

**Transport and Land Use in the Basque Country, in
Europe and in the World:
Strategy to Achieve Sustainability**

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History

- **History can only be understood looking backwards, but it must be lived moving forward**

Paraphrased from Kierkegaard

Phoenix and the Cod

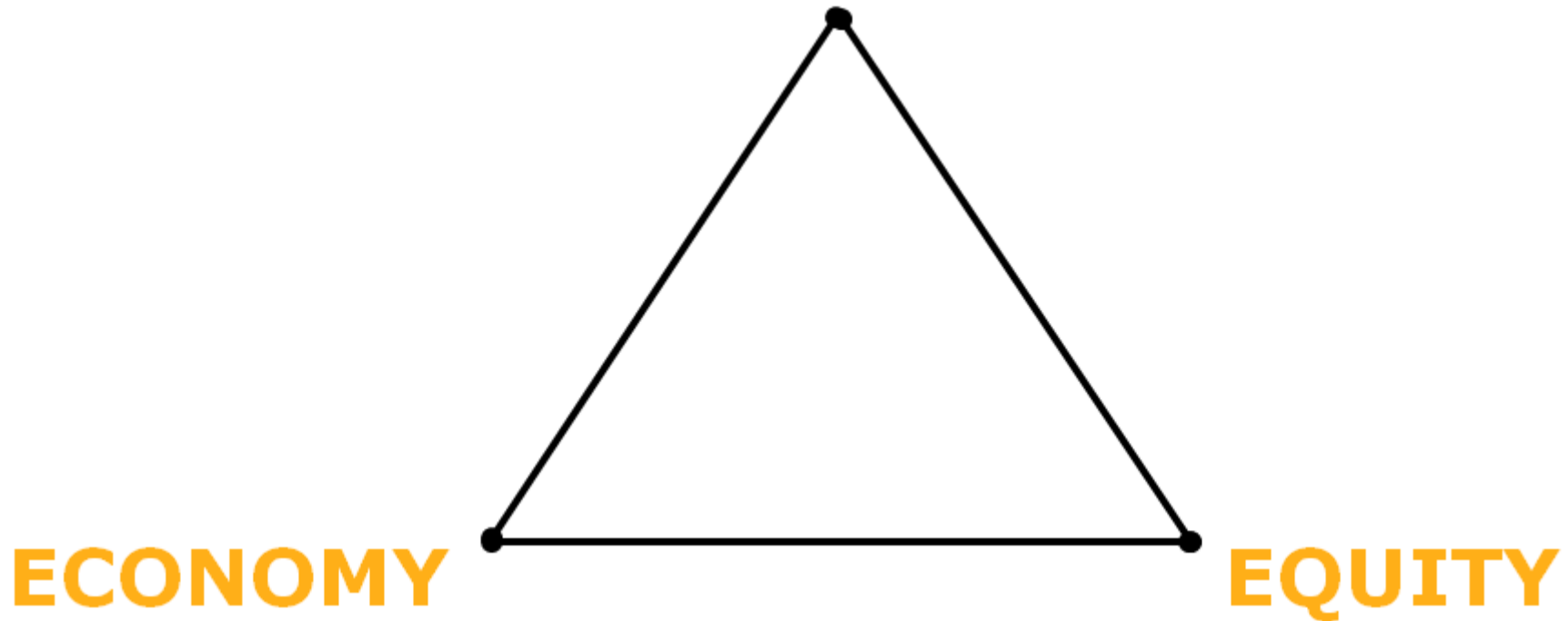
- **The Basque Country and Massachusetts**
- **Cod fish**
- **Shipbuilding**
- **Trade with San Francisco and China**
- **Loss of traditional strategic businesses led to rebirth**

Method to Stay Awake during this Discussion

- **Expect an Aesop Fable**
- **An Italian Saint**
- **An English nursery rhyme**
- **An Italo-American Joke**

1987 Brundtland Commission

ENVIRONMENT



Environment is, and is not, about frogs

- **The Canary in the Coal Mine**
- **Free Supplies of Clean Water
and Air**

Equity is not about the equality of the grave, but access to opportunity for all

- **Inequality is inevitable as economic growth occurs differentially in different places**

Economic Growth is necessary to improve Equity

- **But is not about theft from my children**
- **Investment is not gambling**

Sustainability is not about “Balance”

- **Danielle Principle**
- **Not about better than
business as usual**

The Kyoto Agreement does not represent Sustainability

- **The Climate Change Problem has been caused by the changes from 1790 to 1990, not by the changes from 1990 to the present**

The Economy, Equity and the Environment are now all global issues

- **Economic activity shifting to lowest cost locations**
- **Equity and Environment can be undermined by trade without regulations**
- **Greenhouse gas production anywhere in the planet is equally damaging**

Technology can be both a problem and at times a solution

- **Beech Trees**
- **Redwood Forest**
- **New Technology
generates a need for more
Government Regulation**

Pollution per Vehicle will hopefully get to its technological Frontier – But not be nearly enough

Fuel consumption, pollution, Greenhouse Gases =

$$\frac{\{ \underline{\text{vehicles}} \}}{\{ \text{population} \}} (\text{population}) \frac{\{ \underline{\text{VMT}} \}}{\{ \text{vehicle} \}} \frac{\{ \underline{\text{Fuel, pollution, GHG}} \}}{\{ \text{VMT} \}}$$

Drilling more petroleum in Alaska will not reduce Greenhouse Gas Generation

- **Shouldn't someone tell President Bush?**
- **Current Trucker's Strike**

Prometheus, Technology and Pandora

- **The Ancient Greeks knew something**

Implementing Change is Difficult

The New has few supporters

Niccolo Machiavelli, XV Century

To Achieve Sustainability we will need to deal with the Land Use and Transportation System

- **Roadway congestion may be a problem which helps generate the political will to achieve solutions**

Accessibility and Agglomeration are essential for economic growth, but may not require the size of London or Paris

- **The Ancient Greek network of cities**
- **Mikel Murga's theory of metro areas of one million people**
- **Accessibility to green has value**
- **The Walking City is key**
- **Buses, BRT, LRT, Metros and High Speed Rail all help make the Walking City accessible and help to achieve agglomeration benefits**

Lifespan of different investments

- **Automobiles last 10 to 15 years**
- **Housing units last 50 to 100 years**
- **Highways last 50 years**
- **LRT last 75 years**
- **Metros last 150 years**
- **Bus routes can change in 1 year**

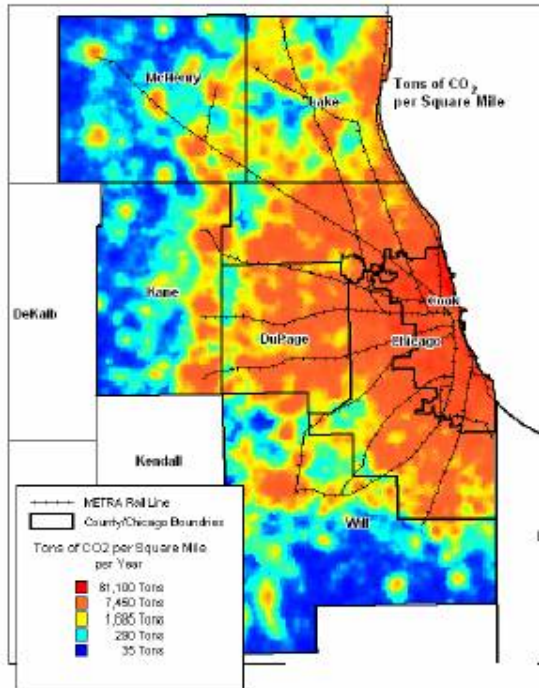
We need to reverse the tyranny of small decisions

- **Each automobile purchased, each parking space built, each green location converted to sprawl development, leads to unsustainable outcomes and a vicious cycle**
- **Effective civic and government action is required to develop virtuous cycles, where individual actions lead to civic improvement**

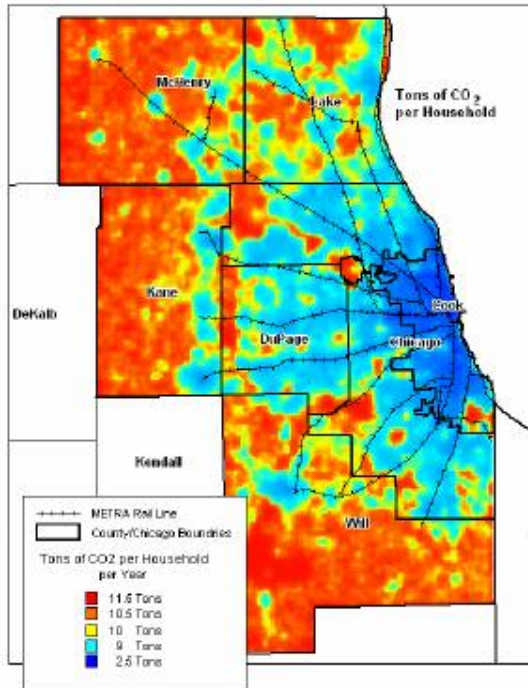
Externalities

Two Views of Cities and CO₂
CO₂ Generated by Automobiles in the Chicago Region per Year

Traditional View:
Cities produce large amounts of GHGs.



Emerging View:
City dwellers produce relatively low amounts of GHGs.



Each color represents one fifth of the land area on each map.

CO₂ concentration

CO₂ produced *per household*

Source: The Center for Neighborhood Technology

- ◆ The Environmental Protection Agency has designated the region as a non-attainment area for ozone and particulate matter.
- ◆ Carbon dioxide and other pollution from automobiles is concentrated in the region's core due to the higher residential and employment densities in Chicago
- ◆ Air pollution *per household* is the lowest in the core of the region, corresponding with the heart of the CTA system
- ◆ The availability and quality of CTA services helps attract people from their cars and limit vehicle emissions
- ◆ If CTA is forced to reduce service and drive customers away from transit, air pollution in the entire region will become much worse

Spinach and Popeye

- **Add olive oil and garlic**
- **Mikel Murga and Public Spaces**

Baumol's Principle

- **Cost of locally produced goods rises faster than the rate of inflation without innovation**
- **Government intervention is necessary where innovation is below average**
- **Agarophobia is more severe for public goods**
- **The Hidden Part of the Iceberg**

The Organization of Political Will

- **Aesop Fable**
- **St Francis of Asisi**
- **Jack Sprat and his wife**
- **Civic consensus versus 51/49 Politics**

1950's Italo American Ethnic Joke

- **Arantza is using us as stones for your stone soup**