Washington State
Department of Transportation

Measures, Markers and Mileposts

Gray Notebook Special Excerpt

Transportation Benchmarks 2004 Report




Transportation Benchmarks Annual Update

On August 20, 2003, the Washington State Transportation Commission adopted a set of benchmarks for measuring the performance of the state's transportation system. Benchmark development was guided by the requirements of the Revised Code of Washington (RCW) 47.01.012, which established policy goals in the areas of safety, pavement condition, bridge condition, traffic congestion and driver delay, per capita vehicle miles traveled, non-auto share of commute trips, administrative efficiency, and transit cost efficiency. These policy goals are the basis for the performance benchmarks discussed here.

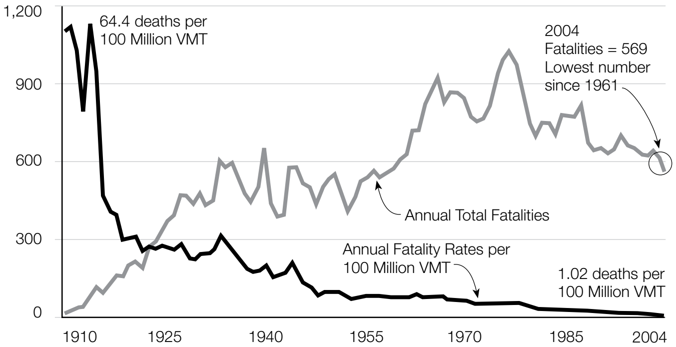
This update includes the latest results for the transportation benchmarks first introduced two years ago. For more background and information about the development of each benchmark, including issues related to data quality and availability, measure effectiveness, and benchmark intent, see the Transportation Benchmarks Implementation Report (August 2003), which is available on-line at www.wsdot.wa.gov/accountability/benchmarks/.

Some of the policy goals establish a general standard or target to assess achievement, such as "improving safety" or "none in poor condition." Others are closer to the usual definition of benchmarking: measuring Washington's performance or comparing Washington to other states to gain information that will help WSDOT improve its performance.

Safety Goal

The benchmark law established a goal to improve safety. While many criteria and measures are used to track safety on the state transportation system, the Transportation Commission and WSDOT use the state motor vehicle fatality rate to determine progress. The 2004 fatality rate was 1.02 deaths per 100 million vehicle miles traveled (VMT) on all Washington roadways, while the total fatality count shows 567 people killed in motor vehicle collisions and two people killed in pedalcyclist/pedestrian fatalities where a moving motor vehicle was not involved.

Washington Motor Vehicle Total Fatalities and Fatality Rates
1910-2004



Source: WSDOT

The fatality count has generally been trending downward in recent years. Some of the reasons include enforcement, highway engineering, driver education, and better vehicle design. There also have been significant air bag and vehicle crash improvements. Washington has focused on DUI reduction, safety improvement projects, and seatbelt usage.

In 2003 (the most recent year for which state-by-state data is available) Washington ranked as the 6th lowest state in the nation for road fatalities, averaging 1.09 deaths per 100 million VMT. By comparison, the national average was 1.48 fatalities per 100 million VMT. In 2004, the national average dropped slightly to 1.46. For 2004, the Washington State statistic used for state-by-state comparison was 1.01 fatalities per 100 million VMT. The number reported by WSDOT in the *Gray Notebook* is 1.02 fatalities, owing to slight differences in reporting (see the gray box below.)

FARS Fatality Count and WSDOT Fatality Count

The Fatality Analysis Reporting System (FARS), used by the Washington State Traffic Safety Commission and developed by the National Center for Statistics and Analysis, uses data similar to WSDOT's benchmarks when calculating fatality rates. Both FARS and WSDOT data exclude certain fatalities: fatal collisions that are ruled suicides; deaths due to natural causes rather than injuries received in the collision; and collisions that occur onprivate roadways. If the FARS analyst confirms that the facts of the collision in the police report need to be changed to recategorize a fatality, then WSDOT's data will be changed to reflect that.

There are key differences between the two systems, however. FARS does not count fatalities that are not confirmed by death certificates or that do not meet other FARS reporting criteria by a deadline of May 14th of the next year. Also, to qualify as a FARS case, there must be a motorized vehicle involved in the crash, per the nationally recognized definition. WSDOT, in following the direction given by the Blue Ribbon Commission on Transportation, considers non-auto-related fatalities on the highways. As of the reporting deadline for 2004, FARS counted 563 deaths in Washington State, for a fatality rate of 1.01 deaths per 100 million VMT. WSDOT's data included six more fatalities: four fatalities for which FARS data is still awaiting death certificates or location confirmation, one bicycle accident in which a pedestrian was killed, and one solo bicycle accident fatality. This puts the total highway fatalities tabulated by WSDOT to 569, and the fatality rate to 1.02 per 100 million VMT, compared to the 1.01 reported by FARS.

Pavement Condition Goal

This report covers calendar years 2003 and 2004. The benchmark law enacted in 2002 established a goal that no interstate highways, state routes, and local arterials be in poor condition. Pavement is in good condition if it is smooth and has few defects. Pavement rated in poor condition is characterized by cracking, patching, roughness and rutting.

State Highway Pavement
WSDOT has been rating pavement condition since 1969. The graph on the next page shows pavement trends from 1973 to 2004. WSDOT uses Lowest Life Cycle Cost (LLCC) analysis to manage two types of pavements for preservation, chip seal and Hot Mix Asphalt. (Concrete is the third type). The principles behind LLCC are that if rehabilitation is done too early, pavement life is wasted; if rehabilitation is done too late, very costly repair work may be required, especially if the underlying structure is compromised. WSDOT continually looks for ways to best strike the balance between these two basic principles.

While the goal for pavements is zero miles in "poor" condition, marginally good pavements may deteriorate into "poor" condition during the lag time between assessment and actual rehabilitation. A small percentage of marginally good pavements may move into "poor" condition for any given year.

WSDOT's policy goal for the 03-05 biennium was to maintain 90% of all pavement types in "fair" or better condition. WSDOT measures pavement according to pavement structural condition (PSC), rutting, and ride. PSC is based on distresses such as cracking and patching that decrease the pavement's ability to carry loads. A PSC of 40 or above is rated "fair" or better, and below 40 is considered "poor." For rutting, a pavement with more than 12 millimeters of rutting is considered in "poor" condition. For pavement ride, WSDOT considers pavements with a ride performance measures greater than 220 inches per mile to be in "poor" condition. For example, new asphalt overlays typically have ride values below 75 inches per mile, which is very smooth. See the table below for more information.

In 2003, the percent of all state highway pavements in "poor" condition increased to 10%, up from 9.3% as reported in the 2002 pavement survey. In 2000, there were 1,068 lane miles (6.1%) of pavements in "poor" condition. In 2003 the total was 1,774 lane miles, and in 2004, 1,797 or 10.1%. Since 2000, WSDOT has seen an increase of 729 lane miles in "poor" condition.

In 2003, 79 more chip seal lane miles fell into "poor" condition, bringing the total to 3.3% of all state highway lane miles. Contributing factors may include the annual pavement condition survey being conducted before chip seal construction, and the fact that small roadway sections are combined to create more cost-effective regional contracts and achieve an economy of scale. This leads to some pavements not getting fixed immediately. For 2003, the increase in "poor" condition of hot-mix asphalt (HMA) was 51 lane miles, to a total of 5.8% of state highway lane miles. Total lane miles of concrete in poor condition remained the same from 2002 to 2003.

From 2003 to 2004, 21 more chip seal lane miles fell into "poor" condition; total chip seal lane miles in "poor" condition were 3.4%. The condition of hot-mix asphalt (HMA) improved from 2003 to 2004: 162 fewer lane miles were in "poor" condition, or 4.9% of total lane miles. Total lane miles of concrete in "poor" condition increased to 152 miles or 1.8% of the total. This is attributable to more faulting and cracking in the concrete leading to an increase in roughness of ride. As noted in the December 31, 2004 *Gray Notebook,* WSDOT is working with the University of Washington to develop a method to predict when concrete pavement will need rehabilitation and is hoping to have an explanation for this sudden deterioration by the end of 2005.

Pavement Structural Condition (PSC) Ranges and Descriptions

Very Good (80 – 100) Little or no distress.	Example: Flexible pavement with 5% of wheel track length having "hairline" severity alligator cracking[1] will have a PSC of 80
Good (60 - 80) Early stage deterioration	Example: Flexible pavement with 15% of wheel track length having "hairline" alligator cracking will have a PSC of 70.
Fair (40 – 60)	This is the threshold value for rehabilitation. Example: flexible pavement with 25% of wheel track length having "hairline" alligator cracking will have a PSC of 50.
Poor (20 – 40) Structural deterioration.	Example: flexible pavement with 25% of wheel track length having "medium (spalled)" severity alligator cracking will have a PSC of 30.
Very Poor (0 - 20) Advanced structural deterioration.	Example: flexible pavement with 40% of wheel track length having "medium (spalled)" severity alligator cracking will have a PSC of 10. May require extensive repair and thicker overlays.

Source: WSDOT

[1] Alligator cracking is associated with loads and is usually limited to areas of repeated traffic loading. Most load-related cracking of this type begins as a single longitudinal, discontinuous crack within the wheel path that progresses with time and loads to a more branched pattern that begins to interconnect. Eventually the cracks interconnect sufficiently to form many pieces, resembling the pattern of alligator hide, thereby labeled alligator cracking

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As of December 31, 2004, WSDOT owns and maintains 20,002.88 lane miles of highway, including ramps, collectors and special use lanes. Special use lanes include High Occupancy Vehicle (HOV), climbing, chain-up, holding, slow vehicle turnout, two-way turn, weaving/speed change (previously referred to as auxiliary), bicycle, transit, truck climbing shoulder, turn and acceleration lanes. There are approximately 69 lane miles under construction. Special use and ramp/collector lane miles make up 1,688.02 of the 20,002.88 lane miles.

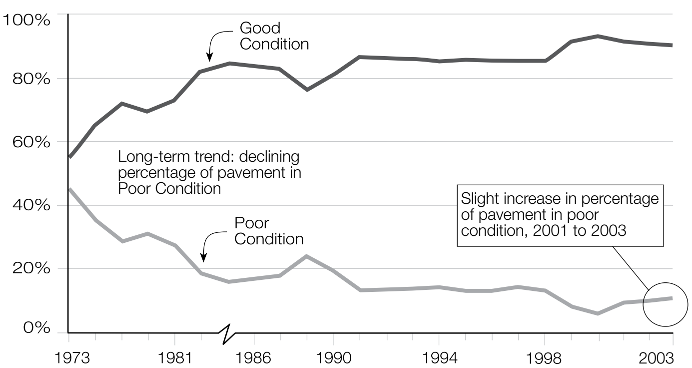
Pavement Condition Rating Summary 2000-2004

Percent of Pavement in Poor Condition

2000	2001	2002	2003	2004
6.1	8.9	9.3	10.0	10.1

Source: WSDOT Materials Lab

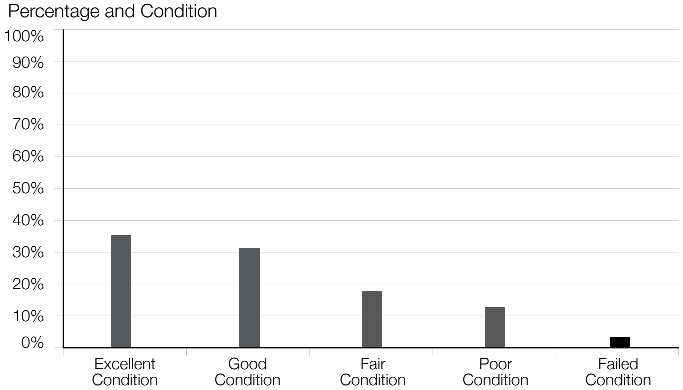
State Highway Pavement Trends, 1973 - 2004



Source: WSDOT

2004 Local Arterial Pavement Conditions

Percentage and Condition



Source: WSDOT

Local Arterial Road Pavement

For the 2003-2005 biennium, Washington State's cities and towns are required to provide data on at least 70% of the total arterial road network in the state. In 2004, 27 cities provided WSDOT data on the condition of 1,598.61 centerline miles[1] of arterial roads. These miles represent 80% of the city and town arterial network. This is the first time that this data has been available to report in the *Gray Notebook*.

The cities calculated their pavement condition using Pavement Condition Index (PCI) (see gray box below) that encompasses such distresses as cracking, patching, rutting, waves, sags and humps. In 2004, 1,336 centerline miles, or 83.6% of arterial roads included in the Arterials Condition Report, were found to be in "fair" or better condition. For more information on arterial road conditions, please see Washington's City Arterials Condition Report 2004, available at www.wsdot.wa.gov/TA/T2Center/Mgt.Systems/PavementTechnology.

The arterial network carries a significant amount of commuters as well as freight distribution within the state, and having current and accurate condition data on the city arterials of the network allows for realistic planning and budgeting to maintain and improve the system. This has direct benefit to the traveling public and the state's economy.

[1]One centerline mile is one mile of pavement measured along the center line of the road.

Pavement Condition Index (PCI), primarily used by local agencies in Washington, and Pavement Structural Condition (PSC), primarily used by WSDOT and some local agencies, are very similar in concept. Both measure cracking and patching, and PCI includes environmental and ride quality measures. The major difference between the two ratings is in the values that are assigned to the different types of pavement distresses and the additional surface defects included in PCI. WSDOT's PSC is based on pavement distress characteristic of state highways, which see heavier traffic than city arterials and are maintained at a higher condition level. The PCI is not as strict as the PSC rating, and cities will generally allow more distress to occur on their pavement before rehabilitating it.

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Bridge Condition Goal

The benchmark law established a goal for no bridges to be structurally deficient, and for safety retrofits to be performed on those state bridges at the highest seismic risk levels. WSDOT tracks bridge condition but does not use the "zero deficient bridge" goal, for the reasons outlined below.

Moving to the "zero deficient bridges" standard would promote cheap and fast fixes that would ultimately be counterproductive. A "zero deficient bridge" approach would require setting aside WSDOT's Bridge Management System's (BMS's) basis for preserving bridges to get optimum service life. The structural deficiency rating is based on inspection findings, and does not measure important cost-effective preservation activities. At the same time, some bridges are simply more important and expensive than others. BMS considers the cost-effectiveness of several feasible corrective actions for any given bridge deficiency and provides cost-effective indices for each potential action in various time periods.

Bridge Condition Results

This report provides data for fiscal years 2004 and 2005[1]. WSDOT's policy is to maintain 95% of its bridges at a structural condition of at least fair, meaning all primary structural elements are sound. Since 2000, there has been a slow but steady increase of bridges into the "good" category. In 2004, 3% of bridges showed a condition rating of "poor," and in 2005, only 2% were rated as "poor". WSDOT credits this improvement to preventative measures such as structural or scour repair, painting, or bridge deck overlays that are keeping some of the "fair" bridges from crossing over into the "poor" category, and the building of new bridges that fall in the "good" category.

No bridge currently rated as "poor" is unsafe for public travel. Bridges rated as "poor" may have structural deficiencies that restrict the weight and type of truck traffic allowed. Any bridge determined to be unsafe is simply closed to traffic. In 2004 and 2005, WSDOT did not close any bridges due to unsafe conditions.

[1] Fiscal years are July 1 through June 30.

Bridge Seismic Retrofit Program

WSDOT's Bridge Seismic Retrofit Program prioritizes state bridges for seismic retrofit, and performs these retrofits as funding permits. The number of seismic projects does not match perfectly with the number of bridges; a seismic retrofit project may encompass more than one bridge, while one bridge might have multiple retrofit projects planned. Therefore some bridges have been partially but not completely retrofitted to withstand earthquake forces.

In 1991 a total of 937 bridges were classified as needing retrofitting and included in the Seismic Retrofit Program.[2] Retrofit priorities are based on seismic risk of a site, structural detail deficiencies, and route importance. From 1991 to the end of June 2005, WSDOT has fully or partially retrofitted 368 bridges: 191 are completely retrofitted, 162 are partially retrofitted, and 15 are under contract to be retrofitted.

As of June 30, 2005, there remain 569 bridges needing complete retrofits, in addition to the 162 that have been partially completed. These two groups combine for a total of 731 bridges left to be retrofitted for earthquake safety.

For the 2005-07 biennium, seismic work is planned for 28 bridges over seven retrofit projects. The 2005 Transportation Funding Package includes funding for the retrofit of 172 bridges that are located on major routes in the Puget Sound area. These projects are scheduled to begin in the 2007-09 biennium and will continue through the 2013-15 biennium, subject to potential withdrawal of funding based on the outcome of Initiative 912.

[2] The benchmark report in the *Gray Notebook* for the quarter ending June 2004 erroneously used the year 1980 as the start date for the Seismic Retrofit Program. The program actually began in 1991. Between 1978 and 1991, 24 bridges were retrofitted as part of other bridge projects.

Bridge Structural Condition Ratings

The condition rating data shown at right is based on the structural sufficiency standards established in the FHWA "Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges." This structural rating relates to the evaluation of bridge superstructure, deck, substructure, structural adequacy and waterway adequacy.

Category	Description	2000	2001	2002	2003	2004	2005
Good	A range from no problems to some minor deterioration of structural elements	84%	85%	87%	86%	87%	89%
Fair	All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, cracking, spalling or scour.	11%	11%	10%	11%	10%	9%
Poor	Advanced deficiencies such as section loss, deterioration, cracking, spalling, scour or seriously affected primary structural components. Bridges rated in poor condition may be posted with truck weight restritions.	5%	4%	3%	3%	3%	2%

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Bridges in the Seismic Retrofit Program (1991-2005)

Completely retrofitted	191
Partially retrofitted	162
No work done to date	569
Under contract for work	15
Total	**937**
Planned 2005-2007 Biennium[1]	172

[1] These are planned under the 2005 Transportation Funding Package

Source: WSDOT Bridge Office

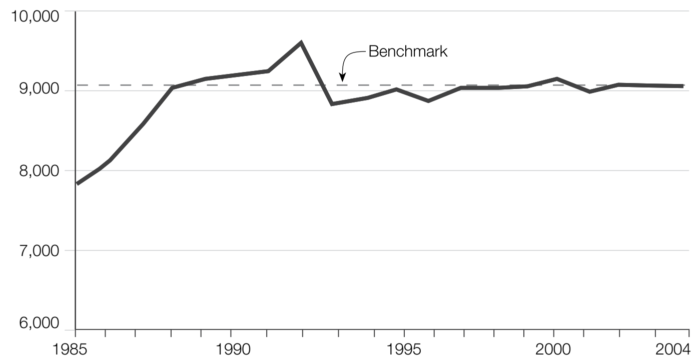
Traffic Congestion and Driver Delay

WSDOT calculates annual changes in the peak period travel times for 12 Central Puget Sound commutes to track congestion trends. Information on congestion measures will be published later this year.

Per Capita Vehicle Miles Traveled Goal

The benchmark law established a goal for Vehicle Miles Traveled (VMT) per person to be maintained at 9,133, the level it was when the benchmarks were developed in 2000. In calendar year 2004, Washington State's citizens traveled 9,026 vehicle miles per person on all roadways, up slightly from 9,021 in 2003 but below the benchmark level of 9,133 miles per person. Since the late 1980s, annual VMT per person in Washington has stayed at roughly 9,000 miles per person. VMT is influenced by a range of trends in population, economy, land use, and employment, as well as investment in the transportation system. (The drop from 1992 to 1993 is due to a change in the way VMT is calculated).

Annual Vehicle Miles Traveled per Capita
1985 to 2004*



*The method for calculating VMT changed in 1993 as more complete data became available. This accounts for the apparent decrease from 1992 to 1993.

Calculating Annual Vehicle Miles of Travel for State Highways and Roadways

State highway Annual Vehicle Miles of Travel (AVMT) is the number of miles traveled by all vehicles on Washington's highway system in the given year. Non-State highway AVMT is the number of miles traveled by all vehicles on Washington's city and county roadways, and any other public roads such as National and State Parks in the given year.

State highway AVMT is generated by software that utilizes available roadway and traffic count data to attribute an Annual Average Daily Traffic (AADT) figure to every section of highway. The AVMT for each section is calculated by multiplying the section's length in miles by its AADT, and then multiplying the product by 365. The AVMTs from all sections are then summed in order to arrive at the total state highway AVMT.

Non-State highway AVMT is generated by federal software that utilizes available traffic count data to calculate Daily Vehicle Miles Traveled (DVMT) for all Rural/Urban and Federal Functionally Classified systems. The AVMT for each system is calculated by multiplying the DVMT by 365. The numbers are then added together to get a statewide number for vehicle miles traveled.

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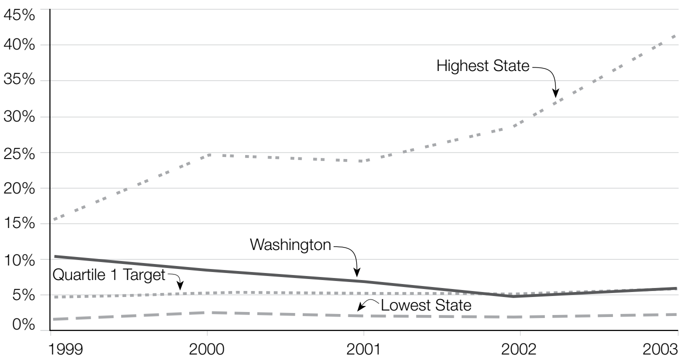
Administrative Efficiency Goal

The benchmark law established a goal that WSDOT's administrative cost as a percentage of transportation spending achieve the most efficient quartile nationally. Finding common ground for comparisons of administrative efficiency among state Departments of Transportation (DOTs) is very difficult. Each DOT accounts and tracks for expenditures in different ways, and the state DOTs vary widely in structure, size, and function, with the result that there is little direct comparability among the "administrative" activities.

The best national source of financial information is the FHWA's annual Highway Statistics report. WSDOT uses the general administration cost (line item A.4.a.), as a percentage of capital outlay, maintenance, and operations expenditures, to make the national comparison. While FHWA cautions strongly against using these numbers to compare states, all state DOTs complete the report annually, and it is the only national source for administrative costs. FHWA presents the data by fiscal year, and collects fiscal year data in the winter to be published the next fall. Therefore, the most recent information for which data is available is fiscal year 2003.

In 2003, Washington's administrative cost was 5.9%, putting it at 12th lowest nationally and just inside the first quartile. This is a slight increase from the 5.1% figure in 2002, but represents a decrease from 2000 and 2001. Major drivers of cost increase include: an increase of $2.8 million during the ferry system reorganization; a systems development cost increase of $900,081; IT Operations increase of $998,915; and Program Management Development and Support increase of $523,025 The lowest state, Louisiana, was at 2.5%, and the highest state, Delaware, was at 41.2%. A number of variables affect administrative cost reporting from year to year. Increases or decreases in the size of the WSDOT construction program will affect the percentage of administrative costs compared to total expense. Costs for other mandatory services outside of WSDOT's control, such as personnel and labor relations, continue to increase, and the administrative costs of some other Washington transportation agencies are included in item A.4.a.

Washington Administrative Cost Target
Percent of Capital Outlay, Maintenance, and Operations Expenditures, 1999-2003



Non-Auto Share of Commute Trips Goal

The benchmark law established a goal to increase the non-auto share of commute trips. WSDOT and the Transportation Commission interpret this benchmark as the measure of the combined ability of many different transportation agencies to provide alternatives to driving alone.

The commute patterns for the state are calculated using data collected annually by the U.S. Census Bureau's American Community Survey (ACS). This benchmark was first calculated in 2003 using data from the decennial census, which is not directly comparable to data from the annual ACS. This benchmark is moving over to the ACS data from 2000 in order to make a direct comparison to data from the same sources.

Slight changes from year to year in the commute trip distribution do not constitute a trend, because these changes generally are not statistically significant unless indicated. Washington's 2003 commute trends, according to the ACS, showed a statistically significant growth in walking as a means of traveling to work, compared to the 2000 ACS commute trends. The drive alone share of commuting in 2003 was not significantly different than the share in 2000.

Washington State Commuting Patterns - Workers 16 and Over, 2000 - 2003

	2000 Percentages	2001 Percentages	2002 Percentages	2003 Percentages	Change from 2000-2003	Statistically Significant?
Total Workers 16 yrs & Older	2,753,377	2,729,113	2,760,912	2,793,978	1.5%	
Drive Alone	73.78%	74.37%	74.71%	73.79%	0.01%	no
Carpool	11.52%	11.48%	11.40%	11.28%	-0.24%	no
Public Transportation	5.14%	5.53%	4.64%	5.00%	-0.14%	no
Walked	2.38%	3.12%	3.03%	3.16%	0.78%	yes
Other means	2.38%	1.71%	1.75%	2.15%	-0.23%	no
worked at home	4.81%	3.79%	4.47%	4.61%	-0.20%	no

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Transit Cost Efficiency Goal

The benchmark law required the Transportation Commission to establish a cost efficiency benchmark for the state's public transit agencies. To accomplish this mandate, the Commission worked with the Washington State Transit Association (WSTA), who proposed four measures to address cost efficiency, cost effectiveness, and service effectiveness. This report, prepared by WSTA, updates these four measures with 2003 data. The transit summary data for 2004 has not yet been finalized.

The four adopted benchmarks compile statewide averages for fixed-route (scheduled) service at urban, small urban, and rural transit agencies, and statewide averages for demand response (on-call paratransit) and vanpool services. This allows comparisons of the state's similar transit agencies with each other, although there are still important differences between the agencies. Identifying national peers for benchmarking is difficult due to the large variations among systems in size, government support, fare levels, costs, and purposes, as well as data collection processes.

WSDOT's annual *Washington State Summary of Public Transportation Systems* provides an overview of each system and is a data source for the transit benchmarks calculated by WSTA. This report is available online at www.wsdot.wa.gov/Transit/. The National Transit Database was used to calculate the passenger mile measure. Also, see the Transportation Benchmarks Implementation Report for more background on benchmark limitations, measure development, recent trends, and comparing services and system types.

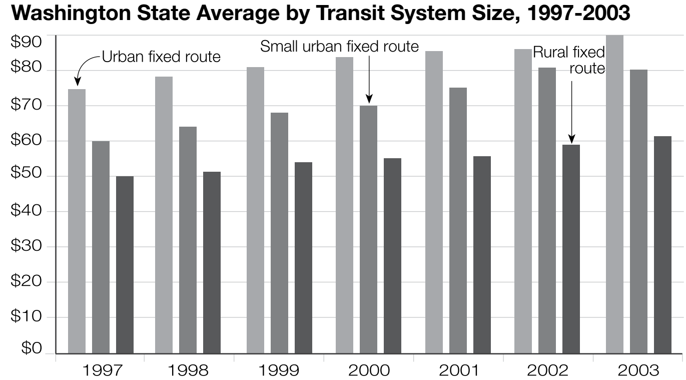
Operating Cost per Total Hour

Costs are directly related to the size of the transit system and the nature of the area served. Larger transit systems are more complex and incur costs for fixed facilities (transit centers, park-and-ride lots, etc.), security, and in other areas that are not cost items for smaller systems. They also operate larger equipment and operate in metropolitan areas with higher wage structures than small systems.

In 2003, the urban fixed route cost per hour was $90.18, the small urban fixed route cost per hour was $80.90, and the rural fixed route cost per hours was $61.99.

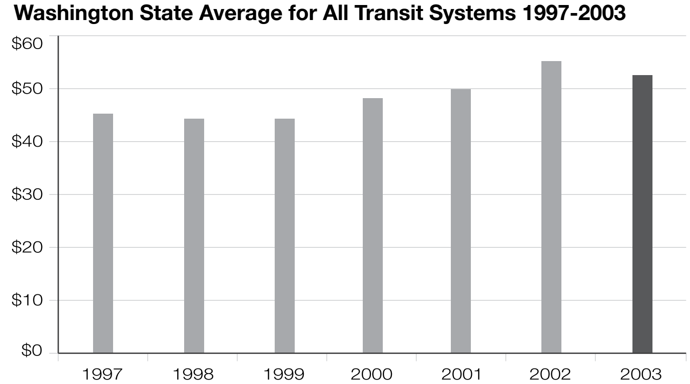
The urban categories have experienced cost increases of approximately 22%, or 3% per year, from 1997 to 2003, in line with inflation over this period. Rural systems have seen a 29% increase, while the small urban systems experienced a higher rate of cost increase over this period (40%). This appears to be due to significant service reductions by small urban systems in 2000 and 2001 after the loss of the Motor Vehicle Excise Tax (MVET) funding, resulting in fixed costs being spread over fewer service hours. By 2003, most small urban systems had either completed service reductions or passed measures to increase the sales tax and thereby the service hours. For these reasons an otherwise upward trend leveled out from 2002 to 2003.

Fixed Route Service: Average Cost per Total Hour
Washington State Average by Transit System Size, 1997-2003



In 2003, the average demand response transit cost per hours for all systems was $52.36. The average cost for demand response is significantly lower than the fixed-route average cost. This is primarily due to the contracting out of this service to private agencies that provide lower wage rates to demand response drivers.

Demand Response Service: Average Cost per Total Hour
Washington State Average for All Transit Systems 1997-2003



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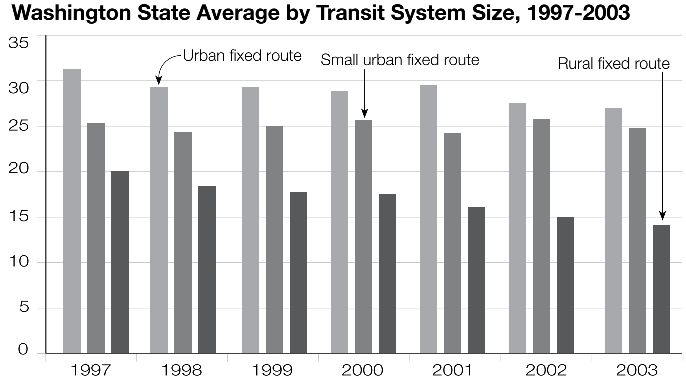
Boardings per Revenue Hour

This measure also illustrates the importance of the characteristics of the area served on a transit system's performance. Boardings[1] per revenue hour generally depend on density and service type – local, urban service performs better than express service. Performance on this measure has been relatively constant for the urban and small urban systems but has dropped among rural systems. This and other measures illustrate the extreme difficulties facing many of the rural transit systems. The loss of both sales tax equalization and MVET funding and the general economic downturn in rural Washington have forced systems to reduce service levels and increase fares.

Fixed Route Service: Average Boardings per Revenue Hour

Washington State Average by Transit System Size, 1997-2003



In 2003, the average urban fixed route boardings per hour were 26.8, the average small urban fixed route boardings per hour were 24.9, and the average rural fixed route boardings per hour were 14.4. Although both urban and small urban boardings having increased, the actual boardings per revenue hour decreased because the number of hours of service increased as well. It is generally expected that productivity will increase slightly as new service is added. However, the new service cannot be expected to immediately have boarding levels equal to established service. The market for new service tends to be riders who own autos, but who choose to take the bus, rather than those who do not own autos and are already using the service.

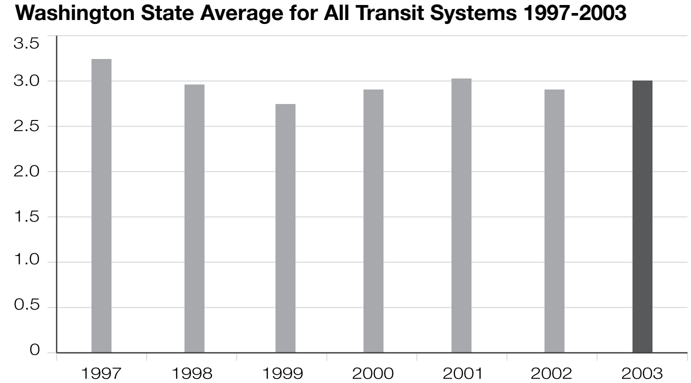
[1]"Boardings" are the total number of times a person boards a bus. For example, a person taking one bus and transferring to another bus to reach his destination would represent two boardings.

The decline shown in the graph below in urban boardings per revenue hour is primarily driven by King County Metro, which showed a decrease from 2001 to 2002 and was stable from 2002 to 2003.

The rural numbers are strongly affected by Skagit Transit and by LINK in Chelan and Douglas counties. LINK and Skagit Transit are two rural systems especially affected by the loss of MVET funding. Neither of these systems has been able to increase local sales tax to make up for the loss of this funding. Instead they have made significant service reductions: LINK by over 45% (91,000 hours of service in 1999 to 49,000 hours in 2003) and Skagit Transit with an over 65% reduction (70,800 hours in 1998 to 24,800 today). Both of these systems were also fare-free systems, which now charge fares. This also affected ridership negatively. These are two of the larger rural systems and changes with these systems affect the entire category.

Demand Response Service: Average Boardings per Revenue Hour

Washington State Average for All Transit Systems 1997-2003



Boardings per revenue hour for demand response service have remained near 3.0 for the past six years. In 2003 it was exactly 3.0 boardings per hour. The nature of the service makes it difficult to significantly improve this measure. The slight increases in this measure since 1999 are related to the reduction in service areas and the elimination of least productive service routes by some transit agencies. As these least productive fixed-route services, usually serving low-density suburban or rural areas, are eliminated, the complementary demand response service is also discontinued. Demand response trips in these areas tend to have long trip lengths and are difficult to group with other rides.

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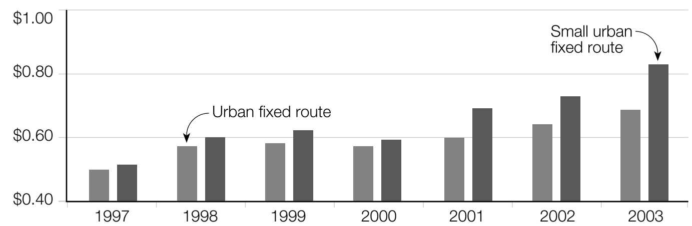
Cost per Passenger Mile

The trend for this measure generally reflects inflationary cost increases. The cost per passenger-mile increased sharply for small urban systems from 2000 to 2001, due to significant service reductions and fare increases during 2000 by several systems in this category. Passenger-mile data is not collected by rural transit systems.

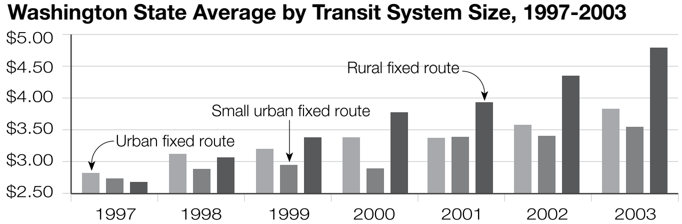
Fixed Route Service: Average Cost per Passenger Mile
Washington State Average by Transit System Size, 1997-2003



Cost per Boarding

Cost per boarding has increased at approximately the rate of inflation for urban systems. Rural and small urban systems have seen the cost per boarding increase at a much higher rate. Small urban systems saw a significant increase from 2000 to 2001 as service reductions increased the cost per hour of service and higher fares led to fewer passengers. This leveled off from 2001 to 2002. Rural systems faced inflation too and were hit particularly hard by increased health care and other employee costs.

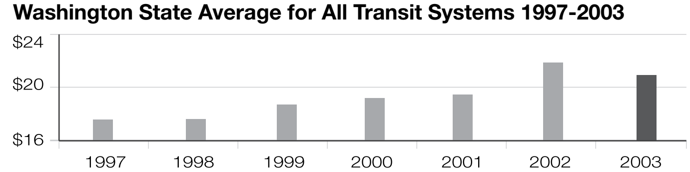
Fixed Route Service: Average Cost per Boarding
Washington State Average by Transit System Size, 1997-2003



Costs have increased due to inflation and increased employee costs since 1999. For 2003, the average urban fixed route cost per boarding was $3.82, the average small urban fixed route cost per boarding was $3.53, and the average rural fixed route cost per boarding was $4.76. The average cost for demand response service was $21.51 per boarding, approximately six times the cost per boarding for fixed-route service. This difference is related to the ability of fixed route service to get an economy of scale that demand response service cannot. In addition, the growth and aging of the suburban population of Washington is driving increased demands and costs for demand response service.

Community Transit in Snohomish County showed an increase in hours and a decrease in boardings in 2003 as compared to 2002, driving up urban fixed route costs. The increase for small urban systems is below the level of inflation. The rural system cost per boarding increase is driven primarily by Skagit in 2002 and 2003 and by LINK in 2003. The numbers in this category are small enough that a change in a single system can affect the entire category. The loss of over 700,000 boardings by Skagit between 2001 and 2003 and of 215,000 riders by LINK from 2002 to 2003 represents almost 20% of the total rural ridership.

Demand Response Service: Average Cost per Boarding
Washington State Average for All Transit Systems 1997-2003



The average cost per boarding in 2003 for the Vanpool system was $3.24. The cost-effectiveness of vanpooling is particularly impressive when one considers average trip lengths and that in many systems the vanpool passenger fares cover a substantial portion of the operating and capital cost of the program. Some systems choose to subsidize vanpool fares to make the service as attractive as possible.

Vanpool Service: Average Cost per Boarding
Washington State Average for All Transit Systems 1997-2003