



# City of Seattle and King County Taxi, For Hire Vehicle and Limousine Services Demand Study

Presentation  
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Dr. James M. Cooper  
Dr. Ray Mundy

# Summary of Purpose

**Better understand the demand for Taxis and Taxi-like services (including limousines, for-hire vehicles and 'rideshare' services) to help support policy formulation with information about market structure, patterns of use, and service quality.**

Presentation outline:

- Background on market structure and current market dynamics,
- Review of data sources,
- Analysis of markets demand – City of Seattle and King County (excl. SeaTac),
- Analysis of service quality.

# Seattle and King County Industry Structure

## A TAXI

Is a vehicle for hire with a METER



Yellow Cab, Orange Cab, Far West Taxi, STITA, North End Taxi and Green Cab are all taxi companies

## A FOR HIRE VEHICLE

Is a vehicle that DOES NOT use a meter and charges flat rates



Eastside for Hire, Flat Rate for Hire, CNG for Hire are examples of For Hire companies

A LIMOUSINE or TOWN CAR is a luxury vehicle that does NOT use a meter



Uber is an example of Town Car app

## LYFT, SIDECAR, UberX

Book passenger vehicles without a meter by smartphone app



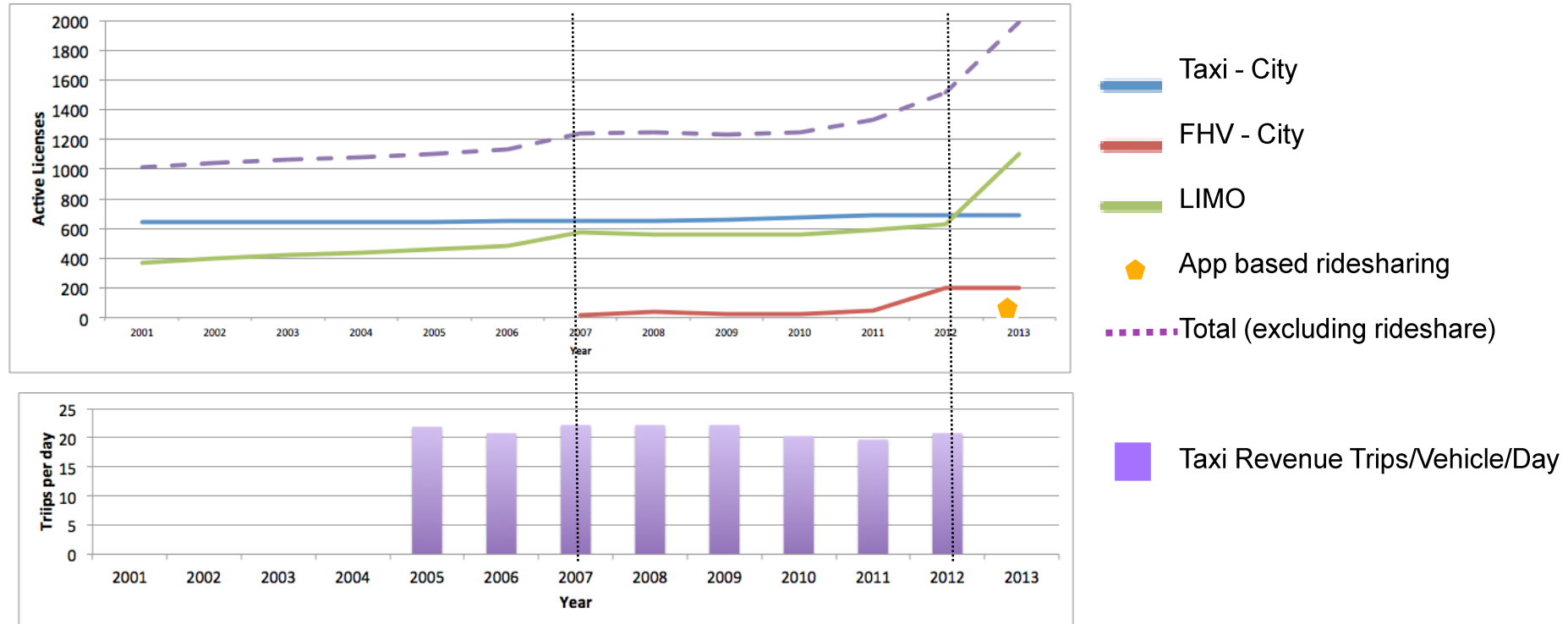
Lyft, Sidecar and UberX are examples of ridesharing

- There appears to be significant confusion in the market between Taxis and For-Hire-Vehicles (FHVs) arising from their similar appearance. This may have led to some understatement of FHV use in survey responses

# Key Statistics on the Market

	<i>Numbers of vehicles</i>	<i>Permitted to accept:</i>	<i>Quantity Controls</i>	<i>Safety Controls</i>	<i>Economic Controls</i>
<b>TAXIS</b>	City only: 336 Dual Licensed: 352 County only: 240	Dispatched / pre-arranged, Hailed, Cabstand	Yes, License Caps set by city and county	Yes, Vehicle inspection	Yes, defined meter rate
<b>FHV</b>	City only: 1 Dual Licensed: 198 County only: 170	Dispatched / pre-arranged (Dual licensed and county vehicles can be hailed outside city)	Yes, License Cap (city)	Yes, Vehicle Inspection	Flat Fare
<b>LIMO</b>	1102	Pre-arranged	No	Yes, Vehicle inspection	Pre-set fare
<b>RIDESHARE</b>	Operate outside regulatory structure				

# Trends in Market Supply in City of Seattle



*Limo figures relate to Limos licensed by Washington State operating in King County, including Seattle*

## Trends in Market Supply in City of Seattle

- Market is very dynamic – evolving rapidly over the last 12 to 18 months
- Taxi supply increased slightly with the addition of Wheelchair Accessible cabs in 2010
- FHV licenses roughly doubled between 2010 and 2012
- Dramatic increase in limousines seen over last 12 - 18 months: ~600 (2011)  
~1,100(current)
- But through 2012 at least, total number of taxi trips per vehicle had remained relatively consistent (around 20 trips / day / vehicle in Seattle)
- Very new, and rapidly growing rideshare market

# Data and Methodology

## Quantitative data

- Public Survey by Tablet and online questionnaires, based on last trip
- Reported Operational data from odometer and vehicle inspection - city collected data
- Reported Dispatch data from larger company records

## Qualitative data

- Perception of market, public surveys
- Perception of service levels, Institutional surveys
- Stakeholder Interviews
- Secret Shopper

# Survey Overview

## Surveys undertaken:

- Public Survey

Tablet and online survey of Quantitative use and Qualitative views of services

- Institutional survey

Invited online survey of Hotels, Restaurants and Medical Centers with a role in booking taxi transport for client. Quantifiable service levels and qualitative views of services

- Stakeholder survey

Individual interviews and focus groups of taxi industry, taxi user and specialist facility providers

- Secret Shopper survey

Covert in-vehicle observations, cross section of vehicle type and location.



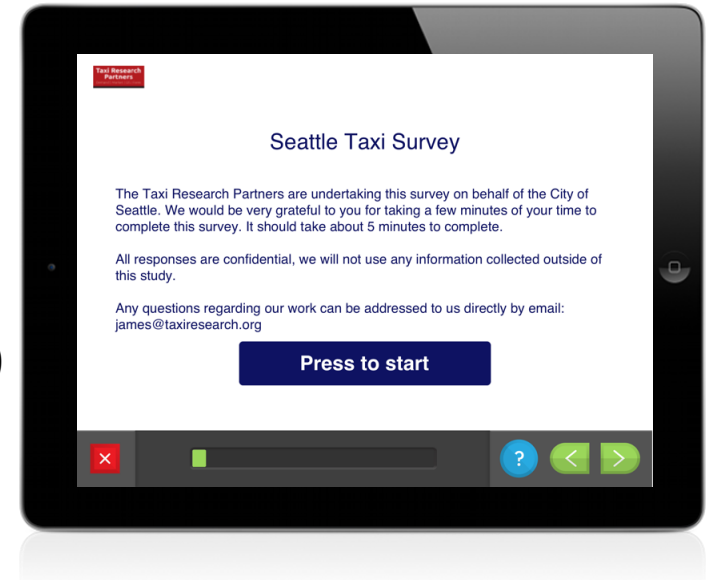
# Public Survey

## Methodology

Tablet based Intercept survey  
Online self completion survey

## Sample selection:

Spatial collection across city and county (Tablet)  
Responses weighted to population  
demographics (Census 2010)



Respondent home address	Sample Size
City of Seattle	1396 Responses
King County	281 Responses
Visitors	153 Responses

# Institutional Surveys

Methodology:

Invited online self completion survey

Sample selection:

Institutions selected on basis of active role in booking taxis on behalf of customers / clients. Initial contacts made via trade and professional associations.

Respondent type	Sample Size	Examples of institutions surveys and locations
<b>Medical Centers / Medical transportation providers</b>	22 Responses	Harborview, UW, Virginia Mason, Overlake, Children's, Seattle Cancer Care Alliance, Hopelink, etc.
<b>Hotels</b>	20 Responses	Downtown, South Lake Union, SeaTac, University, First Hill, Kirkland, Issaquah, etc.
<b>Restaurants / Bars / Nightclubs</b>	48 Responses	Downtown, Belltown, Queen Anne, Ballard, Columbia City, Bellevue, etc.

# Secret Shopper Surveys

## Methodology

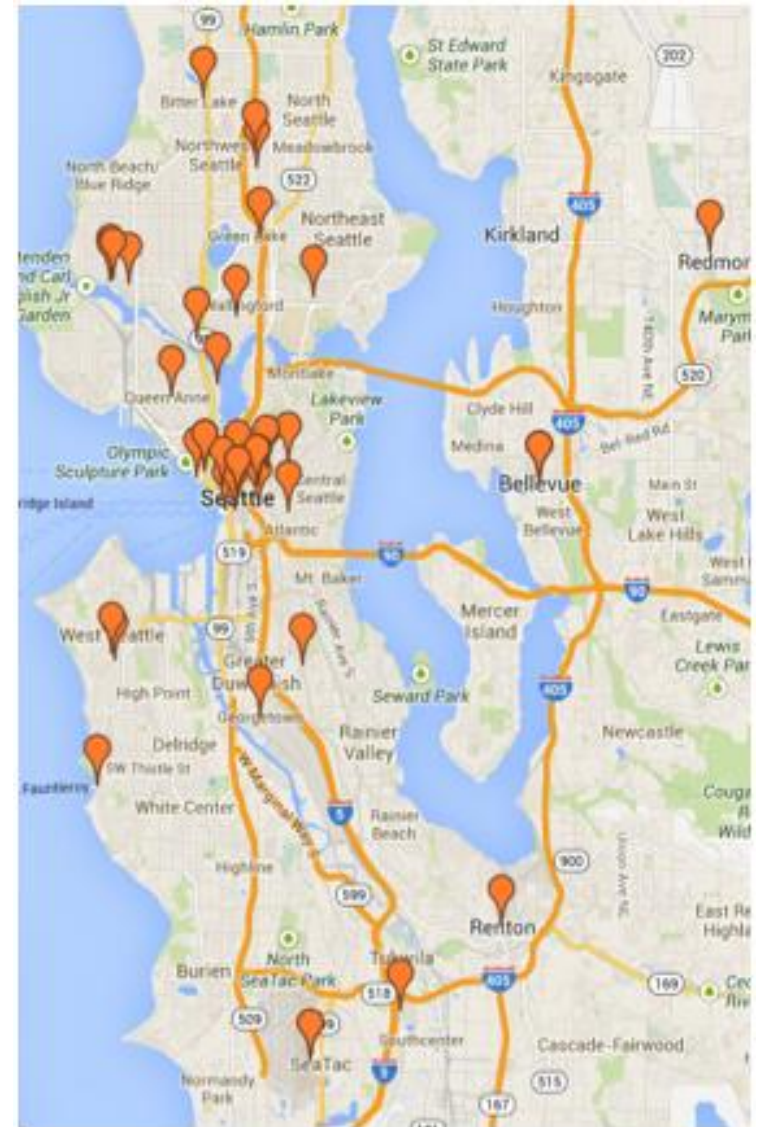
Secret shoppers taking covert trips to identify service levels and standards

## Responses

55 Trips made

## Sample selection:

Cross section of trips by modes, locations and times of day to cover all areas of city and county trips.



# Stakeholders Interviews

## Approach:

In person structured interviews and focus group meetings

## Sample:

Cross section of trade, primary engagement locations, such as SeaTac airport, and interest groups including elderly, health care and commerce associations

## Responses

13 separate meetings with individual stakeholders and small groups of interested parties

Respondent type	Examples of institutions surveys
<b>Taxi Industry</b>	Companies: Yellowcab, Farwest, Orange, STITA Operators, Drivers focus groups, For-Hire Industry representatives
<b>Specialist Interests</b>	Metro Access, Ageing / Disability
<b>Commerce and Visitor</b>	Seattle First, SEATAC, Seattle Hotel Association

# Analysis: Market Demand

## Estimating the Demand for Taxi and Taxi-like services

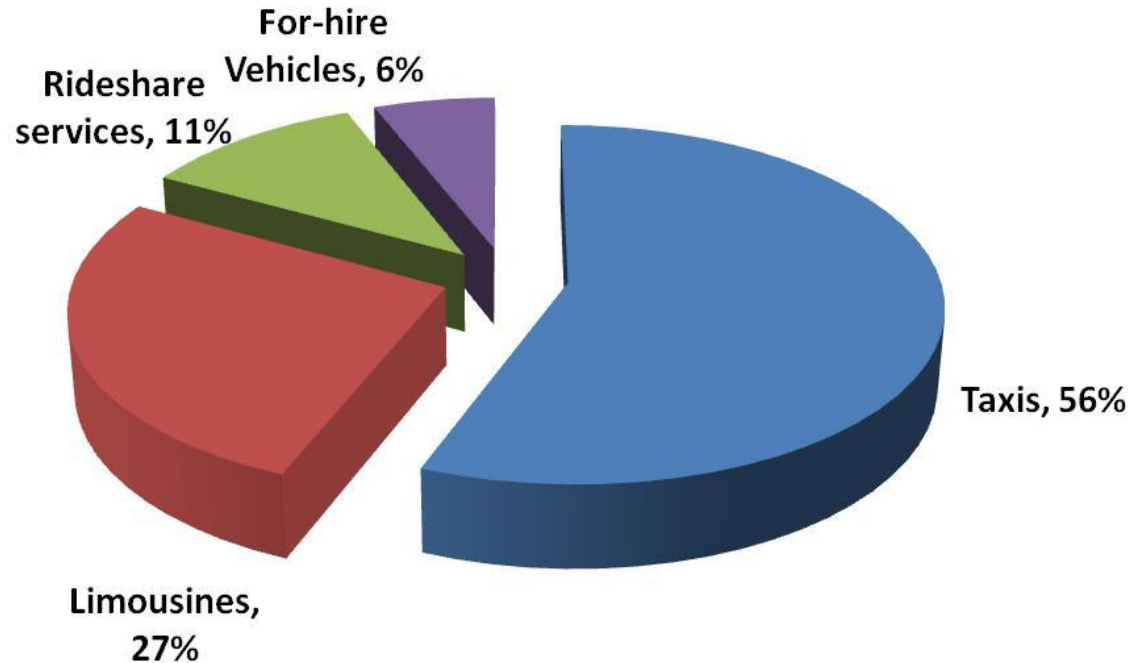
Taxi trips and trips by taxi-like vehicles calculated using:

- Reported vehicle operational data from odometer miles / taximeter fare, using data collected by City as part of current regulatory requirements
- Dispatch Records from larger taxi companies  
Responses not available from all companies
- Reported mode choice from public surveys

Operational data requested but not provided by FHV or Limo operating companies

# Market Overview

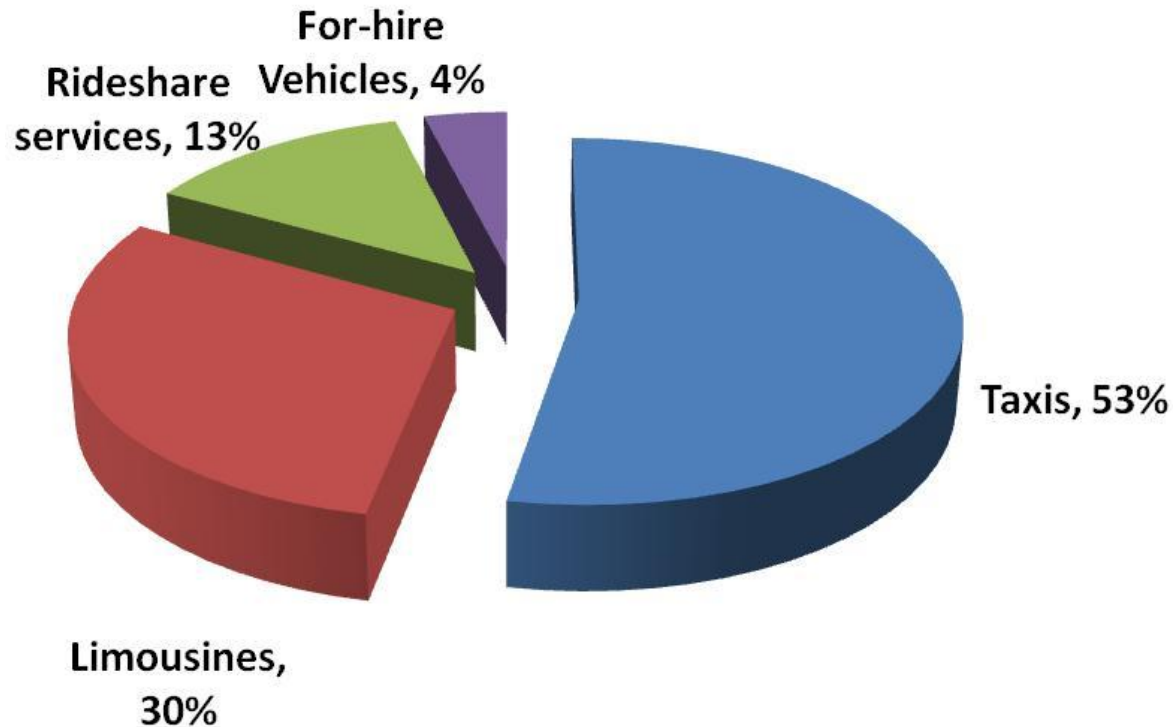
## City of Seattle residents: reported use of available services



- FHV use may be understated due to confusion between FHV's and taxis
- Rideshare may be overstated as individuals are actively exploring/testing newly available services and projections are based on most recent trip taken

# Market Overview

## King County residents: reported use of available services

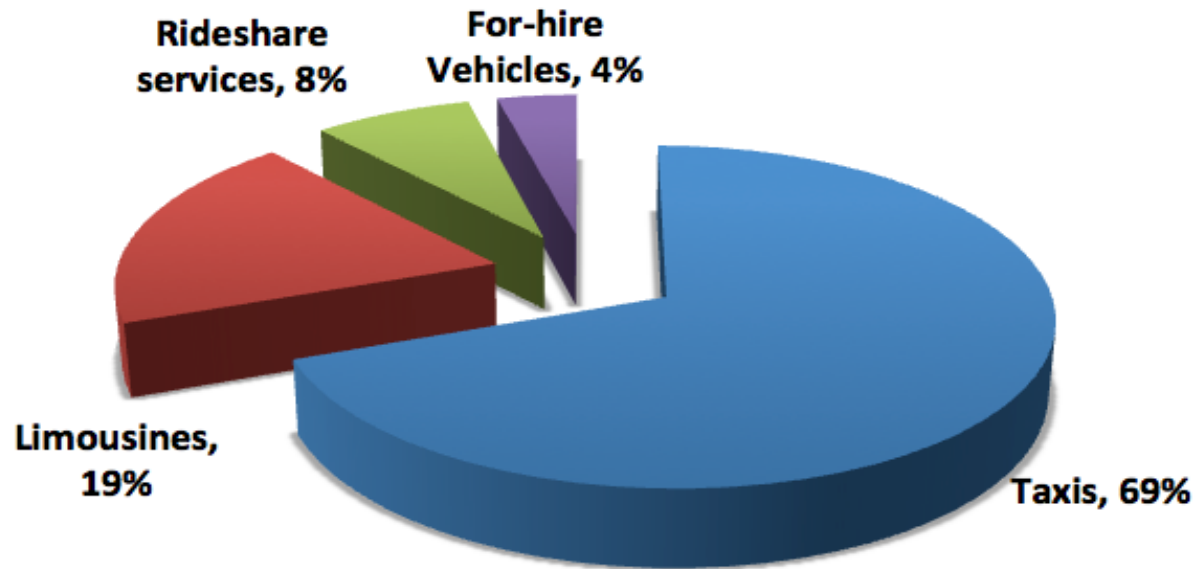


- FHV use may be understated due to confusion between FHV's and Taxis, particularly in the County where FHV's can be hailed for rides.
- Rideshare results may reflect individuals actively exploring/testing newly available service.



# Market Overview

## Visitors: reported use of available services

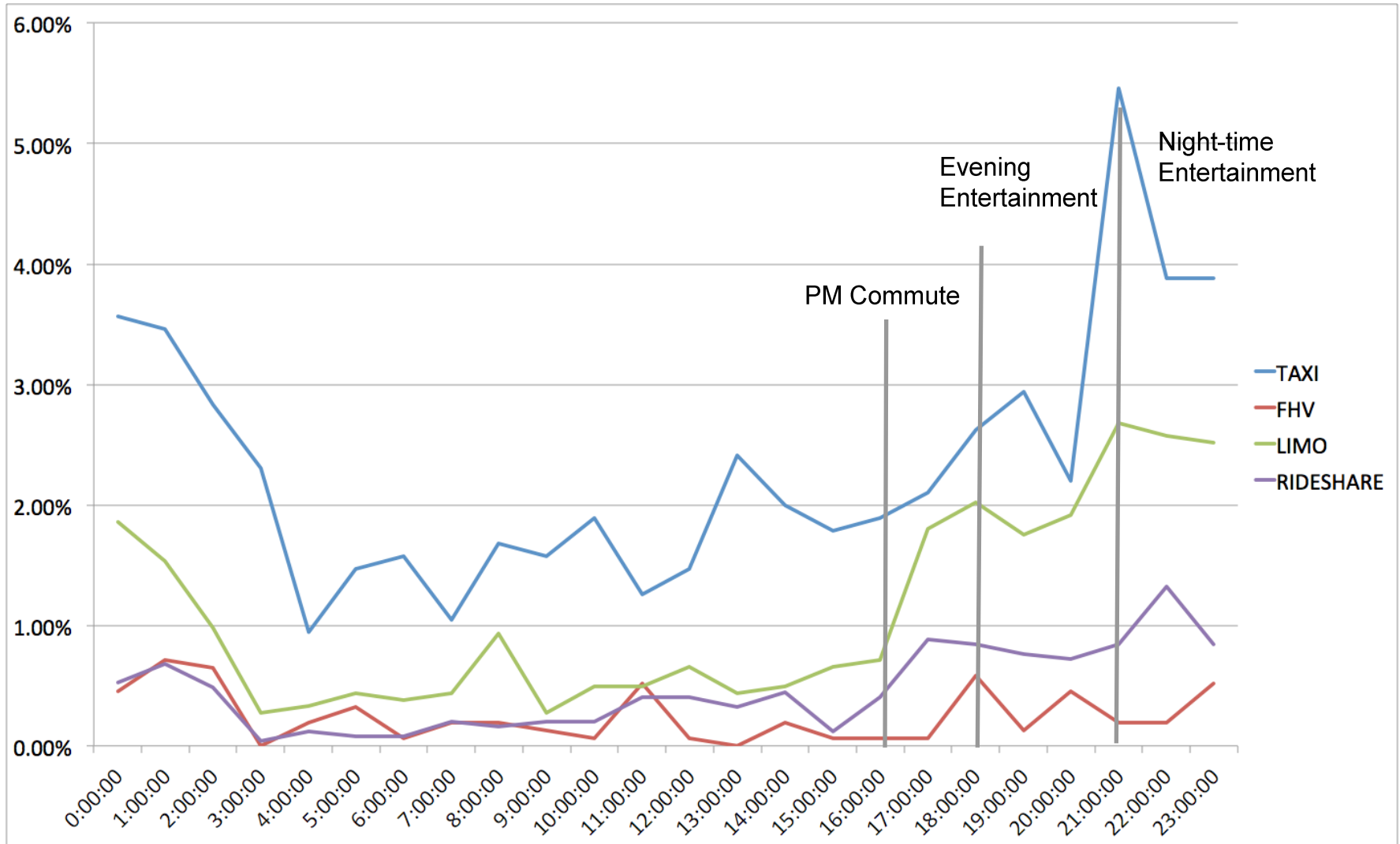


- Taxi use highest amongst visitors
- Rideshare and Limousine use may reflect familiarity with national apps
- FHV's are not common across many cities, which may contribute to lower use



# Mode Split by time of day based on Public Survey data

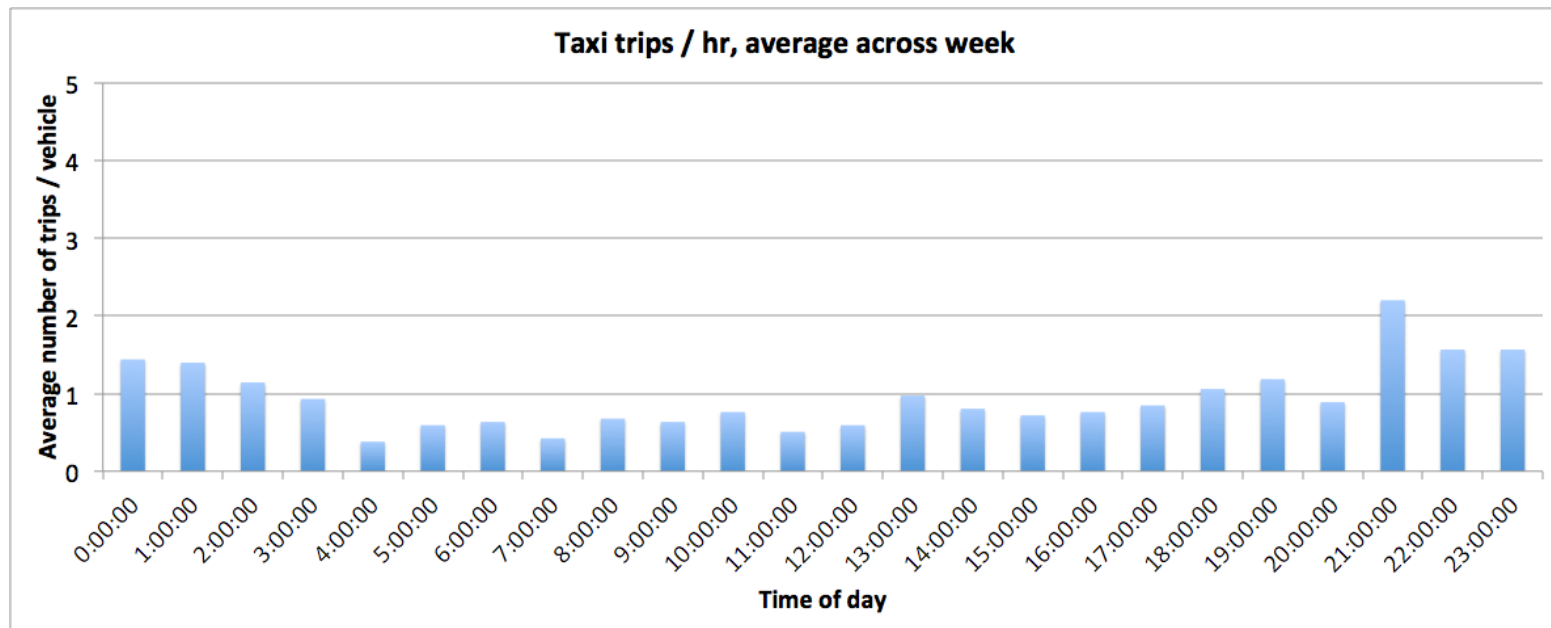
Results for the City of Seattle



Source: Public Survey responses

# Average taxi vehicle utilisation, trips per hour per vehicle

Results for the City of Seattle

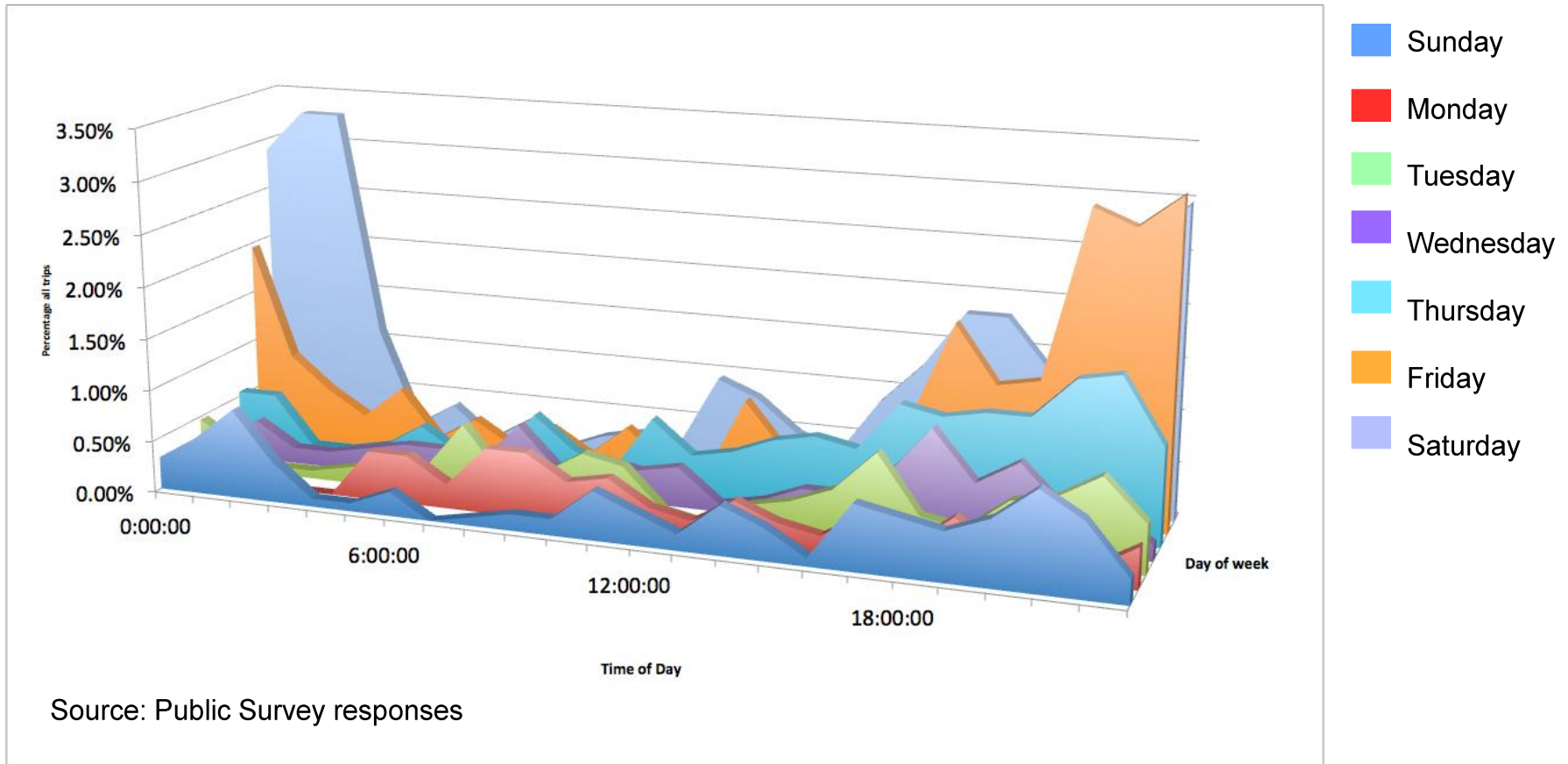


Source: Public Survey. Fleet data: Department of Finance and Administrative Services, City of Seattle

- Taxis appear relatively under-utilized on an average basis across week
- Mean utilization - 1.03 trips/hr (public survey) compares to 1.07/hr (dispatch data)
- However, analysis of peak demand reveals more subtle market dynamics

# Demand for Taxi and Taxi-like services

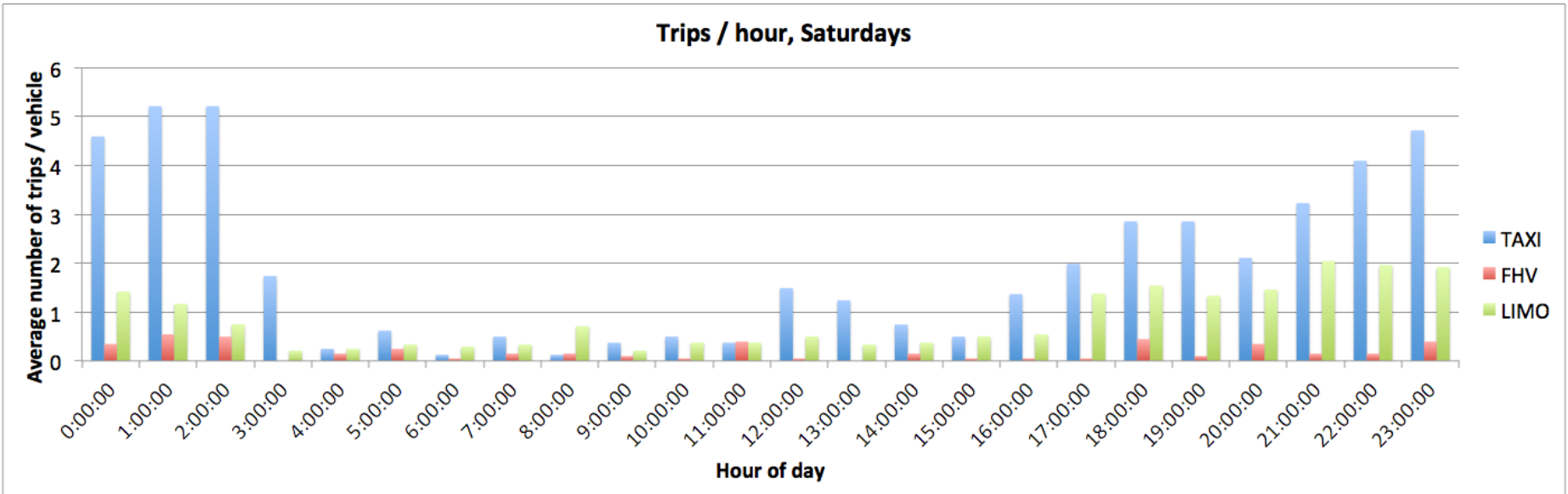
## Demand patterns by time of day and day of week



- Significant peak demand during evenings, particularly on weekends.

# Taxi, Limo and FHV utilisation: trips per hour per vehicle

Results for the City of Seattle

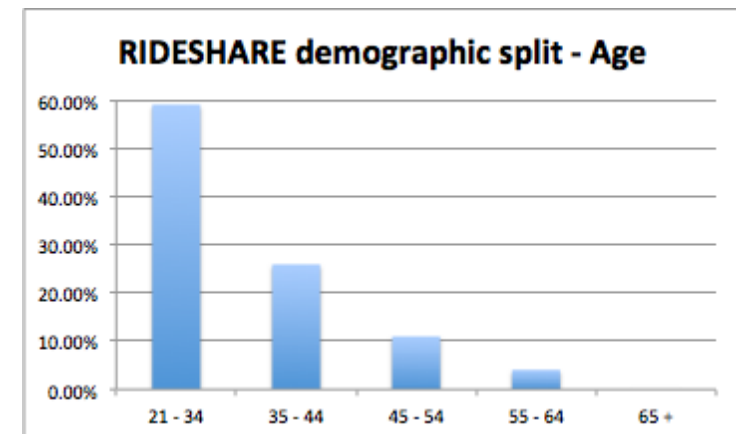
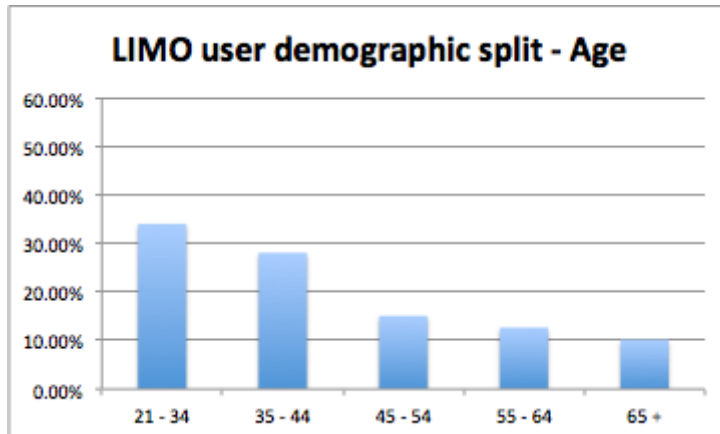
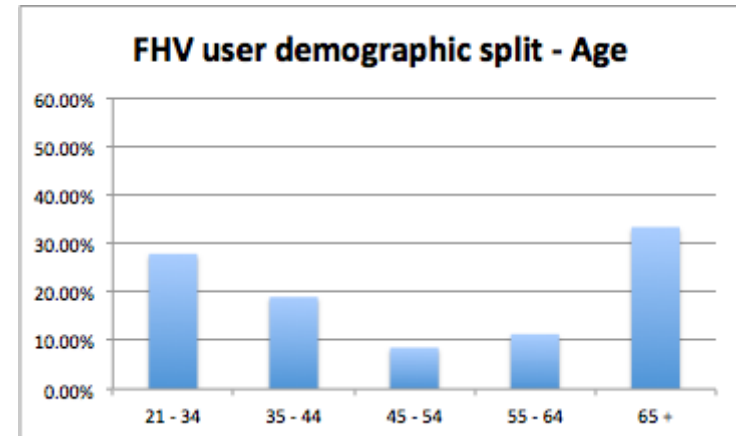
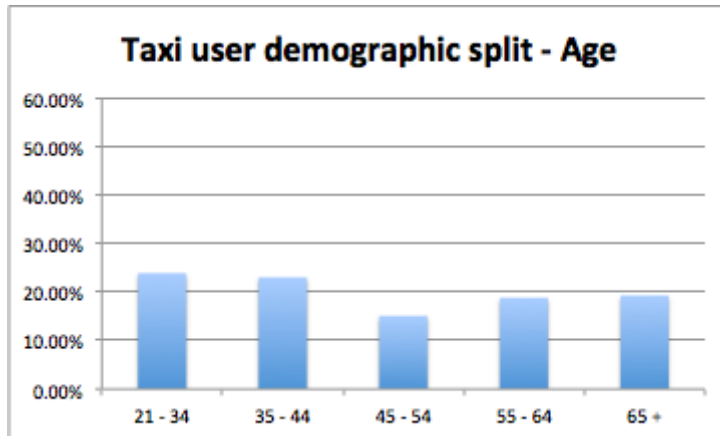


Source: Department of Finance and Administrative Services, City of Seattle; Washington State; Public Survey

- Rideshare 'fleet' not defined or regulated to the same extent as other services
- At weekend peak, taxis are reaching maximum utilization. Limousines and other services help meet increased demand

# Demand for Taxi and Taxi-like services

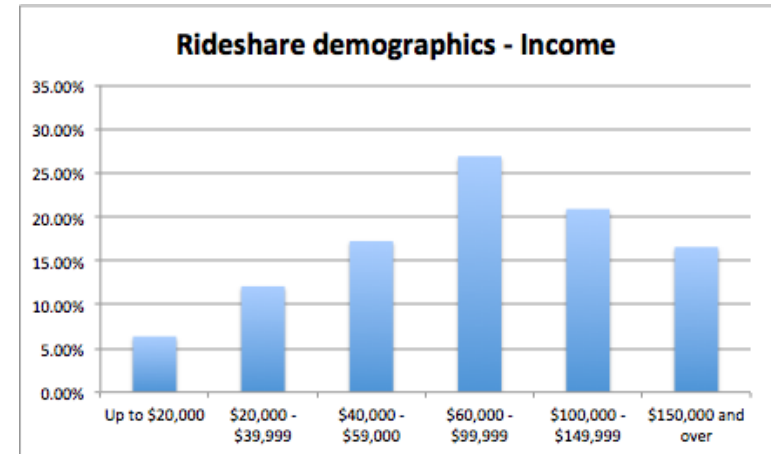
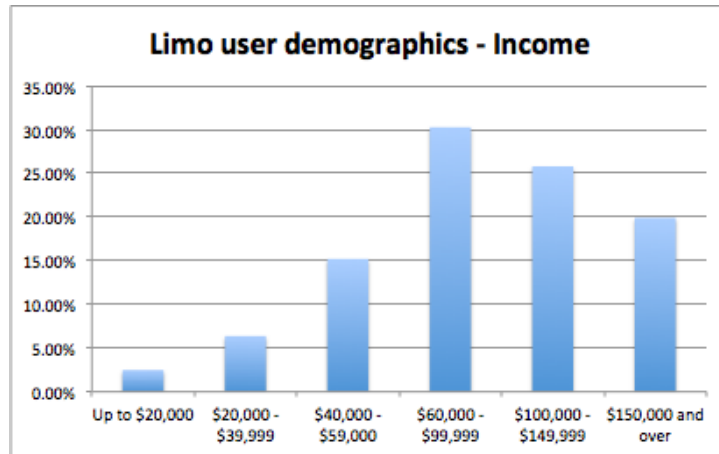
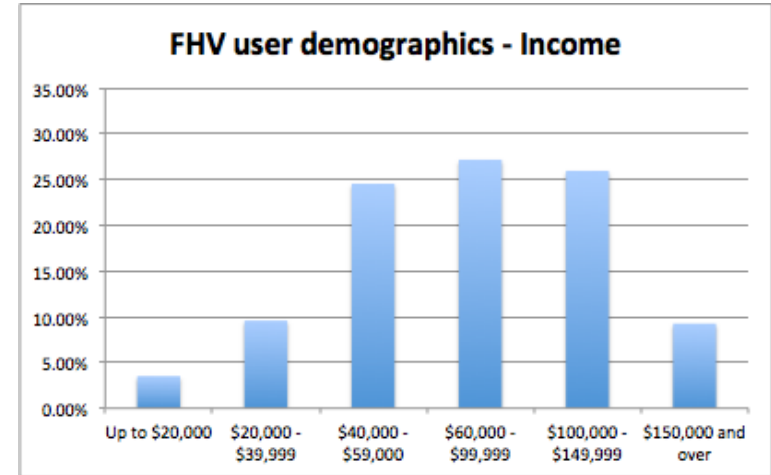
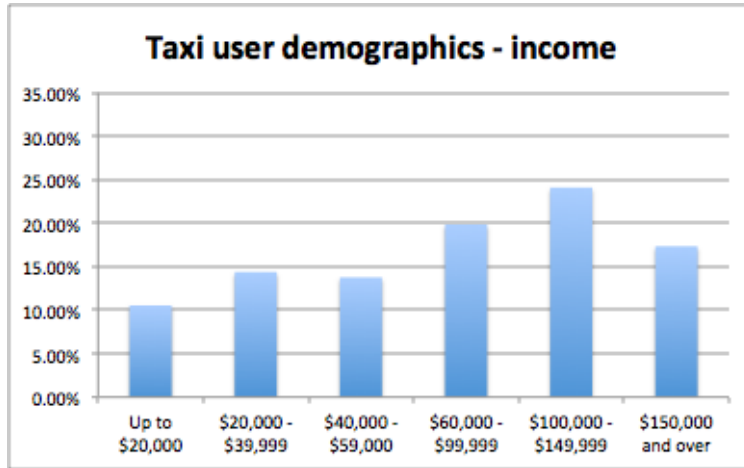
## Mode Split demographics - Age (City of Seattle)



Source: Public Survey

# Demand for Taxi and Taxi-like services

## Mode Split demographics - Income (City of Seattle)



Source: Public Survey

## Market Demand - Key Observations about the City of Seattle

- Taxis serve largest share of the market but other types of services are growing rapidly.
- Friday and Saturday nights show the highest levels of demand.
- Demand for taxis is consistent (and relatively low) throughout data. However, at peak times, during weekend evenings, taxis are fully utilized.
- Limos provide a higher relative share of weekend evening services, helping to serve Peak demand.
- Rideshare experience peaks in evening demand but low levels of daytime use through week.
- FHV data does not show significant increase in utilization during evening peaks. This may be a result of pre-arrangement requirement not serving customer needs during this time period, or customer confusion between FHV's and Taxis.

# Market Demand - Key Observations about the City of Seattle (Cont.)

## Demographics – Age

- Taxis are used evenly across all age groups.
- Limos and rideshares are more heavily used by younger populations.
- FHV's popular among young and old, potentially due to price sensitivity.

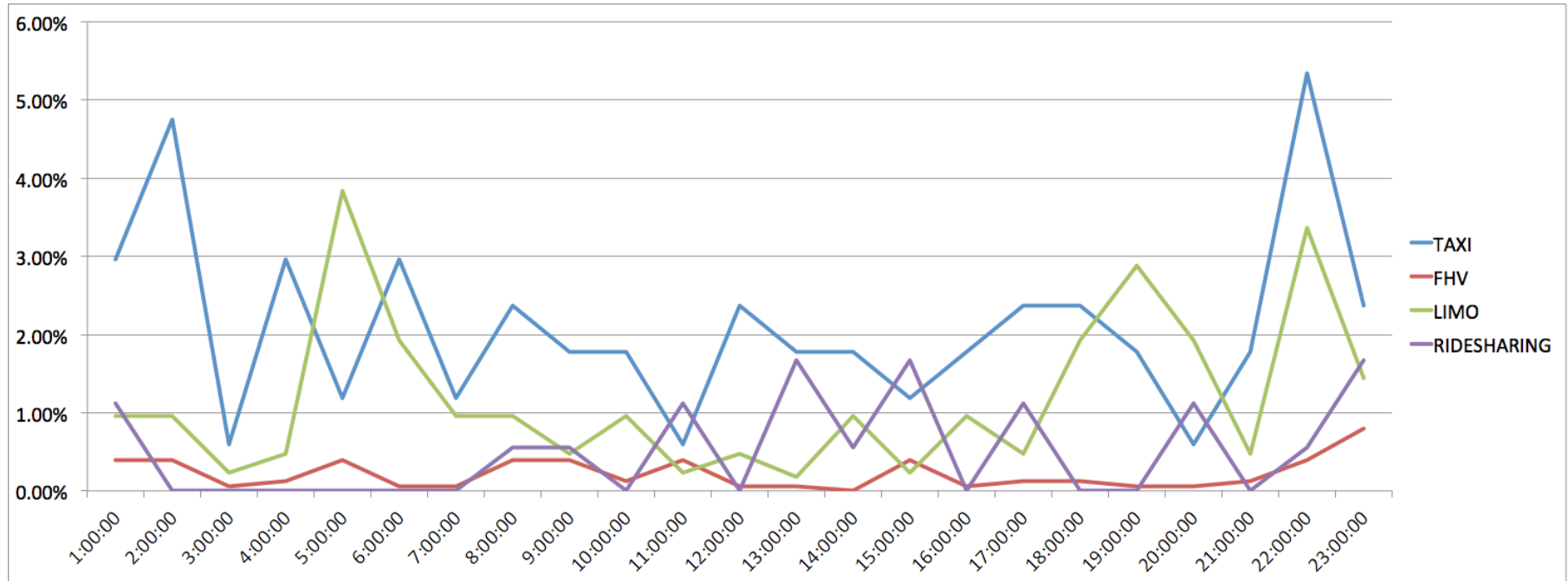
## Demographics – Income

- Taxi use spread more evenly across income groups than other modes.
- Limos, FHV's and rideshares somewhat more popular among higher income groups.



# Mode split by time of day based on public survey data

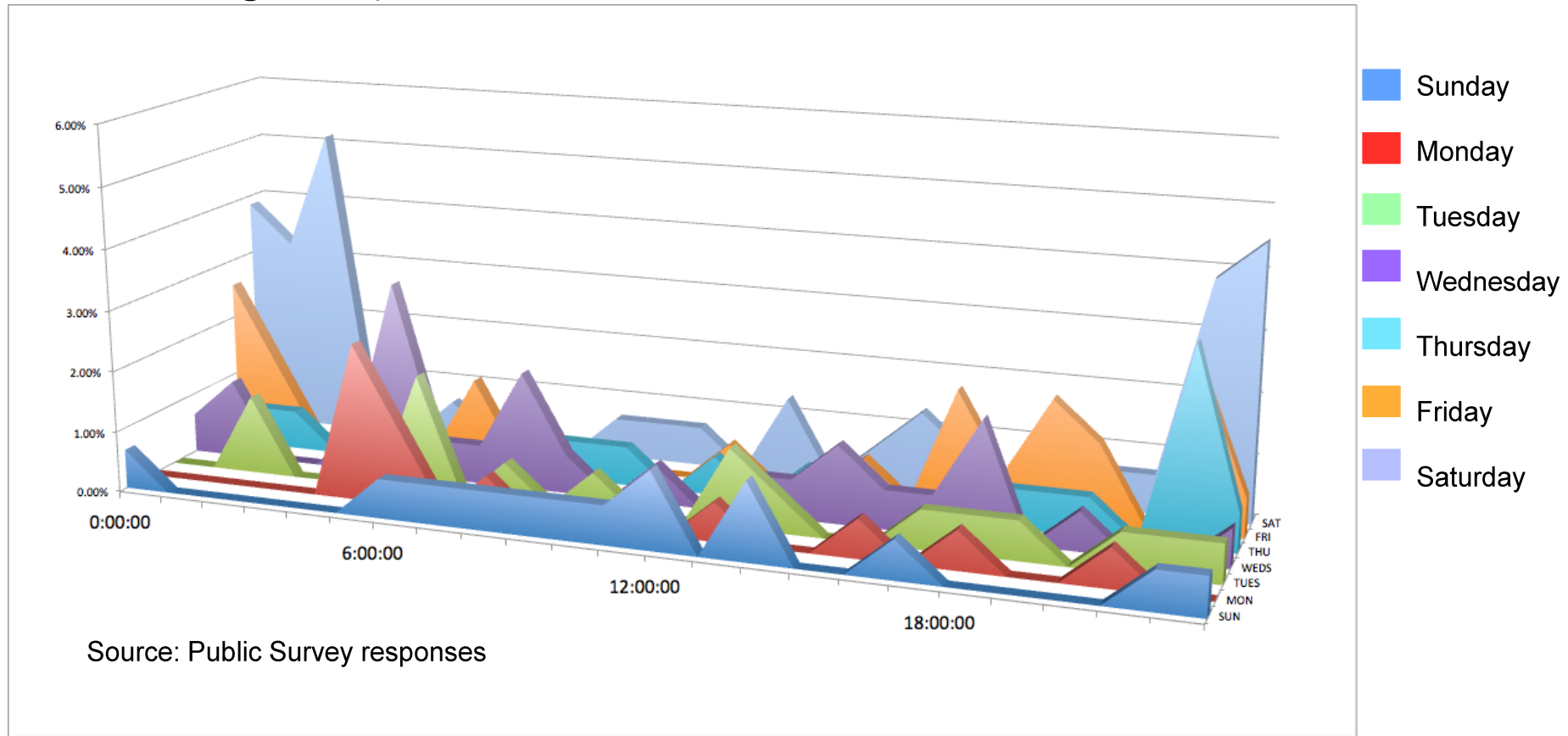
Results for King County



Source: Public Survey responses

# Demand patterns for services by time of day and day of week

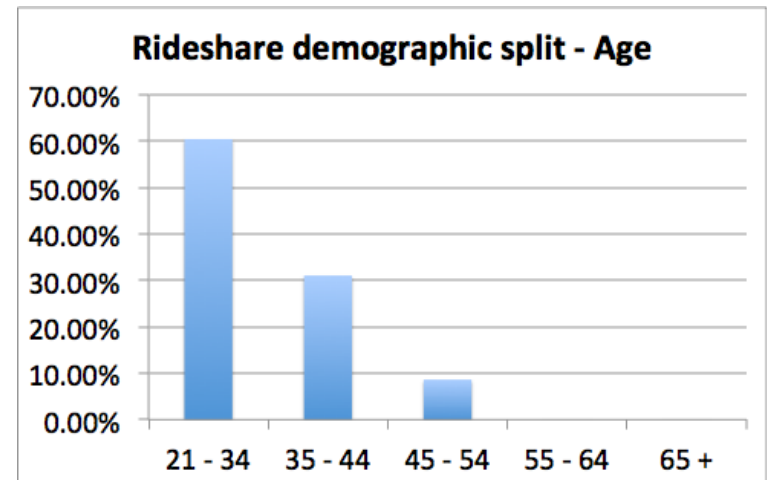
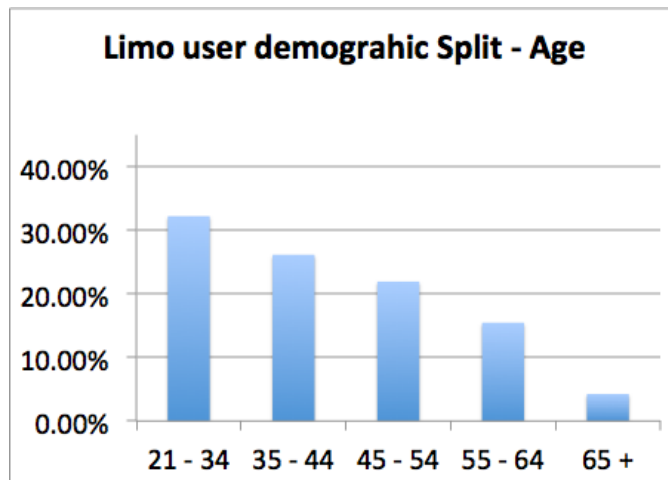
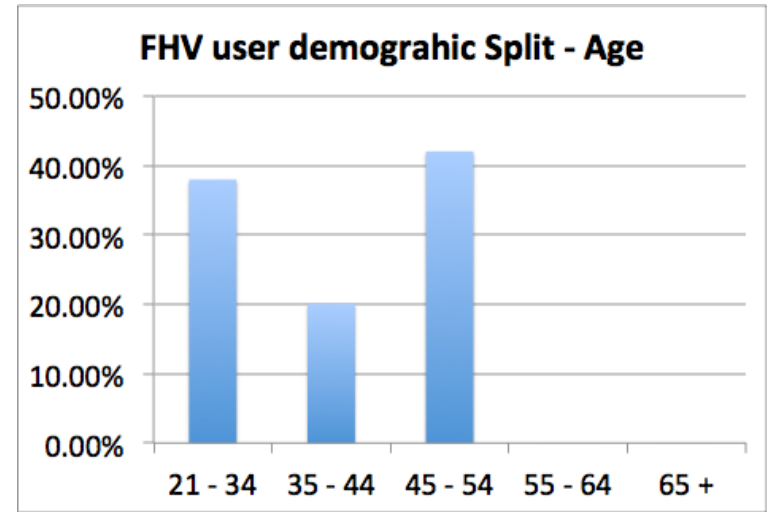
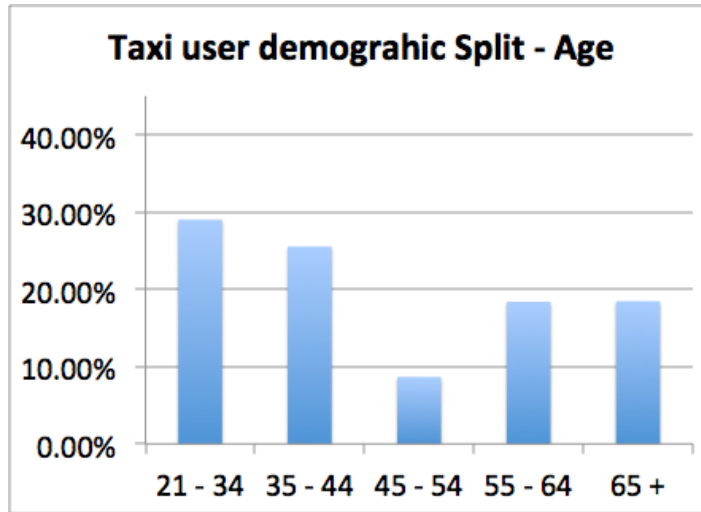
## Results for King County



- County shows relatively more constant demand over the course the day, but similar weekend peaks as the City of Seattle. Relative size of weekend peaks is actually larger than the City of Seattle.

# Demographics of Market Demand – age

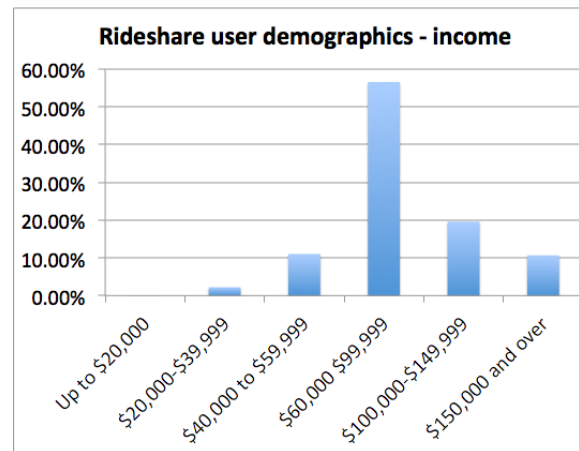
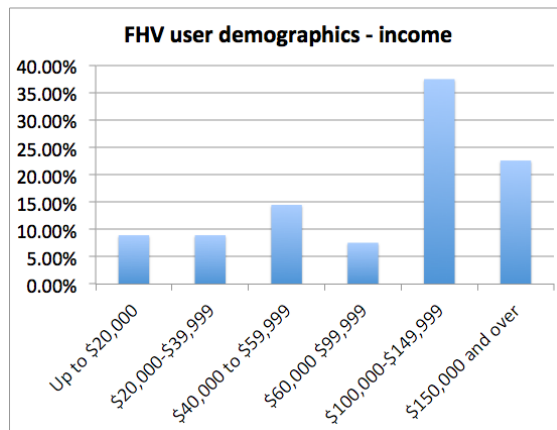
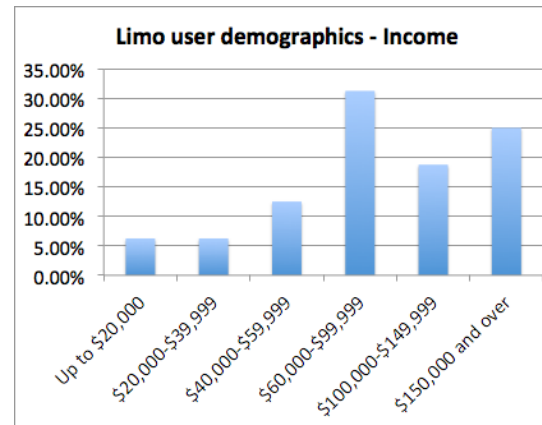
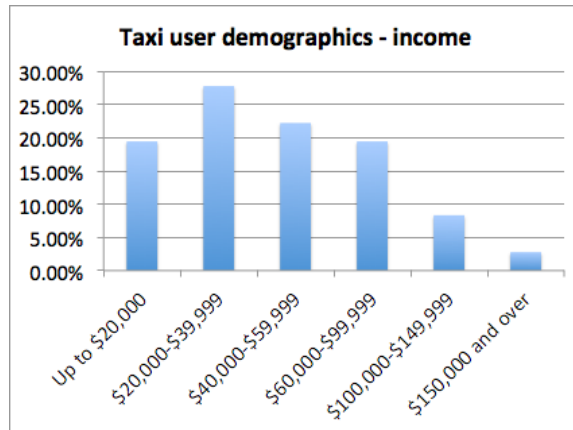
Results for King County



Source: Public Survey

# Demand for Taxi and Taxi-like services

## Mode Split demographics - Income (King County)



Source: Public Survey

# Market Demand – Key Observations from King County

## Overall demand and demand by Time of Day and Week

- Mode split in King County follows a similar pattern to that seen in the city of Seattle, with more distinct user segments and peaking, including:
  - Weekend peaks are more pronounced when compared to city
  - Distinct early morning peak for Limos
- FHV use reported in survey is relatively low given number of vehicles, but may be explained by ability to hail in county, and confusion between Taxi and FHV modes
- Small peak in rideshare use midday, not seen in comparable use in city. Rideshare also peaks at night, in common with city use.

# Market Demand – Key Observations from King County (Cont.)

## Demographics - Age

- Taxis used evenly across most age groups,
- Limos and rideshare more heavily used by a younger population,
- Rideshare use drops rapidly with age, more than with Limos

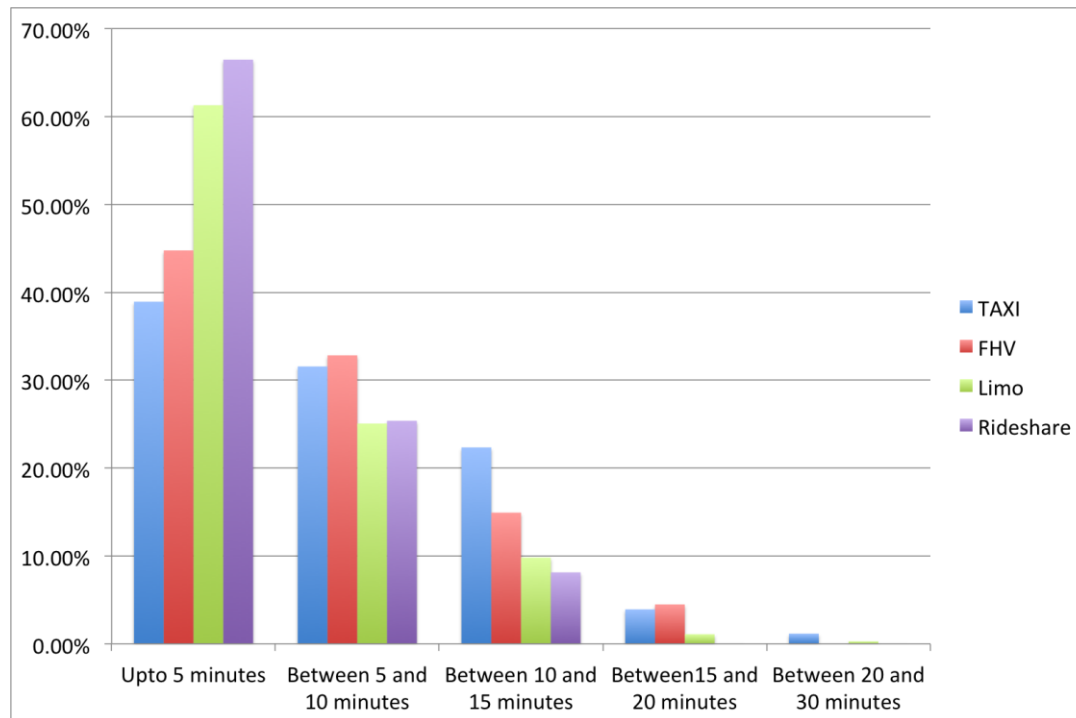
## Demographics - Income

- Distinct income differences between Taxis and Limos, and more polarized than in the city.
- Taxis used by lower income groups
- FHV use displays a single peak and otherwise consistent use.
- Rideshare also peaks in one income bracket with more affluent use and limited low income use.

# Service Quality – Response Time Expectations

## Results for Seattle and King County

What do you consider a reasonable waiting time for a vehicle when traveling at night?

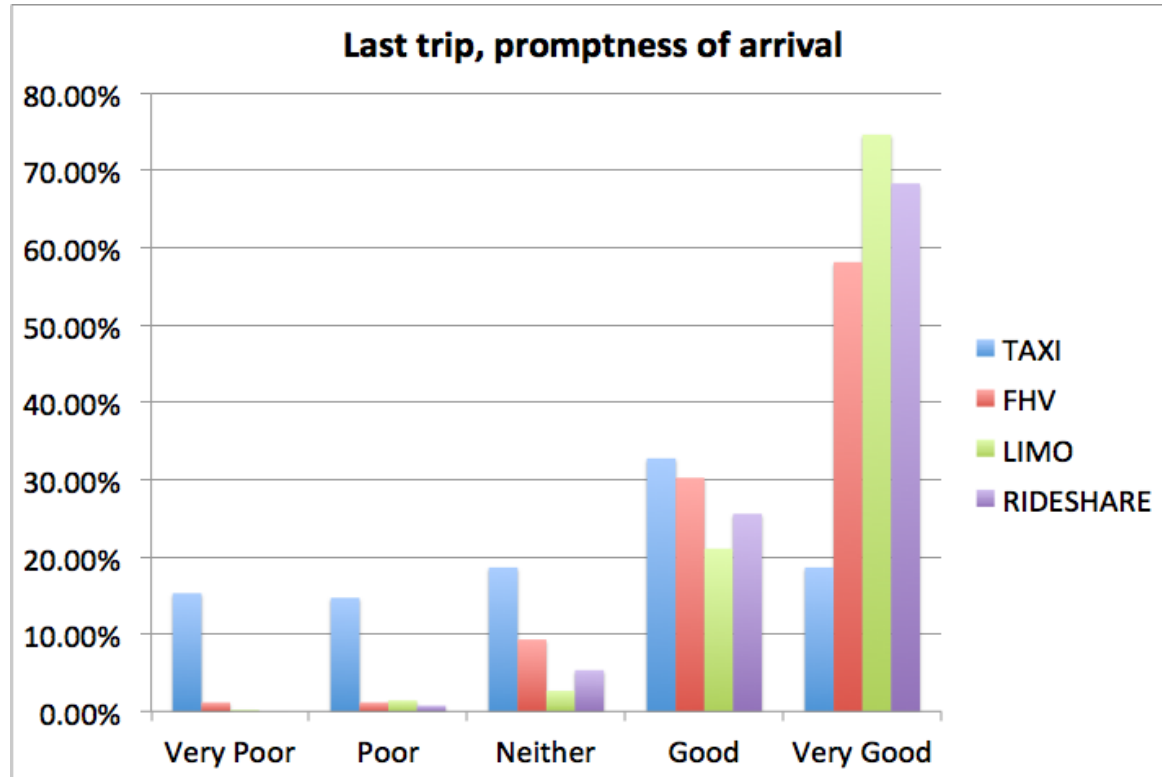


Source: Public Survey

- Higher expectations of Limousine and rideshare service times than of taxis or FHVs
- Rideshare expectations may be allied to booking technology

# Service Quality – Response Time Experiences

Results for Seattle and King County



Source: Public Survey

- Limousines, FHV's and Rideshare felt to out-perform taxis for promptness of arrival



# Analysis: Response Times

## Key Observations

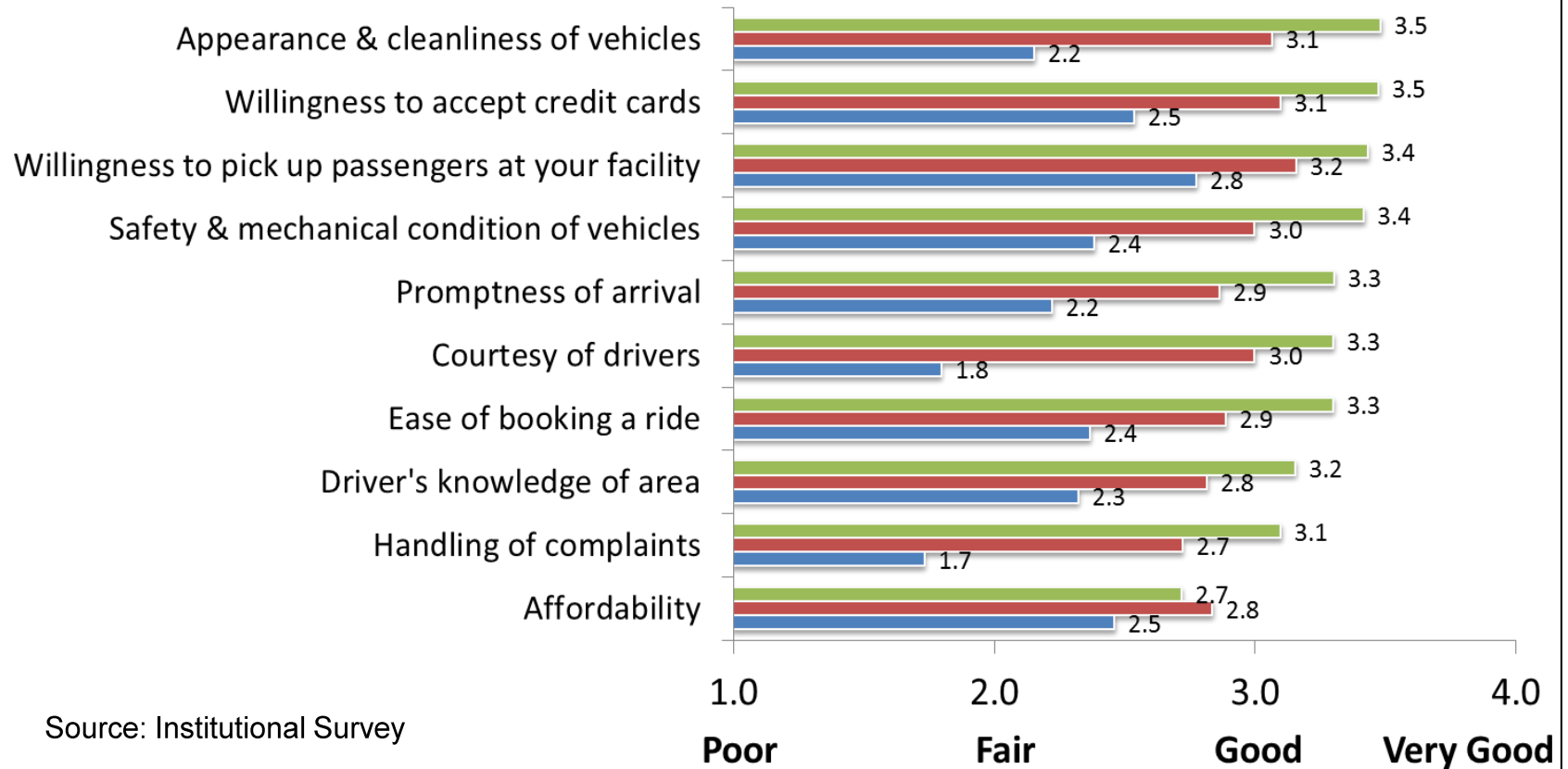
- Public expectations of Limos higher than of taxis. Similar expectations of Rideshare may indicate an expectation allied to the booking technology (app).
- Taxis perform badly in response time experiences, with Limos felt to perform the best.
- A number of very bad response time experiences are reported for taxis, with no similar findings for other modes
- Rideshares appear to share many characteristics associated with Limos such as high expectations of response times.
- Correlation to vehicle utilization figures may suggest that taxi experiences, particularly late at night, may relate to taxis operating at capacity, while other modes show spare capacity.

# Market Performance

## Results from Institutional Survey

How would you rate the quality of the service you currently receive from  
taxi, for-hire vehicle, or limousine companies?

■ Limousines ■ For Hire ■ Taxis



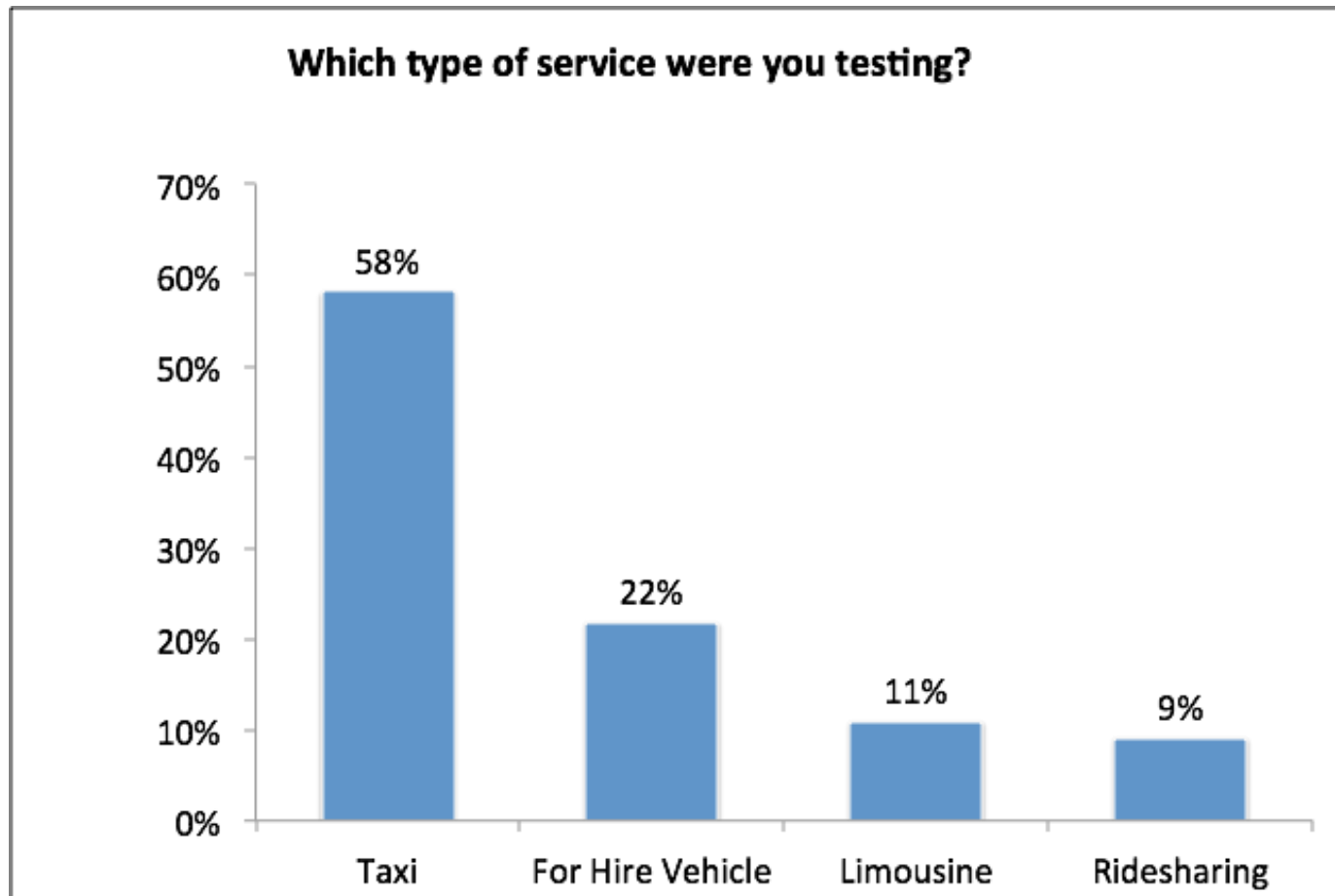
# Service Quality – Key Observations

## Perspective from the Institutional users

- Taxis generated a majority of neutral and negative responses related to service quality.
- Of 105 negative comments, 102 were related to taxis. Of 16 positive comments, only 1 was related to taxis.
- A small but apparently significant proportion of taxi drivers deliver poor and discourteous service characterized by frequent users as “rude” service.
- Delays in response times were reported in late afternoons by medical facilities. Hotels emphasized slower response times coinciding with large events.
- Limousines have a majority of positive comments and score consistently highly in quality measures.
- FHV's have few complaints and score well across quality measures.

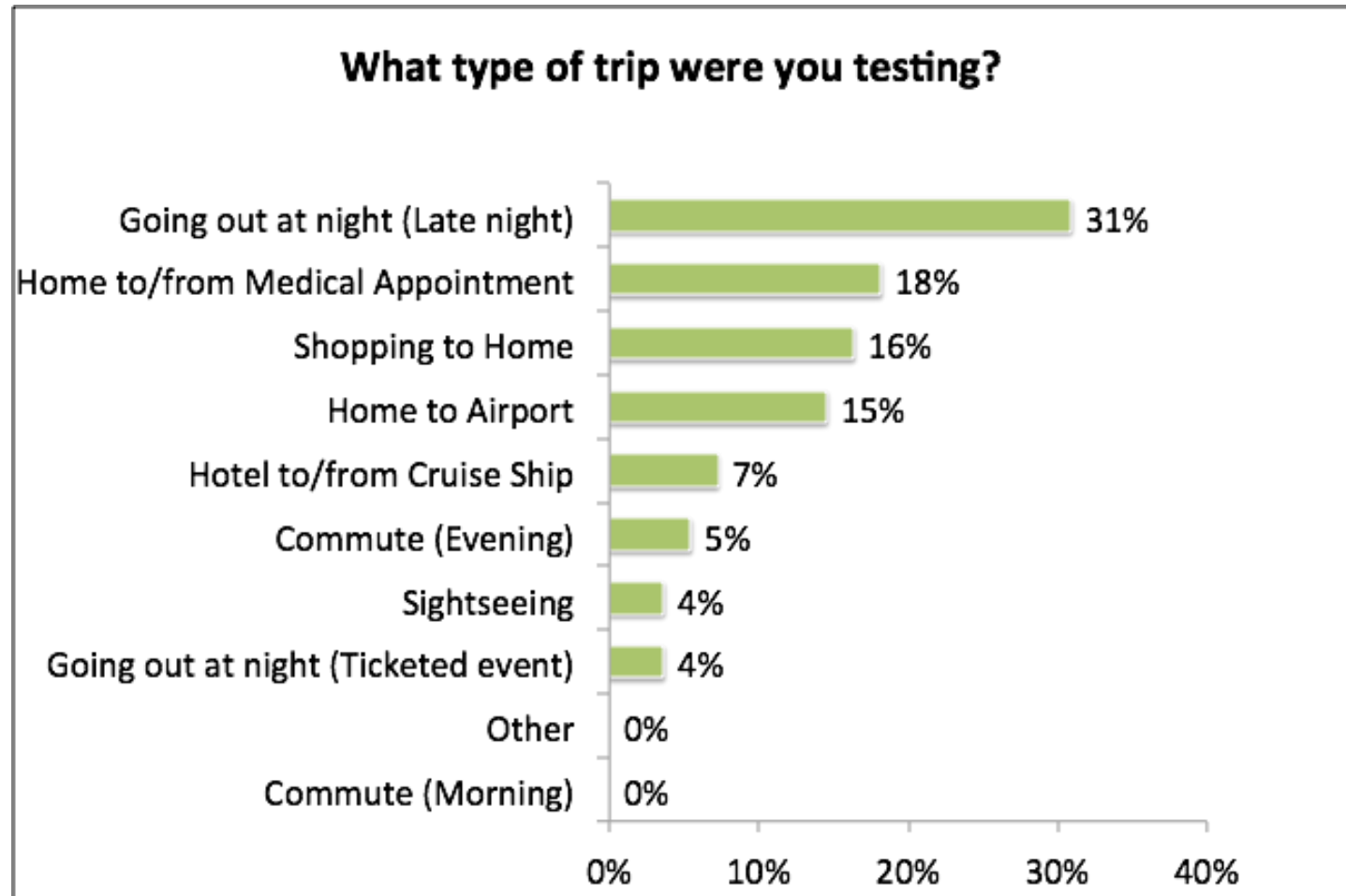
# Secret Shopper Surveys

Further evidence regarding service quality



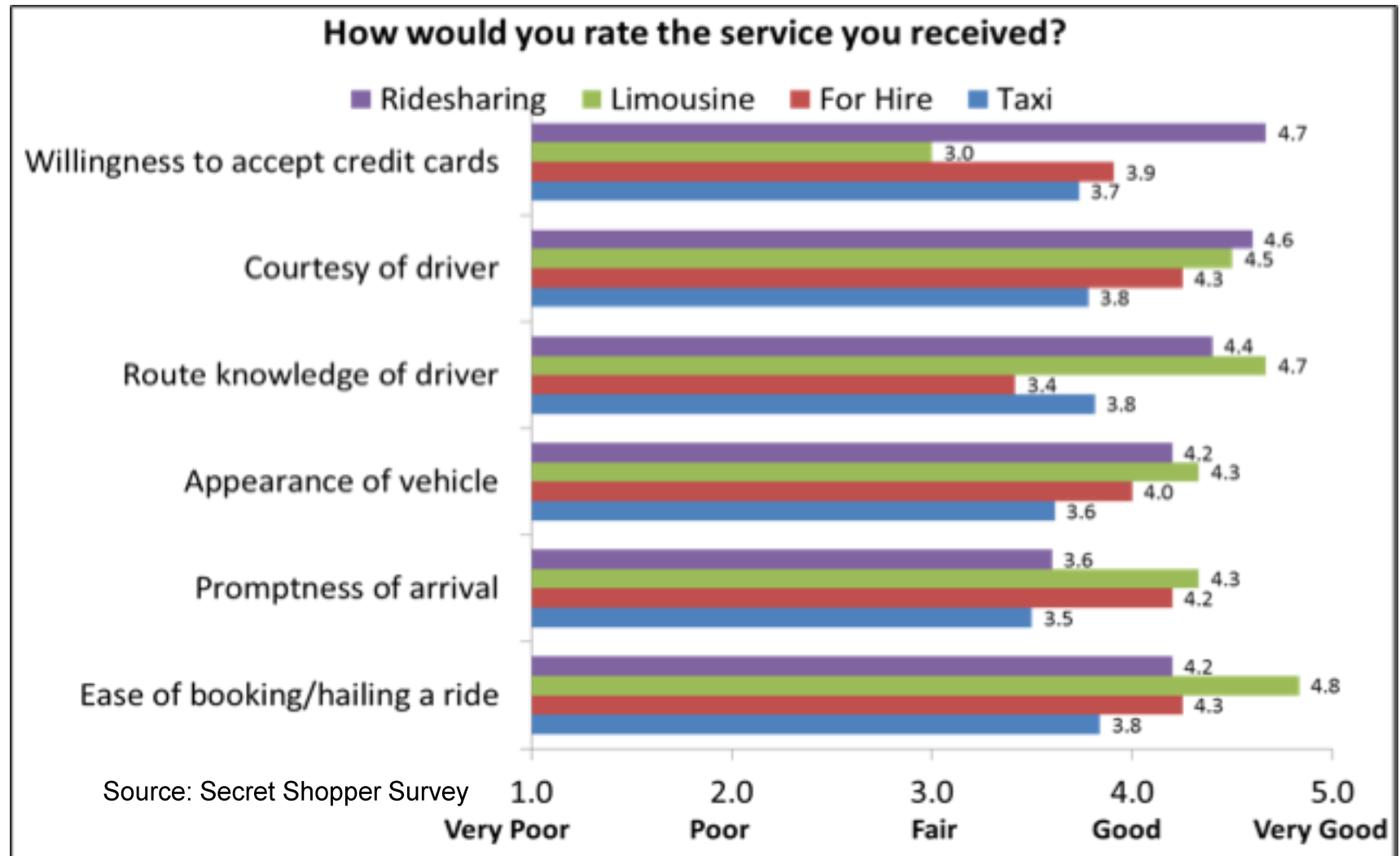
Source: Secret Shopper Survey

# Secret Shopper Surveys



Source: Secret Shopper Survey

# Secret Shopper Surveys



## Key Findings Regarding Quality of Service

- Taxi drivers should provide quality courteous service at all times. Drivers should be provided appropriate training in these areas to satisfy the minimum levels felt lacking in responses in the public surveys and views expressed by hotels, restaurants, and medical facilities.
- Evidence from Institutional Surveys suggests that short trips are seen to be a problem for some taxi drivers and may increase hostility / lack of basic customer service.
- Institutional and Secret Shopper surveys suggest that taxi booking telephone lines appear to present a number of issues including poor levels of customer service, discourteous agents.
- Limousines are noted, in particular, as providing high levels of customer assistance, clean vehicles, ease of payment and electronic tracking.
- For Hire vehicles appear to offer a similar level of service compared to taxis, but lack confirmed metered fares that might create confusion for passengers.

# Conclusions

- A large part of the local market is now been served by limousines, FHV's and "rideshare" services. The market for these services is growing rapidly and vehicles in service are growing to meet it. Several hundred new limousines have been licensed in the past two years.
- Users who are aware of the array of services available do not face a shortage of supply.
- Demand for new services is driven by availability at peak times, but service quality is also an important factor. Customers express a preference for service quality provided by services other than taxis.
- Concerns about quality of taxi service are reflected in public surveys and reinforced by findings from institutional surveys and Secret Shopper trips
- Nonetheless, tourists and certain demographic groups, including less affluent and older populations, still rely on taxi services.
- From a regulatory perspective, response times are not a sufficient metric for judging the need for additional vehicles as customers appear to seek out additional services when response times become unsatisfactory.