

Chapter 1 : Group: Get HOV lane back in gear | The Columbian

It started with a pilot project in The Oregon and Washington departments of transportation decided to test I-5 carpool lanes north and south of the Interstate Bridge.

They are clearly marked by signs, white broken lines and diamond pavement markings. It is illegal and unsafe to enter or exit an HOV lane by crossing the striped buffer zone. Once an HOV lane ends, other traffic is free to move over into the left most lane when it is safe. You will see overhead signs on the left side of the highway that show where the lane begins. Simply move into the left lane across the white broken lines. In some cases, an existing left lane has been turned into an HOV lane. Only drivers allowed to use the HOV lane can stay in that lane. All others must exit before the HOV lane begins. You will see warning signs overhead before the HOV lane begins. Watch for the warning signs and leave the HOV lane before you need to leave the highway. Leave the HOV lane at the upcoming exit zone for this highway exit ramp: Leave the HOV lane at this exit zone for this highway exit ramp: A few highway exits do not have an HOV exit. In these cases, you will see a warning sign: This is important during peak travel times when other lanes can be slow and congested. Benefits to you Save time: Avoiding congestion means a quicker and more consistent commute time. It costs less to ride a bus or to share a ride than to drive alone every day. You waste less fuel than sitting in traffic. Letting someone else drive or taking turns gives you a chance to relax on the drive to work. Benefits to Ontario Manage congestion: An HOV lane can handle a lot of growth in demand. Once a general traffic lane reaches capacity, it becomes congested and moves fewer vehicles. Make better use of infrastructure: One highway lane can carry 1, to 2, vehicles each hour. A lane full of buses and carpools moves many more people than a standard traffic lane. Buses and transit rider have priority. A single transit bus can replace 57 single-occupant cars! HOV lanes make carpooling and public transit more effective and reliable choices for commuters. Taxis and airport limousines that use HOV lanes can return to duty faster after dropping off a fare or arrive sooner to pick up a fare. Vehicles with Ontario green licence plates are allowed on all provincial HOV lanes - even with only one person in the vehicle. Frequently Asked Questions Q1: How are HOV lanes enforced? OPP officers are enforcing HOV lane use and issuing tickets to offenders as part of their regular highway enforcement duties. HOV lane design on provincial highways includes enforcement pockets on the left shoulder to allow enforcement officers to closely monitor HOV lane use. Why are HOV lanes on provincial highways separated from general traffic by a buffer zone instead of a physical barrier? Many of our highway corridors have limited rights-of-way. A barrier-separated HOV lane would reduce the widths of our highway shoulders, enforcement areas and lanes and would make it much more difficult to remove snow. Using a painted buffer zone to separate HOV lanes from general traffic lanes also permits a greater number of entry and exit locations along the highway than a physical barrier. Carpools can enjoy the convenience of HOV lanes and still have access to their desired exit along the way. The painted buffer permits entry and exit locations to be more quickly adjusted to respond to changes in traffic patterns and volumes. What is the safety record of HOV lanes? The result is a greater likelihood of collisions and reduced driver manoeuvrability. Are HOV lanes effective? Though results vary from place to place, nearly every area with highway HOV lanes reports that ridesharing and highway capacity have increased, and that travel times have improved since the lanes opened. Many large cities in the U. Why do HOV lanes use the left lane on highways? HOV lanes on series highways are intended to serve multi-occupant vehicles, including inter-regional buses, moving at highway speeds and making longer-distance trips. It is safer to locate a highway HOV lane on the left to minimize weaving and lane change interactions with the general traffic lanes. Most interchange access is located on the right side of the highway, so it is safest and most practical to locate the HOV lane in the left lane. Provincial HOV lanes are located on the inside leftmost lane of highways, while municipal lanes are typically the curbside rightmost lane. The primary making frequent stops. HOV lanes are used to provide carpoolers and transit users with a reliable trip time at all hours of the day, allowing them to avoid periodic congestion. Opening HOV lanes to all traffic outside of rush hours would reduce the effectiveness of the HOV lanes which is meant to provide more reliable trip times.

Chapter 2 : RTC: Press Releases

Final Report Agreement T, Task 39 HOV lane Hours Evaluation EVALUATION OF PUGET SOUND HOV LANE HOURS OF OPERATION PILOT PROJECT: FINAL REPORT.

Some drivers ignore the two-person minimum requirement and use the HOV lane anyway, frustrating law-abiding motorists. This view is from the North Rosa Parks Street overpass. Someone whip me up a kale smoothie. I need to wash away the shock. Actually, that sounds gross. Silly, silly commuting columnist. You could dismiss them as the rantings of gridlock-weary solo commuters. One of three lanes on I-5 north, the diamond-marked strip of pavement can be used only by vehicles with two or more occupants between 3 and 6 p. It started with a pilot project in The Oregon and Washington departments of transportation decided to test I-5 carpool lanes north and south of the Interstate Bridge. Offer a quicker path home, planners figured, and more people would ride together "easing congestion and cleaning up the air. At the time, HOV lanes were doing just that in other cities. Carpoolers, she said, should be offered incentives. Evening commuters, she said, save between eight and 13 minutes by using the lane. No wonder so many single-occupancy motorists are willing to risk a ticket by sliding into the HOV lane. The federal government wants the rate to stay below 10 percent. Just this week, Portland cops on HOV patrol busted a woman who tried to trick them with a giant stuffed Teddy bear named "Zeff" buckled up in her passenger seat. But even worse, the Portland HOV lane has failed to increase carpooling. Even with all of the cheaters and skyrocketing gas prices, usage has remained "static" in recent years, Freitag concedes. Of course, nationally, U. Census data show a steady skid in people who carpool to work over the past 30 years. The Seattle area has miles of HOV lanes.

Chapter 3 : Eligible electric vehicles allowed in HOV lanes | BC Gov News

WSDOT: WSDOT Announces Decision to Conclude I-5 Vancouver HOV Lane Pilot Project, August 2 WSDOH: Community leaders and citizens learn about ways to encourage active living, June 15 WSDOT: Information from Sixth I-5 Vancouver HOV Lane Pilot Project Evaluation Report Now Available, March 1.

Download this report Seattle and Vancouver have a huge opportunity to reduce congestion, improve the travel experience, reclaim productive hours and reduce accidents on the I-5 Cascadia Corridor by implementing a plan over the next decade that accelerates the introduction of autonomous vehicles on the corridor. Leading technology companies, such as Tesla and Uber, and traditional auto companies, such as Ford and GM, are rapidly developing and testing new technologies in sensors and software that will make fully autonomous vehicles feasible and safe within the next five to ten years. Governments from Pittsburgh to Singapore, plus the U. Department of Transportation, are authorizing street trials and encouraging and even mandating that vehicles be equipped with autonomous technologies. The governments of the Cascadia Corridor would dramatically seize a leadership position on autonomous vehicles by committing to an innovative autonomous vehicle plan for I-5. An autonomous vehicle plan for I-5 could initially allow autonomous vehicles to share the HOV lanes. Over time, with more and more autonomous vehicles on the road, this would evolve into HOV lanes being exclusively for autonomous vehicles. The final step as autonomous vehicles largely replace existing vehicles would be to exclude non-autonomous vehicles from I-5 except for certain defined times when highways are not congested such as most of weekends and 8: The first phase of this plan could begin to be implemented immediately and the final phase could occur in ten to fifteen years. I-5 has a minimum of eight lanes and sometimes 10 lanes from downtown Seattle to the northern boundary of Everett and then six lanes to the southern boundary of Mount Vernon, all of which could accommodate dedicated lanes for autonomous vehicles. Traffic planners in the future may want to add additional lanes to the four lane portions from Mount Vernon to Vancouver 82 miles to support dedicated autonomous vehicle lanes. The last eight miles on Highway 99 from the Vancouver airport into downtown Vancouver present a challenge for any intercity travel because it consists of city streets with traffic lights. This could be alleviated when travelling by autonomous vehicle from Seattle by having your autonomous vehicle drop you off at the SkyTrain Bridgeport Station in Richmond near the airport and go park itself at the nearby park and ride lot or elsewhere or pick up another passenger. The SkyTrain departs every 6 minutes most of the day and takes 18 minutes to downtown. SkyTrains in Vancouver are fully autonomous without drivers. There are many benefits from autonomous vehicles, but the principal benefit is that it allows drivers to recapture all the time otherwise spent behind the wheel. This is at least two and one half hours from Seattle to Vancouver. Imagine being able to watch a video or sporting event, prepare for a business meeting, work on your novel or plan a game with your children. Because of wireless and software technologies we can be entertained or productively engaged wherever, whenever. Other very significant benefits from autonomous vehicles include substantial reductions in vehicle accidents and deaths, less environmental damage, increased capacity of existing roads, reduction of the need for more freeways and lanes, increased use of shared vehicles, reduced congestion and lower transportation costs for consumers. Although accidents have occurred in the early use of autonomous vehicles, in the longer term the number of accidents and deaths will be reduced. Transportation Secretary Anthony Foxx recently said that as many as 25, road deaths could have been prevented last year if driverless cars were in operation. Annual cost savings for the United States from reduced traffic collisions, including medical costs, have been estimated at several hundred billion dollars. With autonomous vehicles, the capacity of roads is increased by closer spacing and platooning of vehicles, narrower lanes, reduction in the wave effect of braking, faster average speeds and fewer accidents. Major and minor accidents cause substantial traffic tie-ups. Using apps, mobile devices, data analytics, mapping technologies and the cloud, new ride sharing services are already becoming available through companies such as Uber and Lyft. With travel times shortened and the cost of drivers eliminated, buses will be more attractive and the introduction of new autonomous mini-bus and van services would likely occur. Autonomous vehicles will also include trucks of all kinds. When trucks are

autonomous, there will be more flexibility on scheduling and incentive structures could be created to encourage trucks to travel in non-congestion time periods. Although not the focus of this paper, all the benefits of autonomous vehicles on I-5 also apply to commuting in the major metropolitan areas on the corridor including Seattle and Vancouver. Moreover, this plan should be extended to serve drivers on the I-5 Corridor between Seattle, Tacoma, and Portland. All of the fundamental technologies required for autonomous vehicles, however, are available and only require refinement which are occurring at a rapid rate. New technologies that benefit consumers tend to be adopted quickly once made widely available. Automobile ownership in the U.S. App-based rideshare services only started 4 years ago, and they are already ubiquitous in most major cities across the globe. We cannot predict the specific adoption rate for autonomous vehicles but with many major vehicle manufacturers announcing that they will be selling autonomous vehicles within five years and the advantages of autonomous vehicles, we expect very significant penetration in ten to fifteen years. Accordingly, we recommend that our local and regional governmental entities along with private companies form a joint commission to develop a plan for accelerating the introduction of autonomous vehicles for I-5.

Background Seattle and Vancouver: Situated only miles as the bird flies from each other, they share an environmental and cultural heritage. They have two of the largest ports in North America, and as West Coast cities both Seattle and Vancouver are important gateways to and from the Asian continent. This is especially true of the tech industry. Seattle has long been a leading tech hub in the United States, boasting the headquarters of Amazon and Microsoft. Vancouver is a new and growing tech hub; the tech industry is the second fastest growing industry in British Columbia, according to KPMG. Seattle and Vancouver do not only have a similar heritage of technology and entrepreneurship; they also work with one another. In 2014, Microsoft opened a large office in Vancouver, Canada, which has since been expanded, and they have considered moving their Canadian headquarters to Vancouver from Mississauga, ON. Amazon has also had a presence in Vancouver as early as 2005; they opened an official Amazon office in 2010 and expanded in 2012 to accommodate up to 1,000 employees. This is in part in order to attract talent and to keep it near to them in the Pacific Northwest. Their historical ties to Asia are also very important; they both have had a long presence of Asian immigrants, which makes Seattle and Vancouver attractive to Asian and Indian tech talent. When Microsoft opened its Vancouver office in 2014, it emphasized that the company was motivated by frustrations with U.S. Hiring in Vancouver meant that Microsoft could locate talent just a short distance from their headquarters without the headache of U.S. Amazon seems to have been motivated in part by the same reasons. Notwithstanding these connections between Vancouver and Seattle, a recent study of LinkedIn data surprisingly indicated that connectivity of business people between the two cities is low relative to connectivity with other cities. Similarly, Seattle has stronger connections with 26 other cities, compared to Vancouver. The connectivity of the digital era has not diminished but seemingly has rejuvenated the value of physical location and meeting in person. Yet in spite of the need for high speed, convenient transportation, the options available have not kept pace with the economic growth in Seattle and Vancouver. Greyhound buses are cheaper but take at least as long. Air Canada and Alaska Airlines offer flights between Seattle and Vancouver that cost hundreds of dollars per trip for an hour in the air, but with travel to and from the airport and the additional hassle of check-in and airport security, the total time spent can be three hours or more. Beyond that, there is driving. A mile commute which could take 20 minutes is stretched an extra 30 minutes to 90 minutes during working and rush hours – a delay that is costly in both gas and lost productive working hours. The present difficulties of driving between the two cities significantly reduces tourist and business travel and interchange. The Rise of Autonomous Vehicles and Services A few years ago, it was still a major question whether autonomous car technology would be feasible and even if feasible it was not considered likely for 30 or more years. But today we already have self-driving cars from Google, Tesla, and Uber driving on our roads. Although initially led by these tech companies, all of the major auto companies have joined in to develop autonomous vehicles. Seemingly every day we read news articles about auto manufacturers announcing plans to introduce autonomous cars or pilot projects being planned in various places. Here are some of the companies involved with autonomous vehicles. In August 2016, Uber announced that their first fleet of self-driving vehicles would be launched in Pittsburgh. We cannot predict the specific adoption rate for autonomous vehicles but we believe that widespread adoption of

autonomous vehicles is inevitable and will be here sooner than most observers expect. Ride Sharing Uber and Lyft are introducing ride sharing services in many cities using innovations in mobile and cellular technologies. Ride sharing by individuals, commercial companies and transit authorities will be further stimulated by the introduction of autonomous vehicles. Entrepreneurial individuals will be able to rent their autonomous vehicle to others or share a ride with them. New operators of autonomous mini-bus and van services can be launched.

Our Vision We propose that local, state and provincial governments on both sides of the border collaborate on a plan to accelerate the introduction of autonomous vehicles on I-5. Initially autonomous vehicles should be authorized to share the HOV lanes. Just as traffic planners incentivized carpooling this would incent the purchase of autonomous vehicles and use of autonomous vehicle services. We recognize this would require a sizeable collaboration between several governmental agencies. But doing this sooner rather than later would not only allow residents of the Cascadia Corridor to reap the direct benefits sooner it would better connect the two cities and send a message that Seattle and Vancouver embrace new ideas and new ways of thinking, further cementing a reputation for innovation in the Cascadia region. If phased in with the growth of the number of autonomous vehicles being purchased, this plan will be less disruptive of existing usage than might be feared. At the first stage, autonomous vehicles would simply join in use of the HOV lanes. I-5 from downtown Seattle to Everett is at least eight lanes and could accommodate a shared HOV lane. This is also likely true north of Everett to Mount Vernon which has six lanes. As more autonomous vehicles are introduced, this shared lane could become exclusively for autonomous vehicles. At a later stage, transportation authorities could consider building additional lanes in sections of I-5 north of Everett. Ultimately, I-5 could become exclusively for autonomous vehicles except during certain low traffic times at night and on weekends. Taking on this project, even though ambitious, would set Seattle and Vancouver on the path to be the example for the future of transportation, and to set the standard for major cities and corridors in North America.

Benefits and Risks of Autonomous Vehicles When discussing autonomous vehicles, there are different levels of autonomy with anywhere from a single function being automated, such as automatic braking, to the highest level where the car can drive itself without a person supervising or even present in the vehicle. We are focused on this highest levels of vehicle autonomy – effectively self-driving cars.

Benefits What would the greatest benefit be of having your own personal chauffeur? Sure, that chauffeur might be a better driver; you might get to your destination more quickly, and safely. But for many people, the greatest benefit of all would be a better riding experience and a recapture of lost time. Maneuvering in traffic behind the wheel takes time away from your work life and your personal life, and replaces it with anxiety and frustration. That is bad for business and health. But if you were driven around, it would not only reduce the time spent in traffic; it would give the time spent on the road back to you. Would you use that time to do work in the car? Catch up on a TV show? Safely take a phone call or read and send texts? You are freed up from being cramped behind the wheel, worrying about gridlock. The only difference is, this chauffeur is built into the car. There are many social benefits from road safety to reduced congestion and energy use. Furthermore, automated vehicles can accelerate and decelerate more quickly, which improves fuel economy, and would likely greatly enable the use of alternative fuel sources.

Chapter 4 : WSDOT Vancouver HOV lane report now online – Daily Journal of Commerce

Community and Environmental Justice Group Project Orientation Meeting and Vancouver downtowns (TriMet Vancouver HOV Lane Pilot Project Final Evaluation Report.

Comments The Ontario government is tentatively dipping its toe into a form of tolling, promising a pilot project that would let people pay to drive in high-occupancy vehicle HOV lanes on a stretch of the Queen Elizabeth Way. The pilot project, which could run as long as four years, will allow drivers without passengers to buy their way into carpool lanes on part of the QEW. The results of this test could lead to the start of permanent high-occupancy toll HOT lanes in Story continues below advertisement As he rolled out the first details, Transportation Minister Stephen Del Duca said HOT lanes "have been effective at managing congestion, by giving people options and incentives to change the way that they commute. And in a finding that could help swing public opinion toward HOT lanes, research by California Polytechnic State University professor Edward Sullivan showed that drivers believed they were saving a lot of time, overestimating the amount by five to 30 minutes. Keeping speeds above 70 kilometres per hour is an explicit goal for the kilometre stretch of HOT lanes in Tel Aviv. Vehicles carrying at least two people will continue to be able to use the lanes for free. But solo drivers will be able to purchase a monthly permit allowing them access to the lanes. The use of a permit puts the province at odds with more advanced HOT lane systems elsewhere. A number of cities use the same "dynamic pricing" as Tel Aviv, charging more when congestion is worse in a bid to keep vehicles moving. By contrast, a monthly permit is a cruder instrument, allowing unlimited use in any traffic conditions for a flat fee. The province is looking ahead to more technologically advanced future HOT lanes, though. The information gathered through the pilot project will inform a future rollout of such lanes more broadly. First on the list is a lane to be added to Highway in from around Highway to Rutherford Road. Tolling on this would be handled electronically, leaving open the option of dynamic pricing. A lane was hived off for HOVs and now that same road will be used for single passengers [who are] able to pay for it. Research into various HOT lane projects in the United States suggests that they can have a hard time covering their costs. This matters more if the goal is revenue generation instead of traffic management, though, and Mr. There is also the argument that these are "Lexus lanes," an unfair way for wealthier people to buy their way out of traffic. Others counter that everyone benefits by having some traffic diverted off the rest of the highway. Story continues below advertisement "Not everybody has the same value of time, and even some people have different values of time at different times," said David Levinson, a transportation analyst and professor at the University of Minnesota.

Chapter 5 : Newsroom : The High-Occupancy Toll Lanes Pilot Project

Both HOV lanes were opened as pilot projects. Both were less than four miles in length and by-passed major congestion points on the freeway. Both serve the Vancouver-to-Portland commute market.

Chapter 6 : High Occupancy Toll (HOT) Lanes

Group: Get HOV lane back in gear State didn't pursue option after 4-year pilot project concluded Commuters travel south on Interstate 5 toward Portland on a recent morning.

Chapter 7 : Autonomous Vehicle Plan for the I-5 Seattle/Vancouver B.C. Corridor | Madrona Venture Group

WSDOT must then receive concurrence from the Federal Highway Administration on its decision before announcing it calendrierdelascience.com I-5 Vancouver lane pilot project began in October and was the state's first part-time high-occupancy vehicle lane.

Chapter 8 : Vancouver Sun article about PharmacyBC's HIV Pilot Program Pharmacy BC

From October until August , the Washington State Department of Transportation ran a pilot project with an HOV lane on southbound I The lane ran between Northeast 99th Street and Mill Plain Boulevard and was limited to buses, carpools and motorcyclists from 6 to 8 a.m. weekdays.

Chapter 9 : Ontario to experiment with high-occupancy toll lanes on highways - The Globe and Mail

An example of this was the HOV pilot project in Vancouver, WA. An HOV lane operated on southbound I-5 from until during the morning commute. An HOV lane operated on southbound I-5 from until during the morning commute.