

Sources and Endnotes

Voting and Civic Participation
(compiled by Charlotte Stiefel)



Population Access to Health Care
(compiled by Steve Brown)



Health Risks and Preventive Behavior
(compiled by William Breisky)



Youth Wellness
(compiled by Steve Brown)



■ Cape Cod Facts and Trends at a Glance

Sources Used:

U.S. Census 1990 and 2000.
Cape Cod Commission GIS data.
Many of the sources listed below.

■ Safe and Nurturing Social Environment

Sources Used:

U.S. Census 2000.
Office of the Massachusetts Secretary of State.

Sources Used and Endnotes:

¹ The Human Condition - 2001 transportation study:
www.bchumanservices.net/thc2001/thc2001transreport.html.
² Barnstable County Department of Human Services, "The Human Condition, 2001", June 28, 2002.
"Health Insurance Status of Massachusetts Residents, Third edition".
Produced by the Massachusetts Division of Health Care Finance and Policy, January 2003.
Data from the Generic Pharmaceutical Association cited to IMS Health.
IMS Health is a leading research and consultative agency for the pharmaceutical and health care industries.
Massachusetts Division of Health Care Finance and Policy, 2001 Employer Health Insurance Survey.
Barnstable County Department of Human Services, "The 1998 Community Health Needs Assessment Project".

Sources Used:

"Health Risks and Preventive Behavior", Report with Results from the Behavioral Risk Factor Surveillance System (1994-1999), released March 2001.
2000-2001 data from Behavioral Risk Factor Surveillance System results.
Special thanks to the Bureau of Health Statistics, Research, and Evaluation of the Massachusetts Department of Public Health for sharing these data.
Mass Dept. of Public Health, MassCHIP 2002.

Sources Used and Endnotes:

Barnstable County Department of Human Services, "The Human Condition, 2001".
Barnstable County Index of Social Health: Years 1989-1999.
Massachusetts Department of Education.
¹ <http://www.bchumanservices.net/thc2001/thc2001resreports.html>.
² The Human Condition-2001-2005.
Website http://bchumanservices.net/new_site/Wn/thc_cover.asp.

Drinking Water Quality and Quantity

(facilitated by John Lipman)



Air Quality

(compiled by Charles Kleekamp)



³ Barnstable County Community Health Outcomes, 1989-2000.
<http://www.bchumanservices.net/thc2001/thc2001resreports.html>.

⁴ Appendix 4 of Volume 1 of the IRORF Barnstable County Human Condition 2001.
<http://www.bchumanservices.net/thc2001/thc2001resreports.html>.

■ Healthy Natural Environment

Sources Used:

Department of Environmental Protection pumping data.
Department of Environmental Protection well monitoring data.

Sources Used and Endnotes:

- ¹ Federal Register, Vol. 64, No. 149, August 4, 1999, Rules and Regulations, pgs. 42547 to 42549.
- ² “Estimated Public Health Impacts of Criteria Pollutant Air Emissions from the Salem Harbor and Brayton Point Power Plants,” Harvard School of Public Health, Levy and Spengler, May 2000, p. 4.
- ³ Commonwealth of Massachusetts, 2000 Air Quality Report, DEP Air Assessment Branch, p. 17.
- ⁴ Federal Register, Ibid., p. 42535.
- ⁵ Commonwealth of Massachusetts, 2000 Air Quality Report, DEP Air Assessment Branch, p. 36.
- ⁶ “What You Need to Know About Ozone and Your Health,” EPA-452/K-99-001, July, 1999, p. 7.
- ⁷ Commonwealth of Massachusetts, 2000 Air Quality Report, DEP Air Assessment Branch, p. 35.
- ⁸ Commonwealth of Massachusetts, 2000 Air Quality Report, DEP Air Assessment Branch, p. 34.
- ⁹ “Estimated Public Health Impacts of Criteria Pollutant Air Emissions from the Salem Harbor and Brayton Point Power Plants,” Harvard School of Public Health, Levy and Spengler, May, 2000.
- ¹⁰ Massachusetts DEP web site: www.state.ma.us/dep/bwp/ozone. Note, data for 2002 had to be converted from concentrations in parts per billion (ppb) to AQI values according to EPA formulas. See EPA-45/R-99-010, “Guideline for Reporting of Daily Air Quality - Air Quality Index (AQI).”
- ¹¹ “Study: Airborne chemicals hurt Upper Cape,” The Upper Cape Codder, November 28, 2002. Study funded by the Massachusetts Department of Public Health, Report titled: “Development of a Dispersion Modeling Capability for Sea Breeze Circulations and Other Air Flow Patterns Over Southeastern Massachusetts,” 308 pages.
- ¹² “Emission Control Plan Transmittal No. W025308,” Mirant Canal Station, December, 2001, p. 2-2.
- ¹³ Data from Massachusetts DEP web site: www.state.ma.us/dep/bwp/ozone.
- ¹⁴ The linear regression trendline shown is a least squares fit to the data represented by the equation: Exceedance Days = 0.65(number of years) + 15.75.
- ¹⁵ Massachusetts Department of Environmental Protection, Emission Regulations, 310 CMR 7.29, April, 2001.
- ¹⁶ Massachusetts Regulation 225 CMR 14.00, the RPS, took effect April 26, 2002.

Land Use and Open Space

(facilitated by John Lipman)

**Waste Management**

(facilitated by John Lipman)

**Energy Supply and Use**

(compiled by Chris Powicki and Megan Amster)



- ¹⁷ “Hubbert’s Peak,” Kenneth S. Deffeyes, Princeton University Press, 2001, p.4. The peak production rate for 1970 in the U.S. was about 3 billion barrels per year. By 2000 the rate was about 2 billion barrels per year.
- ¹⁸ For example, health insurance from Tufts Secure Horizons plan for seniors has recently been dropped for several communities on the Cape due to higher costs.
- ¹⁹ “National Seashore Choked by Midwest Smog,” Cape Cod Times, October 10, 2002. p. B1.
- ²⁰ Commonwealth of Massachusetts, 2000 Air Quality Report, DEP Air Assessment Branch, p. 67.

Sources Used:

Cape Assessors’ data, sorted by Dept. of Revenue state land use codes.
 2000 MacConnell Land Use data.
 Cape Cod Commission GIS department analysis of 1990 MacConnell Land Use data and USGS quadrangles.
 Cape Cod Commission Land Bank data.
 Report on the Real Property Owned and Leased by the Commonwealth of Massachusetts.
 Certified or Draft Local Comprehensive Plans for Cape towns.
 Open Space and Recreation Plans for Cape towns.

Sources Used:

“Solid Waste and Recycling Report 2001”, Cape Cod Commission.
 “Solid Waste Statistics by Town 2000”, Cape Cod Commission.
 DEP Municipal Recycling Data Sheet, Town Responses Provided by the Department of Environmental Protection.

Sources Used and Endnotes:

- ¹ Cape Cod Commission, 2002. *Cape Cod Regional Policy Plan*. Barnstable, MA.
- ² U.S. Environmental Protection Agency, 1999. “Smog-Who Does It Hurt: What You Need to Know About Ozone and Your Health.” EPA-452/K-99-001, Office of Air and Radiation, Washington DC.
- ³ Boesch, D.F., et al. (Eds.), 2000. *The Potential Consequences of Climate Variability and Change on Coastal Areas and Marine Resources: Report of the Coastal Areas and Marine Resources Sector Team, U.S. Global Change Research Program*. Decision Analysis Series No. 21, NOAA Coastal Ocean Program, Silver Spring, MD.
- ⁴ National Assessment Synthesis Team, 2000. *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change*. U.S. Global Change Research Program, Washington, DC.
- ⁵ Conservation Law Foundation, 2003. *Heritage in Peril: New England and Global Warming*. See www.clf.org/pubs/climate.
- ⁶ National Renewable Energy Laboratory, 2000. “U.S. Wind Energy Resource Map.” See http://www.eere.energy.gov/windpoweringamerica/wind_resources.html.
- ⁷ Massachusetts Technology Collaborative, 2002. “Wind Energy Resource Map of Southern New England.” See http://www.mtpc.org/RenewableEnergy/green_power/outreach/wind_resource_mapping.htm.
- ⁸ Mirant Canal, L.L.C., 2002. “Canal Station: Emission Control Plan Transmittal No. W025308, Revision No. 2—December, 2002.” Prepared

- by Earth Tech, Inc., for submission to Massachusetts Department of Environmental Protection.
- ⁹ Data provided by Charles P. Salamone, Director of System Planning, NSTAR Electric & Gas Corp., in remarks at Massachusetts Technology Collaborative Offshore Wind Outreach Meeting No. 2, October 31, 2002; see <http://wind.raabassociates.org/Articles/MS%2010-31-02%20final.doc>.
- ¹⁰ Data provided by Charles P. Salamone in remarks at Massachusetts Technology Collaborative Offshore Wind Outreach Meeting No. 2, October 31, 2002; see <http://wind.raabassociates.org/Articles/MS%2010-31-02%20final.doc>.
- ¹¹ Calculations based on data in *Cape Light Compact Resource Assessment: Strategic Options in Electric Supply and Demand for Cape Cod and Martha's Vineyard—2005-2015*; to be available from <http://www.capelightcompact.org>.
- ¹² Cape Light Compact, in press. *Cape Light Compact Resource Assessment: Strategic Options in Electric Supply and Demand for Cape Cod and Martha's Vineyard-2005-2015*; see <http://www.capelightcompact.org>.
- ¹³ Information provided by Charles P. Salamone in remarks at Massachusetts Technology Collaborative Offshore Wind Outreach Meeting No. 2, October 31, 2002.
- ¹⁴ Mirant Canal, L.L.C., 2002. "Canal Station: Emission Control Plan Transmittal No. W025308, Revision No. 2—December, 2002." Prepared by Earth Tech, Inc., for submission to Massachusetts Department of Environment Protection, p. 2-2.
- ¹⁵ Cape Light Compact, 2003. *Cape Light Compact Regional Options Study—Review Copy*; see <http://www.capelightcompact.org/reviewcopyros.pdf>.
- ¹⁶ Information provided by Cape & Islands Self-Reliance Corp.; see <http://www.reliance.org/Photovoltaic%20page.htm>
- ¹⁷ Information provided by David O'Connor, Commissioner, Massachusetts Department of Energy Resources, in remarks at Massachusetts Technology Collaborative Offshore Wind Outreach Meeting No. 2, October 31, 2002; see <http://wind.raabassociates.org/Articles/MS%2010-31-02%20final.doc>.
- ¹⁸ Howe, Peter J., 2003. "Major electric utilities seek rate hikes," *Boston Globe*, Friday, April 4, p. D-3.
- ¹⁹ Data provided by Cape Light Compact, excerpted from a document prepared by Barnstable County summarizing the benefits of its aggregation and efficiency programs for Cape Cod towns.
- ²⁰ Melo, Frederick, 2003. "Permit sought to buy energy," *Cape Cod Times*, Friday, April 9.
- ²¹ EPRI, 2002. *Comparing the Benefits and Impacts of Hybrid Electric Vehicle Options*. Palo Alto, CA. 1000349.
- ²² Data provided by local Honda and Toyota dealers.
- ²³ Data provided by Cape Light Compact in "Table: Customers & Use Year Ended December 2000, Cape Light Compact Towns."
- ²⁴ Cape Light Compact, 2003. *Cape Light Compact Regional Options Study—Review Copy*; see <http://www.capelightcompact.org/reviewcopyros.pdf>.
- ²⁵ Information provided by Woods Hole Research Center; see <http://whrc.org/education/ordway/ordway.htm>.
- ²⁶ Information provided by Cape Light Compact; see <http://www.capelightcompactenergysave.com/>.

- ²⁷ Data provided by Cape Light Compact, excerpted from a document prepared by Barnstable County summarizing the benefits of its aggregation and efficiency programs for Cape Cod towns.
- ²⁸ Calculations based on estimates of annual energy savings presented in *The Cape Light Compact Energy Efficiency Plan Phase II: 2003-2007*, available from http://www.capelightcompact.org/compact_eep_03_28_03.pdf.
- ²⁹ Data provided by Keyspan Energy Services.
- ³⁰ Powicki, Christopher R., and Coleman, William, in press. *Eco-Asset Management—Banking on Nature’s Fortune: Electricity Technology Roadmap Limiting Challenge Report #14*. EPRI, Palo Alto, CA.
- ³¹ Cape Light Compact, 2003. *The Cape Light Compact Energy Efficiency Plan Phase II: 2003-2007*; see http://www.capelightcompact.org/compact_eep_03_28_03.pdf.
- ³² The Committee on the Environment and the Northeast International Committee on Energy, 2001. *Climate Change Action Plan 2001*. Conference of New England Governors and Eastern Canadian Premiers.

Traffic Congestion and Transit Use

(facilitated by John Lipman)



Sources Used:

Massachusetts Highway Department permanent traffic count stations data.
Cape Cod Regional Transit Authority transit ridership data.

Workforce Housing

(facilitated by Arthur Kimber)



Sources Used:

U. S. Census - 2000
The Barnstable County Registry of Deeds - Housing prices
U. S. Department of Housing and Urban Development - Median Income

Employment and Workforce Wages

(compiled by Spyro Mitrokostas)



Sources Used:

Massachusetts Division of Employment and Training,
(Economic Analysis Department) Employment and Wages Summary
(ES - 2002).

Tourism and Hospitality

(compiled by Wendy Northcross)



Sources Used:

Data from the Massachusetts Division of Employment and Training.

Retirement Economy

(compiled by Gay Wells, AICP)



Sources Used:

Barnstable County Department of Human Services, “The Human Condition, 2001”.
U.S. Census 1990.
U.S. Census 2000.
Massachusetts Institute for Social and Economic Research (MISER).
U.S. Department of Commerce, Bureau of Economic Analysis.

Sources Used and Endnotes:

Expenditure per pupil 1997 and 2001: Massachusetts Department of Education, Five Year Trends By District, <http://finance1.doe.mass.edu/statistics/pp01.html>.

2001 Plans of High School Graduates: Massachusetts Department of Education, Other Data, <http://profiles.doe.mass.edu>.

Educational Attainment: US Census: Census 2000 Gateway (<http://factfinder.census.gov>), American FactFinder — Language, School Enrollment, and Educational Attainment 2000, Massachusetts counties.

¹ All regular day students enrolled in local public high schools. Does not include SPED students or those being educated outside district. Thus, payments for SPED or out of district students are not factored in. Includes payments related to instruction and operating expenses only.

² Knowledge-intensive is a term used by economic and labor analysts to describe those industries where knowledge is the primary input and output. The Cape and Islands Workforce Investment Board posits that the knowledge-intensive cluster consists of three sub-clusters: educational services, high technology and professional services. The term is used somewhat loosely here to describe Community College program areas that can be reasonably assumed to fall within the knowledge-intensive arena.



Questionnaire

We would appreciate hearing from you. Please take a moment to fill out this questionnaire and send it back to the Cape Cod Center for Sustainability.

We have included 15 indicators in this report, and in future years we may add additional indicators to the list we are tracking. Please tell us which indicators would be most useful to you by ranking your top five indicators in each category (social, environmental and economic), with “1” being the most important.

■ Safe Nurturing Social Environment:

Education and Training

- Awards, achievement and partnerships for Cape school systems
- Annual % of high school grads going on to higher education
- Dollars spent per student and amount of State aid to Cape schools
- Functional literacy/illiteracy rates
- Number of English-as-a-Second-Language classes

Safety, Health Care and Human Services

- Percent of expectant mothers receiving adequate prenatal care
- Cancer rates per 100,000 Cape residents
- HIV/AIDs cases reported per 100,000 Cape residents
- Number of day care slots and number of affordable or subsidized day care slots and where slots are located
- Number of tolerance programs offered in the community
- Rate of violent crime

Civic Vitality

- Rate of volunteer involvement
- Attendance at Cape Cod arts events and/or participation in recreational activities
- Public library use
- Historic and cultural preservation
- Philanthropy

■ Thriving, Diverse and Sustainable Economy

Housing

- Availability of seasonal vs. year-round housing
- Affordable housing inventory
- Mortgage foreclosures
- Rate of homelessness

Income

- Sources of income of those who work here, those who commute to off-Cape jobs, and retirees
- Family or household income levels

Employment

- Unemployment by month
- Comparisons of employment with labor force growth, by month
- Workforce training and development

Business

- Number of on-Cape vs. off-Cape owned business
- Count of vacant nonresidential properties (and/or building permit applications)
- Bank information (commercial loans, venture capital, bankruptcies)
- Technology adaptation ratio

■ Healthy Natural Environment

Resource Use

- Acres of open, productive shellfish beds (seasonally)
- Cultural and pond water quality for aquatic habitat, fishing, swimming, boating
- Sulfur dioxide levels
- Illness rate (such as asthma) due to poor air quality
- Change in coastline development
- Acres of habitat/biodiversity “hotspots”
- Consumption of gasoline
- Land consumed per-capita (density)

Transportation and Mobility

- Traffic volume and resulting services (scale of A to F)
- Availability of, and access to, public transportation
- Alternate modes of transportation (bicycle, mass transit)
- Travel time from point A to point B
- Length of bridge backup

Do you have suggestions for indicators that are not on this list or comments about the 2003 Report? (Please feel free to use the other side or add another piece of paper for additional comments.)

Please
place stamp
here

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Include additional comments here:



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