

# Summary of the Ground Transportation Access Plan (GTAP) Study

July 6, 2018

# 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

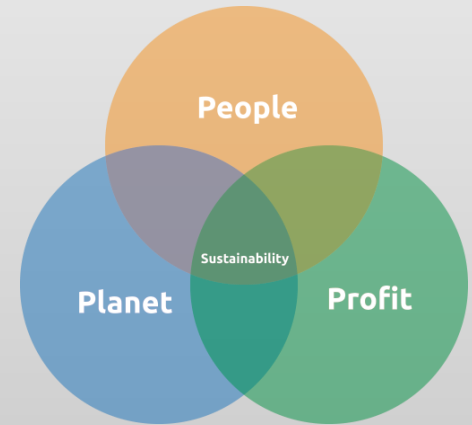
- Century Agenda
  - Reduce Scope 3 carbon emissions:
    - 50% below 2007 levels by 2030
    - 80% below 2007 levels by 2050
- Reduce travel/processing time
  - Max 45 minutes from clock tower to post security



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	<ul style="list-style-type: none"> <li>Express service from park and ride lots in primary surrounding city locations; secure parking; 30 minute service (Port, KCM, ST TBD)</li> </ul>	✓	✓	
Form a Transportation Management Association (TMA)	<ul style="list-style-type: none"> <li>Member-controlled, organizations that provide transportation services in a particular area.</li> <li>Dedicated staff to manage CTR programs for airport workforce including ride-share matching, guaranteed ride home, transit subsidies</li> </ul>		✓	
Information Sharing and Promoting Transit	<ul style="list-style-type: none"> <li>Distribute information about transit routes and integrate promotions/marketing during airline ticket purchase and check-in</li> </ul>	✓		
Public-Private Partnerships for First/Last Mile Coverage	<ul style="list-style-type: none"> <li>Develop partnerships with ride-share companies and regional agencies to provide first and last mile coverage</li> </ul>	✓	✓	✓
Increase/preserve King County Metro RapidRide and Sound Transit Express Bus Service	<ul style="list-style-type: none"> <li>More frequent service (assuming regional agency sponsorship)</li> <li>Change pick-up/drop-off location</li> </ul>	✓	✓	✓



# Top 10 Strategies (con't)

Strategy	Description	Affected Stakeholder(s)		
		Air Pax	Work-force	GT Oper.
Ticket for Free Transit Ride/Ride-Free Area	<ul style="list-style-type: none"> <li>Passengers and employees ride free on trips from SEA</li> </ul>	✓	✓	
Incentives for Ride Share and Transit Use	<ul style="list-style-type: none"> <li>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</li> <li>Implement a parking “cash-out” program managed by SEA TMA</li> </ul>	✓	✓	
Revenue Structures Anticipating Autonomous Vehicles (AVs)	<ul style="list-style-type: none"> <li>Estimate impacts and timeline of AV adoption (revenue)</li> </ul>			✓
Airport Access Fees	<ul style="list-style-type: none"> <li>Consider establishing fee structure for vehicles accessing terminal curbs</li> </ul>	✓		
Restructure Employee Parking	<ul style="list-style-type: none"> <li>Restructure complimentary garage parking to incent Ride Share and transit</li> <li>Implement a parking “cash-out” program managed by SEA TMA</li> <li>ORCA subsidies</li> </ul>		✓	

# 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

# 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



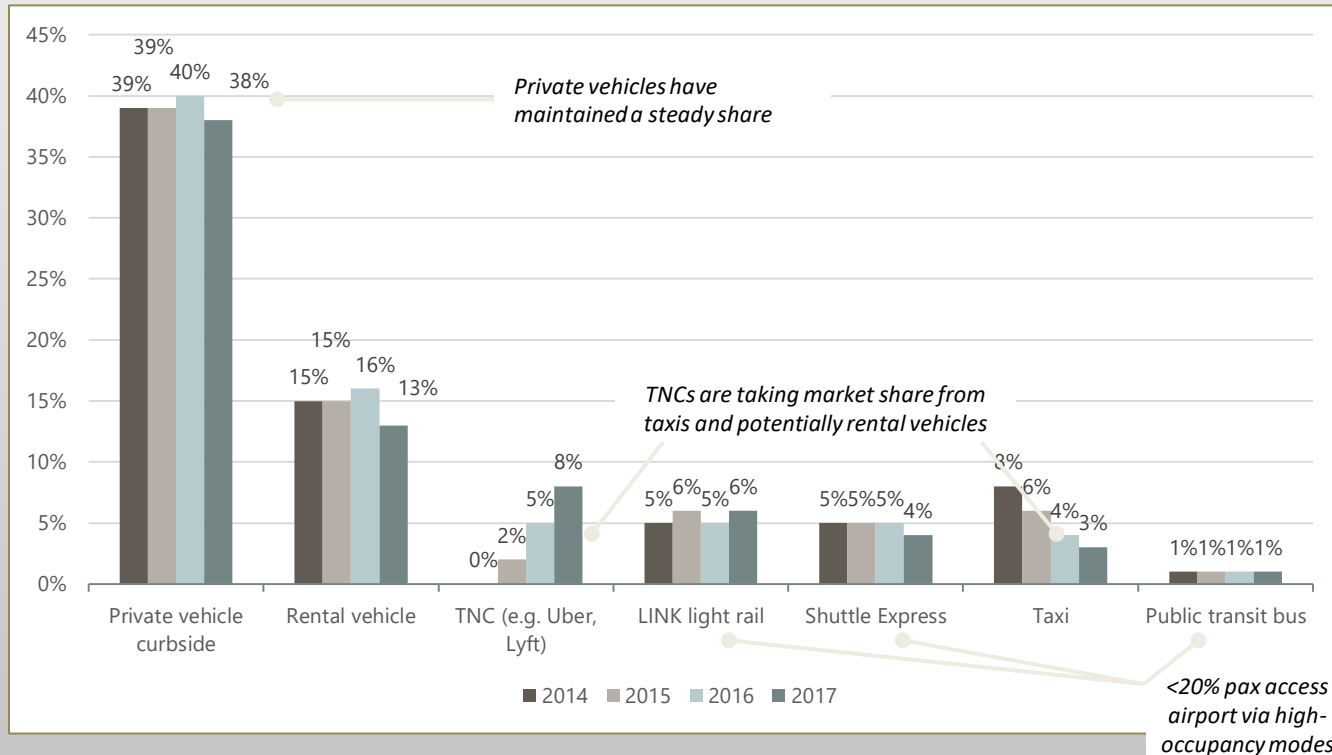
# Comparing Among Similar Airports

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

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

Curbside Vehicles

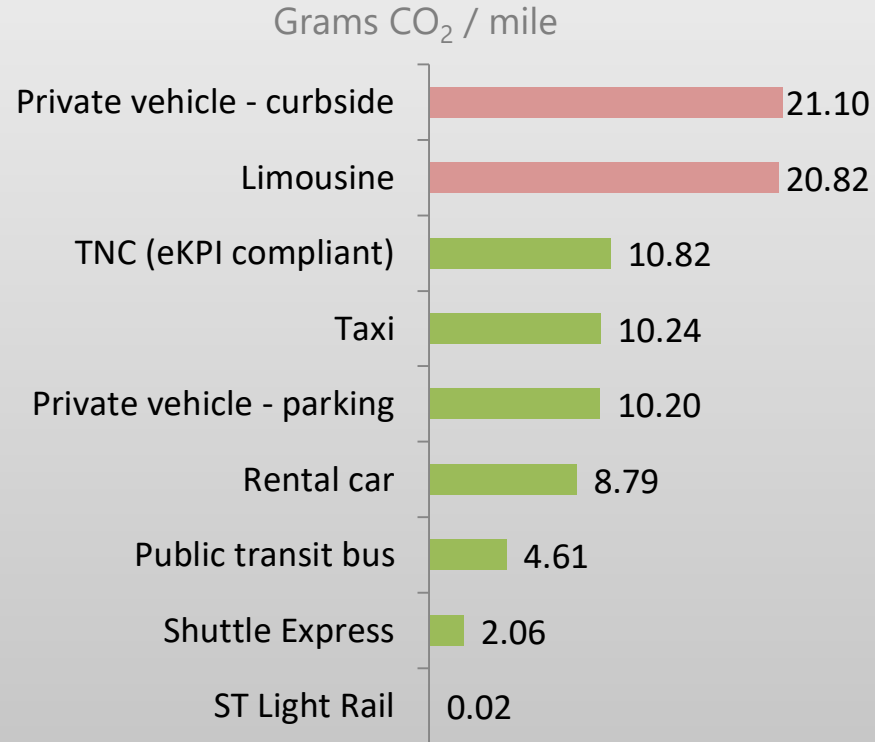


Drop-Off Pick-Up

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 (+)
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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).

**DO YOU WORK AT LOGAN?  
ATTEND THE  
EMPLOYEE TRANSPORTATION  
OPEN HOUSE**

**LEARN ABOUT YOUR COMMUTING OPTIONS**

**ENTER THE RAFFLE!**  
Prizes include:  
• iTunes gift cards  
• Sunrise Shuttle Tickets  
• Headphones

Refreshments will be provided  
A Spanish translator will be present  
Un traductor del inglés al español estará presente para ayudar a los empleados

Employees are encouraged to attend to learn about public transportation and alternative choices for commuting to Logan

Wednesday  
**SEPTEMBER 13<sup>th</sup>, 2017**  
11:00 AM - 4:00 PM

**MASSPORT LOGAN BRIEFING ROOM**  
located off of the hallway between Terminal B and Terminal C

The following transportation providers will be available to answer your questions:

- METRA
- Massport  
Urban Express & Sunrise Shuttle
- MassRIDES  
Ridesharing Information
- Varda  
Vanpool Information
- Boston Express Bus
- C & D Bus Lines
- Concord Coach Lines
- Dartmouth Coach
- DATCO
- Peter Pan Bus
- Plymouth & Brockton Bus Company

See additional providers and times at [www.massport.com/commuter](http://www.massport.com/commuter)

**Massport**