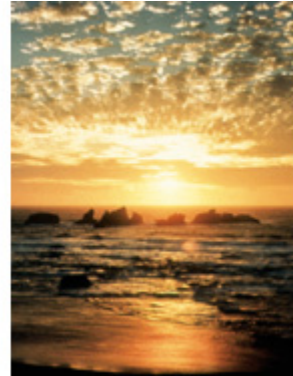


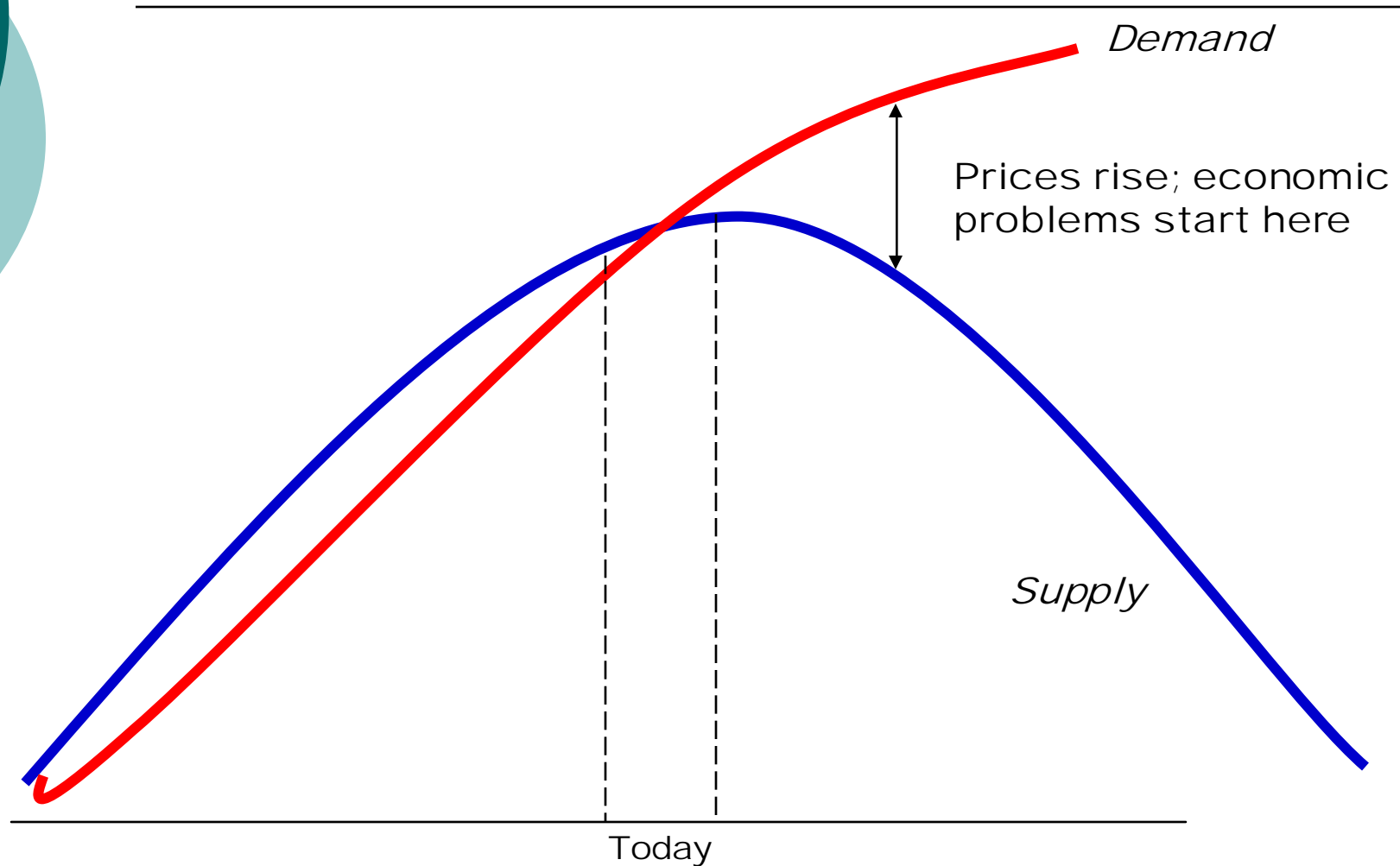
Falling off the Peak? Disenfranchised Populations in a Post-Peak Oil World



Lesla Dixon-Gray, MSW, MPH
Portland Peak Oil Task Force

Presented to:
**American Public Health Association Conference
November 6, 2007**

Oil Supply Peaks, Can't Meet Demand



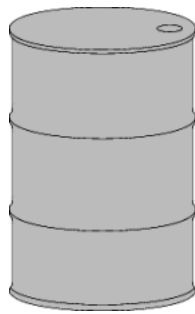


Why is this a Public Health Issue?

- Energy fundamental to society
 - Transportation
 - Heating
 - Manufacturing (Vaccines)
 - Food production & distribution
- Fossil fuels provide 85% of our energy
- No easy substitutes
- Ripple effects – **EVERYTHING's connected***

* Michael Pollen, 2007, The Omnivore's Dilemma

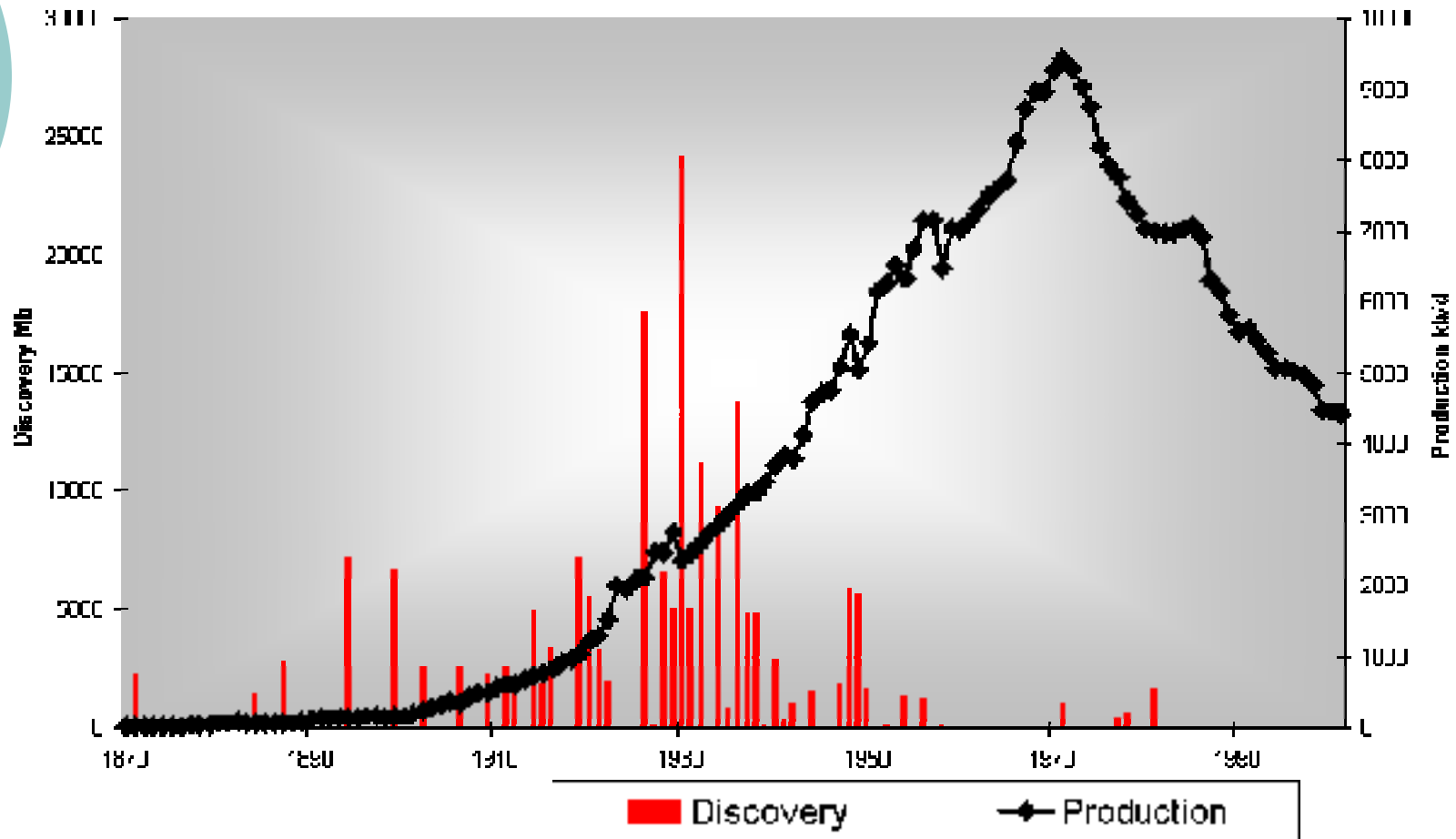
For Every Barrel We Find ...



We use ~3 barrels



US Discoveries Peaked in 1930, Production in 1971





Projections

Petroleum geologists, scientists, and economists' global peak production projections.

Projected Date	Source
● 2006-2007	Bakhtiari
● 2007-2009	Simmons
● After 2007	Skrebowski
● Before 2009	Deffeyes
● Before 2010	Goldstein
● Around 2010	Campbell
● After 2010	World Energy Council
● 2010-2020	Laherrere
● 2016	EIA (Nominal)
● After 2020	CERA
● 2025 or later	Shell Oil Company



Business & Government View

- "One thing is clear. The era of easy oil is over."
David O'Reilly, CEO, Chevron-Texaco
- "We've embarked on the beginning of the last days of the oil age."
Michael Bowlin, CEO, ARCO
- "I am sure that we have peaked." *T. Boone Pickens, Investor*
- "The era of cheap and abundant oil may now be over."
Samuel Bodman, Sec. of Energy
- "The outlook for petroleum is not good. ... Currently, there is no viable substitute for petroleum."
Army Corps of Engineers, R&D Center
- "Global oil production to peak during the next five years."
Chief Economist, Chinese Natl. Oil Company
- "What people need to hear loud and clear is that we're running out of energy in America."
George W. Bush, May 2001

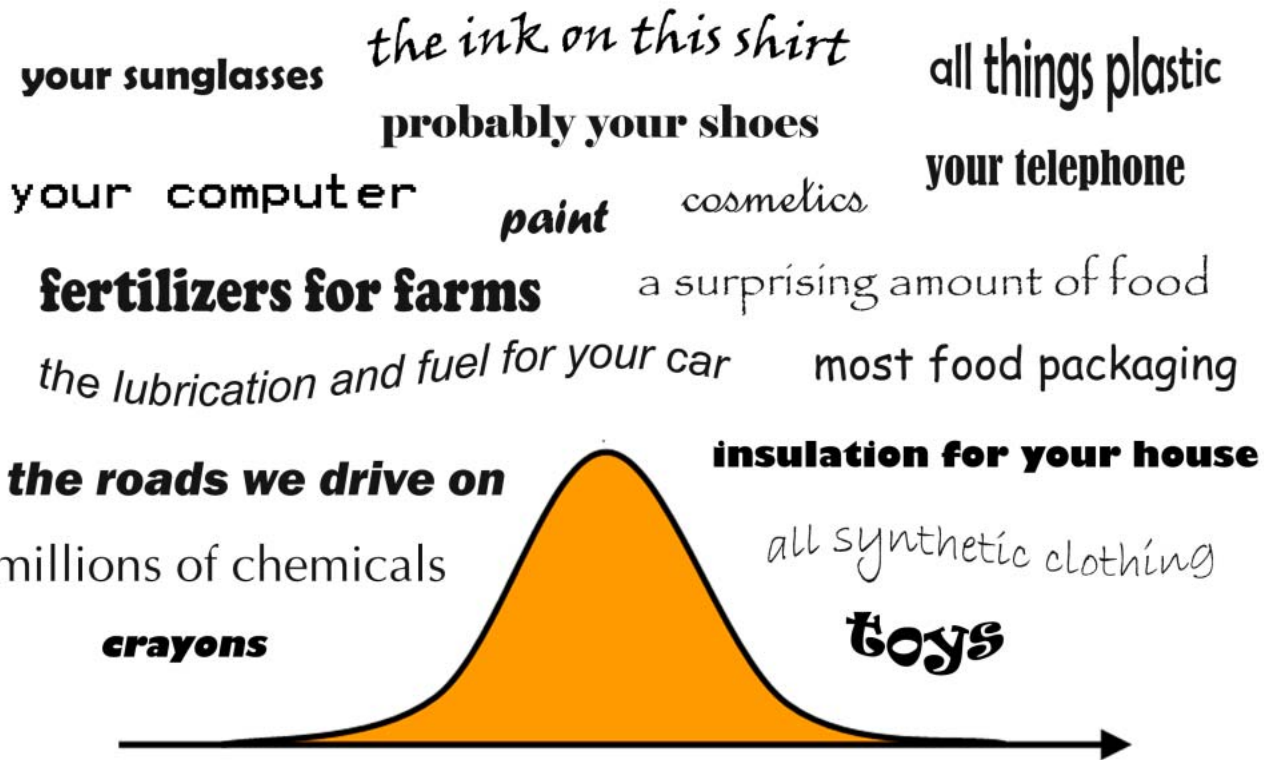
Why Oil Matters

○ “Oil is unique in that it is so strategic in nature. We are not talking about soapflakes or leisurewear here. Energy is truly fundamental to the world’s economy. The Gulf War was a reflection of that reality.”



*Dick Cheney
Halliburton, 1999*

What's Made From Oil & Gas?





Hirsch Report (Feb, 2005)

- Peak inevitable
- Timing uncertain; possible in 5-10 years
- Consequences will be serious
- Massive mitigation effort needed
 - 20 years lead time
 - \$1 TRILLION
- Costs of preparing *too late* will far exceed the costs of preparing *too soon*.



Conclusions

- World oil peaking is going to happen, and will likely be abrupt.
- Oil peaking will adversely affect global economies, particularly those most dependent on oil.
- Oil peaking presents a unique challenge (“it will be abrupt and revolutionary”).
- Mitigation efforts will require substantial time.
 - Late initiation of mitigation may result in severe consequences.
- Both supply and demand will require attention.
- It is a matter of risk management (mitigating action must come before the peak).
- Government intervention will be required.
- Economic upheaval is not inevitable (“given enough lead-time, the problems are soluble with existing technologies.”)
- More information is needed to more precisely determine the peak timeframe.



Portland Peak Oil Task Force



**DESCENDING THE
OIL PEAK:**
Navigating the Transition
from Oil and Natural Gas



Methods

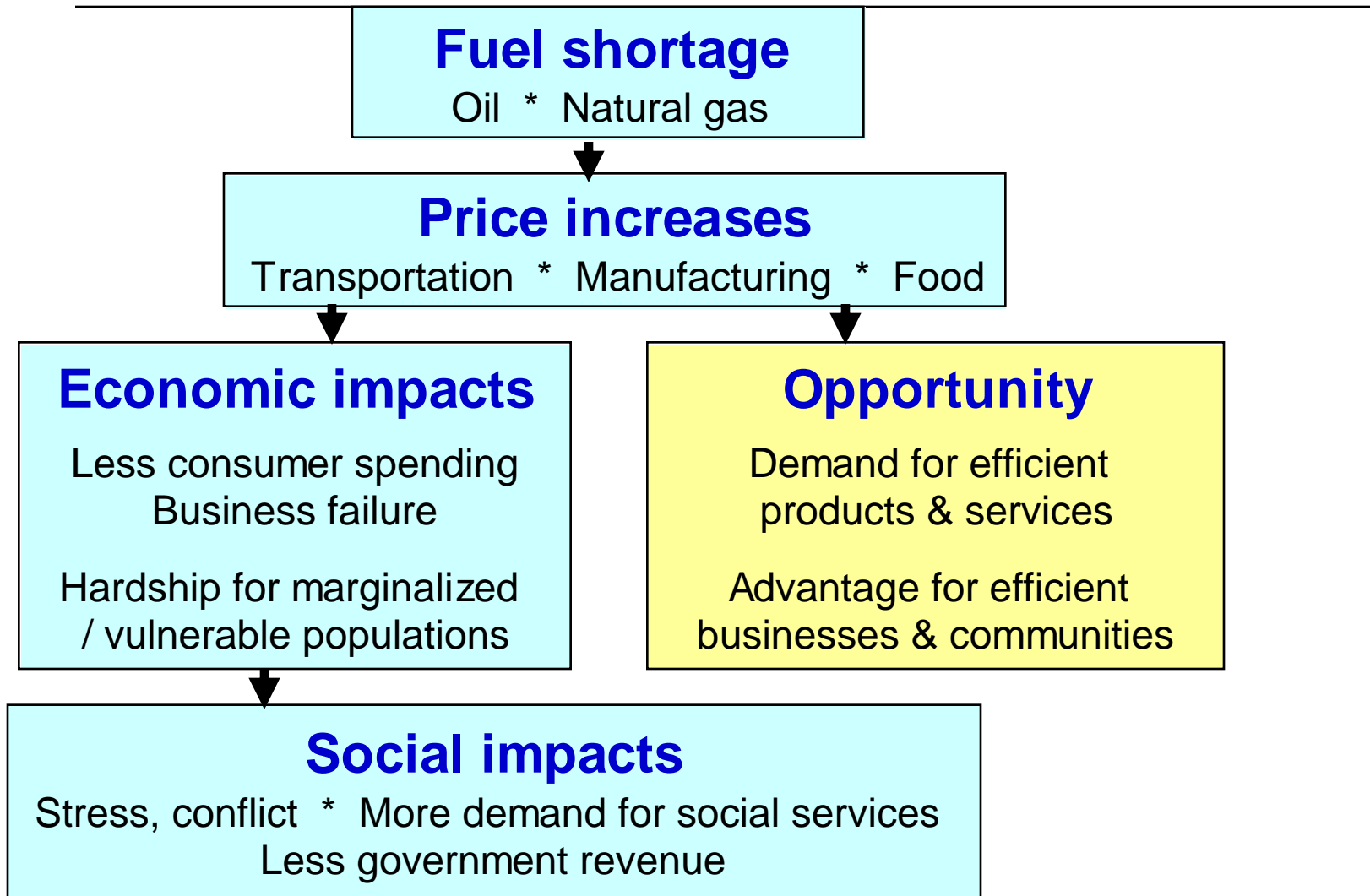
- The Portland City Council charged the Task Force with four key tasks:
 1. Review information
 2. Seek community and business input
 3. Develop recommendations
 4. Propose methods of educating the public
- Twelve Members – Range of background and professions
- Four Subcommittees
- Approx 100 people/organizations participating and providing feedback



Task Force Results

- Task Force Findings/Impacts
- Eleven Task Force Recommendations
 10. Protect vulnerable and marginalized populations.
 11. Prepare emergency plans.

Impact Pathways



Task Force Findings about Vulnerable Populations

○ Vulnerable Populations are affected in:

- Transportation
- Food / Agriculture
- Economy
 - ✓ Unemployment
- Public Health
- Social Services
- Health Care
- Education
- Police and Fire
- Housing





Impacts

○ Transportation

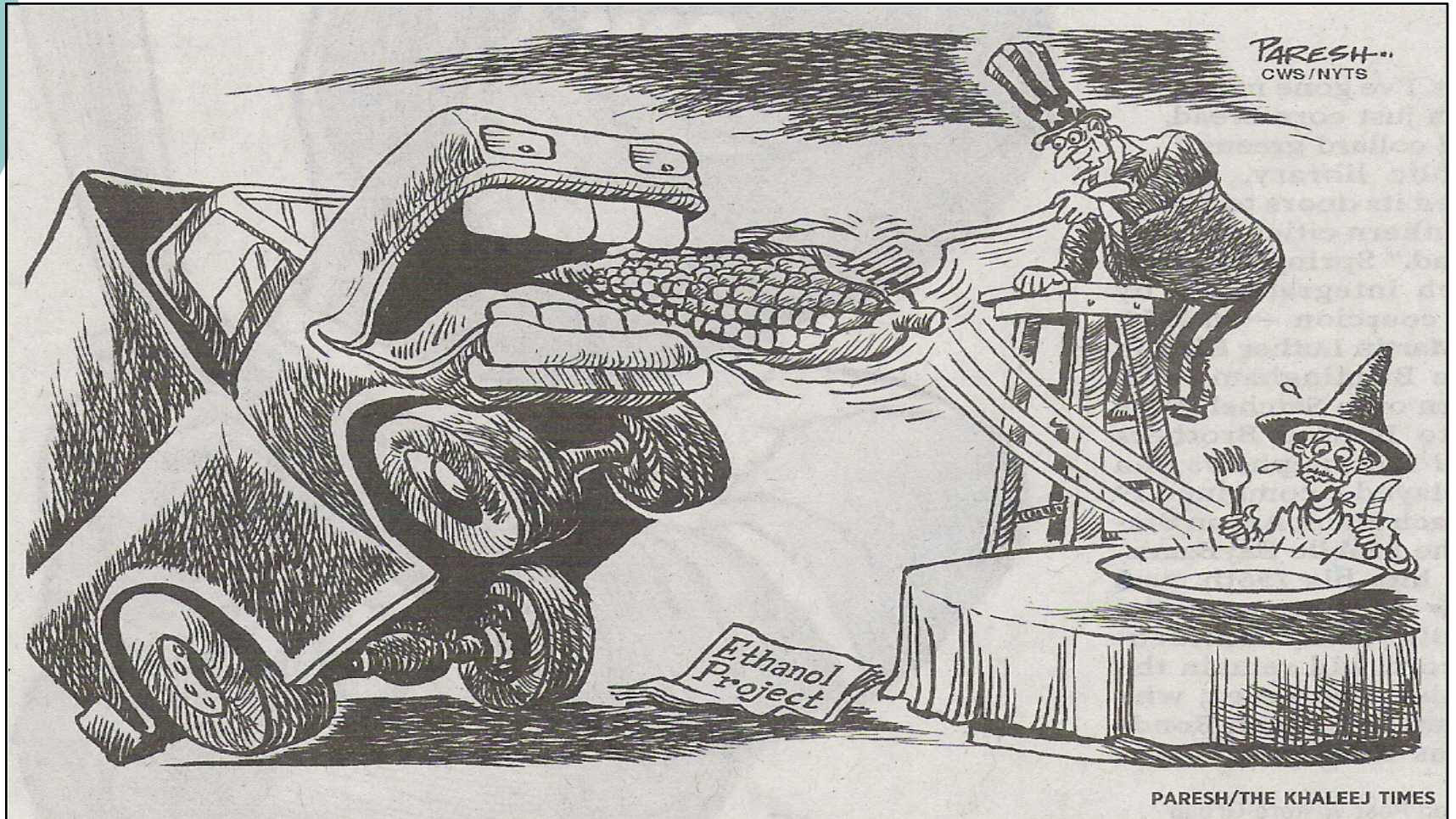
- Auto use will decline and people will seek out alternative transportation.
- Population will likely shift to city centers, density and mixed-use development will increase



Food and Agriculture Impacts

- Decrease in the amount and variety of food produced.
- Food will cost more
 - Low Income Households could see a decline in diet and nutrition
- Households will experience pressure to grow, process, and handle their own food

The Ethanol Effect



Who is affected?

- School Lunch Programs
- Low income children and infants
 - WIC Programs – increased costs...





Impacts on Business, Economy, and Jobs

- Increased unemployment and “New Vulnerables”
- Loss of health care support for the unemployed
- Portland “in-migration”




Impacts of Public and Social Services

- Vulnerable and marginalized populations will grow and be hit first and hardest
- Reduction in health care coverage
- Protection of public's health will be at an increased risk
- Demand for social services will increase, but the ability to provide services will decline



Impacts of Public and Social Services

- Costs of maintaining school facilities may increase
- First responders, especially police, may become primary service providers as social services struggle to meet demand
- Competitive, individualistic responses could erode community spirit and cohesion



Recommendations: Act Big, Act Now!

- Goals:
 - Reduce Portland's Exposure
 - Strengthen Community Cohesion
- Guiding Principles:
 - City Leadership
 - Immediate Action
 - Economic and Social Benefits
 - Demand Reduction
 - Vulnerable and Marginalized Populations
 - Global Warming



MCHD White Paper

Specific Public Health Issues

- Impacts on Client access to care
- Difficulty for HD to distribute services
- Increase health related exposures and vulnerability to illness.
- Cold Storage and perishability of Vaccines
- Increased costs of Healthcare impacting HD treatment and prevention services

John Dougherty, PhD, Multnomah County Health Department White Paper,
2/12/07



MCHD (continued)

- Increase in private gardens = contamination of food?
- Health risks from household food storage may increase (canning/botulism connection)
- Increase in animal husbandry in urban - suburban areas may increase risk of infections
- Concern that use of wood and coal for energy and heating will increase respiratory illnesses



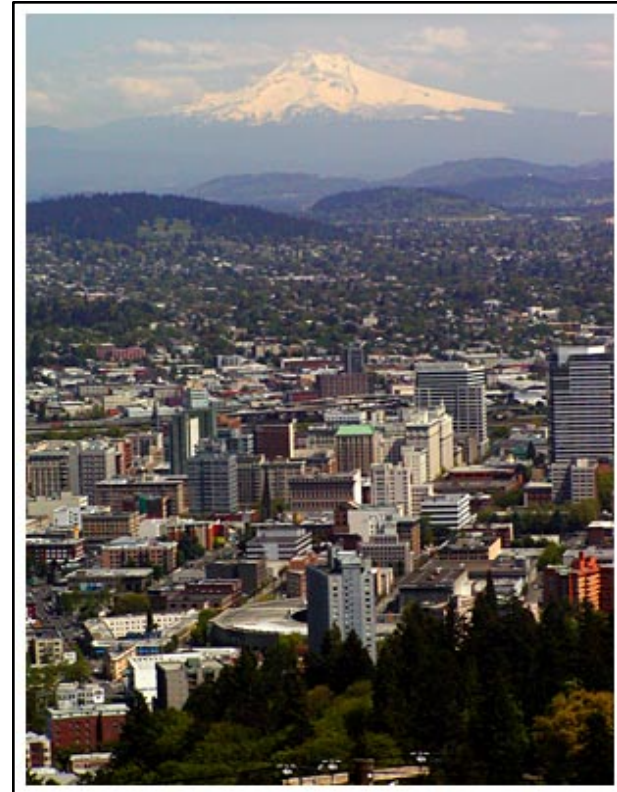
Other MCHD Ideas

- Redesign of the safety net and protecting Vulnerable and Marginalized populations
- Collaborate with the City and State regarding health and peak oil emergency planning

Solutions

○ People...

○ Systems...



Everything's Connected!



**Transportation
Food/Agriculture
Urban/Regional Planning
Economics**

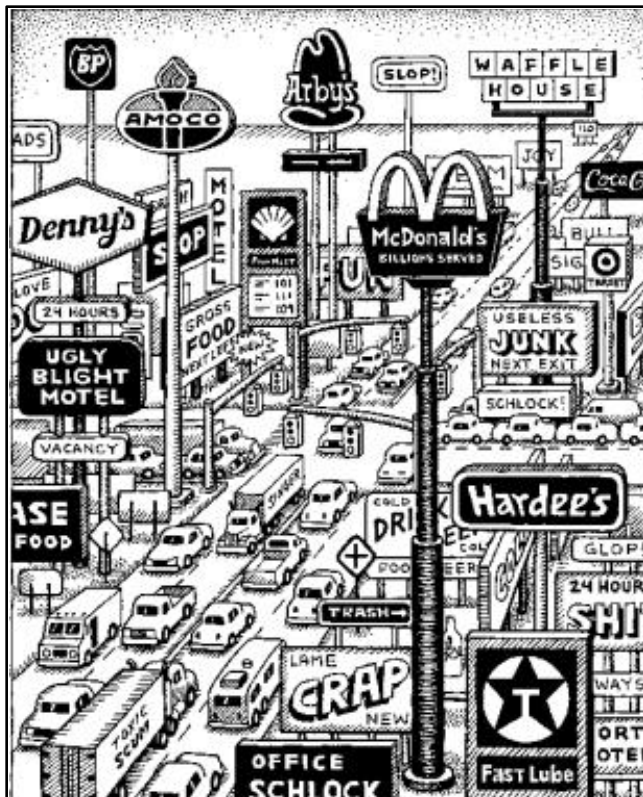
**Public Health
Health Care
Social Services
Education**

**Communities
Disenfranchised Populations**

Conservation, Transportation & Land Use Policies

From This ...

To This



Assets of Vulnerable & Marginalized Populations

- Elderly and the Great Depression
- Low-income population skills
- “Outside-the-box” strategies



More Information...

- Portland Office of Sustainable Development
 - Peak Oil Task Force Report
 - <http://www.portlandonline.com/osd/index.cfm?c=ecije>
- Frumkin, et al., Oct 10, 2007., Peak Petroleum and Public Health. JAMA, vol28, 14, 1688-1690.
- Lesa Dixon-Gray, lesadg@gmail.com



GOOGLE

THIS



PEAK OIL



Special Thanks to...

- Trell Anderson
- Michael Armstrong
- Margery Bare
- G. Daniel Bednarz
- Elizabeth Baxter
- Pam Brown
- Catherine Diviney
- John Dougherty
- Howard Frumkin
- Andy Firdley
- Kay Hall
- Brian Hoop
- John Kaufmann
- John Kitzhaber
- David Labby
- Wayne Lei
- James Mason
- Mary McKee
- Cathy Mincberg
- Judy Mohr-Peterson
- Jim Newcomer
- Eric Pippert
- Carole Romm
- Patty Rueter
- Jeri Shumate
- Charles Stevens
- Bryan Winchester
- Deborah Ward