Automobile Trends: 
Who (or What) is at the Wheel

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Automobile Trends: Outline

1. Trends in Auto Usage
2. Driving Trends
   - Unauthorized Immigrants
   - Uninsured Motorists
   - Insurance Affordability
3. Autonomous Vehicles
Trends in Auto Usage

Shaking off the Recessionary Hangover
Over the Course of the Second Half of the 2014 Calendar Year, Gas Prices Fell 34%.

Price is Weekly U.S. All Grades All Formulations Retail Gasoline Prices
Sources: Federal Energy Administration (http://www.eia.gov/petroleum/gasdiesel/); I.I.I.
Do Changes in Gas Prices Affect Miles Driven? 2000-2014

Lots of Factors Affect Miles Driven: State of Economy, Weather, Gas Prices, Etc.

Sources: Federal Energy Administration (http://www.eia.gov/petroleum/gasdiesel/); *gas prices and miles driven through December
Federal Highway Administration (http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm); I.I.I.
Do Changes in Gas Prices Affect Miles Driven? A Look at 2014

Prior research on the relationship between gas prices and miles driven says that, in the short run, an increase in gas prices produces little change in miles driven. No recent research on the effect of price drops.

Sources: Federal Energy Administration (http://www.eia.gov/petroleum/gasdiesel/); *gas prices and miles driven through December Federal Highway Administration (http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm); I.I.I.
Something Unusual is Happening: Miles Driven*, 1990–2015

Some of the growth in miles driven is due to population growth:
- 1997 vs. 1992: +5.1%
- 2002 vs. 1997: +7.4%
- 2007 vs. 2002: +4.7%
- 2012 vs. 2007: +3.4%

A new record in January 2015: miles driven was below the prior peak for 87 straight months—over 7 years! Previous record was in the early 1980s (39 months).

*Moving 12-month total. The 2015 figure is through January 2015, the latest available.
Note: Recessions indicated by gray shaded columns.
Sources: Federal Highway Administration (http://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm); National Bureau of Economic Research (recession dates); Insurance Information Institute.
Driving Trends

Illegal Immigrants, Legal Drivers
Unauthorized Immigrants

• 10 States Allow Illegal Immigrants to Get Licenses, plus DC, Puerto Rico

• Could Always Get Insurance, Usually Non-standard Before

California Became Latest State to Allow Unauthorized Immigrants to Get Driver’s Licenses (AB60 – 1/1/15) – And by Far the Largest

DACA: Deferred Action for Childhood Arrivals (arrived in U.S before age 16, not automatically eligible for license)
SOURCE: National Immigration Law Center.
California AB60

In Addition to Standard Driving Tests (Vision/Written/Behind the Wheel), Illegal Immigrants Need:

- Proof of Identity (Foreign passport/ID card/birth certificate OR tax returns/school documents/marriage license, etc.)
- Proof of California Residency (Lease/mortgage bills/medical documents, etc.)

Applicants Through March 27

- Docs in Order 448,693 91%
- Some Questions 28,163 6%
- Lack Documentation 17,142 3%

California AB60

- DMV estimated 1.5 million applicants in 3 years
  - 900 new employees
  - Added Saturday hours
  - 200,000 New Licenses

- Insurance Issues
  - Eligible for Low-Cost Auto (CLCA)
  - Low Limits: $200-$500 a Year
  - Takeup Seems Low
  - Standard, Nonstandard Pursuing

SOURCE: California Department of Motor Vehicles.
Non-standard: A Growing Niche


SOURCES: SNL Financial data; Insurance Information Institute calculations.
Impact on Uninsured Motorists


Auto Insurance vs. Other Essentials

Auto insurance expenditures growing more slowly

Percent Growth, 2001-2011

Spending Pattern in 2012 of Americans in the Lowest-Income Quintile

Income range for this quintile: $0 to $19,111
Average annual expenditure range*: $21,382 to $22,926
Average annual expenditure for auto insurance*: $406 to $616

- Food $3,502
- Housing $8,836
- Health Care $1,677
- Auto Insurance $511
- Other Transportation $2,936
- Other $4,692

Auto Insurance – Not A Big Bill, Even Among Least Affluent

Average Expenditure for Pvt. Passenger Auto Insurance as Pct. of Median Family Income*, 2011

*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Average Expenditure for Pvt. Passenger Auto Insurance as Pct. of Median Family Income*, 2011

Lowest States

More Affordable → More Flexible U/W → Smaller Residual Market

In Most States With Illegal Immigrant Laws, Insurance Costs Trail National Average.

*Average auto insurance expenditure as a percentage of the 2011 median income for a family of four
Auto Insurance Burden Easing, Lower-Income* Americans Say

Fewer Than 1 in 4 Finds Cost a Significant Burden

% Saying Auto Insurance is a ‘Significant Burden’

The effects of the “Great Recession” briefly caused auto insurance premiums to be burdensome for more low-income people.

For the last 4 years (since 2010), among those with incomes in the two lowest quintiles, fewer than 1 in 4 said auto insurance premiums were a significant burden.

*Annual income less than $35,000.

I.I.I. Poll: Shopping for Insurance

Q. When your auto insurance policy was up for renewal did you compare prices at different insurance companies in any of the following ways (Phone, Online, Agent)?

Insurance Has Also Gotten Easier to Shop For.

Source: Insurance Information Institute Annual Pulse Survey.
Q. Do you think you have more choices today among auto insurers than people had 10 years ago?

People Say They Have More Choices for Auto Insurance. Lowest-Income Americans Are the Most Likely to Say So.

Source: Insurance Information Institute Annual Pulse Survey.
I.I.I. Poll: Ads Are Everywhere

Q. How long has it been since you have seen or heard an advertisement for auto insurance?

Insurers Are Spending More on Ads, and the Ads Are Effective, Including Among Lowest-Income Americans.

Source: Insurance Information Institute Annual Pulse Survey.
Autonomous Vehicles

They’ll Change Insurance - Slowly
When Computers Take the Wheel . . .

Contingencies

Automonomous vehicles will challenge auto insurers, but they won’t obliterate them

By James Lynch
### In Theory

<table>
<thead>
<tr>
<th>Crashes Avoided Per Year</th>
<th>All</th>
<th>Injury</th>
<th>Fatal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Collision Warning</td>
<td>1,165,000</td>
<td>66,000</td>
<td>879</td>
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<tr>
<td>Lane Departure Warning</td>
<td>179,000</td>
<td>37,000</td>
<td>7,529</td>
</tr>
<tr>
<td>Side Assist View (Blind Spots)</td>
<td>395,000</td>
<td>20,000</td>
<td>393</td>
</tr>
<tr>
<td>Adaptive Headlights</td>
<td>142,000</td>
<td>29,000</td>
<td>2,484</td>
</tr>
<tr>
<td>Total Unique Crashes</td>
<td>1,866,000</td>
<td>149,000</td>
<td>10,238</td>
</tr>
</tbody>
</table>

### In Practice
- Forward Collision Warning Working
- Adaptive Headlights Working
- Others: Benefits ‘Less Clear’

Some of These Features Are Already on Vehicles. Others Are On Their Way Soon.

Step 1: Co-pilot

New vehicle series with forward collision warning
By model year

Technology Emerges Slowly.

Source: Highway Loss Data Institute, Insurance Institute for Highway Safety.
Step 1: Co-pilot

Calendar year features reach 95% of registered vehicle fleet with and without mandate

Source: Highway Loss Data Institute, Insurance Institute for Highway Safety.
Step 2: The ‘Dream Vehicle’

Delphi prototype “Roadrunner”

SF to NYC in Nine Days (4/2015)

3,400 Miles – All but 50 Autonomous

Issues: ‘Unmarked Lanes, Heavy Roadworks,’ When Sun Was Low in Sky

These Are on the Drawing Boards of Almost All Automakers. But the Dream Vehicle Is a Long Ways Away.
When Will This Happen?

Why Will It Take So Long?

Recession Hangover – People Struggling to Afford Major Purchase; Cars Are Built Better, Last Longer.

Sources: Polk, August 2013 Survey, IHS Automotive June 2014; Insurance Information Institute.
Q. Would You Be Willing to Ride in a Driverless Car?

Nearly Three Out of Five People Say They Would Not Ride in a Driverless Car.

Source: Insurance Information Institute annual *Pulse* Survey, June 2014.
Enhanced Vehicle and Road Safety Have Made Driving Much Safer

Motor Vehicle Crash Deaths and Crash Death Rate, 1950-2012

Crash deaths are down 40% since the early 1970s

Fatal crash rates have fallen by 85% over the past 60 years

Fatalities per Hundred Million Miles Driven

Auto Fatality/Injury Rates Have Been Falling for Decades.

32,719 Traffic Deaths in 2013, 2.1% Less Than 2012.

Sources: National Highway Traffic Safety Administration.
But Auto Insurance Expenditures Rise

For Past 20 Years, Expenditures Rising About 1.5% Annually

If Cars Are Safer, Why Are Insurance Costs Rising?

* Insurance Information Institute Estimates/Forecasts
Source: NAIC, Insurance Information Institute estimate for 2013-2014 based on Motor Insurance CPI.
Auto Insurance: Frequency vs. Severity

**Frequency**

<table>
<thead>
<tr>
<th>Year</th>
<th>Property Damage</th>
<th>Bodily Injury</th>
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</thead>
<tbody>
<tr>
<td>1963</td>
<td>7.92</td>
<td>4.22</td>
</tr>
<tr>
<td>1988</td>
<td>3.55</td>
<td>2.61</td>
</tr>
<tr>
<td>2013</td>
<td>1.23</td>
<td>0.95</td>
</tr>
</tbody>
</table>

- Down 55%
- Down 63%

**Severity**

<table>
<thead>
<tr>
<th>Year</th>
<th>Property Damage</th>
<th>Bodily Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963</td>
<td>15,443</td>
<td>7,553</td>
</tr>
<tr>
<td>1988</td>
<td>3,231</td>
<td>1,143</td>
</tr>
<tr>
<td>2013</td>
<td>1,288</td>
<td>183</td>
</tr>
</tbody>
</table>

- UP 1,251%
- UP 1,666%

Sources: Insurance Institute for Highway Safety, Insurance Services Office, Insurance Information Institute.
Auto Claims Have Grown Faster Than Inflation for 50 Years

Percentage Change, 1963-2013

- CPI-U: 650%
- Bodily Injury Severity: 1251%
- Property Damage Severity: 1666%
Q. Who should be responsible if an accident occurred involving a driverless car?

- 50% think the car's manufacturer should bear responsibility.
- 24% think the car's owner should be responsible.
- 11% think the car's insurer should be responsible.
- 9% think it's the car's occupant's responsibility.
- 6% are unsure and don't know.

Half of Respondents Think a Driverless Car’s Manufacturer Should Bear Responsibility in Case of an Accident.

Source: Insurance Information Institute Annual Pulse Survey.

Q. Would you be willing to pay more for your car to cover the manufacturer’s liability in case of an accident?

Only a Quarter of Americans Would Be Willing to Pay More for a Driverless Car to Cover the Manufacturer’s Liability in Case of an Accident.

Source: Insurance Information Institute Annual Pulse Survey.
The Future of the Car of the Future

- Technology Has Been Making Cars Safer for Decades.
- It takes a Long Time for Technology to Penetrate the Marketplace.
- The Size of Claims Has Grown Faster Than the Frequency of Claims Has Shrunk.
- Auto Insurers Should Be Up to the Challenge.
Thank you for your time and your attention!

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