



Chicago Metropolitan
Agency for Planning

Overview of Sustainability Policy Issues

CMAP Board of Directors
October 10, 2007

Elements of Regional Snapshot on Sustainability

- Make staff recommendations to CMAP Board and committees:
 - Define and conceptualize *sustainability* so that it can be applied to Regional Comprehensive Plan (among other activities)
 - Develop indicators to measure sustainability.
 - Identify major policy issues on which guidance is needed.

Sustainability Definitions

- Brundtland Commission: To meet the needs of the present without compromising the ability of future generations to meet their own needs.
- 3E: Seeking to achieve economic, environmental, and social equity goals simultaneously.
- Capital-based: preserving or increasing stock of natural capital, financial capital, manufactured capital, human capital

Recommended Principles in Definition of Sustainability

Future Conditions	Present Conditions
Protect environment and improve natural resources for future generations.	Improve economic performance and quality of life for individuals.
Preserve the value of human and man-made capital for future generations.	Ensure a fair distribution of life-quality.

Protect environment and improve natural resources for future generations.

Major policy implications of addressing this principle:

- Measure environmental impacts of new development induced by infrastructure investment.
- Improve overall natural resource base – provide “offsets” for natural resource loss by compensation in other areas.
- Address air quality beyond Clean Air Act requirements.
- Include water quality and supply, habitat fragmentation, and other measures as indicators in scenario evaluation.

Indicators – Protect environment and improve natural resources for future generations.

Measure	Units	Type	Direction
Ground surface hardening	Percent impervious by watershed	Threshold	Down
Natural resource damage	Group of several measures	Relative	Down
[Habitat fragmentation TBD]	[TBD]	[TBD]	[TBD]
Greenhouse gas emissions	MMTCO ₂ e	Target	Down
Environmental Footprint	Acres per person	Relative	Down
Petroleum consumption	Millions of gallons per year	Relative	Down
[Air quality TBD]	[TBD]	[TBD]	[TBD]
Total energy use	Trillions of British Thermal Units	Relative	Down
Water use	Use/yield ratio; millions of gallons /day	Threshold	Optimized

Improve economic performance and quality of life for individuals.

Major policy implications of addressing this principle:

- Address economic development by increasing employment and raising income.
- Target infrastructure investments partly on the basis of the economic development potential they would support.
- Consider non-capital means of increasing productivity (such as workforce development).
- Consider effects of tax policy on development, and address alternative taxation possibilities through scenario evaluation.

Indicators – Improve economic performance and quality of life for individuals.

Measure	Units	Type	Direction
Total factor productivity	Percent change from baseline	Relative	Up
Wage growth	Percent change from baseline	Relative	Up
Employment growth	Percent change from baseline	Relative	Up
Aggregate fiscal capacity	Equalized assessed value + taxable sales (\$)	Relative	Up
Trip length	Miles, minutes	Relative	Down
Hours of delay	Hours per year	Relative	Down
Availability of transportation modes	Percent of total trips	Relative	Up

Preserve the value of human and man-made capital for future generations.

Major policy implications of addressing this principle:

- Consider well-being and needs of future generations when determining maintenance and reinvestment priorities.
- Utilize life cycle costing to assess potential major capital investments.
- Commit to efficient urban form as a long-term solution.

Indicators – Preserve the value of human and man-made capital for future generations.

Measure	Units	Type	Direction
Roadway in disrepair	Miles	Relative	Down
Bridges in disrepair	Number	Relative	Down
Condition of transit assets	USDOT rating index	Relative	Up

Ensure a fair distribution of life-quality.

Major policy implications of addressing this principle:

- Use “vertical equity” concept – judge the distribution of the goods of society from the most disadvantaged stratum of society.
- Continue previous efforts by CATS in the 2030 RTP to consider level of service improvements by minority and income status.
- Address non-transportation equity outcomes for households (income distribution) and taxing districts (tax base distribution)

Indicators – Ensure a fair distribution of life-quality.

Measure	Units	Type	Direction
Gini for income distribution	0 to 1 scale, no units	Relative	Down
Gini for municipal tax base	0 to 1 scale, no units	Relative	Down
Access to transit	Percent of total trips	Relative	Up
Access to jobs	Percent jobs within given commute distance	Relative	Up
Trip length	Miles, minutes	Relative	Down

“Cross-Cutting” Issue: Climate Change

Major policy implications of addressing climate change:

- Apply strategies to mitigate climate change by reducing greenhouse gas emissions.
- Consider strategies that reduce VMT (alternative transportation, land use policies) but also go beyond this to energy consumption and production.
- Targets for greenhouse gas emission reductions should be explored during scenario analysis.

“Cross-Cutting” Issue: Resources and Energy

Major policy implications of addressing energy use, reliance on fossil fuels, and water supply:

- Explore use of alternative fuels and alternative energy sources through scenario evaluation.
- Increase energy efficiency through land use and transportation, but also improve construction standards or increase the region’s commitment to green building.
- Use water supply as a consideration in determining where growth should be directed.

“Cross-Cutting” Issue: Adaptive Governance

Policy implications of addressing adaptive governance:

- Ensure that local capacity exists to respond to future threats (such as climate change) by learning from the experiences of other localities.
- CMAP should serve as a regional resource on climate change and its potential impacts.

Questions?

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