

## Carpool Pilot Project Interim Report to the Legislature

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In the 2009 transportation budget, the Legislature directed WSDOT to develop a pilot carpool project on the SR 520 corridor. Specific language in the law stated that this innovative project must “Test and implement at least one flexible carpooling system in a high-volume commuter area that enables carpooling without prearrangement; utilize technologies that, among other things, allow for transfer of ride credits between participants; and be a membership system that involves prescreening to ensure safety of the participants.”

This report summarizes WSDOT’s progress and highlights the interim findings from the pilot project. WSDOT released the grant application in December 2009 and selected the vendor in July 2010. The carpool pilot project was launched in January 2011.

For WSDOT and its Advisory Committee team, the objective and purpose of the project is to design and implement a limited-scale carpool pilot on an accelerated schedule, examine its efficacy in reducing vehicle trips and vehicle miles traveled, evaluate the costs and benefits of new carpooling approaches, report the project results and lessons learned and recommend effective solutions to the Legislature. The target audience for this program is commuters who drive alone on SR 520.

### Interim findings:

- Substantial interest was demonstrated to develop and implement the pilot. Five vendors or vendor teams submitted applications. Three were called back for final presentations and one was selected.
- WSDOT’s partners are interested in the pilot as a viable approach for developing real time ridematching in the SR 520 corridor. WSDOT has received positive feedback from partners. They are pleased that the department is working to generate new options in the corridor.
- Strategies to ensure participant safety and to limit risk and liability are a significant concern for recruiting.

## The Project

In the 2009-2011 Transportation Budget, ESSB 5352, Section 222(4), the Legislature directed the Washington State Department of Transportation (WSDOT) Public Transportation Division to use:

*“(4) \$400,000 of the multimodal transportation account – state appropriation is provided solely for a grant – for a flexible carpooling pilot project program to be administered and monitored by the department. Funds are appropriated for one time only. The pilot project program must: Test and implement at least one flexible carpooling system in a high-volume commuter area that enables carpooling without prearrangement; utilize technologies that, among other things, allow for transfer of ride credits between participants; and be a membership system that involves prescreening to ensure safety of the participants. The program must include a pilot project that targets commuter traffic on the state route number 520 bridge. The department shall submit to the legislature by December 2010 a report on the program results and any recommendations for additional flexible carpooling programs.”*

The objective and purpose of the project is to design and implement a limited-scale carpool pilot on an accelerated schedule, examine its efficacy in reducing vehicle trips and vehicle miles traveled (VMT), evaluate the costs and benefits of new carpooling approaches, report the project results and lessons learned and recommend effective solutions to the state Legislature. The target audience for this program is commuters who drive alone on SR 520.

## Project Policy Goals

WSDOT staff developed the following six overarching policy goals:

- Design a carpool pilot project that is achievable within the time provided
- Test the viability and feasibility of this type of project on the SR 520 corridor
- Ensure the safety and security of pilot project participants
- Reduce vehicle trips and VMT
- Report pilot project results and lessons learned to the Legislature
- Recommend future implementation possibilities to the Legislature

## Pilot Project Overview

The Carpool Pilot Project began in October 2010, and was phased in before full project implementation in January 2011. The pilot will be completed by September 2011, contingent upon funding re-appropriation by the Legislature. WSDOT's re-appropriation request for the 2011-2013 biennium was based on SR 520 tolling implementation target date shifting from March to mid-spring 2011. The pilot project must operate for three to four months both with and without tolling in the corridor to collect adequate data and information in order to assess the effect tolling has on this type of project.

Like other informal systems for carpooling without prearrangement, including those known as slugging or casual carpooling, the pilot project offers a flexible carpool option that combines real-time ride matching with fully automated security features, instantly shared passenger information and electronic micro payments between rider and driver based on vehicle miles traveled.

The pilot will involve 250 prescreened drivers willing to offer empty seats in their personal vehicles to a pool of 750 prescreened riders commuting along the SR 520 corridor in real time. The pilot program employs a mobile-phone application that enables drivers on an as-needed basis to post notice of vacant seats in their vehicle and receive real-time notification of riders seeking transportation along their route. Participating drivers will use GPS-enabled smart phones for verification of each ride match and to capture travel time, location and distance for each trip. Riders in the pilot can request an immediate ride match or schedule a trip in advance. Riders also have the option to book a ride using any phone, global positioning satellite (GPS)-enabled or not, or by sending a text message that includes their pick-up location and destination. This technology will provide a verifiable and auditable trip trail as well as calculated reductions in single occupancy vehicle (SOV) trips, VMT and greenhouse gas (GHG) emissions as well as verifying carpool participation by drivers and riders.

Additionally, the application provides a number of security features, such as user authentication via an auto-generated personal identification number (PIN) that the rider must provide the driver prior to the start of the trip. For the pilot, an icon appears beside the participant on the application screen to indicate that he or she has passed the requisite screening criteria.

When the system matches rider with driver, it sends each party via text message or iPhone app detailed trip information, including vehicle description, pick up time and location and maximum trip fee. Once the trip

is complete, the system automatically requests both driver and rider to rate their experience with the other participant to enhance future user experience and comfort.

The system has the capability to automate real-time ride matching and transfer of electronic, VMT-based micro-payments between riders and drivers. This creates a direct economic incentive for drivers to fill empty seats in their vehicles, helps to encourage carpooling without pre-arrangement and provides an affordable transportation option primarily to commuters who drive alone but residually to riders who may not have access to public transportation or a personal car.

The vendor intends to offer minimal earned participant subsidies in order to attract and encourage individuals to sign-up and participate in the pilot project. Specifically, drivers can earn a \$15 or \$30 gas card each month, depending upon the number of carpool trips they complete with participating riders. Riders can earn up to \$30 each month in ride credits from the vendor, which may be used only toward future trip costs they incur while participating in the pilot.

## **SR 520 Corridor Overview**

The Carpool Pilot Project is one of many highly visible initiatives and outreach activities on the SR 520 corridor either already in operation or soon to be launched. These initiatives include:

- SR 520 Bridge tolling/*Good to Go!* marketing
- Smarter Highways traffic management technology
- RideshareOnline.com upgrades and included tools to enhance carpool, vanpool and telework options
- King County Metro transit enhancements on SR 520 and associated corridor initiatives
- Communications and public outreach associated with highway design and construction on the SR 520 corridor and connecting corridors
- Vanpool promotion
- Employer-based commute trip reduction programs, including Microsoft's privately-funded transit services

Since there will be many concurrent activities during the pilot project period, examining and evaluating their impact on the pilot project will be essential. Additionally, this will require a vendor project team to isolate and identify the impact(s) and implication(s) each activity has had on the pilot project's success and/or failure.

## **Avego Project Team**

Avego™ leads the project. The Irish company was founded in 2007 as a new research and development division of Mapflow. In April 2009 Avego became a separate entity. The company develops real-time information and management systems that use GPS, GSM, GIS, Internet and iPhone technologies to facilitate a shift from SOVs to sustainable transport modes. Avego continues to participate in a similar carpool pilot project, implemented in 2009 with the University College of Cork (UCC) in Ireland.

Members of the Avego team include Nelson\Nygaard and the University of Washington Transportation Center (TRAC). Nelson\Nygaard staff leads coordination, outreach and planning efforts for the project. TRAC staff is responsible for participant survey development, focus groups and project evaluation elements of the project.

## **Chronological Project Activity Summary**

(September 2009-December 2010)

September – November 2009	WSDOT Public Transportation project staff identifies and develops in consultation with other state agency staff the process and requirements for carpool pilot grant project solicitation and grant application documentation.
December 2009	Call is sent for carpool pilot grant proposals/projects.
January 2010	Project staff works with internal technical staff, attorneys and WSDOT risk manager to identify proper language, procedures and terms/conditions to be incorporated into contracts.
February 2010	Project staff forms a grant evaluation team representing 12 organizations and jurisdictions. Grant solicitation responses include Avego, Commute Challenge, Goose Networks, InteractSoft Inc. and Vehicle Monitoring Technologies Inc.
March 2010	Evaluation team reviews grant applications and identifies concerns, including the need to stage the project (to allow for evaluation of the success of the project prior to and following the implementation of tolling on SR 520 bridge), government's role as pilot

project administrator and sponsor, potential liability exposure and risk to the state and need for safeguards. The evaluation team recommends that project staff invites the three highest ranking applicants to present and demonstrate their product/approach and be interviewed by the team to obtain answers to some of the questions, issues and uncertainties that the grant evaluation team raised and felt existed regarding this project.

Evaluation team asks project staff to modify project, without compromising the legislative requirement and intent, to allow the eventual grant recipient additional time to lay the groundwork for a successful project with a modified timeline that could lead to more conducive conditions (such as tolling implementation) in the corridor to enhance the pilot project's success.

Project staff seeks clarification from legislative staff regarding the requirement to submit a final report on the Carpool Pilot Project by December 2010. Tentative approval is granted to submit an interim report at the end of the calendar year with a final report due prior to the end of the biennium.

The project team works on concerns and options associated with the timing of the project (especially in regard to SR 520 tolling implementation) and a possible need to extend the project beyond the end of the biennium (in the event that tolling implementation is delayed beyond March 2011).

April 2010

Each of the three grant applicants is allotted 90 minutes to present a proposal and demonstration and be interviewed by the presentation evaluation panel. WSDOT project staff submits the panel member comments and vendor recommendation to the Public Transportation Division director.

It is recommended that prior to moving the project forward, issues and concerns expressed by the evaluation team regarding the overall project, primarily associated with liability exposure and risk, be obtained. It is suggested that a meeting be arranged with OFM to review and discuss the project.

May 2010

WSDOT Public Transportation staff meets with OFM

to review and discuss the pilot project and liability/risk issues. OFM staff discusses and identifies other Transportation Demand Management (TDM) activities that the state has either sponsored, funded or taken a leadership role in where additional insight into the state's liability exposure should be examined. In addition, it is determined that prior to moving the project forward, a comparative examination of liability issues is needed in order to ascertain whether liability and risk issues associated with the carpool pilot are more unique and therefore present a greater risk than other state supported or promoted TDM related activities.

- June 2010 Project staff seeks clarification of the state's liability exposure associated with state endorsed/sponsored transportation demand management activities. Staff determines that specific terms and conditions can be incorporated into the pilot vendor contract to reduce potential liability exposure and concerns.
- July 2010 After briefing WSDOT leadership, Public Transportation Division staff informs grant candidates that Avego, the highest-rated applicant proposer after first and second evaluation rounds, receives the grant.
- August – September 2010 Carpool Pilot Project contract is negotiated and finalized.
- October 2010 Carpool Pilot Project contract is executed between Avego and WSDOT. Project kick-off activities/meetings commence. Internal WSDOT project team assembles. Advisory committee team forms, representing various organizations, employers and entities in the Puget Sound area. Initial advisory committee meeting held.
- November 2010 Avego initiates project benchmark stage. The company builds initial pool of participants to conduct beta testing and monitor activities for a specific period of time to ensure all project equipment and elements (i.e. route set up, software performance, performance-based incentive delivery and reporting, etc.) function properly.

December 2010 Project benchmark stage completed. Refinement and modifications to various project elements (recruitment process, participant subsidy plan, stops definitions, technology and reporting capabilities, etc.) and equipment occur prior to commencement of implementation stage. Second advisory committee meeting held.

## **Strategies to Reduce Risk and Liability**

At the direction of WSDOT's Risk Management Office and under advisement of the Attorney General's Office, WSDOT project staff developed participant criteria for the pilot project to meet legislative intent and minimize the state's potential risk and liability associated with this the type of pilot project. The following criteria were included in the contract with Avego for the Carpool Pilot Project:

- Drivers must be at least 21 years of age.
- Drivers and riders cannot have been convicted of a criminal offense including but not limited to a sexual offense and/or a violence related offense, which includes but is not limited to assault and/or bodily harm.
- Drivers must possess a valid Washington State driver's license.
- Drivers cannot have had an insurance company ever refuse, cancel, refuse to renew, or give notice of termination to cancel or refuse any automobile insurance.
- Drivers shall be required to have personal automobile liability coverage in an amount not less than \$300,000 per accident.
- Drivers shall provide contractor or authorize contractor to obtain on their behalf a copy of the certificate of insurance for such personal automobile liability coverage during the prescreening process.
- Drivers cannot have had more than one driving violation or citation (except for parking citations) within the past three years.
- Drivers cannot have had a "reckless" moving violation or DUI conviction.
- Drivers cannot have had their driver's license privilege suspended, revoked or refused.
- Drivers cannot have had an at-fault accident within the past three years.
- Drivers must confirm that they have followed prescribed auto manufacturer preventative and maintenance standards for the vehicle(s) they plan to use in the project.

## Potential Problems, Concerns

From the time staff began to develop the initial carpool pilot project grant application, associated requirements and subsequent agreement, it became apparent that challenges would arise in satisfying the legislative intent and ensuring the following:

- pilot project participants' safety
- minimizing the state's potential exposure to liability and risk
- recruiting a significant pool of participant applicants and approving 250 drivers and 750 riders

Project staff consulted with various state entities and individuals well versed in these areas to ensure that all potential areas of concern were adequately addressed. To this end, explicit criteria were recommended, established and included in the vendor agreement. Specifically, staff identified two main criteria areas that all potential vendors would have to meet and ensure as part of the pilot:

- distinct elements that the vendor would be required to provide and/or satisfy
- minimum standards and requirements that potential carpool pilot project participants would have to meet before they would be allowed to participate in the pilot project

Staff developed measures were intended to enhance participant safety and control and minimize the state's potential exposure to increased liability and risk.

Prior to January's project launch, the vendor and Advisory Committee members continue to express concerns surrounding the rigid prescreening criteria requirements. At the second Advisory Committee meeting, both groups viewed the requirements as potentially detrimental to the pilot because they conceivably could limit the potential pool of participants (especially driver candidates). Specifically, both parties felt strongly that the criteria in its present form will:

- limit the potential pool of driver candidates
- present difficulty in attracting 250 drivers to the pilot project
- deter some individuals after reviewing the stringent requirements from applying to be a driver participant
- turn away some individuals because they are unable to meet the requirements

At this time, it is difficult to ascertain whether or not the concerns expressed by Advisory Committee members and Avego staff will play out. Until actual driver participant sign up begins in January, it is difficult to gauge the impact the driver prescreening requirements will have on

participant driver recruitment and approval. Avego has established specific driver threshold attainment targets during the first four months of project launch. By the end of February, their goal is to have 50 approved drivers for the program and 200 approved drivers by mid April. During this same time period, Avego intends to expand recruitment efforts and implement a wider marketing campaign to SR 520 commuters. WSDOT staff intends to closely monitor and track driver recruitment efforts and success. Should attainment levels substantially fall short (by 60 percent or more) of identified targets at any time during this period, WSDOT staff will re-evaluate the status of the project and immediately prepare an update to this interim report to the Legislature.

There are numerous unknowns associated with pilot projects primarily because they are trials with no past experience or data to reference. However, as stewards of the state WSDOT identified mandatory requirements and “rules of the game” that would be required to secure state grant funds for the implementation and operation of a pilot project to protect state interests and minimize/manage potential liability exposure and risk.

### **Project Implementation Stage Launch**

The project’s implementation stage commences in January 2011 and consists of two phases. The first phase (January – February 2011) will focus on recruiting drivers and riders at targeted employment campus locations. The second phase (March – June 2011) will focus on expanding recruitment to other commuters along the SR 520 corridor.

With the approval of re-appropriation of unexpended funds, the project would extend three months (July 1 – Sept. 30, 2011) with the primary focus to obtain data and information for evaluating the impact of tolling on this type of project.

### **Summation**

A detailed evaluation of the pilot project (including costs, benefits and practicality) will be crucial for WSDOT staff to determine whether or not this type of rideshare application and program has ongoing value and benefit to commuters as well as broader implementation potential in other regions of the state. Additionally, the pilot project will be helpful in accessing and identifying unknowns associated with liability exposure and risk, corridor complexity and tolling.

If successfully demonstrated on the SR 520 corridor, this type of carpool option could become an important future approach for providing Washington State commuters an additional travel option, instead of driving solo, which could ease congestion and enhance traffic management on state roadways.

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