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The Trend of Transit Labor Costs: 1982-97

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Executive Summary and Introduction

This report investigates trends in transit labor and operating costs during the 15 year period from 1982 to 1997. The report demonstrates that transit labor costs have increased at substantially lower rates than labor costs in other sectors of the economy. It also shows that the percentage of transit operating costs made up of labor compensation has changed little over the 15 year study period.

The last 15 years have seen substantial changes in the transit industry. This period has included dramatic changes in transportation policy and the attitude of the public with respect to transit. However, much of the information used to make transportation and transit policy decisions is old and dated. Additionally, much of that outdated information characterizes transit management as ineffective in controlling costs and is repeated by those ideologically or otherwise opposed to transit. So that transportation decisions can be based on more current information, the American Public Transportation Association (APTA) requested an analysis of more recent facts. This analysis provides a more balanced and accurate view of transit labor costs as they currently exist.

The analysis consists largely of a presentation of trends in the transit industry over the 15 years from 1982 to 1997. The examination of trends in transit wage rates shows that wages have grown very modestly and have been outpaced by other competing sectors of the economy. Labor compensation as a percent of transit operating expenses has risen only slightly in recent years, and this growth is largely due to increases in fringe benefit costs.

The period under examination is from 1982 to 1997 and is referred to as the "study period." This was the period for which the most recent National Transit Database (NTD) data were available from the United States Department of Transportation's Federal Transit Administration (FTA). In addition to the NTD, data were also drawn from independent APTA sources and from the Regional Economic Information System (REIS) prepared by the Bureau of Economic Analysis (BEA) of the United States Department of Commerce.

The study develops trends by examining the variables at five year intervals, in 1982, 1987, 1992, and 1997. Each of these years is referred to as a "study year," and the intervening five years are referred to as "study intervals." National aggregates (or sums) of the transit variables are not used as the basis of the trend analysis. Rather, the trend analysis is based on mean values calculated across all of the transit agencies in the sample. This yields values in which all agencies play an equal role, regardless of size or other characteristics of individual agencies.

The unit of analysis is generally the transit agency. In some cases, it is an individual mode of a transit agency. The trend analysis evaluates change in these units of analysis over the study years or study intervals. To make comparisons from one study year to another most valid, units of analysis have been eliminated from consideration if any of the data for a particular analysis are missing. For example, if top transit bus operator wage rates for a particular transit agency are available for 1982, 1992, and 1997, but not for 1987, that agency has been eliminated from any analysis involving top wage rates for transit bus operators. While this reduces the size of some of the samples, it is the only way to ensure valid comparisons across the study years.

Summary of Findings

Based on data from 1982 through 1997, this study reaches the following conclusions about transit labor costs.

1. Hourly wage increases in the transit industry appear to be both well managed and under control. Rates of increase were not exorbitant, nor even out of the ordinary. In

real terms, the total increases from 1982 to 1997 in hourly wage rates were modest at 0.4 percent for transit bus operators, 1.1 percent for mechanics, and 6.1 percent for rail operators.

2. Compared to other sectors in the same labor sheds, rates of increase in hourly transit bus operator wages were substantially lower than rates of increase in the manufacturing and government sectors. Local rates of increase of hourly transit bus operator wages also lagged considerably behind those of the local economy as a whole. Only when compared to the transportation and public utility sector were rates of increase in hourly transit bus operator wages consistent.

   In the same metropolitan area, increases in the manufacturing sector were, on average, 15.6 percent more than increases in the transit bus operator top wage rate. Increases in the government sector were, on average, 21.7 percent more, and increases across all sectors were 12.1 percent more. Only in the transportation and public utility sector were the increases in earnings per employee close, averaging 0.5 percent more than increases in the transit bus operator top wage rate from 1982 to 1997.

3. The component of transit operating costs devoted to labor compensation has been fairly constant over time. The categorical breakdown of transit operating expenses did not change dramatically over the 1982-97 period. The percentage of transit operating expenses devoted to labor compensation at the average transit agency increased only slightly (from 60.9 percent to 62.6 percent) during the 15 years from 1982 to 1997. Fringe benefit expenses account for most of that increase.

Labor Costs

The trends reported below show that over the last 15 years increases in transit wages have been modest in real terms. Wage increases in other sectors of the economy have far outpaced increases in the transit industry. After a presentation of the data to be analyzed and method of analysis, this section of the report covers changes in hourly transit wage rates during the 1982-97 study period. It is followed by a comparison of those changes with changes of compensation rates in other sectors of the economy.

Data

Wage data are regularly reported to APTA by transit agencies around North America. The data are organized by mode by agency and reported periodically by APTA. For this analysis, top wage rate data reported by APTA for each of the four study years were used for transit bus operators, rail operators, and mechanics. The data used for a given study year were those reported as close as possible to July 1 of the study year. The 1982 data were reported as of July 27; the 1987 data as of July 29, the 1992 data as of July 31, and the 1997 data as of June 6. The format in which the data are reported for each year has changed over time and some difficulties were encountered in making certain that data were associated with the appropriate operator across time. This was largely due to changes in agency names, restructuring, and the presence of multiple operators in urbanized areas. Only data for which a high level of certainty was present were used in the analysis. The data were collected by mode for each transit agency. Thus, some properties may be represented more than once in the data sets used for the analysis.

This analysis uses only top hourly wage rates reported to APTA. For operators, APTA defines the top hourly wage rate as the highest combination of the hourly guaranteed wage and the hourly CPI-dependent wage attainable for less

than 6 years of employment. For mechanics, APTA's definition is the highest paid maintenance employee on the day shift whose job includes a significant portion of actual vehicle maintenance work. This may include positions whose duties are partly supervisory.

While rates other than top hourly wage rates are reported, these are the only data comparable across transit agencies due to widely divergent wage schedules. Only agencies for which the top wage rate was reported in all four study years are used in this analysis. While this reduces the size of the sample from which the wage rate data are drawn, it ensures comparability across the 15 year study period. Top wage rates of the same modal operations of the same transit agencies are being compared in each of the study years.

Employment and earnings data for each metropolitan area in which transit agency top wage rate data are available were gathered from the Regional Economic Information System (REIS) prepared by the Bureau of Economic Analysis (BEA) of the United States Department of Commerce for the four study years (1982, 1987, 1992, and 1997). These data were gathered for the manufacturing sector, the government sector, and the transportation and public utility sector, as well as for all sectors of the economy in aggregate. These data provide, for each metropolitan area, the amount of personal earnings (or income) paid by employers in each sector, as well as the total number of positions (summing full and part time) in each sector.

The manufacturing sector was selected for comparison with transit, because it is a major competitor for many of transit's hourly wage earners. The government sector was selected because many transit employees are in fact government employees, working for state or local units of government or for special districts or authorities of state and local government.

The transportation and public utility sector was selected because it is the one in which private sector transit operators are classified. Since most public transit agencies are governmental employers, transportation and public utility is not the sector in which most transit employees are classified. Furthermore, the sector is dominated by freight transport and public utility sector enterprises with which transit has little in common. The aggregate of all sectors of the economy provides a comparison of local transit with the larger metropolitan economy of which it is a part.

Method

Trends in transit labor wage changes are analyzed in two distinct ways. In the first analysis of wages, wage rates in each study year are compared to determine a trend. All wage rates are converted to constant 1999 dollars using the gross domestic price deflator.

The mean wage rate is calculated across the transit agencies in the sample and used to determine the trend. Trends for wage rates of transit bus operators, rail operators, and mechanics are calculated separately. Within each of these employment classes, all transit agencies are treated equally. Thus, small agencies have the same impact on a mean wage rate as large agencies.

However, because the size of a transit agency may have some impact on wage rates and their trends, a separate trend of means is presented for transit bus operator wages at large transit agencies (having more than 200 vehicles), at small agencies (having less than 200 vehicles), and at agencies also operating rail service. There are 130 agencies in the sample reporting bus operator wages in all four study years. Of these, 77 are associated with small transit agencies and 53 with large agencies. There are 22 agencies in this sample of transit bus operator wages which also operate rail service.

The same method is used to analyze trends in rail operator top wage rates and mechanic top wage rates. There are 18 agencies in the sample

reporting rail operator wages in all four study years. Because of the small size of this sample, no breakdown by size classification is analyzed. There are 57 agencies in the sample reporting top mechanic wages in all four study years. Of these, 34 are associated with small transit agencies and 23 with large agencies.

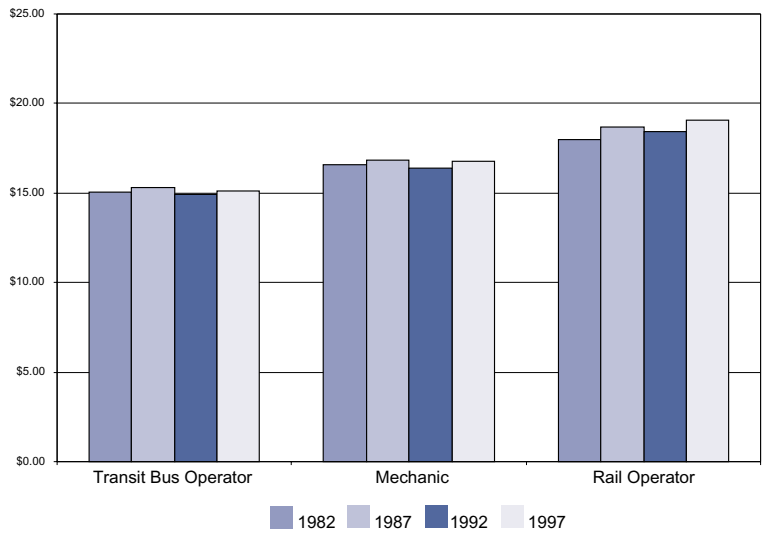
In the second analysis of transit wage rates, the changes in transit wages are compared to changes in other sectors of the economy. The metropolitan area of every agency in the sample above was determined, and REIS employment and earnings data, by sector, were used to calculate an estimated average earnings per employee in each of the study years for the four economic sectors described above. The REIS data do not differentiate between full and part time employees, so it is assumed that the relative number of each does not change over time. The average earnings per employee were calculated by a simple division of total earnings by total number of employees in each sector. The absolute amount of the calculation is not extremely meaningful for comparison with top wage rates in the transit industry. This is because top transit wage rates are hourly and average earnings per employee from the REIS are annual. However, comparisons of the change across the four study years in average earnings per employee and top transit wages are extremely meaningful.

The estimated increases in wages in economic sectors are compared with increases in the three classes of transit wages. For each class of transit wages, the wage increase is calculated as a rate. The rate is the percent increase in the mean wage of all the transit agencies in the sample for the two study years over which the rate is calculated. The same process is used in calculating the increase in the estimated average earnings per employee in large economic sectors. The transit agency is the unit of analysis. Thus, if a metropolitan area has more than one transit agency in the sample, that metropolitan area will be included more than once in the calculation of the estimated average earnings per employee.

Figure 1

Mean Hourly Top Wage Rates for Three Transit Job Classes

(Samples in Constant 1999 Dollars)



Source: Periodic APTA wage reports.

Table 1

Mean Transit Bus Operator Top Wage Rates
for Transit Agencies in the Sample
(amounts in constant 1999 dollars)

	1982	1987	1992	1997
All Agencies (n=130)	$15.07	$15.33	$14.95	$15.13
Large Agencies (n=53)	16.74	16.85	16.37	16.54
Small Agencies (n=77)	13.92	14.28	13.97	14.15
Agencies with Rail Service (n=22)	17.56	17.59	17.17	17.33

Source: Calculated from periodic APTA wage reports.

A second method is used to compare increases in transit wages and changes of average earnings per employee in other sectors of the economy. The same data are used. However, rather than comparing the change in mean transit wages with the change in mean estimated average earnings per employee in other economic sectors, a slightly different comparison is made. For each transit agency in the sample the difference between the rate of change in transit wages and the rate of change in average earnings per employee in that agency's metropolitan area is computed. A negative value indicates that wages at a transit agency rose faster than the average earnings per employee in that transit agency's metropolitan area. A positive value indicates the opposite. The mean of these values indicates whether the average transit agency increased wages faster or slower than average earnings per employee increased in other sectors in the same metropolitan area. This analysis is completed for three classes of transit wages (transit bus operators, rail operators, and mechanics) and compared with average earnings per employee in the manufacturing sector, in the government sector, in the transportation and public utility sector, and in all sectors of the metropolitan economy.

All earnings and wage data are converted to constant 1999 dollars using the gross domestic price deflator. This method of comparison only accounts for changes in money compensation. It does not address other forms of compensation such as fringe benefits. These are discussed in the next section on Operating Costs.

Labor Cost Findings

Transit hourly wages for operators and mechanics rose very little in real terms and substantially less than average earnings per employee in other sectors of the economy. When compared within metropolitan areas, transit wages rose less than average earnings per employee in the manufacturing and government sectors, about the same as average earnings per employee in the transportation and public utilities sector, and much less than average earnings per employee in all sectors of the economy.

Transit Wage Rates at the Average Transit Agency

Based on the 130 agencies reporting transit bus operator hourly wages in all four study years, the average transit bus operator making the top agency operator wage in 1982 was paid $15.07 in 1999 constant dollars. (See Figure 1.) In 1997 that wage had increased to $15.13 in 1999 constant dollars, an increase of less than 0.5 percent. Operators employed at small properties saw top wages increase less than 2 percent, while operators at large agencies and at agencies also providing rail service saw decreases of about 1 percent. Viewed in five year increments, wages increased marginally during the 1982-87 period, then fell marginally from 1987 to 1992, then rose again marginally during the 1992-97 period. All in all, the average transit agency saw top transit bus operator wages hovering at roughly the same amount over the 1982-97 period. (See Table 1.)

Based on the 57 agencies reporting top hourly mechanic wage rates in all four study years, the average mechanic making the top agency mechanic wage in 1982 was paid $16.60 in 1999 constant dollars. (See Figure 1.) In 1997 that wage had increased to $16.78 in 1999 constant dollars, an increase of just over 1 percent. As with transit bus operator wages, these real wages increased marginally in the 1982-87 period, fell a bit in the following five years, and then again rose marginally in the 1992-97 period. The average large transit agency saw its top mechanic wage drop about 1 percent over the 15 years, while the average small agency saw its wage increase just over 2.5 percent. (See Table 2.)

Only the top hourly wage rates for rail operators show any substantial real increase over the 15 year study period. (See Figure 1.) The 18 rail operations in the sample saw real increases in top rail operator wage rates of 6 percent from 1982 to 1997. The average agency operating rail service paid top rail operator wages of $17.99 in 1982 (in constant 1999 dollars). By 1997 this wage had risen to $19.09. These wages rose about 4 percent in the 1982-87 period, fell about 1 percent from 1987 to 1992, and then rose 3 percent during the following five years. (See Table 3.)

Thus, the average transit agency increased top transit bus operator, mechanic, and rail operator hourly wages by 0.5 percent, 1.5 percent, and 6 percent, respectively, in real terms over the 1982-97 period. On their face, these are rather modest levels of increase. Furthermore, these increases cannot be viewed in a vacuum. The ability to attract and retain labor is, at least in part, a

Table 2

Mean Mechanic Top Wage Rates for Transit Agencies in the Sample

(amounts in constant 1999 dollars)

	1982	1987	1992	1997
All Agencies (n=57)	$16.60	$16.83	$16.37	$16.78
Large Agencies (n=23)	18.27	18.42	17.93	18.11
Small Agencies (n=34)	15.47	15.76	15.31	15.89

Source: Calculated from periodic APTA wage reports.

Table 3

Mean Rail Operator Top Wage Rates for Transit Agencies in the Sample
(amounts in constant 1999 dollars)

	1982	1987	1992	1997
All Agencies (n=18)	$17.99	$18.68	$18.46	$19.09

Source: Calculated from periodic APTA wage reports.

function of wages in competing industries in the same labor shed. This report now turns to a comparison with compensation rates in other industries.

Wage Changes in Average Transit Agencies and in Average Labor Sheds

Data to make direct comparisons of personal income of transit employees and employees in other industries in the same geographic area are not readily available. However, data to make such comparisons of rates of wage increase are available. Rates of increase in the top hourly wage rates of average transit agencies nationwide can be compared to rates of increase in average earnings per employee in competing sectors of the economy.

The average transit agency saw a 0.4 percent increase in top transit bus operator wages from 1982 to 1997 in constant 1999 dollars. In the same metropolitan areas served by those transit agencies, the average earnings per employee in the manufacturing sector of the economy increased by 16.3 percent in real terms, in the government sector by 22.8 percent, in the

Table 4

Percent Changes in Mean Transit Bus Operator Top Wage Rates and Recent Changes in Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Areas

	1982-87	1987-92	1992-97	1982-97
Transit Bus Operators	1.7%	-2.5%	1.2%	0.4%
Manufacturing	4.5	6.2	4.8	16.3
Government	10.2	6.9	4.3	22.8
Transp. & Public Utility	1.0	0.2	0.8	2.0
All Sectors Aggregated	5.6	4.1	3.4	13.6

Note: Data for the 130 Transit Agencies in the Sample.
Source: Calculated from periodic APTA reports and REIS data.

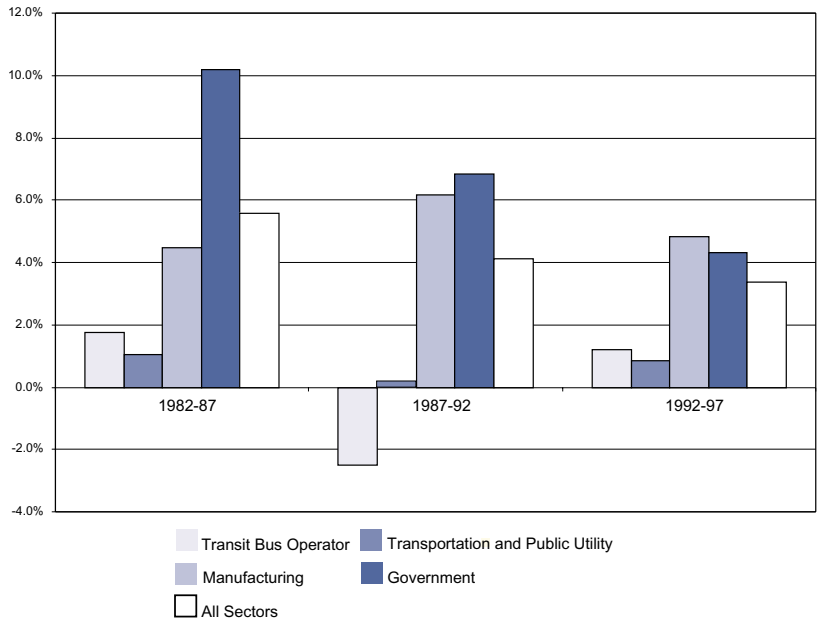
transportation and public utility sector by 2.0 percent, and in the economy as a whole by 13.6 percent. (See Table 4.)

Comparisons of rates of increase in real top wages for mechanics and rail operators with rates of increase in real average earnings per employee in the manufacturing and government sectors in those same labor markets show substantially lower rates of increase in transit wages. This is true regardless of transit system size, and it is true not only over the period 1982-97, but also for each of the five year periods of 1982-87, 1987-92, and 1992-97. (See Table 5 and 6.) These same facts apply to a comparison of rates of increase in transit top wages and in average earnings per employee aggregated for all economic sectors.

In the case of the transportation and public utility sector, rates of increase in transit wages outstrip that sector in some cases, and in other cases fall short. (See Figure 2.) Generally, wage changes for the workers in these two industry groupings remained within a narrow range of each other. For example, the average transit agency increased the real top wage rate for rail operators by 6.1 percent from 1982 to 1997. In those same metropolitan areas during this same period, the average real earnings per employee in the transportation and public utility sector increased by 5.6 percent. (See Table 6.) Similarly, the average transit agency increased the real top wage rate for mechanics by 2.5 percent from 1992 to 1997. In the same metropolitan areas served by those transit agencies, average real earnings per

Figure 2

Percent Change in Mean Top Transit Bus Operator Wage With Change in Mean Average Earning Per Employee in Four Comparable Economic Sectors for Same Metropolitan Areas
(based on constant 1999 dollars)



Note: Data for the 130 transit agenices in the sample.
Source: Calculated from periodic APTA reports.

Table 5

Percent Changes in Mean Mechanic Top Wage Rates and Percent Changes in Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Areas

	1982-87	1987-92	1992-97	1982-97
Mechanics	1.4%	-2.8%	2.5%	1.1%
Manufacturing	5.3	6.1	4.3	16.6
Government	10.5	6.8	4.1	22.8
Transpo & Public Utility	0.5	0.6	0.7	1.8
All Sectors Aggregated	5.6	3.4	2.8	12.2

Source: Calculated from periodic APTA reports and REIS data.

Table 6

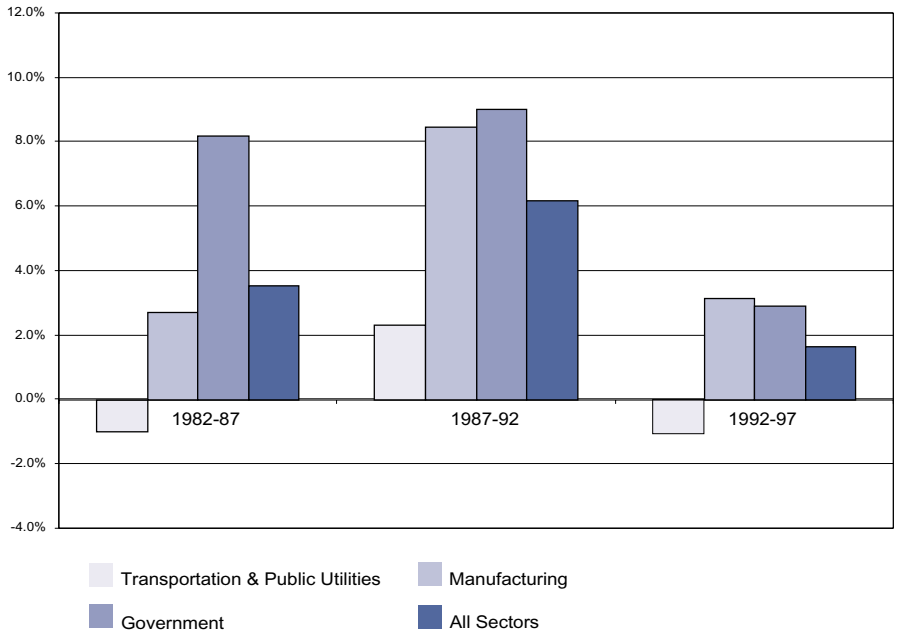
Percent Changes in Sample Mean Rail Operator Top Wage Rates and Percent Changes in Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Areas

	1982-87	1987-92	1992-97	1982-97
Rail Operator	3.8%	-1.2%	3.4%	6.1%
Manufacturing	8.3	10.1	6.7	27.2
Government	10.4	9.3	6.2	28.2
Transpo & Public Utility	1.2	2.3	2.1	5.6
All Sectors Aggregated	9.2	7.6	5.0	23.3

Source: Calculated from periodic APTA reports and REIS data.

Figure 3

Mean Difference Between Percent Changes of Transit Bus Operator Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Area



Note: Base or zero value is the rate of change of transit wage, so positive values shown above indicate a higher rate of wage growth in the sector shown. Data for the 130 transit agencies in the sample.
Source: Calculated from periodic APTA reports and REIS data.

employee in the transportation and public utility sector increased by 0.7 percent. (See Table 5.)

In short, top transit wages have not risen faster than average real earnings per employee in other sectors of the economy competing for the same workers. For example, manufacturing and government rates have increased remarkably faster than transit rates. Changes in rates for transportation and public utility employees have sometimes been higher than top transit rates and sometimes lower.

Wage Changes at a Transit Agency and in its Labor Shed

Rates of increase in the top hourly wage rates of transit employees in a metropolitan area can also be directly compared to rates of increase in average earnings per employee in competing sectors of the local economy. A comparison of each transit agency in the sample with its local metropolitan economy reveals that, over the period 1982-97, wage rates in the manufacturing sector, in the government sector, in the transportation and public utility sector, and in the aggregate of all sectors of the economy increased faster than transit wage rates. The agencies in the sample are the same as those used in the analysis above.

Table 7

Mean Difference Between Percent Changes of Transit Bus Operator Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Areas

	1982-87	1987-92	1992-97	1982-97
Manufacturing	2.7%	8.5%	3.1%	15.6%
Government	8.2	9.0	2.9	21.7
Transpo & Public Utility	-1.0	2.3	-1.1	0.5
All Sectors Aggregated	3.5	6.2	1.6	12.1

Note: Positive values indicate slower growth of transit wages. Data for the 130 transit agencies in the sample.
Source: Calculated from periodic APTA reports and REIS data.

Table 8

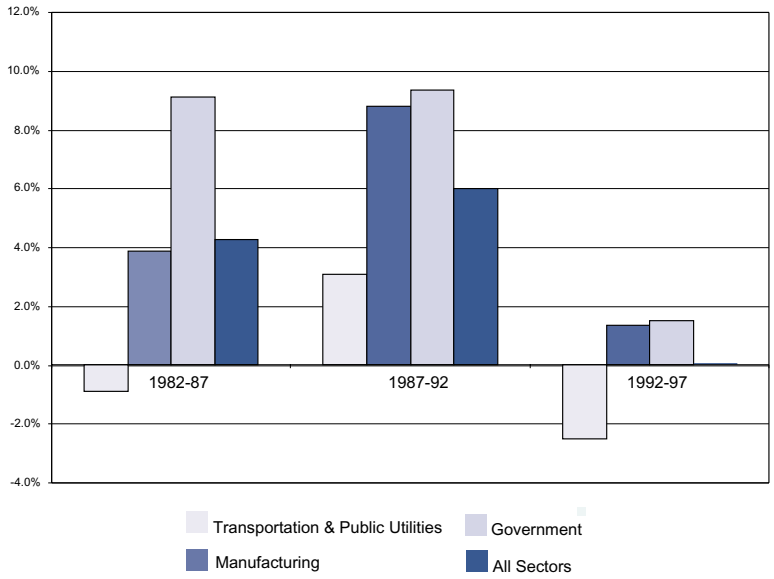
Mean Difference Between Percent Changes of Mechanic Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Areas

	1982-87	1987-92	1992-97	1982-97
Manufacturing	3.9%	8.8%	1.4%	15.3%
Government	9.1	9.4	1.5	21.5
Transpo & Public Utility	-0.9	3.1	-2.5	-0.1
All Sectors Aggregated	4.3	6.0	0.0	10.8

Note: Positive values indicate slower growth of transit wages. Data for the 130 transit agencies in the sample.
Source: calculated from periodic APTA reports and REIS data.

Figure 4

Mean Difference Between Percent Changes of Mechanic Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Area



Note: Base or zero value is the rate of change of transit wage, so positive values shown above indicate a higher rate of wage growth in the sector shown. Data for the 57 transit agencies in the sample.
Source: Calculated from periodic APTA reports and REIS data.

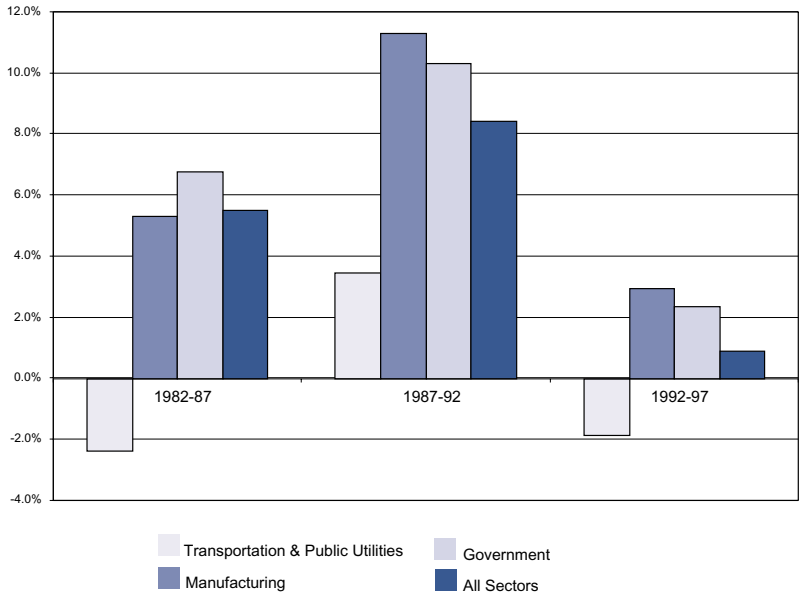
In the same metropolitan area, increases in earnings per employee in the manufacturing sector were, on average, 15.6 percent more than increases in the transit bus operator top wage rate from 1982 to 1997. Increases in the government sector were, on average, 21.7 percent more, and increases across all sectors were 12.1 percent more. (See Table 7.) In the transportation and public utility sector, increases in earnings per employee were at rates averaging 0.5 percent more than increases in the transit bus operator top wage rate. In some of the five year components of the 15 year period 1982-97, the transportation and public utility sector increases were less than the transit bus operator wage increases. (See Figure 3.)

Increases in earnings per employee in the manufacturing and government sectors were higher than increases in transit mechanic top wages by an average of 15.3 percent and 21.5 percent, respectively, in the same metropolitan area over the 1982-97 period. (See Table 8.) Increases for transit mechanics were on average 0.1 percent greater than increases in the transportation and public utility sector. In one of the five year components of the 15 year period, 1982-97, the transportation and public utility sector increases were more than the transit mechanic wage increases. (See Figure 4.) Increases across all sectors were higher than increases for transit mechanics by an average of 10.8 percent.

Increases in the manufacturing and government sectors were, on average, 22.3 percent and 21.7 percent higher than increases for rail operators in the same metropolitan areas over the 1982-97

Figure 5

Mean Difference Between Percent Changes of Rail Operator Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors in the Same Metropolitan Area



Note: Base or zero value is the rate of change of transit wage, so positive values shown above indicate a higher rate of wage growth in the sector shown. Data for the 18 transit agencies in the sample.

Source: Calculated from periodic APTA reports and REIS data.

period. (See Table 9.) On the other hand, rates of increase in rail operator top hourly wages averaged 0.5 percent more than increases in earnings per employee of the transportation and public utility sector. In some of the five year components of the 15-year period 1982-97, the transportation and public utility sector increases were more than the transit rail operator wage increases. (See Figure 5.) Increases across all sectors of the local economy, however, surpassed rail operator increases by 16.6 percent.

In the same labor sheds rates of transit wage increases from 1982 to 1997 have lagged considerably behind rates of increase in the manufacturing sector, in the government sector, and in the aggregate of all sectors in the same metropolitan area. They have been similar to those in the transportation and public utility sector. It should be noted that these analyses compare increases of wages in the transit industry and increases of average earnings per employee in other economic sectors. The analyses do not provide any comparison of the absolute rates of compensation.

Labor Cost Conclusions

Transit wage increases have been modest in real terms since 1982. Compared to other sectors in the same labor shed, rates of increase in transit wages have been substantially lower than rates in the manufacturing and government sectors and generally consistent with rates of increase in the transportation and public utility sector. Local rates of increase of transit wages have lagged considerably behind those of the local economy as a whole.

Operating Costs

In the previous section, rates of transit wage increases were shown to be less than rates in the manufacturing and government sectors and in the economy as a whole and consistent with rates in the transportation and public utility sector. In this section the component of transit operating costs devoted to labor compensation is shown to be fairly constant over time. Transit labor costs have been well managed by transit agencies.

Data and Method

All of the data used to evaluate transit operating costs are derived from the National Transit Database (NTD). The NTD provides a breakdown of operating expenses by modal operation of transit agencies in the database. However, for the four study years, joint expenses of the different modes of a single transit agency are treated differently. Therefore, the only consistent manner in which to utilize the data is to aggregate the modal data to the agency level and use the transit agency as the unit of analysis.

Seven variables were constructed from the data available from the NTD. These are:

- operator salaries and wages;
- other salaries and wages;
- fringe benefits;
- services, including services for management, advertising, professional and technical assistance, temporary help, maintenance, security, etc.;
- fuel and lubrication;
- tires and materials, including tubes and other supplies; and
- all else, including utilities, casualty and liability, taxes, purchased transportation, and a variety of other miscellaneous expenses.

These data are compared across the 15 year study period in each of the study years of 1982, 1987, 1992, and 1997 to identify trends. The comparisons are based on percentages of total operating expenses. The comparisons concentrate

Table 9

Mean Difference Between Rail Operator Top Wage Rates and Percent Changes of Average Earnings Per Employee in Other Economic Sectors

	Percent Change 1982-87	Percent Change 1987-92	Percent Change 1992-97	Percent Change 1982-97
Manufacturing	5.3%	11.3%	2.9%	22.3%
Government	6.8	10.3	2.4	21.7
Transpo & Public Utility	-2.4	3.4	-1.9	-0.5
All Sectors Aggregated	5.5	8.4	0.9	16.6

Note: Positive values indicate slower growth of transit wages in the same metropolitan areas for the 18 transit agencies in the sample.

Source: Calculated from periodic APTA reports and REIS data.

Table 10

Mean Percent of Total Operating Expenses Devoted to Labor Compensation at the 249 Agencies in the Sample

	1982	1987	1992	1997
Operator Wages	28.8%	27.2%	26.3%	26.1%
Other Wages	16.2	17.3	17.3	17.2
Fringe Benefits	15.9	17.6	20.1	19.4
Total Labor Compensation	60.9%	62.1%	63.7%	62.6%

Source: Calculated from National Transit Database.

on the labor compensation component of operating expenses, although other components are included in the analysis.

To maintain consistency in the comparisons, only transit agencies reporting operating expense breakdowns in each of the four study years are included in the analysis. This maximizes the comparability of the data across the study period. In the comparisons of the components of operating expenses based on percentages, the values cited are the means calculated across all of the transit agencies in the sample. This method provides each transit agency, regardless of size or other factors, with the same weight in the calculation of the mean percent. Thus, a large transit agency spending lots of money in one expense category at a much higher rate than many other agencies does not overly affect the indication of the national data in that expense category.

Table 11

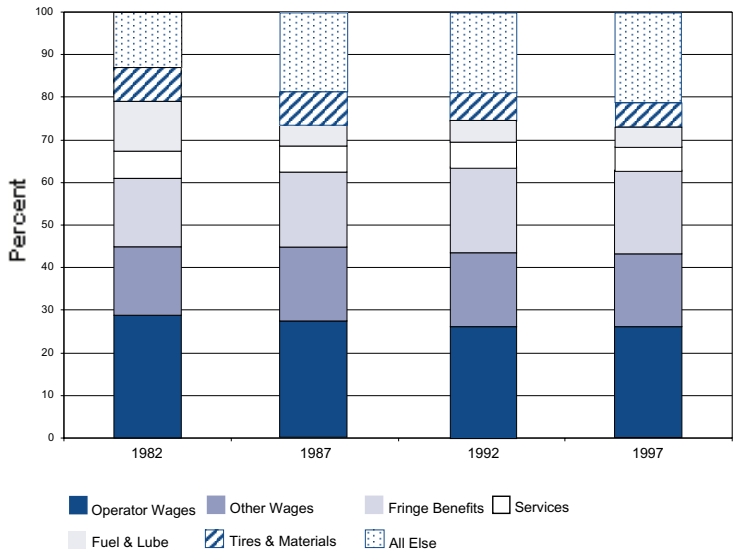
Mean Percent of Total Operating Expenses Devoted to Labor Compensation at the 197 Small Agencies in the Sample

	1982	1987	1992	1997
Operator Wages	29.0%	27.4%	26.7%	26.4%
Other Wages	15.1	16.1	15.9	15.8
Fringe Benefits	14.6	16.2	18.8	18.1
Total Labor Compensation	58.7%	59.8%	61.5%	60.2%

Source: Calculated from National Transit Database.

Figure 6

Mean Percent of the Components of Operating Expenses for the 249 Agencies in the Sample.



Source: Calculated from National Transit Database.

Nonetheless, because size may have some impact on the distribution of expenses and their trends, separate trends of means are presented for large transit agencies, for small agencies (having less than 200 vehicles), and for agencies operating rail service. There are 249 agencies in the sample reporting operating expenses in all four study years. Of these, 197 are small transit agencies and 52 are large agencies. There are 25 agencies in this sample which operate rail service.

Operating Cost Findings

The portion of transit expenses devoted to labor compensation has increased only slightly during the 15 years from 1982 to 1997. Fringe expenses account for most of that increase.

For the 249 agencies in the sample, the mean percent of operating expenses devoted to labor compensation was 60.9 in 1982. While the average transit agency was expending 63.7 percent of operating expenses on labor compensation in 1992, this amount fell to 62.6 percent by 1997. These changes represent the effects of both increases in labor compensation expenses and decreases in other expenses. (See Figure 6.)

Wages paid to transit operators at the average transit agency have fallen from 28.8 percent of transit operating expenses in 1982 to 26.1 percent in 1997. (See Table 10.) Wages paid to other transit personnel have risen from 16.2 percent to 17.2 percent. This yields a net reduction in the mean percent of transit expenses made up of wages of 1.7 percent. However, the mean percent of the expenses made up of fringe benefits have grown from 15.9 percent to 19.4 percent.

Small transit agencies were similar to large transit agencies in that the mean percent of total operating expenses devoted to operator wages has fallen, the mean percent devoted to other wages has grown slightly, and the mean percent devoted

to fringe has grown more, but peaked prior to 1997. (See Table 11.)

All in all, the mean percent of transit expenses devoted to labor compensation has not changed dramatically. In fact, only two categories of transit expense appear to have changed substantially. The fuel and lubrication category has dropped dramatically as a result of substantial reductions in petroleum prices in the 1982-87 period. That reduction in mean percentage has been largely offset by an increased mean percentage in the "all else" category. (See Figure 6.)

In summary, the categorical breakdown of transit operating expenses has not changed dramatically over the 1982-97 period. Transit labor costs certainly have not risen substantially more quickly than other costs. Labor costs that have increased are a result of increases in the costs of fringe benefits.

Summary and Conclusion

This report shows that transit labor costs have been well managed in the period 1982 to 1997. Rates of increase in hourly wages have been modest and generally less than rates of increase in other sectors of local economies. The portion of transit operating expenses devoted to labor compensation changed very little, with a small increase attributable to increases in fringe benefits.

Summary of Findings

Based on data from 1982 through 1997, this study reaches the following conclusions about transit labor costs.

1. Hourly wage increases in the transit industry appear to have been both well managed and under control. Rates of increase have not been exorbitant, nor even out of the ordinary.

   In real terms, the total increases from 1982 to 1997 in hourly wage rates have been modest at 0.4 percent for transit bus operators, 1.1 percent for mechanics, and 6.1 percent for rail operators.

2. Compared with other sectors in the same labor sheds, rates of increase in hourly transit bus operator wages have been substantially lower than rates of increase in the manufacturing and government sectors. Local rates of increase of hourly transit bus operator wages also have lagged considerably behind those of the local economy as a whole. Only when compared with the transportation and public utility sector have rates of increase in hourly transit bus operator wages been consistent.

   In the same metropolitan area, increases in the manufacturing sector have been, on average, 15.6 percent more than increases in the transit bus operator top wage rate. Increases in the government sector have been, on average, 21.7 percent more, and increases across all sectors have been 12.1 percent more. Only in the transportation and public utility sector have the increases in earnings per employee been close, averaging 0.5 percent more than increases in transit bus operator top wage rate from 1982 to 1997.

3. The component of transit operating costs devoted to labor compensation has been fairly constant over time. The categorical breakdown of transit operating expenses has not changed dramatically over the 1982-97 period. The percentage of transit operating expenses devoted to labor compensation at the average transit agency have increased only slightly (from 60.9 percent to 62.6 percent) during the 15 years from 1982 to 1997. Fringe benefit expenses have accounted for most of that increase.

This is the first in a series of occasional papers to be published by the Alan M. Voorhees Transportation Center, a unit of the Edward J. Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey.

Established in December 1998, the Alan M. Voorhees Transportation Center brings a major research university's full array of resources to bear on transportation issues. The center consists of the National Transit Institute (NTI) and the Transportation Policy Institute (TPI). Louis J. Gambaccini is Executive Director of the center. Under the direction of Joseph J. Seneca, University Vice President for Academic Affairs, the center executive director chairs the university-wide Transportation Coordinating Council. Creating links to areas such as governance, finance, land use, social policy, and economic development, the Alan M. Voorhees Transportation Center serves as both a forum and a catalyst for the analysis and discussion of transportation public policy issues.

This report was prepared under a contract with the American Public Transportation Association. The principal researcher and report author was Neal A. Denno, Assistant Director of NTI. Martin E. Robins, TPI Director, was the project manager. Several graduate students in the Department of Urban Planning and Policy Development of the Edward J. Bloustein School of Planning and Public Policy assisted in the collection and preparation of the data. Principal among these were Miho Kitaguchi and Benjamin Timothy Evans.