



# Vanpools in the Puget Sound Region

The case for expanding vanpool programs to move the most people for the least cost



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*Improving lives through market solutions*

by Michael Ennis  
Director, WPC's Center for Transportation



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## Key Findings

1. There are six public vanpool programs in the Puget Sound region and the largest program in the U.S. is King County's.
2. When accounting for ridership and distance traveled, vanpools cost between three and five times less to operate than light rail, buses or commuter rail.
3. Vanpools are very inexpensive to operate. In between 2000 and 2007, the six regional vanpool agencies spent \$114 million to serve 837 million passenger miles. This means operating costs were only 14 cents per mile.
4. King County's vanpool program alone carries more people than Sound Transit's entire commuter rail, for \$1 billion less.
5. Compared to other fixed-route transit like buses or rail, vanpools are the cheapest and most cost-effective transit mode for connecting commuters with urban employment centers.

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### Executive Summary

As traffic congestion and the financial and environmental costs of commuting continue to rise, a once overlooked transit alternative has quietly become an *effective* option for many motorists: vanpooling.

Sharing a commute through a vanpool:

- Reduces parking and fuel costs
- Allows access to HOV lanes
- Consumes fewer resources
- Is cheaper, more flexible and faster than other mass transit choices

Regional growth projections and travel patterns show there is a large undeveloped market in vanpool demand. Yet expanding vanpools is typically not a major priority for state and local governments as other, less efficient transit modes are marketed and funded. Vanpools are not for everyone and they cannot effectively serve short, intra-city transit demand. Ridership figures, costs and market potential in the Puget Sound region, however, show that vanpools are a successful and more efficient way to move long-distance, intercity commuters.

Instead of spending more public money to connect cities with high speed rail, commuter rail, light rail and express bus services, policymakers should look to vanpools as the most efficient alternative.

### I. Introduction and Background

In the Puget Sound region there are six transit agencies that provide vanpool programs: Community Transit, Intercity Transit, Island Transit, King County Metro, Kitsap Transit and Pierce Transit. The largest vanpool program is King County's, serving more than two million annual trips with 826 vans in operation.<sup>1</sup>

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<sup>1</sup> "NTD Data - Historical Data Bases, Annual Data Bases," individual agency profiles for 2007, National Transit Database, Federal Transit Administration, at [www.ntdprogram.gov/ntdprogram/data.htm](http://www.ntdprogram.gov/ntdprogram/data.htm).

The following table lists the six agencies in the Puget Sound region that provide vanpool services, the number of vans in operation and the number of unlinked passenger trips.<sup>2</sup>

### Puget Sound Vanpool Programs, 2007

	Number of Vans in Operation	Number of Passenger Trips
King County Metro	826	2,322,012
Community Transit	313	740,451
Pierce Transit	270	788,868
Intercity Transit	150	532,644
Kitsap Transit	118	300,035
Island Transit	53	183,116

*Source: National Transit Database, Island Transit officials*

Together, these Puget Sound transit agencies provide more than 1,700 daily vanpools and serve about 4.8 million passenger trips per year.

A vanpool consists of a group of passengers who share a single van to commute to and from work. Vanpools work well for intercity transit and connect low density suburban communities with employment centers like downtown Seattle, Bellevue or a Boeing plant. In Washington State, vanpools are managed by public transit agencies, although in most other states, like California and Virginia, individuals or private companies provide similar services.

In the Puget Sound region, a vanpool must have at least five riders (four passengers and one driver) and can carry up to 15 total passengers. Groups can form by themselves or individuals can find existing vanpools to join. Most transit agencies offer rideshare forums and services to connect vanpools with users. For example, King County provides an online forum, similar to the “help wanted” section of a newspaper, where potential passengers can plug in their desired origin and destination to find possible matches. There is also a regional clearinghouse of agencies, called RideshareOnline.com, that connects prospective users with vanpools from various agencies across Washington State and Idaho.

Vanpool groups can travel across county lines and distances can vary between 20 to 150 miles per day, depending on the group’s origin and destination. Nationally, vanpool programs report an average daily round trip within a range of 48-108 miles.<sup>3</sup> These long distances are typical of ridesharing programs and reveal that vanpools are almost exclusively used by commuters traveling from home to work or to other common employment centers.

Passengers can either be picked up at home or groups can meet at central locations that have easy access to parking. For example, some groups make arrangements with large retail stores that have excess parking spaces available.

Vanpool drivers have additional responsibilities. These include arranging for routine maintenance, buying gas and other logistical support. Drivers are also responsible for overnight and weekend parking, which is usually at their home. In exchange for these added obligations, transit agencies typically offer drivers free or reduced fares and in some cases limited personal use of the van.

<sup>2</sup> “NTD Data - Historical Data Bases, Annual Data Bases,” individual agency profiles for 2007, National Transit Database, Federal Transit Administration, at [www.ntdprogram.gov/ntdprogram/data.htm](http://www.ntdprogram.gov/ntdprogram/data.htm). Island Transit does not report agency data to the National Transit Database. Island Transit data was obtained through agency officials.

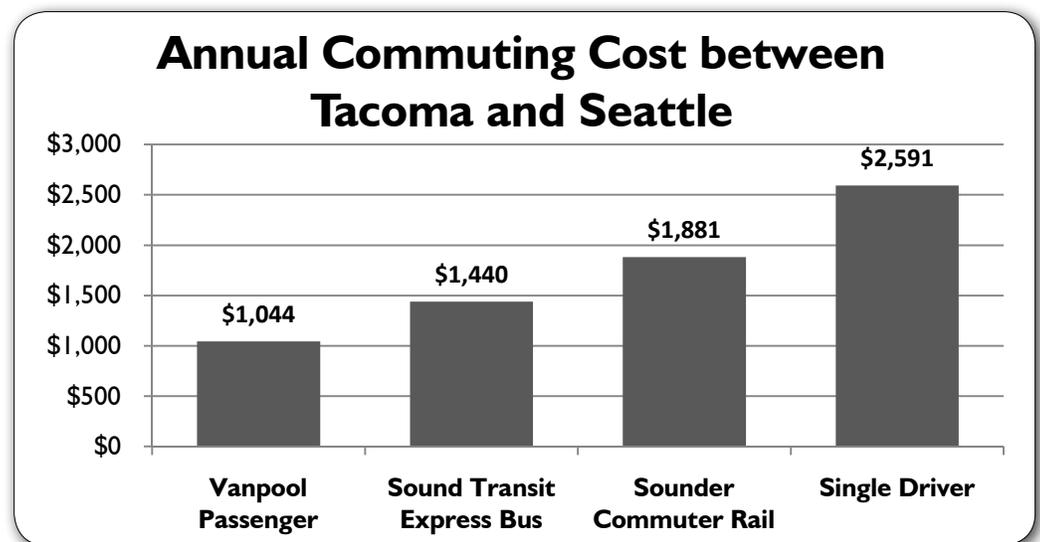
<sup>3</sup> “Vanpools and Buspools, Traveler Response to Transportation System Changes,” John Evans, Transit Cooperative Research Program Report 95, Transportation Research Board, Federal Transit Administration, 2005, page 35, at [www.onlinepubs.trb.org/Onlinepubs/tcrp/tcrp\\_rpt\\_95c5.pdf](http://www.onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_95c5.pdf).

Passengers are charged monthly fares that vary depending on the group size, fuel prices and distance traveled. Fares can range between \$60 and \$200 per month. In Pierce County for example, a vanpool group of nine, driving about 70 miles per work day, pays about \$87 per month, per passenger.<sup>4</sup> Adding more passengers would spread the cost over more payers and cause the individual monthly fare for that group to fall. Likewise, fewer passengers or longer commutes cause fares to increase. Fares generally also include the cost of fuel, van maintenance and insurance, which means most of the operating costs are covered by the users.

Most agencies and large employers also provide Guaranteed-Ride-Home programs to ensure passengers who miss their regularly-scheduled vanpool will have other travel options for the commute home.

### The Benefits of Vanpools

Vanpooling provides several benefits. Vanpool groups gain access to HOV lanes, reduced ferry rates, preferential parking and free or reduced parking rates depending on the employer. Some employers offer monthly compensation directly to their employees who commute with a vanpool. Costco for example, pays its employees who participate in a vanpool program \$60 per month.<sup>5</sup>



Users also enjoy cheaper commuting costs. In 2009, the American Automobile Association (AAA) estimates the cost of owning and operating a medium size passenger vehicle in the United States is .54 cents per mile.<sup>6</sup> This means the annual cost of owning a car and using it to travel about 70 miles each work day, which is about the same roundtrip distance between Tacoma and Seattle, would be about \$9,072 per year.<sup>7</sup>

AAA's annual estimate however, includes both driving costs and ownership costs. In this case, ownership costs are generally considered fixed because an

<sup>4</sup> "Commuter Vanpool Fares," Pierce County Transit, Effective October 1, 2008, at [www.piercetransit.org/rideshare/farechart.pdf](http://www.piercetransit.org/rideshare/farechart.pdf).

<sup>5</sup> "Metro's Vanpool program getting more popular all the time," News Center DOTcast, King County Metro, June 3, 2008, at [www.kingcounty.gov/transportation/kcdot/NewsCenter/DOTcast/MetroTransit/060308\\_vanpoolemployers.aspx](http://www.kingcounty.gov/transportation/kcdot/NewsCenter/DOTcast/MetroTransit/060308_vanpoolemployers.aspx).

<sup>6</sup> "Your Driving Costs, How much are you really paying to drive?," 2009 edition, American Automobile Association, 2009, at [www.aaanewsroom.net/Assets/Files/20093271039350.DrivingCosts2009.pdf](http://www.aaanewsroom.net/Assets/Files/20093271039350.DrivingCosts2009.pdf).

<sup>7</sup> Based on 240 work days per year.

average person likely would not sell his passenger car because he decided to use public transit to commute to work.

AAA also estimates operating costs separate from ownership costs, which in 2009 is 15.42 cents per mile.<sup>8</sup> So for a 70 mile commute between Tacoma and Seattle the average driver would pay operating costs of about \$2,591 per year.

A person riding a Sound Transit Express bus also between Tacoma and Seattle would pay about \$1,440 per year.<sup>9</sup> A person riding the Sounder Commuter Rail regularly between Tacoma and Seattle could purchase an annual pass at a discounted rate of \$1,881.<sup>10</sup>

In comparison, a vanpool group in Pierce County, with nine passengers who also travel the 70 miles per work day between Tacoma and Seattle, would each pay about \$1,044 annually.<sup>11</sup>

This means an average vanpool passenger commuting between Tacoma and Seattle would save about 28 percent compared to taking a bus, 45 percent compared to taking Sounder Commuter Rail and 61 percent compared to driving.

By sharing a commute, vanpoolers help the environment and help reduce traffic congestion. In 2008, there were about 2,360 commuter vans, with an average of 8.14 passengers per van, in use across Washington State.<sup>12</sup> Subtracting the driver and assuming all of these users would otherwise be driving to work alone, vanpools shifted nearly 17,000 cars off the roadway every day last year. This reduces fuel consumption, emits fewer greenhouse gas emissions and lessens roadway demand on an already constrained system. In 2006, vanpools in Washington carried over 6.7 million passenger trips, reduced single occupant vehicle miles by 23.8 million and saved 9.5 million gallons of fuel.<sup>13</sup>

Vanpools are also more flexible, faster and require less public subsidy than other, fixed route mass transit modes, like buses or rail.

Longer, regional transit networks generally require travel to centralized entry points like Park-n-Ride lots, train stations or through a system of bus stops and feeder routes, to gain initial access to the system. Once on board, passengers are taken to centralized drop off stations. If the final destination is not within walking distance, passengers must rely on transfers and reverse feeder routes to complete the trip.

These intercity mass transit networks require expensive infrastructure and annual operating costs, most of which are paid with higher public taxes. These

<sup>8</sup> "Your Driving Costs, How much are you really paying to drive?," 2009 edition, American Automobile Association, 2009, at [www.aaanewsroom.net/Assets/Files/20093271039350.DrivingCosts2009.pdf](http://www.aaanewsroom.net/Assets/Files/20093271039350.DrivingCosts2009.pdf).

<sup>9</sup> Based on Sound Transit Express bus fares between Tacoma and Seattle, as of September, 2009. Assumes \$3 per segment, two segments per day, twenty days per month, twelve months per year.

<sup>10</sup> Based on Sound Transit fares using a Puget Pass between Tacoma and Seattle, as of September, 2009. The fare schedule is available online at [www.soundtransit.org/x1850.xml](http://www.soundtransit.org/x1850.xml). The annual cost of purchasing a normal Sounder ticket between Tacoma and Seattle (twenty days per month) would be \$2,280.

<sup>11</sup> Based on Pierce Transit's most recent vanpool fare schedule, updated October 1, 2008. Available online at [www.piercetransit.org/rideshare/farechart.pdf](http://www.piercetransit.org/rideshare/farechart.pdf). Unless a vanpool user divested one household vehicle, the differences here are not true savings because there are several fixed costs that are associated with owning a car. Nevertheless, the comparison is useful to show the annual cost of driving 70 miles to work versus using a vanpool to cover the same distance.

<sup>12</sup> "Vanpool Investment Program," Washington State Department of Transportation, June, 2008, page 2, at [www.ecy.wa.gov/climatechange/2008CATdocs/IWG/tran/tran\\_VMT04\\_ClimateVanpoolBriefing\\_V08.pdf](http://www.ecy.wa.gov/climatechange/2008CATdocs/IWG/tran/tran_VMT04_ClimateVanpoolBriefing_V08.pdf).

<sup>13</sup> "Vanpool Investment Program," Commute Trip Reduction 2007 Report to the Washington State Legislature, Washington State Department of Transportation, 2007, page 1, at [www.wsdot.wa.gov/NR/rdonlyres/78774733-2E96-48E3-9CEC-237C5B1848BA/0/Vanpool.pdf](http://www.wsdot.wa.gov/NR/rdonlyres/78774733-2E96-48E3-9CEC-237C5B1848BA/0/Vanpool.pdf).

*An average vanpool passenger commuting between Tacoma and Seattle would save about 28 percent compared to taking a bus, 45 percent compared to taking Sounder Commuter Rail and 61 percent compared to driving.*

*Vanpools are more flexible, faster and require less public subsidy than other, fixed route mass transit modes, like buses or rail.*

systems also lead to longer door-to-door commute times and discourage all but the most loyal transit users.

Vanpool programs, on the other hand, require very little capital investment and user fees generally cover most, if not all, annual operating expenses. Except for purchasing vans, this means no public taxes are used to pay for expensive transit stations, rail lines, drivers or train cars. And since vanpool users pay most of the program's operating costs, public subsidies are minimal, leaving scarce tax revenues available for other services. Vanpools also offer faster travel times because they can use HOV lanes, do not make as many stops and eliminate the need for time-consuming transfers. An added benefit to society is avoiding work-stoppages and labor disputes. Vanpool drivers never go on strike.

## Regional Growth in Vanpool Use

Vanpool use is becoming more popular. Puget Sound area vanpool agencies reported passenger demand (as measured in unlinked trips) grew by 52 percent between 2000 and 2008.<sup>14</sup>

Even more remarkable is the recent growth in vanpool ridership. Vanpools are used almost exclusively by commuters traveling to and from work. This means vanpool use would appear to be sensitive to regional unemployment rates.

In the first quarter of 2008, when unemployment was hovering around traditional levels (between four and five percent), the six vanpool agencies in the Puget Sound region accounted for about 1.3 million passenger trips.<sup>15</sup> Despite a global recession and unemployment rates doubling to nearly 10 percent the following year, passenger demand in the first quarter of 2009 grew to about 1.5 million trips, an astounding 16 percent increase.<sup>16</sup> In comparison, the same six transit agencies experienced a combined 0.2 percent decrease in bus ridership over the same time period.<sup>17</sup>

*As inter-city transit, fixed-route systems are very expensive and do not attract a lot of riders to justify the costs.*

## II. Analysis of Vanpool Performance and Market Potential

As the suburbanization of communities in the Puget Sound region developed over the last three decades, many transit agencies recognized the importance of connecting these outlying areas to employment centers with inter-city transit systems. In the 1990s, this regional approach gave rise to Sound Transit and its line of express buses, commuter rail and light rail to connect users in King, Pierce and Snohomish Counties. This growth pattern also contributed to new funding policies like King County's 40/40/20 rule – which distributes 40 percent of any new transit service to the Eastside, 40 percent to South King County and only 20 percent to Seattle – to reach the suburbs.

As inter-city transit, these fixed-route systems are very expensive and do not attract a lot of riders to justify the costs. For example, Sound Transit estimates

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<sup>14</sup> Data collected from the American Public Transportation Association's quarterly ridership report archives, 2000-2008, at [www.apta.com/resources/statistics/Pages/RidershipArchives.aspx](http://www.apta.com/resources/statistics/Pages/RidershipArchives.aspx). Pierce Transit's ridership was not included in the APTA 2008 fourth quarter report. Pierce County's 2008 ridership data was obtained from its annual "Report to the Community," 2008, page 1, at <http://www.piercetransit.org/pdfs/ReportToCommunity1.pdf>. Island Transit data was obtained from Island Transit officials.

<sup>15</sup> Ridership compares growth between the first quarter of 2008 and the first quarter of 2009. Data collected from the American Public Transportation Association's quarterly ridership report archives, First Quarter 2008 & First Quarter 2009, at [www.apta.com/resources/statistics/Pages/RidershipArchives.aspx](http://www.apta.com/resources/statistics/Pages/RidershipArchives.aspx). Island Transit data was obtained from Island Transit Officials.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

*Traffic congestion in the Seattle region is predicted to double and reach the levels of present-day Los Angeles by 2030.*

that its entire system will carry about 358,000 trips per day by 2030.<sup>18</sup> The Puget Sound Regional Council (PSRC) estimates that motorists and transit users will make about 15 million total trips per day in King, Pierce and Snohomish Counties by 2030.<sup>19</sup> This means Sound Transit is spending more than thirty years and nearly \$40 billion to build a system that will only carry about 2.4 percent of all daily trips.

In the mean time, traffic congestion in the Seattle region is predicted to double and reach the levels of present-day Los Angeles over the same time period.<sup>20</sup>

There is a more efficient and effective transport method to connect these suburban neighborhoods with transit: vanpools. Vanpools are far more flexible, faster and require less public tax support than other, fixed route mass transit modes, like buses or rail.

In Washington, there are twenty vanpool programs, six within the Puget Sound region. In terms of the number of vans in service and passenger trips, King County manages the largest public vanpool program in the state and the nation.<sup>21</sup> In 2007, King County operated 826 vanpools and carried 2.3 million passenger trips.<sup>22</sup> Only Chicago and Houston come close to running systems as large. In 2007, Chicago operated 677 vans and served 1.9 million trips while Houston managed 545 vanpools and carried about 2.0 million trips.<sup>23</sup>

## **Modal Performance**

Vanpools have several competitive advantages that allow them to achieve better performance over other types of inter-city transit modes like buses and rail. In each case, vanpools are cheaper and more flexible.

Comparing the performance of vanpools with other transit modes, however, is difficult. Vanpool passengers are generally commuters traveling between home and work. This means vanpools have a much narrower market and cannot always be accurately compared to broad, intra-city bus programs like those found in Tacoma and Seattle. While these programs provide some regional inter-city routes, their overall system is mostly comprised of shorter, inner city trips that make comparison to a commute-oriented regional program like vanpools somewhat unreliable.

The Puget Sound region does have a large inter-city transit program that makes a more dependable comparison to vanpools possible. Sound Transit provides express bus, light rail and commuter rail service between cities in Pierce, King and Snohomish Counties. While Sound Transit does provide service to special events and some weekend users, it caters mostly to suburban commuters traveling to large employment centers in Tacoma, Seattle and Bellevue. This type of inter-city transport allows more accurate modal comparisons to vanpools.

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<sup>18</sup> "Sound Transit 2, A Mass Transit Guide, The Regional Transit System Plan For Central Puget Sound, Resolution No. R2008-10, Exhibit A," Sound Transit, Adopted July 24, 2008, page 25, at [www.future.soundtransit.org/documents/Reso2008-10%20Exhibit%20A%20Plan%20Document.pdf](http://www.future.soundtransit.org/documents/Reso2008-10%20Exhibit%20A%20Plan%20Document.pdf).

<sup>19</sup> "Destination 2030 Update, Technical Appendices," Puget Sound Regional Council, April, 2007, page A8. 15, at <http://psrc.org/assets/261/d2030appendices1-8.pdf>.

<sup>20</sup> "Building Roads to Reduce Traffic Congestion in America's Cities," David T. Hartgen and M. Gregory Fields, Reason Foundation, August 1, 2006, at [www.reason.org/news/show/127670.html](http://www.reason.org/news/show/127670.html).

<sup>21</sup> "2009 Public Transportation Fact Book Appendix B: Transit Agency and Urbanized Area Operating Statistics," American Public Transportation Association, April 2009, at [http://www.apta.com/resources/statistics/Documents/FactBook/2009\\_Fact\\_Book\\_Appendix\\_B.pdf](http://www.apta.com/resources/statistics/Documents/FactBook/2009_Fact_Book_Appendix_B.pdf).

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

While this study does measure the performance of broader bus programs like King County Metro and Pierce Transit, more emphasis should be placed on Sound Transit's inter-city system for the reasons already stated. Because light rail is also considered an inter-city mode and is a growing part of the regional transit network, a comparison to vanpooling is appropriate. However, Sound Transit's light rail line has not been open long enough to provide sufficient data. In order to account for light rail, this study uses the performance data from three West Coast systems: San Jose, Portland and Los Angeles. The data from these three agencies may or may not accurately represent the experiences of Sound Transit's system, but it provides a general sense of how light rail compares with other transit modes.

There are generally two modal characteristics that illustrate the cost effectiveness of public transit: expenditures per passenger trip and expenditures per passenger mile. Both measure the relationship between the costs of providing a service with its particular level of demand. This allows for a fair comparison between modes and between large and small programs.

The following table compares the expenditures per passenger trip of vanpools in the Puget Sound region with other transit modes.<sup>24</sup>

### Expenditure per Passenger Trip

	Total Trips 2000-2007	Total Operating Costs 2000-2007	Total Capital Costs 2000-2007	Operating Cost per Trip	Capital Cost per Trip	Total Cost per Trip
Six Regional Vanpool Agencies	31,910,606	\$114,164,626	\$49,943,566	\$3.58	\$1.57	\$5.14
Six Regional Bus Agencies	832,843,635	\$3,467,047,646	\$881,597,374	\$4.16	\$1.06	\$5.22
Light Rail*	581,548,515	\$1,644,015,891	\$2,505,854,548	\$2.83	\$4.31	\$7.14
Sound Transit Buses**	44,510,293	\$203,106,268	\$599,522,606	\$4.56	\$13.47	\$18.03
Souder Commuter Rail	8,236,408	\$123,927,177	\$997,072,837	\$15.05	\$121.06	\$136.10

Source: National Transit Database

\*Data totaled from light rail systems in San Jose, Los Angeles, and Portland

\*\*Excludes data for purchased transportation

The six regional vanpool agencies provided almost 32 million passenger trips between 2000-2007, for about \$114 million in operating costs and nearly \$50 million in capital expenditures.<sup>25</sup> Vanpools experienced operating costs of \$3.58 per passenger trip and a total cost of \$5.14 per passenger trip when capital expenses are included.<sup>26</sup>

<sup>24</sup> Vanpool data is comprised from the six regional agencies that provide vanpool service. They include Island Transit, King County Metro, Pierce Transit, Kitsap Transit, Community Transit and Intercity Transit. The regional bus data is comprised from the same six public agencies. Light Rail performance is produced from combining three West Coast systems: Los Angeles, Portland and San Jose. Portland was chosen because it is generally regarded as the most efficient light rail system in the country. San Jose was chosen because it is generally regarded as the least efficient light rail system in the country. Los Angeles is included to help balance out the average. Sound Transit bus data was comprised from buses operated by Sound Transit only; service purchased from King County Metro is not included. Souder Commuter Rail performance is measured as reported to the National Transit Database from Sound Transit.

<sup>25</sup> "TS2 - Operating Expenses, Service Supplied and Consumed, TS2.1 - Service Data and Operating Expenses Time-Series by Mode," National Transit Database, 2007, at [www.ntdprogram.gov/ntdprogram/data.htm](http://www.ntdprogram.gov/ntdprogram/data.htm). Island Transit does not report to the NTD, so Island Transit data was obtained from Island Transit officials. Some NTD data for Sound Transit was incomplete so where appropriate, data from the American Public Transportation Association was used.

<sup>26</sup> Figures may not add precisely due to rounding.

The two most relevant transit modes to measure against vanpools are Sound Transit's Express bus system and the Sounder Commuter Rail, both of which are considered commuter-based, inter-city programs. Between 2000 and 2007, the Sounder Commuter Rail served only 8.2 million passenger trips for \$124 million in operating expenses and nearly \$1 billion in capital costs.<sup>27</sup> In other words, it takes \$15.05 in operating expenses for the Sounder to carry one passenger trip and \$136 per passenger trip when capital expenditures are included. This means vanpools served four times more passengers for 1/7<sup>th</sup> the cost of Sound Transit's Sounder Commuter Rail.

King County's vanpool program alone carries more people than Sound Transit's entire commuter rail, for \$1 billion less.

*King County's vanpool program alone carries more people than Sound Transit's entire commuter rail, for \$1 billion less.*

Sound Transit's Express bus program is also less effective than vanpools. During the seven years between 2000 and 2007, the agency spent nearly \$900 million to carry 44.5 million trips for a total cost of \$18.03 per passenger trip.<sup>28</sup> This means vanpools are 2½ times more efficient than Sound Transit's Express bus program.

Comparing capital expenditures among different transit modes is sometimes unreliable. For example, Sound Transit's commuter rail and bus systems have high capital-per-trip costs because they include the startup expenses of buying trains, track easements, buses and other supporting infrastructure. Over time, these capital costs should fall as the systems reach capacity. The opposite can also be seen with the light rail systems in San Jose, Los Angeles and Portland. These programs are established and have been operating for many years. Light rail is generally regarded as one of the most expensive public transportation modes to build because of its heavy capital investments. Yet, the capital costs per trip are relatively low in this report because those startup expenses were paid before the time period used here.

What is valuable to point out however, is that vanpools require far less capital investment. Vanpool programs only require vans and perhaps storage and maintenance facilities, while other modes need expensive stations, park-n-ride lots, bus stops, locomotives and fixed guideways. Between 2000 and 2007, the six vanpool agencies in the Puget Sound area spent \$50 million in capital infrastructure.<sup>29</sup> This is 18 times less than the same six bus agencies, 12 times less than Sound Transit's Express bus system and 20 times less than the Sounder Commuter Rail.

Critics say vanpools appear much cheaper than rail modes because such comparisons do not include the cost of conveyance (roads). Yet, excluding conveyance costs is precisely one of the reasons vanpools are much more efficient than rail transit. Roads are fixed public assets and exist with or without vanpools. In other words, roads are built for many other purposes rather than an exclusive need to provide vanpool services. Expanding the vanpool fleet in the Puget Sound region would not require building more roads, so the marginal cost of adding service only requires the additional vans and perhaps normal operations and maintenance expenses. To look at it another way, ending vanpools would not save taxpayers any money on road costs.

On the other hand, light rail and commuter rail operate on tracks that are built exclusively for that particular service to exist. If Sound Transit officials

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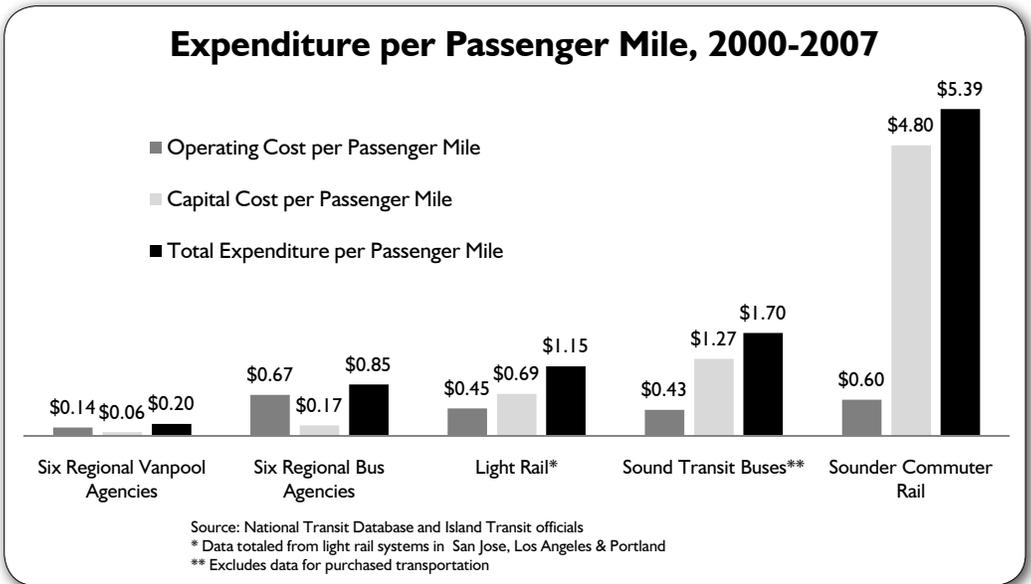
<sup>27</sup> "TS2 - Operating Expenses, Service Supplied and Consumed, TS2.1 - Service Data and Operating Expenses Time-Series by Mode," National Transit Database, 2007, at [www.ntdprogram.gov/ntdprogram/data.htm](http://www.ntdprogram.gov/ntdprogram/data.htm). Island Transit does not report to the NTD, so Island Transit data was obtained from Island Transit officials. Some NTD data for Sound Transit was incomplete so where appropriate, data from the American Public Transportation Association was used.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

want to extend commuter rail to Bellevue they have to build tracks and those conveyance costs are appropriate to include in any comparison. In the case of the Sounder, Sound Transit is unique because it did not have to lay tracks to provide commuter rail service. The agency instead purchased an easement on existing Burlington Northern Santa Fe tracks. These conveyance costs are included in the comparison to vanpools because they are required to provide the rail service.

Looking at the expenditures per passenger mile is even more revealing by accounting for trip distances among the different modes. The following table compares expenditures per passenger mile between the years 2000 and 2007.



*Between 2000 and 2007 the total expenditures per passenger mile were only 20 cents for the six vanpool agencies in the Puget Sound region. This is six times less than light rail, eight times less than Sound Transit's Express Bus system and 27 times less than the Sounder Commuter Rail.*

Vanpools are very inexpensive to operate. Between 2000 and 2007, the six regional vanpool agencies spent \$114 million to provide 837 million passenger miles.<sup>30</sup> This means operating costs were only 14 cents per mile. When accounting for ridership and distance traveled, vanpools cost between three and five times less to operate than light rail, buses or commuter rail.

The total expenditures per passenger mile during the same time period were only 20 cents for the six vanpool agencies in the Puget Sound region.<sup>31</sup> This is six times less than light rail, eight times less than Sound Transit's Express Bus system and 27 times less than the Sounder Commuter Rail.

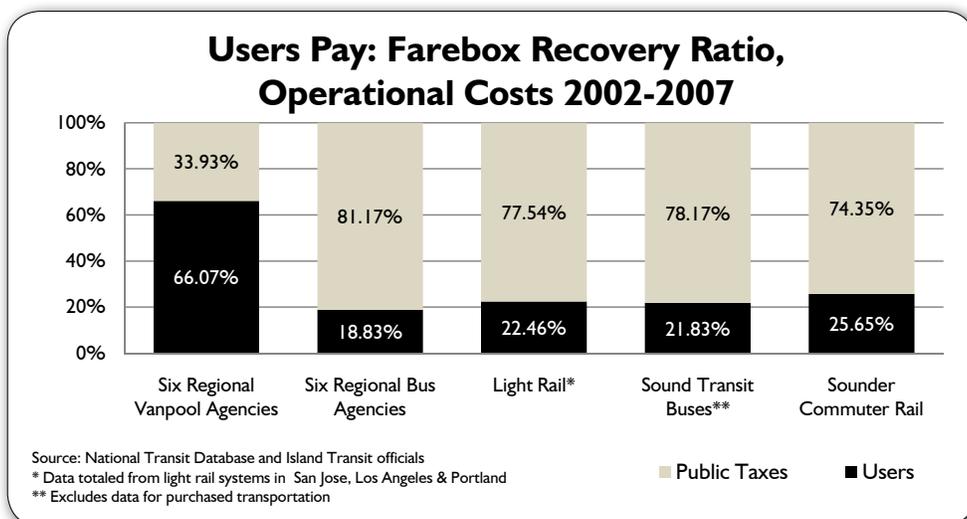
Vanpools do not serve short, intra-city transit needs well and cannot replace broad-based bus systems, but in terms of moving commuters between cities, vanpools are by far the most cost effective.

Another performance measure that reflects the social benefits of vanpools is farebox recovery ratios, or the relationship between how much of operating expenses users and taxpayers cover. Traditional bus systems generally recover about 20 percent of their operating costs from riders, while taxpayers pay the remaining 80 percent. The following chart compares farebox recovery rates of vanpools with other transit modes.

Between 2002 and 2007, the six vanpool programs in the Puget Sound region recovered \$59.2 million in passenger fares and spent about \$89.7 million in operating costs.<sup>32</sup> The total farebox recovery rate was about 66 percent of operating

<sup>30</sup> Ibid.  
<sup>31</sup> Ibid.  
<sup>32</sup> Ibid.

expenses, while taxpayers paid the remaining 34 percent.<sup>33</sup> In 2007 the largest vanpool program, King County, had the highest farebox recovery rate, collecting 83 percent of operating expenses from passengers.<sup>34</sup>



This is in stark contrast to what users pay to ride buses, commuter rail and light rail. Farebox recovery rates for these transit modes range between 19 and 26 percent of operating costs, while taxpayers pay the remaining 74 to 81 percent.<sup>35</sup>

To look at it another way, the public must cover its share of operating expenses with a subsidy, generally through increases in local sales taxes. This subsidy can vary based on the efficiency of a particular transit mode and by the farebox recovery policy implemented by the legislative body of each agency. The following table compares the operating costs per boarding, operating revenues per boarding and the public subsidy required per boarding for vanpools with other transit modes between 2002 and 2007.

	Six Regional Vanpool Agencies	Six Regional Bus Agencies	Light Rail*	Sound Transit Buses**	Sounder Commuter Rail
Operating cost per boarding	\$3.71	\$4.36	\$2.99	\$6.56	\$14.34
Operating revenue per boarding	\$2.45	\$0.82	\$0.67	\$1.43	\$3.68
Public subsidy required per boarding	\$1.26	\$3.54	\$2.32	\$5.13	\$10.66

Source: National Transit Database and Island Transit officials  
 \*Data totaled from light rail systems in San Jose, Los Angeles, and Portland  
 \*\*Excludes data for purchased transportation

Between 2002 and 2007, the public paid about \$1.26 for every vanpool trip made in the Puget Sound region.<sup>36</sup> In comparison, the public paid \$5.13 in operating costs for every passenger trip on Sound Transit buses and \$10.66 in operating costs for every passenger trip made on the Sounder Commuter rail.<sup>37</sup>

<sup>33</sup> Ibid.  
<sup>34</sup> Ibid.  
<sup>35</sup> Ibid.  
<sup>36</sup> Ibid.  
<sup>37</sup> Ibid.

*Between 2002 and 2007, the public paid about \$1.26 for every vanpool trip made in the Puget Sound region. In comparison, the public paid \$5.13 in operating costs for every passenger trip on Sound Transit buses and \$10.66 in operating costs for every passenger trip made on the Sounder Commuter rail.*

Regional vanpools are not only more cost effective than other inter-city transit modes, they require much less public tax support, because users cover two thirds of operational expenses. In fact, passenger fares would only need to rise \$1.26 per trip, or about 50 percent, to make vanpools self sufficient. On the other hand, Sound Transit's bus fares would need to rise an average of \$5.13 per trip, or 259 percent to break even. Sounder Commuter rail would have to raise fares \$10.66, or almost 200 percent to break even.

### The Market Potential for Vanpools is Large and Undeveloped

Despite decades of restrictive government land-use policies to increase density in urban centers, residents continue a steady movement into the suburbs. Driven by a variety of social and economic factors, these growth patterns have made travel between home and work longer and more congested as average trip length and travel time have risen.

Nationally, the average commute trip has steadily grown from 8.54 miles in 1983 to 12.11 miles in 2001.<sup>38</sup> Likewise, average travel time for commuters has also increased from 18.2 minutes in 1983 to 23.32 minutes to 2001.<sup>39</sup>

Regional data suggest the same commute patterns exist here. The following table from the Puget Sound Regional Council shows the mean distance to work between 1999 and 2006 in the Puget Sound region.

**Mean Distance to Work, 1999 and 2006**

Sub area	1999	2006	% Change
Region	12.2	12.8	5%
NW/Central Snohomish	15	16.7	11%
SW Snohomish	13.4	13.1	-2%
Seattle-Shoreline	8.2	8.4	2%
East King	10.9	10.9	0%
South King	12.4	12.7	2%
Tacoma/SW Pierce	10.8	12.3	13%
Central Pierce	15.1	15.1	0%
East Rural	22	24.9	13%
North/Central Kitsap	11.7	12	3%
South Kitsap/Peninsula	18.8	19.9	6%

Source: Puget Sound Regional Council

The average distance to work rose in most every area around Puget Sound. Overall, commuters traveled an average of 12.2 miles to work in 1999 and 12.8 miles in 2006.<sup>40</sup> This is an increase of five percent in seven years. The largest increases took place in NW/Central Snohomish County (11 percent), Tacoma and SW Pierce County (13 percent), and rural East King County (13 percent).<sup>41</sup>

The number of commuters working in a county different from the one they live in is also growing. The following table illustrates how many commuters travel across county lines during their journey to work.

<sup>38</sup> "Highway Statistics 2007, Trip Length, Commute Speeds and Travel Time, 1983-2001," Table NHTS-13.2.3, U.S. Department of Transportation, Federal Highway Administration, at [www.fhwa.dot.gov/policyinformation/statistics/2007/nhts1323.cfm](http://www.fhwa.dot.gov/policyinformation/statistics/2007/nhts1323.cfm).

<sup>39</sup> Ibid.

<sup>40</sup> "Puget Sound Trends, Average Distance to Work," Puget Sound Regional Council, December 2007, at [www.psrc.org/publications/pubs/trends/t10dec07.pdf](http://www.psrc.org/publications/pubs/trends/t10dec07.pdf).

<sup>41</sup> Ibid.

*Despite decades of restrictive government land-use policies to increase density in urban centers, residents continue a steady movement into the suburbs.*

### County-Level Journey to Work

	1980	1990	2000
Workers Living in the Region	1,038,945	1,396,618	1,642,700
Location of Work:			
In County of Residence	80.2%	80.3%	82.1%
In Another County	10.4%	14.4%	16.1%

Source: Puget Sound Regional Council

In 1980, 10.4 percent of commuters crossed county lines while traveling to work.<sup>42</sup> By 2000, 16.1 percent of commuters worked in a different county than the one they lived in.<sup>43</sup>

Since 1980, residents around the Puget Sound region have steadily increased their travel distance and time to work. As commuters move farther away from employment centers, transportation costs grow and demand for inter-city rideshare programs, like vanpools, becomes more attractive. If these historical growth patterns continue, the market demand for vanpools will expand.

In 2003, the Washington State Department of Transportation (WSDOT) completed an analysis on the market potential of vanpool demand in the Puget Sound region. WSDOT officials joined with more than two dozen regional planning organizations, public agencies, consultants and businesses to create the Vanpool Market Action Plan (VMAP). The study reported “the existence of a very large undeveloped market for vanpooling among long-distance commuters who commute by car.”<sup>44</sup>

The VMAP team found that in 2003, there was enough “...vanpool interest today (among commuters with compatible origins, destinations and schedules) to allow a near doubling of current vanpool counts to approximately 2,500 vanpools.”<sup>45</sup> Taking existing market potential a step further, the VMAP found that implementing various marketing strategies could substantially increase the historical growth rate of existing vanpool demand.

The six vanpool agencies in the Puget Sound focus most of their marketing on worksites under the state’s Commute Trip Reduction (CTR) program. Washington’s CTR program is a set of laws that require local governments and employers with 100 or more employees within the state’s nine most populated counties to participate. Those under the CTR program must develop a commute trip reduction plan that encourages employees to reduce drive-alone trips. Ridesharing and vanpools are major components of the CTR program so public agencies tend to limit marketing to these sites.

Expanding an aggressive marketing campaign beyond traditional CTR worksites, the VMAP found the region could increase vanpool use up to 11,870 vans by 2030.<sup>46</sup> Remarkably, this is nearly a 600 percent increase over what currently exists today.

With a combination of marketing strategies and operational enhancements, the VMAP study estimated the cost to implement its recommendations would

<sup>42</sup> “Puget Sound Trends, 1980, 1990, and 2000 County-Level Journey to Work,” Puget Sound Regional Council, April 2003, at [www.psrc.org/publications/pubs/trends/t1apr03.pdf](http://www.psrc.org/publications/pubs/trends/t1apr03.pdf).

<sup>43</sup> Ibid.

<sup>44</sup> “Vanpool Market Action Plan, Vanpooling in the Puget Sound Region,” Washington State Department of Transportation, July 2003, at [www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf](http://www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf).

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

*Expanding an aggressive marketing campaign beyond traditional CTR worksites, the VMAP found the region could increase vanpool use up to 11,870 vans by 2030. Remarkably, this is nearly a 600 percent increase over what currently exists today.*

*Vanpools in the Puget Sound region have the potential to serve 20 percent more riders for \$20 billion less than Sound Transit's light rail expansion plan.*

total about \$13 million.<sup>48</sup> In the five years between 2002 and 2007, the total operating and capital costs of the six Puget Sound vanpool agencies was \$164 million, or about \$32.8 million per year.<sup>49</sup> A more detailed cost analysis should be conducted, but implementing the VMAP recommendations and extrapolating this data to increase vanpools by 600 percent by 2030 shows a rough estimate to be about \$4.5 billion. Moreover, vanpool users would cover about 66 percent of operating costs, reducing the total cost to the public to about \$2.5 billion.

The average passenger load for a vanpool is 8.14 riders per van.<sup>50</sup> This means if VMAP officials are correct, vanpools in the Puget Sound region could carry about 193,000 trips per day by 2030, for a public cost of about \$2.5 billion.<sup>51</sup>

To put this in perspective, consider that Sound Transit estimates its \$22.8 billion light rail expansion will carry only 163,000 daily trips by 2030.<sup>52</sup> So vanpools in the Puget Sound region have the potential to serve 20 percent more riders for \$20 billion less than Sound Transit's light rail expansion plan.

### III. Recommendations

While vanpools are popular, efficient and effective, there are several structural and political limitations that prevent vanpool operators from maximizing their value. These obstacles constrain demand, unnecessarily consume public resources, and prevent vanpool services from reaching market optimization. Washington Policy Center makes the following recommendations to improve vanpool performance and move the most people for the least cost.

1. Saturate the vanpool market before expanding other intercity transit modes
2. Phase in 100% cost recovery over 5-10 years
3. Expand and loosen restrictions on the state Vanpool Investment Program

<sup>47</sup> "Vanpool Market Action Plan, Vanpooling in the Puget Sound Region," Washington State Department of transportation, July 2003, at [www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf](http://www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf).

<sup>48</sup> Ibid.

<sup>49</sup> "TS2 - Operating Expenses, Service Supplied and Consumed, TS2.1 - Service Data and Operating Expenses Time-Series by Mode," National Transit Database, 2007, at [www.ntdprogram.gov/ntdprogram/data.htm](http://www.ntdprogram.gov/ntdprogram/data.htm). Island Transit does not report to the NTD, so Island Transit data was obtained from Island Transit officials. Some NTD data for Sound Transit was incomplete so where appropriate, data from the American Public Transportation Association was used.

<sup>50</sup> Vanpool Investment Program, Washington State Department of Transportation, June, 2008, at [www.ecy.wa.gov/climatechange/2008CATdocs/IWG/tran/tran\\_VMT04\\_ClimateVanpoolBriefing\\_V08.pdf](http://www.ecy.wa.gov/climatechange/2008CATdocs/IWG/tran/tran_VMT04_ClimateVanpoolBriefing_V08.pdf).

<sup>51</sup> (8.14 passengers) \* (11870 vans) \* (2 trips per day) = 193,244 trips

<sup>52</sup> "Sound Transit 2, A Mass Transit Guide, The Regional Transit System Plan For Central Puget Sound, Resolution No. R2008-10, Exhibit A," Sound Transit, Adopted July 24, 2008, page 25, at [www.future.soundtransit.org/documents/Reso2008-10%20Exhibit%20A%20Plan%20Document.pdf](http://www.future.soundtransit.org/documents/Reso2008-10%20Exhibit%20A%20Plan%20Document.pdf).

### Contributors to the Vanpool Market Action Plan<sup>47</sup>

2Plus, Inc.  
Boeing  
Community Transit  
Commute Trip Reduction Task Force  
Commuter Challenge  
Costco  
Illum and Associates, Inc.  
Intercity Transit  
Island Transit  
King County  
King County Metro  
Kitsap Transit  
Pierce Transit, Community Transit  
Puget Sound Regional Council  
Romac Industries  
Safeco Insurance  
Tacoma Public Utilities  
Transportation Collaborations  
University of Washington  
Victoria Transportation Policy Institute  
Washington State Department of Transportation

4. Examine feasibility of introducing private operators or a public/private arrangement
5. Fund and implement recommendations of the Vanpool Market Action Plan
6. Keep federal money received by vanpools within the vanpool program
7. More emphasis on vanpools in the Puget Sound Regional Council's Transportation 2040 plan

### **Recommendation #1: Saturate vanpool market before expanding other intercity transit modes**

There are several competitive advantages that allow vanpools to achieve better performance over other types of intercity transit modes like buses and rail. Vanpools are cheaper and more flexible than fixed route transit and riders, not taxpayers, pay for most of the service. This equation suggests that vanpools are the most cost effective and efficient transit mode to connect commuters to urban employment centers. Before spending billions of dollars in tax money on less efficient modes, policymakers should instead saturate the vanpool market.

### **Recommendation #2: Phase in 100% cost recovery over 5-10 years**

In the Puget Sound region, there are six tax-funded transit agencies that provide vanpool programs. These are Community Transit, Intercity Transit, Island Transit, King County Metro, Kitsap Transit and Pierce Transit. Yet in most other states, vanpool services are provided by private companies.

For example, VPSI is a company that serves more than 50 urban areas throughout the world and is the largest commercial provider of vanpools.<sup>53</sup> Based in Michigan and incorporated as an offshoot of the Chrysler Corporation's employee vanpool program in the 1970s, VPSI carries over 25 million passenger trips per year.<sup>54</sup>

The success of private companies like VPSI in the marketplace indicates that vanpool programs can be operated efficiently enough that riders and employers, not taxpayers, pay for most of the service.

In some cases, using public taxes to subsidize mass transit is beneficial, especially for those groups who are low income or physically disabled. But continuing to expand other less efficient *intercity* transit modes that require a greater share of public subsidies like rail and buses before vanpool demand is fully developed unnecessarily spends taxes that would otherwise be used to support other valuable programs.

In 2007, King County Metro's vanpool program carried 2.3 million passenger trips, spent \$8.2 million in operating expenses, \$3.2 million in capital, and recovered about \$6.9 million in passenger fares.<sup>55</sup> This means Metro managers would only need to raise vanpool fares by 59 cents per trip to cover annual operating expenses, or \$1.98 per trip to cover both annual operating and capital expenses. In other words, fares could be raised by only 20 percent to make its day-to-day operations self-sustaining or about 66 percent to make King County's vanpool program completely self sustaining.

<sup>53</sup> Corporate History, VPSI, INC. Available online at: <http://www.vpsiinc.com/Home/index.asp?OID=261>.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

*Continuing to expand other less efficient intercity transit modes that require a greater share of public subsidies like rail and buses before vanpool demand is fully developed unnecessarily spends taxes that would otherwise be used to support other valuable programs.*

Implementing full cost recovery among the six public agencies also creates a fair playing field.

The six public vanpool programs are operated independently of one another. This means they have different policies and pricing schemes that create competition.

Vanpool riders can choose to use either the transit agency from the county where they live or the county of their final destination. So a group commuting from Tacoma to Seattle could use either the vanpool program offered by Pierce Transit or King County Metro.

According to the most recent fare schedules, nine vanpool passengers traveling 70 miles per day would each pay about \$112 per month if they used King County Metro's program or only \$87 per month if they used Pierce Transit's system. In this case, a rational vanpool group would choose Pierce Transit because it costs 20 percent less.

Metro's higher price does not necessarily mean the agency operates a less efficient system. In 2007, Metro's vanpool program had a farebox recovery rate of 83 percent. This means vanpool users paid for more than three-quarters of the system's annual operating costs. In comparison, Pierce Transit's program only recovered 57 percent of operating expenses from users, while taxpayers paid the remaining 43 percent.

The differences in farebox recovery rates create an unfair playing field by allowing vanpool programs to use public subsidies to artificially under-cut competing agencies.

Competition among the six Puget Sound area vanpool agencies is desirable because it generates efficiency and innovation, and it benefits both the taxpayer and the consumer. However, using taxes to artificially lower prices decreases farebox recovery ratios and spends more public money than is necessary.

Recognizing the success of the private sector and the unfair playing field created by separate farebox recovery policies, the six vanpool programs in the Puget Sound region should phase in a uniform and full cost recovery policy over a period of time.

### **Recommendation #3: Expand and loosen restrictions on the state Vanpool Investment Program**

In 2003, the state legislature allocated \$30 million to the Vanpool Investment Program (VIP). The funds are limited to public transit agencies and can only be used to purchase new vans or to help employers create incentives for employees to use vanpools.

The state should expand this program, allow private operators to become eligible and allow the money to be used for marketing vanpool services to the public.

### **Recommendation #4: Examine feasibility of introducing private operators or a public/private arrangement**

Unlike other forms of public transit, Washington law does not expressly prohibit private companies from offering cost-effective vanpool services. Private operators do not exist in Washington because they cannot compete against

*The differences in farebox recovery rates create an unfair playing field by allowing vanpool programs to use public subsidies to artificially under-cut competing agencies.*

agencies that use subsidies to under-cut prices. This system unnecessarily spends public money and constrains demand.

Other states benefit from private vanpool operators who either provide vanpools services separately or through a partnership with public agencies. These arrangements should be explored in Washington to find the best model for expanding vanpool services to move the most people for the least cost.

### **Recommendation #5: Fund and implement recommendations of the Vanpool Market Action Plan**

In 2003, the Washington State Department of Transportation (WSDOT) completed an analysis of the vanpool demand in the Puget Sound region. WSDOT officials joined with more than two dozen regional planning organizations, public agencies, consultants and businesses to create the Vanpool Market Action Plan (VMAP). The study reported “the existence of a very large undeveloped market for vanpooling among long-distance commuters who commute by car.”<sup>56</sup>

By increasing public awareness and making some operational changes, the VMAP authors found the region could increase vanpool use up to 11,870 vans by 2030.<sup>57</sup> Remarkably, this is nearly a 600 percent increase over what currently exists today. Officials estimate implementing the VMAP recommendations would cost about \$13 million.<sup>58</sup>

The VMAP recommendations include:

- Establish a regional image/identity for all vanpool service
- Implement a sales strategy targeted to broader employer market
- Market directly to commuting employees
- Implement collaborative approach to vehicle acquisition
- Adopt fare simplification systems
- Implement a collaborative approach to fleet management needs
- Collaboratively adopt new technologies

The six regional vanpool programs should implement the recommendations of the Vanpool Market Action Plan.

### **Recommendation #6: Keep federal money received by vanpools within the vanpool program**

Large public transit agencies receive federal funds through the Federal Transit Administration (FTA). Commonly known as Section 5307 funding, the FTA distributes these funds based on a complicated formula, which includes passenger miles as a factor. Since vanpools generally produce a lot of passenger miles, vanpool programs earn more Section 5307 money than other public transit. In 2002, the Washington State Department of Transportation estimated that vanpools earned about 11 percent of the total Section 5307 money in the Puget Sound region.<sup>59</sup>

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<sup>56</sup> “Vanpool Market Action Plan, Vanpooling in the Puget Sound Region,” Washington State Department of Transportation, July 2003, at [www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf](http://www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf).

<sup>57</sup> Ibid.

<sup>58</sup> Ibid.

<sup>59</sup> “Vanpool Market Action Plan, Vanpooling in the Puget Sound Region,” Washington State Department of Transportation, July 2003, at [www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf](http://www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf).

Most transit agencies however, spend Section 5307 funds received through the vanpool program on less cost effective modes, like buses. Policymakers should keep federal money received by vanpools within the vanpool program. This money could be used to help implement the VMAP recommendations and develop vanpool market potential, to move the most people for the least cost.

### **Recommendation #7: More emphasis on vanpools in the Puget Sound Regional Council's Transportation 2040 plan**

The Puget Sound Regional Council (PSRC) is currently updating its long range transportation plan called Transportation 2040. The plan examines a variety of scenarios that propose a series of land use, infrastructure spending and policy changes to guide funding decisions in regional transportation planning. The current preferred alternative shows vanpools should grow to 4,301 vans by 2040.<sup>60</sup> To achieve this growth, the PSRC recommends some improvements in how park-and-ride lots are used and introducing premium or luxury vanpool services.

Based on the Vanpool Market Action Plan, the PSRC significantly underestimates the potential benefit of vanpools in the Puget Sound region. By increasing public awareness and some operational changes, the VMAP found the region could increase vanpool use up to 11,870 vans by 2030.<sup>61</sup> This is 176 percent more vanpools than the PSRC recommends in its Transportation 2040 plan.

The vanpool program is the great untapped resource in providing cost-effective transportation services to the public. Given the strategies found in this report and the VMAP, the Puget Sound Regional Council should re-examine the market potential of vanpools in the Puget Sound region.

### **Conclusion**

Vanpools are an effective and functional option for intercity travel and its popularity is growing. Users are able to share the monthly costs of commuting with other passengers and lower their own commuting expenses. Vanpools are much cheaper and more flexible than fixed route mass transit like buses and rail. This flexibility leads to meaningful benefits that are attractive to potential users.

Despite growing traffic congestion and rising costs, most commuters prefer the mobility and freedom of driving a passenger car to and from work. Traditional public transit is most effective in dense, urban centers, but quickly it loses efficiency and ridership when expanded to reach long distance, intercity riders. Vanpools are much more effective at connecting these commuters with urban employment centers. Research shows increasing public awareness would lead to significantly higher ridership.

The recommendations presented in this report are an important first step toward improving the vanpool user's experience and tapping into the undeveloped market found in the Puget Sound region. It is our hope to expand vanpool programs to move the most people for the least cost, and preserve everyone's freedom of mobility.

<sup>60</sup> "Transportation 2040, DEIS, Appendix A Alternatives Technical Report," Puget Sound Regional Council, April 2009, at [www.psrc.org/assets/1936/appa.pdf](http://www.psrc.org/assets/1936/appa.pdf).

<sup>61</sup> "Vanpool Market Action Plan, Vanpooling in the Puget Sound Region," Washington State Department of Transportation, July 2003, at [www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf](http://www.washingtonpolicy.org/Centers/transportation/PDF/VanpoolMAPReport.pdf).

*Based on the Vanpool Market Action Plan, the PSRC significantly underestimates the potential benefit of vanpools in the Puget Sound region.*

## Appendix A: 31 Vanpool Facts

1. The largest public vanpool program in Washington and in the United States is King County's, serving more than two million annual trips with 826 vans in operation.
2. In 2008, there were about 2,360 vanpools with an average load of 8.14 passengers per van across Washington State.
3. In the Puget Sound there are six transit agencies that provide vanpool services: Community Transit, Intercity Transit, Island Transit, King County Metro, Kitsap Transit and Pierce Transit.
4. Puget Sound transit agencies provide more than 1,700 daily vanpools and serve about 4.8 million passenger trips per year.
5. Nationally, vanpool programs report an average daily round trip within a range of 48-108 miles.
6. Vanpool passengers are charged monthly fares that vary depending on the group size, fuel prices and distance traveled. Fares can range between \$60 and \$200 per month.
7. In Pierce County, a vanpool group of nine, driving about 70 miles per work day, pays about \$87 per month, per passenger.
8. An average vanpool passenger traveling between Tacoma and Seattle would save about 28 percent in annual commuting costs compared to taking a bus, 45 percent compared to taking Sounder Commuter Rail and 61 percent compared to driving a car.
9. Puget Sound vanpool agencies reported passenger demand grew by 52 percent between 2000 and 2008.
10. Despite a global recession and unemployment rates doubling to nearly 10 percent the following year, passenger demand in the first quarter of 2009 grew to about 1.5 million trips, a 16 percent increase from the first quarter of 2008.
11. Sound Transit is spending more than thirty years and nearly \$40 billion to build a system that will only serve about 2.4 percent of all trips.
12. Traffic congestion in the Seattle region is predicted to double and reach the levels of present day Los Angeles by 2030, with or without light rail.
13. Puget Sound area vanpools served four times more passengers for one-seventh the cost of Sound Transit's Sounder Commuter Rail. King County's vanpool program alone carries more riders than Sound Transit's entire commuter rail, and for \$1 billion less.
14. Puget Sound area vanpools are 2½ times more efficient than Sound Transit's Express bus program.
15. In the seven years between 2000 and 2007, the six vanpool agencies in the Puget Sound area spent \$50 million in capital infrastructure.

This is 18 times less than the same six bus agencies, 12 times less than Sound Transit's Express bus system and 20 times less than the Sounder Commuter Rail.

16. Vanpools are very inexpensive to operate. In between 2000 and 2007, the six regional vanpool agencies spent \$114 million to serve 837 million passenger miles. This means operating costs were only 14 cents per mile.
17. When accounting for ridership and distance traveled, vanpools cost between three and five times less to operate than light rail, buses or commuter rail.
18. Taxpayers pay about 80 percent of operating costs for light rail, buses and commuter rail, while users only cover 20 percent. In King County, vanpool passengers pay about 82 percent of operating costs for the vanpool program, while taxpayers only have to fund the remaining 18 percent.
19. Between 2002 and 2007, the public paid about \$1.26 for every vanpool passenger trip made in the Puget Sound region. In comparison, the public paid \$5.13 for every passenger trip on a Sound Transit bus and \$10.66 for every passenger trip made on the Sounder Commuter rail.
20. Vanpool fares would only need to rise about 50 percent to make vanpools self sufficient. On the other hand, Sound Transit's bus fares would need to rise about 259 percent, and nearly 200 percent for the Sounder Commuter rail, to break even.
21. Puget Sound area commuters traveled an average of 12.2 miles to work in 1999 and 12.8 miles in 2006, a five percent increase in seven years, despite government regulations to force compact development. Between 1980 and 2000, commuters who cross county lines to get to work increased from 10.4 percent to 16.1 percent. As commuters move further away from employment centers, transportation costs grow and demand for intercity rideshare programs like vanpooling becomes more attractive.
22. In 2003, a Washington State Department of Transportation (WSDOT) study found the region could increase vanpool use up to 11,870 vans by 2030, a 600 percent increase from what currently exists today.
23. Increasing vanpools by 600 percent by 2030 would only cost the public about \$2.5 billion in taxes and move 20 percent more people than Sound Transit's \$23 billion light rail expansion.
24. The average passenger load for a vanpool is 8.14 riders per van, so vanpools in the Puget Sound could carry about 193,000 trips per day by 2030 for a public cost of about \$2.5 billion.
25. Sound Transit estimates its light rail expansion will carry only 163,000 daily trips by 2030, at a cost of \$22.8 billion.
26. By 2030, there will be about 1.78 million Single Occupant Vehicles traveling to and from work every day, presumably during the peak commute times when traffic congestion is at its worst.

27. By 2030, vanpools could eliminate 84,752 cars from the roadway, or 4.8 percent of all work related traffic in the Puget Sound region every day.
28. Without any onerous government regulations, social engineering or loss of mobility, vanpools could reduce regional Vehicle Miles Traveled (VMT) by between 4 million to 9 million miles per day by 2030.
29. In its long-range regional transportation plan *Destination 2030*, the Puget Sound Regional Council (PSRC) estimates that regional Vehicle Miles Traveled (VMT) is trending toward 98 million miles per day by 2030. This means vanpools could reduce VMT in the Puget Sound by between 4.2 percent and 9.3 percent.
30. The PSRC estimates that if the *Destination 2030* plan were fully implemented it would reduce VMT by about 4.1 percent for a cost of \$40-\$45 billion. If vanpools were expanded to reach their market potential, they could reduce Vehicle Miles Traveled (VMT) by up to 9.3 percent for only \$2.5 billion.
31. Vanpools are the safest, cheapest and most cost effective transit mode for connecting commuters with urban employment centers.

## Appendix B: Transcript of Washington Policy Center’s Vanpool Video

This script is from an in-depth, four-part Policy Brief by Washington Policy Center called *Vanpools in the Puget Sound Region: The case for expanding vanpool programs to move the most people for the least cost*. The full report and the video can be found online at [washingtonpolicy.org](http://washingtonpolicy.org).

### Host:

Reducing traffic congestion is a top priority at Washington Policy Center. Why? Because Seattle is the eighth most congested city in America, and is on track to match the gridlock of current-day Los Angeles within twenty years. For Puget Sound businesses and drivers, traffic congestion has become more than just an inconvenience.

### Tom Lundgren, Vanpool Rider:

I’ve tried commuting along the I-5 over to the Port Orchard area and I found the traffic was absolutely horrendous. It caused a lot of stress. I just hated it.



### Christine Knowlton, Vanpool Rider:

The Seattle commute has increased in time. Typically, it takes me an hour if there is no traffic. On a typical day it would take me almost two hours to get over to Seattle because of the traffic.

### Host:

It’s estimated that we motorists spend about 40 hours per year, or the equivalent of one full work week sitting in traffic.

Spending this much time stuck in traffic reduces our quality of life, takes time away from our families and has a negative economic impact on our community by reducing productivity and limiting employment opportunities. Yet, reducing congestion is not a priority in Washington State.

Some policymakers are hoping to get people out of their cars and into traditional public transit. But building fixed-route buses and rail have limitations; for one, they are expensive, two, they lack flexibility in adapting to changing growth patterns, they have limited intercity travel demand, and they have no impact on reducing existing or future traffic congestion.

So what can motorists do for themselves to help reduce their time sitting in traffic? One way is to participate in rideshare programs like vanpooling.

**Michael Ennis, Washington Policy Center:**

With twenty public vanpool programs across the state, Washington has the largest public fleet in the country. In the Puget Sound region, there are more than seventeen hundred vans on the road every day carrying about five million passenger trips per year.



**Host:**

A vanpool must have at least five riders (four passengers and one driver) and can carry up to 15 total passengers. Groups can form by themselves or individuals can find existing vanpools to join.

Most transit agencies offer rideshare forums and services to connect vanpools with users. Vanpool groups can travel across county lines and distances can vary between 20 to 150 miles per day, depending on the group’s origin and destination.

And vanpools are effective. King County’s vanpool program alone carries more people than Sound Transit’s entire Sounder Commuter Rail.

One person who is a big supporter of vanpool is Mark Rogge. Mark lives in Thurston County, Washington, and has been using a vanpool for nearly fifteen years.

**Mark Rogge, Vanpool Rider:**

One major incentive for me is not having to drive the van in the morning and in the afternoon. Because of our long ride it becomes very convenient when we can take turns. I believe that vanpooling is one ingredient that can help improve our commuting experience.

**Host:**

Mark and his group typically begin their day in the parking lot of the Lacey Wal-Mart store.

**Mark Rogge, Vanpool Rider:**

Soon thereafter, we hit the highway, I-5 going north, and we don't make any stops in between Lacey and Bellevue.

**Host:**

Once they arrive in Bellevue, Mark's vanpool drops passengers off at two centralized locations close to their final destination.

Mark's commute is not unique as many motorists are finding ways to make vanpools work for them.

Vanpooling provides several benefits to those who use them. Vanpool groups gain access to HOV lanes, reduced ferry rates, preferential parking and free or reduced parking rates depending on the employer. Some employers also offer monthly compensation directly to their employees who commute with a vanpool.

**Michael Ennis, Washington Policy Center:**

By sharing a commute, vanpoolers also help the environment and help reduce traffic congestion. In 2006, vanpools in Washington carried over 6.7 million passenger trips, saved 23.8 million single occupant vehicle miles, and 9.5 million gallons of fuel.

**Host:**

Puget Sound vanpool agencies reported passenger demand grew by 52 percent between 2000 and 2008. Vanpool passenger demand in the first quarter of 2009 grew an astounding 16 percent, despite the state-wide economic downturn. Other mass transit systems actually experienced a slight reduction in ridership during this timeframe.

Drivers want transportation choices that work for them.

Vanpooling is more flexible than fixed route mass transit like buses and rail. This flexibility leads to meaningful benefits that are attractive. Users are able to spread the monthly costs of commuting among other passengers and lower their overall commuting expenses.

**Penny Guarin, Vanpool Rider:**

I've been in the vanpool for approximately twelve years. It's made my commute a heck of a lot easier.

**Rick Barringer, Vanpool Rider:**

I've started riding in the vanpool because it's a lot easier, quicker; get places quicker than you could if you were driving your car. On the ferries you can get priority loading, compared to driving your car on. Plus all the nice people inside, you ride with everyday. You just can't beat it.

**Christine Knowlton, Vanpool Rider:**

The benefits of being in a vanpool are a decreased cost to me. I get subsidies from the city of Seattle for riding in the vanpool.

**Tom Lundgren, Vanpool Rider:**

I've been riding vanpools since '97. And for me it's the only way to go. It cuts down on my commuting costs. For what it cost me for my vanpool and ferry rides, I couldn't drive ten miles with my car. It doesn't make any sense to drive.

**Host:**

Learn more about reducing traffic congestion and the benefits of vanpooling at [congestionrelief.org](http://congestionrelief.org).

## About the Author

**Michael Ennis** is Director of the Center for Transportation at Washington Policy Center. He is the author of numerous studies on transportation policy issues, including WPC's *Five Principles of Responsible Transportation Policy*. He appears regularly in print and broadcast media across Washington and policymakers on both sides of the aisle in Olympia seek his input and legislative testimony.



Before joining WPC, Michael worked for the Washington state Senate and House of Representatives and was formerly a staff assistant for U.S. Senator Slade Gorton. Michael served in the U.S. Army with the 2nd Ranger Battalion and has been active in local government affairs. He earned his Bachelor's degree from the University of Washington where he studied Political Science. He also earned his Master's of Public Administration degree from the Daniel J. Evans School of Public Affairs at the University of Washington.

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