Fighting the Single-Occupancy Vehicle

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How many of these seats could we fill?

$131B/year in gas and maintenance in single-occupancy vehicles. ($6.40/driver-day)
(From US Census and other sources)
Ridesharing

- Provide central nervous system for regional surface transportation.
  - One-stop planning for traveler
  - Links mass transit, taxis, vans, and civilian drivers
  - Supports carpooling, ridesharing, and hitchhiking to fill gaps

- Use GPS-able smart phones plus ideas from
  - Zipcar
  - 511.org
  - Google Transit
  - eBay
  - eHarmony
  - Facebook
This idea is unoriginal but unproven.

- **Dead**
  - Smart Traveler, Los Angeles and Seattle, ~1993.
  - Socialtraffic "Easy-Rider", Amsterdam, 2005
  - Ride Now!, Alameda County, 2005-6.
  - Zypsy, Silicon Valley, 2006-7

- **Alive**
  - 551.org, Bay Area
  - Avego, Dublin/Los Angeles
  - CarPoolZone, London
  - Carriva/eNotions, Frankfurt
  - CraigsList, many cities
  - Encorio, Ontario
  - eRideshare, South Carolina
  - GishiGo, San Francisco, New York
  - GoLoco, Boston
  - Goose, Seattle
  - Greenride, New York + many
  - iCarpool, Issaquah WA
  - PickupPal, many cities
  - RideSpring, Silicon Valley
  - Zimride, Cornell, LaCrosse
Ridesharing schemes struggle to find critical mass of drivers and riders.

- Success grows exponentially with subscribers.
  - $N =$ number of subscribers
  - $P =$ probability two people match
  - $(1-P)^N =$ probability of my failing to find a match

![Value Ranges for $1-(1-P)^N$](image)
Example: SF to SV Commute

- 1,000 commuters
- 10 neighborhoods
- 20 companies
- 5 people in each neighborhood work together
- 0.1 is probability of two people matching
- 0.4 is probability of finding a ride
  \[ 1 - 0.9^5 = 0.41 \]
Allow car switches around Milbrae.

- 1,000 commuters
- 100 residents of X drive on 101.
- 50 workers at Y drive on 101.
- 0.1 is probability of two people matching
- 1 is the probability of finding a ride!
  \[1 - (0.9^{50} + 0.9^{100} - 0.9^{150}) = 0.995\]
- Conclusions
  - Hubs are a good idea.
  - Hitchhiking > Carpooling
Cell phones make changing cars on a single trip feasible.

- Scheduler arranges feasible trip among a rider and two drivers.
- All three are tracked via their cell phones.
- All can see everyone’s location on a map.
- Adjustments made via map, SMS, or voice.
- It’s even possible to enlist last-minute drivers.
- It’s dependable, safe hitchhiking.
BECC Challenge: We love our SOV’s and avoid strangers.

- **Convenience**
  - Point-to-point travel
  - No waiting
  - No planning

- **Economic**
  - Marginal cost of owned car is half total cost.

- **Cultural**
  - Safety: Hitchhiking is dangerous, even illegal.
  - Privacy: I have enough friends.
  - Status: Carpooling is for poor people.
Step 1: Establish Value Proposition

- **Convenience**
  - Keep time penalty to 20%.
  - Enable last-minute requests via cell phone.
  - Eliminate no-shows from community—zero tolerance.

- **Economic**
  - Target people without cars.
  - Award coupons.
  - Increase costs, taxes, fees, tolls, and mandates.
  - Extend public transit subsidies to Ridesharing.

- **Cultural**
  - Build around communities—neighborhoods, businesses, schools, events, and internet groups.
  - Exclude creeps, using simple feedback after each ride.
  - Appeal to greens.
  - Establish driver/rider personality test to reduce conflict.
Create social value.

- Practice skill together.
  - Language,
  - Math, physics, vocabulary…
  - Test preparation (GRE, GED, SAT, PE, BAR…)

- Learn topic.
  - Will preparation, financial management,

- Pursue business goal.
  - Potential supplier/customer, interview, partner, …

- Share hobby.
  - Gardening, auto, HO trains, …

- Explore Common interest.
  - Religion, politically, same school, town,

- Get support.
  - Sepsis, cancer, HIV survivor, AA…, recent loss of parent…

- Develop deep relationship.
Step 2: Sell to reach tipping point.
Marketing Methods

- Focus on natural communities.
  - Leverage common destination and trust.
  - Sell leaders.
  - Merge communities later.
- Actively campaign to reach tipping point.
- Keep offering connections to subscribers.
- Demonstrate participation.
  - Company leader board
  - Person Miles per Gallon Display
Changing our culture is more important than reducing SOV’s.

The old “American Way of Life” is still seen as the model of well-being to imitate because it has not been replaced in America.

-- Carlotta Perez
To Learn More...

- www.cs.cmu.edu/~jhm/SafeRide.pdf
- dynamicridesharing.org, a wiki