Outline

1. What is Sustainable Tourism Development?
2. What is Sustainable City Development?
3. What is Tourism’s Relationship to Sustainable Cities?
4. How Do Planners Make Cities Sustainable?
5. How Does Urban Planning Theory Inform Sustainable City Tourism?
1. What is Sustainable Tourism Development?
“Sustainable Tourism Development”

• Subset of *Sustainable Development*  
  — a Type or Form of Sustainable Development

• Subset of *Tourism Development*  
  — a Type or Form of Tourism Development

ST = Applying “Sustainable Development” Concepts to the Tourism Industry and related Social, Environmental and Economic Aspects of Tourism and Travel

Electric “Go” Cars for Tourists in San Francisco
2. What is Sustainable City Development?
Thoreau was wrong. Living in the country is not the right way to care for the Earth. The best thing that we can do for the planet is build more skyscrapers.

Edward L. Glaeser
professor of economics
Harvard University
High Density Places are more Sustainable than Low Density Places

<table>
<thead>
<tr>
<th>Metropolitan Statistical Area</th>
<th>Suburb-City Difference in Emissions from Driving and Public Transportation</th>
<th>Suburb-City Difference in Emissions from Home Heating</th>
<th>Suburb-City Difference in Emissions from Electricity</th>
<th>Suburb-City Difference in Total CO₂ Output Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York, NY</td>
<td>4,462</td>
<td>5,650</td>
<td>4,015</td>
<td>14,127</td>
</tr>
<tr>
<td>Nashville, TN</td>
<td>6,549</td>
<td>986</td>
<td>3,911</td>
<td>11,446</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>5,066</td>
<td>4,460</td>
<td>1,837</td>
<td>11,363</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>4,409</td>
<td>958</td>
<td>5,676</td>
<td>11,043</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>4,575</td>
<td>838</td>
<td>4,926</td>
<td>10,339</td>
</tr>
</tbody>
</table>

**Moderate Suburb-City Difference (Selected)**

<table>
<thead>
<tr>
<th>Metropolitan Statistical Area</th>
<th>Suburb-City Difference in Emissions from Driving and Public Transportation</th>
<th>Suburb-City Difference in Emissions from Home Heating</th>
<th>Suburb-City Difference in Emissions from Electricity</th>
<th>Suburb-City Difference in Total CO₂ Output Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco, CA</td>
<td>4,883</td>
<td>2,678</td>
<td>2,078</td>
<td>9,639</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>2,470</td>
<td>140</td>
<td>5,757</td>
<td>8,367</td>
</tr>
<tr>
<td>Houston, TX</td>
<td>2,799</td>
<td>676</td>
<td>4,726</td>
<td>8,201</td>
</tr>
<tr>
<td>Dallas, TX</td>
<td>2,806</td>
<td>-884</td>
<td>4,009</td>
<td>5,931</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>1,983</td>
<td>-219</td>
<td>1,102</td>
<td>2,866</td>
</tr>
</tbody>
</table>

**Smallest Suburb-City Difference**

<table>
<thead>
<tr>
<th>Metropolitan Statistical Area</th>
<th>Suburb-City Difference in Emissions from Driving and Public Transportation</th>
<th>Suburb-City Difference in Emissions from Home Heating</th>
<th>Suburb-City Difference in Emissions from Electricity</th>
<th>Suburb-City Difference in Total CO₂ Output Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tampa, FL</td>
<td>2,858</td>
<td>-873</td>
<td>-1,239</td>
<td>746</td>
</tr>
<tr>
<td>Dayton, OH</td>
<td>1,270</td>
<td>-2,893</td>
<td>1,534</td>
<td>-89</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>3,297</td>
<td>-3,744</td>
<td>318</td>
<td>-129</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>857</td>
<td>-119</td>
<td>-2,455</td>
<td>-1,717</td>
</tr>
<tr>
<td>Detroit, MI</td>
<td>2,263</td>
<td>-6,800</td>
<td>48</td>
<td>-4,585</td>
</tr>
</tbody>
</table>
City Sustainability

• **Compact Residences**
  – Fewer Resources to
    • Deliver Goods & Services
    • Construct & Maintain Buildings
    • Warm & Cool Buildings
  – Supports Resource Conservation
    • Agricultural lands, Wetlands & Water Catchments

• **Transportation**
  – Lower Transportation Ownership Expenses
    • Better public transit
  – Shorter Distances
    • Much less fuel usage per person/goods per km/mi
How To Make Cities *Even More* Sustainable?
VANCOUVER, CANADA

- Population: 605,000
- Consistently very high “livability” rankings (QOL)
- Hydroelectric power = 90% of its electrical energy supply
- Wind, solar, and wave power also used
- Mass transit, 248 miles of bike lanes, ride sharing programs
- Lowest per capita carbon emissions of large cities in North America

2020 goals:
- “World’s Greenest City”
- Decrease carbon emissions 33% more
- New carbon neutral green building codes
- Upgrading energy efficiency of existing buildings by 20%
- Electric Vehicles (EVs) at 15% of new vehicle sales
SAN FRANCISCO, U.S.A.

- Population: 805,000
- Rated “Greenest City” in North America
- Among most densely populated cities in US
- High air quality, waste management, & eco-friendly commuting
- Recycles 77 percent of its waste
- Almost 20% of land to green spaces
- Almost 500 LEED-certified green buildings
  - >160 public EV charging stations (most in US) - plans 2,750 more;
  - >1000 EVs & 5000 plug-in hybrid vehicles by the end of 2012
  - “Battery-swapping” stations (mid-2012) for a 60-car EV taxi fleet
SINGAPORE

- "Sustainable City Model for Asia" (Branding)
  - Clean technologies hub for tropical cities
- Urban “Greenery“ (Architecture & Landscape Architecture)
  - Open Space & Parks; Low/No-Energy Buildings; Green Roofs
- Compact City, TOD cores, Integrated Leisure Plan
- Water Conservation since 2003 - diversified sources, recycling water; desalinization = 10% of Singapore's water
- Currently Weakness: Renewable Energy – High A/C Dependence
  - 80% Natural Gas dependent; Poor retrofitting older buildings
- Sustainability Master Plan – 2030 Goals
  - Expand Renewable Energy: Solar; Smart Grids, EVs
  - Recycling: 56% of solid waste is recycled now, goal 70%
    - Recycled material for constructions industry
Singapore
“ABC Waters Plan”

- Active, Beautiful & Clean
  > 100 New urban spaces related to water by 2020

- “Our waterways and reservoirs should do more than meet our water needs. They should also enhance our living environment and lifestyle. In the past we protected our water resources by keeping people away from them; now we will bring people closer to water so that they will enjoy and cherish it more.”
  - Prime Minister Lee Hsien Loong
3rd Annual Sustainable Cities 2011
27 – 30 September 2011
Pan Pacific Hotel, Singapore

Building Liveable Cities of the Future through Green Design and Good Governance

Sustainable City Project Showcase:

- Wanzhuang Eco-City, China
- FPT City, Vietnam
- Chenjia Town Eco Community, China
- Yokohama Smart City, Japan
- City of Sydney, Australia
- BSD City Green Office Park, Indonesia
Most Sustainable Cities

• **Quality of Life / Sense of Place**
  - Community-wide Green/QOL Goals
    - Long Term Planning
  - Open Green Space/Parks
  - Healthy Air & Water Quality
  - Targeted Benefits to Low Income Communities
  - Integrated Land Use & Transportation Planning
  - Protected Forests, Agricultural Lands & Waterways

• **Environmental Footprint**
  - Non-carbon Energy: Hydro, Bio-fuels, Wind
  - Low/Non-Carbon Transit: Mass, EVs, Bikes, Walkability
  - Green Buildings: Codes, Certifications, Retrofitting
  - Recycling-based Waste Management
3. What is Tourism’s Relationship to Sustainable Cities?
Tourism and City Sustainability

• SCD – Sustainable City Development Policies
• TD – Tourism Development Approaches

• SCT – Sustainable City Tourism
  1. City Sustainability Policies that Impact Tourism
  2. Tourism Development that Impacts City Sustainability
1. Sustainable City Impacts on Tourism

• Quality of Life & Sense of Place
  – Open Space/Parks = Recreation Opportunities for Tourists
  – Air & Water Quality = Healthy Environment for Tourists
  – Low Income Communities = Lower Perceived Crime Threats
  – Integrated Land & Transport = Easier Movement for Tourists
  – Protected Lands/Sites = Diversification of Tourism Resources

• Environmental Footprint
  – Low/Non-Carbon Energy, Transit & Buildings & Recycling
    • Reduces Environmental Footprint of Tourists & the Tourism Industry
    • May Reduce Costs of Tourism Industry Facilities
2. Tourism Impacts on Sustainable Cities

- **Quality of Life & Sense of Place**
  - **Tourist Attractions** = Open Space/Parks; Protected Lands
  - **Tours & Attractions that Educate** = Air & Water Quality
  - **Tourism Industry Employment** = Low Income Communities
  - **Tourism Development Sites** = Integrated Land & Transport; and Enhancing Protected Lands
  - *Also: Globalization & Heritage Issues*

- **Environmental Footprint**
  - **Tourism Development: Buildings, Sites/Locations**
    = Alternative Transit & Buildings
  - **Tourism Business Practices**
    = Low/Non-Carbon Energy & Water Use; and Waste Recycling
SUSTAINABILITY FOR TOURISM

• “Why do we do all this? Because it’s the right thing to do. We’re consistently among the top travel destinations in the world. We think people are attracted to the values of this city.”

  – Gavin Newsome, Mayor of San Francisco
4. How Do Planners Make Cities Sustainable?
The Challenge

1. **Complexity of Data & Issues**
   1. What data do we collect?
   2. How do we organize & analyze it?
   3. How do we use it for decision making?
      = **Functional Theory**

2. **Values, Assumptions, Politics & Goals**
   1. Who do we work for?
   2. What is our ultimate goal?
   3. Do our methods support our goals?
      = **Substantive Theory**
Functional Theory: The Rational Planning Process

1. Identify a Problem
2. Identify a Goal
3. Collect Background Data
4. Develop Alternative Plan Scenarios
   = Policies and Guidelines to Achieve the Goal
5. Assess Alternative Scenarios
6. Select the Preferred Scenario Plan
7. Implement the Plan
8. Monitor, Evaluate & Revise the Implementation
9. Identify New Problems & Begin the Process Again
Rational Planning

Assumptions & Criticisms

1. People Behave Rationally
   – People & Events are Predictability
2. Perfect Information Knowledge
   – Data Collection is Affordable
3. Unlimited Problem Solving
   – Ability to Identify all Alternatives
4. Objective Facts in a Closed System
   – No Values, Subjectivity & Unforeseeable Variables
5. Rational-Deductive Sequence of Events
   – If ‘A’ happens, ‘B’ will follow; No Political Strategies
Rational Response: *Incremental Planning*

- Accepts Obvious Shortcomings of Rationality
  - Limited time horizons
  - Political decision making
  - Limited and imperfect information
  - Limited time & money for data collection
  - Social values & beliefs as important as facts
  - Open, rapidly changing system; unforeseeable events
  - Planning is disjointed, flexible, small steps & constant

- Developed in US Peace Corps in the 1960s
- Still Assume Ability to Explain, Predict & Control
The Problem: *Reality*

- **TAME Problems**
  - Physical Planning Problems
    - Engineering & Accounting Solutions
    - Rational & Incremental Planning Methods
  - Most “Green” and ISO Certification programs
  - Alternative Fuels for Airplanes

- **WICKED Problems**
  - Social Planning Problems
    - Problems change - perceptions of problems change
    - Quantification is difficult - no clear methods or rules
    - Difficult to formulate or define the precise problem
    - Do not know when the problem is solved
    - Not a 'true/false' decision, but rather a 'better/worse' one
    - No opportunity for trial and error
Urban Sustainable Tourism as a Wicked Problem

- **TAME PROBLEMS: How Tourism Contributes to Environmental Footprint**
  - Low/Non-carbon Energy & Transit
  - Green Buildings; Recycling-based Waste Management; Local Sourcing
  - Examples:
    - Most “Green” & ISO Certifications; Alternative Fuels for Airplanes

- **WICKED PROBLEMS: How Tourism Contributes to Livability / QOL**
  - Creating - Community-wide Agreement on Green Goals
  - Creating - Open Green Space/Parks
  - Supporting - Healthy Air & Water Quality
  - Targeting - Benefits to Low Income Communities
  - Supporting - Integrated Land Use & Transportation Planning
  - Protecting - Forests, Agricultural Lands, Waterways, Heritage
    - *All Require: Time, Money, Changing Attitudes & Behavior*
How do Planners deal with Wicked Problems?
Advocacy Planning

- From 1960s – Adversarial approach
- Defending the Weak against the Strong
  - Weak = Poor; Disenfranchised; Environmental causes
- Successful in blocking insensitive planning
  - especially ‘Urban Renewal’
- Major tool: Development of ‘Plural Plans’
  - different plans for different sectors of the community
- Criticized for blocking / inhibiting efficient planning
- Social Policy & Environmental Justice important issues
- Sustainable Development
  - ‘mainstreaming’ of advocacy issues
Radical Planning

• 1 = Idealism, Self-reliance, Mutual aid, Personal Growth & Personal Freedom
  – Deep Ecology, Humanism, Libertarianism
    • Minimum state intervention / Maximum individual participation
    • Tea Party Movement in US

• 2 = Marxist Socialism & Community Power
  – Class Structure & Economic Relationships
    • “Political economy” approach
  – Social Movements & Labor Struggles
    • political activity is more important than market rationality
    • Occupy Wall Street Movement
Transactive Planning

— also called ‘Post Rational Planning’ by some
— a response to the failures of Advocacy Planning

• **Based on:**
  — Social Learning Theory
    • How do societies learn (and change)
  — Interpersonal Interaction

• **Planners Job =**
  — Facilitate Shared Understanding among people
  — Dialogue & Mutual Learning with clients/people

• **Major criticisms**
  — very time consuming & difficult
  — very personal & subjective
## Comparison of Approaches

<table>
<thead>
<tr>
<th></th>
<th>Rational Planning</th>
<th>Advocacy Planning</th>
<th>Transactive Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Audience / Client</strong></td>
<td>decision maker</td>
<td>an underrepresented group or interest</td>
<td>society / &quot;the people&quot;</td>
</tr>
<tr>
<td><strong>View of self (planner)</strong></td>
<td>rational analyst &amp; technician</td>
<td>rational analyst &amp; change agent</td>
<td>catalyst / inventor &amp; change agent</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>scientific rationalism</td>
<td>science &amp; politics</td>
<td>dialogue &amp; politics</td>
</tr>
<tr>
<td><strong>Techniques</strong></td>
<td>analytical</td>
<td>analytical &amp; process</td>
<td>process &amp; synthesis</td>
</tr>
<tr>
<td><strong>Data</strong></td>
<td>objective &amp; processed</td>
<td>objective &amp; processed</td>
<td>objective &amp; processed, + subjective &amp; personal</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>solution perceived best for client</td>
<td>solution perceived best for client</td>
<td>a working solution &amp; continuing process</td>
</tr>
</tbody>
</table>
5. How Does Urban Planning Theory Inform Sustainable City Tourism?
Environmental Footprint Challenge as a Functional Planning Issue

- **Problems are**: Explicit & Clear, Quantifiable, Incremental, Safe
- **Authority is**: Hierarchical, Authoritarian, Centralized
- **Planning**: Rational, Incremental

- **Tourism’s Goal**:
  - Reducing Environmental Footprint of Tourists & the Tourism Industry

- **Tourism Development**
  - Low Impact Building Techniques
  - Integrated Land Use & Transit Planning
    - \( TOD = \) Transit Oriented Development

- **Tourism Business Practice**
  - Low/Non-Carbon Energy Use; Water Conservation; Waste Recycling
Quality of Life & Sense of Place as Substantive Planning Issues

- **Problems are:** Implied, Vague, Subjective, Political, Threatening
- **Authority is:** Decentralized, Egalitarian, Undefined
- **Planning:** Advocacy, Radical, Transactive

- **Tourism Issue:** *Quality of Life / Livability*
  - Supporting Air & Water Quality
  - Low Income Communities
    - Employment, Training
  - Public Open Space & Parks
  - Diversification of Tourism/
    - Economic Resources

- **Tourism Issue:** *Sense of Place & Globalization*
  - Protected Buildings, Lands & Other Cultural Resources
  - Integrated Land & Transport (TODs)
  - Tours & Attractions that Educate (Interpretation)
Conclusion

Sustainable development for Singapore means growing our city state in a way that:

– **Is efficient**: we develop with less resources & waste
– **Is clean**: we develop without polluting our environment
– **Is green**: we develop while preserving greenery, waterways & our natural heritage