TODAY IN TRANSPORTATION WE ARE BLESSED WITH LOFTY GOALS TO STIR OUR SOULS!

Alan E. Pisarski
TODAY IN TRANSPORTATION
WE ARE BLESSED WITH
LOFTY GOALS TO STIR OUR
SOULS!
MAKING THINGS GET WORSE ----
SLOWER!

Alan E. Pisarski
THE STARTING POINT

WHAT IS THE GOAL?

- My goal for transportation is to reduce the effects of distance as an inhibiting force in our society’s ability to realize its economic and social aspirations.

Does America have the mobility it needs to meet its social and economic goals today?

**Almost!**

There are tasks undone and immense policy challenges!

Alan E. Pisarski
In the coming decades

American society will be highly dependent on mobility for all economic and social interactions.

This is:

- **Negative** in that it generates high degrees of interdependence in the society;

- **Positive** because it generates most of the tremendous economic benefits of our society.

- **This is the high wire act** of modern societies

-POSITIVE WINS-

Alan E. Pisarski
WHERE WE’RE AT

SOME BASICS ABOUT CURRENT NATIONAL COMMUTING BEHAVIOR
COMMUTING & TRANSPORTATION

- COMMUTING
- OTHER LOCAL TRAVEL
- TOURISM
- SERVICE VEHICLES
- PUBLIC VEHICLES
- URBAN GOODS MOVEMENT
- THRU PASSENGER TRAVEL
- THRU FREIGHT TRAVEL

COMMUTING’S ROLE
- a small and declining share of travel
- But still an important recurring activity and key to peak hour congestion
- Home/work are anchors of many other activities
- The main source of the public’s transportation frustrations

Alan E. Pisarski
AVERAGE TRAVEL TIMES HAVEN’T BUDGED

Average Travel Time - minutes
this decade

Decennial census

9% UNEMPLOYMENT IS A VERY EFFECTIVE CURE FOR CONGESTION

Alan E. Pisarski
WHAT IS CONGESTION?

Congestion is:
People with the economic means to act on their social and economic interests - getting in the way of other people with the means to act on theirs!

Alan E. Pisarski
Commuters are happy when:

\( \frac{1}{2} \) get to work in under 20 mins; (US 44%)

and, fewer than 10% are over 60 mins (US 7.8%)

Losing the battle
WATCHING “EXTREME” COMMUTES RISE

Long Term Travel Time Trend - Detail

- Orange line: 60 to 89 minutes
  - 1990: 4.46%
  - 2000: 5.21%
  - 2009: 5.40%

- Green line: 90 or more minutes
  - 1990: 1.58%
  - 2000: 2.77%
  - 2009: 2.43%

Alan E. Pisarski
VALUE OF TIME VS VEHICLE COST

- In early interstate era travel operating cost was main driver of decisions.
- The value of time was the driver of behavior in the 80’s and 90’s.
- This decade it has become more cost oriented again.
- Value of time will be ultimate factor as society prospers again.

Alan E. Pisarski
<table>
<thead>
<tr>
<th>Mode</th>
<th>1990</th>
<th>2000</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORKERS</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>DRIVE ALONE</td>
<td>73%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>CARPOOL</td>
<td>13%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>TRANSIT</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>TAXI</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>BICYCLE</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>WALKED</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>OTHER</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>WORKED AT HOME</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Alan E. Pisarski
National commuting flows – 2000

Living in CC work in same CC
Living in CC work in suburbs of MSA
Living in CC work in suburbs of other MSA
Living in CC work in other CC
Living in suburbs work in CC of other MSA
Living in suburbs work in suburbs of other MSA
Not in MSA work in a CC
Not in MSA working in a suburb
Not in MSA working in a non-metro

transit

total

Alan E. Pisarski
The Tools of Travel are Stable

<table>
<thead>
<tr>
<th>Licenses</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturation in all ages</td>
<td>Stability</td>
</tr>
<tr>
<td>Women’s gains</td>
<td>Aging fleet</td>
</tr>
<tr>
<td>Immigrants</td>
<td>Workers = Drivers</td>
</tr>
<tr>
<td>Minorities</td>
<td></td>
</tr>
</tbody>
</table>

IN THIS DECADE:
NO GROWTH IN VMT, CONGESTION, WORKERS, OR WORK TRAVEL TIMES

Alan E. Pisarski
The Future Is More Stable Than The Past

- LOW POPULATION GROWTH
- LOW HOUSEHOLD GROWTH
- LOW LABOR FORCE GROWTH
- SATURATION OF DRIVER’S LICENSES
- SATURATION OF CAR OWNERSHIP
- LOW DOMESTIC MIGRATION TRENDS

Alan E. Pisarski
Given all this stability

- Need a focus on current needs not impending growth
- A new context for planning: “Getting the Economy out of the mud!”
- The mobility issues we face are eminently solvable.

Keep asking this question:
“IS IT A NEW TREND OR JUST THE ECONOMY?”

Alan E. Pisarski
African American Surge in Vehicle Ownership -
% HH without vehicles

Differences in access to vehicles by race & ethnicity will diminish beyond 2020

CAN ANYONE SAY THIS IS A BAD THING?

Alan E. Pisarski
WHERE WE’RE GOING

THE SEARCH FOR SKILLED WORKERS
END OF THE BOOM

WORKERS ADDED PER DECADE

1980-90
- 18.5 Million

1990-2000
- 13.3 Million

2000-2010
- NEGATIVE

- Our problem may be too few commuters not too many!

Source: Commuting in America III and BLS

Alan E. Pisarski
The Demographic Story

1. The Commuting in America series has been the history of the working years of the baby boom generation

2. The Boomers are now moving off stage creating a new phase in American commuting.

3. The key question will be where will the workers come from?

4. Advent of the immigrant workforce will be just one of the challenging concerns

Alan E. Pisarski
3 Trends will define the future

1. Replacing the Baby-boomers – where will our workforce come from?
3 Trends will define the future

1. Replacing the Baby-boomers – where will our workforce come from?
2. Expanding metro areas – the doughnut metro – with focus on the suburbs
3 Trends will define the future

1. Replacing the Baby-boomers — where will our workforce come from?
2. Expanding metro areas — the doughnut metro — with focus on the suburbs
3. An affluent time-focused society — $50/hour and tripling of average value of goods moved (see my HR testimony 1/24/2007 T&I)
Where will the workers come from?

MALES OF WORKING AGE & AS SHARE OF POPULATION

Alan E. Pisarski
Not Much Growth and in the wrong places to support work

**pop change (in thousands)**

- **2010**
  - Under 18 years: 12,598
  - 18 to 64 years: 194,787
  - 65 years and over: 31,863
- **chg 2010-2030**
  - Under 18 years: 75,217
  - 18 to 64 years: 40,229

Half annual rate

Few new drivers

Half of pop change

Alan E. Pisarski
Who and What Will Support The Economy?

- Keep older workers at work
- Even more women at work
- More immigrants
- More multi-tasking
- More variable work schedules
- More Productivity
- More Specialization
- More Division of Labor
- More Competitive in World Markets

ENHANCED MOBILITY SUPPORTS ALL OF THESE

Alan E. Pisarski
Prosperity is …

“Prosperity is simply time saved, which is proportional to the division of labor.”

Matt Ridley  The Rational Optimist
A New Role For Older Workers

workers by age group 2000

A DOUBLING OF WORKERS OVER 65 BY 2030

- 75+ workers

Alan E. Pisarski
The shift has already begun

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
<th>2008</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OVER 65</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>POPULATION</strong></td>
<td>31.2</td>
<td>35.0</td>
<td>38.8</td>
<td>54.8*</td>
<td>72.1*</td>
</tr>
<tr>
<td>(millions)</td>
<td>(+24%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WORKERS</strong></td>
<td>3.5</td>
<td>4.25</td>
<td>5.66</td>
<td>8.2^</td>
<td>10.8^</td>
</tr>
<tr>
<td>(millions)</td>
<td>(+62%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SHARE AT WORK</strong></td>
<td>11.2%</td>
<td>12.1%</td>
<td>14.5%</td>
<td>15%^</td>
<td>15%^</td>
</tr>
</tbody>
</table>

*Census Projections
^ Authors Estimates

Alan E. Pisarski
Over 55
Aging out of the Boomers

Over 55 patterns in mode use of other modes

- bus or trolley bus
- Streetcar or Trolley car
- Subway or Elevated
- Railroad
- Ferryboat
- Taxicab
- Motorcycle
- Bicycle
- walked
- worked at home
- Other method

Alan E. Pisarski
MASSIVE SKILLS MISMATCHES

- **WSJ (Feb 2011):**

  - **TOO MANY**
    - Farming/fishing 49 applicants per job offered
    - Construction 28 applicants per job offered
    - Building maintenance 16 per job offered

  - **TOO FEW**
    - Life science has one applicant per job offered
    - Computer science .4 per job offered
    - Health care .3 per job offered

Alan E. Pisarski
IMMIGRANTS WILL HELP

- **BROOKINGS STUDY** *(June 2011)*
- Avg. education level of immigrants = US avg.
- High education (college) share > low (no HS)
- US ratio 1.06
- Wash Met Area ratio is 1.89 among highest in nation
- of 1.1 million immigrants in DC area, there are 375,000 high skill vs 200,000 low skill

Alan E. Pisarski
The Future issue – Access to Workers

NoVa area flunks many of these tests

- Broaden Market Opportunities
  - Access to Jobs/Workers
  - Access to suppliers
  - Access to markets/customers/clients/patients

- Improve
  - Center city access to suburban jobs
  - Rural access to suburban jobs
  - Older/Retirees access to old/new jobs

- Recognize more time-efficient long distance travel as central to region’s health

- Support Employer Flexibility in time etc

- Stronger Private Sector roles utilizing technological strengths of the region

Alan E. Pisarski
<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. Percentage</th>
<th>Virginia Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>23.9%</td>
<td>52%</td>
</tr>
<tr>
<td>2000</td>
<td>26.7%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>27.4%</td>
<td>52.1%</td>
</tr>
</tbody>
</table>

**WHY?**
- SPRAWL?
- ACCESS?
- OCCUPATIONS?
- GOVERNMENT?
- SKILLS MIX?
- CHOICE?

Alan E. Pisarski
NoVa had 1,137,000 workers in 2009

- Of these, 500,000 (44%) worked in their county of residence (about 53,000 at home)
- And, 376,000 (33%) worked in another county in the State
- The remainder 261,000 (23%) left the state to work (DC or MD)

Includes only Alexandria city, Arlington, Fairfax, Loudoun and Pr. William Counties.

Alan E. Pisarski
How Many Stayed in their Home County?

Virginia leads nation in % leaving their home county to work = 52%

<table>
<thead>
<tr>
<th>County</th>
<th>% Staying in Home County</th>
<th>Workers Worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arlington County</td>
<td>33%</td>
<td>45,680</td>
</tr>
<tr>
<td>Fairfax County</td>
<td>45%</td>
<td>287,572</td>
</tr>
<tr>
<td>Loudoun County</td>
<td>36%</td>
<td>72,510</td>
</tr>
<tr>
<td>Prince William County</td>
<td>27%</td>
<td>69,960</td>
</tr>
<tr>
<td>Alexandria City</td>
<td>27%</td>
<td>24,060</td>
</tr>
</tbody>
</table>
CROSS-COUNTY FLOWS ARE KEY

WHERE DO WORKERS WORK

- Arlington County
- Fairfax County
- Loudoun County
- Prince William County
- Alexandria city

- Worked in county of residence
- Worked outside county of residence
- Worked outside state of residence

Alan E. Pisarski
The national average travel time to work is about 25 minutes! Has been for the decade!

Alan E. Pisarski
Commuters are happy when:
½ get to work in under 20 mins; (US 44%)
and, fewer than 10% are over 60 mins (US 7.8%)
Area flunks both tests

Alan E. Pisarski
We are good at “extreme” commutes

WELCOME TO EXTREME COMMUTE COUNTRY

US
5.4% 60-90 mins
2.4% > 90 mins

Alan E. Pisarski
Mode shares to work 2009

Alan E. Pisarski
THE DECLINE OF CARPOOLING

LONG DISTANCE – LARGE GROUP
- SHARE THE WORK
- SHARE THE COST
- SHARE THE TIME
- CONSTRUCTION
- HISPANICS

SHORT DISTANCE – SMALL GROUP
- FAM-POOLS
- HOV-ERS

Alan E. Pisarski
CAUSES OF DECLINE

- LOW COST AUTOS
- CHANGING NATURE OF WOMEN’S JOBS
- DISPERSAL IN TIME/ORIGIN/DESTINATIONS
- SMALLER WORKER POOL—NO FACTORY GATES TO LIVE NEXT TO
- CARPOOLERS LOOK LIKE TRANSIT RIDERS (20% TEST)
- NO REVENUE CONSTITUENCY

Alan E. Pisarski
Transit riders and carpoolers look a lot alike!

One of my rules – if transit + carpools exceed 20% of Commute you are doing pretty good!

Most Metro areas flunk that test.

Alan E. Pisarski
# The 20% Test for Top Metros

<table>
<thead>
<tr>
<th>Top Metropolitan Statistical Areas</th>
<th>Total Workers</th>
<th>% Drove Alone</th>
<th>% Carpool</th>
<th>% Transit</th>
<th>% Bike or Walk</th>
<th>% Other</th>
<th>% Work at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York-Northern New Jersey-Long Island, Metro Area</td>
<td>8,719,316</td>
<td>50.4%</td>
<td>7.4%</td>
<td>30.3%</td>
<td>6.5%</td>
<td>1.7%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Los Angeles-Long Beach-Santa Ana, Metro Area</td>
<td>5,816,255</td>
<td>73.5%</td>
<td>11.4%</td>
<td>6.1%</td>
<td>3.4%</td>
<td>1.3%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Chicago-Naperville-Joliet, Metro Area</td>
<td>4,422,844</td>
<td>70.9%</td>
<td>9.1%</td>
<td>11.5%</td>
<td>3.6%</td>
<td>1.1%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Dallas-Fort Worth-Arlington, Metro Area</td>
<td>2,945,976</td>
<td>80.1%</td>
<td>11.4%</td>
<td>1.6%</td>
<td>1.5%</td>
<td>1.3%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Washington-Arlington-Alexandria, Metro Area</td>
<td>2,795,375</td>
<td>66.2%</td>
<td>11.1%</td>
<td>13.9%</td>
<td>3.5%</td>
<td>0.9%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Philadelphia-Camden-Wilmington, Metro Area</td>
<td>2,751,491</td>
<td>73.3%</td>
<td>8.9%</td>
<td>9.2%</td>
<td>4.3%</td>
<td>0.8%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Houston-Sugar Land-Baytown, Metro Area</td>
<td>2,581,559</td>
<td>78.1%</td>
<td>12.6%</td>
<td>2.7%</td>
<td>1.8%</td>
<td>1.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Atlanta-Sandy Springs-Marietta, Metro Area</td>
<td>2,494,475</td>
<td>77.5%</td>
<td>10.9%</td>
<td>3.6%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Miami-Fort Lauderdale-Pompano Beach, Metro Area</td>
<td>2,479,021</td>
<td>78.4%</td>
<td>10.1%</td>
<td>3.8%</td>
<td>2.2%</td>
<td>1.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Boston-Cambridge-Quincy, Metro Area</td>
<td>2,277,958</td>
<td>69.4%</td>
<td>8.1%</td>
<td>11.9%</td>
<td>5.7%</td>
<td>0.9%</td>
<td>4.0%</td>
</tr>
<tr>
<td>San Francisco-Oakland-Fremont, Metro Area</td>
<td>2,056,454</td>
<td>62.3%</td>
<td>10.4%</td>
<td>14.5%</td>
<td>5.7%</td>
<td>1.5%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

Source: American Community Survey, 2005-2009 5 year data set

Alan E. Pisarski
A significant potential market

- Of the people who said they “usually” carpool; on any given day only a bit more than half (55%) actually do so!
- This means that large number of carpoolers are **incidental users** who for some reason diverted to pools “yesterday”.
  - 6% of “usual Drive Aloners” carpooled yesterday;
  - 9% of “usual Transit riders” carpooled yesterday;
  - 9% of “usual Walkers” carpooled yesterday.  

  NHTS 2009

Alan E. Pisarski
All of our new technologies are dispersal technologies

- THE CANNON
- ALL GROUND TRANSPORT
- AIR TRANSPORT
- OVERNIGHT DELIVERY
- TELEPHONE/CELLPHONE
- RADIO/TELEVISION/CABLE
- COMPUTER/INTERNET

All serve to overcome the tyranny of distance

The last aggregating technology I can think of was the elevator

Alan E. Pisarski
The days of living outside the factory gate are gone

- Of course people have the option but few choose to take advantage of it. Higher incomes yields more freedom to choose and people choose to optimize other things – schools, safety, attractiveness, access to amenities.

- We don’t need to redesign our world to make it more “efficient”. The existing distribution of jobs housing and other destinations provides ample opportunities to be closer to destinations if we choose. There is no indication of such a preference.
  - Work trip length increases with income!
  - In a job-scarce environment access to jobs over greater distances is a key economic factor
  - Work trips are increasingly minor part of people’s lives.

Alan E. Pisarski
Why don’t we live next to our work?

- Immense friction involved. Rapid job change; might be back! (underwater houses)
- Jobs and workers are more dispersed; Smaller work destinations; no factory gates to live next to
- 70% of workers live in a household with other workers. Whose job are we going to live next to?
- Expansion of job specialization spreads the range over which one can/must seek jobs
  - Work in fast food store – closest one is best
  - Work in environmental physics – there’s no reactor down the street
  - Jobs plentiful – my marketshed = 30 minutes max
  - No jobs around here – marketshed expands 45-60 minutes

Alan E. Pisarski
The Challenge

- Reaching skilled workers will be the key challenge for employers
- Employers will go where the skilled workers are or where they want to be
- Competition will be amenities-based
- Good transportation will be one of the amenities
- Metro areas that can meet this challenge will be the big winners

Alan E. Pisarski
Create the transportation systems that will serve a society where the average value of time is $50/hr and,

where the average value of freight per ton is three times today’s.

If you build a transportation system for a “high value society” you will help create that society.

Alan E. Pisarski
THANK YOU!

Alan E. Pisarski

alanpisarski@alanpisarski.com