“Surface transportation in the United States is at a crossroads. The mobility we prize so highly is threatened. Many of the nation’s roads are badly clogged. Congestion continues to increase, the conventional approach of the past – building more roads – will not work in many areas of the country, for both financial and environmental reasons.”

A Strategic Plan for Intelligent Vehicle-Highway Systems, IVHS America, 1992
What Were Our Needs?

- Safety
- Congestion
- Environment
- Energy
- Mobility and Accessibility
- Public Transport
Where Are We Today?
We Are Living in a Connected World With New Mobility Choices
Cars are Getting Into the Action
And This is Only the Beginning
Examples of Other Key Opportunities

- Pay as you drive insurance
- Mileage Based User Fees
- Electronic tolling/freight management
- New payment technologies
- Smart Parking
- Integrated Corridors
- Smart Cities
- Connections with the grid
Companies Involved in ITS are Changing

- Verizon
- Xerox
- IBM
- Intel
- HP
- Qualcomm
- KPCB
- Cisco
- Guggenheim
U.S. ITS Market is $48 Billion

- Professional, Scientific, and Technical Services, $12.67
- Computer and Electronic Product Manufacturing, $13.67
- Transportation Equipment Manufacturing, $5.06
- Telecommunications, $4.87
- Data Processing, Hosting, and Related Services, $2.07
- Heavy and Civil Engineering Construction, $1.87
- Specialty Trade Contractors, $1.84
- Repair and Maintenance, $1.68
- Merchant Wholesalers, Durable Goods, $1.37
- Support Activities for Transportation, $0.72
- Administrative and Support Services, $0.72
- Broadcasting (except Internet), $0.36
- Electrical Equipment, Appliance, and Component Manufacturing, $0.32
- Miscellaneous Manufacturing, $0.36
- Machinery Manufacturing, $0.30
- Electrical Equipment, Appliance, and Component Manufacturing, $0.32
- Miscellaneous Manufacturing, $0.36
- Machinery Manufacturing, $0.30
U.S. ITS Employment is 180,000

- **445,000**
  U.S. total jobs in the value chain

- **3,600 to 6,400**
  Jobs added each year to U.S. ITS end-use industry through 2015
ITS Jobs Pay Well

ITS companies reported a 2009 annual average salary of almost $75,000
ITS is a Growing Industry

ITS End-use Revenue (Billion)
- US
- Rest of North America

<table>
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<th>Rest of North America</th>
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ITS End-use Employment
- US
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<th>Year</th>
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</tr>
<tr>
<td>2015</td>
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</table>
ITS Industry is Innovative

• While overall patent applications in the U.S. were static, ITS applications grew 17 percent

• Patent Classes Relevant to ITS include:
  – Motor vehicles
  – Electricity: motive power systems
  – Communications: electrical
  – Data processing: vehicles, navigation, and relative location

• 73 percent of ITS revenues in the U.S. attributable to companies with fewer than 500 employees