What car should I drive?

Ken Chu, Elliot Deal, Betty Hui, Jennifer Tse, Natalie Yin
How much is it to purchase this car, from a Honda Dealership? Let's assume 100% cash up front.

$24,995 out the door
In the last 30 months:
Average Cost of Gas in California

$2.92 /gallon

From May 16 2005 to April 21 2008
Source: http://www.eia.doe.gov

Average $ spent per year on gas for 2005 accord:

$2225

Source:
http://www.fueleconomy.gov
In the last 30 months,
Average 6 month rate for 2005 Accord:

$995

In the last 30 months,
Average maintenance bill per 4000 miles:

$54.36
<table>
<thead>
<tr>
<th>in the past 30 months</th>
<th>My Car</th>
<th>Population Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Miles Driven</td>
<td>19,335</td>
<td>36,553 (est)</td>
</tr>
<tr>
<td>Total Gallons of Gas</td>
<td>840.65</td>
<td>1589.28 (est)</td>
</tr>
<tr>
<td>Total Cost of Gas</td>
<td>$2454.70</td>
<td>$4640.70 (est)</td>
</tr>
<tr>
<td>Total Insurance Cost</td>
<td>$4775</td>
<td>$4775 (est)</td>
</tr>
<tr>
<td>Total Maintenance Cost</td>
<td>$271.80</td>
<td>$489.24 (est)</td>
</tr>
<tr>
<td>Initial Cost of Car</td>
<td>$24,595</td>
<td>$24,595</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$28162.15</td>
<td>$36089.22</td>
</tr>
<tr>
<td>Total $ / mile</td>
<td>$1.703</td>
<td>$0.987</td>
</tr>
<tr>
<td>Variable $ / mile</td>
<td>$0.1410</td>
<td>$0.1403</td>
</tr>
</tbody>
</table>

Statistics
Pros

- Huge Convenience Factor
- Saves Time
- Decreasing Marginal Costs
- Social Status

Cons

- Huge up front costs.
- Monthly payments
- Maintenance
Enterprise Rent-A-Car

- Privately owned rental service
- Employs over 65,000 workers
- Normally a round-trip rental service, with some possibilities for one-way rental in CA, TX, & FL
- Will pick up renters & bring them to a rental location at no extra cost, & will also drop them off after renting
- Reservations may be made online or by telephone
- Depending on class of vehicle & state of origin, unlimited mileage is generally allowed within the state
Round-Trip Pricing Policy

- Price varies according to class of vehicle, categories include:
  - Economy, Compact, Intermediate, Standard, Full Size, Premium, Luxury, Minivan, Sport Utility, Large SUV, Pickup Truck, Large Pickup, & Cargo Van
- Restrictions exist on age of renter:
  - In California, a renter must be 21 or older; if between 21 & 24, $15 underage driver charge applies
- Minimum rental period of 2 hours
- Drivers are charged for at least one day of use, & at a daily or hourly rate after one day, depending on length of use
- Offers a Carbon Offset option to promote image of environmental stewardship
  - Fee of $1.25 to offset the average rental’s emissions
  - Fee goes to TerraPass to “fund certified projects that work to remove carbon from the atmosphere”
- Optional Protection Products include:
  - Damage Waiver (CDW): For $8.99-$19.99 a daily damage waiver can be purchased which waives or reduces the renter’s liability for damage, with exceptions
  - Personal Accident Insurance (PAI): $3.00-$7.00 per day, provides renter with insurance for accidents, medical expenses, accidental death, & ambulance expenses
  - Supplemental Liability Protection (SLP): $11.99 per day,
### Case Study Comparison

<table>
<thead>
<tr>
<th></th>
<th><strong>3 Day Trip to LA</strong></th>
<th><strong>100 Mile-per-Month Student Driver (25 hours)</strong></th>
<th><strong>500 Mile-per-Month Student Driver (40 hours)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price of Rental if Economy Class ($28.19/day, $7.05/hr)</strong></td>
<td>3 days * $28.19/day = $84.57</td>
<td>Ranges from: $35.24 for a 25 hour trip, to $338.28 for 12 separate trips</td>
<td>Ranges from $56.38 for a two-day rental, to $563.80 for 20 separate trips</td>
</tr>
<tr>
<td><strong>Price of Rental if Standard Class ($35.71/day, $8.93/hr)</strong></td>
<td>3 days * $35.71/day = $107.13</td>
<td>Ranges from: $44.64 for a 25 hour trip, to $428.52 for 12 separate trips</td>
<td>Ranges from $71.42 for a two-day rental, to $714.20 for 20 separate trips</td>
</tr>
<tr>
<td><strong>If under 25, $15 underage driver fee required</strong></td>
<td>$15</td>
<td>From $15 to $180</td>
<td>From $15 to $300</td>
</tr>
<tr>
<td><strong>Price of gas with Chevy Aveo (Economy Class) ($2.92/gallon)</strong></td>
<td>800 miles/ 34 mpg = 23.53 gallons * $2.92 = $68.71</td>
<td>100 miles/ 24 mpg = 4.17 gallons * $2.92 = $12.17</td>
<td>500 miles/ 24 mpg = 20.83 gallons * $2.92 = $60.83</td>
</tr>
<tr>
<td><strong>Price of gas with Ford Fusion (Standard Class) ($2.92/gallon)</strong></td>
<td>800 miles/ 29 mpg = 27.59 gallons * $2.92 = $80.55</td>
<td>100 miles/ 20 mpg = 5 gallons * $2.92 = $14.60</td>
<td>500 miles/ 20 mpg = 25 gallons * $2.92 = $73</td>
</tr>
<tr>
<td><strong>If all available Optional Protection Products are purchased</strong></td>
<td>$38.98</td>
<td>$38.98</td>
<td>$38.98</td>
</tr>
<tr>
<td><strong>Carbon Offset Option</strong></td>
<td>$1.25</td>
<td>$1.25</td>
<td>$1.25</td>
</tr>
<tr>
<td><strong>Total (range of cost)</strong></td>
<td>$153.28 - 242.91</td>
<td>$47.41 – 663.35</td>
<td>$117.21 – 1127.43</td>
</tr>
</tbody>
</table>

Mileage data from car.com
• Enterprise generally targets consumers looking to rent a car for a period of one day or more
• Though not as convenient as owning a car, the pick-up/drop-off service makes Enterprise more convenient than car sharing services, where a renter must locate the nearest car
• Useful for people who only need a car for occasional trips
• Wide variety of vehicles & classes allows for greater consumer choices
• No late fees allow for increased flexibility in planning a trip
Also,

• Enterprise has actually entered the car sharing market, starting WeCar, which operates in Saint Louis & at the Washington University.

• Offers hourly rates in a few cities, such as Chicago, New York, & Washington DC

• Offers additional services such as used car sales, truck rentals, & fleet management
Car sharing - zipcar
- For-profit, membership-based
- Hour or day
- Members- “zipsters”
- Reserve via internet/ phone
• Home Location: a reserved parking space located on a street, driveway, or neighborhood parking lot in the member's area.

• Access Card - “zipcard”

**Access to zipcar**
• Each vehicle records hours of usage and mileage

• The reservation includes driver’s insurance, a gas card, and reimbursements for typical car maintenance items like car washes and window wiper fluid refills.
• Zipcar and Flexcar (Oct31, 2007)
• Both are leading car-sharing provider
• Growing competitive within the industry
• More than 30 independent car-sharing companies
• Increase market power
• proven to have significant positive environmental and social impacts.
• Replace up to 20 privately owned vehicles
• Drive less, save $
- located throughout major metropolitan areas
- Gas, repairs, parking and insurance are handled by the car-sharing companies.
- Open to individuals age 21 and up

- Often found in lots near airports
- Pay out of pocket for gas, parking, repairs
- Age 21-24 need to pay extra
The market of car sharing

- Substitutes include
  - nonprofit car sharing: City car sharing
  - For profit car renting, eg. Enterprise
  - Owning a car

- Basically a oligopoly in both the car sharing business or the car sharing/renting business in Berkeley/SF
- Differentiated price
Pricing of renting Zipcar

- Various plans
  - Gas, parking & insurance included
  - Rates vary for different cars

- Occasional driver
  - I'll Zip occasionally. Drive from $9/hr and $68/day.
  - No monthly commitment
  - $50 annual fee
  - $25 one-time application fee
  - Gas, parking & insurance included

- Value plans
  - From $50-$250/month
  - No annual fee
  - $25 one-time application fee
  - Driving Rates
    - Hourly rates from $7.65 - $8.10
    - Daily rates from $57.80 - $61.20
  - Rollover 1-2 months

- Business plan
  - Hourly $8
  - 7-to-7 Business (7am to 7pm) $49
  - Full Day (any 24 hour period) $60
• A student who make a 3-day trip to LA
  ◦ $68/day X 3 days = $ 204

• A student who drives 100 miles per month and 25 hours
  ◦ $9/hr X 25 = $ 225

• A student who drives 500 miles per month and 40 hours
  ◦ $9/hr X 40 = $ 360
Other cost/gain

- Opportunity cost
  - you have to spend time reserving the car
  - You have to pay for the time that you’re not actually driving but the time for the whole trip since you have to return the car to the same place

- Late fee/estimation
  - If one returns the car late, one will be charged a high late fee, so one may reserve for longer hour than one needed

- Convenience
  - More convenient than renting a car, less convenient than owning a car

- Positive Externality
  - congestion on the road/parking
  - new cars replace old cars
- people who don’t drive a lot
- Not people who drive to work every day
- College students
- People who make 1-2 trips per week
Mission Statement
“A Bay Area nonprofit on a mission to provide convenient, affordable access to cars so that we can reduce individual car ownership—and improve the environment and quality of life in our cities.”

How It Works
• Find the car you want at the location that’s right for you.
• Reserve online or by phone, 24/7.
• Pick it up with your electronic key that opens any car you reserve.
Rates

Gas, parking, & insurance included.

ShareLocal Plan:
- $10 monthly fee, $5/hour & $0.40/mile from 8:01 AM to 11:59 PM. $1/hr & $0.40/mile from midnight – 8AM.

$30 application fee & a fully refundable $300 deposit. (Can share the deposit & monthly fee with a household account)

For College Students
- Under 21: $115 application fee, $50 annual fee.
- Over 21: $15 application fee, $50 annual fee.
• Helps the environment by reducing the total # of cars in the road.
  ◦ A UC Berkeley study conducted in 2003 showed that each person who joins City CarShare saves nearly 100 gallons of gasoline each year, on average.

• Parking available at city car share hot spots.

• Free car wash and cleaning

• Locally based customer service is available 24/7 if you are in trouble.

**Advantages**
Disadvantages

- Extra cost like late fee, shortening/canceling fee, no-show fee, less-than-half-tank fee, & dirty-car fee.

- The car has the company’s logo, like an advertisement. Not all types of cars are available all the time; Honda Element & MINI Cooper cost more.

- Inconvenient, since you need to reserve the car earlier online & estimate how long you would drive.

- Restrictions: You have a driving history of at least two consecutive years. Your safety record meets minimum specifications. (1 accident in the past 3 years, 2 if you’re not at fault, etc.)
Case Study

- Road Trip from Berkeley to L.A. & back for a student ~800 miles
  $115 application fee, $50 annual fee,
  $0.40/mile X 800 = $320

- 100 miles per month for 25 hours: $133

- 500 miles per month for 40 hours: $368
<table>
<thead>
<tr>
<th></th>
<th>Flexcar</th>
<th>ZipCar</th>
<th>City Car Share</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flexcar</strong></td>
<td>![Flexcar Logo]</td>
<td>![ZipCar Logo]</td>
<td>![City Car Share Logo]</td>
</tr>
<tr>
<td><strong>Membership costs</strong></td>
<td>$35 to apply, $50/year to join</td>
<td>No deposits or monthly fees</td>
<td>$30 to apply, $10/month, $300 deposit</td>
</tr>
<tr>
<td><strong>Usage rate</strong></td>
<td>$.35/mile, $8/hour, 30 free miles/hour</td>
<td>$.40/mile, $8.50/hour, 125 free miles/day</td>
<td>$.44/mile, $.4/hour from 10am to 10pm, $.2/hour off peak</td>
</tr>
<tr>
<td><strong>Models</strong></td>
<td>Honda Element, Civic, and hybrid; minivans; Ranger Trucks; Mazda Miata; Nissan Acura and more</td>
<td>Ford Escape, Focus, VW Beetle, Golf, Jetta, Highlander; Mini; Toyota Tacoma, Prius, Matrix; Honda Accord; Mazda 3, Miata; Scion; BMW 325; Volvo S40; and more</td>
<td>VW Beetle, Honda Civic and hybrid, Toyota Tacoma, Scion xA and xB</td>
</tr>
<tr>
<td><strong>Since</strong></td>
<td>1999, public-private</td>
<td>1999, for-profit</td>
<td>2001, nonprofit</td>
</tr>
<tr>
<td><strong>News</strong></td>
<td>Recent investment from AOL's Steve Case</td>
<td>Recent investment from eBay director</td>
<td></td>
</tr>
<tr>
<td><strong>Freebies</strong></td>
<td>Gas and insurance free</td>
<td>Gas and insurance free</td>
<td>$20 driving if you refer a friend</td>
</tr>
<tr>
<td><strong>Rules</strong></td>
<td>clean license</td>
<td>clean license</td>
<td>clean license</td>
</tr>
<tr>
<td><strong>Drop offs/pick ups available</strong></td>
<td>32 in SF, 45+ in Chicago, 160 in Seattle, 110+ in Portland, 190+ in D.C., 20+ in San Diego</td>
<td>33 in SF, 300+ in Boston area, 300+ in NY area, 4 in Chapel Hill, 200+ in D.C.</td>
<td>25 in SF, 12+ in Oakland and Berkeley</td>
</tr>
<tr>
<td><strong>Customers</strong></td>
<td>30,000</td>
<td>45,000</td>
<td>4,000</td>
</tr>
</tbody>
</table>

*Source: [greenerside.com](http://greenerside.com)*