



Transportation & Public Works Special Committee Meeting

Monday, April 30, 2018
4:00pm to 5:30 pm
SeaTac City Hall – Council Chambers

Councilmembers:
Peter Kwon, Chair
Rick Forschler
Pam Fernald

A quorum of the Council may be present

Staff Coordinators: Will Appleton, Public Works Director; Florendo Cabudol, City Engineer

ITEM	TOPIC	PROCESS	WHO	TIME
1	Call to order		Chair	5
2	Public Comment	Please raise your hand if you'd like to speak. Public comments are limited to 10 minutes total, 3 minutes per individual. Time may be reduced for each speaker in order to stay within the overall 10 minute time limit.	Chair	5
3	SR518 Proposed Improvements (New Item)	Informational Presentation	Tom Hooper, Port of Seattle Transportation Planner	15
4	SR509 Memo of Understanding (Follow up on item from April 23 meeting)	Committee Recommendation	Will Appleton	30
5	Autonomous Vehicles (follow up item from April 23 meeting)	Informational Update	John Niles, CATES	30
6	Adjourn		Chair	5



MEMORANDUM

To: Transportation and Public Works Committee
From: William Appleton, Public Works Director
Date: 4/27/18
Subject: SR 518 Corridor Study

Purpose:

To provide an informational update on the State Route 518 study being undertaken by the Port of Seattle and WSDOT to examine high vehicle volumes and delays in the SR 518 corridor.

Background:

SR 518 is a key limited-access state highway and freight corridor between SR 509 in Burien and I-5/I-405 in Tukwila. SR 518 provides the primary access to Sea-Tac Airport, carrying more than 70 percent of all passenger and air cargo trips. The route also serves thousands of commuters in South King County. Airport representatives will provide an informational update on the nature and scope of the subject study.

Puget Sound Gateway Program SR 167 and SR 509 Completion Projects

Local Funding and Phasing Memorandum of Understanding

Draft 18

1. Participating Parties

In addition to the Washington State Department of Transportation (WSDOT), the following Local Agency Partners constitute those parties currently participating in this Memorandum of Understanding pertaining to local funding participation in the Puget Sound Gateway Program:

- Port of Seattle
- Port of Tacoma
- King County
- Pierce County
- City of Des Moines
- City of Edgewood
- City of Federal Way
- City of Fife
- City of Kent
- City of Pacific
- City of Puyallup
- City of SeaTac
- City of Sumner
- City of Tacoma

2. Background and Purpose of MOU

In July 2015, the Washington State Legislature and Governor Inslee acted to fund the Puget Sound Gateway Program through the Connecting Washington revenue package. The Puget Sound Gateway Program is comprised of two projects: the State Route 167 Completion Project and the State Route 509 Completion Project. These projects provide essential connections to the ports of Tacoma and Seattle and will help ensure people and goods move more reliably through the Puget Sound region.

The Washington State Department of Transportation is the lead project sponsor and is responsible for the planning, design and construction of the Puget Sound Gateway Program, as well as for its overall financial management. The program has been guided from its beginning by a Joint SR 167/SR 509 Executive Committee (Executive Committee), comprised of elected and appointed representatives of local jurisdictions served by the Puget Sound Gateway Program (Algona, Auburn, Burien, Des Moines, Edgewood, Federal Way, Fife, Kent, Milton, Pacific, Puyallup, SeaTac, Sumner, Tacoma, King County, Pierce County, Port of Seattle, and Port of Tacoma) as well as Federal Highway Administration, Washington State Transportation Commission, Washington State Department of Transportation, Puget Sound Regional Council, Sound Transit, Pierce Transit, and the Freight Mobility Strategic Investment Board.

Funding for the total Puget Sound Gateway Program will come from the state gas tax, tolls, local contributions, and potential federal and state grants. Total funding for the Gateway Program, from the 2015 Connecting Washington transportation funding package, is \$1.875 billion, which includes local contributions of \$130 million. The program has been funded over a 16-year timeline. Based on the legislative funding plan, major construction for a first stage would occur

from 2019 through 2025, and a second stage from 2026 through 2030. Local contributions will be needed to construct both stage one and stage two projects.

In the 2017 Legislative session new language was enacted (Engrossed Senate Bill 5096 § 306(20)(b)) requiring development of a Memorandum of Understanding (MOU) between the Local Agency Partners and WSDOT. The legislature directed that:

The secretary of transportation must develop a memorandum of understanding with local project stakeholders that identifies a schedule for stakeholders to provide local matching funds for the Puget Sound Gateway project. Criteria for eligibility of local match includes matching funds and equivalent in-kind contributions including, but not limited to, land donations. The memorandum of understanding must be finalized by July 1, 2018. The department must submit a copy of the memorandum of understanding to the transportation committees of the legislature and report regularly on the status.

To this end, the Executive Committee of the Puget Sound Gateway Program convened a Funding and Phasing Subcommittee (Subcommittee) to develop a MOU that summarizes their commitments and planned timing of those commitments to contribute to the SR 167 and SR 509 projects.

The Subcommittee goals include:

- Support efforts to build the Gateway projects on or ahead of schedule
- Create successful local partnerships
- Obtain sufficient local funding to build the Puget Sound Gateway projects
- Time grant-funding projects to support the project delivery schedule

The construct of local funding participation, when authorized by the legislative bodies of the relevant agencies through a series of forthcoming interlocal agreements, is based on the following projections:

	SR 167	SR 509	TOTAL
Port contributions	\$30 million	\$30 million	\$60 million
Federal INFRA grant	\$10 million	\$10 million	\$20 million
Local partner match	\$10 million	\$10 million	\$20 million
Other Grants (PSRC, FMSIB, TIB)	\$20 million	\$10 million	\$30 million
Total	\$70 million	\$60 million	\$130 million

3. Local Funding Strategy

A key element of the local funding strategy, is to identify projects within the Gateway Program that provide measurable benefits to local jurisdictions. In the Gateway Program, these are called “Local Nexus Projects,” designed to:

- Create a positive business case for Local Agency Partners by focusing on the parts of the program that are most relevant and important to local jurisdictions

- Leverage the potential to access significant grant funding to support local funding assumptions

In support of the local funding strategy, Local Agency Partners shall:

- Participate, co-fund match, and submit grant applications with support from Subcommittee staff
- Combine local contributions and project funds to ensure fully-funded applications
- Support the grant effort and avoid competition with the local projects in the year of application

The following Local Nexus Projects have been identified within the north (SR 509) and south (SR 167) segments of the Gateway Program:

Gateway North (SR 509)	Gateway South (SR 167)
188 th South Ramps	Meridian West Ramps
SeaTac Access, with Ramps to 28 th /24 th Avenue South	54 th Avenue East Ramps
Veterans Drive Extension	Interurban Trail
Lake to Sound Trail	Valley Avenue West Ramps
	Port of Tacoma Access
	70 th Avenue E Bridge Relocation

If Local Nexus and INFRA Grant projects become fully funded, these projects will contribute substantially toward the Legislative requirement for local match. Local Agency Partner signatories to this MOU consider that the local contribution requirements set forth in ESB 5096 will be fulfilled once the \$130 million local contribution is achieved. It may take several iterations of grant applications to achieve the local contribution requirement if earlier proposals are not granted. It is not anticipated, however, that Local Agency Partners will be required to commit to additional funds beyond what is outlined in this MOU. If additional grant funding or additional funds from other sources are obtained that fulfill the \$130 million local contribution requirement, the Secretary of Transportation and the Executive Committee will review and determine if local match payments will be reduced or additional scope will be added to the Gateway Program.

4. Local Participation Policy

The Executive Committee has agreed to a funding and phasing policy that structures local partner match requirements to be commensurate with the benefits accrued from the project at a local level. This policy states that:

All local agency partners accrue some benefit from the Puget Sound Gateway Program. Partners receiving fewer benefits, however, are not expected to contribute as much as partners who receive more benefits. Direct benefits are those that most quantifiable, but there are other components of value that include indirect, strategic and policy/social

benefits. Both direct and indirect benefits will be assessed as part of the consideration of local contributions, because they are more easily quantifiable than strategic and policy/social benefits.

All Local Agency Partner signatories of this MOU agree to contribute a match to be applied to Local Nexus Projects at a level that reflects their respective anticipated level of benefit.

5. Benefit Assessment Methodology

The determination of financial participation by each partner has been based on a general assessment of the net benefits expected to be received by full completion of Puget Sound Gateway Program. The assessment includes the following metrics, based on available project data and transportation modeling outputs:

- **Direct transportation linkages.** The location of direct access points for new limited access highways or other transportation infrastructure that benefits the community.
- **Effects on local sales taxes.** The impacts of the projects to sales tax receipts, both in terms of one-time construction sales taxes for the project, and ongoing sales taxes from impacts to commercial uses.
- **Travel time savings.** Overall travel time savings for car and truck traffic associated with the projects.
- **Traffic diversion from local streets.** The diversion of traffic from local arterials due to the project, with associated positive impacts to traffic safety and local road maintenance.
- **Effects on local employment.** The potential effects of improved accessibility are reviewed, particularly in the context of access to new or potential employment uses.
- **Effects on developable residential lands.** The potential impacts of changes in traffic flow and accessibility on residential land development, with a focus on areas within the jurisdiction that are available for redevelopment.
- **Effects on developable employment lands.** The potential impacts of changes in traffic flow and accessibility on the development or redevelopment of commercial and industrial lands.
- **Achievement of local policy goals.** The alignment of the WSDOT Gateway Program with local plans and policies.
- **Environmental and social benefits.** Environmental and social benefits specifically linked to these projects, including upgrades to pedestrian and cycling infrastructure, and wetlands and riparian restoration.

The approach and findings of the benefits assessments have been provided to the Local Agency Partners.

6. Local Jurisdiction Contributions to the Program

Based on results from the benefit assessment described in Section 5, contributions for each of the Local Agency Partners were determined by project stage in the tables below. Following execution of this MOU, interlocal agreements will be drafted for subsequent approval.

Interlocal agreements between WSDOT and the respective Local Agency Partner must be in place for a project prior to issuance of the Request for Proposals (RFP) for any proposed construction contract. The Interlocal agreements will become binding commitments, within the statutory authority of the Local Agency Partner, and will define the schedule of local match payments expected over the duration of each construction project stage.

WSDOT will exercise due diligence to develop and construct each project on schedule within the Puget Sound Gateway Program to the best of its abilities. Local Agency Partners will participate in project development reviews and project meetings in support of the Gateway Program.

If grant pursuits identified in the Stage 1 and Stage 2 tables below are not achieved sufficient to meet the \$130 million local contribution, additional grants will be pursued from the funding programs listed or from other funding programs that may become available over the life of the Gateway Program. If Local Nexus Projects go to construction without planned grants, the Local Agency Partner funds will still be provided by agreement with WSDOT. If it is determined that a Local Nexus Project cannot be fully funded, WSDOT will review options with the Executive Committee. If an official decision is determined by the Executive Committee and the Secretary of Transportation that the local nexus project is not to be included in a construction project, the Local Agency Partner match may be withdrawn.

Stage 1 Grant Pursuits for Local Nexus Projects

Project	Estimated Construction Cost	Funding Program	Target Amount	Target Due Mo/Year	Anticipated Construction Expenditure	Partner Match	Partner Nexus
70 th Avenue E/Interurban Trail	\$32,245,600	FMSIB	\$5,000,000	Mar 2018	2019-2021	\$800,000 \$500,000 \$3,000,000	Fife Tacoma Port of Tacoma
		TIB	\$5,000,000	Aug 2018	2019-2021	\$1,000,000	Fife
		State Capital & Transportation	\$1,400,000	Mar 2018	2019-2021		Fife
Veterans Drive/ SR516 Interchange	\$33,800,000	PSRC	\$4,500,000	Apr 2018	2021-2025	\$1,000,000	Kent
		TIB	\$5,000,000	Aug 2020	2021-2025	\$1,000,000 \$500,000	Kent Des Moines
SeaTac Access	\$176,883,500	PSRC	\$4,500,000	Apr 2018	2021-2025	\$2,000,000	SeaTac (ROW in lieu)
Port of Tacoma Access	\$323,042,000	PSRC	\$4,500,000	Apr 2018	2021-2025	\$1,500,000 \$3,000,000	Tacoma Port of Tacoma
		FMSIB	\$5,000,000	Mar 2020	2021-2025		
All Gateway Program		INFRA	\$20,000,000*	Nov 2017	2019-2021		
SR 167 Stage 1		Port of Tacoma		Jan 2021	2021-2025	\$9,000,000	Port of Tacoma
SR 509 Stage 1		Port of Seattle		Jan 2021	2021-2025	\$15,000,000	Port of Seattle
Total Stage 1			\$54,900,000			\$38,300,000	\$93,000,000

Stage 2 Future Grant Pursuits for Local Nexus Projects

Project	Estimated Construction Cost	Funding Program	Target Amount	Target Due Mo/Year	Anticipated Construction Expenditure	Partner Match	Partner Nexus
Meridian Avenue Interchange		TBD	\$3,000,000	2022	2026-2030	\$2,000,000	Puyallup
Valley Avenue Interchange		TBD	\$3,000,000	2022	2026-2030	\$2,000,000	Pierce County
188 th Street Interchange				2023	2026-2030		SeaTac
SR 167 Stage 2		TBD	\$4,000,000	2022	2026-2030	\$500,000	Edgewood (ROW in lieu) Sumner
		Port of Tacoma		Jan 2026	2026-2030	\$15,000,000	Port of Tacoma
SR 509 Stage 2		TBD	\$4,000,000	2024	2026-2030		
		Port of Seattle		Jan 2026	2026-2030	\$15,000,000	Port of Seattle
Total Stage 2			\$14,000,000			\$34,500,000	\$48,500,000
Total Stages 1 & 2			\$68,900,000			\$72,800,000	\$141,700,000

* – If no INFRA, apply to TIGER for Port of Tacoma Access (SR 509 Spur)

TBD – grant funding program pursuit to be determined in future

7. Terms and Termination

7.1. Amendments

This MOU shall be periodically reviewed and evaluated regarding the need for modifications or amendments by mutual determination of WSDOT and local agency partners. Amendments to the MOU shall be required if program funding assumptions need to be adjusted that affect the ability to construct the identified local nexus projects or the ability to achieve the \$130 million local contribution. Such amendments shall only be binding if they are in writing and signed by authorized personnel from all of the participating parties. Except as set forth in an amendment, the MOU will be unaffected and shall continue in full force and effect in accordance with its terms. If there is conflict between this amendment and the MOU or any earlier amendment, the terms of the amendment will prevail.

If there is a conflict between follow-on Interlocal Agreements and the MOU or any earlier amendments, the terms of the Interlocal Agreements will prevail.

Changes that relate only to a single project that do not affect the ability to construct the identified local nexus project or achieve the \$130 million local contribution shall be addressed through the Interlocal Agreement between WSDOT and the relevant local agency partner.

7.2. Dispute Resolution

Should any signatory to this MOU object at any time to any actions proposed or the manner in which the terms of this MOU are implemented, the Executive Committee shall hear the dispute first and if the disputant(s) is/are not satisfied with the Committee's proposed decision, the

Committee will send to the Secretary of Transportation its proposed solution and all documentation relevant to the dispute. The Secretary of Transportation shall provide the Executive Committee with his/her advice on how to resolve the dispute within thirty (30) calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the Executive Committee shall prepare a written response that considers any timely advice or comments regarding the dispute from the Secretary of Transportation, signatories and other interested parties, and provide them with a copy of this written response. The Washington State Department of Transportation will then proceed according to this final decision.

7.3 Conditions for Termination of Participation

Subject to legislative appropriation and all applicable laws, each signatory shall ensure that the Puget Sound Gateway Program is carried out in accordance with the terms of the MOU and follow-on Interlocal Agreements. A signatory may terminate their participation in this MOU if its terms cannot be met and provides written notice to the Secretary of Transportation and the Executive Committee a minimum of 180 calendar days before a project issues an RFP that relies on that local agency partner funding. Prior to providing written notice terminating participation, however, the signatories shall consult with WSDOT to determine whether an amendment to the MOU might be feasible. WSDOT will then consult with the Executive Committee to determine if project scope elements need to be removed if contributions are not realized in accordance with this understanding.

8. Period of Agreement.

This MOU will commence on (July 1, 2018 proposed date) and will dissolve when the \$130 million has been secured, or when the local nexus projects have been constructed and are complete.

9. Signatories

Peter Steinbrueck
Commissioner
Port of Seattle

Date

Dick Marzano
Commissioner
Port of Tacoma

Date

Dave Upthegrove
Councilmember
King County

Date

Bruce Dammeier
Executive
Pierce County

Date

Matt Mahoney
Councilmember
City of Des Moines

Date

Daryl Eidinge
Mayor
City of Edgewood

Date

Jim Ferrell
Mayor
City of Federal Way

Date

Pat Hulcey
Councilmember
City of Fife

Date

Dana Ralph
Mayor
City of Kent

Date

Leanne Guier
Mayor
City of Pacific

Date

Kevin Yamamoto
City Manager
City of Puyallup

Date

Michael Siefkes
Mayor
City of SeaTac

Date

Bill Pugh
Mayor
City of Sumner

Date

Victoria Woodards
Mayor
City of Tacoma

Date

Roger Millar
Secretary
Washington State Department of Transportation

Date



MEMORANDUM

To: Transportation and Public Works Committee
From: William Appleton, Public Works Director
Date: 4/30/18
Subject: CATES Action Plan regarding Autonomous Vehicles

Purpose:

The submittal of an Action Plan focused on providing guidance for the City of SeaTac to justify supporting the deployment of advanced transportation technologies, specifically autonomous vehicles fulfills the terms of the contract entered into by the City of SeaTac and CATES. Recommendations flowing from this action plan will be presented by Mr. John Niles and next steps discussed.

Background:

On May 18, 2017, the City of SeaTac entered into a contract with the Center for Advanced Transportation and Energy Solutions (CATES) to develop an action plan with guidance for deploying advanced transportation technologies that have the potential to reduce accidents emissions and congestion, with the initial focus being on the feasibility of automated mobility services.

On June 29th, CATES conducted an orientation workshop briefing for Council and the public (Contract Deliverable 1) and discussed what the deployment of autonomous vehicles within the City might mean for citizens and local businesses and what resources would likely be required of City Government.

On September 25th, 2017, CATES submitted a Memo to the City on key findings from Stakeholders and immediate action steps to begin securing Federal funding (Contract Deliverable 2).

On October 16th, 2017, Deliverable 3 was provided to the City which consisted of a draft 50% action plan at the January 18th Transportation and Public Works Committee meeting; CATES provided and made a presentation on the 95% action plan at this meeting (Deliverable 4 &5).

Submittal of the final action plan (included in this packet) constitutes completion of the City's contract with CATES and provides City Council with a document describing how the City might best proceed with supporting the development/use of autonomous vehicles in SeaTac.

Action Plan for
Automated Vehicle Deployment Excellence in
City of SeaTac, WA
Excerpts – Summary
TPW Committee, April 23, 2018

John Niles
Center for Advanced Transportation
and Energy Solutions – CATES

No City of SeaTac Policies and No City Decisions are Shown in This Document

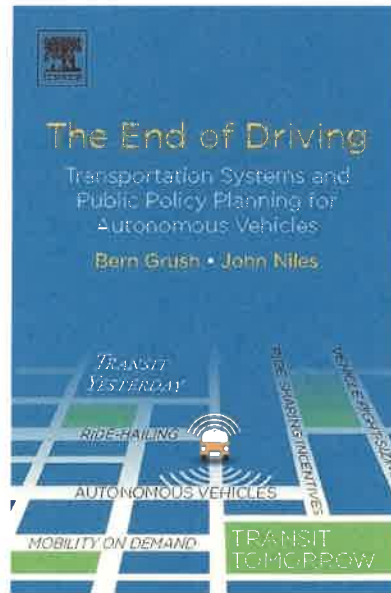
April 23, 2018

City of SeaTac AV Action Plan

**Forthcoming university
text book from City of
SeaTac's consultant John
Niles**

Entire book provides the rationale for the City of SeaTac decision to undertake the project with CATES.

Chapter 11 describes the existence of the City of SeaTac project and the reason for CATES recommending the automated micro-transit deployment serving residential neighborhoods.



April 23, 2018

City of SeaTac AV Action Plan

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How City of SeaTac Can Become a Vehicle Automation Center of Municipal Excellence

- To attract private sector automated vehicle developers to the opportunity of deploying a driverless ride service in City of SeaTac, the City should proceed to design a pilot deployment of an automated, electric, on-demand micro-transit operating service as specified in the CATES recommended Action Plan.
- City Decision: Go or No Go toward justifying self-declared status as Center of Excellence in Vehicle Automation?

April 23, 2018

City of SeaTac AV Action Plan

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Benefits of Going Forward

- More community engagement in a high-tech future
- Demonstrated City pursuit of enhanced mobility for all citizens, voters, and taxpayers
- Demonstrated official interest in mobility support for non-driver citizens both young and old
- New positive engagement with King County Metro, Sound Transit, and Puget Sound Regional Council
- Demonstrated regional and national transportation improvement leadership
- Further engagement with national organizations like National League of Cities and Aspen/Bloomberg Autonomous Vehicle in Cities
- Some new local employment opportunities if the pilot project proceeds
- Enhanced civic pride from pursuing public service technology applications
- Positions the City for attracting other private sector initiatives related to vehicle automation

April 23, 2018

City of SeaTac AV Action Plan

4

Recommended First GO Step: Resolution of Intent from SeaTac City Council

WHEREAS, the City Council has funded and embraced the development of an Action Plan document with specific steps to ...

NOW THEREFORE, the City Council of SeaTac, Washington hereby declares itself a Center of Municipal Excellence in Automated Vehicle Policy Development because of taking the initiative in 2017 to begin planning for automated vehicle deployment in the City.

Three further action level options in the Resolution Actions that could be taken:

Level One: Work actively to move the findings and recommendations of the Action Plan into the deliberations of the new State AV Working Group.

Level Two: Study further a pilot deployment of an automated vehicle ride service in City of SeaTac, in cooperation with King County Metro.

Level Three: Aggressively pursue implementation of an automated vehicle ride service pilot deployment within the City. Go after funding in partnership with City of Bellevue and/or King County Metro.

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City of SeaTac AV Action Plan

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Thank You! Any Questions?



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City of SeaTac AV Action Plan

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**Framework:
Two Paths for Vehicle
Automation Now Apparent**

Market 1: Consumers Buy Better, Safer Vehicles Evolving with Selectable Automated Driver Assistance Systems – ADAS and fuller automation eventually in selected environments



Market 2: Consumers Purchase Rides on Driver-less Vehicles Providing Mobility as a Service (MaaS), aka micro-transit or robo-taxi. Starts in defined routes and area, and evolves eventually to be like Uber or Lyft without a driver.



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City of SeaTac AV Action Plan

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**Option Three:
City of SeaTac
Seeks Funds
to Deploy
Electric
Automated
Shuttle Routes
Serving
Residential
Areas**



April 23, 2018

City of SeaTac AV Action Plan

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Market 2 Opportunity for City of SeaTac: Taking a Leap with Automated Micro-Transit

- Purposely designed, wheelchair compatible, electric passenger vehicles with no driver
- On pre-selected, adapted, certified, existing roads
- Closely monitored & supervised fleet
- Trials already underway world wide



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City of SeaTac AV Action Plan

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Candidate First Automated Micro Transit Trial Deployment: Riverton Heights

Five mile loop route (red line on map) for automated 10 passenger automated electric micro buses at five minute intervals in both directions could serve passenger movement at 20 mph with 6 vehicles. These would provide total capacity of 480 passengers per hour if average trip length were 2.5 miles (half the loop). The Tukwila light rail station, the SeaTac Senior center, and two main employment sites would be served. High volume of usage not certain based on data. Blue lines show possibilities for future automated on-demand branching.



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City of SeaTac AV Action Plan

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Best Potential Funding Source FHWA ATCMTD grants

Oct. 2017: "Federal Highway Administration (FHWA) has awarded Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grants valued at \$53.6 million for 10 states to fund advanced technologies that will improve mobility and safety for drivers..."

2016 Winner: \$11 Million Grant to County & City of San Francisco including support of a passenger shuttle around Treasure Island & Yerba Buena Island.

2017 Winner: \$4 Million Grant to South Carolina's Greenville County for Automated Taxi Shuttles. CATES has close contacts on this project team.

2018 Target: Apply for funding for City of SeaTac deployment of automated neighborhood shuttle deployment . A joint application with City of Bellevue and/or King County Metro recommended.

April 23, 2018

City of SeaTac AV Action Plan

11

City Supports Puget Sound Regional Council Transportation Plan on Automation

- Here is the first listed highlight of the PSRC 2040 Transportation Plan Update:
- "A new regional approach to getting ready for autonomous, connected, shared and electric vehicles."
- Specifically, using PSRC's summary of Appendix N on technology:
 - Establish a technology advisory committee, with diverse stakeholders, to help the region prepare for and foster emerging technologies. Topics to explore include legal frameworks, liability issues, and technical specifications to support new technologies.
 - Update the region's ITS Implementation Plan (RITSIP) to better reflect existing conditions, current needs, and projected changes due to emerging technologies.
 - Continue to enhance regional models to analyze the effect of autonomous and electric vehicles, shared mobility, and new technology on the transportation system and travel behavior.
 - Facilitate regional discussions to identify opportunities to support private sector projects and partnerships and the deployment of pilot programs

April 23, 2018

City of SeaTac AV Action Plan

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Coordination Required to Proceed

- City of SeaTac Public Works needs to keep the following agencies informed on plans to implement the Riverton Microtransit Pilot
 - King County Metro Transit (for integration with other transit services for which it has a monopoly charter)
 - Sound Transit (for access to the light rail station)
 - Puget Sound Regional Council (for authorization as transportation service eligible for government funding)
 - State of Washington Department of Licensing
 - SeaTac Police Department
 - State of Washington’s Automation Task Force
 - Port of Seattle (for access to a vehicle stop near the employee parking lot)
 - Boeing Parts Distribution Center (for service access at a vehicle stop near NE pedestrian gate)

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City of SeaTac AV Action Plan

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Contact Points

Project Monitor	Lead Researcher
William Appleton, P.E., Public Works Director	John Niles, Executive Research Director
City of SeaTac	CATES
206-973-4741 wappleton@ci.seatac.wa.us	206-781-4475 jniles@alum.mit.edu

April 23, 2018

City of SeaTac AV Action Plan

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CATES

Center for Advanced Transportation and Energy Solutions

April 6, 2018

From: John Niles, Executive Research Director, CATES

To: City of SeaTac

Subject: Draft Final Action Plan for Development of Autonomous Vehicles

This document is an Action Plan providing guidance for the City of SeaTac to justify deploying advanced transportation technologies, specifically autonomous vehicles.

Executive Summary

The prospect of automation of road vehicle driving on public roads rose to widespread public prominence in October 2010 when the high-tech firm Google, famous for search technology, surprisingly announced that over the preceding year it had equipped several Prius sedans with sensors and electronic equipment for robotic driving. Google staff had then supervised the cars' unannounced movements over 140,000 accident-free miles on California roads and highways.

This effort has subsequently advanced in years since then until in 2018 Google formed a new company called Waymo, now seemingly demonstrating the ability to provide on-demand taxi-like rides in custom-built driverless Chrysler Pacifica hybrid vans in suburbs of the Phoenix metropolitan area. In San Francisco, General Motors in alliance with Cruise Automation is a competitor on the path to providing on-demand rides in an urban environment. There are other competitors emerging as well, including providers of automated, slow-speed microtransit vehicles, such as Easy Mile and Navya, focused on first/last mile service to transit hubs.

In reaction to automation developments at Google and in vehicle electrification, the Center for Advanced Transportation and Energy Solutions (CATES) was founded in 2012 in Seattle as a non-profit think tank to advance automated, electric-powered vehicles as a sustainable solution to transportation and energy problems in the central Puget Sound Region. First funding of CATES was from the University of Michigan's Graham Environmental Sustainability Institute, with later funding from the three King County subarea Transportation Boards.

In May 2017, after a period when Waymo, General Motors, Volvo and other private companies continued with further development of robotic driving, the City of SeaTac engaged CATES as a consultant to conduct research that explores and points to municipal action on the opportunity of using the City's public road network and economic development capacity to establish the viability of the City credibly labeling itself as a Municipal Center of Excellence in Automated

One basic choice for City response to this Action Plan is Go or No-Go on proceeding to reach the potentials available. Choosing No-GO supports focusing City leadership and staff attention on other priorities. However, the benefits of proceeding with the action on automated vehicles recommended are several:

- More community engagement in a high-tech future with benefits for residents and visitors
- Demonstrated City pursuit of enhanced mobility for all citizens, voters, and taxpayers
- Demonstrated official interest in mobility support for non-driver citizens both young and old
- New positive engagement with the new Autonomous Vehicle Working Group, King County Metro, Sound Transit, Puget Sound Regional Council, and other transportation main actors in the central Puget Sound region
- Demonstrated regional and national transportation improvement leadership
- Further engagement by the City with recognized national organizations like National League of Cities and Aspen/Bloomberg Charities. The latter has already recognized the project described here in its City of SeaTac in its Global Atlas of Autonomous Vehicles and Cities published on the web at <https://avsincities.bloomberg.org/global-atlas/>
- Some new local employment opportunities if the pilot project proceeds
- Enhanced civic pride from pursuing public service technology applications
- Positions the City for attracting other private sector initiatives related to vehicle automation

CATES has developed a menu of possibilities for going forward, ranging from further study of possibilities, to seeking outside funding and planning toward achieving near-term driverless, electric vehicle deployment for cost-effective public benefit.

All of the options to proceed include a strong recommendation from CATES that the City Council vote a Resolution of Action Plan endorsement and statement of Autonomous Vehicle Intentions with regard to implementation, in order to energize regional attention on a formal municipal decision to pursue excellence at one of three levels.

Level One: Work actively to move the findings and recommendations of the Action Plan into the deliberations of the State AV Working Group.

Recommended City of SeaTac Resolution for Level One:

- A. WHEREAS, many motor vehicle collisions with other automobiles, bicycles, pedestrians, and fixed objects are caused by driver errors or impairment leading to deaths and injuries;

State's academic institutions, and allow the State of Washington's leading airport City to serve as an easily accessible statewide and national demonstration site for innovative mobility services based on emerging new technologies;

- H. WHEREAS, the safe deployment and operation of automated, electric or hybrid vehicles is likely to produce societal benefits cost-effectively, minimizing injuries and saving lives that would otherwise be lost to vehicle collisions, reclaiming time spent waiting for rides; maximizing the ability to move people and goods quickly and safely throughout the City, improving mobility for youth, elderly, disabled and other non-drivers, and serving to reduce atmospheric emissions;

NOW THEREFORE, the City Council of SeaTac, Washington hereby declares itself a Center of Municipal Excellence in Automated Vehicle Deployment to be evidenced henceforward by City staff pursuing available opportunities to propose changes in local and state laws impeding technology deployment and making technology deployment safer, to conduct further follow-on study activities recommended in the Action Plan in cooperation with the State Autonomous Vehicle Working Group, and to pursue opportunities in cooperation with other jurisdictions to conduct pilot projects demonstrating innovative excellence funded by the Federal Government and other external sources.

Level Three: Aggressively pursue implementation of an automated vehicle ride service pilot deployment within the City

All of the resolution language above, with the following additional language in the concluding action section:

NOW FURTHERMORE, the City Council of SeaTac, Washington directs the City Manager and City Staff to pursue deployment aggressively -- in cooperation with King County Metro Transit, Sound Transit, and the City of Bellevue Transportation Partnership program -- of automated ride services operating within City boundaries as described in the Action Plan, and coordinated with the provision of similar service access to and from other geographic locations in cooperating neighboring municipal jurisdictions and in the Sea-Tac Airport. Any such vehicles deployed in the City of SeaTac must be delivered for deployment pre-certified by competent authority to have highly reliable ability to detect pedestrians, cyclists, and motor vehicles in its path and then take action to prevent collisions with them.

Additional recommendation for all Levels

- Submit the Action Plan to the State AV Working Group for their review, and participate in future deliberations and activity of this group.

- As a way to support the vision, this Action Plan recommends that the City find a way to deploy an early, limited range pilot version of the long-run vision to provide enhanced mobility in the City's residential neighborhoods in cooperation with King County Metro, Sound Transit, the Hyde Shuttle, and the City of Bellevue Transportation Partnership Office. City of Bellevue is also planning for a pilot deployment of electric shuttles within its jurisdiction.
- The pilot deployment explored in this Action Plan is a small fleet of driver-less shuttle mini-buses or vans on City roads providing convenient, affordable, quiet, accessible mobility for passengers in residential neighborhoods traveling to light rail stations, community centers, shopping areas, and employment locations.
 - Although not RoboCabs, electric shuttle buses are precursors. These small, boxy passenger carriers are ready to be deployed in driverless motion now. Details are provided in the Appendix. Vehicles such as these have the potential to provide mobility that is safer, less expensive, and non-polluting compared to today's available alternatives. Such vehicles from several manufacturers are already being tested and deployed in cities around the world. CATES has conducted some preliminary analysis to verify economic feasibility and sufficient paid ridership to justify investment of management attention by the SeaTac municipality.
 - The cost of the pilot would in effect be a first round of development for all of South King County and beyond, and thus appropriately covered not by taxation of the 28,000 SeaTac residents, but by external funding and in-kind support within existing SeaTac responsibilities. Several specific Federal funding opportunities are described in this Action Plan.
 - Cooperation, coordination, and co-sponsorship with other municipal jurisdictions is recommended as a way to achieve an attractive scale for investors and economies of scale in operations. City of Tukwila, in particular, has given indications of interest in participating, as well as City of Bellevue, the latter now doing parallel development and being a potential partner in obtaining regional financial support from U.S. Department of Transportation.
 - First/last mile service to the Link light rail and Rapid Ride combined transit stations would be a key element of the pilot to engage and maintain support of Sound Transit and King County Metro Transit.
 - This should be a service deployment, not a technology experiment.
- The pilot should be designed to be consistent with a plan for the long-run financial sustainability of mobility as a service as the geographic coverage area expands. CATES has provided sample calculations as part of its work for the City.