Greenprint Denver
Mayor John Hickenlooper’s Sustainable Development Program

Climate Smart and Healthy:
Denver’s Efforts to Promote Healthier Communities and a Healthier Planet

Gregg W. Thomas
Denver Department of Environmental Health
RMLUI – Climate Smart and Healthy, March 6 2009
Overview

• Strategic Planning
  - Denver Comprehensive Plan, Blueprint Denver, Greenprint Denver, Strategic Transportation Plan

• Multi-Agency Collaboration
  - Recognize the necessity, momentum is building

• Carbon Footprint – where do we stand?
  - Are trends changing?

• What’s Missing?
Denver Comp Plan 2000

• Guiding Principles
  – Opportunity, Sustainability, Equity, Engagement

• Key Issues and Challenges
  – Long term physical environment
    • Sustainability, land use, mobility, legacy, housing
  – Long term human environment
    • Economics, neighborhoods, education, services

• Regional Cooperation is Vital
  – Population expected to increase 1,000,000 by 2030
• Areas of Change and Stability
  - Stability – no significant changes in land use
  - Change – infusion of population, economic activity and investment

• Multi-Modal Streets
  - More trips by more people in the same amount of space; improving transit, ped and bike facilities.

• Mixed-Use Development
  - Walk or take transit for their daily errands
  - Drive with shorter and less frequent car trips
Greenprint Denver

• Launched in 2005
  - Integrate environmental impacts alongside economic and social impacts

• Sustainable Development Action Agenda

• Local Government as an Effective Force for Innovation and Leadership

• Keeps True to Central Goals of Comp Plan

• Sets Goals and Measures Progress
  - e.g. 2007 Climate Action Plan
Strategic Transportation Plan 2008

- Natural Extension of Previous Master Plans
- Multi-Modal Solutions to Transportation Challenges
- Bold Departure from Traditional Transportation Planning
  - Tracks “person-trips” by any means rather than only vehicle travel
- Still recognizes importance of maintenance and operational efficiency of existing roads
- Take advantage of FasTracks over next decade

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Living Streets Initiative

- Places Where All Ages and Abilities Feel Safe Using Any Mode of Travel
- Builds on Strategic Transportation Plan
- Integrate with Use and Form of Adjacent Development
- Broad City Partnerships
  - Public Works, Planning, Env Health, Econ Dev, Healthy People
  - Healthier living, econ dev, enhanced mobility
    - Don’t enhance one at expense of the others

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Living Streets Initiative

Photo: City and County of Denver

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Denver GHG Footprint

- City is viewed as a demand center for energy AND key urban materials
- End-use of energy in all buildings & industries located within Denver is inventoried
- Embodied energy of critical urban materials is included
  - Water, fuel, cement in urban concrete, food/packaging

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2005 Greenhouse Gas Emissions in Denver

Per Capita emissions = 25.2 mtCO2e / person

Future Projections CO₂ and Temps

Carbon Dioxide Emissions (Gt C)
Reference: IEA:2000-2010 1.6% 2030-50 2.25% 2050-75 1.2% 2075-00 .7%
Policy: IEA:ACT Map 2% Control Starts 2030

Predicted Temp Change

Source: Frank Princootta, US EPA
Presentation at EPA/AWMA Information Exchange, Dec 2007
Denver Climate Action Plan

• Developed to achieve goal of 10% per capita reduction in GHG emissions
• Diverse combination of strategies
• City government actions alone will barely make a dent
• Need for partnerships in order to implement
  - Businesses, associations, lending institutions
  - Residents
  - Non-profits
**Charting the Future**

The chart illustrates the total Denver GHG emissions over time. Here are the key points:

- **1990 GHG Emissions Level**: 11.8 million mtCO$_2$e
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**Key Goals and Forecasts**:

- **Greenprint 2020 Goal**: 13.7 million mtCO$_2$e
- **Greenprint 2012 Goal**: 14.6 million mtCO$_2$e
- **"Business as Usual" Forecast**: 15 million mtCO$_2$e

**2007 Action Year**
- Forecast: 1 Coal Fired EGU
- 2 Coal Fired EGUs (550 MW) or 600,000 cars

**Source**:

Measuring Progress

Denver GHG Emissions Projections With and Without Recommended Actions

Year


million mt-CO2e

10 11 12 13 14 15 16 17 18

Community-Wide GHG Emissions
Business As Usual Forecast
Orig Greenprint Goals
Updated Greenprint Goals

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Denver Growth Trends

Between 2005 and 2007:

- Denver population increased from 579,000 to 592,000 (DRCOG) - 2.1% increase
- Denver households increased from 246,000 to 259,000 (DRCOG) - 3.3% increase
- Commercial sq. footage increased from 229 million sq. ft to 233 million sq. ft (Assessor’s Office) - 2.1% increase
Energy Use Per Home

Residential Electricity Use Intensity, kWh/hh/mo

Year | 2005 | 2006 | 2007
--- | --- | --- | ---

460 | 440 | 500

-7.9%

Residential Nat. Gas Use Intensity, therms/hh/mo

Year | 2005 | 2006 | 2007
--- | --- | --- | ---

54 | 58 | 60

-3.7%
Total Residential Energy Use

Residential Community-Wide Natural Gas Use, million therms

- 2005: 122
- 2006: 124
- 2007: 126

Year

Residential Community-Wide Electricity Use, GWh

- 2005: 1656
- 2006: 1534
- 2007: 1643

Year

Carbon & Wind

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Total Commercial Energy Use

Commercial Community-Wide Energy Use, kBTU

- 2.1%

Commercial Energy Use Intensity, kBTU/sq. ft.

- 4.1%

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Per-Capita GHG Emissions for Air and Road Travel

- **Road**: 6.1 in 2005, 6.0 in 2007, -2.1% decrease
- **Air**: 1.4 in 2005, 1.5 in 2007, +5.9% increase

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Cumulative GHG Emissions

- Cumulative GHG Emissions in 2005: 11.0 million mt-CO2e
- Cumulative GHG Emissions in 2007: 10.7 million mt-CO2e
- Decrease: 2.7%
What’s Missing?

• Though inter-agency coordination has increased, more needs to be done
  - Important for long-term succession planning

• Public health perspectives have been missing until recently

• Implementing visionary plans will require additional funding
  - Will the public support it?
  - Diverse perspectives can help greatly
Summary

• Denver’s planning process has been consistent over the past decade
• Silos are being broken down
• Setting goals and measuring performance is critical
• Denver is also making strides in reducing its carbon footprint
  – Policies and market demands have both played important roles to date
More Information

- Web site: www.greenprintdenver.org
- E-mail: greenprint@denvergov.org
- GHG Questions: gregg.thomas@denvergov.org