King County
METRO

Peer Agency Comparison on Performance Measures

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Peer agency comparison on performance measures

Every year, King County Metro Transit compares its performance to that of peer agencies using data from the National Transportation Database (NTD). Metro compares itself to 29 of the other largest[1] bus transit agencies in the U.S. on eight indicators. The comparisons include only the agencies' bus modes (motor bus, trolley bus, commuter bus, and rapid bus, as defined by the NTD).

The measures presented are from 2013, with comparisons to previous years. NTD annual data are not available until the end of the following year at the earliest, so the analysis is delayed by at least one year. Other challenges to peer analyses include the fact that only bus performance measures are measured, but many of the peer agencies also operate significant rail systems around which they structure their bus networks. This may affect their performance on the measures compared.

Also, it is not always clear what has been included and excluded in the NTD reports. In previous years, Metro reports included Sound Transit bus service operated by Metro. This analysis does not include Sound Transit service, but the composition of other agencies' reports is uncertain. That is one reason Metro uses a robust cohort of 30 peers and shows the averages among them.[2]

The key measures compared are based on service and financial statistics. Service measures are: boardings (the total number of times passengers board buses during the year), vehicle hours and vehicle miles (the hours and miles a bus travels from the time it leaves its base until it returns), and passenger miles (the total miles traveled by all passengers).

Financial measures are the total bus operating cost divided by the service statistics. Farebox recovery is the total bus fare revenue divided by operating costs.

Between 2012 and 2013, Metro was one of the fastest growing agencies in boardings and passenger miles—largely because of the improving local economy and service revisions around Metro's new RapidRide C and D lines. The increase in ridership is a key reason why Metro has one of the slowest growth rates in costs per boarding and per passenger mile.

The five-year comparison is against the baseline year of 2009, when Metro ridership declined 6 percent, and many other agencies also saw declines. Since then, Metro has been one of the fastest growing agencies in boardings. We have not, however, grown as rapidly in passenger miles. One reason is that Link light rail started in mid-2009 and expanded to the airport at the end of the year. Link replaced Metro's Route 194, which accounted for about 4 percent of all passenger miles.

Over 10 years, 2004-2013, Metro had strong growth in boardings, and correspondingly low growth in cost per boarding. Metro had one of the fastest growing farebox recovery rates (the proportion of operating costs paid by fares). This was driven by the increase in ridership, as well as fare increases starting in 2008 to help offset declines in sales tax revenue growth because of the recession.

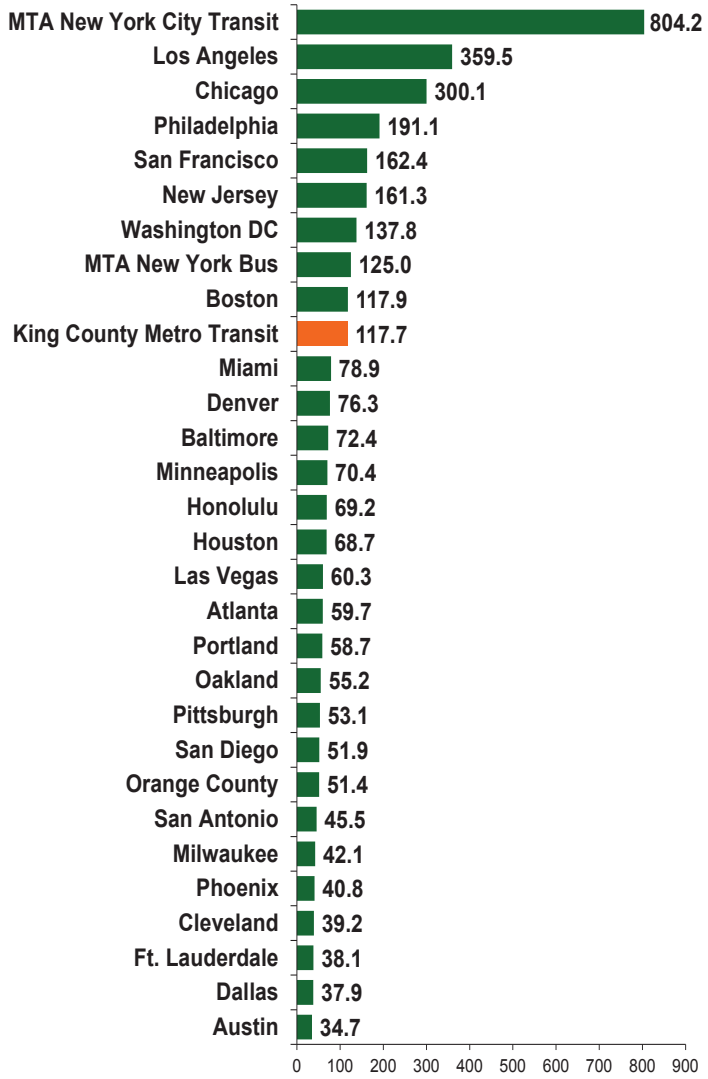
	2013			1-year Annual Growth			5-year Annual Growth			10-year Annual Growth		
	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg
Boardings	117.7 m	10	119.4 m	2.8%	5	-0.8%	1.5%	3	-1.3%	2.3%	3	-0.1%
Boardings per hour	32.7	11	34.6	2.5%	4	-1.6%	1.1%	11	0.2%	1.4%	4	0.0%
Passenger miles per mile	11.7	10	10.8	6.8%	4	-0.5%	1.2%	17	1.8%	1.8%	11	1.3%
Cost per hour	$139.30	7	$123.20	2.7%	16	1.7%	3.3%	13	2.7%	3.8%	16	3.8%
Cost per mile	$11.24	8	$10.40	3.5%	14	1.8%	3.5%	13	3.2%	4.4%	13	4.2%
Cost per boarding	$4.26	7	$3.76	0.2%	24	3.5%	2.1%	19	2.6%	2.3%	24	3.8%
Cost per passenger mile	$0.96	14	$0.99	-3.1%	25	2.6%	2.2%	12	1.4%	2.5%	16	2.9%
Farebox recovery(3)	29.1%	14	28.4%	0.1%	16	0.0%	3.4%	11	2.1%	8.8%	4	2.2%

[1]By number of boardings

[2]The 2013 peer comparison added Broward County and removed Detroit, which has lost much ridership in the past few years and is no longer in the top 30 by boardings.

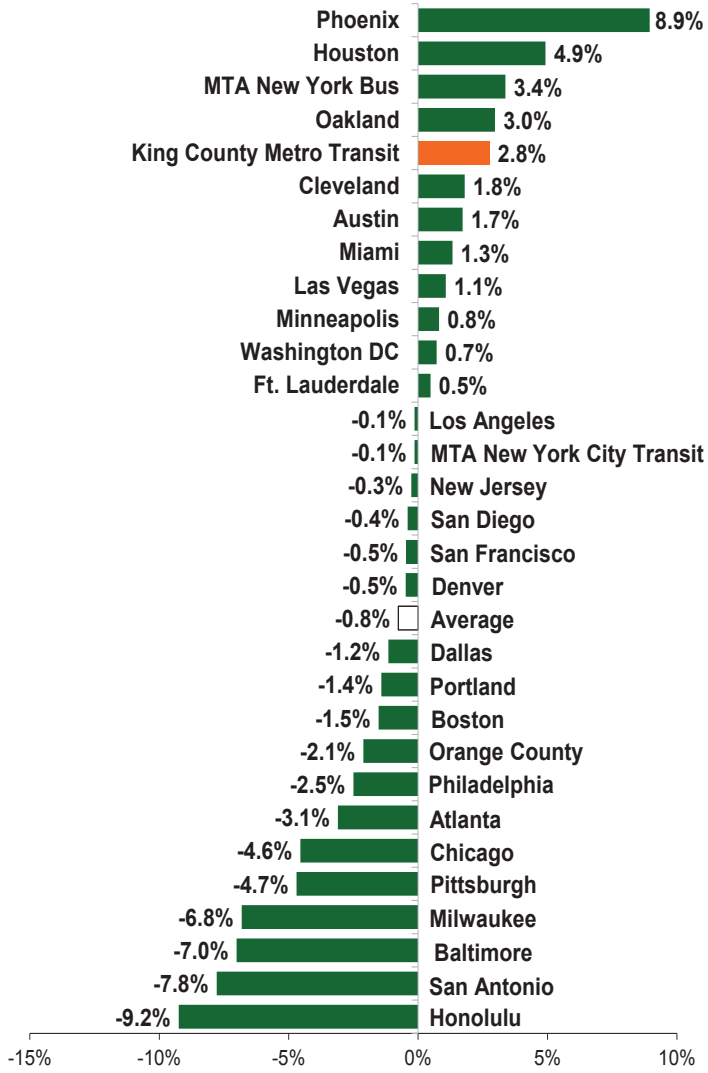
[3]The growth is the total percentage-point growth.

Bus Boardings–2013
(in millions)



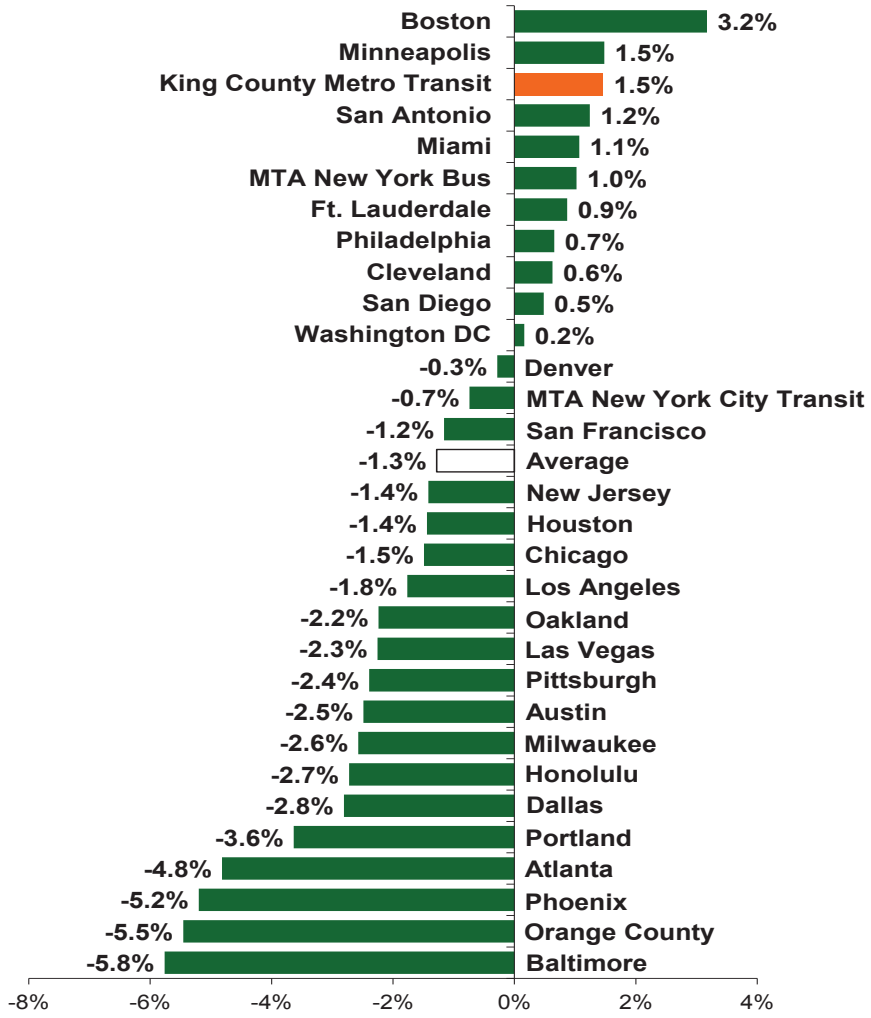
Metro had 117.7 million bus boardings in 2013 (peer rank: 10).

Bus Boardings
Percentage Change 2012–2013



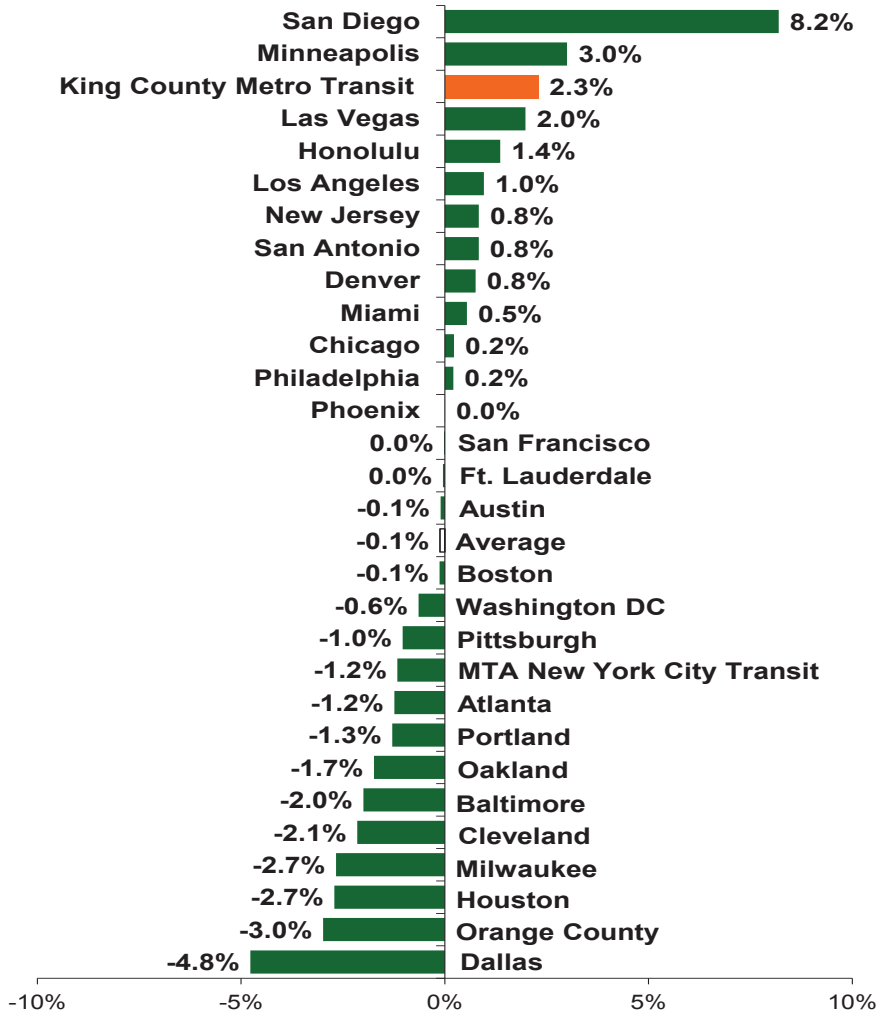
One-year change: Metro boardings increased 2.8 percent in 2013 (peer rank: 5), while the peers averaged a loss in ridership.

Bus Boardings
Average Annual Percentage Change 2009–2013



Five-year change: Metro boardings increased by a yearly average of 1.5 percent from 2009 to 2013 (peer rank: 3), while the peers lost ridership.

Bus Boardings
Average Annual Percentage Change 2004–2013



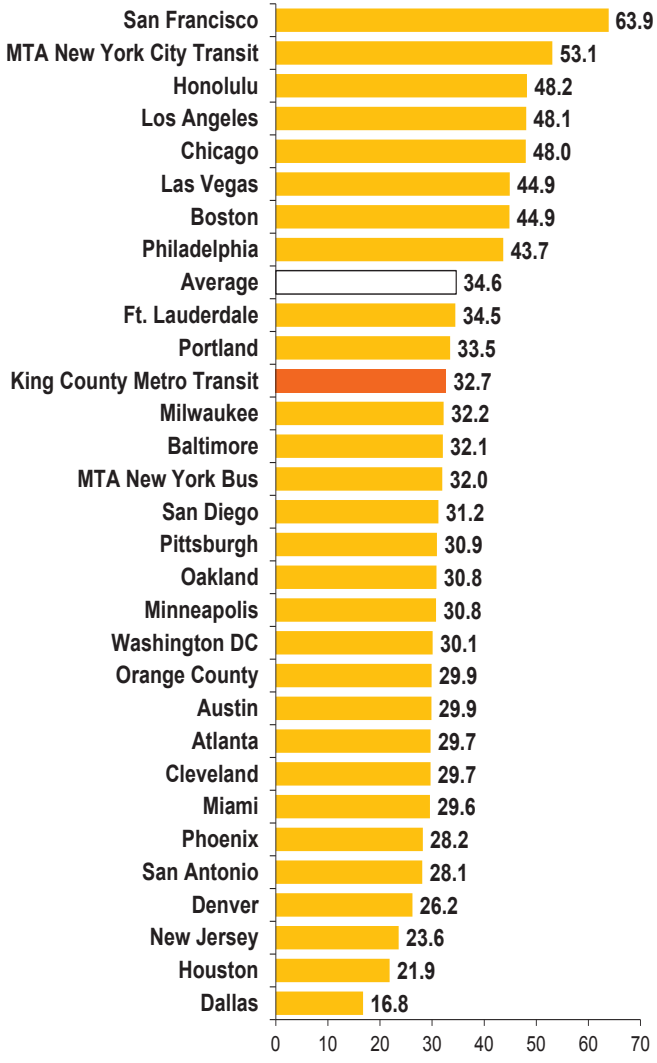
Ten-year change: Metro's boardings increased by a yearly average of 2.3 percent from 2004 to 2013 (peer rank: 3), while the peers had flat ridership. Metro's growth over the past decade is especially remarkable given several factors that normally would reduce ridership growth. The base fare increased 80 percent, the Ride Free Area closed, and Sound Transit Link light rail service began in one of Metro's major bus corridors. Ridership increases are attributable to increases in local employment and key investments, such as those in RapidRide and on SR-520 to respond to increased transit demand after tolling began.

Boardings per vehicle hour is a key measure of productivity, and productivity is one of the priorities for Metro service investments, along with social equity and geographic value. In recent years, Metro has seen more growth in boardings per vehicle hour than most other agencies. Metro added service that increased the boardings-per-hour ratio, such as RapidRide, SR-520 service and Alaskan Way Viaduct mitigation service.

Before the service guidelines were adopted in 2011, most service investments were targeted into east and south King County, where there is less density and productivity. While ridership has grown at a rapid rate over the past decade in these two areas, the average boardings per hour in both areas is below the systemwide average. The most extensive reinvestments made under the service guidelines rolled out in late 2012. These include the RapidRide C and D lines and a corresponding restructure around downtown Seattle. These impacts are evident in the 2013 data.

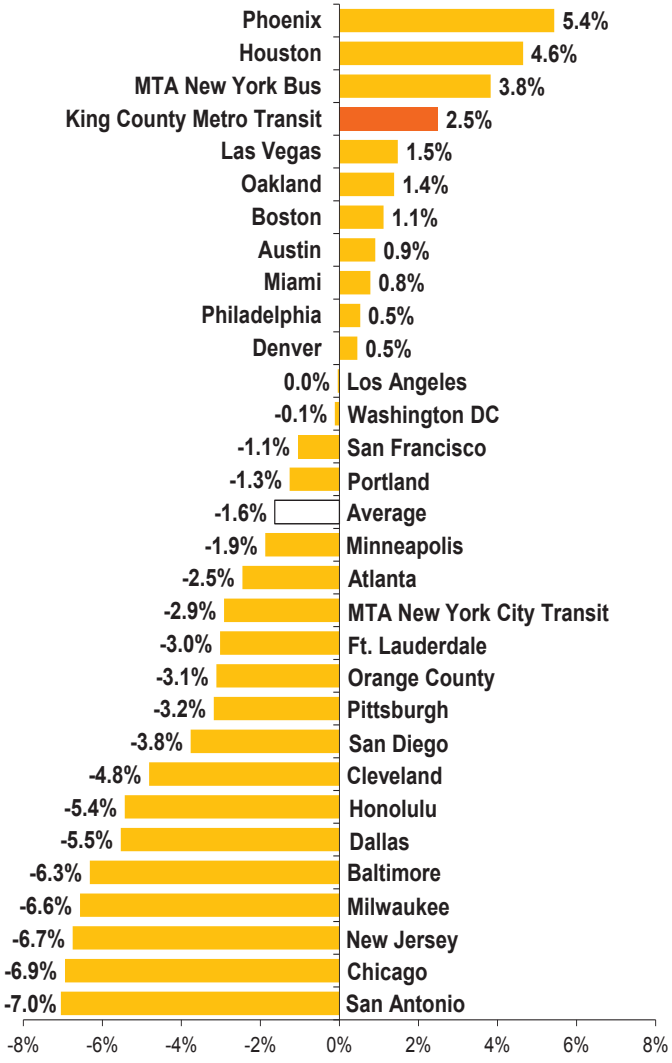
The growth in employment the past few years added significantly to boardings and thus boardings per hour. Also, In response to King County's 2009 Performance Audit of Transit, Metro reduced layover times between trips in 2010 and 2011. This increased boardings per hour.

Boardings Per Vehicle Hour
2013



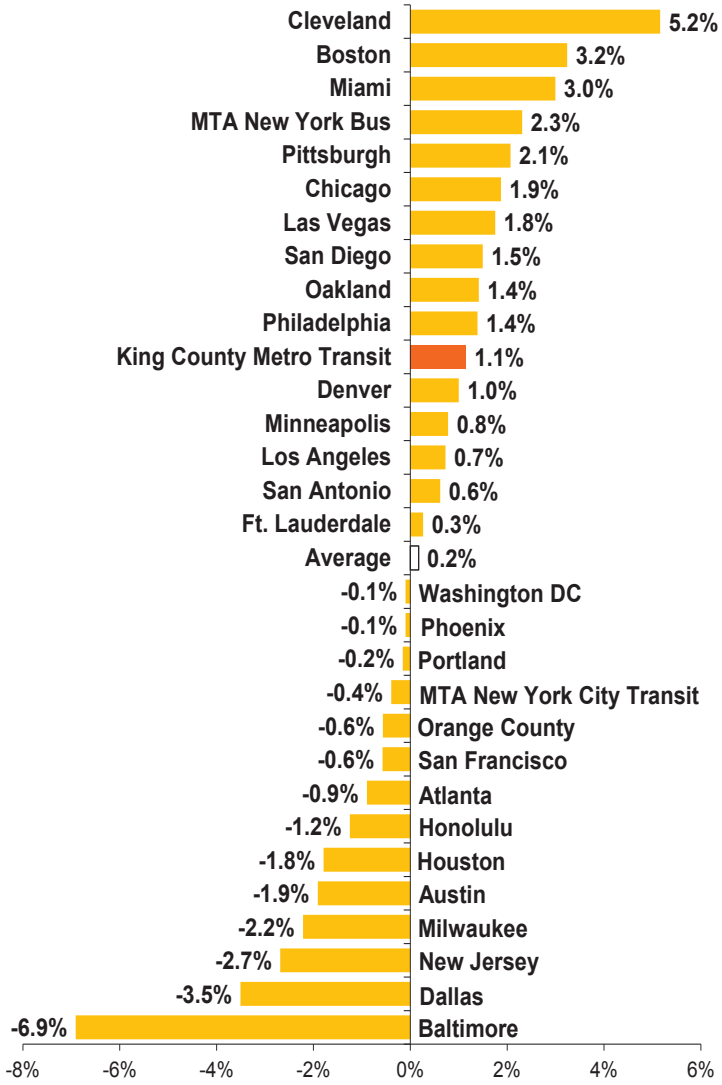
2013: Metro had 32.7 boardings per hour (peer rank: 11).

Boardings Per Vehicle Hour
Percentage Change 2012–2013



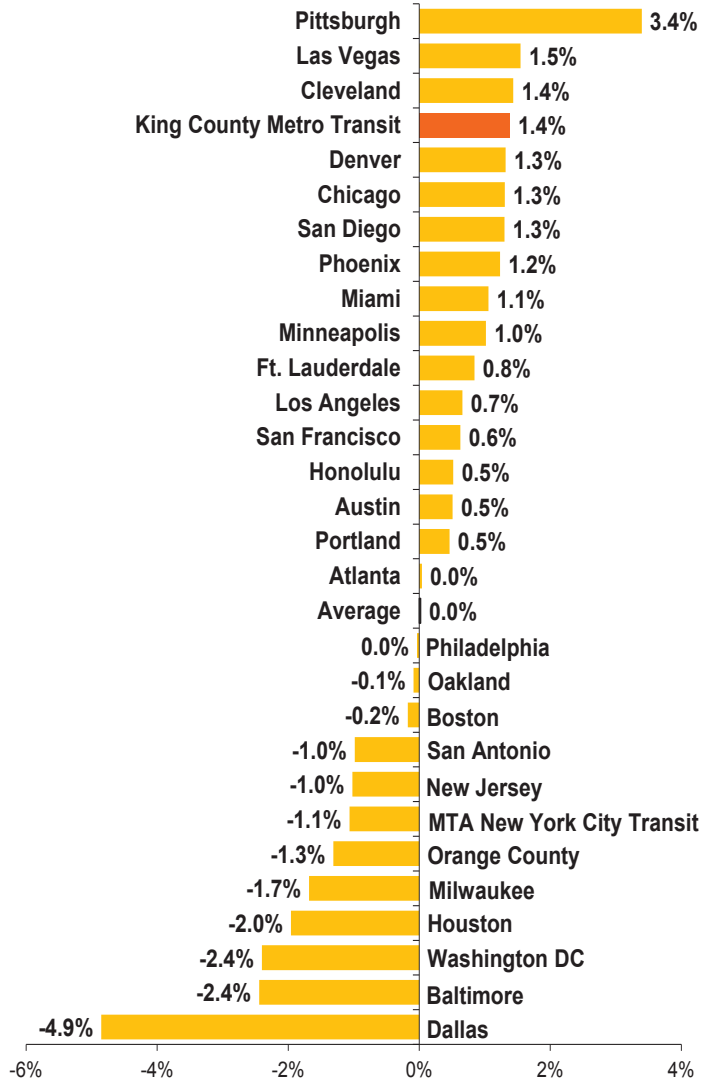
One-year change: Ridership grew 2.8 percent while hours grew 0.3 percent, resulting in a net gain of 2.5 percent in boardings per hour (peer rank: 4). The peers averaged a decline in 2013.

Boardings Per Vehicle Hour
Average Annual Percentage Change 2009–2013



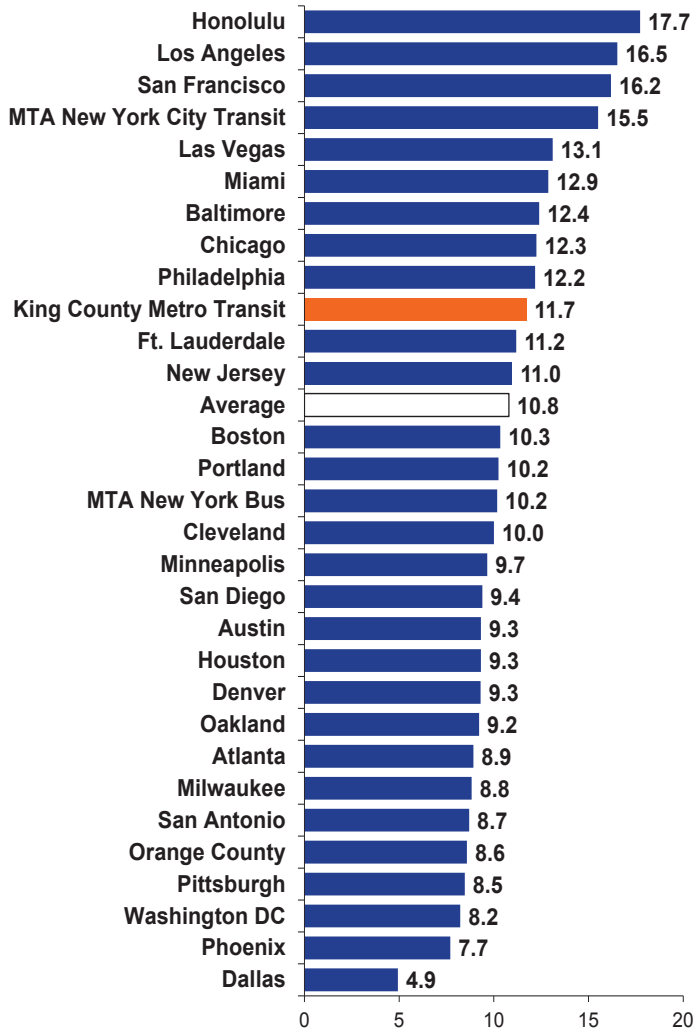
Five-year change: Metro's boardings per hour increased by a yearly average of 1.1 percent from 2009 to 2013 (peer rank: 11), while the peers had flat levels.

Boardings Per Vehicle Hour
Average Annual Percentage Change 2004–2013



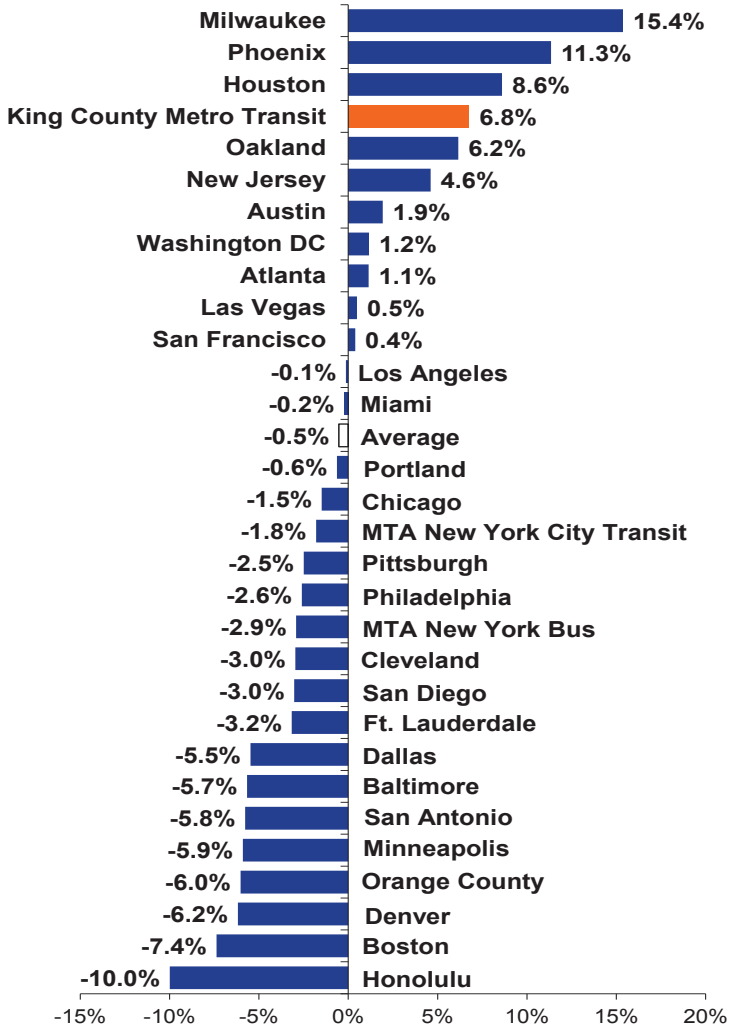
Ten-year change: Metro's boardings per hour increased by a yearly average of 1.4 percent from 2004 to 2013 (peer rank: 4). This reflects the strong long-term growth in boardings mentioned in the previous section.

Passenger Miles Per Vehicle Mile 2013



2013: Metro had 11.7 passenger miles per vehicle mile (peer rank: 10).

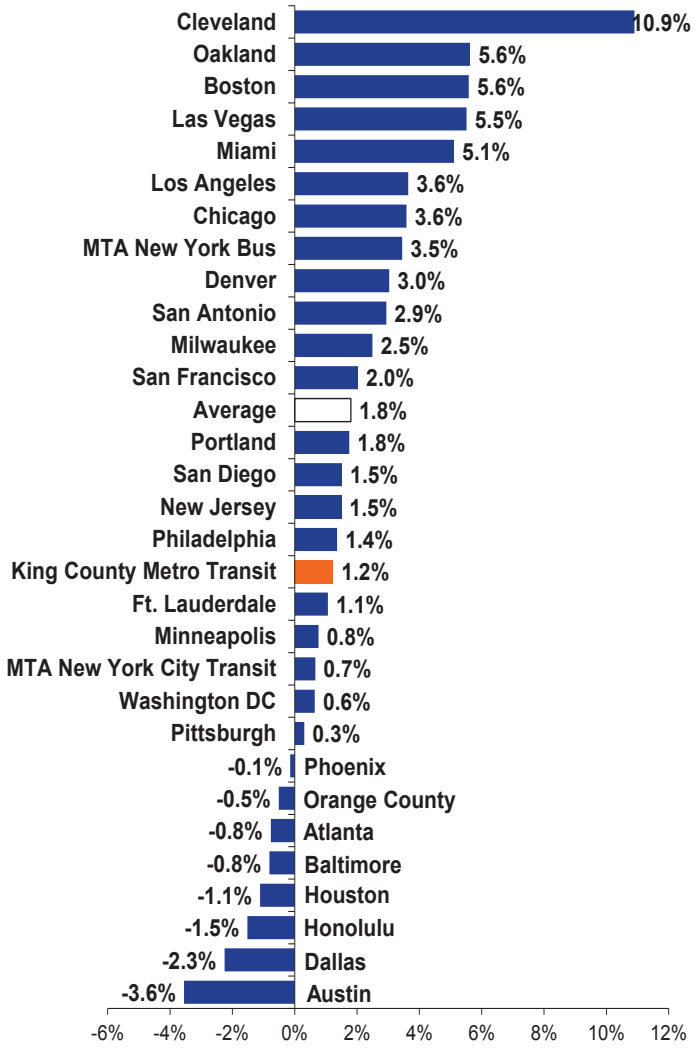
Passenger Miles Per Vehicle Mile Percentage Change 2012–2013



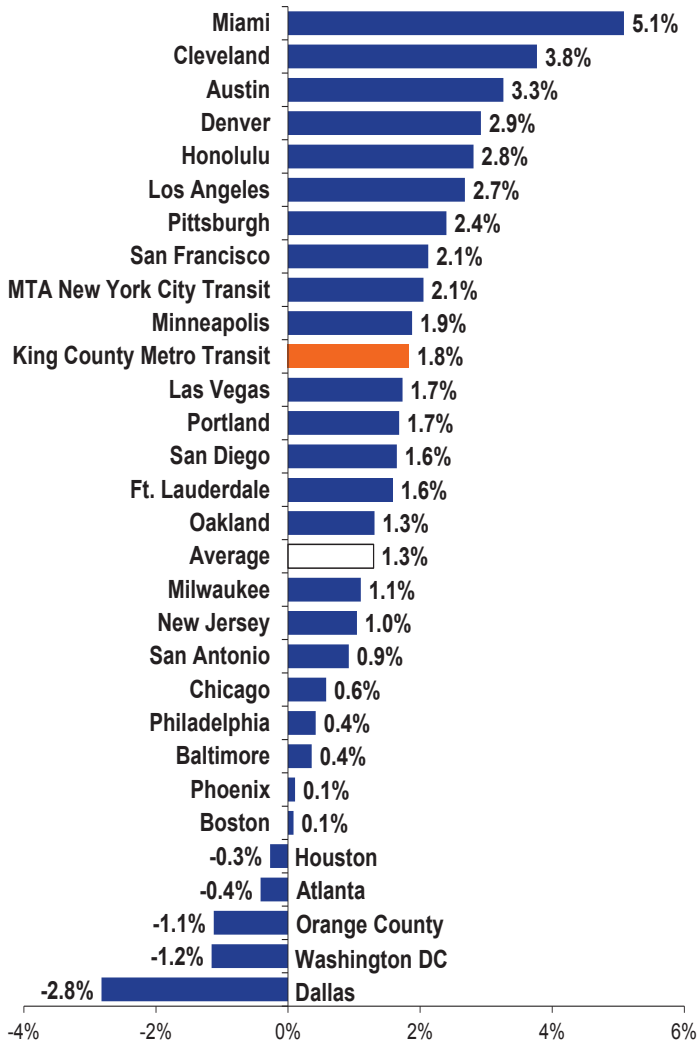
One-year change: Metro's passenger miles per vehicle mile increased 6.8 percent from 2012 to 2013 (peer rank: 4). Metro's vehicle miles fell slightly in 2013, by about 0.5 percent. Coupled with a significant increase in average trip length, this led to the large year-to-year increase. The growth in trip length was likely a function of two factors: the closure of the Ride Free Area, which reduced the number of short trips within the Seattle downtown area, and a rebound in the economy which led to longer commuter-oriented trips.

Five-year change: The substantial ridership growth from 2012 to 2013 helped stem the five-year trend of falling passenger miles per vehicle mile. Looking at 2009-2013, this ratio increased at an average annual rate of 1.2 percent (peer rank: 17). Prior years saw decreases in passenger trip length for two main reasons: the recession caused a dip in commute trips, which tend to be longer than other trips; and restructures of Metro service around Link light rail and RapidRide corridors tended to focus service on all-day routes rather than longer-distance commuter routes. In addition, increased ridership on Sounder commuter rail probably replaced some long Metro bus rides.

Passenger Miles Per Vehicle Mile
Average Annual Percentage Change 2009–2013



Passenger Miles Per Vehicle Mile
Average Annual Percentage Change 2004–2013



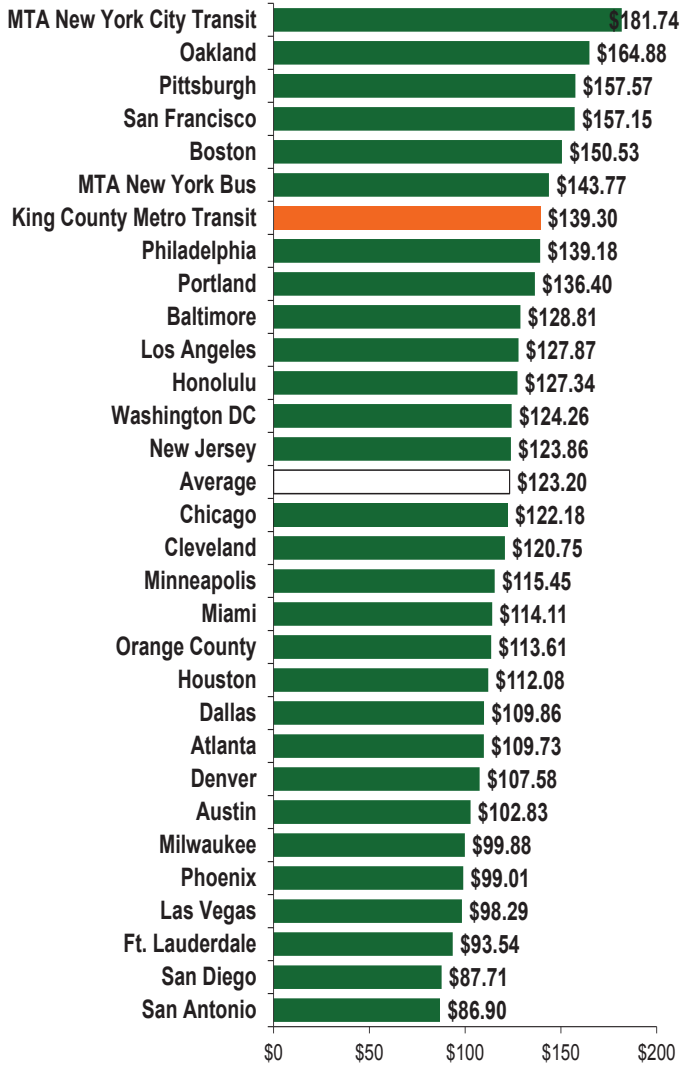
Ten-year change: Over 10 years, Metro's passenger miles per vehicle mile increased at an annual rate of 1.8 percent (peer rank: 11), a little better than the peer average of 1.3 percent.

Several factors contribute to bus operating cost per vehicle hour. Most of the total cost (about 70 percent) comes from the direct costs of putting buses on the road, including wages and benefits for bus drivers, vehicle maintenance, fuel or power (electricity), and insurance. Additional costs are for critical support functions including information technology, safety and security, management and administrative services (human resources, payroll, accounting, budget and planning), and maintenance of bases and passenger facilities (shelters, park-and-rides, transit centers, etc.). Because Metro is part of a large, general purpose government, support is also provided by other county agencies.

Other contributing factors include the type, size, and mix of fleet vehicles and average miles per hour. Fleet makeup can influence costs significantly. Metro's operating costs per vehicle hour reflect a heavy reliance on large articulated buses, which are more expensive to operate than smaller buses. Articulated buses provide operating efficiencies in other ways, such the ability to carry more passengers and handle high demand during peak periods. Metro is one of only four peers to operate trolley buses, which are more expensive to operate than motor buses. However, they minimize pollution, operate more quietly, and are well-suited for climbing the steep hills of Seattle.

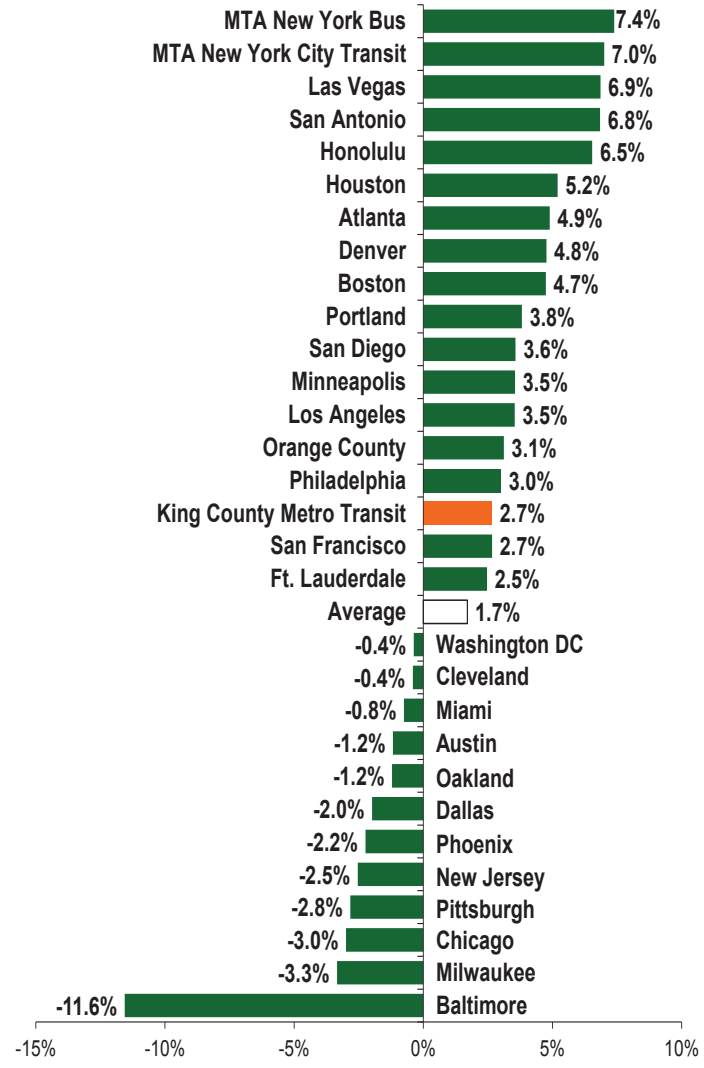
Another cost, unique to Metro, is the maintenance and operation of the Downtown Seattle Transit Tunnel. While adding to Metro's total costs, this facility also supports efficient operation and quality of service in the busy Seattle core, reducing the number of service hours needed.

Operating Cost Per Vehicle Hour
2013



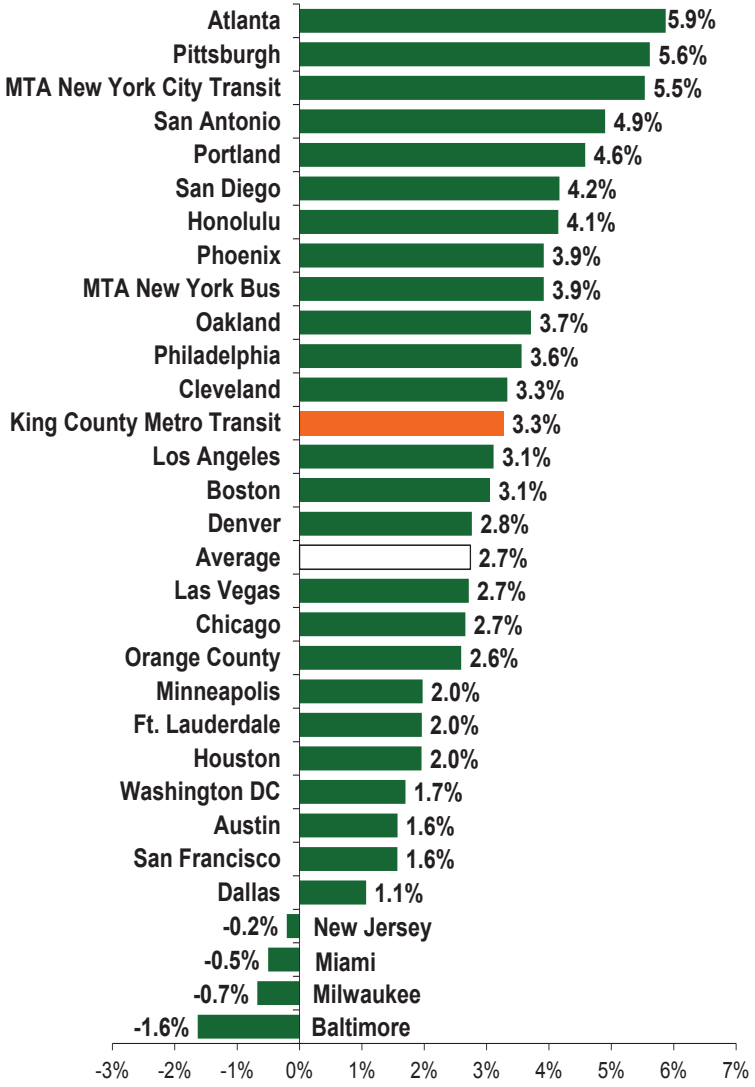
2013: Metro's operating cost per hour was $139.30 in 2013 (peer rank: 7).

Operating Cost Per Vehicle Hour
Percentage Change 2012–2013



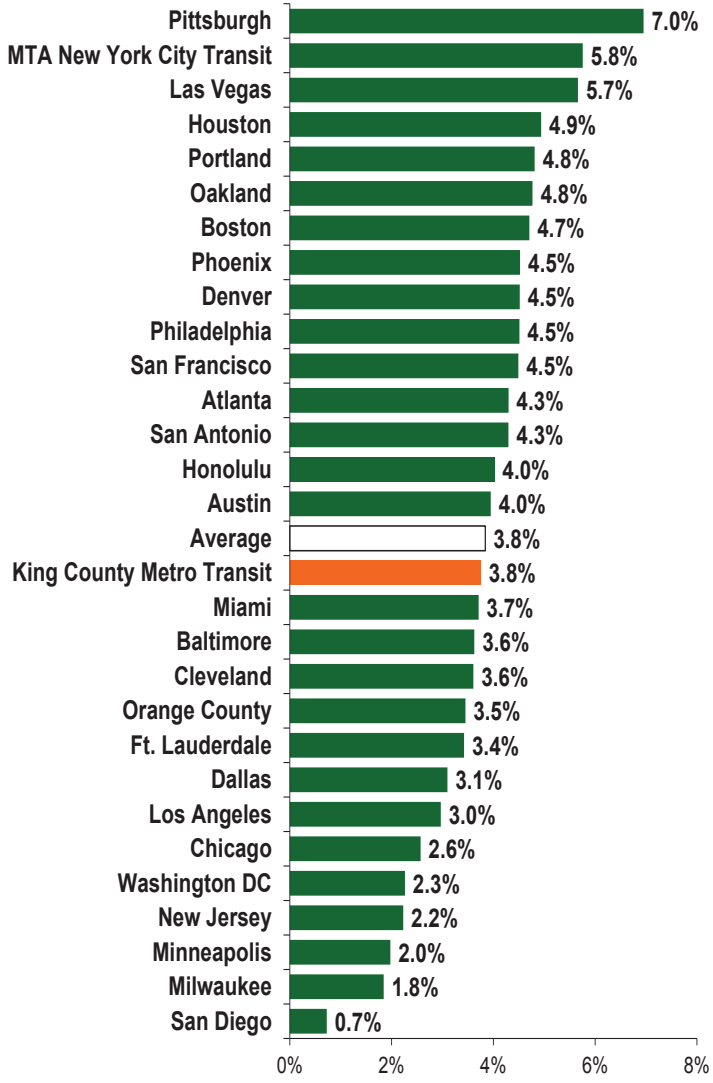
One-year change: From 2012 to 2013, Metro's operating cost per hour increased 2.7 percent, which put it near the middle among its peers (peer rank: 16). The year-to-year change shows a slowing in growth from the previous year, driven primarily by Metro's ability to control costs during 2013.

Operating Cost Per Vehicle Hour
Average Annual Percentage Change 2009–2013



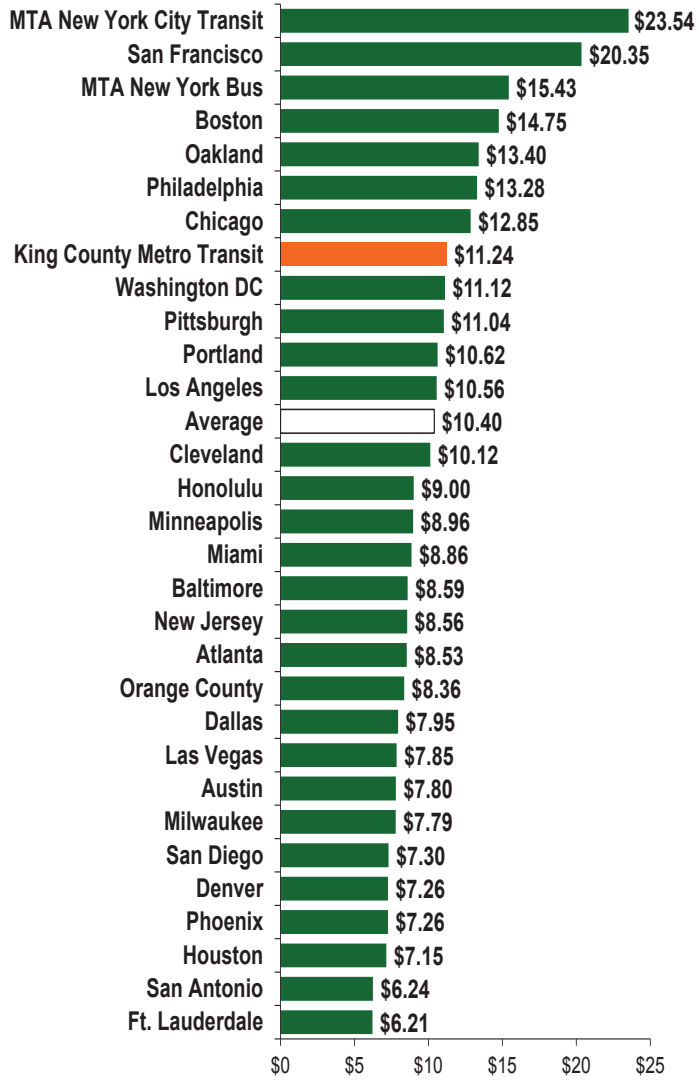
Five-year change: Metro had an average annual growth of 3.3 percent over five years (peer rank: 13), 0.6 percent above the peer average. Cost containment during this period included a 2011 wage freeze for King County Metro employees.

Operating Cost Per Vehicle Hour
Average Annual Percentage Change 2004–2013



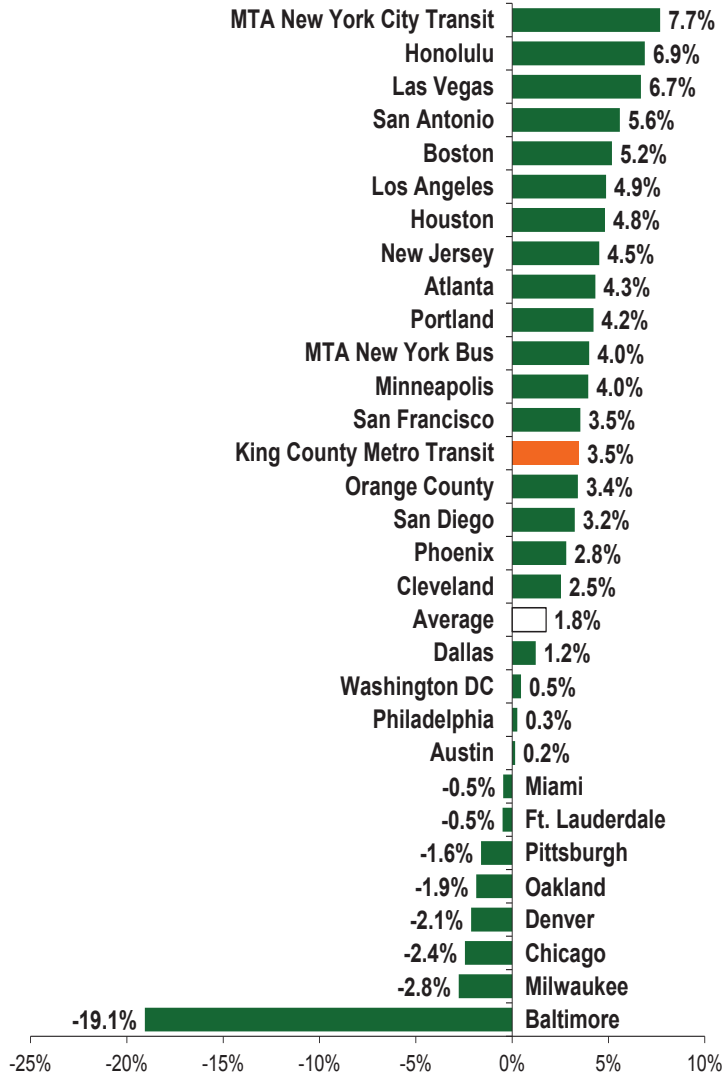
Ten-year change: Metro had an average annual percentage growth in cost per hour of 3.8 percent, (peer rank: 16), which is equal to the peer average.

Operating Cost Per Vehicle Mile 2013



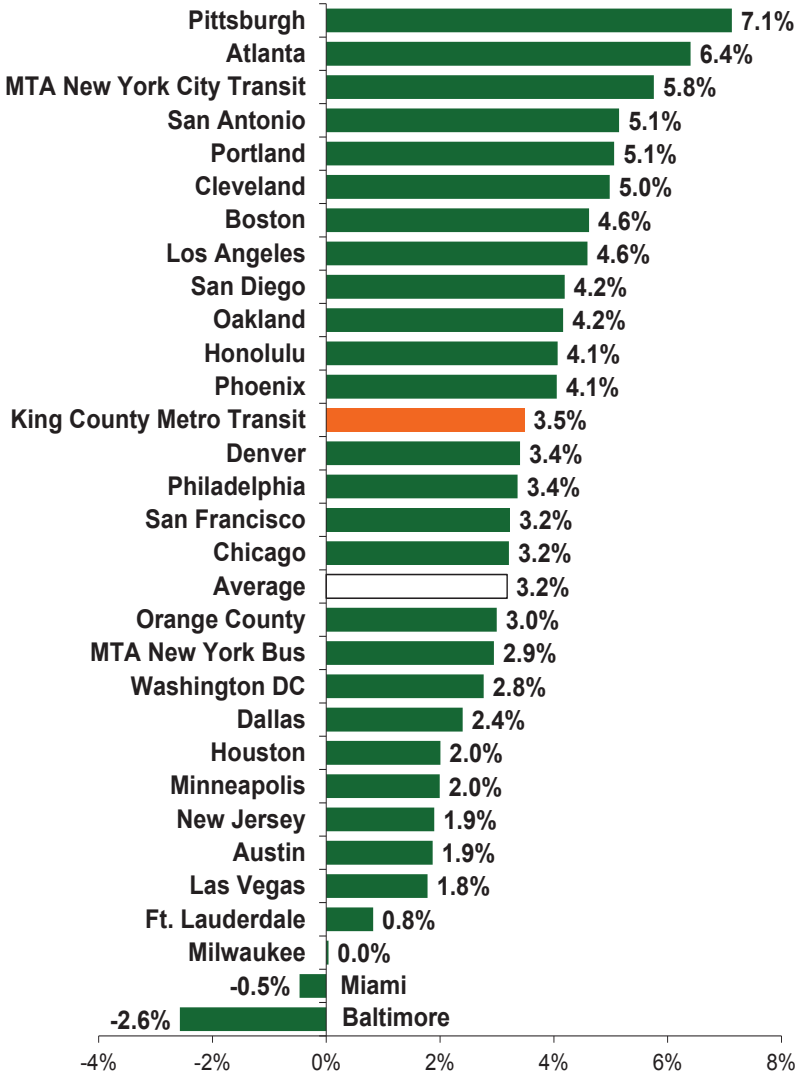
2013: Metro's operating cost per vehicle mile was $11.24 (peer rank: 8).

Operating Cost Per Vehicle Mile Percentage Change 2012–2013



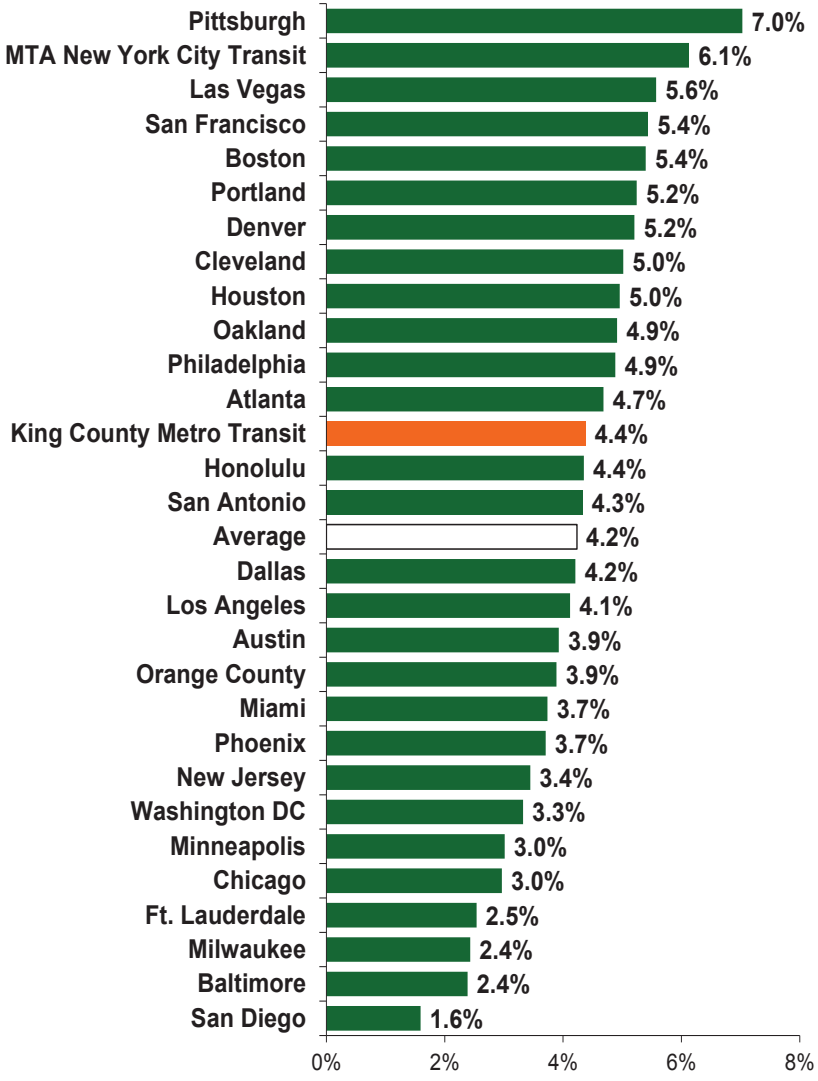
One year change: Metro's operating cost per vehicle mile increased 3.5 percent in 2013 (peer rank: 14). Metro miles decreased by approximately .5 percent while vehicle hours increased by approximately 0.3 percent, so cost per mile increased more than cost per hour.

Operating Cost Per Vehicle Mile
Average Annual Percentage Change 2009–2013



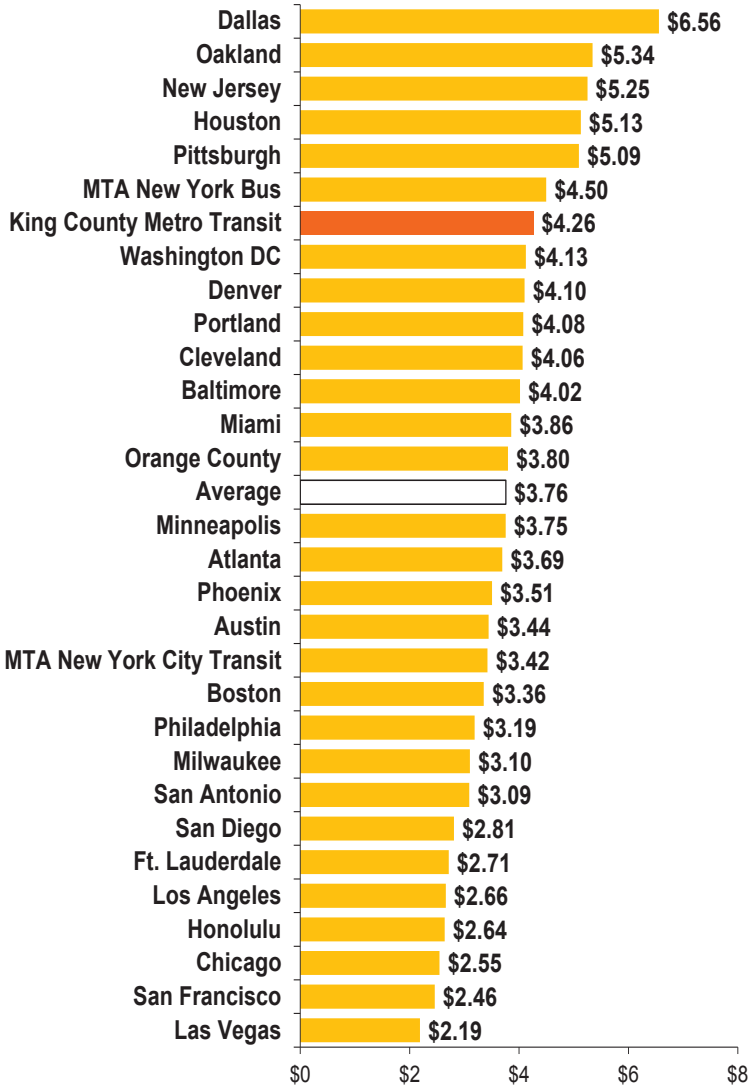
Five-year change: Metro's average annual growth was 3.5 percent over five years (peer rank: 13). During this five-year space, costs were more contained and recovery time was reduced in response to a recommendation of the County's performance audit.

Operating Cost Per Vehicle Mile
Average Annual Percentage Change 2004–2013



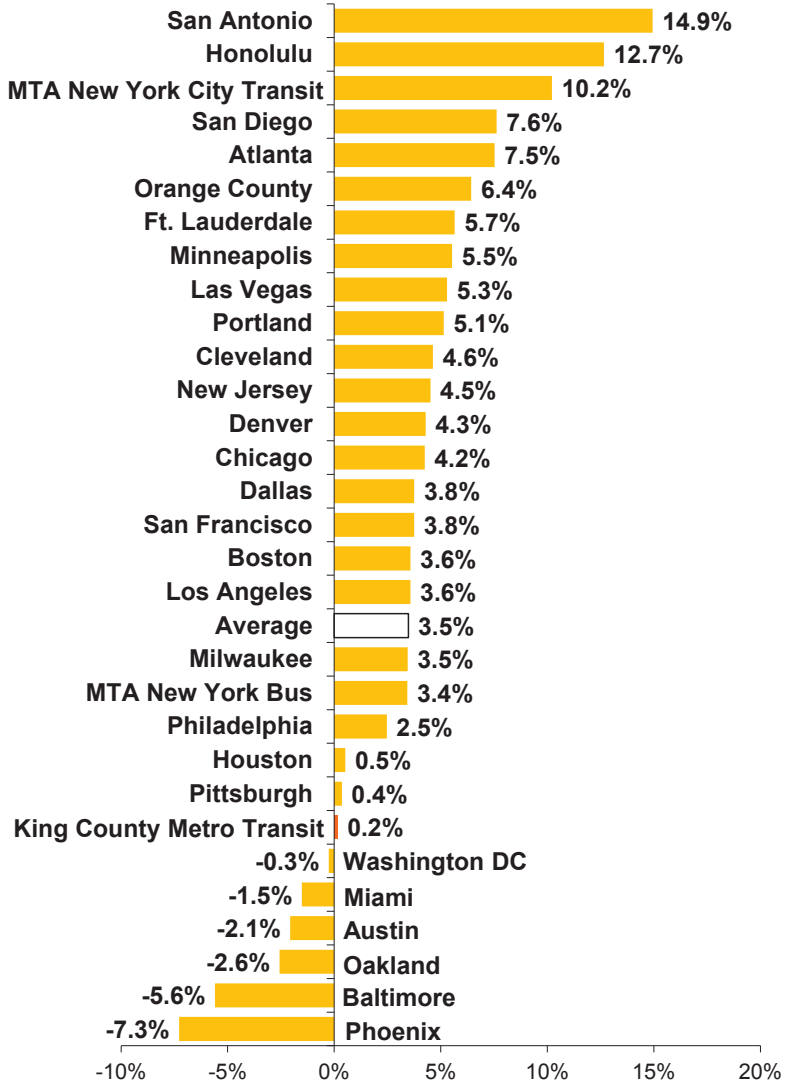
Ten-year change: Metro's average annual growth in cost per mile was 4.4 percent (peer rank: 13), which is just slightly greater than the peer average (4.2 percent).

Operating Cost Per Boarding 2013



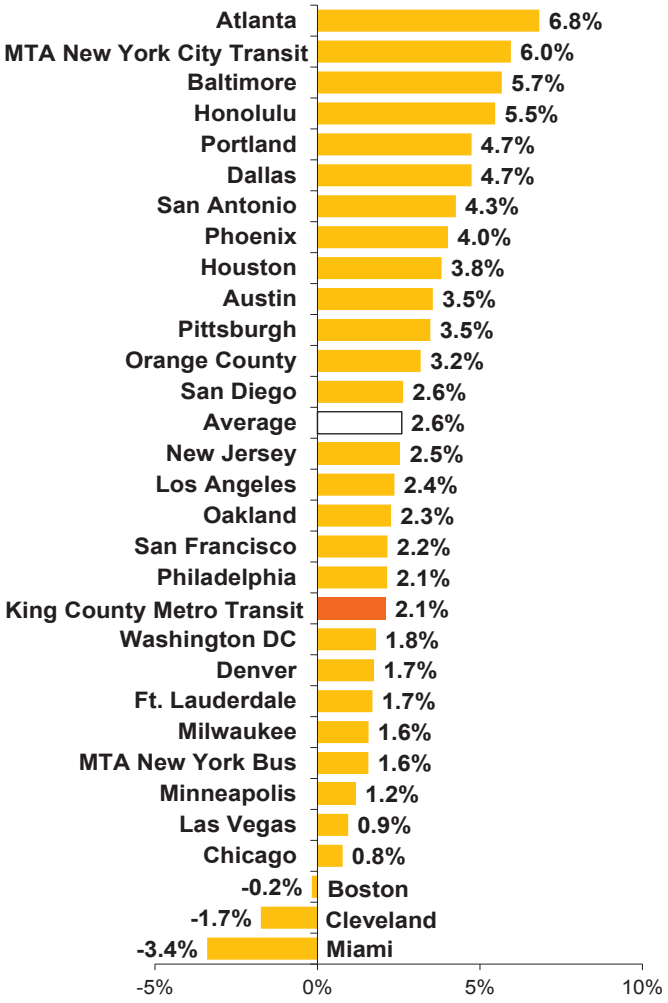
2013: Metro's operating cost per boarding was $4.26 (peer rank: 7).

Operating Cost Per Boarding Percentage Change 2012–2013



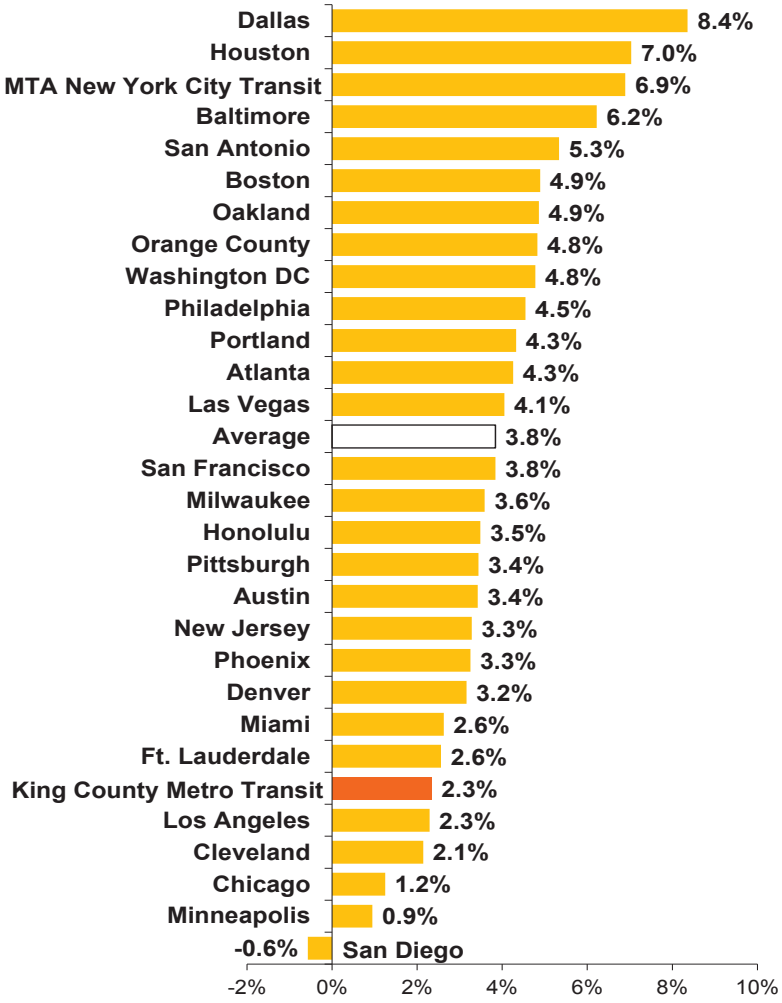
One-year change: Operating cost and boardings grew at similar rates from 2012 to 2013, causing the ratio to increase by only 0.2 percent and leaving the cost growth rate below many of its peers (peer rank: 24).

Operating Cost Per Boarding
Average Annual Percentage Change 2009–2013



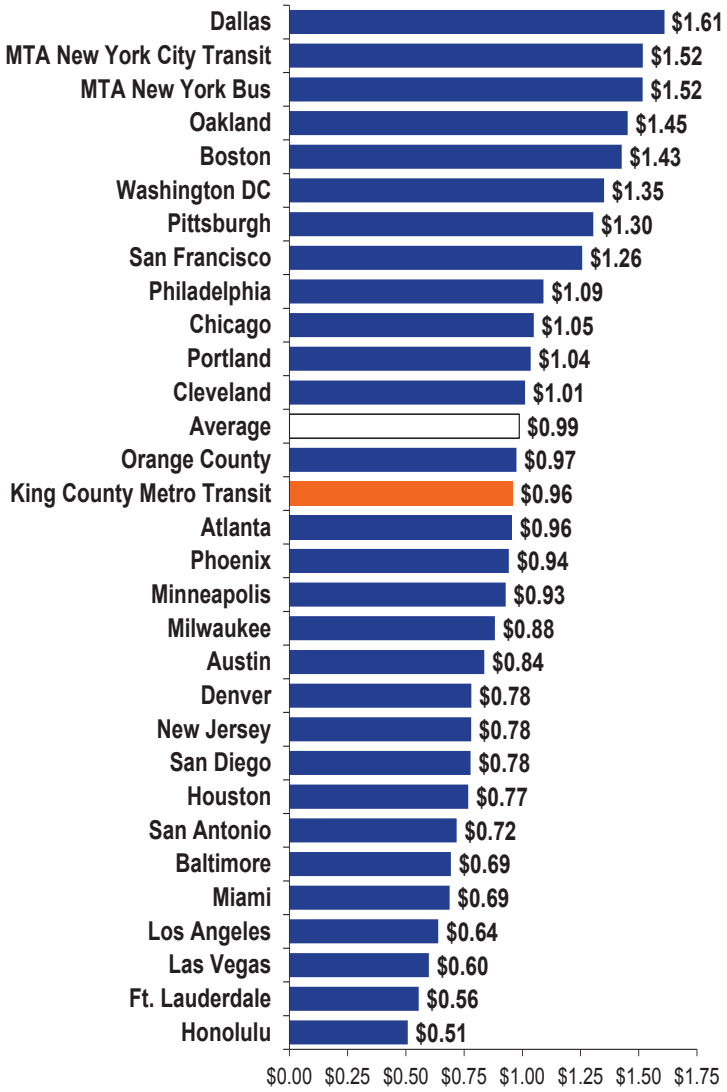
Five-year change: The recent flattening of growth in Metro's operating cost per boarding ratio resulted in Metro doing better than most of its peers in average annual growth over five years, 2.1 percent (peer rank: 19, the further down the chart, the better). This change offsets recent growth in Metro's cost per boarding.

Operating Cost Per Boarding
Average Annual Percentage Change 2004–2013



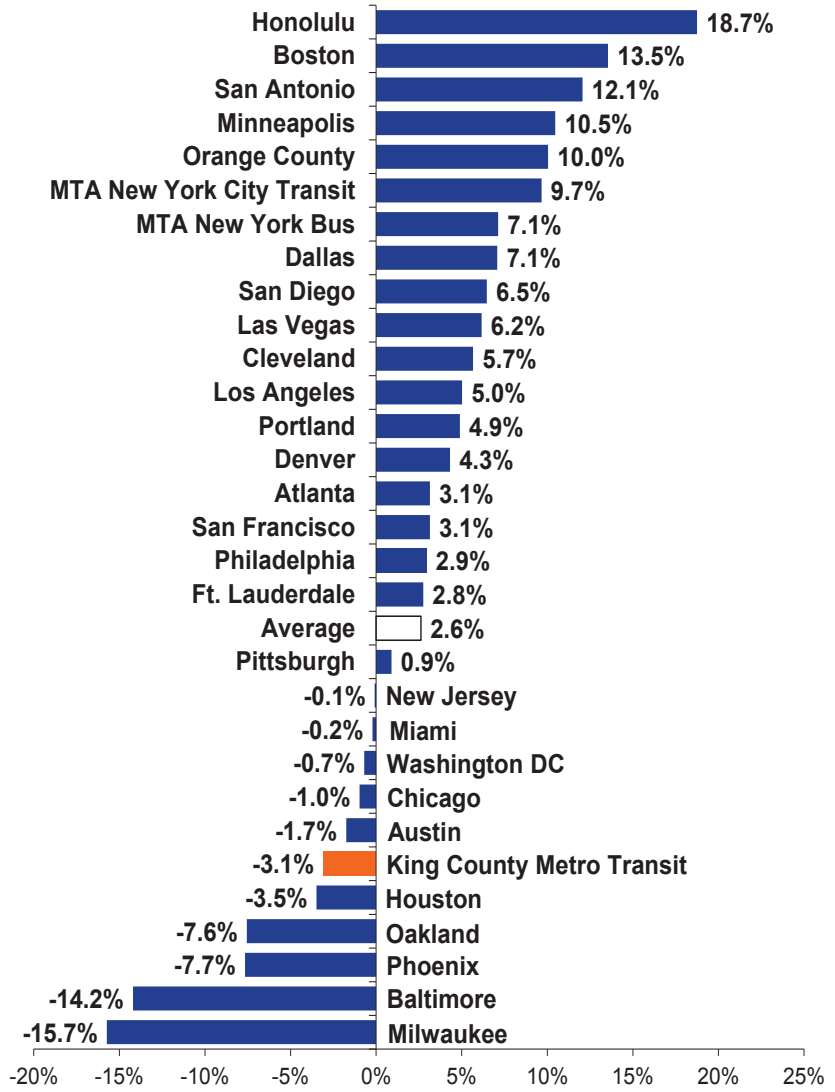
Ten-year change: Metro's average annual growth in cost per boarding of 2.3 percent over the past 10 years remains low compared to its peers (peer rank: 24), and significantly below the average of 3.8 percent.

Operating Cost Per Passenger Mile 2013



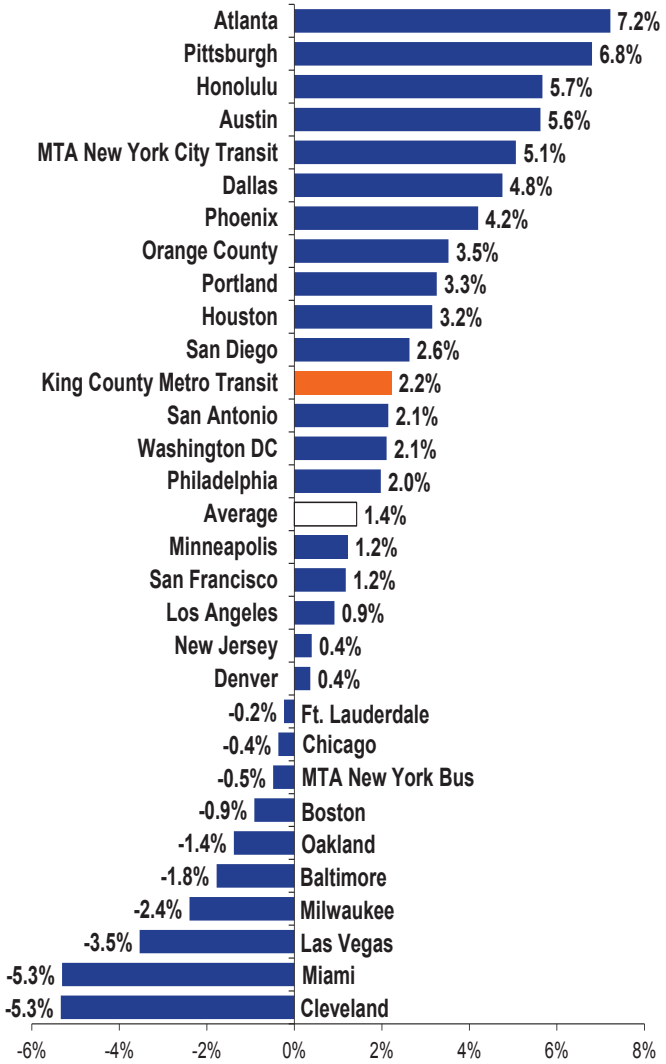
2013: Metro's operating cost per passenger mile totaled $0.96 in 2013 (peer rank: 14), just about the peer average.

Operating Cost Per Passenger Mile Percentage Change 2012–2013



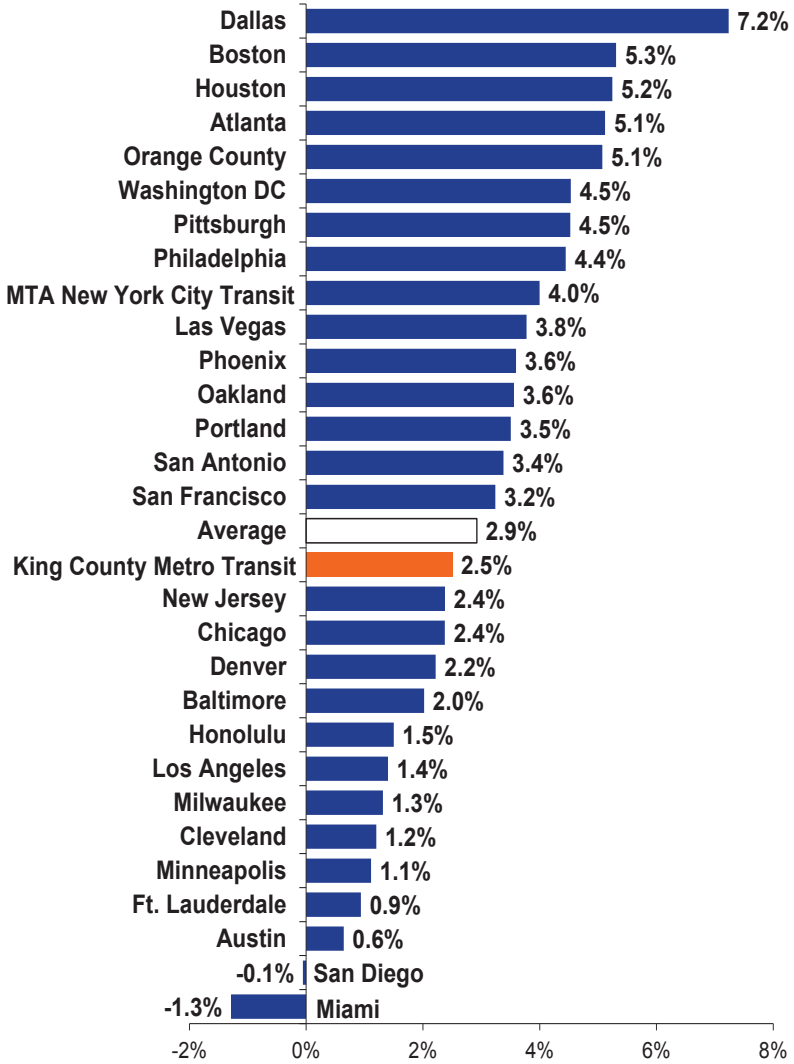
One-year change: Metro's operating cost per passenger mile fell significantly, by 3.1 percent, from 2012 to 2013 (peer rank: 25). This compares to a peer average of 2.6 percent growth in cost per passenger mile. The drop was a function of operating costs being more than offset by growth in trip length and passenger miles.

Operating Cost Per Passenger Mile
Average Annual Percentage Change 2009–2013



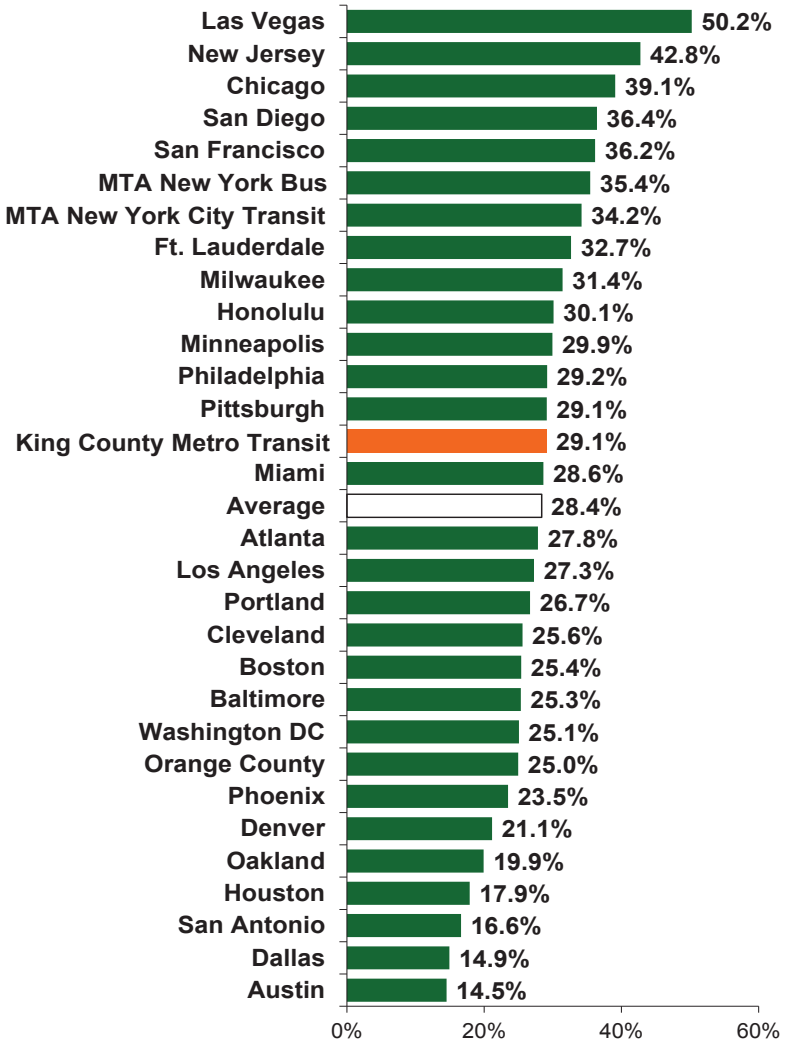
Five-year change: The recent reduction in operating cost per passenger mile lowered its average annual growth to 2.2 percent over five years, putting it near the middle of the pack amongst its peers (peer rank: 12). Previous reductions in passenger miles and average trip length were erased in 2013, with passenger miles showing growth from about 496 million in 2009 to over 523 million in 2013.

Operating Cost Per Passenger Mile
Average Annual Percentage Change 2004–2013



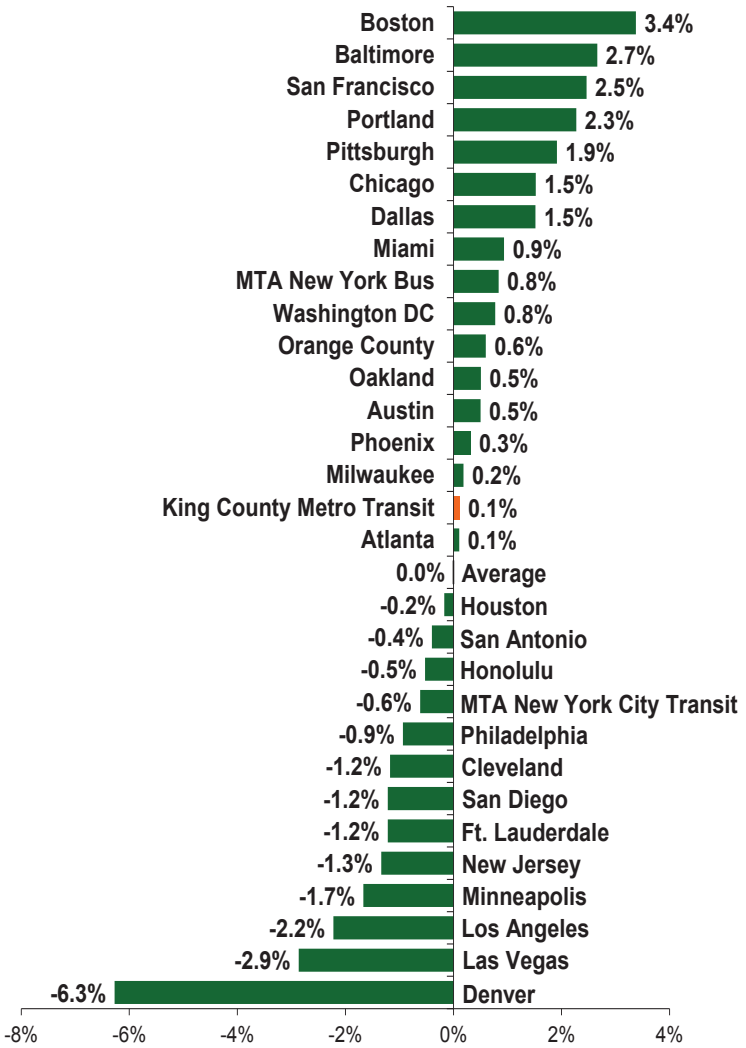
Ten-year change: Metro's average annual growth in cost per passenger mile over 10 years was 2.5 percent (peer rank: 16) and slightly less than the average.

Farebox Recovery 2013



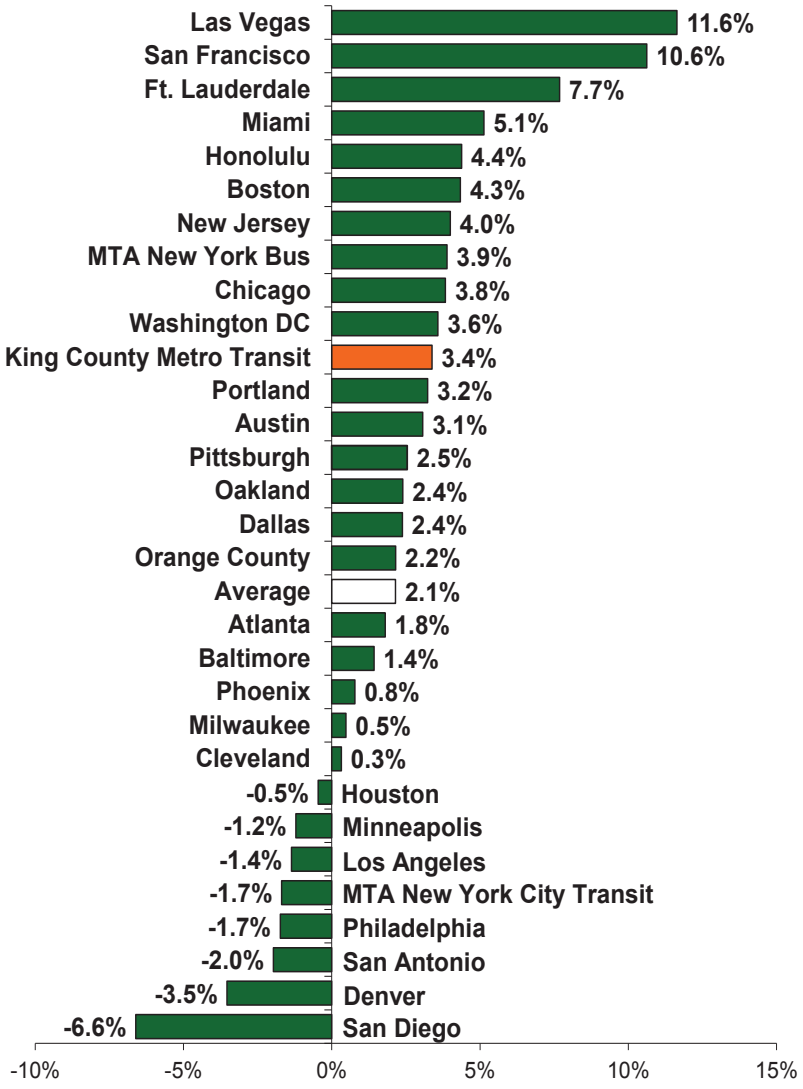
2013: Metro's farebox recovery (bus fare revenue divided by bus operating cost) was 29.1 percent (peer rank: 14). Metro's target farebox recovery rate is 25 percent, which Metro has continued to surpass every year since 2009.

Farebox Recovery Difference 2012–2013



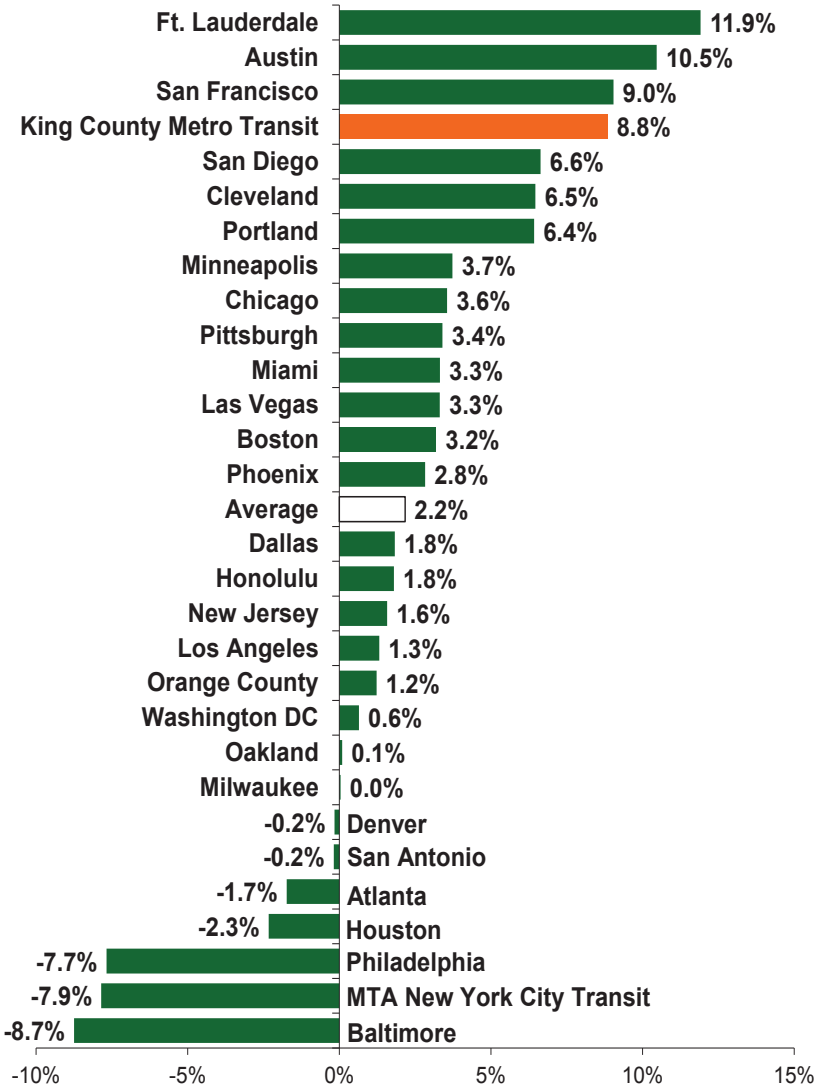
One-year change: With no fare increase, and increases in ridership and operating expenses being roughly equal, Metro's farebox recovery rate grew by a modest 0.1 percentage points in 2013 (peer rank: 16).

Farebox Recovery Difference 2009–2013



Five-year change: Farebox recovery increased by a total of 3.4 percentage points over five years (peer rank: 11). This increase is due primarily to fare increases that brought in more revenue during the first few years of this time period.

Farebox Recovery Difference 2004–2013



Ten-year change: Farebox recovery increased by a total of 8.8 percentage points over 10 years (peer rank: 4). This was driven by ridership increases and fare increases.