420.2	176.2
Minnesota	MN	18	7,347.8	106.1
Mississippi	MS	-	-	-
Missouri	MO	27	7,826.7	86.5
Montana	MT	-	-	-
Nebraska	NE	6	656.4	12.0
Nevada	NV	5	1,743.4	19.0
New Hampshire	NH	1	38.9	0.5
New Jersey	NJ	27	5,159.4	67.5
New Mexico	NM	2	43.3	3.8
New York	NY	102	19,549.1	264.1
North Carolina	NC	-	-	-
North Dakota	ND	-	-	-
Ohio	OH	58	8,748.1	109.7
Oklahoma	OK	4	1,207.7	18.0
Oregon	OR	15	4,004.7	51.3
Pennsylvania	PA	55	19,914.8	304.8
Rhode Island	RI	5	548.7	8.2
South Carolina	SC	-	-	-
South Dakota	SD	-	-	-
Tennessee	TN	22	1,559.3	33.8
Texas	TX	15	2,231.1	68.9
Utah	UT	3	200.7	4.9
Vermont	VT	1	25.4	0.4
Virginia	VA	8	9,455.6	298.6
Washington	WA	19	8,532.7	119.9
West Virginia	WV	9	1,129.6	18.8
Wisconsin	WI	12	4,352.3	66.4
Wyoming	WY	1	24.4	0.9
TOTAL		770	242,718.2	4,123.9

Source: 2014-2015 Form 5500 data.

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "S" = seriously endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
926005171	001	ALASKA ELECTRICAL PENSION PLAN	ANCHORAGE	AK	238210	12/31/15	1,770.0	10,344	N
912123695	001	ALASKA IRONWORKERS PENSION PLAN	ANCHORAGE	AK	238100	6/30/16	49.5	824	C
926004524	001	ALASKA TROWEL TRADES PENSION PLAN	ANCHORAGE	AK	524290	6/30/16	31.0	363	N
630437949	001	BIRMINGHAM P & S LOCAL UNION NO 91 PENSION FUND	BIRMINGHAM	AL	238200	12/31/15	22.3	730	C
63605108	001	AF OF LAGG BUILDING TRADES PENSION PLAN	MOBILE	AL	238900	6/30/16	101.6	2,252	N
630474674	001	ASBESTOS WORKERS LOCAL UNION NO 35 PENSION PLAN	MOBILE	AL	238900	12/31/15	11.8	273	N
510176914	001	IBEW LOCAL 505 NECA PENSION PLAN	MOBILE	AL	238210	8/31/15	36.3	829	N
646151461	001	LOCAL UNION 903 PENSION PLAN	MOBILE	AL	525100	11/30/15	33.3	879	N
63605121	001	MECHANICAL CONTRACTORS UA LOCAL 119 PENSION PLAN	MOBILE	AL	525100	12/31/15	38.6	650	C
63219747	001	SHEET METAL WORKERS LOCAL 441 SUPPLEMENTAL PEN PLAN	MOBILE	AL	525100	12/31/15	6.5	344	N
63027566	002	TUSCALOOSA PLUMBERS & STEAMFITTERS LOCAL 372 PENSION PLAN	TUSCALOOSA	AL	238220	6/30/16	27.4	441	N
7160913109	001	HEAT AND FROST INSULATORS & ALLIED WORKERS LOCAL 10 PENSION PLAN	ATKINS	AR	238300	12/31/15	3.4	116	C
86608210	001	ARIZONA LABORERS AND TEAMSTERS PENSION TRUST FUND	PHOENIX	AZ	238900	12/31/15	79.1	3,121	N
866069718	001	ARIZONA SHEET METAL PENSION TRUST FUND	PHOENIX	AZ	238900	6/30/16	68.9	1,900	N
516119487	001	AZ BRICKLAYERS PENSION TRUST FUND	PHOENIX	AZ	525100	12/31/15	29.9	628	N
866096025	001	AZ STATE CARPENTERS PENSION TRUST FUND	PHOENIX	AZ	238900	12/31/15	54.8	4,102	N
860323980	001	IBEW LOCAL NO 640 & AZ CHAPTER NECA DEFINED BENEFIT PENSION PLAN	PHOENIX	AZ	238210	12/31/15	127.7	2,873	N
866089862	001	IBEW LOCAL NOS 570 & 518 AND SOUTHERN AZ CHAPTER NECA PENSION PLAN	PHOENIX	AZ	238210	12/31/15	81.3	1,374	N
8660295732	001	OPERATING ENGINEERS LOCAL 428 PENSION TRUST FUND	PHOENIX	AZ	541330	12/31/15	41.2	2,231	N
516031325	001	OPERATIVE PLASTERERS & CEMENT MASONS INTL ASSN LOCAL 394 PENSION PLAN	PHOENIX	AZ	238100	12/31/15	7.0	585	N
866068085	001	PHOENIX PAINTERS PENSION TRUST FUND	PHOENIX	AZ	238300	11/30/15	15.3	868	N
596230530	001	SOUTH FLORIDA ELECTRICAL WORKERS PENSION PLAN	PHOENIX	AZ	525100	12/31/15	90.4	2,375	C
866049763	001	I.B.E.W. LOCAL 769 MANAGEMENT PENSION PLAN A	SCOTTSDALE	AZ	236200	6/30/16	82.7	1,246	N
946276501	001	BAY AREA PAINTERS & TAPERS PENSION PLAN	ALAMEDA	CA	238900	12/31/15	347.1	7,581	E
946208548	002	HOD CARRIERS LOCAL NO 166 WEST BAY PENSION PLAN	ALAMEDA	CA	238900	12/31/15	6.6	272	E
946129382	001	NORTHERN CALIFORNIA PLASTERING INDUSTRY PENSION PLAN	ALAMEDA	CA	238900	12/31/15	110.4	1,559	N
946129121	001	NORTHERN CALIFORNIA TILE INDUSTRY DEFINED BENEFIT PENSION PLAN	ALAMEDA	CA	525100	12/31/15	182.5	1,625	N
946090764	001	OE PENSION TRUST FUND	ALAMEDA	CA	236200	12/31/15	3,462.0	39,134	C
946284071	001	RESILIENT FLOOR COVERING PENSION FUND	ALAMEDA	CA	238300	12/31/15	332.5	3,922	C
951379185	001	CEMENT MASONS SOUTHERN CALIFORNIA PENSION TRUST	ARCADIA	CA	238100	12/31/15	172.7	5,679	N
956123049	001	KERN COUNTY ELECTRICAL WORKERS PENSION FUND	BAKERSFIELD	CA	238210	12/31/15	105.7	880	N
956392774	001	SOUTHERN CALIFORNIA BEW-NECA PENSION TRUST FUND	COMMERCE	CA	238210	6/30/16	1,011.5	15,270	S
941919386	001	NORTHERN CALIFORNIA PIPE TRADES PENSION PLAN	CONCORD	CA	238220	12/31/15	572.3	3,650	N
516052141	001	SOUTHERN CALIFORNIA PLASTERING INSTITUTE PENSION TRUST FUND	COVINA	CA	238300	12/31/15	71.0	1,482	N
942859426	001	U.A. LOCAL NO 159 DEFINED BENEFIT PLAN	DUBLIN	CA	238220	12/31/15	75.2	739	N
436159056	001	CONSTRUCTION LABORERS PENSION TRUST FUND FOR SOUTHERN CALIFORNIA	EL MONTE	CA	237990	12/31/15	1,699.5	30,742	N
956090541	001	SAN DIEGO COUNTY CONSTRUCTION LABORERS PENSION TRUST FUND	EL MONTE	CA	236200	8/31/15	245.1	4,883	N
516031409	001	SOUTHERN CALIFORNIA FLOOR COVERING PENSION TRUST FUND	EL MONTE	CA	238300	12/31/15	84.3	1,265	E
956354179	001	SOUTHERN CALIFORNIA GUNITE WORKERS PENSION FUND	EL MONTE	CA	237990	12/31/15	37.4	533	N
956376874	001	SOUTHERN CALIFORNIA LOCAL 831 - EMPLOYER PENSION FUND	EL MONTE	CA	238900	12/31/15	324.4	2,991	N
510190581	002	SOUTHERN CALIFORNIA ROCK PRODUCTS AND READY MIXED CONCRETE INDUSTRIES OPERATING ENGINEER EMPLOYEES RETIREMENT PLAN	EL MONTE	CA	237990	12/31/15	111.8	1,468	N
946273930	001	HOD CARRIERS UNION LOCAL 166 PENSION PLAN	FAIRFIELD	CA	238900	6/30/16	37.3	368	N
946277669	001	CEMENT MASON PENSION TRUST FUND FOR NORTHERN CALIFORNIA	FAIRFIELD	CA	236200	8/31/15	322.6	4,388	E
946277608	001	LABORERS PENSION TRUST FUND FOR NORTHERN CALIFORNIA	FAIRFIELD	CA	236200	5/31/16	2,131.9	35,753	E
956397936	001	IBEW LOCAL # 952 VENTURA DIVISION OF LA COUNTY CHAPTER NECA PENSION TRUST FUND	FRESNO	CA	238210	6/30/16	82.5	799	C
516108443	001	SOUTHERN CALIFORNIA PIPE TRADES RETIREMENT FUND	FRESNO	CA	238210	6/30/16	119.9	1,048	N
956042875	001	SOUTHWEST CARPENTERS PENSION TRUST	LOS ANGELES	CA	238220	12/31/15	816.2	13,180	N
956052257	001	SHEET METAL WORKERS PENSION PLAN OF SOUTHERN CALIFORNIA ARIZONA AND NEVADA	LOS ANGELES	CA	238100	12/31/15	3,559.2	61,179	N
946050970	001	CARPENTERS PENSION TRUST FUND FOR NORTHERN CALIFORNIA	MANHATTAN BEAC	CA	238900	12/31/15	878.4	10,106	C
956035386	001	AIRCONDITIONING AND REFRIGERATION INDUSTRY RETIREMENT TRUST FUND	OAKLAND	CA	236200	8/31/15	2,874.8	46,253	C
956042866	001	CALIFORNIA IRONWORKERS FIELD PENSION TRUST	ORANGE	CA	238220	12/31/15	248.0	2,944	N
956032478	001	OPERATING ENGINEERS PENSION TRUST	PASADENA	CA	238900	5/31/16	1,709.6	19,196	E
80088690	001	B A C LOCAL NO 3 PENSION PLAN	PLEASANTON	CA	238400	6/30/16	81.0	1,223	N
946287225	001	BRICKLAYERS AND ALLIED CRAFTSMEN LOCAL 16 PENSION PLAN	PLEASANTON	CA	525100	6/30/16	4.1	120	C
946279541	001	IBEW LOCAL 595 PENSION PLAN	PLEASANTON	CA	238210	12/31/15	367.8	2,823	N
946442909	001	IBEW LOCAL 684 PENSION TRUST	PLEASANTON	CA	238210	3/31/16	46.8	610	N
946118939	001	LOUE STATIONARY ENGINEERS LOCAL 39 PENSION FUND	PLEASANTON	CA	561210	12/31/15	1,013.8	9,319	N
946082956	001	PIPE TRADES DISTRICT COUNCIL NO 36 PENSION TRUST	PLEASANTON	CA	238220	12/31/15	185.9	2,591	N
946281960	001	SAN FRANCISCO BRICKLAYERS LOCAL NO 7 PENSION PLAN	PLEASANTON	CA	525100	12/31/15	31.8	577	E
946284890	001	SIGN PICTORIAL & DISPLAY INDUSTRY PENSION PLAN	PLEASANTON	CA	238900	4/30/16	110.7	1,264	N
516077569	001	UTAH PIPE TRADES PENSION TRUST FUND	PLEASANTON	CA	238220	12/31/15	172.5	2,155	N
510155190	001	W STATES INSULATORS & ALLIED WRRKS PENSION FUND	PLEASANTON	CA	238900	12/31/15	304.6	4,300	N
710872161	001	TILE SETTERS AND FINISHERS OF NO CA PENSION PLAN	SACRAMENTO	CA	238300	7/31/16	6.7	202	N
946286669	001	U.A. LOCAL NO 447 PENSION FUND	SACRAMENTO	CA	238220	6/30/16	149.4	1,734	N
956267660	001	SAN DIEGO COUNTY CEMENT MASONS PENSION PLAN	SAN DIEGO	CA	238100	6/30/16	32.3	979	E

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "S" = seriously endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	STATE	CITY	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
956101801	001	SANDIEGO ELECTRICAL PENSION PLAN	CA	SANDIEGO	541310	9/30/15	286.5	6,970	N
95607347	001	SANDIEGO PLASTERERS PENSION TRUST	CA	SANDIEGO	236200	11/30/15	9.7	264	N/A
946062674	001	NORTHERN CALIFORNIA ELECTRICAL WORKERS PENSION TRUST	CA	SAN FRANCISCO	238210	12/31/15	488.3	3,025	N
941236319	001	U.A. LOCAL 38 DEFINED BENEFIT PENSION PLAN	CA	SAN FRANCISCO	238220	6/30/16	227.3	2,547	E
956209008	001	CENTRAL CALIFORNIA IBEW-NECA PENSION TRUST FUND	CA	SAN JOSE	238210	6/30/16	107.9	1,017	N
947268032	004	IBEW 332 PENSION PLAN - PART A	CA	SAN JOSE	238210	12/31/15	475.0	3,826	N
946271441	001	LATHERS LOCAL 88 PENSION PLAN	CA	SAN JOSE	238100	12/31/15	13.8	253	N
942584061	001	SHASTA-BUTTE ELECTRICAL WORKERS PENSION PLAN	CA	SAN JOSE	238210	12/31/15	9.5	140	N
946359772	002	U.A. LOCAL 993 PENSION TRUST FUND- DEFINED BENEFIT	CA	SAN JOSE	238220	12/31/15	369.4	3,448	N
942353807	005	U.A. LOCAL 467 DEFINED BENEFIT PLAN	CA	SAN JOSE	238220	12/31/15	357.4	1,621	N
946272731	001	MARINE CARPENTERS PENSION FUND	CA	SAN RAMON	238900	3/31/16	66.0	1,345	C
516115939	001	SHEET METAL WORKERS PENSION PLAN OF NORTHERN CALIFORNIA	CA	SAN RAMON	238900	12/31/15	980.2	11,712	C
9462620673	001	SOLANO-NAPA COUNTIES ELECTRICAL WORKERS PENSION PLAN	CA	SAN RAMON	238210	1/31/16	107.5	751	N
946092775	001	U.A. LOCAL NO 343 DEFINED BENEFIT PLAN	CA	VALLEJO	238220	12/31/15	89.7	555	N
956093333	001	BRICK MASONS PENSION TRUST FUND	CA	WEST COVINA	238100	4/30/16	130.2	2,248	N
953826843	001	LOCAL UNION 1710 I B E W PENSION TRUST FUND	CA	WEST COVINA	238210	6/30/16	19.1	2,042	N
846052909	001	CENTENNIAL STATE CARPENTERS PENSION TRUST FUND	CO	ARVADA	525100	12/31/15	126.3	4,091	N
846095094	001	IRON WORKERS PENSION TRUST FUND FOR COLORADO	CO	ARVADA	525100	3/31/16	44.2	1,554	C
846100393	001	COLORADO CEMENT MASONS PENSION TRUST FUND	CO	AURORA	525100	12/31/15	7.2	220	C
866010393	001	EIGHTH DISTRICT ELECTRICAL PENSION FUND	CO	AURORA	525100	3/31/16	775.1	15,873	N
866025734	001	ARIZONA PIPE TRADES PENSION PLAN	CO	DENVER	238220	5/31/16	307.9	3,537	N
236289069	001	ROOFERS LOCAL 30 COMBINED PENSION PLAN	CO	DENVER	525100	12/31/15	101.9	2,336	C
840783596	001	SHEET METAL WORKERS LOCAL UNION NO 9 PENSION PLA	CO	LAKEWOOD	525100	12/31/15	131.8	1,946	N
066061612	001	ROOFERS LOCAL NO 9 PENSION PLAN	CT	EAST HARTFORD	238100	12/31/15	52.6	479	N
060738583	001	CONNECTICUT CARPENTERS PENSION FUND	CT	HAMDEN	238200	3/31/16	407.4	7,882	N
060733831	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL UNION NO 478 A-C-D-E PENSION PLAN	CT	HAMDEN	525100	12/31/15	433.4	4,832	N
066157819	001	IRON WORKERS LOCALS NO 15 & 424 PENSION PLAN	CT	MERIDEN	238900	6/30/16	63.3	1,573	C
066157817	001	SHEET METAL WORKERS LOCAL NO 40 PENSION FUND	CT	MERIDEN	525100	12/31/15	43.5	1,092	C
516079700	001	CENTRAL NEW YORK PAINTERS & ALLIED TRADES DEFINED BENEFIT PENSION PLAN	CT	WALLINGFORD	238300	6/30/16	7.1	477	C
066072030	001	I B E W LOCAL UNION NO 90 PENSION FUND	CT	WALLINGFORD	238210	6/30/16	25.9	317	C
042314259	001	IBEW LOCAL NO 7 PENSION PLAN	CT	WALLINGFORD	238210	12/31/15	60.2	1,055	C
056049538	001	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL UNION NO 99 RETIREMENT PLAN	CT	WALLINGFORD	238210	5/31/16	34.1	938	N
165147774	001	LABORERS INTL UNION OF NA LOCAL 35 PENSION FUND	CT	WALLINGFORD	238900	12/31/15	22.5	433	E
146048883	001	LABORERS UNION PENSION FUND LOCAL NO 186	CT	WALLINGFORD	813930	12/31/15	8.2	408	D
066152969	001	N E C A - I B E W LOCAL UNION NO 35 PENSION FUND	CT	WALLINGFORD	238210	4/30/16	51.9	918	N
046295080	001	PENSION FUND LOCAL 96 - IBEW	CT	WALLINGFORD	238210	6/30/16	40.0	740	E
516029575	001	PLUMBERS AND STEAMFITTERS LOC 131 PENSION PLAN	CT	WALLINGFORD	238220	10/31/15	19.5	606	C
516029579	001	SHEET METAL WORKERS INTL LOCAL 17NH PENSION PLAN	CT	WALLINGFORD	238900	12/31/15	16.6	342	N
06095878	001	SOUTHERN CT IBEW PENSION PLAN	CT	WALLINGFORD	238210	12/31/15	40.8	954	E
046069434	001	WORCESTER PLUMBERS & PIPEFITTERS UNION LOCAL NO 4 PENSION PLAN	CT	WALLINGFORD	813930	12/31/14	35.2	525	N
066044348	001	CONNECTICUT LABORERS PENSION PLAN	CT	WEST HAVEN	237990	3/31/16	424.0	6,905	N
066050353	001	CONNECTICUT PLUMBERS & PIPEFITTERS PENSION FUND	CT	WETHERSFIELD	238220	3/31/16	204.8	3,254	N
472695752	001	BAC - SALARIED EMPLOYEES PENSION PLAN	DC	WASHINGTON	813930	12/31/15	116.6	551	N
526127746	001	BRICKLAYERS & TROWEL TRADES INTERNATIONAL PENSION FUND	DC	WASHINGTON	238100	12/31/15	1,366.4	75,504	E
366052390	001	CENTRAL PENSION FUND OF THE LUDE & PARTICIPATING EMPLOYERS	DC	WASHINGTON	525990	1/31/16	13,948.4	233,857	N
526128563	002	INTERNATIONAL ASSOCIATION FULL-TIME SALARIED OFFICERS AND EMPLOYEES OF OUTSIDE LOCAL UNIONS AND DISTRICT COUNCILS PENSION PLAN	DC	WASHINGTON	813930	12/31/15	271.6	2,152	N
300853485	002	IUBAC - LOCAL UNION OFFICERS & EMPLOYEES PENSION PLAN	DC	WASHINGTON	813930	12/31/15	105.7	1,222	N
526074345	001	IUNA NATIONAL (INDUSTRIAL) PENSION FUND	DC	WASHINGTON	238900	12/31/15	1,004.7	60,759	C
526123575	001	IUNA STAFF AND AFFILIATES PENSION FUND	DC	WASHINGTON	813930	12/31/15	1,182.2	10,143	N
526122274	001	NATIONAL SHOPMEN PENSION FUND	DC	WASHINGTON	238900	6/30/16	422.5	13,275	N
526124299	001	THE GENERAL PENSION PLAN OF THE INTERNATIONAL UNION OF OPERATING ENGINEERS	DC	WASHINGTON	813930	12/31/15	805.8	5,882	N
516019120	001	B.A.C. LOCAL 1 - DE/PA PENSION TRUST	DE	WILMINGTON	813930	3/31/16	21.4	800	N
516024937	001	LABORERS LOCAL UNION #199 PENSION FUND	DE	WILMINGTON	525100	4/30/16	40.5	804	N
516025969	001	NECA LOCAL UNION NO 313 IBEW PENSION PLAN	DE	WILMINGTON	238210	12/31/15	144.1	1,281	N
516015925	001	PLUMBERS & PIPEFITTERS LOCAL UNION NO 74 PENSION FUND	DE	WILMINGTON	525100	12/31/15	119.2	1,165	E
526123548	001	WOOD WIRE AND METAL LATHING IND GENERAL PENSION PLAN & GENERAL PENSION FUND	DE	WILMINGTON	238900	12/31/15	7.1	1,507	N/A
586088292	001	JOURNEMEN & APPRENT 188 PENSION FUND	FL	JACKSONVILLE	238220	6/30/16	54.8	633	N
594865224	001	PLUMBERS & FITTERS LOCAL UNION 295 PENSION FUND	FL	JACKSONVILLE	238220	12/31/15	27.6	503	N
594161424	001	PLUMBERS & PIPEFITTERS LOCAL 123 PENSION PLAN	FL	JACKSONVILLE	238220	12/31/15	38.0	1,162	E
59628172	001	PLUMBERS AND PIPEFITTERS LOCAL UNION NO 803 PENSION FUND	FL	JACKSONVILLE	238220	7/31/16	30.5	825	N
596123621	001	ACCA LOCAL 725 PENSION FUND OF DADE BROWARD & MONROE COUNTIES	FL	0	12/31/15	134.9	1,837	N	
581233396	001	ATLANTA PLUMBERS & STEAMFITTERS PENSION FUND	FL	PEMBROKE PINES	238220	12/31/15	278.0	3,753	N
596510428	001	I B E W LOCAL NO 728 PENSION FUND	FL	PEMBROKE PINES	238210	12/31/15	49.6	1,290	N
596514537	001	INTERNATIONAL ASSOCIATION OF HEAT & FROST INS ASBESTOS WORKERS LOCAL UNION 60 PENSION FUND	FL	PEMBROKE PINES	238900	11/30/15	40.5	358	N
594866074	015	MIAMI IRONWORKERS LOCAL #272 PENSION TRUST FUND	FL	PEMBROKE PINES	236200	9/30/15	52.0	1,360	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "S" = seriously endangered status; "I" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
596165026	001	PENSION PLAN OF THE PLUMBERS & PIPEFITTERS LOCAL UNION NO 630 PENSION - ANNUITY TRUST FUND	PEMBROKE PINES	FL	238220	12/31/15	91.0	1,595	N
596152610	001	PENSION PLAN OF THE SHEET METAL WORKERS LU NO 32 PENSION TRUST FUND	PEMBROKE PINES	FL	525100	6/30/16	45.5	705	N
596178477	001	PLUMBERS & PIPEFITTERS LOCAL UNION 719 PENSION FUND	PEMBROKE PINES	FL	525100	12/31/15	60.3	743	N
570524232	001	PLUMBERS & PIPEFITTERS LU421 PENSION FUND TRUST	PEMBROKE PINES	FL	235110	8/31/16	46.5	846	N
596024083	001	PLUMBERS LOCAL UNION NO 519 PENSION FUND	PEMBROKE PINES	FL	238220	4/30/16	40.8	1,029	N
526117928	001	ALLIED WORKERS LOCAL 48 PENSION PLAN	TUCKER	GA	238300	6/30/16	19.9	708	C
576041658	068	GREENVILLE PLUMB & STEAMFITTERS PENSION RET FUND	TUCKER	GA	238900	6/30/16	19.0	570	N
581254974	001	I B E W LOCAL 1579 PENSION PLAN	TUCKER	GA	238210	9/30/15	100.6	1,213	N
996005991	002	HAWAII ELECTRICIANS PENSION PLAN	HONOLULU	HI	338210	9/30/15	178.2	3,019	N
990745070	001	HAWAII GLAZIERS PENSION TRUST FUND	HONOLULU	HI	327210	12/31/15	34.8	456	N
990206924	002	HAWAII INSULATORS SUPPLEMENTAL PENSION PLAN	HONOLULU	HI	238900	8/31/15	13.7	189	N
996025107	001	HAWAII LABORERS PENSION PLAN	HONOLULU	HI	525100	2/29/16	258.5	5,941	N
996009479	001	HAWAII SHEET METAL WORKERS PENSION FUND	HONOLULU	HI	238220	1/31/16	205.8	983	N
996012128	001	MASON'S PENSION PLAN	HONOLULU	HI	238100	2/29/16	158.8	2,386	N
996024083	001	PAMCAHUA LOCAL 67.5 PENSION PLAN	HONOLULU	HI	238220	7/31/16	388.0	2,998	N
990208117	001	ROOFERS LOCAL 221 PENSION TRUST FUND	HONOLULU	HI	238900	12/31/15	21.4	537	N
996025109	001	HAWAII REINFORCING IRON WORKERS PENSION PLAN	WAIPIAHU	HI	238100	9/30/15	51.5	749	N
996025105	001	HAWAII STRUCTURAL IRON WORKERS PENSION PLAN	WAIPIAHU	HI	238900	3/31/16	45.4	566	N
366066902	002	CENTRAL IOWA CARPENTERS PENSION PLAN	DES MOINES	IA	525100	12/31/15	117.6	1,927	N
426242674	001	DES MOINES IRON WORKERS PENSION TRUST	DES MOINES	IA	525100	11/30/15	44.8	594	N
362967835	001	IOWA CARPENTERS HEAVY HIGHWAY/TEAMSTERS JT COUNCIL #45 PENSION PLAN	DES MOINES	IA	236200	12/31/15	14.9	306	N
421165917	001	IOWA IRON WORKERS HEAVY HIGHWAY PENSION PLAN	DES MOINES	IA	236200	9/30/15	41.0	449	E
424086687	001	PENSION PLAN OF THE PLUMBERS AND STEAMFITTERS LOCAL UNION NO 33 RETIREMENT TRUST	DES MOINES	IA	238220	12/31/15	150.6	1,619	E
366491120	001	PAINTERS DISTRICT COUNCIL NO 30 PENSION FUND	AURORA	IL	238300	3/31/16	254.9	2,982	N
376025801	001	PLUMBERS & FITTERS LOCAL 101 RESTATED PENSION PLAN	BELLEVEILLE	IL	238220	9/30/15	39.5	357	N
516034597	001	PENSION FUND OF CEMENT MASON'S UNION LOCAL NO 502	BELLWOOD	IL	525100	12/31/15	287.4	3,087	N
366513565	001	LOCAL NO 731 EXCAVATORS AND PAVERS PENSION TRUST FUND	BURR RIDGE	IL	237310	12/31/15	117.8	1,655	E
366168611	001	SHEET METAL WORKERS LOCAL 265 PENSION FUND	CAROL STREAM	IL	525100	6/30/16	333.4	2,912	N
370557803	001	SHEET METAL WORKERS INTERNL ASS LOC UN NO 268 PEN TRD PLAN	CASEVILLE	IL	238220	5/31/16	33.4	812	N
371186815	001	STEAMFITTERS LOCAL 439 PENSION PLAN	CASEVILLE	IL	238220	12/31/15	30.3	256	N
366328963	001	PLUMBERS & PIPEFITTERS LOCAL 653 PENSION FUND	CENTRALIA	IL	238220	12/31/15	8.7	167	N
362672681	001	CARPENTERS LOCAL #496 PENSION PLAN	CHICAGO	IL	813930	5/31/16	36.4	283	E
366130207	001	CHICAGO REGIONAL COUNCIL OF CARPENTERS PENSION FUND	CHICAGO	IL	237990	6/30/16	2,980.0	33,515	N
516030753	002	ELECTRICAL CONTRACTORS ASSOC OF THE CITY OF CHGO LOCAL UNION 134 IBEW JOINT PENSION TRUST OF CHGO PENSION PLAN #2	CHICAGO	IL	238210	6/30/16	1,442.5	19,072	N
366493093	001	PENSION FUND - TECHNICAL ENGINEERING DIVISION LOCAL UNION 130 U A AFL-CIO	CHICAGO	IL	525100	5/31/16	68.4	540	N
621610504	001	PIPE FITTERS RETIREMENT FUND LOCAL 597	CHICAGO	IL	238220	12/31/15	1,779.0	13,892	N
366489579	001	PLUMBERS PENSION FUND LOCAL 130 U A	CHICAGO	IL	525100	5/31/16	925.4	9,369	N
366511016	001	PLUMBING & HEATING WHOLESALERS RETIREMENT INCOME PLAN FOR THE BENEFIT OF SHOPMENS DIVISION OF PIPE FITTERS ASSOCIATION LOCAL 597	CHICAGO	IL	525100	12/31/15	12.4	532	N
371186588	001	PLUMBERS LOCAL 360 PENSION PLAN	COLLINSVILLE	IL	238220	12/31/15	18.2	229	N
366740097	001	MIDWEST OPERATING ENGINEERS PENSION TRUST FUND	COUNTRYSIDE	IL	525100	3/31/16	3,404.8	28,603	E
366748408	001	IBEW LOCAL NO 117 PENSION FUND	CRYSTAL LAKE	IL	238210	12/31/15	164.5	747	N
516029903	001	NECA-IBEW PENSION TRUST FUND	DECATUR	IL	238210	5/31/16	999.3	10,444	N
366489598	001	ROOFERS PENSION FUND	DES PLAINES	IL	238100	12/31/15	257.7	3,644	N
376052808	001	PLUMBERS AND PIPEFITTERS LOCAL UNION 553 PENSION PLAN	EAST ALTON	IL	238220	12/31/15	42.4	396	N
436130272	001	SOUTHERN ILLINOIS BRICKLAYERS PENSION FUND	EAST ALTON	IL	525100	6/30/16	17.1	446	N
366174709	001	FOX VALLEY AND VICINITY LABORERS PENSION FUND	ELGIN	IL	525100	5/31/16	359.3	4,937	N
366489098	001	BRICKLAYERS LOCAL 21 PENSION FUND	ELMHURST	IL	813930	5/31/16	330.6	5,931	N
366033202	001	CHICAGO TILE INSTITUTE PENSION FUND	ELMHURST	IL	525100	12/31/15	76.7	1,387	N
366121663	001	TUCKPOINTERS LOCAL 52 PENSION PLAN	ELMHURST	IL	238100	4/30/16	207.9	1,918	N
362872442	001	STRUCTURAL IW LOCAL #1 PENSION PLAN	FOREST PARK	IL	237990	12/31/15	396.5	3,410	N
366174796	001	CARPENTERS PENSION FUND OF ILLINOIS	GENEVA	IL	525100	12/31/15	1,741.2	17,900	N
516162621	001	SHEET METAL WORKERS LOCAL 73 PENSION FUND	HILLSIDE	IL	238100	6/30/16	464.2	5,716	N
376052379	001	CENTRAL LABORERS PENSION FUND	JACKSONVILLE	IL	237310	12/31/15	905.2	16,473	C
362515854	001	WILL COUNTY LOCAL 174 CARPENTERS PENSION FUND	JOLIET	IL	525100	5/31/16	290.2	2,253	E
366488227	001	IRON WORKERS MID-AMERICA PENSION PLAN	LANSING	IL	237990	12/31/15	607.5	10,182	N
366034076	001	GLAZIERS UNION LOCAL NO 27 PENSION & RETIREMENT PLAN	LYONS	IL	238100	5/31/16	92.4	926	N
516030238	001	CHICAGO PAINTERS AND DECORATORS PENSION FUND	MOKENA	IL	238300	3/31/16	710.5	6,405	N
426094616	001	LOCAL 81 INTL ASSOC OF HEAT & FROST INSULATORS & ALLIED WORKERS PENSION PLAN	MOLINE	IL	238900	4/30/16	20.5	247	N
366492101	001	NECA LOCAL 145 IBEW PENSION PLAN	MOLINE	IL	238210	8/31/15	136.0	1,342	N
386233975	001	IRONWORKERS 340 RETIREMENT PLAN	OAK BROOK	IL	238100	12/31/15	34.0	994	D
366446355	001	MACHINERY MOVERS RIGGERS & MACHI ERECT LOCAL 136 SUPPLEMENTAL RETIREMENT PLAN	OAK BROOK	IL	525100	6/30/16	32.2	401	E
376040563	001	LABORERS LOCAL 231 PENSION PLAN	PEKIN	IL	237310	12/31/15	66.5	1,078	N
370557425	001	OPERATIVE PLASTERERS & CEMENT MASONS INTERNATIONAL ASSOCIATION LOCAL 12 PENSION FUND	PEORIA	IL	237310	12/31/15	17.2	392	N
376059341	001	PEORIA CHAPTER OF BRICKLAYERS LOCAL NO 6 PENSION PLAN AND TRUST	PEORIA	IL	813900	11/30/15	20.4	477	N
516119432	001	LOCAL 99 PENSION PLAN	ROCK ISLAND	IL	238220	12/31/15	42.2	374	N
366129958	001	PLUMBERS & PIPEFITTERS LOCAL NO 25 PENSION FUND	ROCK ISLAND	IL	238220	3/31/16	258.8	1,833	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "S" = seriously endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
376123990	001	ROCKFORD PIPE TRADES INDUSTRY PENSION FUND	ROCKFORD	IL	238220	3/31/16	132.8	892	N
366147407	001	FOX VALLEY & VICINITY CONSTRUCTION WORKERS PENSION FUND	SCHAUMBURG	IL	525100	5/31/16	138.4	2,590	N
366136791	001	PLUMBERS & STEAMFITTERS LOCAL 137 PENSION FUND	SPRINGFIELD	IL	238220	3/31/16	125.7	1,197	N
370603480	001	SHEET METAL WORKERS LOCAL 2185 PENSION PLAN	SPRINGFIELD	IL	525100	7/31/16	35.3	370	N/A
376053929	001	EMPLOYERS & OPERATING ENGINEERS LOCAL 520 PENSION FUND	SWANSEA	IL	525100	12/31/15	185.8	1,830	N
516032390	001	INTERNATIONAL ASSOC OF HEAT AND FROST INSULATORS LOCAL 17 PENSION FUND	TINLEY PARK	IL	238220	12/31/15	217.8	1,812	N
366455509	001	IBEW LOCAL 701 PENSION FUND	WARRENVILLE	IL	525100	5/31/16	281.1	2,685	E
36254514	002	LABORERS PENSION FUND	WESTCHESTER	IL	237990	5/31/16	2,680.3	28,336	N
516077720	001	LOCAL UNION NO 91 B E W AND OUTSIDE CONTRACTORS PENSION FUND	WESTCHESTER	IL	238210	10/31/15	164.3	1,649	N/A
516132690	001	PLUMBERS & STEAMFITTERS LOCAL 166 AFL-CIO PENSION	FORT WAYNE	IN	238220	5/31/16	45.1	1,030	N
376078600	001	EAST CENTRAL ILLINOIS PIPE TRADES PENSION FUND	INDIANAPOLIS	IN	525100	7/31/16	54.4	847	N
356057648	001	INDIANA CARPENTERS PENSION FUND	INDIANAPOLIS	IN	813930	12/31/15	407.5	6,644	N
351102579	001	INDIANA ELECTRICAL WORKERS PENSION PLAN	INDIANAPOLIS	IN	238100	6/30/16	240.0	3,034	N
356060378	001	INDIANA STATE COUNCIL OF CARPENTERS PENSION FUND	INDIANAPOLIS	IN	525100	3/31/16	414.1	7,301	C
516123713	001	NORTHWEST INDIANA REGIONAL COUNCIL OF CARPENTERS PENSION TRUST FUND	INDIANAPOLIS	IN	238100	6/30/16	980.9	14,364	N
311010072	001	ROOFERS LOCAL NO 75 PENSION FUND	INDIANAPOLIS	IN	238100	5/31/16	9.3	303	C
316127876	001	ROOFERS LOCAL NO 86 PENSION FUND	INDIANAPOLIS	IN	238100	4/30/16	8.7	237	N
510168516	001	SHEET METAL WORKERS LOCAL NO 20 INDIANAPOLIS AREA PENSION FUND	INDIANAPOLIS	IN	813930	12/31/15	123.3	1,788	N
376118084	001	U A PLUMBERS 69 AND STEAMFITTERS 353 JOINT PENSION TRUST FUND	INDIANAPOLIS	IN	0	4/30/16	123.6	1,226	N
356068417	001	IBEW LOCAL 531 & NECA PENSION PLAN	LAPORTE	IN	525100	11/30/15	64.6	728	N
516113680	001	BRICKLAYERS UNION LOCAL NO 6 OF INDIANA PENSION FUND	MERRILLVILLE	IN	238900	6/30/16	64.6	746	N
356296477	001	CEMENT MASONS PENSION FUND OF LOCAL NO 165	MERRILLVILLE	IN	238100	12/31/15	25.4	177	N
356030666	001	CONSTRUCTION WORKERS PENSION TRUST FUND - LAKE COUNTY AND VICINITY PENSION PLAN	MERRILLVILLE	IN	237990	5/31/16	368.6	4,721	N
34668355	001	GLAZIERS LOCAL 1162 PENSION FUND	MERRILLVILLE	IN	238100	4/30/16	9.1	188	N
516133048	001	LOCAL 6971 B E W AND ELECTRICAL INDUSTRY PENSION PLAN	MERRILLVILLE	IN	238210	12/31/15	156.1	1,628	N
316126988	001	OHIO LOCAL NO 1 OPERATIVE PLASTERERS AND CEMENT MASONS PENSION FUND	MERRILLVILLE	IN	237310	4/30/16	15.2	368	N
356212986	001	PLUMBERS & PIPEFITTERS LOCAL 172 PENSION FUND	MERRILLVILLE	IN	238220	2/29/16	76.5	963	E
346615364	001	ROOFERS LOCAL NO 88 PENSION FUND	MERRILLVILLE	IN	238100	4/30/16	27.2	432	C
356052713	001	SHEET METAL WORKERS LOCAL NO 20 GARY AREA PENSION PLAN	MERRILLVILLE	IN	238220	12/31/15	56.4	943	N
356054275	001	SHEET METAL WORKERS LOCAL 20 SOUTH BEND AREA PENSION PLAN	SOUTH BEND	IN	332900	6/30/16	18.9	489	C
356027150	001	INDIANA LABORERS PENSION FUND	TERRE HAUTE	IN	236200	5/31/16	944.5	35,089	E
486168020	001	INDIANA LABORERS PENSION FUND	TERRE HAUTE	IN	238900	12/31/15	2,224.8	91,035	E
436102453	001	BOILERMAKER-BLACKSMITH NATIONAL PENSION TRUST	KANSAS CITY	KS	238100	12/31/15	85.9	1,735	N
436000737	001	BAC LOCAL UNION 15 PENSION FUND	OVERLAND PARK	KS	238100	3/31/16	17.35	640	N
436000737	001	CONSTRUCTION INDUSTRY LABORERS PENSION FUND	OVERLAND PARK	KS	237990	12/31/15	681.4	12,655	N
436141953	001	GREATER KANSAS CITY LABORERS PENSION PLAN	OVERLAND PARK	KS	525100	10/31/15	236.2	3,748	N
436098247	001	KANSAS CITY CEMENT MASONS PENSION FUND	OVERLAND PARK	KS	238900	7/31/16	59.9	946	N
486171386	001	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL UNION NO 226 OPEN END PENSION FUND	TOPEKA	KS	238210	12/31/15	64.7	1,071	N
486171387	001	KANSAS CONSTRUCTION TRADES OPEN END PENSION TRUST FUND	TOPEKA	KS	238900	12/31/15	141.2	8,143	C
486178607	001	LOCAL 441 PLUMBERS & PIPEFITTERS RETIREMENT PLAN	WICHITA	KS	238220	3/31/16	36.0	1,104	N
311017514	001	PLUMBERS & STEAMFITTERS LOCAL 248 PENSION TRUST PLAN	LEXINGTON	KY	238220	3/31/16	47.6	640	N
316134953	001	PLUMBERS & STEAMFITTERS LOCAL 577 PENSION PLAN	LEXINGTON	KY	238220	8/31/15	65.2	953	C
616037176	001	PLUMBERS & STEAMFITTERS LOCAL NO 452 PENSION TRUST FUND	LEXINGTON	KY	238220	6/30/16	37.8	605	E
550549322	001	UNITED STEELWORKERS LOCAL 14614 PENSION TRUST FUND	LEXINGTON	KY	237310	12/31/15	41.2	1,726	N
610915309	001	UNITED STEELWORKERS OF AMERICA AFL-CIO-CLC HIGHWAY CONTRACTORS MULTI-EMPLOYER PENSION PLAN	LEXINGTON	KY	237990	8/31/15	92.7	1,525	N
720562245	001	BATON ROUGE SHEET METAL WORKERS PENSION FUND	BATON ROUGE	LA	339900	12/31/15	37.8	660	N
720562245	001	ELECTRICIANS PENSION PLAN B E W 995	BATON ROUGE	LA	525100	9/30/15	55.6	1,300	C
510163535	001	LOUISIANA CARPENTERS PENSION FUND	BATON ROUGE	LA	813900	12/31/15	37.1	1,486	C
720524254	001	UNITED ASSOCIATION OF JOURNEYMEN & APPRENTICES LOCAL 198 AFL-CIO PENSION FUND	BATON ROUGE	LA	238220	8/31/15	220.0	4,081	C
720524254	001	ASBESTOS WORKERS LOCAL 53 PENSION PLAN	KENNER	LA	525100	12/31/15	44.8	674	N
720626673	001	INSULATORS LOCAL 112 PENSION TRUST FUND	LAKE CHARLES	LA	238900	6/30/16	1.7	305	C
720576303	001	LOCAL UNION NO 861 IBEW AFL-CIO PENSION AND RETIREMENT PLAN	LAKE CHARLES	LA	525100	12/31/15	37.0	1,013	E
721489654	001	LOUISIANA MISSISSIPPI CARPENTERS REGIONAL COUNCIL PENSION TRUST	LAKE CHARLES	LA	525100	5/31/16	87.0	2,216	N
720625640	001	PLUMBERS AND STEAMFITTERS LOCAL 60 PENSION FUND	METAIRIE	LA	238220	6/30/16	66.0	2,152	N
720656132	001	WESTERN LOUISIANA CARPENTERS PENSION FUND	METAIRIE	LA	813930	3/31/16	24.9	809	E
720692179	001	BOARD OF TRUSTEES IRON WORKERS MID-SOUTH PENSION TRUST	METAIRIE	LA	525920	11/30/15	121.7	3,618	C
516030859	001	PIPEFITTERS LOCAL NO 537 PENSION FUND	ALLSTON	MA	238220	2/29/16	492.9	3,130	N
516135057	001	ASBESTOS WORKERS LOCAL 6 PENSION FUND	BOSTON	MA	561790	12/31/15	102.5	1,006	N
046127786	001	BOSTON PLASTERERS & CEMENT MASONS UNION LOCAL 534 PENSION FUND	BOSTON	MA	525100	3/31/16	21.5	474	E
046063734	001	ELECTRICAL WORKERS PENSION PLAN LOCAL 103 I B E W	BOSTON	MA	525100	10/31/15	905.4	7,992	N
046128039	001	MASSACHUSETTS BRICKLAYERS & MASONS PENSION PLAN	BOSTON	MA	525100	3/31/16	268.6	4,348	E
046023174	001	PLUMBERS UNION LOCAL NO 12 PENSION	BOSTON	MA	236110	8/31/15	195.9	2,076	N
046128298	001	PLUMBERS LOCAL NO 104 PENSION FUND	BURLINGTON	MA	238900	12/31/15	1,261.5	19,022	N
042746381	001	PLUMBERS & PIPEFITTERS LOCAL 104 PENSION PLAN	CHICOPEE	MA	525100	12/31/15	71.7	748	N
042316465	001	ROOFERS AND SLATERS LOCAL UNION NO 248 PENSION PLAN	CHICOPEE	MA	813930	5/31/16	5.8	218	C
042591016	001	IRON WORKERS DISTRICT COUNCIL OF NEW ENGLAND PENSION FUND	DORCHESTER	MA	561110	12/31/15	371.0	4,403	E
200845880	001	SHEET METAL WORKERS LOCAL UNION NO 17 SUPPLEMENTAL PENSION PLAN	DORCHESTER	MA	561110	12/31/15	40.1	1,467	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "S" = seriously endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
046127765	001	LUKE LOCAL 98 PENSION PLAN	EAST LONGMEADOW	MA	525100	12/31/15	118.5	1,698	N
046013863	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 4 PENSION FUND	MEDWAY	MA	813930	12/31/15	608.3	5,921	N
046043807	001	PAINTERS AND ALLIED TRADES DISTRICT COUNCIL NO 35 PENSION FUND	ROSLINDALE	MA	238300	6/30/16	376.0	4,223	N
042228135	001	ROOFERS UNION LOCAL NO 33 PENSION FUND	STOUGHTON	MA	238900	12/31/15	67.7	857	N
042780301	005	BEV LOCAL 223 PENSION PLAN	TAUNTON	MA	238210	12/31/15	27.2	681	C
042776873	001	NEW ENGLAND CARPENTERS GUARANTEE ANNUITY FUND	WILMINGTON	MA	236200	12/31/15	1,986.9	23,520	N
516040899	001	NEW ENGLAND CARPENTERS PENSION FUND	WILMINGTON	MA	236200	12/31/15	1,464.5	17,891	E
52178032	333	UNITED ASSN FULL-TIME SAL OFF & EMP OF LOCL UNIONS COLUNCLS ST & PROV PEN PLAN	ANNAPOLIS	MD	525100	12/31/15	752.9	5,087	N
52132634	001	UNITED ASSOCIATION GENERAL OFFICERS AND EMPLOYEES PENSION FUND	ANNAPOLIS	MD	525100	12/31/15	332.3	360	N
521058013	001	HEATING PIPING & REFRIGERATION PENSION FUND	BALTIMORE	MD	238220	8/31/15	576.4	4,878	N
521057284	001	MARYLAND ELECTRICAL INDUSTRY PENSION PLAN	BALTIMORE	MD	238210	12/31/15	190.6	3,314	N
526128064	001	OPERATING ENGINEERS LOCAL NO 37 PENSION FUND	BALTIMORE	MD	237310	12/31/15	89.9	2,096	N
526117923	001	ASBESTOS WORKERS L24 PEN FED DEF BENEFIT PLAN	COLUMBIA	MD	238900	6/30/16	61.2	856	C
516011235	001	ASBESTOS WORKERS LOCAL 42 PENSION FUND	COLUMBIA	MD	813930	12/31/15	32.9	302	S
591086811	001	INTL ASSC OF HEAT & EST INSL & ALID WKRS 13 PENS	COLUMBIA	MD	525100	12/31/15	12.5	125	N
520789130	001	LABORERS DISTRICT COUNCIL PENSION AND DISABILITY TRUST FUND NO 2	COLUMBIA	MD	236900	12/31/15	104.4	4,657	S
526135360	001	LABORERS DISTRICT COUNCIL PENSION FUND FOR BALTIMORE AND VICINITY	COLUMBIA	MD	236900	12/31/15	73.1	1,624	N
526038497	001	NATIONAL ASBESTOS WORKERS PENSION FUND	COLUMBIA	MD	238900	6/30/16	468.0	6,382	C
526033899	001	PRINTING LOCAL 72 INDUSTRY PENSION PLAN	COLUMBIA	MD	323100	2/28/16	16.9	892	D
526117940	001	STONE AND MARBLE MASONS OF METROPOLITAN WASHINGTON D C PENSION FUND	COLUMBIA	MD	236200	6/30/16	51.5	448	N
526134655	001	WASHINGTON DC CEMENT MASONS PENSION TRUST FUND	COLUMBIA	MD	236200	12/31/15	27.2	628	N
526061646	001	CUMBERLAND MD & VICINITY BUILDING & CONSTRUCTION EMPLOYEES TRUST FUND	CUMBERLAND	MD	525100	4/30/16	34.7	497	N
320124306	002	IRONWORKERS 568 RETIREMENT PLAN	CUMBERLAND	MD	238900	12/31/15	4.8	124	N
526067609	001	IRONWORKERS LABORERS PENSION PLAN OF CUMBERLAND MD	CUMBERLAND	MD	238900	12/31/15	32.0	803	C
520580881	001	RETIREMENT PLAN OF THE PLUMBERS & STEAMFITTERS LOCAL NO 489	CUMBERLAND	MD	238220	4/30/16	17.1	204	N
526073909	001	INTERNATIONAL PAINTERS AND ALLIED TRADES INDUSTRY PENSION PLAN	HANOVER	MD	238300	12/31/15	21.6	112	E
530215881	002	NATIONAL AUTOMATIC SPRINKLER INDUSTRY FUND OFFICE EMPLOYEES PENSION PLAN	LANDOVER	MD	813000	12/31/15	2.16	112	N
526054620	001	NATIONAL AUTOMATIC SPRINKLER INDUSTRY PENSION FUND	LANDOVER	MD	238220	12/31/15	2,979.5	27,180	C
526133856	001	NATIONAL AUTOMATIC SPRINKLER METAL TRADES PENSION FUND	LANDOVER	MD	238220	12/31/15	12.8	1,134	N
526145348	002	OPERATIVE PLASTERERS & CEMENT MASONS OFFICERS & EMPLOYEES PENSION FUND	LANDOVER	MD	813930	12/31/15	58.5	989	C
526117919	001	ELECTRICAL WORKERS LOCAL NO 26 PENSION TRUST FUND	LANHAM	MD	238210	12/31/15	526.9	9,289	N
521075473	001	IRON WORKERS LOCAL NO 5 & IWEA EMPLOYEES PENSION TRUST FUND	OXON HILL	MD	238900	6/30/16	204.5	1,427	N
526117426	001	MARBLE TILE AND TERRAZZO WORKERS PENSION FUND	OXON HILL	MD	238900	12/31/15	21.7	871	N
526051388	001	MID-ATLANTIC REGIONAL COUNCIL OF CARPENTERS PENSION PLAN	OXON HILL	MD	238900	12/31/15	469.2	9,695	C
546124583	001	PENSION PLAN FOR BRICKLAYERS & STONEMASONS UNION #2 OF NORFOLK VIRGINIA	OXON HILL	MD	238900	4/30/16	11.3	362	D
546060633	001	RETIREMENT PLAN OF BRICKLAYERS LOCAL NO 1 OF RICH	OXON HILL	MD	238100	6/30/16	2.7	378	D
526112947	001	RODMAN LOCAL UNION 201 PENSION FUND	OXON HILL	MD	238900	6/30/16	41.6	780	N
530181657	001	NATIONAL ELECTRICAL BENEFIT FUND	ROCKVILLE	MD	238210	12/31/15	12,629.0	53,819	N
222835549	001	CARPENTERS LOCAL NO 491 PENSION PLAN	SPARKS	MD	813930	6/30/16	33.9	978	N
59231992	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL UNION 487 PENSION	SPARKS	MD	237990	3/31/15	58.8	1,426	N
526038506	001	OPERATING ENGINEERS PENSION TRUST FUND OF WASHINGTON D C AND VICINITY	SPARKS	MD	238220	12/31/15	162.2	2,570	N
526124449	001	PLUMBERS AND STEAMFITTERS LOCAL 486 PENSION FUND	SPARKS	MD	238220	12/31/15	196.0	2,798	N
526089265	001	WATERFRONT WAREHOUSES LOCAL NO 1429 PENSION FUND	SPARKS	MD	525100	12/31/15	6.1	92	N
520734390	001	BRICKLAYERS AND ALLED CRAFTSMEN LOCAL 1 OF MARYLAND PENSION PLAN	TOWSON	MD	525100	3/31/16	40.9	891	N/A
526148924	001	IRONWORKERS LOCAL #16 PENSION PLAN	TOWSON	MD	238900	12/31/15	81.3	1,128	D
386233896	001	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL UNION NO 252 PENSION PLAN	ANN ARBOR	MI	238210	5/31/16	115.6	1,204	N
386232187	001	CEMENT MASONS PENSION TRUST FUND - DETROIT AND VICINITY	BINGHAM FARMS	MI	238100	4/30/16	69.1	1,095	N
386193877	001	ROOFERS UNION LOCAL NO 211 PENSION PLAN	BINGHAM FARMS	MI	238100	5/31/16	0.1	31	N/A
516079899	001	SIGN PICTORIAL AND DISPLAY UNION LOCAL NO 591 AFL-CIO PENSION FUND	BINGHAM FARMS	MI	238900	4/30/16	15.2	296	N
386065579	001	UA LOCAL 190 PENSION PLAN	BINGHAM FARMS	MI	238220	5/31/16	157.8	2,665	N
616043094	001	BRICKLAYERS LOCAL NO 1 OF KY PENSION TRUST FUND	BINGHAM FARMS	MI	238900	12/31/15	15.4	830	C
386242301	001	FLINT PLUMB & PIPE PENSION FUND	LANSING	MI	238220	7/31/16	51.5	704	E
386095001	001	HEAT AND Frost INSULATORS AND ALLIED WORKERS LOCAL 47 RETIREMENT TRUST PLAN	LANSING	MI	238220	12/31/15	33.0	605	N
365140629	001	BEV LOCAL 150 PENSION FUND	LANSING	MI	238210	6/30/16	179.2	1,547	N
356289273	001	MICHIGANA AREA ELECTRICAL WORKERS PENSION FUND	LANSING	MI	238210	6/30/16	128.8	1,399	N
382889543	001	MICHIGAN BAC PENSION FUND	LANSING	MI	238100	4/30/16	113.5	2,718	E
386233977	001	MICHIGAN CARPENTERS PENSION FUND	LANSING	MI	238100	8/31/15	457.8	9,157	C
386233977	001	MICHIGAN ELECTRICAL EMPLOYEES PENSION PLAN	LANSING	MI	238210	12/31/15	331.0	4,405	N
386233976	001	MICHIGAN LABORERS PENSION PLAN	LANSING	MI	237310	8/31/15	729.5	22,452	E
386222545	001	OUTSTATE MICHIGAN TROWEL TRADES PENSION FUND	LANSING	MI	238100	12/31/15	57.4	1,709	N
386082383	001	PAINTERS UNION LOCAL 1052 PENSION	LANSING	MI	238900	4/30/16	15.7	265	N
386142222	001	PENSION PLAN OF THE INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL NO 445 PENSION FUND	LANSING	MI	238210	4/30/16	18.8	789	N
386166942	001	SHEET METAL WORKERS LOCAL UNION 7 ZONE 2 PENSION PLAN	LANSING	MI	238220	12/31/15	69.2	729	N
386233970	001	UPPER PENINSULA PLUMBERS & PIPEFITTERS PENSION PLAN	LANSING	MI	238220	6/30/16	57.1	814	E
381796240	001	WEST MI PLUMBERS FITTERS & SERVICE TRADES LOCAL UNION NO 174 PENSION PLAN	LANSING	MI	238220	6/30/16	137.3	1,362	E
386080404	001	ELECTRICAL WORKERS PENSION TRUST FUND OF LOCAL UNION NO 58 - BEW	MADISON HEIGHTS	MI	238210	12/31/15	587.0	7,951	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "S" = seriously endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
386238909	002	INTL BROTHERHOOD OF ELECTRICWORKERS LOCAL 58 SOUND AND COMM DIV RET PL	MADISON HEIGHTS	MI	238210	1/31/16	27.8	1,368	N
363202872	001	MICHIGAN UPPER PENINSULA INTR BROTHERHOOD OF ELEC WORKERS PENSION PLAN	MAQUETTE	MI	525100	12/31/15	45.7	385	N
386056780	001	IRON WORKERS LOCAL NO 25 PENSION FUND	NOVI	MI	238200	4/30/16	470.8	5,485	C
386152409	001	UNITED ASSN OF JOURNEMENT PLUMBERS & JOURNEMEN STEAMFITTERS & PIPEFITTERS LOCAL 357 PENSION PLAN	SCHOOLCRAFT	MI	238220	6/30/16	90.4	797	E
386234363	001	PAINTERS UNION PENSION PLAN	SOUTHFIELD	MI	525100	5/31/16	121.7	3,421	E
516030972	001	BRICKLAYERS PENSION TRUST FUND-METROPOLITAN AREA	TROY	MI	238100	4/30/16	129.1	2,324	E
386262188	001	CARPENTERS PENSION TRUST FUND-DETROIT AND VICINITY	TROY	MI	238300	4/30/16	712.7	18,583	C
386082372	001	FUNIT AREA SHEET METAL WORKERS LOCAL 74 PENSION FUND	TROY	MI	238100	4/30/16	42.4	574	C
386060516	001	HEAT AND FROST INSULATORS PENSION PLAN	TROY	MI	238900	12/31/15	33.5	598	E
556027928	001	IRONWORKERS LOCAL 549-550 PENSION PLAN	TROY	MI	237990	3/31/16	120.2	1,415	N
516030973	001	LABORERS PENSION TRUST FUND - DETROIT AND VICINITY	TROY	MI	237310	4/30/16	560.6	11,589	E
346574360	001	OHIO CARPENTERS PENSION PLAN	TROY	MI	238300	4/30/16	1,933.2	28,058	C
381900637	001	OPERATING ENGINEERS LOCAL 324 PENSION FUND	TROY	MI	237310	4/30/16	1,112.3	17,493	C
381006873	001	PIPEFITTERS LOCAL 636 DEFINED BENEFIT PENSION FUND	TROY	MI	525100	12/31/15	266.3	2,976	E
616078145	001	PLUMBERS & PIPEFITTERS LOCAL UNIONS 502 AND 633 PENSION TRUST FUND	TROY	MI	525100	7/31/16	325.4	3,004	C
383545518	005	PLUMBERS & PIPEFITTERS OF LOCAL UNION NO 333 PENSION FUND	TROY	MI	238220	6/30/16	118.7	1,063	E
381792138	001	PLUMBERS & PIPEFITTERS UA LOCAL 85 PENSION PLAN	TROY	MI	238220	12/31/15	116.3	1,579	E
383031916	001	PLUMBERS LOCAL NO 98 DEFINED BENEFIT PENSION FUND	TROY	MI	525100	12/31/15	151.9	2,652	C
381425819	001	ROOFERS LOCAL 149 PENSION FUND	TROY	MI	238100	5/31/16	216.1	2,403	E
386237161	001	SHEET METAL 7 ZONE 3 PENSION FUND	TROY	MI	238220	4/30/16	51.9	611	N
386234066	001	SHEET METAL WORKERS LOCAL 7 ZONE 1 PENSION PLAN	TROY	MI	813930	11/30/15	38.4	736	E
381659157	001	SHEET METAL WORKERS LOCAL NO 292 PENSION FUND	TROY	MI	339000	3/31/15	82.5	1,793	E
386105633	001	SHEET METAL WORKERS LOCAL UNION NO 80 PENSION FUND	TROY	MI	238220	5/31/16	258.5	3,314	E
346682530	001	TOLEDO AREA SHEET METAL WORKERS PENSION PLAN	TROY	MI	238220	4/30/16	99.1	853	C
416132635	001	NATIONAL ROOFING INDUSTRY PENSION PLAN	BLOOMINGTON	MI	238300	11/30/15	93.4	934	E
366517071	001	MINNEAPOLIS PAINTING INDUSTRY PENSION PLAN	BLOOMINGTON	MI	238900	12/31/15	1,503.8	29,139	N
900585687	001	ST PAUL PAINTING INDUSTRY PENSION PLAN	BLOOMINGTON	MI	238300	8/31/15	106.6	1,064	N
416043137	001	TWIN CITY FLOOR COVERING AND JOINERS PENSION PLAN	BLOOMINGTON	MI	238300	12/31/15	1,420.6	19,086	E
416145862	001	TWIN CITY GARAGE AND JOINERS PENSION FUND	BLOOMINGTON	MI	238300	7/31/16	110.9	1,006	E
416084137	001	TWIN CITY IRONWORKERS PENSION PLAN	BLOOMINGTON	MI	238100	12/31/15	307.0	4,357	N
416149933	001	CHRISTIAN LABOR ASSN PENSION TRUST DEFINED BENEFIT PLAN	BRAINERD	MI	237310	6/30/16	43.7	1,074	N
416175080	001	UNITED CONSTRUCTION WORKERS PENSION FUND	BRAINERD	MI	237310	12/31/15	27.8	416	N
416052631	001	ELECTRICAL WORKERS PENSION FUND	DULUTH	MI	238210	12/31/15	54.5	1,134	N
416057633	001	IRON RANGE PLUMBERS & FITTERS RETIREMENT INCOME PLAN	DULUTH	MI	238220	4/30/16	22.7	287	N
410882304	001	WESTERN LAKE SUPERIOR PIPING INDUSTRY PENSION PLAN	DULUTH	MI	238220	4/30/16	41.2	550	N
416035616	001	ELECTRICAL WORKERS LOCAL NO 292 PENSION PLAN	MAPLE GROVE	MI	238210	4/30/16	213.5	4,880	N
411562581	001	SHEET METAL WORKERS LOCAL 10 PENSION FUND	MAPLEWOOD	MI	238900	12/31/15	223.5	4,877	N
516029930	001	MINNESOTA & NORTH DAKOTA BRICKLAYERS AND ALLIED CRAFTWORKERS PENSION FUND	MENDOTA HEIGHT	MI	238100	12/31/15	326.1	3,836	N
516095906	001	MINNESOTA CEMENT MASONS AND PLASTERERS PENSION FUND	MENDOTA HEIGHT	MI	238900	12/31/15	177.8	1,865	N
416195999	001	MINNESOTA LABORERS PENSION FUND	MENDOTA HEIGHT	MI	236200	12/31/15	1,643.0	20,473	N
416046858	001	ST PAUL ELECTRICAL CONSTRUCTION PENSION PLAN	ST. PAUL	MI	525100	9/30/15	189.5	3,081	N
416131800	001	TWIN CITY PIPE TRADES PENSION PLAN	WHITE BEAR LAKE	MI	238220	4/30/16	842.3	7,883	N
430827344	001	PENSION FUND OF OPERATING ENGINEERS LOCAL 513	BRIDGETON	MO	813930	4/30/16	472.3	4,431	E
510179270	001	PENSION PLAN FOR LOCAL UNION 527 OF OPERATIVE PLASTERERS AND CEMENT MASONS	BRIDGETON	MO	238900	7/31/16	102.5	1,241	N
436027860	001	INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ALLIED WORKERS LOCAL NO 1 PENSION PLAN	EARTH CITY	MO	238900	9/30/15	105.2	641	N
436142137	001	LOCAL 309 WIREMANS PENSION TRUST	EARTH CITY	MO	238210	6/30/16	115.2	930	N
430373743	001	INSULATORS LOCAL NO 27 PENSION PLAN	INDEPENDENCE	MO	236200	12/31/15	34.6	416	E
436108379	001	CARPENTERS DISTRICT COUNCIL OF KANSAS CITY PENSION FUND	KANSAS CITY	MO	525100	3/31/16	886.8	10,492	N
436106206	001	GLAZIERS AND GLASSWORKERS LOCAL 558 PENSION FUND	KANSAS CITY	MO	238100	12/31/15	32.0	713	N
430817626	001	LOCAL UNION NO 1241 B E W PENSION TRUST FUND	KANSAS CITY	MO	525100	8/31/15	188.7	3,352	N
436130595	001	MO-KAN IRON WORKERS PENSION FUND	KANSAS CITY	MO	237990	1/31/16	187.4	2,283	N
436092143	001	OPERATING ENGINEERS LOCAL 101 PENSION PLAN	KANSAS CITY	MO	236200	12/31/15	701.4	6,289	N
436098242	001	PAINTERS DISTRICT COUNCIL NO 3 PENSION FUND	KANSAS CITY	MO	238300	9/30/15	85.6	1,740	C
436175719	001	PIPE FITTERS LOCAL NO 533 PENSION PLAN	KANSAS CITY	MO	238900	5/31/16	222.0	1,987	N
446010180	001	PLUMBERS LOCAL NO 8 PENSION PLAN	KANSAS CITY	MO	238220	5/31/16	67.5	1,126	E
436052659	001	IRON WORKERS ST LOUIS DISTRICT COUNCIL PENSION TRUST	MARYLAND HEIGHT	MO	237990	10/31/15	455.0	5,211	N/A
436057739	002	PAINTERS DISTRICT COUNCIL NO 2 PENSION TRUST AND PLAN AGREEMENT	MARYLAND HEIGHT	MO	812990	6/30/16	364.2	3,607	N/A
376083535	001	SHEET METAL WORKERS LOCAL 218 C PENSION PLAN	MARYLAND HEIGHT	MO	235100	12/31/15	37.7	281	N
436142370	002	ROOFERS LOCAL NO 20 PENSION FUND	RAYTOWN	MO	238100	5/31/16	74.5	1,159	N
376085017	001	EMPLOYERS AND LABORERS LOCALS 100 & 397 PENSION FUND	SAINT LOUIS	MO	237990	7/31/16	72.1	882	N
436142465	001	CONSTRUCTION LABORERS PENSION TRUST OF GREATER ST LOUIS	ST LOUIS	MO	525100	4/30/16	646.9	6,810	N
436058944	001	GLAZIERS AND GLASSWORKERS LOCAL 513 PENSION PLAN	ST LOUIS	MO	238900	10/31/15	61.5	394	N
430435782	001	LOCAL 202 SHEET METAL WORKERS PENSION FUND	ST LOUIS	MO	332900	6/30/16	21.2	692	N
510165113	001	PLUMBERS AND PIPEFITTERS LOCAL UNION NO 45 RETIREMENT PLAN	ST. JOSEPH	MO	238220	3/31/16	9.0	154	N
516133505	001	BRICKLAYERS UNION LOCAL NO 1 OF MISSOURI PENSION P	ST. LOUIS	MO	525100	12/31/15	79.9	1,794	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
431629270	001	CARPENTERS PENSION TRUST FUND OF ST LOUIS	ST. LOUIS	MO	525100	4/30/16	2,112.9	21,887	N
43075836	001	PLUMBERS AND PIPEFITTERS LOCAL UNION 562 PENSION FUND	ST. LOUIS	MO	238220	12/31/15	481.7	5,014	N
430727853	001	SHEET METAL LOCAL 36 PENSION FUND	ST. LOUIS	MO	238220	12/31/15	202.8	2,750	N
431640405	001	TILE FINISHERS LOCAL UNION NO 18 ST LOUIS MO PENSION PLAN	ST. LOUIS	MO	238300	7/31/16	6.2	191	N
476049397	001	CONTRACTORS LABORERS TEAMSTERS & ENGINEERS PENSION PLAN	OMAHA	NE	813930	12/31/15	111.3	2,748	N
476061061	001	BEW LOCAL UNION NO 22/NECA DEFINED BENEFIT PENSION FUND PLAN A	OMAHA	NE	525100	12/31/15	100.5	2,098	N
470468085	001	OMAHA CONSTRUCTION INDUSTRY PENSION PLAN	OMAHA	NE	525100	12/31/15	247.6	4,987	N
476062771	001	PAINTERS LOCAL NO 109 PENSION FUND	OMAHA	NE	238300	8/31/15	16.0	347	N
476065942	001	PLUMBERS LOCAL UNION NO 16 PENSION PLAN	OMAHA	NE	238220	3/31/16	61.4	667	N
476045941	001	STEAMFITTERS LOCAL UNION NO 464 PENSION PLAN	OMAHA	NE	238220	3/31/16	119.6	1,178	N
026026500	001	I B E W LOCAL 490 PENSION FUND	CONCORD	NH	238220	5/31/16	38.9	540	N
236475736	001	BRICKLAYERS LOCAL 8 & PLASTERERS LOCAL 233 PENSION PLAN	CHERRY HILL	NJ	237990	12/31/15	15.0	242	N
226072834	001	SHEET METAL WORKERS LOCAL 22 PENSION FUND	CRAWFORD	NJ	238900	5/31/16	38.9	548	N
226041493	001	B A C LOCAL NO 4 PENSION PLAN	FAIRFIELD	NJ	238100	12/31/15	89.7	1,927	N
800083075	001	BRICKLAYERS & ALLIED CRAFTWORKERS LOCAL NO 5 PENSION PLAN	FAIRFIELD	NJ	238100	12/31/15	58.0	1,392	C
136528181	001	LOCAL 147 CONSTRUCTION WORKERS RETIREMENT PLAN	HOPATCONG	NJ	237310	12/31/15	139.0	1,349	N
226076693	001	NEW JERSEY BUILDING LABORERS STATEWIDE PENSION FUND	JERSEY CITY	NJ	525100	12/31/15	472.7	7,283	C
222200172	001	COUNTY CONCRETE CORPORATION UNION PENSION PLAN	KENVIL	NJ	327300	12/31/15	3.5	310	N/A
236090054	001	ASBESTOS WORKERS LOCAL 2 PENSION FUND	MOUNT LAUREL	NJ	238300	12/31/15	145.7	880	C
221715513	001	I A F I A W LOCAL NO 32 - PENSION TRUST FUND	MOUNT LAUREL	NJ	238220	12/31/15	66.0	499	N
236538183	001	I B E W LOCAL UNION # 654 - DEFINED BENEFIT PENSION PLAN	MOUNT LAUREL	NJ	238210	12/31/15	76.2	768	N
226032103	001	HEAVY AND GENERAL LABORERS LOCAL UNIONS 472 AND 172 OF NEW JERSEY PENSION FUND	NEWARK	NJ	237310	3/31/16	664.2	11,687	N
226172741	001	COMPOSITION ROOFERS LOCAL #4 PENSION PLAN	PARSHIPPANY	NJ	813930	10/31/15	44.4	528	N
221615726	001	JOINT PENSION FUND OF LOCAL UNION NO 102	PARSHIPPANY	NJ	238210	12/31/15	409.0	3,835	N
221669268	001	PENSION FUND OF LOCAL UNION NO 274	PARSHIPPANY	NJ	238220	12/31/15	125.4	925	N
2216031199	001	JOINT PENSION FUND LOCAL UNION IBEW	ROSELAND	NJ	238210	12/31/15	361.4	4,266	E
226263388	001	OPERATING ENGINEERS 825 PENSION FUND	SPRINGFIELD	NJ	237990	6/30/16	664.7	10,330	N/A
226243387	001	PENSION FUND OF THE IRONWORKERS DISTRICT COUNCIL OF NORTHERN NEW JERSEY	SPRINGFIELD	NJ	238100	6/30/16	297.8	3,610	N
226029738	001	PENSION PLAN OF STEAMFITTERS PENSION FUND 475	WARREN	NJ	238220	12/31/15	130.8	1,113	N
237201491	001	I B E W LOCAL 269 PENSION PLAN	WEST TRENTON	NJ	238210	12/31/15	118.6	1,435	N
236389895	001	I B E W LOCAL 456 PENSION PLAN	WEST TRENTON	NJ	238210	12/31/15	139.7	1,532	N
223417366	001	LOCAL 351 IBEW PENSION PLAN	WEST TRENTON	NJ	238210	12/31/15	325.5	3,568	N
226257847	001	LOCAL UNION 400 I B E W PENSION PLAN	WEST TRENTON	NJ	238210	3/31/16	115.1	1,213	N
236395483	001	PENSION PLAN OF THE STONE MASONS UNION NO 3 PENSION FUND	WEST TRENTON	NJ	238210	7/31/16	11.4	266	N
510219541	001	PLUMBERS LOCAL 9 PENSION PLAN	WEST TRENTON	NJ	238220	6/30/16	201.2	1,901	N
226109064	001	REFRIGERATION A/C & SERVICE DIV (IUA-NJ) PENSION PLAN	WEST TRENTON	NJ	238220	2/29/16	189.9	2,570	N
226042823	001	UA PLUMBERS LOCAL 14 PENSION FUND	WEST TRENTON	NJ	525100	4/30/16	153.8	1,845	N/A
216016638	001	UNITED ASSOCIATION LOCAL UNION NO 322 PENSION PLAN	WINSLOW	NJ	238220	10/31/15	101.7	1,703	C
856073938	001	NM STATE CONFERENCE OF THE OPERATIVE PLASTERERS & CEMENT MASONS PENSION TRUST FUND	ALBUQUERQUE	NM	238100	9/30/15	8.9	399	C
850234388	001	SOUTHWEST REGIONAL COUNCIL OF CARPENTERS/NM RETIREMENT PLAN	ALBUQUERQUE	NM	236200	12/31/15	34.4	3,377	N
880135695	001	CONSTRUCTION INDUSTRY AND LABORERS JOINT PENSION PLAN A FOR SOUTHERN NEVADA	LAS VEGAS	NV	236200	12/31/15	355.4	6,024	E
886023284	001	I B E W LOCAL UNION NO 357 PENSION PLAN A	LAS VEGAS	NV	236200	12/31/15	321.9	4,349	N
886003864	001	PENSION AND RETIREMENT PLAN OF PLUMBERS AND PIPEFITTERS UNION LOCAL NO 525	LAS VEGAS	NV	238220	6/30/16	256.6	2,283	N
526075035	002	UNITED BROTHERHOOD OF CARPENTERS PENSION PLAN UNITED STATES SEGMENT	LAS VEGAS	NV	813900	12/31/15	707.8	4,596	N
880138600	001	LABORERS PENSION TRUST FUND FOR NORTHERN NEVADA 445 APPLE STREET SUITE 200 RENO NV 89502	RENO	NV	525100	5/31/16	101.7	1,788	N
146075802	001	BRICKLAYERS & ALLIED CRAFTWORKERS LOCAL #2 ALBANY NY PENSION FUND	ALBANY	NY	813930	4/30/16	97.9	1,484	N
146033598	001	INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ALLIED WORKERS LOCAL NO 40 PENSION FUND	ALBANY	NY	524210	6/30/16	11.9	201	E
141512731	001	IRON WORKERS 1 NO 12 PENSION FUND	ALBANY	NY	238900	6/30/16	31.6	686	C
516125180	001	ROOFERS LOCAL NO 241 PENSION FUND	ALBANY	NY	238100	6/30/16	18.1	280	N
136367144	001	LOCAL UNION NO 1430 PENSION FUND	ARMONK	NY	238210	6/30/16	8.6	85	N
136519747	074	BLASTERS DRILLBURNERS AND MINERS UNION LOCAL 29 PENSION PLAN	ASTORIA	NY	525100	12/31/15	51.4	610	N
131809825	002	EXCAVATORS UNION LOCAL 731 PENSION FUND	ASTORIA	NY	525100	8/31/15	1,161.5	9,608	N
166098105	001	BEW LOCAL 325 PENSION FUND	BINGHAMTON	NY	525100	12/31/15	43.1	532	E
16052007	001	PLUMBERS PIPE FITTERS & APPRENTICES LOCAL 112 PENSION PLAN	BINGHAMTON	NY	238220	12/31/15	53.3	826	E
131825849	001	PENSION PLAN OF THE TUBE LOCAL 137 137A 137B 137C 137A AFL-CIO	BRIARCLIFF MANOI	NY	525100	12/31/15	178.2	1,549	N
131636948	001	OPERATIVE PLASTERERS & CEMENT MASONS INTERNATIONAL ASSOCIATION LOCAL 262 PENSION FUND	BRONX	NY	813930	12/31/15	13.1	419	N
161068993	001	ASBESTOS WORKERS LOCAL NO 4 PENSION PLAN	BUFFALO	NY	238900	12/31/15	13.7	244	N
160849723	001	BRICKLAYERS & ALLIED CRAFTWORKERS LOCAL NO 3 NEW YORK NIAGARA FALLS-BUFFALO CHAPTER PENSION PLAN	BUFFALO	NY	238900	5/31/16	17.7	727	C
160501585	002	SHEET METAL WORKERS LOCAL UNION NO 71 PENSION PLAN	BUFFALO	NY	238900	5/31/16	37.0	817	N
160845094	002	BUFFALO LABORERS PENSION FUND	CHEKTOWAGA	NY	238900	6/30/16	92.7	1,826	E
131898922	002	LABORERS LOCAL 754 PENSION PLAN	CHESTNUT RIDGE	NY	238900	6/30/16	38.1	1,586	E
156016579	001	CENTRAL NEW YORK LABORERS PENSION FUND	EAST SYRACUSE	NY	525100	6/30/16	46.9	1,184	C
156035161	001	BEW LOCAL 1249 PENSION PLAN	EAST SYRACUSE	NY	238210	12/31/15	154.6	3,077	E
516029960	001	I B E W LOCAL 139 PENSION PLAN	ELMIRA	NY	238210	6/30/16	26.1	373	N
166052226	001	SOUTHERN TIER SHEET METAL WORKERS LOCAL 112 PENSION	ELMIRA	NY	525100	10/31/15	25.2	438	N
136186984	001	LABORERS LOCAL 235 PENSION FUND	ELMSFORD	NY	813930	12/31/15	51.3	1,185	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "S" = seriously endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
135629824	001	CEMENT AND CONCRETE WORKERS DC PENSION FUND	FLUSHING	NY	525100	12/31/15	368.9	3,309	N
112392157	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 14-14B PENSION FUND	FLUSHING	NY	525100	6/30/16	205.2	1,862	N
136123601	001	PENSION HOSPITALIZATION & BENEFIT PLAN OF THE ELEC IND- PENSION TRUST ACCT	FLUSHING	NY	238210	9/30/15	3,056.0	38,621	N
160675984	001	IBEW LOCAL 840 PENSION FUND	GENEVA	NY	525100	12/31/15	16.5	200	N
061211087	001	CONSTRUCTION & GENERAL LABORERS LOCAL 190 PENSION FUND	GLENMONT	NY	525100	7/31/16	73.7	1,252	E
237114547	001	UNITED ASSOCIATION PLUMBERS LOCAL 773 PENSION PLAN	GLENS FALLS	NY	238220	5/31/16	54.9	565	N
516041178	001	IBEW LOCAL UNION 363 PENSION	HARRIMAN	NY	238220	12/31/15	93.2	1,550	N
116981772	001	EMPIRE STATE CARPENTERS PENSION FUND	HAUPPAUGE	NY	525100	12/31/15	2,203.8	36,487	N
116938558	001	IBEW LOCAL 25 PENSION FUND	HAUPPAUGE	NY	525100	12/31/15	192.9	3,433	N
111982624	001	UNITED UNION OF ROOFERS WATERPROOFERS & ALLIED WORKERS LOCAL 154 PENSION FUND	HAUPPAUGE	NY	813930	12/31/15	19.1	353	N
131962287	001	WESTCHESTER HEAVY CONSTRUCTION LABORERS LOCAL 60 PENSION FUND	HAUPPAUGE	NY	813930	12/31/15	157.4	1,908	N
261140509	001	ELECTRICIAN'S RETIREMENT FUND	HELBORNE	NY	0	12/31/15	56.6	1,768	N
111970385	001	LABORERS LOCAL UNION NO 1298 OF MASSAU & SUFFOLK COUNTIES - PENSION FUND	HEMPSTEAD	NY	525100	6/30/16	195.1	2,828	E
161077912	001	BRICKLAYERS LOCAL 8 PENSION PLAN	ITHACA	NY	238100	4/30/16	10.6	186	N
364461887	001	LABORERS INTERNATIONAL UNION OF NORTH AMERICA LOCAL NO 135.8 DEFINED BENEFIT PENSION FUND	ITHACA	NY	525100	12/31/15	18.0	356	E
165177684	001	LABORERS INTL UNION OF N.A. LOCAL 7 PENSION FUND	ITHACA	NY	238900	12/31/15	22.1	474	N
165118689	001	LOCAL #241 OF THE INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS PENSION PLAN	ITHACA	NY	238210	5/31/16	13.1	205	N
169692418	001	LOCAL 589 PENSION FUND	ITHACA	NY	236200	12/31/15	26.7	424	N
165126150	001	IBEW LOCAL NO 106 PENSION PLAN	JAMESTOWN	NY	235310	6/30/16	26.9	311	N
912055384	001	UNITED ASSOCIATION LOCAL 7 PENSION PLAN	LATHAM	NY	238220	5/31/16	147.5	1,197	N
133523453	001	ELEVATOR DIVISION RETIREMENT BENEFIT PLAN	LONG ISLAND CITY	NY	541990	10/31/15	117.4	4,217	N
136608708	001	LOCAL 74 METAL SPINNERS RETIREMENT FUND	LONG ISLAND CITY	NY	525100	12/31/15	0.1	284	N/A
132546130	001	METAL TRADES BRANCH LOCAL 638 PENSION FUND	LONG ISLAND CITY	NY	238220	6/30/16	517.4	5,204	N
133676829	001	MOSAIAC & TERRAZZO PENSION FUND	LONG ISLAND CITY	NY	813930	12/31/15	16.7	409	N
516045262	002	PENSION FUND OF HEAT AND FROST INSULATORS LOCAL 12	LONG ISLAND CITY	NY	525100	12/31/15	72.2	882	N
116003399	006	UNITED UNION OF ROOFERS - LOCAL 8 PENSION FUND	LONG ISLAND CITY	NY	813930	12/31/15	44.7	1,421	N
116604285	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 295-295B C PENSION FUND	MASPETH	NY	238220	12/31/15	36.6	834	N
111974385	001	GENERAL BUILDING LABORERS LOCAL 66 PENSION FUND	MELVILLE	NY	525100	6/30/16	137.5	2,234	N
146086295	001	LOCAL UNION NO 466 PAINTERS DECORATORS AND PAPERHANGERS PENSION PLAN	MEANSDS	NY	238900	4/30/16	1.4	50	C
112486101	001	SHEET METAL WORKERS INTERNATIONAL ASSOCIATION LOCAL UNION 373	MINEOLA	NY	236900	12/31/15	156.4	5,083	C
131758289	001	PLUMBERS AND STEAMFITTERS PENSION FUND LOCAL UNION 373	MOUNTAINVILLE	NY	238220	12/31/15	35.3	624	C
133873956	001	DRYWALL PENSION FUND	NEW YORK	NY	238900	12/31/15	71.6	1,083	N
136613876	001	IRON WORKERS LOCAL 580 SHOP PENSION FUND	NEW YORK	NY	525100	6/30/16	15.7	873	D
516102576	001	IRON WORKERS LOCALS 40 361 & 417 PENSION FUND	NEW YORK	NY	236200	12/31/15	386.7	4,146	E
136177810	001	LOCAL 377 PENSION FUND	NEW YORK	NY	236200	12/31/15	13.3	1,083	N
131617854	001	LOCAL 580 - PENSION FUND	NEW YORK	NY	238900	12/31/15	384.7	3,035	N
132967109	075	MARBLE INDUSTRY PENSION TRUST FUND	NEW YORK	NY	238900	12/31/15	47.0	779	N
136190433	074	MASON TENDERS DISTRICT COUNCIL PENSION FUND	NEW YORK	NY	525100	12/31/15	1,020.5	17,196	N
510172426	001	NEW YORK DISTRICT COUNCIL OF CARPENTERS PENSION PL	NEW YORK	NY	236200	6/30/16	3,005.8	31,067	N
510167964	001	RETIREMENT AND PENSION PLAN FOR OFFICERS & EMPLOYEES OF THE NYCDC AND RELATED ORGANIZATIONS	NEW YORK	NY	813930	6/30/16	102.8	764	N
136149680	001	STEAMFITTERS INDUSTRY PENSION FUND	NEW YORK	NY	238220	12/31/15	373.1	3,692	N
136121379	001	STONE SETTERS PENSION FUND LOCAL 84	NEW YORK	NY	238100	12/31/15	24.3	313	N
135635004	001	TILE LAYERS UNION LOCAL NO 52 NY PENSION FUND	NEW YORK	NY	238900	12/31/15	69.2	1,619	N
146025196	001	LABORERS LOCAL NO 17 PENSION FUND	NEWBURGH	NY	237310	12/31/15	51.1	1,294	E
166094914	001	IBEW LOCAL UNION NO 237 PENSION PLAN	NIAGARA FALLS	NY	525100	12/31/15	19.8	406	C
516031768	001	LABORERS LOCAL 91 PENSION PLAN	NIAGARA FALLS	NY	525100	5/31/16	25.5	577	C
131889643	001	PENSION AND INSURANCE FUND OF LOCAL 1783 I B E W	NORTH WHITE PLAI	NY	525920	12/31/15	23.5	926	C
160851799	001	LOCAL NO 41 IBEW PENSION PLAN	ORCHARD PARK	NY	238210	4/30/16	155.8	1,330	N
160920434	001	U A PLUMBERS & STEAMFITTERS LOCAL 22 PENSION FUND	ORCHARD PARK	NY	332900	4/30/16	182.6	1,863	N
156016577	001	LOCAL 73 RETIREMENT FUND	OSWEGO	NY	525100	6/30/16	61.9	813	C
136376169	001	INTERNATIONAL ASSOCIATION OF HEAT FROST INSULATORS & ALLIED WORKERS LU 91 PENSION FUND	PEEKSKILL	NY	238220	12/31/15	24.1	1,65	E
131847042	001	PLUMBERS & STEAMFITTERS LOCAL 21 ZONE 2 PENSION FU	PEEKSKILL	NY	238220	6/30/16	148.2	1,281	N
146092681	001	PLUMBERS & STEAMFITTERS LOCAL 21 ZONE 2 PENSION FU	PEEKSKILL	NY	238220	12/31/15	41.6	509	C
16019479	001	BRICKLAYERS & ALLIED CRAFTWORKERS LOCAL 3 NY ROCHESTER CHAPTER PENSION FUND	PITTSFORD	NY	238100	12/31/15	47.6	846	N
146016586	001	LABORERS INTL UNION OF N.A. LOCAL 1000 PENSION FD	POUGHKEEPSIE	NY	813930	6/30/16	15.3	375	C
516135291	001	PENSION AND ANNUITY PLAN OF THE BRICKLAYERS PENSION FUND	REGO PARK	NY	525100	12/31/15	153.8	4,252	N
133208565	001	POINTERS CLEANERS & CAULKERS PENSION FUND	REGO PARK	NY	238300	6/30/16	155.3	1,982	N
166028820	001	ALLIED WORKERS LOCAL NO 26 PENSION PLAN	ROCHESTER	NY	525100	8/31/15	11.7	140	N
166085820	001	IBEW LOCAL NO 867 PENSION FUND	ROCHESTER	NY	525100	3/31/16	178.3	1,579	N
516077088	001	IRON WORKERS DISTRICT COUNCIL OF WESTERN NEW YORK AND VICINITY PENSION PLAN	ROCHESTER	NY	237990	6/30/16	146.3	2,398	N
166014473	001	ROCHESTER LABORERS PENSION FUND	ROCHESTER	NY	525100	3/31/16	165.3	3,757	N
046698212	001	ROOFERS LOCAL UNION NO 22 PENSION FUND	ROCHESTER	NY	525100	4/30/16	19.5	462	N
516123374	001	SHEET METAL WORKERS LOCAL 46 PENSION FUND	ROCHESTER	NY	525100	6/30/16	84.6	879	N
160778864	001	U A LOCAL 13 PENSION FUND	ROCHESTER	NY	525100	12/31/15	231.5	1,297	N
113125387	001	PLUMBERS LOCAL UNION NO 200 PENSION FUND	RONKONKOMA	NY	238220	6/30/16	63.7	1,527	N
146076460	001	LABORERS LOCAL #157 PENSION FUND	SCHENECTADY	NY	813930	6/30/16	52.8	900	S

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
141490934	001	LOCAL UNION 236 IBEW PENSION PLAN	SCHENECTADY	NY	238100	6/30/16	191.7	1,964	N
156022550	001	ASBESTOS WORKERS SYRACUSE PENSION FUND	SYRACUSE	NY	238900	12/31/15	6.9	154	C
150614642	001	ENGINEERS JOINT PENSION FUND LOCALS 17-106-410-463-545-832 IUOE	SYRACUSE	NY	525100	3/31/16	264.9	7,053	C
166153389	001	IBEW LOCAL 43 & ELECTRICAL CONTRACTORS PENSION FUND	SYRACUSE	NY	238210	6/30/16	128.9	1,710	N
150347955	001	PLUMBERS & STEAMFITTERS LOCAL 267 PENSION FUND	SYRACUSE	NY	238220	12/31/15	92.2	1,181	E
146016608	001	BAC LOCAL #5 NEW YORK PENSION PLAN	UNIONDALE	NY	813930	12/31/15	20.5	898	D
166347773	001	LABORERS INTL UNION OF NA LOCAL 322 PENSION FUND	UTICA	NY	238900	12/31/15	24.0	533	E
131626710	001	CEMENT MASONS LOCAL 780 PENSION FUND	VALLEY STREAM	NY	722300	12/31/15	76.9	780	N
116049445	001	LOCAL 288 PENSION FUND	VALLEY STREAM	NY	525100	12/31/15	3.4	490	C
166149240	001	I B E W LOCAL 910 PENSION FUND	WATER TOWN	NY	561110	6/30/16	37.8	644	N
160662398	001	ROOFERS LOCAL NO 747/NO 203 PENSION PLAN	WEST SENECA	NY	238300	6/30/16	54.8	796	N
116158900	001	LOCAL 522 PENSION FUND ROOFERS DIVISION	WHITE PLAINS	NY	238100	6/30/16	22.7	933	N
516045848	001	IUOE LOCAL 30 PENSION FUND	WHITESTONE	NY	0	12/31/15	185.1	4,170	N
131950171	074	PAVERS & ROAD BUILDERS DC PENSION FUND	WHITESTONE	NY	525100	12/31/15	278.5	2,838	N
136106419	001	METAL LATHERS LOCAL 46 PENSION FUND	WOODSIDE	NY	238900	12/31/15	320.6	2,414	N
34600649	001	ASBESTOS WORKERS LOCAL 84 PENSION PLAN	AKRON	OH	238900	12/31/15	13.9	193	N
34666798	001	BRICKLAYERS & ALLIED CRAFTSMEN LOCAL 7 PENSION	AUSTINTOWN	OH	238100	4/30/16	14.2	468	D
346550724	001	BRICKLAYERS AND MASONS LOCAL NO 43 OHIO PENSION P	AUSTINTOWN	OH	238200	4/30/16	15.7	179	N
346583348	001	BRICKLAYERS LOCAL NO 8 PENSION FUND	AUSTINTOWN	OH	525100	4/30/16	17.0	300	N
341290577	001	CEMENT MASONS LOCAL NO 886/404 PENSION PLAN	AUSTINTOWN	OH	238100	6/30/16	94.8	1,302	E
346572566	001	CEMENT MASONS LOCAL UNION NO 179 PENSION PLAN	AUSTINTOWN	OH	525100	4/30/16	13.1	183	N
346701444	001	I B E W LOCAL 540 PENSION FUND	AUSTINTOWN	OH	238210	12/31/15	96.0	869	N
316152294	001	LOCAL UNION NO 32 IBEW/NECA PENSION PLAN	AUSTINTOWN	OH	238210	12/31/15	21.1	417	N
346622619	001	OPERATIVE PLASTERERS AND CEMENT MASONS LOCAL NO 109 PENSION PLAN	AUSTINTOWN	OH	238100	4/30/16	93.0	1,491	C
346682376	001	PLUMBING & PIPE FITTING LOCAL 219 PENSION FUND	AUSTINTOWN	OH	238220	4/30/16	31.0	648	C
346658427	001	ROOFERS LOCAL UNION NO 71 PENSION PLAN	AUSTINTOWN	OH	525100	6/30/16	15.4	224	E
341939172	001	SHEET METAL WORKERS LOCAL 33 YOUNGSTOWN DISTRICT PENSION FUND	AUSTINTOWN	OH	236110	12/31/15	54.1	666	N
316172787	001	SW OH REGIONAL COUNCIL OF CARPENTERS PENSION PLAN	AUSTINTOWN	OH	238100	12/31/15	213.3	5,578	D
346570162	001	BRIDGE STRUCTURAL AND ORNAMENTAL IRONWORKERS LOCAL 207 PENSION FUND	BOARDMAN	OH	238900	12/31/15	33.6	548	E
346514703	001	PLUMBERS UNION LOCAL NO 55 PENSION PLAN	BOARLVN HEIGHT	OH	813930	4/30/16	79.3	1,264	E
516130324	001	BRICKLAYERS & MASONS LOCAL NO 6 PENSION PLAN	CANTON	OH	525100	12/31/15	37.8	484	E
316131266	001	ASBESTOS WORKERS LOCAL 8 RETIREMENT TRUST FUND	CINCINNATI	OH	238900	5/31/16	33.6	427	D
316176985	001	BRICKLAYERS LOCAL 55 PENSION PLAN	CINCINNATI	OH	238100	4/30/16	13.3	482	D
310235930	001	CEMENT MASONS LOCAL 524 PENSION PLAN	CINCINNATI	OH	238100	5/31/16	4.2	221	C
316172785	001	COMPOSITION ROOFERS LOCAL 42 PENSION PLAN	CINCINNATI	OH	238100	12/31/15	26.0	479	C
316172781	001	GLAZIERS LOCAL 387 PENSION PLAN	CINCINNATI	OH	238900	11/30/15	14.4	200	E
316134845	001	IBEW LOCAL 648 PENSION PLAN	CINCINNATI	OH	238210	2/29/16	47.8	671	C
316172782	001	LABORERS LOCAL 265 PENSION PLAN	CINCINNATI	OH	238100	10/31/15	55.6	1,340	C
316172780	001	LOCAL UNION 212 IBEW PENSION TRUST FUND	CINCINNATI	OH	238210	4/30/16	201.9	2,493	N
516025965	001	OHIO BRICKLAYERS PENSION PLAN	CINCINNATI	OH	238100	4/30/16	89.5	2,020	C
316172784	001	PLASTERERS LOCAL 1 PENSION PLAN	CINCINNATI	OH	238100	5/31/16	11.5	145	E
310655223	001	PLUMBERS PIPE FITTERS AND MECHANICAL EQUIPMENT	CINCINNATI	OH	238220	5/31/16	242.4	3,186	C
346573987	001	BUILDING LABORERS LOCAL 310 PENSION FUND	CLEVELAND	OH	236200	4/30/16	286.4	3,823	C
346574238	001	I B E W LOCAL 38 PENSION PLAN	CLEVELAND	OH	238210	4/30/16	320.3	3,330	E
510161467	001	IRON WORKERS LOCAL 17 PENSION FUND	CLEVELAND	OH	237990	4/30/16	77.9	2,015	D
346711591	001	PIPE FITTERS LOCAL UNION NO 120 PENSION PLAN	CLEVELAND	OH	525100	12/31/15	161.9	1,831	N
346613397	001	UNITED UNION OF ROOFERS WATERPROOFERS AND ALLIED WORKERS LOCAL NO 44 PENSION FUND	CLEVELAND	OH	238100	4/30/16	71.4	721	N
341442087	001	IBEW LOCAL 683 PENSION FUND PENSION PLAN	COLUMBUS	OH	238210	12/31/15	175.2	2,295	N
316129968	001	OHIO OPERATING ENGINEERS PENSION PLAN	COLUMBUS	OH	237990	7/31/16	2,190.4	17,178	N
310894807	001	PLUMBERS & PIPEFITTERS LOCAL NO 189 PENSION PLAN	COLUMBUS	OH	238220	3/31/16	129.2	1,622	N
316172768	001	IBEW LOCAL NO 82 PENSION PLAN	DAYTON	OH	238210	6/30/16	92.5	1,382	N
316125999	001	PLUMBERS & PIPEFITTERS LOCAL 162 PENSION FUND	DAYTON	OH	238220	12/31/15	51.9	1,148	E
316171353	001	SHEET METAL WORKERS INTL ASSOC OF DAYTON OH L 224 PENSION PLAN	DAYTON	OH	238100	12/31/15	52.0	803	E
346682532	001	BRICKLAYERS ALLIED CRAFTSMEN PENSION PLAN LOCAL NO 3	HOLLAND	OH	238100	4/30/16	37.5	472	E
346682351	001	IRONWORKERS LOCAL NO 55 PENSION PLAN	HOLLAND	OH	238100	4/30/16	122.4	1,172	N
346682531	001	PLUMBERS & PIPEFITTERS UNION LOCAL NO 776 PENSION PLAN	HOLLAND	OH	238200	6/30/16	36.4	505	N
346682353	001	TOLEDO PAINTERS AND ALLIED TRADES PENSION PLAN	HOLLAND	OH	238300	4/30/16	22.7	529	N
346682179	001	TOLEDO ROOFERS LOCAL NO 134 PENSION PLAN	HOLLAND	OH	238100	12/31/15	23.5	517	C
621523674	001	BRICKLAYERS AND MASONS LOCAL UNION NO 5 OHIO PENSION FUND	INDEPENDENCE	OH	238100	2/29/16	85.4	1,634	N
346701406	001	IBEW LOCAL 129 PENSION FUND PENSION PLAN	LORAIN	OH	525100	4/30/16	76.5	647	N
346570279	001	IBEW LOCAL 688 PENSION PLAN	MANSHFIELD	OH	238210	5/31/16	12.8	321	E
34666753	001	SHEET METAL WORKERS LOCAL PENSION PLAN	MASSILLON	OH	238220	4/30/16	39.8	578	C
346661994	001	I B E W LOCAL 673 PENSION PLAN	MENTOR	OH	238210	12/31/15	76.4	1,571	N
237404110	001	NORTHWESTERN OHIO PLUMBERS AND PIPEFITTERS PENSION PLAN AND TRUST	NORTHWOOD	OH	238220	4/30/16	127.1	1,981	N
346661994	001	PLUMBERS AND STEAMFITTERS LOCAL NO 42 PENSION PLAN	NORTHWOOD	OH	238200	12/31/15	76.4	571	N
346514741	001	SHEET METAL WORKERS LOCAL NO 33 CLEVELAND DISTRICT PENSION PLAN	PARMA	OH	238290	4/30/16	145.1	1,452	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
346582842	001	IBEW LOCAL NO 246 PENSION PLAN	STUBENVILLE	OH	238210	5/31/16	38.3	430	N/A
34665225	001	BUILDING MATERIAL DRIVERS LOCAL 436 PENSION FUND	VALLEY VIEW	OH	237990	12/31/15	39.9	1746	D
316038516	001	IRON WORKERS DISTRICT COUNCIL OF SO OH & VICINITY PENSION TRUST	VANDALIA	OH	238900	1/31/16	679.2	8214	E
316129964	001	LABORERS DISTRICT COUNCIL & CONTRACTORS PENSION FUND OF OHIO	WESTERVILLE	OH	237310	12/31/15	1,851.5	23,190	N
346570323	001	IBEW LOCAL 573 PENSION PLAN	YOUNGSTOWN	OH	238210	12/31/15	37.9	339	N
346654696	002	IBEW LOCAL UNION 64 PENSION PLAN	YOUNGSTOWN	OH	238210	12/31/15	23.4	530	N
346727007	001	PLUMBERS AND STEAMFITTERS LOCAL 396 PENSION FUND	YOUNGSTOWN	OH	238220	6/30/16	39.3	656	E
516091882	001	CARPENTERS LABOR-MANAGEMENT PENSION PLAN	OKLAHOMA CITY	OK	525100	12/31/15	310.8	9,611	N
736145795	001	SHEET METAL WORKERS LOCAL NO 124 PENSION PLAN	OKLAHOMA CITY	OK	813830	6/30/16	30.4	721	N
736158924	001	SOUTHWEST ASBESTOS WORKERS PENSION PLAN	OKLAHOMA CITY	OK	238900	12/31/15	15.3	175	N
736146433	001	PIPELINE INDUSTRY PENSION FUND	TULSA	OK	525100	12/31/15	851.1	7,507	N
936073070	001	CEMENT MASONS - EMPLOYERS PENSION PLAN	PORTLAND	OR	238110	12/31/15	72.6	1,200	E
936061681	001	EDISON PENSION PLAN	PORTLAND	OR	238210	12/31/15	547.5	5,966	N
510171397	001	EMPLOYER-INDUSTRIAL SHEET METAL WORKERS LOCAL 16 PENSION TRUST	PORTLAND	OR	332900	12/31/15	78.7	1,616	E
826010346	001	IDAHO PLUMBERS AND PIPEFITTERS PENSION PLAN	PORTLAND	OR	238220	5/31/16	92.8	1,784	N
916145041	001	IDAHO SIGNATORY EMPLOYERS-LABORERS PENSION PLAN	PORTLAND	OR	238900	12/31/15	7.4	668	D
936034946	001	NORTHWEST BRICKLAYERS PENSION PLAN	PORTLAND	OR	238100	12/31/15	86.6	2,639	C
916061344	001	NORTHWEST SHEET METAL WORKERS PENSION PLAN	PORTLAND	OR	238220	4/30/16	760.5	7,194	N
936075453	001	OPERATIVE PLASTERERS LOCAL NO 82 PENSION FUND	PORTLAND	OR	238900	12/31/15	18.5	298	N/A
936022791	001	OREGON & SOUTHWEST WASHINGTON PAINTERS PENSION PLAN	PORTLAND	OR	238300	12/31/15	113.5	2,514	N
936073363	001	OREGON LABORERS-EMPLOYERS PENSION PLAN	PORTLAND	OR	238900	12/31/15	262.9	5,559	N
936018501	001	PENSION PLAN OF THE OREGON SHEET METAL WORKERS MASTER RETIREMENT TRUST	PORTLAND	OR	238100	12/31/15	329.5	2,778	N
526038495	001	SHEET METAL WORKERS LOCAL 100 WASHINGTON D.C AREA PENSION FUND	PORTLAND	OR	237990	3/31/16	212.9	2,321	N/A
516077555	001	THE PENSION PLAN FOR THE OREGON-WASHINGTON CARPENTERS-EMPLOYERS PENSION TRUST FUND	PORTLAND	OR	238100	6/30/16	776.0	10,794	N
936074376	001	WESTERN GRAZERS RETIREMENT PLAN	PORTLAND	OR	238100	7/31/16	104.5	925	N
936021114	001	U.A. LOCAL 290 PLUMBER STEAMFITTER & SHIPFITTER PENSION PLAN	TULAMATIN	OR	238220	12/31/15	540.7	5,047	N
256149244	001	IBEW LOCAL 56 PENSION PLAN	ERIE	PA	238210	4/30/16	44.7	523	N
236540239	001	INTERNATIONAL UNION OF OPERATING ENGINEERS PENSION FUND OF EASTERN PENNSYLVANIA AND DELAWARE	FORT WASHINGTON/TOI	PA	238290	12/31/15	660.0	6,963	N
23657047	001	143 IBEW BENEFIT FUNDS - PENSION FUND	HARRISBURG	PA	238210	12/31/15	52.4	1,072	E
236399737	001	IBEW LOCAL NO 229 PENSION PLAN	HARRISBURG	PA	238210	5/31/16	21.0	513	N
236423158	001	IBEW LOCAL UNION NO 607 PENSION TRUST	HARRISBURG	PA	238210	12/31/15	12.2	264	N
231990729	001	INSULATORS LOCAL 23 PENSION PLAN	HARRISBURG	PA	238900	7/31/16	37.5	381	N
240866674	001	LABORERS LOCAL 130 PENSION FUND FORMERLY LABORER TRI-COUNTY PENSION FUND	HARRISBURG	PA	238900	4/30/16	20.7	879	C
231687376	001	LABORERS LOCAL NO 1174 PENSION FUND	HARRISBURG	PA	238900	5/31/16	76.0	1,210	N
236580323	001	LABORERS LOCAL UNION NO 158 PENSION FUND	HARRISBURG	PA	237310	12/31/15	113.9	2,772	N
236289032	001	PENSION PLAN OF INTERNATIONAL UNION OF BRICKLAYERS ALLIED CRAFTSMEN LOCAL #15 PA	HARRISBURG	PA	525100	6/30/16	11.0	214	C
231996365	001	PENSION PLAN OF LOCAL 47 BRICKLAYERS AND ALLIED CRAFTSMAN	HARRISBURG	PA	238100	4/30/16	3.0	278	C
236445411	001	PLASTERERS AND CEMENT MASONS LOCAL 94 PENSION FUND	HARRISBURG	PA	238900	4/30/16	2.3	100	D
236489357	001	PLUMBERS AND PIPEFITTERS LOCAL 520 PENSION PLAN	HARRISBURG	PA	238220	4/30/16	162.6	2,036	E
236429849	001	SUSQUEHANNA LABORERS COMBINED PENSION FUND	HARRISBURG	PA	238900	4/30/16	49.5	1,541	C
236594957	001	SHOPMEN LOCAL UNION 502 PENSION PLAN	LIMERICK	PA	525100	12/31/15	69.0	1,398	N
236694291	001	NATIONAL ELEVATOR INDUSTRY PENSION PLAN	NEWTOWN SQUAR	PA	238900	6/30/16	6,206.6	46,212	N
236406511	001	ASBESTOS WORKERS PHILADELPHIA PENSION FUND	PHILADELPHIA	PA	236200	6/30/16	200.6	1,870	C
236263285	001	BRICKLAYERS LOCAL 1 OF PENNSYLVANIA PENSION FUND	PHILADELPHIA	PA	238100	4/30/16	30.5	930	C
231613018	001	CARPENTERS PENSION & ANNUITY FUND OF PHILADELPHIA AND VICINITY	PHILADELPHIA	PA	238100	4/30/16	1,850.9	14,891	N
231972409	001	CEMENT MASONS UNION LOCAL 592 PENSION PLAN	PHILADELPHIA	PA	236200	4/30/16	92.0	1,305	C
236583334	001	IBEW LOCAL UNION 380 PENSION PLAN	PHILADELPHIA	PA	238210	12/31/15	59.2	1,281	C
231990722	001	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL UNION 98 PENSION PLAN	PHILADELPHIA	PA	238210	12/31/15	314.1	4,565	E
236659504	001	IRON WORKERS PENSION PLAN	PHILADELPHIA	PA	525100	9/30/15	341.5	4,898	E
236235338	001	LABORERS DISTRICT COUNCIL CONSTRUCTION INDUSTRY PENSION FUND	PHILADELPHIA	PA	525100	4/30/16	703.9	9,035	N
231627410	003	LABORERS LOCAL 57 INDUSTRIAL PENSION PLAN	PHILADELPHIA	PA	238900	6/30/16	206.7	3,584	N
236652951	002	PLASTERERS LOCAL 8 PENSION PLAN	PHILADELPHIA	PA	236200	4/30/16	17.7	327	N
236405018	001	PLUMBERS LOCAL UNION NO 690 PENSION FUND	PHILADELPHIA	PA	238220	6/30/16	156.2	1,853	N
236428444	001	PLUMBERS LU 690 METAL TRADES PENSION PLAN	PHILADELPHIA	PA	238220	12/31/15	12.4	358	N
231694364	001	SHEET METAL WORKERS PENSION FUND OF LOCAL UNION NO 19	PHILADELPHIA	PA	561110	4/30/16	300.9	3,947	E
231200424	001	STEAMFITTERS LOCAL UNION NO 420 PENSION PLAN	PHILADELPHIA	PA	238220	12/31/15	441.4	4,867	C
231609696	001	BOILERMAKERS LODGE 329 PENSION FUND	PHOENIXVILLE	PA	238900	12/31/15	4.4	94	N
556029961	001	BRICKLAYERS PENSION FUND OF WEST VIRGINIA	PITTSBURGH	PA	238100	3/31/16	3.4	190	E
256121713	001	BRICKLAYERS PENSION PLAN OF WESTERN PA	PITTSBURGH	PA	238900	12/31/15	51.7	1,085	C
256114878	001	BUILDING TRADES PENSION PLAN OF WESTERN PENNSYLVANIA	PITTSBURGH	PA	238900	12/31/15	108.9	3,895	C
256103481	001	CEMENT MASONS LOCAL 526 PENSION PLAN	PITTSBURGH	PA	238900	5/31/16	45.5	921	E
256135570	001	GREATER PENNSYLVANIA CARPENTERS PENSION FUND	PITTSBURGH	PA	236200	12/31/15	818.0	15,787	E
251297810	001	IBEW LOCAL 712 PENSION TRUST FUND	PITTSBURGH	PA	525100	12/31/15	77.2	927	N
251283169	001	IRON WORKERS PENSION PLAN OF WESTERN PENNSYLVANIA	PITTSBURGH	PA	237990	12/31/15	167.8	2,979	E
596165107	001	IRONWORKERS LOCAL 808 PENSION FUND	PITTSBURGH	PA	238900	6/30/16	44.6	954	N
596227518	001	IRONWORKERS LOCAL UNION NO 402 PENSION FUND	PITTSBURGH	PA	237310	3/31/16	17.0	391	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

IN	PLAN	PLAN NAME	STATE	CITY	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
256183576	001	LABORERS DISTRICT COUNCIL OF W PA PENSION FUND	PA	PITTSBURGH	561110	12/31/15	637.5	16,195	C
256135579	001	OPERATING ENG CONS IND MISC PENSION FUND	PA	PITTSBURGH	238900	12/31/15	550.7	9,388	N
250818080	001	PACE INTERNATIONAL UNION PENSION PLAN	PA	PITTSBURGH	813980	12/31/15	143.4	634	N
236537155	001	PENNSYLVANIA HEAVY AND HIGHWAY CONTRACTORS PENSION TRUST	PA	PITTSBURGH	237310	12/31/15	149.5	4,121	N
256173724	001	SHOPMENS LOCAL 527 PENSION FUND	PA	PITTSBURGH	238900	12/31/15	53.6	1,393	N
596227091	001	SOUTHERN IRONWORKERS PENSION FUND	PA	PITTSBURGH	236200	12/31/15	107.3	1,848	N
236648508	499	STEELWORKERS PENNSYLVANIA PENSION PLAN	PA	PITTSBURGH	238900	12/31/15	278.0	2,823	N
2366032108	001	WESTERN PENNSYLVANIA ELECTRICAL EMPLOYEES PENSION TRUST FUND	PA	PITTSBURGH	525210	12/31/15	3,875.9	113,565	N
260576668	002	I B E LOCAL 81 DEFINED BENEFIT PENSION PLAN	PA	SCRANTON	238210	5/31/16	7.6	4,532	N
232656558	001	ABEGW INTL UNION AFL-CIO CLC EASTERN DIST CNCL NO 12 PENSION PLAN	PA	SHILLINGTON	238100	12/31/15	6.1	556	C
2322023610	001	SHEET METAL WORKERS LOCAL 194 INDUSTRIAL PENSION FUND	PA	WILMINGTON	238900	12/31/15	2.7	226	N
236034928	001	PLUMBERS LOCAL 27 PENSION FUND	PA	WEXFORD	238220	12/31/15	83.6	1,115	N
236657135	001	SHEET METAL WORKERS LOCAL #44 RETIREMENT INCOME PLAN	PA	WILKS BARRE	525100	12/31/15	18.8	481	C
236283938	001	HEAT & FROST INSULATORS & ASBESTOS WORKERS LOCAL 38 RETIREMENT PLAN	PA	WILKS BARRE	238900	12/31/15	9.3	128	N
516098177	001	PIASTERERS & CEMENT MASONS LOCAL 40 PENSION FUND	RI	CRANSTON	238900	6/30/16	9.7	148	N
516095806	001	RHODE ISLAND LABORERS PENSION FUND	RI	CRANSTON	238900	12/31/15	188.3	2,899	N
050298773	001	I U O E LOCAL 57 PENSION PLAN	RI	PROVIDENCE	237310	12/31/15	116.3	1,257	N
050499357	001	UA OF PLUMBERS & PIPEFITTERS LOCAL 51 PENSION PLAN	RI	RIVERSIDE	525100	4/30/16	97.6	1,460	C
05016572	001	RHODE ISLAND CARPENTERS PENSION FUND	RI	WARWICK	238300	12/31/15	136.7	2,417	N
626112262	001	CARPENTERS LOCAL UNION NO 345 PENSION PLAN	TN	BARTLETT	525100	12/31/15	27.9	570	N
720603351	001	CEMENT MASONS LOCAL UNION NO 567 PENSION PLAN	TN	GOODLETTSVILLE	238100	7/31/16	4.1	125	C
620857704	001	CEMENT MASONS LOCAL UNION NO 521 PENSION FUND	TN	GOODLETTSVILLE	238900	12/31/15	0.8	122	N/A
59205166	001	FLORIDA CARPENTERS REGIONAL COUNCIL PENSION PLAN	TN	GOODLETTSVILLE	238300	12/31/15	254.4	7,608	C
586110889	002	INSULATORS LOCAL NO 96 PENSION FUND	TN	GOODLETTSVILLE	238900	12/31/15	14.6	215	E
595168650	001	IRON WORKERS LOCAL #397 PENSION FUND	TN	GOODLETTSVILLE	237990	12/31/15	61.2	1,070	N
595195918	001	IRONWORKERS LOCAL #597 PENSION PLAN	TN	GOODLETTSVILLE	236200	12/31/15	19.9	535	N
620795758	001	IRONWORKERS LOCAL UNION NO 167 PENSION PLAN	TN	GOODLETTSVILLE	237990	12/31/15	48.1	607	N
595168181	001	JACKSONVILLE PLUMBERS AND PIPEFITTERS PENSION PLAN	TN	GOODLETTSVILLE	238220	8/31/15	148.0	1,785	N
626101275	001	MIDDLE TENNESSEE CARPENTERS AND MILLWRIGHTS PENSION FUND	TN	GOODLETTSVILLE	238900	4/30/16	65.9	1,817	N
720219840	001	NEW ORLEANS ELECTRICAL PENSION PLAN	TN	GOODLETTSVILLE	238210	12/31/15	30.9	1,363	N
59214171	001	PENSION PLAN OF THE FLORIDA TROWEL TRADES PENSION TRUST FUND	TN	GOODLETTSVILLE	525100	12/31/15	48.7	2,205	N
586116699	001	PLUMBERS & STEAMFITTERS LOCAL 150 PENSION FUND	TN	GOODLETTSVILLE	238220	12/31/15	69.7	1,469	N
626101288	001	PLUMBERS & STEAMFITTERS LOCAL 43 PENSION FUND	TN	GOODLETTSVILLE	238220	6/30/16	100.5	1,747	N
626104660	001	PLUMBERS LOCAL UNION NO 17 PENSION PLAN	TN	GOODLETTSVILLE	238220	3/31/16	26.7	432	N
586084968	001	SHEET METAL WORKERS LOCAL 85 PENSION FUND	TN	GOODLETTSVILLE	238900	12/31/15	92.1	1,622	N
626093256	001	SHEET METAL WORKERS LOCAL NO 177 PENSION FUND	TN	GOODLETTSVILLE	238900	12/31/15	38.9	822	N
620806045	001	SHEET METAL WORKERS LOCAL NO 4 PENSION PLAN	TN	GOODLETTSVILLE	238900	12/31/15	29.7	645	N
620976048	001	TRI-STATE CARPENTERS AND JOINERS PENSION TRUST FUND	TN	GOODLETTSVILLE	238100	12/31/15	160.7	3,869	E
626077945	001	PLUMBERS & STEAMFITTERS LOCAL UNION NO 102 PENSION PLAN	TN	KNOXVILLE	238220	6/30/16	46.9	704	N
626102837	001	PLUMBERS & PIPEFITTERS LOCAL 572 PENSION FUND	TN	NASHVILLE	238220	3/31/16	140.9	1,958	N
746183767	001	IRON WORKERS DISTRICT COUNCIL OF TN VALLEY AND VICINITY PENSION PLAN	TX	SODDY DAISY	525100	12/31/15	128.8	2,459	N
741870479	001	IBEW LOCAL NO 60 PENSION TRUST FUND	TX	BEAUMONT	238210	12/31/15	82.1	1,911	N
751280827	001	LABORERS NATIONAL PENSION FUND	TX	DALLAS	237310	12/31/15	1,388.5	44,292	N
756083268	001	PLUMBERS & STEAMFITTERS LOCAL 146 PENSION PLAN	TX	DALLAS	238220	6/30/16	31.9	804	N
746118440	001	BRICKLAYERS GULF COAST PENSION PLAN	TX	FORT WORTH	238100	12/31/15	16.2	902	N
746134999	001	CARPENTERS & MILLWRIGHTS OF HOUSTON VICINITY PENSI	TX	HOUSTON	236200	6/30/16	180.3	5,293	N
741976110	001	CEMENT MASONS LOCAL 783 PENSION TRUST	TX	HOUSTON	813930	9/30/15	0.3	65	C
746091787	001	CEMENT MASONS LOCAL UNION 681 PENSION PLAN	TX	HOUSTON	236200	9/30/15	1.1	343	C
750356302	001	HEAT & FROST & ALLIED WORKERS NO 21 PENSION PLAN	TX	HOUSTON	238900	12/31/15	13.1	249	N
746174676	001	IBEW LOCAL 746 PENSION TRUST	TX	HOUSTON	238210	12/31/15	120.7	5,322	N
746141016	001	PLASTERERS LOCAL 79 PENSION PLAN	TX	HOUSTON	813930	12/31/15	2.5	80	N
741905198	001	TEXAS IRON WORKERS PENSION PLAN	TX	HOUSTON	525100	3/31/16	233.3	4,817	N
736130146	001	NECA-IBEW LOCAL 584 PENSION PLAN	TX	PLANO	238210	12/31/15	23.2	865	N
746181280	001	UA P LOCAL 142 PENSION PLAN	TX	PLANO	238220	6/30/16	91.5	1,436	N
746213086	001	IBEW LOCAL UNION NO 527 PENSION PLAN	TX	TEXAS CITY	238210	12/31/15	8.1	617	C
876124266	001	INTERMOUNTAIN IRONWORKERS PENSION TRUST	UT	SALT LAKE CITY	525920	5/31/16	154.8	3,195	N
516052186	001	UTAH CARPENTERS & CEMENT MASONS PENSION PLAN AND TRUST	UT	SALT LAKE CITY	525100	6/30/16	36.4	1,387	N/A
876127884	001	UTAH LABORERS PENSION TRUST FUND	UT	SALT LAKE CITY	525100	12/31/15	9.5	311	N
526192729	001	PLUMBERS AND PIPEFITTERS NATIONAL PENSION FD	VA	ALEXANDRIA	525100	6/30/16	5,339.8	158,408	E
526112463	001	SHEET METAL WORKERS NATIONAL PENSION FUND	VA	FAIRFAX	238100	12/31/15	3,993.5	136,706	E
546072150	001	INTERNATIONAL ASSOCIATION OF BRIDGE STRUCTURAL ORNAMENTAL & REINFORCING IRONWORKERS LU NO 79 PENSION FUND	VA	NOFOK	237990	4/30/16	11.7	402	D
546127076	001	TIDEWATER ELECTRICAL INDUSTRY PENSION FUND	VA	NOFOK	238210	12/31/15	34.6	1,117	N
546112218	001	IRON WORKERS NO 28 PENSION FUND	VA	ROANOKE	238900	12/31/15	34.2	669	N
546117299	001	LABORERS DISTRICT COUNCIL OF VIRGINIA PENSION TRUST FUND	VA	ROANOKE	238900	12/31/15	21.9	722	N

Appendix D: Plan Listing

Plans are sorted first by state, and then by city. Addresses are those that are reported by the plan on its Form 5500 and may be for the plan administrator rather than the plan itself. PPA statuses are defined as: "C" = critical status; "D" = critical and declining status; "E" = endangered status; "N" = neither in critical status nor endangered status; "N/A" = status not reported.

EIN	PLAN	PLAN NAME	CITY	STATE	NAICS	PLAN YEAR END	ASSETS (\$M)	PARTICIPANTS	PPA STATUS
546110105	001	LABORERS PENSION FUND	ROANOKE	VA	238900	9/30/15	13.7	344	N
540927040	001	NORTH CAROLINA CARPENTERS PENSION FUND	ROANOKE	VA	238900	6/30/16	8.2	245	C
036021153	001	PLUMBERS & PIPEFITTERS LOCAL 699 DEFINED BENEFIT PENSION PLAN	SO. BURLINGTON	VT	238220	4/30/16	25.4	405	N
916028298	001	ALASKA LABORERS EMPLOYERS RETIREMENT FUND	SEATTLE	WA	237990	6/30/16	483.3	1,839	E
526103810	001	ALASKA PLUMBING & PIPEFITTING INDUSTRY PENSION PLAN	SEATTLE	WA	238220	12/31/15	226.9	1,858	N
916091466	001	BAC LOCAL NO 1 WASHINGTON PENSION TRUST	SEATTLE	WA	238100	12/31/15	84.9	1,493	N
916029051	001	CARPENTERS RETIREMENT PLAN OF WESTERN WASHINGTON	SEATTLE	WA	238100	12/31/15	1,317.7	19,552	N
91606773	001	CEMENT MASONS AND PLASTERERS RETIREMENT PLAN	SEATTLE	WA	238610	3/31/16	236.5	2,136	N
936075580	001	DEFINED BENEFIT PENSION PLAN OF AGGLOE LOCAL 701 PENSION TRUST FUND	SEATTLE	WA	238900	12/31/15	253.1	4,889	N
916028571	001	LOCALS 302 & 612 OF THE IUDF- EMPLOYERS CONSTRUCTION INDUSTRY	SEATTLE	WA	238900	12/31/15	2,187.4	18,594	N
916123688	001	NORTHWEST IRONWORKERS RETIREMENT PLAN	SEATTLE	WA	332300	6/30/16	425.3	6,865	E
916180333	001	PUGET SOUND ELECTRICAL WORKERS PENSION PLAN	SEATTLE	WA	238210	5/31/16	647.8	6,874	N
920120866	001	SOUTHERN ALASKA CARPENTERS RETIREMENT PLAN	SEATTLE	WA	236200	12/31/15	137.3	2,415	N
916029141	001	WA STATE PLUMBING AND PIPEFITTING INDUSTRY PENSION PLAN	SEATTLE	WA	238220	12/31/15	710.4	8,455	N
916123988	001	WA-ID LABORERS EMPLOYERS PENSION TRUST	SEATTLE	WA	236200	5/31/16	136.2	3,338	N
916022315	001	WESTERN WASHINGTON LABORERS- EMPLOYERS PENSION PLAN	SEATTLE	WA	236200	12/31/15	822.2	15,089	N
916070237	001	ENGINEERS AGC RETIREMENT TRUST OF THE INLAND EMPIRE	SPOKANE	WA	237310	12/31/15	157.6	3,854	N
916128032	001	I B E W PACIFIC COAST PENSION FUND	SPOKANE	WA	238210	3/31/16	228.5	3,313	C
916075538	001	IDHO OPERATING ENGINEERS - EMPLOYERS PENSION PLAN	SPOKANE	WA	237310	6/30/16	109.2	3,394	N
916068929	001	LABORERS AGC PENSION TRUST OF MONTANA	SPOKANE	WA	236200	3/31/16	117.3	3,342	N
916123987	001	WA-ID-MT CARPENTERS EMPLOYERS RETIREMENT TRUST	SPOKANE	WA	237990	6/30/16	225.8	7,778	E
916123986	001	WASHINGTON-IDAHO CEMENT MASONS EMPLOYERS RETIREMENT TRUST FUND	SPOKANE	WA	238100	5/31/16	25.1	858	C
396198530	001	WISCONSIN LABORERS PENSION FUND	SPORFEST	WI	236200	8/31/15	552.5	9,459	E
396079856	001	NORTH CENTRAL STATES REGIONAL COUNCIL OF CARPENTERS PENSION FUND	EAU CLAIRE	WI	238100	12/31/15	1,101.7	17,295	E
516049409	001	BUILDING TRADES UNITED PENSION TRUST FUND MILWAUKEE AND VICINITY	EAU GROVE	WI	236200	5/31/16	1,916.5	27,582	N
396187966	001	PLUMBERS & STEAMFITTERS LOCAL 118 PENSION PLAN	KAUKAUNA	WI	238220	12/31/15	76.8	1,146	N
396185236	001	OPERATIVE PLASTERERS AND CEMENT MASONS LOCAL 204 PENSION FD	KENOSHA	WI	238220	12/31/15	61.4	671	N
396185238	001	WISCONSIN MASONS PENSION FUND	MADISON	WI	236200	4/30/16	30.0	550	N
361119818	003	IRON WORKERS LOCAL 498 DEFINED BENEFIT PLAN	MILWAUKEE	WI	525100	12/31/15	148.4	3,184	E
391084647	002	PLUMBERS STEAMFITTERS AND APPRENTICES LOCAL 206 FOND DU LAC WI PENSION PLAN	MILWAUKEE	WI	525100	12/31/15	44.5	881	N
510107810	001	TRUSTEES OF INTL ASSN OF HEAT & FROST INSULATORS & ASBESTOS WORKERS LOCAL 127 PENSION FUND	MILWAUKEE	WI	237990	7/31/16	24.8	246	N
516035231	002	PAINTERS LOCAL UNION 802 RETIREMENT PLAN	SUN PRARIE	WI	238300	4/30/16	34.5	579	N
391291994	002	ELECTRICAL CONSTRUCTION INDUSTRY PENSION PLAN	WAUWATOSA	WI	238210	5/31/16	340.8	4,364	N
556026775	001	WEST VIRGINIA LABORERS PENSION TRUST FUND	CHARLESTON	WV	525100	3/31/16	316.6	7,143	N
556069713	001	BRICKLAYERS LOCAL UNION NO 5 PENSION PLAN	DAVISVILLE	WV	238100	6/30/16	1.2	70	N
556015364	001	INTERNATIONAL UNION OF OPERATING ENGINEERS LOCAL 132 PENSION FUND	HUNTINGTON	WV	525100	3/31/16	285.4	3,798	N
586051152	001	ATLANTA IRONWORKERS LOCAL #387 PENSION PLAN	ONA	WV	236200	2/28/16	90.9	1,464	N
556027988	001	CARPENTERS PENSION FUND OF WEST VIRGINIA	ONA	WV	525100	12/31/15	241.2	3,173	C
556029095	001	PLUMBERS & PIPEFITTERS LOCAL 152 PENSION TR FUND	ONA	WV	525100	4/30/16	44.7	513	E
316171213	001	SHEET METAL WORKERS LOCAL 98 PENSION FUND	ONA	WV	525100	12/31/15	96.1	1,573	E
556039031	001	UNITED ASSN OF PLUMBERS AND STEAMFITTERS 521 PENSION FD	ONA	WV	561110	6/30/16	23.3	616	E
550463652	001	PLUMBERS & STEAMFITTERS LOCAL 83 PENSION FUND	WHEELING	WV	525100	12/31/15	30.2	484	N/A
836011320	001	OPERATING ENGINEERS LOCAL 800 & WYOMING CONTRACTORS ASSOCIATION INC PENSION PLAN FOR WYOMING	CASPER	WV	237310	12/31/15	24.4	926	D

