Exhibit A to Resolution 3759

Port of Seattle Commission

Ground Transportation Principles and Goals Policy Directive

As Adopted
July 9, 2019

SECTION 1. Purpose.

This policy directive establishes guidance on ground transportation at the Seattle-Tacoma International Airport including principles, goals, monitoring, and reporting; creates an Annual Ground Transportation Progress Report; affirms airport commute-trip-reduction (CTR) goals; and establishes a transportation management association.

SECTION 2. Definitions.

When used in this policy directive, the following words and phrases shall have the meanings given below unless the context in which they are included clearly indicates otherwise:

"Commute-trip reduction (CTR)" refers to the regulations developed under the Washington Administrative Code 468-63-010, with the intent to reduce automobile-related air pollution, traffic congestion, and energy use through employer-based programs that encourage the use of alternatives to single occupant vehicles travelling during peak traffic periods for the commute trip.

"Ground transportation" means non-aviation activities that relate to travelling to and from the airport.

"Scope 3 greenhouse gas (GHG) emissions" refers to the GHG Protocol Corporate Standard that classifies a company's GHG emissions into three 'scopes.' Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

SECTION 3. Scope and Applicability.

This policy directive applies to all activities related to ground transportation to and from Seattle-Tacoma International Airport.

SECTION 4. Responsibilities.

The Executive Director shall engage in the following activities in pursuit of this policy directive, either directly or by appropriate delegation of authority:

A. Ensure the Ground Transportation principles are applied to decisions on ground transportation at the appropriate time and in the appropriate manner.

B. Strive to achieve the goals enumerated below.

C. Provide an Annual Ground Transportation Report to the Commission.

SECTION 5. Policy.

A. Ground Transportation Principles. The Federal Aviation Administration regulatory guidance directs an airport fee and rental structure designed to make the airport as self-sustaining as possible. In this context, self-sustaining is generally interpreted as applying fair market value commercial rates under the particular airport's circumstances. This reduces the airport's reliance on federal funds and local tax revenues. In developing recommendations to the Commission governing ground transportation, Port staff shall, alongside the regulatory guidance, use the following guiding principles in managing ground transportation activities at Seattle-Tacoma International Airport.

(1) Reduce passenger and commuter trips and lower carbon emissions to achieve Port GHG-reduction goals and reduce negative community impacts.

(2) Reduce airport drive and roadway congestion, improve ease of access to the airport, increase transportation options, and improve the customer experience.

(3) Support equity considerations by promoting living wage jobs, equal business opportunities, and accessibility for people with disabilities.

B. Ground Transportation Goals. Port staff shall apply the principles in Section 5(A) and implement strategies to achieve the following ground transportation goals.

(1) Reduce curbside private vehicle pickup/drop off from 41 percent to 30 percent of mode share by 2030.

(2) Reduce Scope 3 GHG emissions from passenger vehicles to 50 percent of 2007 levels by 2030.

(3) Maintain a maximum 15-minute travel time from the airport clock tower to terminal curb or parking garage.

C. The Port is committed to airport employee CTR.

(1) The Commission affirms the Port's commitment to achieving the drive-alone rate goal for Port employees at the Airport established by the CTR program currently set by the City of SeaTac at a 65 percent drive-alone rate.

(2) The Port shall establish a Transportation Management Association (TMA) by 2020 and make membership available to all employers operating at the Airport. The TMA will support commute reduction strategies that go beyond minimum CTR requirements and facilitate efficient movement of employees to and from

the Airport. The primary goal of the TMA will be to support the reduction of drive-alone rates for employees that work at the Airport.

(3) The Port shall develop and implement parking management strategies and tools to help achieve airport CTR goals, reduce drive-alone rates, and achieve the desired mode split.

SECTION 6. Program Evaluation.

Port staff shall prepare and deliver to the Commission an Annual Ground Transportation Progress Report by June 30th of each year that includes progress and recommendations to better achieve the policy outlined in Sections 3 A. B. and C.

SECTION 7. Fiscal Implications.

Fiscal implications shall be reviewed by the Executive Director annually, at a minimum, to ensure the implementation of the policy directive is adequately resourced and shall submit a budget request as appropriate.

SECTION 8. Research Findings

The following attachments document the research findings of this policy directive:

Attachment 1: Ground Transportation Access Study Report dated August 20, 2018 (Table of Contents and Executive Summary – full report available on request)

Attachment 2: Ground Transportation Commission Study Session Briefing PowerPoint of July 10, 2018

Attachment 3: Ground Transportation Commission Briefing PowerPoint of September 25, 2018

ATTACHMENT 1 to Ground Transportation Policy Directive

Seattle-Tacoma International Airport

Service Directive #7: Ground Transportation Access Plan (GTAP) Study Final Report

PREPARED FOR:

Port of Seattle

Port of Seattle®

PREPARED BY:

RICONDO & ASSOCIATES, INC.

IN ASSOCIATION WITH:

JACOBS, INC. (CH2M HILL, INC.)

PRR BIZ, INC.

RICONDO®

JACOBS PRR

AUGUST 20, 2018

FINAL

Table of Contents

List of Appendices

List of Tables

List of Exhibits

Table of Acronyms

ACRONYM/ABBREVIATION	DEFINITION	SECTION FIRST NOTED
AV	autonomous vehicle	3.1
BOS	Boston Logan International Airport	3.2.1
BRT	Bus Rapid Transit	5.1.2
CPH	Copenhagen Airport	3.3
DUB	Dublin Airport	3.3
E-KPI	Environmental Key Performance Indicator	6.1.7.1
EPS	Enplaning Passenger Survey	1.1
ESFH	Eastside for Hire	6.1.7.2
FAA	Federal Aviation Administration	6.1.4
GHG	greenhouse gas	3.2.1
GIS	geographic information system	7.3.3
GT	ground transportation	1.2
GTAP	Ground Transportation Access Plan	1.1
HOV	high-occupancy vehicle	3.1
KCM	King County Metro	1.2
LAX	Los Angeles International Airport	4.3.1
LGW	Gatwick Airport	3.3
LHR	Heathrow Airport	3.3
LOS	level of service	1.2
MAP	million annual passengers	3.3
PMT	passenger miles traveled	4.4.1
Port	Port of Seattle	1.2
PRR	PRR Biz	2
SAMP	Sustainable Airport Master Plan	1.1
SEA or the Airport	Seattle-Tacoma International Airport	1.1
SD	Service Directive	1.2
SFO	San Francisco International Airport	6.1.7.1
ST	Sound Transit	1.2
TMA	Transportation Management Association	3.1
TMS	taxi management system	3.3.1.6
TNC	transportation network company	1.1
TSA	Transportation Security Administration	2.3
VMT	vehicle miles traveled	4.4.1

(Page Intentionally Left Blank)

Executive Summary

Seattle-Tacoma International Airport (SEA or Airport) is one of the busiest airports in the United States, serving almost 47 million annual passengers (MAP) in 2017. This activity is projected to increase to more than 60 MAP[1] in the next 10 years.[2] The Airport has a major economic impact on King County and the Puget Sound region, supporting $22.5 billion in total economic activity in 2017, according to the *Sea-Tac International Airport Economic Impacts* study (January 2018).

To accommodate this projected increase in passenger traffic, the *Sustainable Airport Master Plan* (SAMP) includes an ambitious capital improvement program centered around a major terminal expansion program and associated landside improvements. It sets the stage for future development to accommodate increased demand, but doing so in a way that ensures long-term sustainability of this critical element of the Puget Sound economic fabric.

In 2017, the Port of Seattle commissioned this Ground Transportation Access Plan (GTAP) to advance efficient and sustainable transportation modes, including consideration of equity while also addressing traffic congestion on the airport curbs and roadways. It is a key objective of the Port to foster equity, both from a consumer-options perspective and a desire to support quality "living wage" jobs perspective. The underlying purpose of the GTAP Study is to assist the Airport and the Puget Sound region identify strategies that foster shifts in the way Airport customers and the workforce think about Airport access; strategies that will affect a person's mode choice in favor of longer-term sustainable options, while being sensitive to established equity and producing measurable benefits at a reasonable cost.

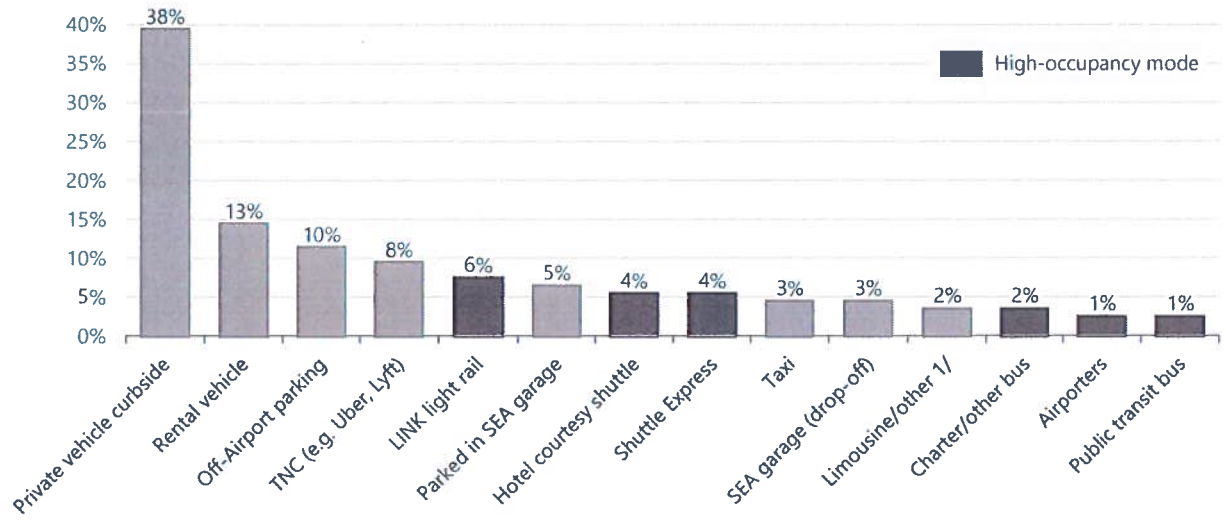
A major contributor to traffic congestion is a heavy reliance on low-occupancy modes of transportation to access the airport. According to the most recent passenger survey (conducted quarterly by Port staff) and as reflected on **Exhibit ES-1**, almost 80% of originating passengers arrive at the Airport via low-occupancy modes, including private vehicles, rental cars, taxis, limousines, and vehicles associated with transportation network companies (TNCs) such as Uber or Lyft. This ongoing reliance on single- or low-occupancy modes of transportation to the Airport perpetuates several burdens, ranging from Airport Expressway congestion to Airport curbside congestion and environmental pollution. Addressing this congestion in a constrained environment by simply building more roadway facilities becomes financially and environmentally unsustainable.

[1] MAP – million annual passengers.

[2] FAA Terminal Area Forecast (TAF), https://www.faa.gov/data_research/aviation/taf (accessed January 24, 2018).

This is a significant issue that challenges most major metropolitan areas in the United States, even if the airport has been adequately served by higher-occupancy forms of transportation for decades.

Exhibit ES-1: Enplaning Passenger Survey Results: Travel Mode (2017)



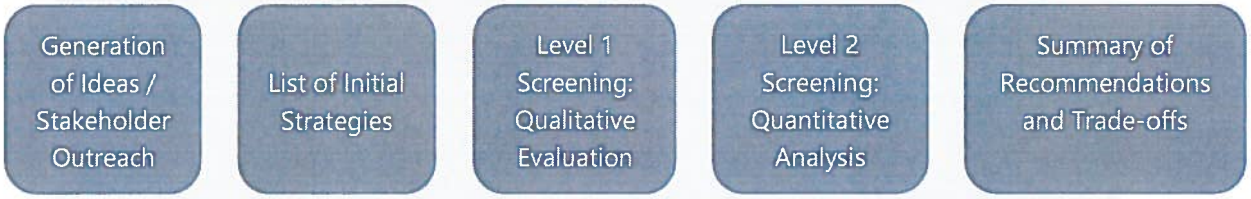
NOTE: 1/ Other includes bicycle.

SOURCES: Business Intelligence, *Enplaning Passenger Survey*, January 2018; Ricondo & Associates, Inc, February 2018 (Analysis).

Overview of GTAP Study Methodology

The GTAP Study process included five general components, as illustrated on **Exhibit ES-2** and described in the following paragraphs.

Exhibit ES-2: Overall Strategy Evaluation Process

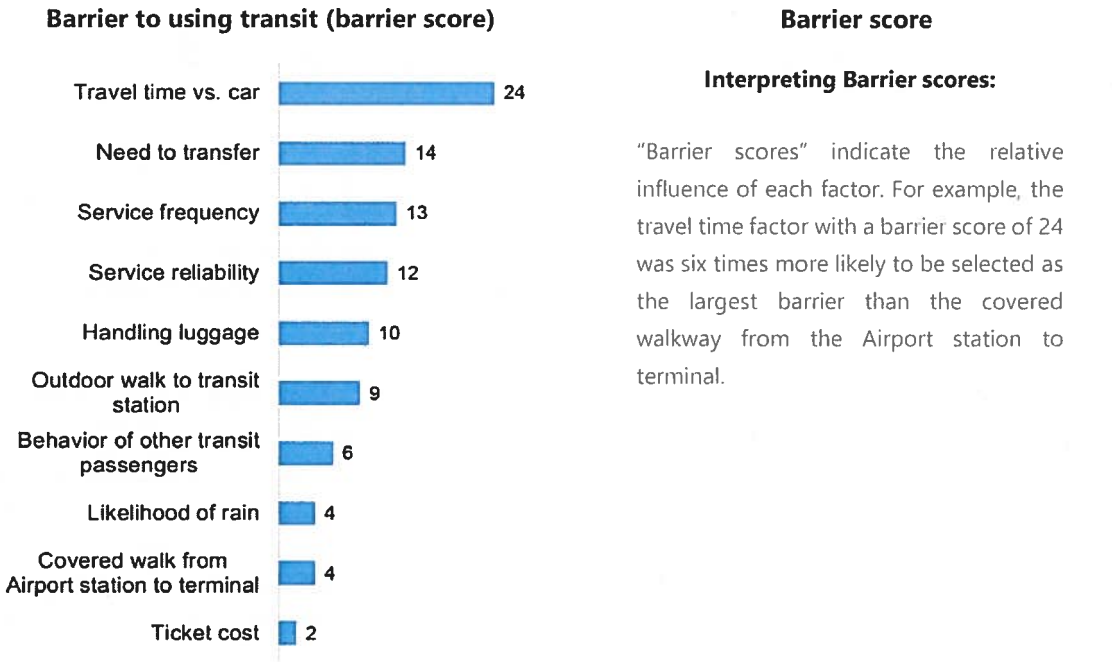


SOURCE: Ricondo & Associates, Inc, March 2018 (Analysis).

The GTAP Study began with a series of meetings with Port staff, stakeholders, and regional transportation agencies to gain a contextual understanding of transportation issues and trends in the Puget Sound region, and how they impact the Airport. This component of the study also included data collection to quantify regional transportation trends, information gathering about ongoing Airport development programs, research of regional transportation programs and initiatives (existing services as well as future planned improvements), and benchmarking airports with comparable activity levels and service offerings to identify trends and best practices as they relate to airport access.

Simultaneous to this information gathering phase, the GTAP Study team was assessing mode choice and mode shift trends as they relate to the Airport and the entire Puget Sound region. While it may be possible to reliably predict if a certain strategy or policy will affect mode choice in a "positive" or "negative" way, it is very challenging to predict or quantify "how positive" or "how negative" the impact of a strategy will be in terms of how many passengers will change behavior. This challenge is increased when considering rapidly emerging trends where there is very little historical data to assess consumer preferences. [For example, Transportation Network Companies (TNCs) like Uber or Lyft emerged only 2-3 years ago and grew from escorting zero passengers to the Airport to almost 1.3 million passengers in 2017 according to the Port of Seattle's Ground Transportation Monthly Activity Report. Similarly, it is difficult to predict what impact driverless vehicles may have in the coming years.] **Exhibit ES-3** illustrates many of the perceived barriers that passengers face when making decisions about mode choice, particularly as they relate to the option of using transit.

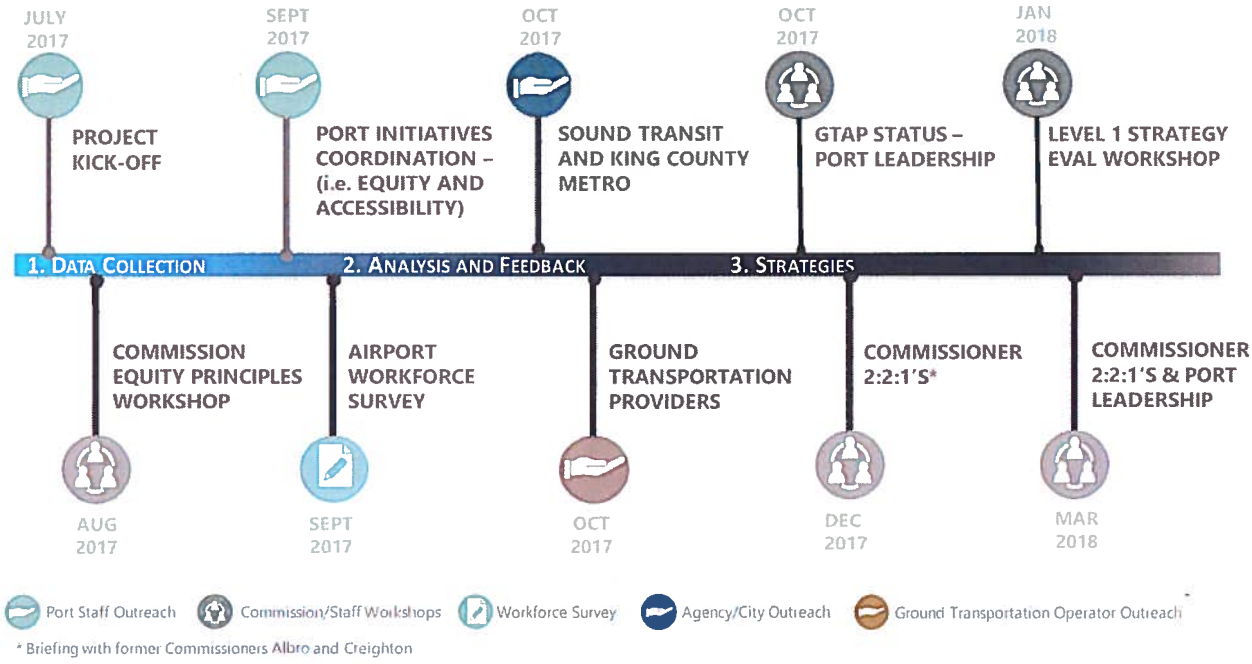
Exhibit ES-3: Results and Interpretation of Barriers to Light Rail Survey



SOURCE: Business Intelligence, *Light Rail Barrier Survey*, Port of Seattle, November 2016.

As the GTAP Study progressed, the GTAP Study Team and Port leadership conducted a series of meetings and workshops with Airport staff and tenant employees, local and regional transportation agencies, and key airport users/stakeholders (e.g., TNC, taxi and commercial ground transportation operators). The purpose and timeline of these meetings are summarized on **Exhibit ES-4**. Detailed results of the meetings, workshops, and surveys are presented in appendices of this document.

Exhibit ES-4: Flowchart of Stakeholder Outreach Process

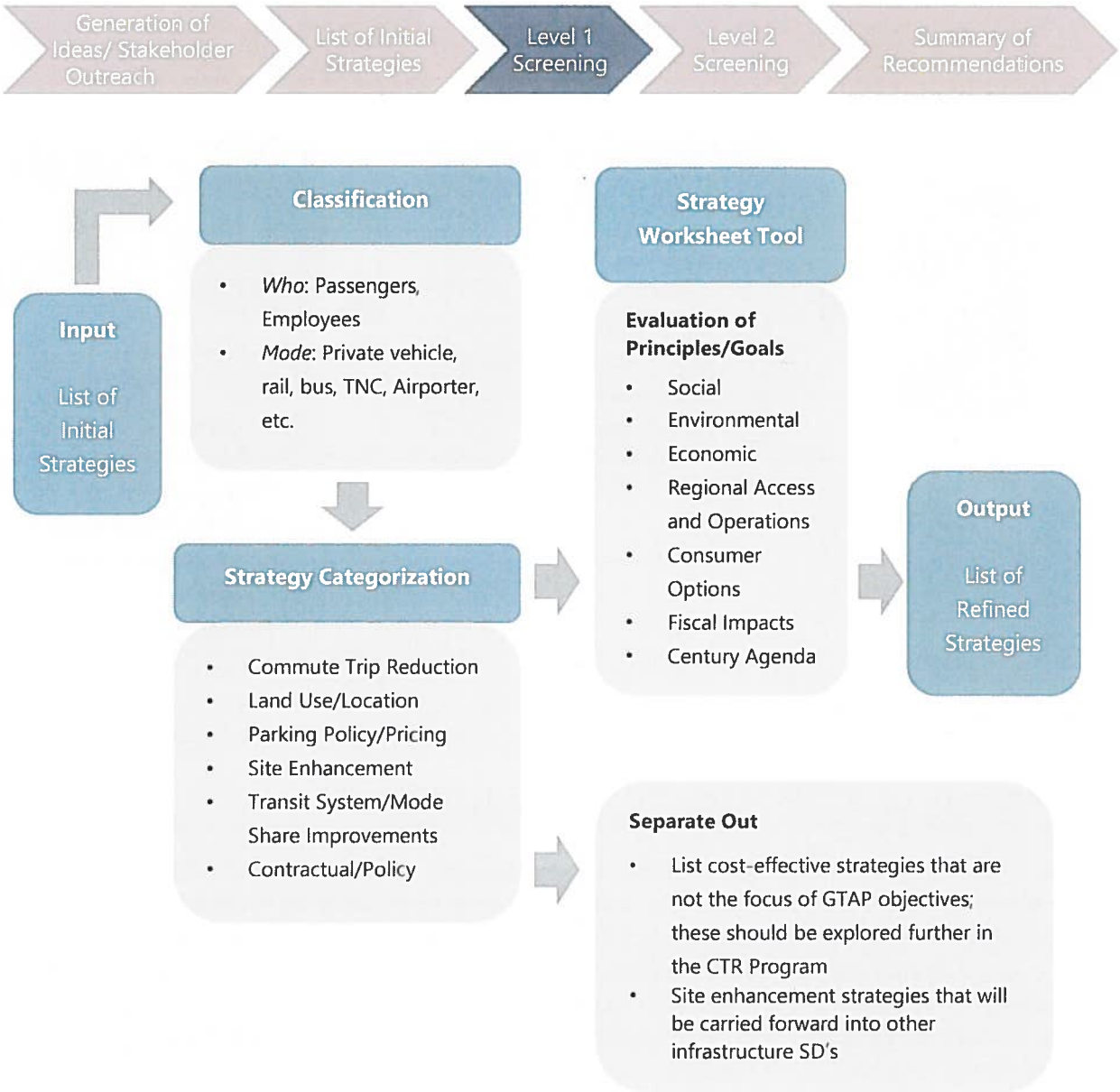


SOURCE: PRR Biz, February 2018 (Analysis); Ricondo & Associates, Inc., March 2018 (Analysis).

These workshops led to the identification of more than 60 potential strategies to fulfil/foster the user changes required to achieve the stated goals and objectives of the GTAP Study. These potential strategies are detailed in appendices of this report.

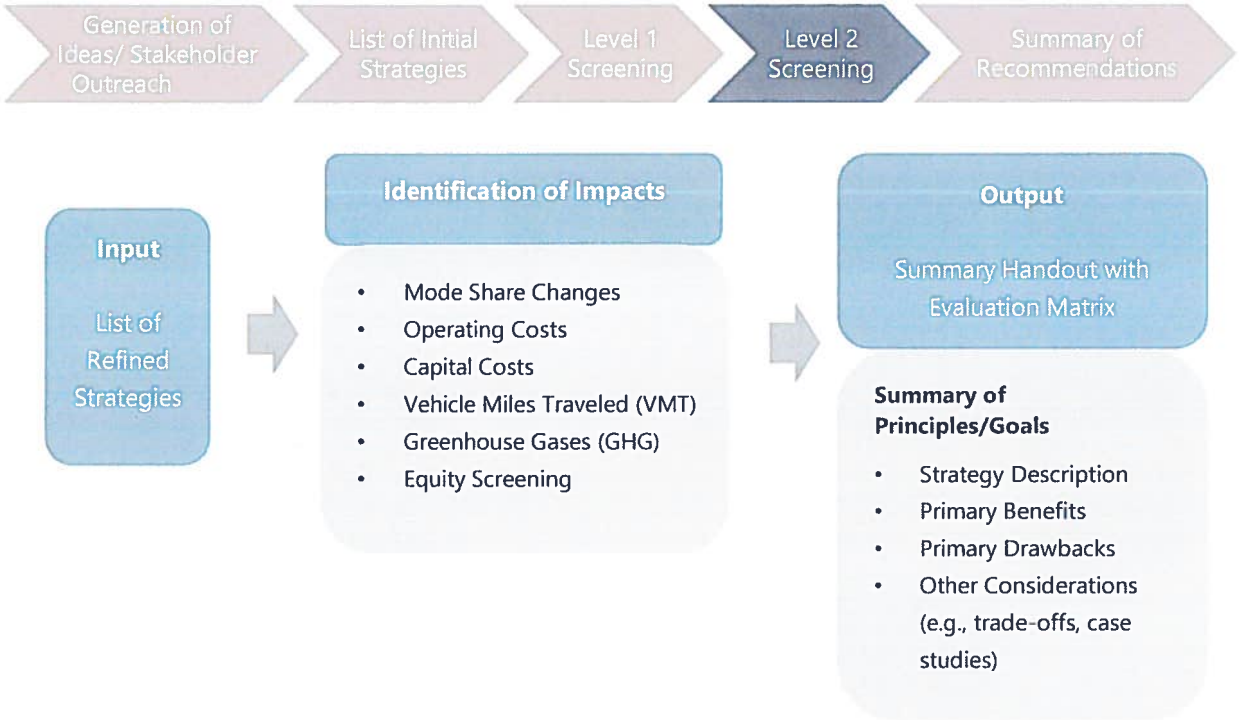
The Ricondo Team organized/condensed the strategies by classifying them into one of four target audiences that each would impact, as well as identifying the key mode(s) that would be affected. Further, the Team evaluated the strategies through a two-step screening process, illustrated on **Exhibit ES-5** and **Exhibit ES-6**. In the first level of screening (Exhibit ES-5), each strategy was scored using principles/goals that reflect the purpose of the GTAP Study and the Port Century Agenda goals. In the second level of screening (Exhibit ES-6), the team relied on industry research and professional judgement to quantitatively assess the strategy's potential impact on metrics such as mode shift, vehicle miles traveled, greenhouse gas emissions, capital investment requirements, and operating costs. Equity principles were also assessed, including economic equity, environmental equity, regional access and operational equity, and social equity.

Exhibit ES-5: Level 1 Strategy Screening Process



SOURCES: Ricondo & Associates, Inc, March 2018 (Analysis).

Exhibit ES-6: Level 2 Strategy Screening Process



SOURCES: Ricondo & Associates, Inc., March 2018 (Analysis).

Summary of GTAP Study Recommendations

From this two-level screening/evaluation process, several recommendations and feasible strategies emerged. (Note, some of these strategies combined multiple items identified in the ground access strategies workshops and stakeholder engagement process). The final recommendations and shortlisted strategies are categorized as either being a Business Strategy or a Ground Access Strategy. These are summarized below in **Table ES-1** and **Table ES-2**, and detailed in Section 8 of the study. The detailed qualitative and quantitative evaluation of the shortlisted (top 10) ground access strategies are provided in **Table ES-3.** In summary, should all of the top 10 ground access strategies be implemented, the planning-level estimated aggregate impact is a reduction of up to 10 percent of the Port-controlled greenhouse gas emissions (GHG) (with an estimated annual reduction of up to 100 million vehicle miles traveled (VMT) and 42,000 tons of GHG, and potentially 2 million single-occupancy vehicles off the road annually). It has been noted, however, that several of the strategies require further detailed study prior to implementation, and the estimated cumulative effects will be influenced by the ultimate combination of strategies actually implemented, and the success of those efforts.

Table ES-1: Shortlisted (Top 10) GTAP Study Strategies

STRATEGY	DESCRIPTION	NEXT STEPS	AFFECTED STAKEHOLDER(S)		
			Air Pax	Work-force	GT Oper.
Multiple Variations of Express Bus Service	• Express service from park and ride lots in primary surrounding city locations; secure parking; 30 minute service (Port, KCM, ST TBD)	• Conduct Port sponsored feasibility study and Pilot program (scoping underway)	✓	✓	
Form a Transportation Management Association	• Member controlled, organizations that provide transportation services in a particular area • Dedicated staff to manage CTR programs for airport workforce including ride share matching, guaranteed ride home, transit subsidies	• Conduct Port sponsored feasibility study • Recommend Port to incorporate in Commute Trip Reduction program		✓	
Information Sharing and Promoting Transit	• Distribute information about transit routes and integrate promotions/marketing during airline ticket purchase and check-in	• Recommend Port to pursue stakeholder partnerships and additional advertising/information sharing opportunities	✓		
Public-Private Partnerships for First/Last Mile Coverage	• Develop partnerships with ride share companies and regional agencies to provide first and last mile coverage	• Conduct Port sponsored feasibility study with TNC companies and regional agencies	✓	✓	✓
Increase/preserve King County Metro RapidRide and Sound Transit Express Bus Service	• More frequent service (assuming regional agency sponsorship) • Change pick-up/drop-off location	• Coordination with regional agencies (additional study and/or travel demand modeling may be necessary)	✓	✓	✓
Ticket for Free Transit Ride/Ride Free Area	• Passengers and employees ride free on trips from the Airport	• Coordination with regional agencies (additional study and/or travel demand modeling may be necessary)	✓	✓	
Incentives for Ride Share and Transit Use	• Provide discounts at airport concessionaires or access to airline club lounges for travelers with transit pass, transit receipt, or verification of participation in Ride Share program • Implement a parking "cash-out" program managed by Airport TMA	• Recommend Port to incorporate in CTR program	✓	✓	
Revenue structures anticipating Autonomous Vehicles	• Develop a financial model to estimate impacts of AV adoption • Develop recommendations for Port policies and programs around AVs	• Further revenue/financial analysis			✓
Airport Access Fees	• Consider establishing fee structure for vehicles accessing terminal curbs; consider legislative implications • Install gantries for electronic fee collection	• Further revenue/financial analysis	✓		
Restructure Employee Parking	• Restructure complimentary garage parking to incentivize Ride Share and transit • Implement a parking "cash-out" program managed by Airport TMA • Subsidize ORCA passes (state CTR program influences benefit)	• Further revenue/financial analysis (paired with TMA and garage analyses findings)		✓	

NOTE: Strategies are not in order of priority

SOURCE: Ricondo & Associates, Inc., June 2018 (Analysis)

Table ES-2: Recommended Business Strategies Summary

CATEGORY	DESCRIPTION
Business Model	• Continue with hybrid model approach, with agreements awarded to qualified concessionaire(s)
Fiscal/Revenue	Develop a financial model to asses: • What sort of structures might adapt well to future C/AVs • How changes to commercial GT rates may affect long-term SEA financial needs • How changes will affect cost per enplaned passenger • The extent to which a revised fee structure will affect the entire range of businesses: taxis, limos, TNCs, courtesy shuttles, rental cars, and airporters • How changes to the rate structure will affect the Airport capital program and the ability to fund long-term needs, including SAMP • Assess annual permit process for GT operators in lieu of per trip fees • Consider impact of a market-based competitively bid rate • Airport access fees • Potential for offering first/last mile coverage incentives • Employee parking – impact of potential restructuring
Technology	• Consider future installation of communication infrastructure to support C/AVs and airport access mechanisms, including collecting data that supports incentivizing higher occupancies
Labor Harmony	• Labor Relations and Office of Social Responsibility continue to develop Port-wide Labor Harmony Policy and community engagement plan
Number of Vehicles	• Establish fleet to balance supply against demand, while minimizing wait time, and optimizing driver income
Environmental/Sustainability	• Continue Re-match program for TNCs
Facilities and Operations	• Use Bandwagon or comparable API to discount passenger fare while increasing driver receipts
Management	• Conduct feasibility study for forming a Transportation Management Association

SOURCE: Ricondo & Associates, Inc., June 2018 (Analysis).

Table ES-3: Summary of Qualitative and Quantitative Analysis of Shortlisted (Top 10) Strategies

	QUALITATIVE IMPACTS: EQUITY TRADE-OFFS			
STRATEGY	ECONOMIC	ENVIRONMENT	REGIONAL ACCESS & OPERATIONS	SOCIAL
Multiple Variations of Express Bus Service	✓	✓	✓	O
Form a Transportation Management Association (TMA)	O	O	✓	O
Information Sharing and Promoting Transit	✓	✓	✓	N/A
Public Private Partnerships for First/Last Mile Coverage	✓	✓	✓	O
Increase/preserve King County Metro RapidRide and Sound Transit Express Bus Service	✓	✓	✓	O
Ticket for Free Transit Ride/Ride Free Area	✓	✓	✓	O
Incentives for Ride Share and Transit Use	✓	N/A	N/A	N/A
Revenue structures anticipating Autonomous Vehicles (AVs)	O	O	O	O
Airport Access Fees	X	✓	✓	O
Restructure Employee Parking	N/A	O	O	X

	QUANTITATIVE IMPACTS			
STRATEGY	ESTIMATED CAPITAL COST	ESTIMATED OPERATING COST	ESTIMATED GREENHOUSE GASES (GHG) REDUCED	ANTICIPATED REVENUE IMPACTS
Multiple Variations of Express Bus Service	O	X	X	O
Form a Transportation Management Association (TMA)	✓	✓	X	O
Information Sharing and Promoting Transit	✓	✓	X	X
Public Private Partnerships for First/Last Mile Coverage	✓	✓	X	X
Increase/preserve King County Metro RapidRide and Sound Transit Express Bus Service	O	O	X	O
Ticket for Free Transit Ride/Ride Free Area	✓	✓	O	X
Incentives for Ride Share and Transit Use	✓	✓	O	X
Revenue structures anticipating Autonomous Vehicles (AVs)	✓	✓	O	✓
Airport Access Fees	✓	✓	✓	✓
Restructure Employee Parking	✓	✓	X	✓

LEGEND

SCORE	CAPITAL/ OPERATING COST	GHG REDUCTION (TONNES/YR)	REVENUE IMPACT (MILLION $ ANNUALLY)
✓	$0 to $2m	≥ 10,000	Source (+)
O	$2 to $10m	5,000 < 10,000	<$1m Loss ( )
X	>$10	<5,000	>$1m Loss ( )

SOURCE: Ricondo & Associates, Inc., June 2018 (Analysis)

1. Introduction

1.1 Study Objectives

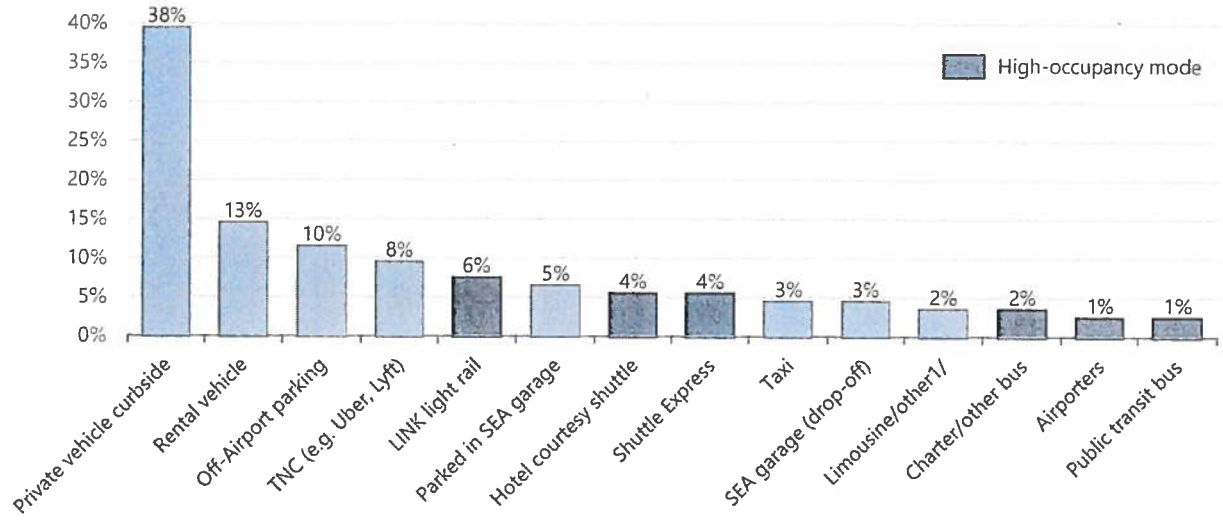
Seattle-Tacoma International Airport (SEA or the Airport) is one of the busiest airports in the United States; it served 46.9 million passengers in 2017. The Airport has a major economic impact on King County and the Puget Sound region, in which it supported $22.5 billion in total economic activity in 2017.[3] The Sustainable Airport Master Plan (SAMP) forecasts continued high passenger growth for the Airport. As a result, the Port of Seattle (the Port) is seeking ways to reduce traffic congestion and air pollution at SEA, which has resulted in the development of this Ground Transportation Access Plan (GTAP) Study.

The GTAP Study identifies several objectives, which include advancing transportation modes and programs that foster equity from the consumer options perspective, as well as supporting quality "living wage" jobs. Other key objectives include promoting Airport access via environmentally preferred modes and increasing the carrying capacity on the ground access system. The strategy development process included a consideration of changing technologies and trends in the transportation industry, as well as coordination efforts and partnerships with regional transit providers and nearby communities. The GTAP Study will inform the Airport's ground transportation business model, with an emphasis on contractual relationships, support of the Airport workforce, and a focus on current and future ground access trends. These objectives guided the study and will help the Port advance toward its "Century Agenda" goals.

As shown on **Exhibit 1-1**, and based on the most recent quarterly Enplaning Passenger Survey (EPS), approximately 80 percent of all originating passengers arrive to the Airport via single-occupancy or low-occupancy mode (e.g. private vehicle, rental car, taxi, limousine). Shifting passengers from single-occupancy modes to higher occupancy modes, such as public transit and Airporters, should relieve some of the traffic congestion and delays that passengers experience accessing the Airport. **Exhibit 1-2** shows the travel mode trends, which are based on results from three previous EPSs compared with the current year. **Table 1-1** provides mode share category definitions for SEA and illustrates the change in data definition within the EPSs. Noticeable trends are the introduction and growth of transportation network companies (TNCs) and the decline of taxi share at the Airport.

[3] Community Attributes, Inc., *Sea-Tac International Airport Economic Impacts*, January 2018.

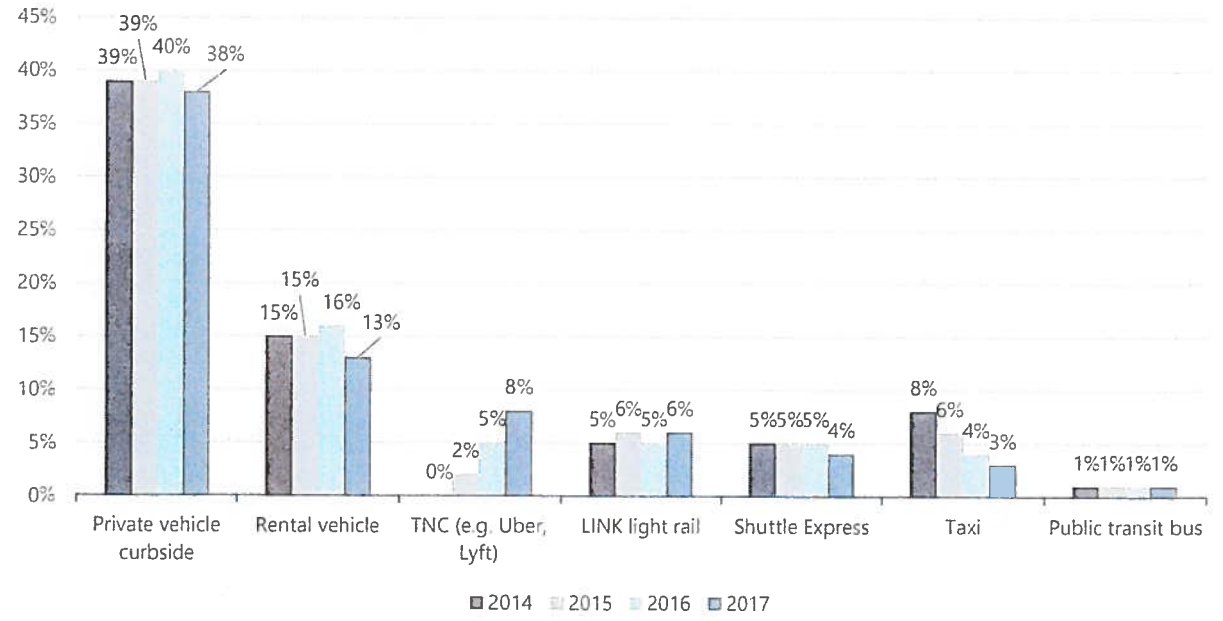
Exhibit 1-1: Enplaning Passenger Survey Results: Travel Mode (2017)



NOTE: 1/ Other includes bicycle.

SOURCES: Business Intelligence, *Enplaning Passenger Survey*, January 2018; Ricondo & Associates, Inc., February 2018 (Analysis).

Exhibit 1-2: Enplaning Passenger Survey Results: Travel Mode Trends (2014 to 2017)



NOTE: Selected travel modes are only shown for data collected in the same category definition. Categories have changed across analysis years; 100 percent of modes are therefore not reflected. See Table 1-1.

SOURCES: Business Intelligence, *Enplaning Passenger Survey*, January 2018; Ricondo & Associates, Inc., February 2018 (Analysis).

ATTACHMENT 2 to Ground Transportation Policy Directive

Summary of the Ground Transportation Access Plan (GTAP) Study

July 6, 2018

Port of Seattle

Overview

- Port goals
- Study objectives & approach
- Current Issues
- Top 10 strategies
- Initiatives Already Underway
- Next steps
- Appendix

Presents study findings and next steps with technical details in Appendix

Port Goals

- Century Agenda
  - Reduce Scope 3 carbon emissions:
    - 50% below 2007 levels by 2030
    - 80% below 2007 levels by 2050
- Reduce travel/processing time
  - Max 45 minutes from clock tower to post security

GTAP strategies designed to achieve Port goals

Study Objectives

- Increase **access to high occupancy modes** such as transit
- Advance transportation modes and programs to **foster social equity** and customer choice
- Consider the **financial/revenue** impacts of potential strategies.

GTAP objectives advance all three aspects of sustainability

Study Approach

- Conduct benchmarking research & stakeholder outreach
  - Identified over 64 transportation strategies
  - Determined industry best practices
- Screen strategies to determine top 10
  - Evaluation criteria: congestion relief, mode shift, customer choice, feasibility, environmental benefit and fiscal impact

Identify top 10 strategies to reduce congestion and advance sustainability goals

Current Issues

- Increasing roadway congestion
- Market disruptions
- Emerging ground transportation modes
- Social equity
- Environmental effects
- Infrastructure limitations

Anticipate increasing congestion as demand increases

Top 10 Strategies from GTAP Study

- **Near-term Port initiatives:**
  - Multiple variations of express bus service
  - Form a Transportation Management Association (TMA)
- **Partner with regional agencies to incentivize mode shift:**
  - Information sharing and promoting transit
  - Public-private partnerships for First/Last Mile Coverage
  - Increase/preserve King County Metro RapidRide and Sound Transit bus service
  - Offer ticket for free transit ride/ride-free area
  - Provide incentives (e.g., coupons) for ride-share and transit use
- **Further analyze:**
  - Revenue structures for autonomous vehicles (AVs)
  - Airport access fees
  - Restructuring employee parking

Each of the 10 strategies needs additional research and/or key partnerships

Top 10 Strategies

Strategy	Description	Affected Stakeholder(s)		
		Air Pax	Work-force	GT Oper.
Multiple Variations of Express Bus Service	• Express service from park and ride lots in primary surrounding city locations; secure parking; 30 minute service (Port, KCM, ST TBD)	✓	✓	
Form a Transportation Management Association (TMA)	• Member-controlled, organizations that provide transportation services in a particular area. • Dedicated staff to manage CTR programs for airport workforce including ride-share matching, guaranteed ride home, transit subsidies		✓	
Information Sharing and Promoting Transit	• Distribute information about transit routes and integrate promotions/marketing during airline ticket purchase and check-in	✓		
Public-Private Partnerships for First/Last Mile Coverage	• Develop partnerships with ride-share companies and regional agencies to provide first and last mile coverage	✓	✓	✓
Increase/preserve King County Metro RapidRide and Sound Transit Express Bus Service	• More frequent service (assuming regional agency sponsorship) • Change pick-up/drop-off location	✓	✓	✓

Top 10 Strategies (con't)

Strategy	Description	Affected Stakeholder(s)		
		Air Pax	Work-force	GT Oper.
Ticket for Free Transit Ride/Ride-Free Area	• Passengers and employees ride free on trips from SEA	✓	✓	
Incentives for Ride Share and Transit Use	• Provide discounts at airport concessionaires or access to airline club lounges for travelers with transit pass, transit receipt, or verification of participation in Ride Share program • Implement a parking "cash-out" program managed by SEA TMA	✓	✓	
Revenue Structures Anticipating Autonomous Vehicles (AVs)	• Estimate impacts and timeline of AV adoption (revenue)			✓
Airport Access Fees	• Consider establishing fee structure for vehicles accessing terminal curbs	✓		
Restructure Employee Parking	• Restructure complimentary garage parking to incent Ride Share and transit • Implement a parking "cash-out" program managed by SEA TMA • ORCA subsidies		✓	

Initiatives Already Underway

- Rematch program for TNCs
- Advance immediate GT recommendations (garage utilization, re-match, entrance)
- Continuous Process Improvement exercise focused on airport roadway congestion
- Widen arrivals approach
- SR 518 Corridor study
- Express Bus studies

Ongoing initiatives will significantly reduce congestion and some will reduce carbon

Next Steps

Top 10 Strategies	Planning timeframe	Implementation timeframe
Multiple Variations of Express Bus Service	2018 –2019	1-3 yrs
Transportation Management Association (TMA)	2019	1-3 yrs
Information/Promotion of Transit	2018 –2019	1-3 yrs
Public-Private Partnerships for First/Last Mile Coverage	2019	1-3 yrs
Increase / preserve KCM RapidRide and ST Exp. Bus Service	2018 –2019	3-5 yrs
Ticket for Free Transit Ride/Ride-Free Area	2019	1-3 yrs
Incentives for Ride Share / Transit Loyalty Program	2019	1-3 yrs
Revenue Structures Anticipating Autonomous Vehicles	2020 – 2021	5-10 yrs
Airport Access Fees	2019 –2021	TBD
Restructure Employee Parking	2019 – 2020	1-3 yrs

Most of the top 10 strategies can be implemented in 1 to 3 years

Thank You

Port of Seattle®

Appendix

Benchmarked Airports

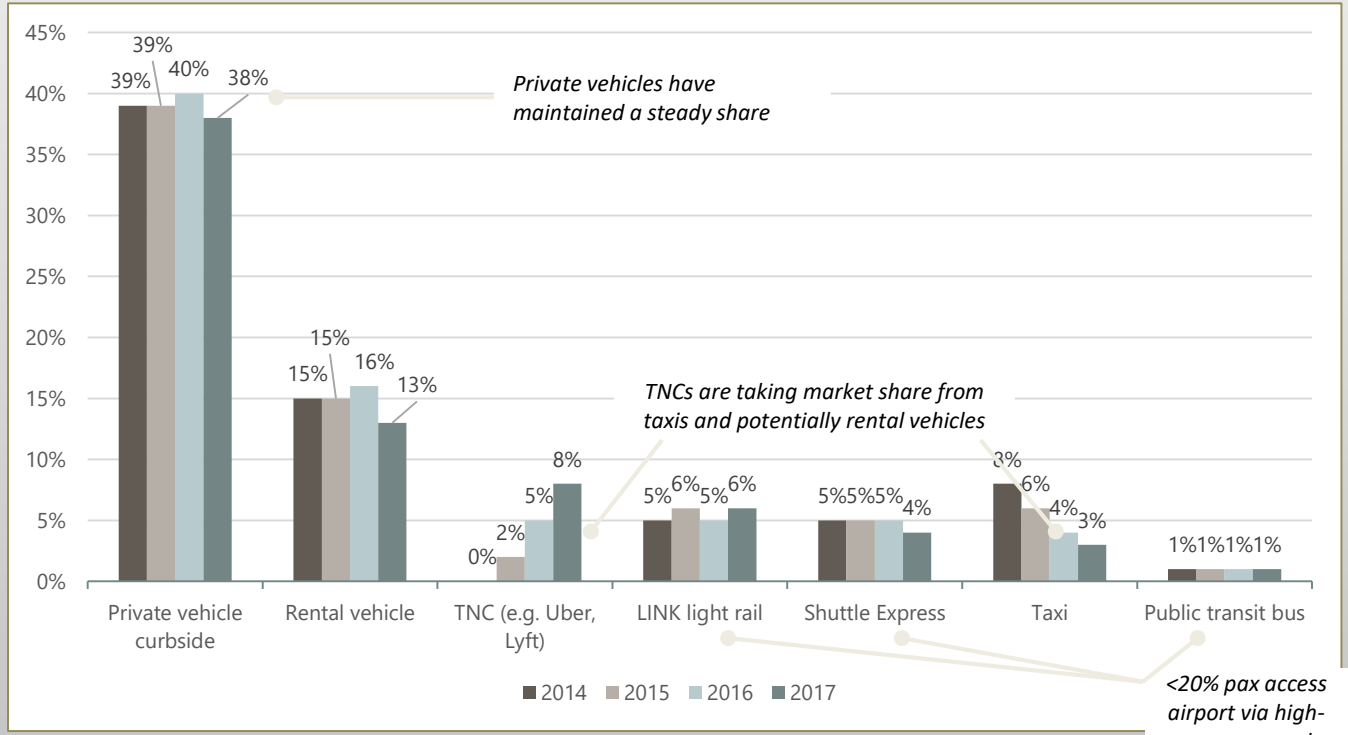
US AIRPORTS
San Francisco
Los Angeles
Boston Logan
Minn.–Saint Paul
Denver
Miami
NON-US AIRPORTS
London Gatwick
Dublin
Copenhagen
London Heathrow

Comparing Among Similar Airports

Transportation Mode	SEA (2017)	SFO (2017)	BOS (2016)
Private vehicle	46%[1]	26%	34%
Rental vehicles and off-airport parking	23%	21%	11%
TNC	8%	30%	14%
Taxi	3%	5%[2]	10%
Limousine or town car	2%		
Non-HOV Modes	**82%**	**82%**	**69%**
Shuttles/vans or other commercial buses	11%	13%	17%
Public transit/express bus/parking and ride (SFO)	7%	5%	14% [2]
HOV Modes	**18%**	**18%**	**31%**

1. Includes private vehicles parking, dropping off or passing through parking garage.
2. Includes limousines and town cars.

SEA Trends in Mode Share



SOURCE: Port of Seattle Business Intelligence, Enplaning Passenger Survey (2014-2017).

64 Candidate Strategies Evaluated for "People ● Profit ● Planet"

1. **Reduce Traffic Congestion**
   Reduces traffic volumes, improves passenger throughput, and/or improves efficiency along the Airport drive and curbside.
2. **Support Customer Choice**
   Increases access to ground transportation modes to/from the Airport.
3. **Influence Mode Share**
   Reduces percent of travelers using single occupancy vehicles.
4. **Fiscal Impact to Sea-Tac**
   Potential revenue source or offset to capital investment versus the annual operating costs.
5. **Reduce Environmental Impacts**
   Reduces greenhouse gases, vehicle miles traveled (VMT), and promotes mass transit.
6. **Feasibility**

   Potential to implement/whether the strategy been successfully implemented in other locations, and general comparative assessment of potential for positive ROI.

Top 10 Analyzed for Equity and Impacts

1. Qualitatively scores strategies for equity principles
2. Quantifies environmental benefits, capital costs, operating costs, and revenue impacts

Defining Equity Principles

- **Environmental:** Minimizes *disproportionate environmental impacts* on stakeholders
- **Economic:** Creates *small business growth and workforce development* in and around the airport while minimizing financial burden of accessing transportation options
- **Regional access and operations:** Provides *more modes of transportation* to the airport
- **Social:** Eliminate barriers to *equal opportunity for historically underserved groups*

Top 10 Strategies - Equity Trade-offs

STRATEGY	ECONOMIC	ENVIRONMENT	REGIONAL ACCESS & OPERATIONS	SOCIAL
Multiple Variations of Express Bus Service	✓	✓	✓	○
Tolling Curbside	X	✓	✓	○
Information / Promotion of Transit	✓	✓	✓	NA
Transportation Management Association (TMA)	○	○	✓	○
Restructure Employee Parking	NA	○	○	X

Several strategies support three of the equity principles but none meet all four

Top 10 Strategies - Equity trade-offs (*cont'd*)

STRATEGY	ECONOMIC	ENVIRONMENT	REGIONAL ACCESS & OPERATIONS	SOCIAL
Revenue Structures Anticipating Autonomous Vehicles	○	○	○	○
Public-Private Partnerships for First/Last Mile Coverage	✓	✓	✓	○
Increase / preserve KCM RapidRide and ST Express Bus Service	✓	✓	✓	○
Ticket for Free Transit Ride / Ride-Free Area	✓	✓	✓	○
Incentives for Ride Share/Transit Loyalty Program	✓	NA	NA	NA

Several strategies support three equity principles but none meet all four

Trips per Mode

Fewest Vehicle Trips Per Air Passenger

Transit, Scheduled & Courtesy Buses, Shared-Ride Van, Airporters

HOV: Transit & Shared-Ride

Long-Term Parking

Parked Vehicles

Taxi, TNC, Limos

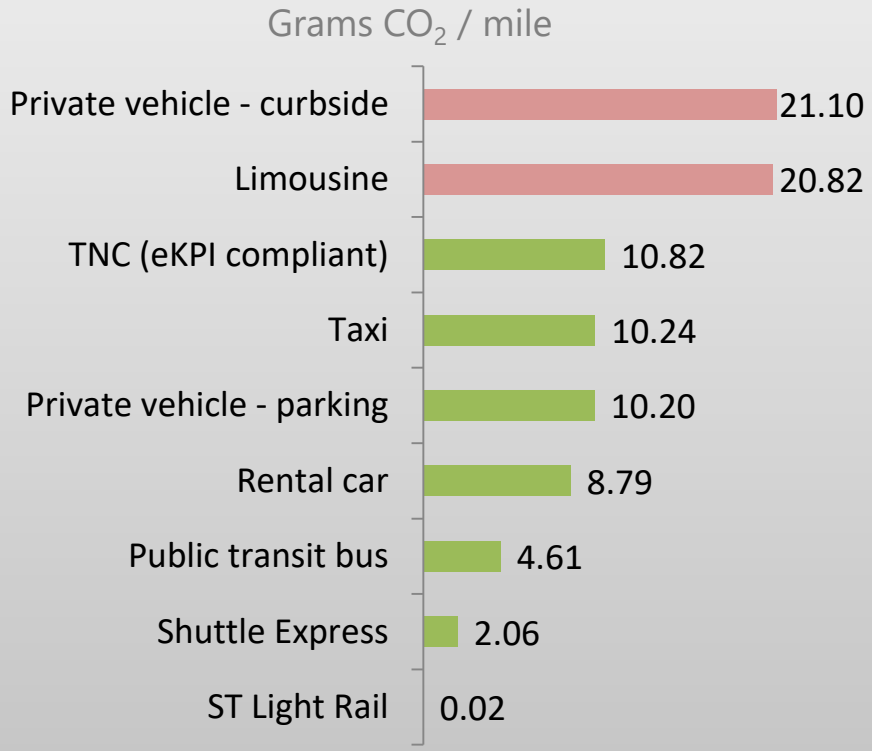
Drop-Off Pick-Up

Curbside Vehicles

Up to 4 Vehicle Trips Per Air Passenger

Quantitative Analysis – Measurable Impacts

- Capital & operating costs
  - Estimated order of magnitude
- Vehicle miles traveled
  - Result of mode shift incurred
- Greenhouse gas emissions
  - Result of change in VMT



Strategies quantified to understand potential benefits and drawbacks

Quantitative Analysis of Top 10 Strategies

STRATEGY	Estimated Capital Cost	Estimated Operating Cost	Estimated Greenhouse Gases Reduced	Anticipated Revenue Impacts
Multiple Variations of Express Bus Service	○	X	X	○
Tolling Curbside	✓	✓	✓	✓
Information / Promotion of Transit	✓	✓	X	X
Transportation Management Association (TMA)	✓	✓	X	○
Restructure Employee Parking	✓	✓	X	✓

Key

Score	Capital / Operating Cost	GHG Reduction – tonnes/yr	Revenue Impact (Million $ Annually)
✓	$0 to $2m	≥ 10,000	Source (+)
○	$2 to $10m	5,000 < 10,000	<$1m Loss (-)
X	>$10	<5,000	>$1m Loss (-)

Most strategies perform well in two or more criteria but measurable impact requires combination of strategies

Quantitative Analysis of Top 10 Strategies, *cont'd*

STRATEGY	Estimated Capital Cost	Estimated Operating Cost	Estimated Greenhouse Gases Reduced	Anticipated Revenue Impacts
Revenue Structures Anticipating Autonomous Vehicles	✓	✓	○	✓
Public-Private Partnerships for First/Last Mile Coverage	✓	✓	X	X
Increase / preserve KCM RapidRide and ST Express Bus Service	○	○	X	○
Ticket for Free Transit Ride / Ride-Free Area	✓	✓	○	X
Incentives for Ride Share/Transit Loyalty Program	✓	✓	○	X

Key

Score	Capital / Operating Cost	GHG Reduction – tonnes/yr	Revenue Impact (Million $ Annually)
✓	$0 to $2m	≥ 10,000	Source (+)
○	$2 to $10m	5,000 < 10,000	<$1m Loss (-)
X	>$10	<5,000	>$1m Loss (-)

Most strategies perform well in two or more criteria but measurable impact requires combination of strategies

Top 10 Strategies Cumulative Benefits

- Potential cumulative benefit
  - Reduce 100 million vehicle miles traveled (VMT) per year
  - Reduce 42,000 tons carbon emissions per year
  - Remove over 2 million single occupancy vehicles from the road

Strategies have potential to provide significant cumulative benefit

Transportation Management Association

Description: Form a Sea-Tac Airport Transportation Management Association (TMA) with dedicated staff focused on Commute Trip Reduction and Transportation Demand Management strategies, such as ridesharing/matching, preferential parking for van and carpools, guaranteed ride home/emergency ride home program, and transit subsidy. Hold a quarterly TMA open-house for employees to attend and gain information on available commuting options.

Primary Benefits

- Provides employees with improved level of service and reliability for their commute.
- Encourages carpooling and ride sharing to access the Airport, reducing congestion from single-occupancy vehicle trips.
- Supports workforce job satisfaction.
- Mitigates environmental issues, especially greenhouse gas emissions, because of decreased single-occupancy vehicle trips.
- Expands the state-required program for having a Commute Trip Reduction Coordinator.
- There are very low (or no) capital costs.

Primary Drawbacks

- Limited potential for results (e.g. limited ability to reduce traffic congestion and air pollution).

ATTACHMENT 3 to the Ground Transportation Policy Directive

Ground Transportation at Sea-Tac Airport

September 25, 2018

Port of Seattle®

Briefing Outline

- Ground Transportation Framework
- Ground Transportation Initiatives currently underway
- Ground Transportation Access Plan (GTAP)
  - Objectives and approach
  - Context
  - Results
- Next Steps and Timeline

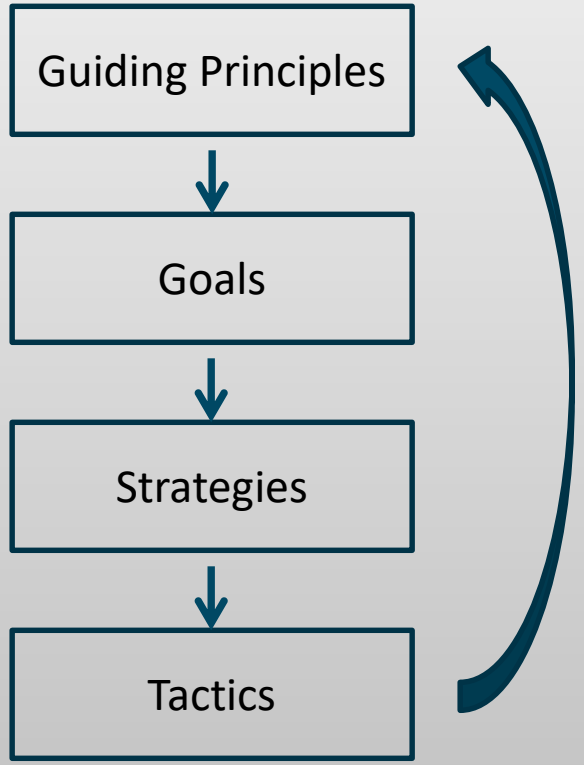
Port is implementing a range of ground transportation improvements and initiatives

Current Challenges

- Increasing roadway congestion
- Market disruptions
- Emerging ground transportation modes
- Social equity
- Environmental effects
- Infrastructure limitations

Anticipate increasing roadway congestion as demand increases

Framework



- Framework provides clear guidance about how to evaluate strategies and tactics
- Illustrates extent to which an approach achieves desired outcomes
- Applies to facilities, operations and regional strategies

Guiding Principles

- Consider overall environmental effects and reduce impacts where possible
- Improve customer experience by reducing roadway congestion
- Support customer choice for a range of transportation options to and from the airport
- Support living wage jobs and equal business opportunities
- Generate revenue to support region's needs for a sustainable airport, including leveraging existing infrastructure

Principles applied to GTAP strategies and consistent with study sessions

Goals

- Reduce 2007 scope 3 GHG emissions* 50% by 2030 (to 79k)
  - *2017 Scope 3 GHG emissions*: 190,000 tonnes/year*
- Max 15 minute travel time – clock tower to curb or parking
  - *Port data will be leveraged to track travel time*
- Reduce private vehicle pickup/drop off to 30%
  - *Current mode share: 41%*
- Achieve social equity goals (support living wages and equal business opportunities)
- Ensure a first-class ground transportation operation for customers through financial sustainability

*From passenger vehicles

Ground Transportation Framework

Guiding Principles

- Reduce environmental impact
- Reduce roadway congestion
- Support customer choice
- Social equity
- Generate revenue for sustainable airport

Goals

- 50% scope 3 reduction
- 15 minutes tower to curb
- 30% private vehicle pick-up/drop-off
- Social Equity
- Financial sustainability

Strategies and Tactics

SAMP →	e.g. roadway relocation, Widen Arrivals Approach
GTAP →	e.g. first/last mile, access fees, express bus
Operational →	e.g. rematch, TNCs on Arrivals, garage utilization
Contracts Taxi, TNC, other GT →	e.g. e-KPIs, driver income, guaranteed min. wait time

Port policies provide guidance in all categories

Initiatives to Leverage Existing Infrastructure

- Continuous Process Improvement exercise focused on airport roadway congestion – shifted TNCs to Arrivals Drive in a.m. peak
- Evaluate immediate GT recommendations (e.g. garage utilization, alternate GT entrance)
- Express Bus/Eastside Baggage study
- Rematch program for TNCs
- Widen Arrivals Approach project
- SR 518 Corridor study
- Taxi RFP draft

Ongoing initiatives will significantly reduce congestion and some will reduce carbon

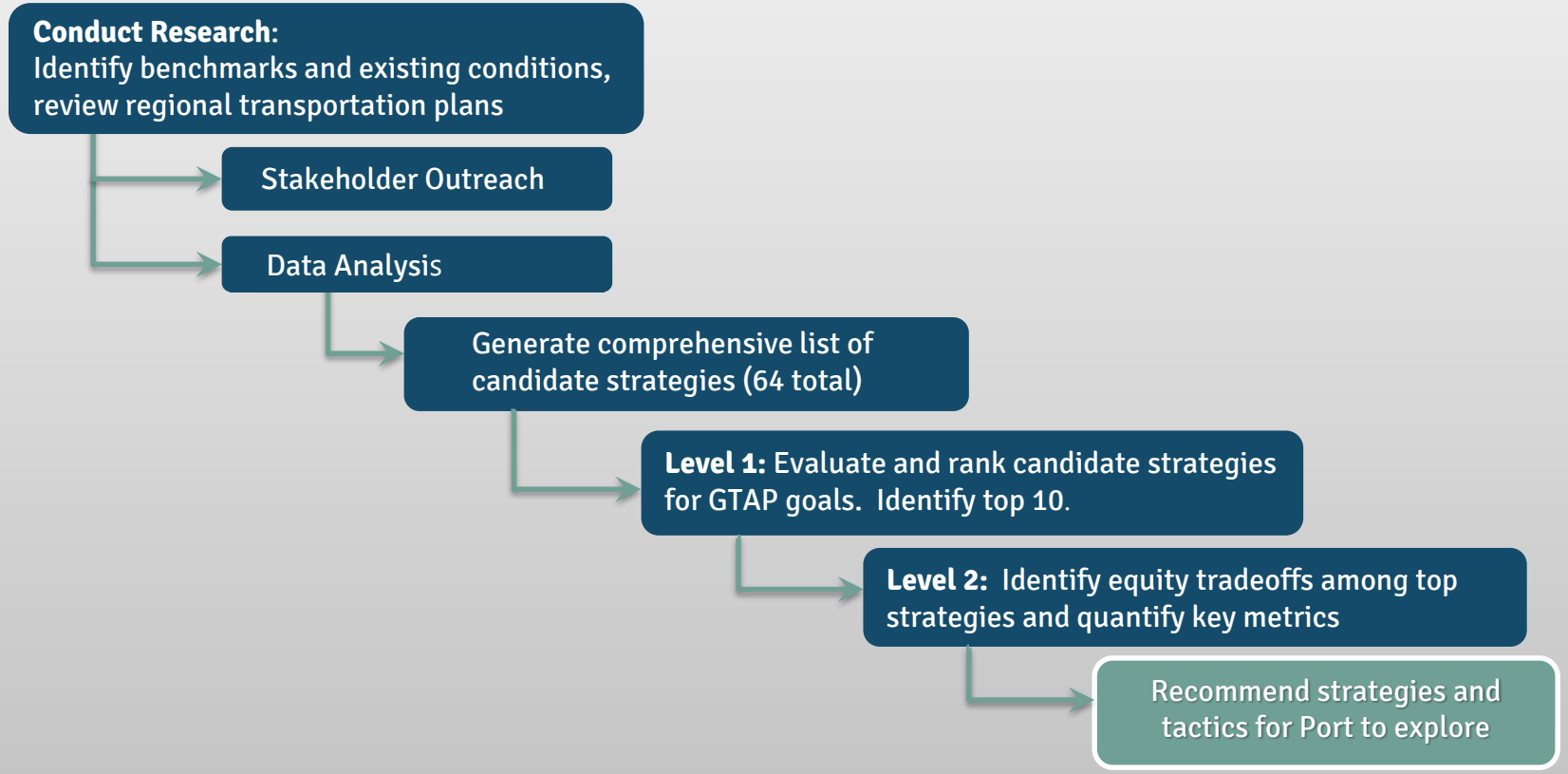
Ground Transportation Access Plan (GTAP)

Study Objectives

- Increase **access to high occupancy modes** such as transit
- Advance transportation modes and programs to **foster social equity** and customer choice
- Consider the **financial/revenue** impacts of potential strategies.

GTAP objectives advance all three aspects of sustainability

Study Approach



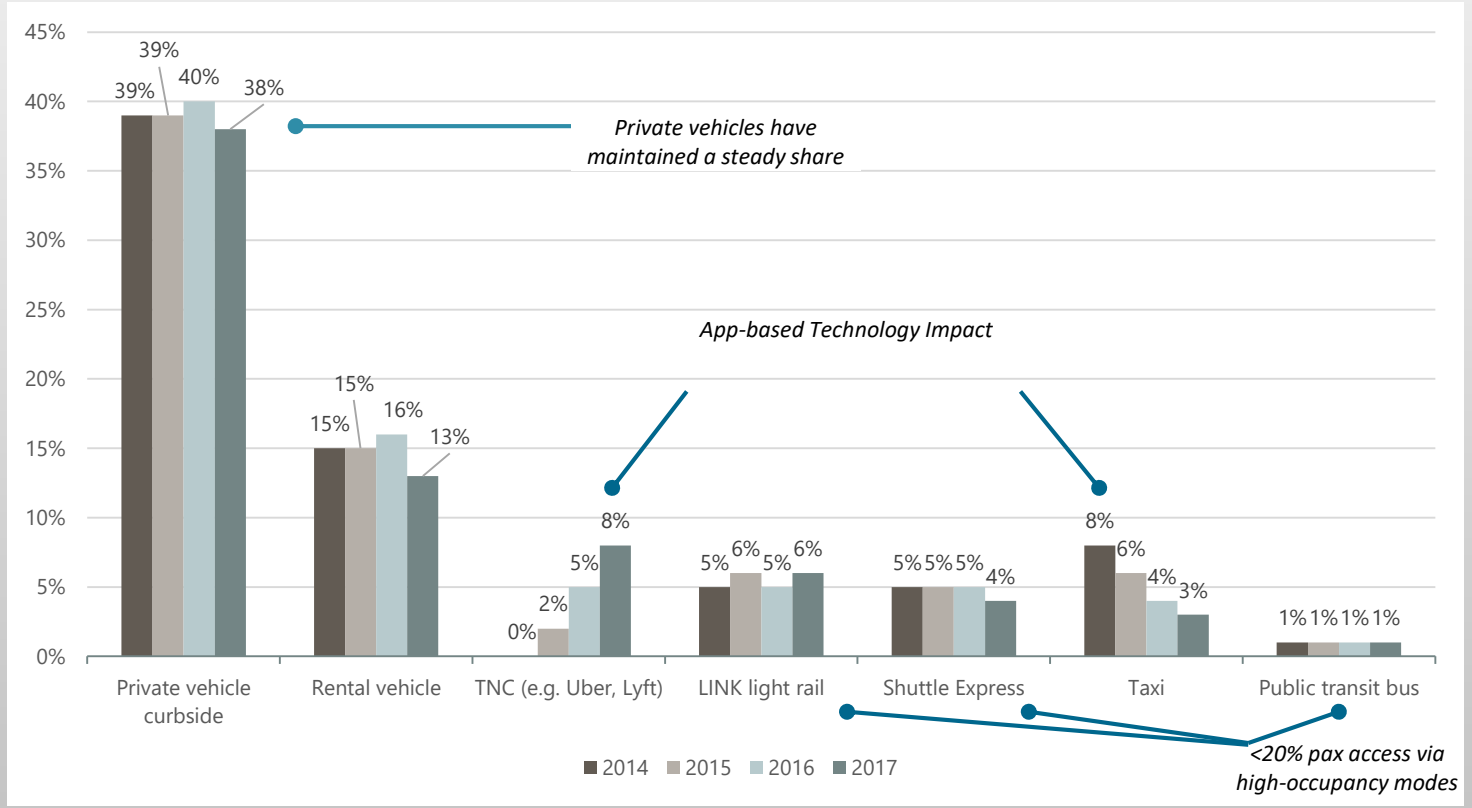
GTAP used systematic approach with robust outreach

Confirming Principles

Ground Transportation Access Plan (GTAP)	Commission Study Session (July 10th)
Improve regional access and operations	NA
Reduce environmental impacts	Environmental
Increase revenue	Affordability/increase revenue
Support customer choice	Increase customer service
Reduce traffic congestion	Reduce congestion
Social: reduce barriers to opportunity for historically underserved communities	Equity: protecting surrounding communities.
Provides economic opportunity	Economic opportunity for providers and contracted organizations

Strong correlation between GTAP study screening of strategies and Commission feedback

SEA Trends in Mode Share



SOURCE: Port of Seattle Business Intelligence, Enplaning Passenger Survey (2014-2017). Does not reflect total mode share.

Current Mode Split

Travel Mode	% of Passengers
Private vehicle drop/pickup	**41%**
Airport Garage/off-airport parking	15%
TNC	9%
LINK Light Rail	6%
Taxi	3%
Public transit bus	1%
Other (charter, airporter, shuttle, rental cars)	25%

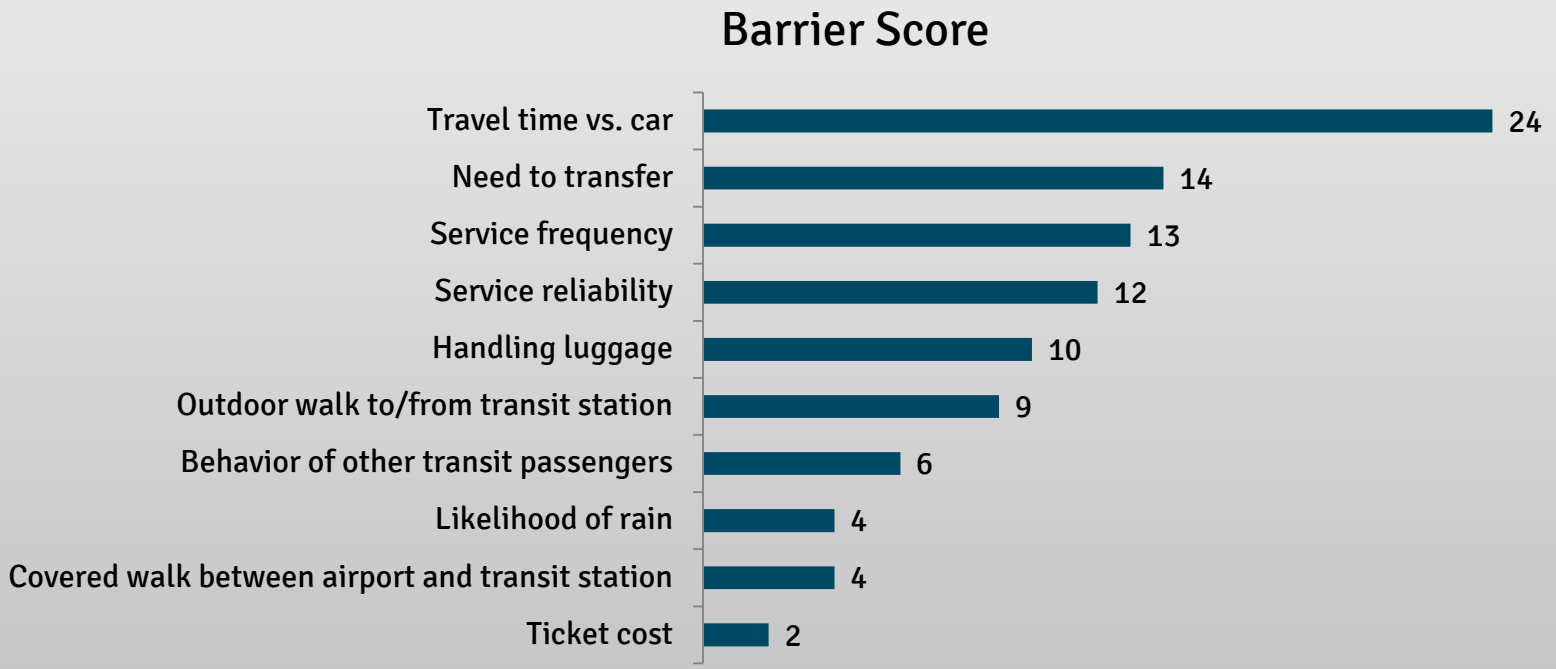
Private vehicle drop off/pick-up is highest mode with public transit bus least-used mode

Consider Typical Airport Passenger…

- Extremely time-sensitive
- Relatively high income
  - 48% earn > 100K/yr
- Travels alone (55%)
- Flies thru SEA
  - 54% once or twice/year
- Trip origin
  - 70% SEA origin/destination

Passenger travel motivations are different from average road/rail commuter

Barriers to using Link Light Rail to and from the Airport



Top 10 GTAP Strategies and Tactics

- **Near-term Port initiatives:**
  - Express Bus/Eastside Baggage Service (feasibility study)
  - Form an airport-wide Transportation Management Association (TMA)
- **Partner with regional agencies to incentivize mode shift**:
  - Information sharing and promoting transit
  - Public-private partnerships for First/Last Mile Coverage
  - Increase/preserve King County Metro RapidRide and Sound Transit bus service
  - Offer ticket for free transit ride/ride-free area
  - Provide incentives (e.g., coupons) for ride-share and transit use
- **Further analyze:**
  - Revenue structures for autonomous vehicles (AVs)
  - Airport access fees
  - Restructuring Port employee parking

Each of the 10 strategies needs additional research and/or key partnerships

Next Steps

- **September 25, 2018:** Commission briefing on ground transportation framework and GTAP study
- **October 23, 2018:** Commission discussion/possible action on GT framework and briefing on taxi service options
- **November 13, 2018:** Commission discussion/possible action on taxi RFP
- **December 11, 2018:** Commission request for design authorization for Widen Arrivals Approach project
- **January 30, 2019:** Taxi RFP released
- **June 30, 2019:** Sign new taxi contract and 90 day transition for 10/1 start
- **September 30, 2019:** ESFH contract expires, contains holdover provisions and two (2) optional one-year extensions

Coordinated schedule to move forward with multiple initiatives