

Strategic Energy and Sustainability Planning Fundamental Steps and Case Study: El Paso, TX



Presenters:

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Presenters



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Who's on First? ...Cities Taking a Lead in Sustainability Planning

Disclaimer: Rankings do not reflect the thoughts or opinions of DOE office of EE/RE or NREL...

America's 50 Greenest Cities

1. Portland, Ore.
2. San Francisco, Calif.
3. Boston, Mass.
4. Oakland, Calif.
5. Eugene, Ore.
6. Cambridge, Mass.
7. Berkeley, Calif.
8. Seattle, Wash.
9. Chicago, Ill.
10. Austin, Tex.
11. Minneapolis, Minn.
12. St. Paul, Minn.
13. Sunnyvale, Calif.
14. Honolulu, Hawaii
15. Fort Worth, Tex.

Source: Popular Science
<http://www.popsci.com/environment/article/2008-02/americas-50-greenest-cities?page=1>

America's Most Walkable Neighborhoods

- 1 **San Francisco**- Chinatown, Financial District, Downtown
- 2 **New York**-Tribeca, Little Italy, Soho
- 3 **Boston** -Back Bay-Beacon Hill, South End, Fenway-Kenmore
- 4 **Chicago**-Loop, Near North Side, Lincoln Park
- 5 **Philadelphia** -City Center East, City Center West, Riverfront
- 6 **Seattle**-Pioneer Square, Downtown, First Hill
- 7 **Washington D.C.**-Dupont Circle, Logan Circle, Downtown
- 8 **Long Beach**-Downtown, Belmont Shore, Belmont Heights
- 9 **Los Angeles**-Mid City West, Downtown, Hollywood
- 10 **Portland**-Pearl District, Old Town-Chinatown, Downtown
- 11 **Denver**-Lodo, Golden Triangle, Capitol Hill
- 12 **Baltimore**-Federal Hill, Fells Point, Inner Harbor
- 13 **Milwaukee**-Lower East Side, Northpoint, Murray Hill
- 14 **Cleveland**-Downtown, Ohio City-West Side, Detroit Shoreway
- 15 **Louisville**-Central Business District, Limerick, Phoenix Hill

Source: <http://www.walkscore.com/rankings/most-walkable-cities.php>

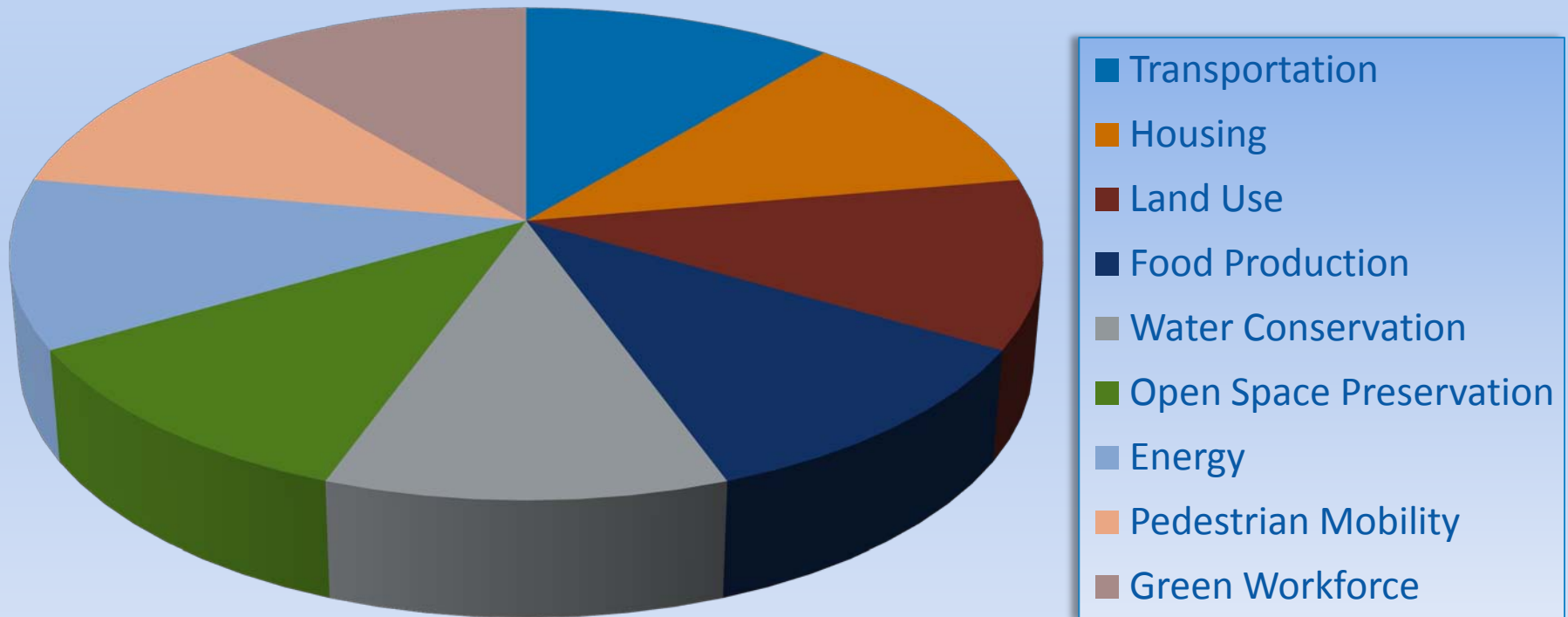
Sustain Lane's 2008 City Rankings

1. **Portland, OR**
2. **San Francisco, CA**
3. **Seattle, WA**
4. **Chicago, IL**
5. **New York, NY**
6. **Boston, MA**
7. **Minneapolis, MN**
8. **Philadelphia, PA**
9. **Oakland, CA**
10. **Baltimore, MD**
11. **Denver, CO**
12. **Milwaukee, WI**
13. **Austin, TX**
14. **Sacramento, CA**
15. **Washington, DC**

Source:
<http://www.sustainlane.com/us-city-rankings/overall-rankings>

What Does A Community Sustainability Plan Include?

A Few of the Elements in Sustainability Planning



Organizations Working in the Field of Sustainability



ICLEI's 10 Keys to Sustainability Planning

Key #1: Hire a sustainability coordinator to run the show

Key #2: Obtain buy in from a big wig

Key #3: Form teams that build bridges across city departments-and beyond city hall

Key #4: Develop a greenhouse gas inventory

Key #5: Define clear relevant and measureable goals

Key #6: Get regular people to tell you what sustainability goals are important to them

Key #7: Develop implementation plans within your plan

Key #8: Take a deep breath and release a draft plan for public comment

Key #9: Obsessively track the implementation status of your measures

Key #10: Remain accountable to the public

<http://www.icleiusa.org/sustainabilitytoolkit>

Where do we start?

- General Resources for Sustainability Planning

APA Planners Energy and Climate Database

[http://www.planning.org/research/energy/database/index
.htm](http://www.planning.org/research/energy/database/index.htm)

Rocky Mountain Land Use Institute: Sustainable Community Development Code Initiative

[http://www.law.du.edu/index.php/rmlui/sustainable-
community-development-code](http://www.law.du.edu/index.php/rmlui/sustainable-community-development-code)

Where has NREL entered into Sustainability Planning?

Rebuilding Greensburg, KS, as a Model Green Community: Case Study

<http://www1.eere.energy.gov/buildings/greensburg/pdfs/45135-1.pdf>

<http://greensburg.buildingscience.com/>

The cover features a dark purple background with white lightning bolts. At the top left is the NREL logo and the text 'National Renewable Energy Laboratory Innovation for Our Energy Future'. The title 'Rebuilding Greensburg, Kansas, as a Model Green Community: A Case Study' is in large white font. Below it, 'NREL's Technical Assistance to Greensburg' and 'June 2007 – May 2009' are listed. The cover is decorated with a grid of six images: a wind turbine, a silver Ford Hybrid SUV, a destroyed town, a new house, and workers on a roof. A vertical bar of colored squares (orange, yellow, red, orange, green) runs down the right side.

NREL National Renewable Energy Laboratory
Innovation for Our Energy Future

Rebuilding Greensburg, Kansas, as a Model Green Community: A Case Study

NREL's Technical Assistance
to Greensburg
June 2007 – May 2009

Lynn Billman
Technical Report
NREL/TP-6A2-45135
November 2009
[Link to Appendices](#)

NREL is a national laboratory of the U.S. Department of Energy,
Office of Energy Efficiency and Renewable Energy, operated
by the Alliance for Sustainable Energy, LLC.

Where has NREL entered into Sustainability Planning?

Sustainable NREL

http://www.nrel.gov/sustainable_nrel/

Sustainable NREL

- About Sustainable NREL >
- Energy Efficiency >
- Renewable Energy >
- Greenhouse Gas Reduction >
- Sustainable Buildings >
- Transportation >
- Water Efficiency >
- Waste Reduction >
- Environmental Management >
- Community Outreach >



Through our Sustainable NREL program, we are committed to "walking the talk" by minimizing our use of resources (energy, materials, and water) while receiving the maximum value from resources used — along with balancing environmental, economic, and human impacts.

The goal of our Sustainable NREL Program is to institutionalize sustainability at the laboratory and make NREL a global model for sustainability. As a sustainable organization, NREL manages:

- Economic viability — efficient operations, prudent investments, and maximum value
- Environmental stewardship — minimal resource use, minimal waste/pollution, natural processes, renewable resources, and restoration
- Public responsibility — good neighbor, safe working environment, and education.

Examples of NREL's Sustainability Efforts

NREL recently launched several new [on-site renewable energy projects](#), all using innovative private-sector financing. The following documents are available as Adobe Acrobat PDFs. [Download Adobe Reader.](#)

- The Renewable Fuel Heating Plant ([PDF 345 KB](#))
- The Mesa Top Photovoltaic (PV) Project ([PDF 410 KB](#))
- A 1.16 MW ground mount system at the [National Wind Technology Center](#) (NWTC).
- A 382 kW ground mount system near the Field Test Laboratory Building.

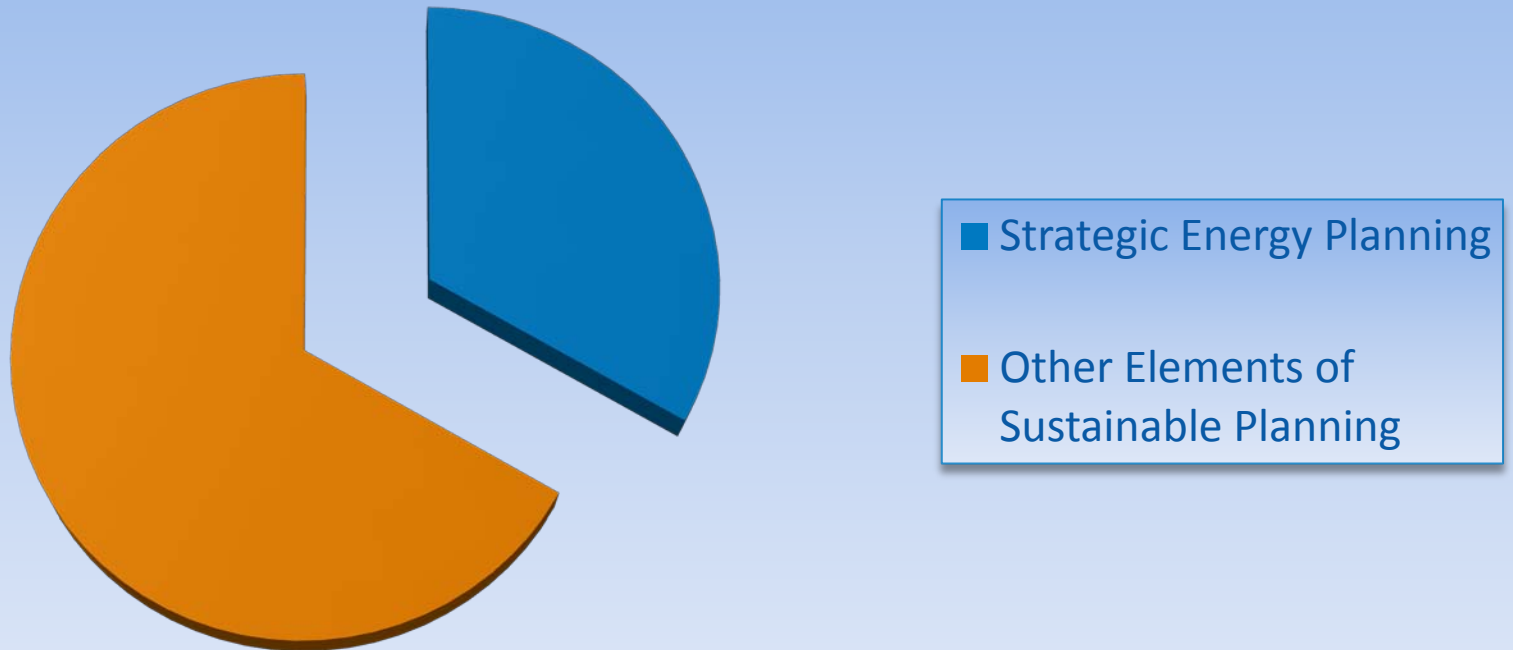
More Search Options SEARCH
Site Map

2008 Sustainability
Report Highlights
Lab's Progress
(PDF 2.5 MB) 
[Download Adobe Reader](#)



How Does Strategic Energy Planning Fit In?

Strategic Energy Planning is Part of Sustainability Planning



Why is Community Energy Planning important?



Q: What is a Strategic Energy Plan?

A: A roadmap to achieve community energy goals in the near and long terms.

Q: What does it look like?

A: Strategic energy plans can be brief documents used to inform decisions in city and utility planning, detailed guidebooks with goals, implementation plans, measurement and verification procedures, and reporting requirements.

Q: How long does it take to plan?

A: The initial strategic energy planning can take months to a year

Q: What are the benefits?

- Community buy-in for a plan that works for stakeholders
- Cost savings and increased comfort for consumers resulting from energy efficiency improvements.
- Delayed or cancellation of infrastructure development for the community.
- Reduced climate change impact from community.

Photo:
Melissa Peterson/PIX 16238

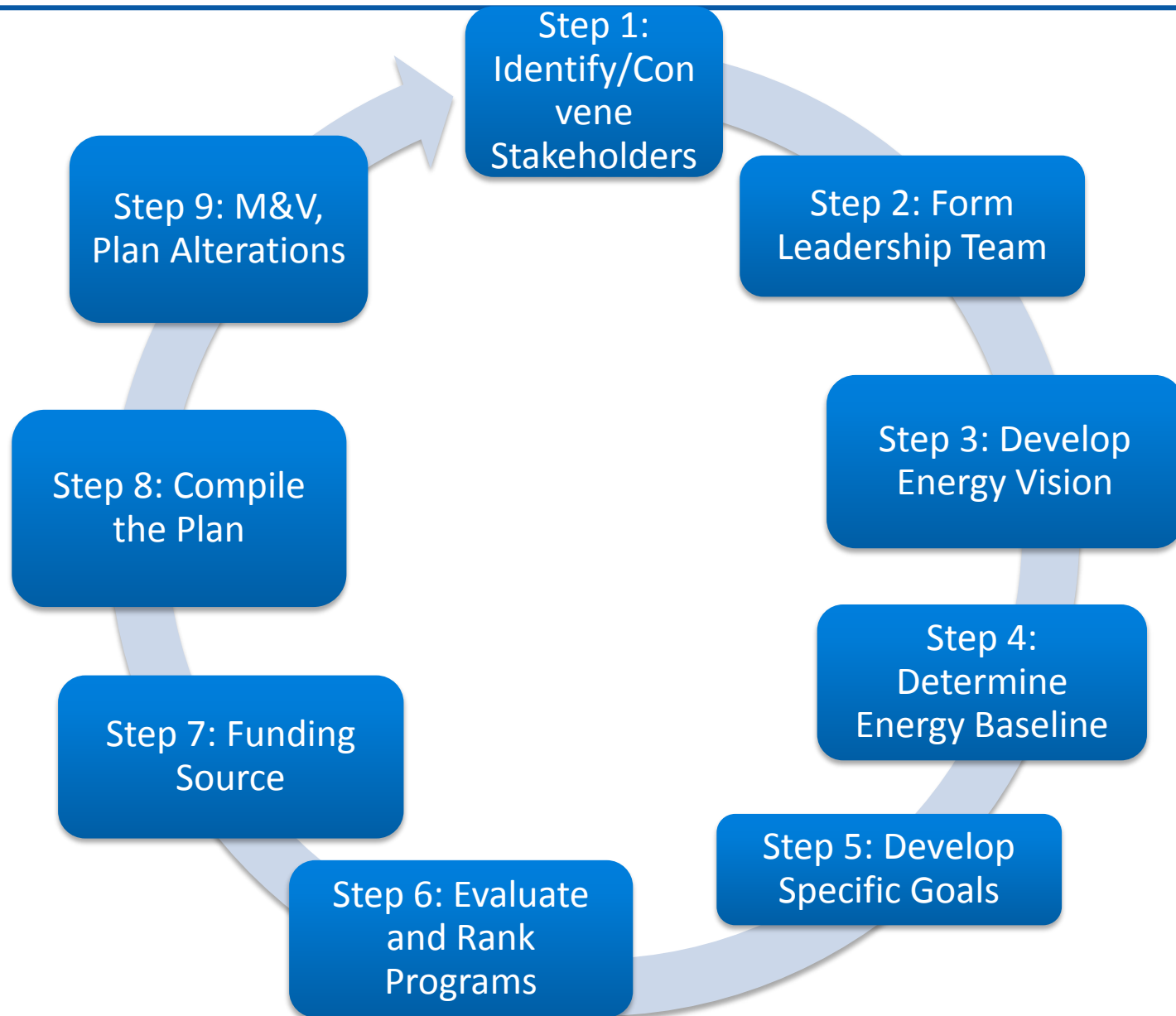
Strategic Energy Planning

- Step 1: Identify and convene stakeholders
- Step 2: Establish a leadership team
- Step 3: Develop a common energy vision
- Step 4: Develop a community energy base line
- Step 5: Based on the vision and baseline, develop energy goals
- Step 6: Identify and evaluate supply and demand policy and program resource options matching these to goals and ranking overall program options
- Step 7: Find and secure funding sources
- Step 8: Compile the plan. This includes objectives goals, baseline, program options and surrounding analysis, and recommended options for decision makers
- Step 9: Measure and evaluate – altering plan.

ICLEI's Keys to Sustainability Planning

- Key #1: Hire a sustainability coordinator to run the show
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- Key #4: Develop a greenhouse gas inventory
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Strategic Planning Cycle



Step 1: Identify and Convene Stakeholders

Anyone who generates, controls the sale of, sells, or uses electricity or gas:

- Utilities
- Government: City Council, Mayor's Office, decision making representatives from multiple agencies
- Community businesses and industry
- Non-governmental organizations (NGOs)
- Residents
- **Champion(s)**

Have a balanced representation so that both extreme and moderate views are involved to ensure a representative outcome.



Step 2: Establish a Leadership Team

What is the purpose of the team?

- The team has the power to make decisions, direct the funding resources, and promote the project throughout the process.

Who is on the team?

- Typically, the leadership team is set up at the mayoral committee level and made of up multiple agencies that will have a roll in plan development.
- If possible, selecting a few active advocates may lend transparency to the process, encourage buy-in, and expand the realm of ideas incorporated into the process.
- If funding is available, hiring a full or part-time coordinator to organize and keep the process going is an ideal start for a leadership team.

Step 3: Develop a Common Energy Objective and Vision

Identify **top priorities** and **define the scope of the plan in this process.**

Common examples of objectives include:

- Ensure energy reliability
- Optimize infrastructure costs
- Minimize environmental impacts
- Diversify supply
- Use local resources
- Strengthen economic development
- Ensure energy affordability



Statements should be short and broad sentences that guide the process:

Toronto, Canada: Reduce climate change impact, become the renewable energy capital of Canada.

Step 4: Develop a Community Energy Baseline

Why? The baseline serves as a starting point for all analysis, identifies the largest energy users, and helps to form potential program and policy targets.

Most Important: Clearly define the methodology to measure the baseline.

Level of detail: anywhere from an overview provided in a utility annual report to more detailed sector or subsector review, depending on the availability of information and budget size.

- The more detailed the baseline, the more detailed the program design and impact information will be.

Step 5: Develop Specific Energy Goals

Stakeholders present overviews of the best ideas they have for obtaining the broad community goals or directives.

- Goals are broken down into more community driven specifics.
- At this point, **funding the program is not a critical part of the brainstorming**



Timeframe: This can happen at a planning meeting spanning a few days with a good facilitator, or it can take months and a good amount of stakeholder input.

Important! Do not do this step alone!

Step 6: Evaluate and Rank Programs

Using the baseline and project and program ideas, develop a ranking system to understand the cost-effectiveness of different programs.

- The leader of this process must ensure that:
 - All the information for the proposed programs is available from the proposing entities.
 - The same methodology is used to evaluate each program.
 - Draft results are reviewed by the program proposers to ensure that all the correct program aspects are considered.
- The program goals should determine which method is most appropriate for evaluation.
 - Total Resource Cost (TRC) test is most commonly used and is considered best practice by the National Action Plan for Energy Efficiency (NAPEE).
 - DOE EERE/WIP Technical Assistance Program can answer questions regarding program impact <http://apps1.eere.energy.gov/wip/tap.cfm>

This step can and should be lengthy!

Step 7: Identify and Secure Funding Sources

- Typically energy efficiency and renewable energy programs are funded through a ratepayer charge called a public benefits charge (PBC) or systems benefit charge (SBC)
- Committed city budget support
- Grant and loan support from external sources
- In the case where a source of immediate funding cannot be identified, free programs and partnerships (or those that provide their own funding) become the priority.

Step 8: Complete the Strategic Energy Plan

Create a “final” document that summarizes the process and consolidates the information gathered, and **make it publically available.**

Buy-in: use as guidance for policy- and decision-making processes.

Assignments: The group selects the appropriate stakeholders to implement the various programs and projects.

Reporting: a schedule for reporting progress and reviewing the overall program to ensure that it's working.

Step 9: Evaluate and Fine Tune

Ensure continued success through periodic stakeholder catch-up meetings and reviews.

- A website may be used to track current activities and monitor progress.
- In some plans the primary implementer (e.g. Mayor's Office or City Council) provides progress updates to the public.

