Topics/Agenda for Presentation

- **What Gaps Can Technology Fill**
- **Smartphones and Transportation**
  - Real-time Taxi Services
  - Real-time Carpooling
  - Real-time Ride Services
- **Driverless Cars**
Seniors, People with Disabilities and Technology

- More than half of 65+ adults use the Internet and email
- One third use Facebook or other social media
- 69% of seniors have a mobile phone
- Going forward, online technology will play a larger role in solving mobility problems
- Younger persons with disabilities more likely to embrace technology
Seniors, People with Disabilities and Technology

U.S. Smartphone Penetration
February 2012, Nielsen Mobile Insights

Read as: During February 2012, 50 percent of US mobile subscribers owned a smartphone

Source: Nielsen
Transportation Needs

- **Most important factors for Seniors and People with Disabilities**
  - **Mobility**: Access destinations and eliminate social isolation
  - **Certainty**: E.g. Arrive at doctor’s appointment on time
  - **Flexibility**: Ability to schedule a same-day ride
  - **Safety/Trust**: Vehicle and trip is safe, driver is trustworthy
  - **Quality**: Ride will be comfortable, driver will be personable
State of the System Today

Transportation Options for Seniors and People with Disabilities in Alameda County
- Fixed Route Transit
- ADA Paratransit
- City-based Door-to-Door Paratransit
- City-Based Accessible Fixed Route Shuttles
- Taxis and Wheelchair Van Programs
- Other complementary services, e.g. group trips, volunteer driver
Which niche does each service fill?

- **East Bay Paratransit**: Core of system, bulk of trips
- **City-based Door-to-Door systems**: Offer higher customer service, but cannot meet all trip requests
- **Shuttles and Group Trips**: Supplemental, meets certain needs at certain times, not flexible
- **Volunteer Driver**: Highest need populations and harder trips, e.g. long-distance medical
- **Taxis**: Fills gaps, meets same day needs, most flexible
What Gaps Could Technology Fill?

**What Needs Improvement**
- Advance time needed to book a ride
- Sometimes the taxi doesn’t show up
- Customer service doesn’t always meet expectations
- Difficulty communicating with drivers and dispatchers
- Difficulty with accessibility
- Cost

**Could Technology Help?**
- Broadens pool of available on-demand vehicles
- Encourages the community to help itself
- Direct relationship between rider and driver
- The ultimate — eliminate need for a driver altogether!
Example of Real-time Taxi Services
Example of Real-time Taxi Services

[Images of a mobile application interface showing map locations and status updates for taxi services.]

Driver En Route
Alexander is 4 min away.
7021

Driver has Arrived
Alexander has arrived.
7021

Driver has Arrived!
Please meet your driver at the pickup location.

Call Driver

Call Driver

Flywheel
Payment successful!
TOTAL $9.70

Done

See you next time!
What is Real-time Carpooling?

Real-time Carpooling (or “Dynamic Ridesharing”) provides a way for people to share rides without setting up regular carpools.

- Allows people to get a ride who can’t or don’t want to drive
- Reduces costs for the driver: As they fill empty seats, they may get paid a small amount for the ride
- Allows door-to-door service
- Offer opportunity for riders to socialize
How does Real-time Carpooling work?

- One-time rides rather than regular carpools
- Riders and drivers set up accounts
- Rides are arranged using the internet and a computer or an internet-connected phone (“smart” phone)
- Multiple companies providing technology — you can only arrange rides within your “app”
Applicability to Seniors and People with Disabilities

- Opportunities for seniors and people with disabilities
  - If a group of people are going to the same place at the same time
  - Regular or one-time trips to common destinations
  - Riders can “track” their ride and stay in text communication
  - Can start small; pilot program using available vehicles, e.g. fleets of vans from senior living communities
Example of Real-time Carpooling

- Mary lives at Piedmont Gardens. She wants a ride to the Senior Center for lunch on Tuesday.

- Using her computer or smart phone, Mary logs onto the ridesharing app and enters the date, time, and start and end points for her trip.

- She will see a list of drivers (perhaps others at Piedmont Gardens) taking the same trip.

- She chooses the person she wants to ride with, and calls them to set up a meeting place.
Example of Real-time Carpooling

- They meet and she gives the driver a PIN that lets the driver know she is the right person.
- Once they get to their destination, they tell the app that the ride is over.
- The driver gets paid a small amount out of Mary’s account for driving.
- Both Mary and the driver rate each other.
Real-time Ride Services

- Slightly different than previous services, but many similarities
- Rides provided by part-time “everyday drivers”
- Ability to see driver ratings
- Allows door-to-door service
- Focus on “driver-rider community”
- Potentially larger supply of drivers who are “in the neighborhood”
Example of Real-time Ride Services
Example of Real-time Ride Services

Where Are You Going?  Find a Ride  Arrive and Pay

Where Are You Going?

Find a Ride

Arrive and Pay
Challenges

- Rides are set up on the internet or using a smart phone.
  - Access to the internet or a phone
  - Knowledge of how to use technology
- There have to be enough people on the same system so that riders and drivers are matched reliably.
- Concern for personal safety if riding with strangers
- May need to set up a return ride at the same time
Volunteer Driver Programs: RideScheduler

**RideScheduler** is a program that provides online management of volunteer driver programs.

- Volunteer Driver agency serves as the broker for rides
  - People wanting a ride call the dispatcher, who enters the ride request into the software.
  - Volunteer drivers who have been authorized to log in can see rides being requested, and can sign up to provide them.
Volunteer Driver Programs: RideScheduler

- The Dispatcher can manage all riders and drivers
- Drivers can log on 24/7 to volunteer and can see all ride requests
- Drivers are sent email reminders of trips
- Provides program agency with complete reports on number of rides, types of rides, drivers’ license expiry dates, etc.
Driverless Cars
Driverless Cars
Driverless Cars

- Currently under development from numerous manufacturers
Driverless Cars – When Can I Buy One?

- Numerous state/federal legal and policy hurdles
  - Ownership
  - Insurance
  - Safety

- Google has suggested within one decade

- Self-driving “elements” already exist within some vehicles
  - Steering “self-correct”
  - Parking assist
QUESTIONS AND DISCUSSION