

Healthy Infrastructure Plan



Chautauqua County, New York

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I. Introduction

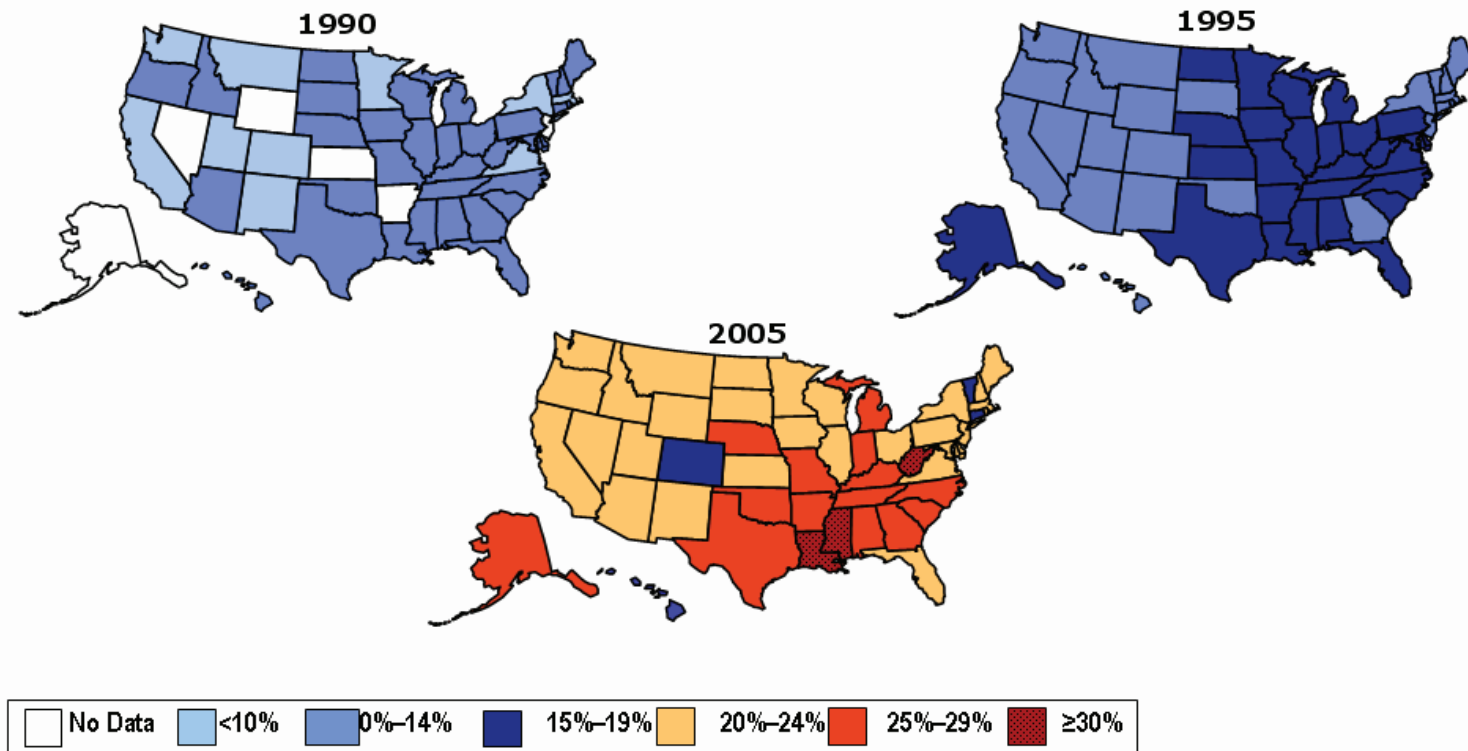
The *Initiative for Healthy Infrastructure* (iHi) project at *University at Albany* (SUNY) is designed to facilitate statewide efforts to create physical environments which fosters healthy active lifestyles. This undertaking includes a cross-disciplinary approach in addressing this issue through teaching, researching, developing policy, public outreach and planning. The primary motivation for this project is in resolving the contradiction between the need for increased physical activity and the deficit in walk-able community infrastructure. Expanding New York State's resource and research base in this area will encourage both more walk-able communities and a healthy population. This project is funded by the *Healthy Heart Program* in the *New York State Department of Health* and is supported by *The Research Foundation of The State University of New York*.

Since one of the goals of the *Healthy Heart Program* is to encourage walking as a routine activity, it is logical to connect this concept with planning, particularly in the development of sidewalks, streets and trails. Unfortunately, community 'health' is not currently considered a performance measure for public works infrastructure, so a new approach that brings together the issue of public health and planning communities is needed. There is increasing evidence that community supports for a heart healthy lifestyle can be effective in reducing the risk of Cardiovascular Disease (CVD). Numerous sources, including the Centers for Disease Control and Prevention, have advocated walking as a primary means of increasing routine physical activity.

The national obesity trend is illustrated in these graphics developed by the Centers for Disease Control and Prevention (CDC). *Source: www.cdc.gov.*

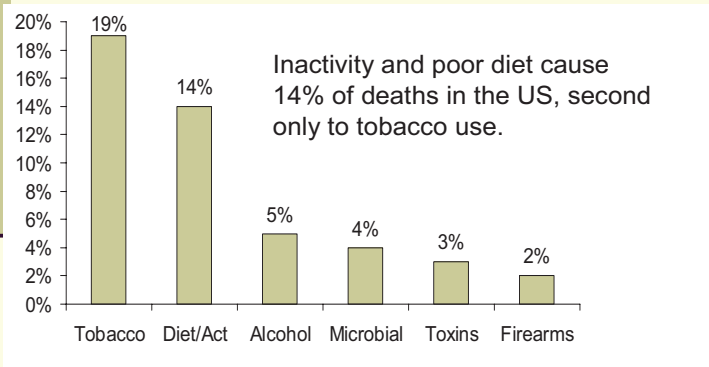
Obesity Trends* Among U.S. Adults BRFSS, 1990, 1995, 2005

(*BMI ≥ 30 , or about 30 lbs overweight for 5'4" person)

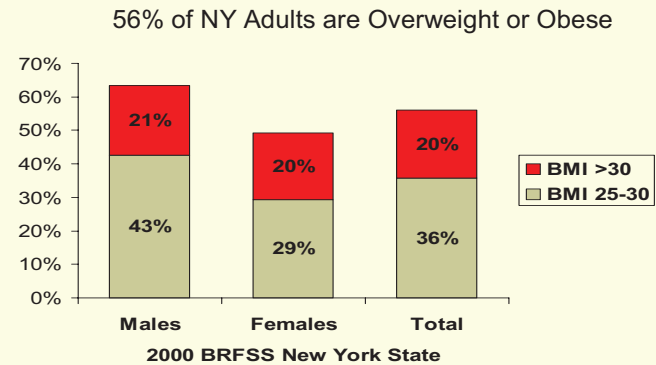


Cardiovascular disease (CVD) is the leading cause of death, disability and health care expenditures among New York State residents. In 1998, more than 70,000 New Yorkers died of cardiovascular disease, accounting for 45% of all deaths. According to data from the 2001 Behavioral Risk Factor Surveillance System, 56% of New Yorkers are insufficiently active (no activity or less than 20 minutes a day, or less than three times/week). At the same time, pedestrians and bicyclists accounted for more than 20% of New York State's traffic fatalities and injuries, 48% of hospitalizations and 59% of injury related hospitalization costs according to data from the Statewide Planning and Research Cooperative System (SPARCS) system. (Provided by the NYS Department of Health (DOH)) In order to encourage people to walk or bicycle more, it is critical to provide a safe infrastructure that supports an active lifestyle.

Underlying Causes of Death (US)

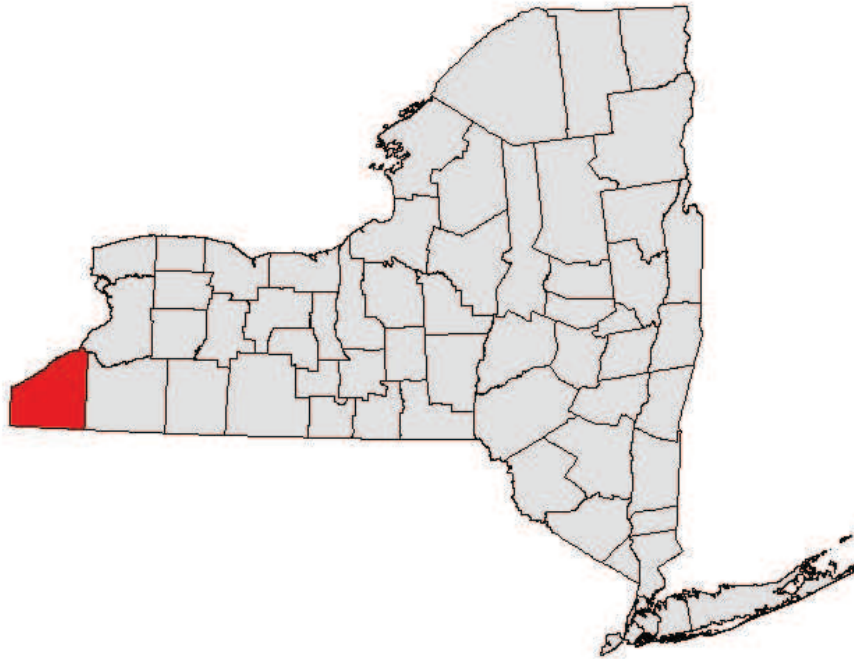


Overweight and Obesity Among NYS Adults (2001 BRFSS)



The data for the U.S. and New York State indicate that inactivity, poor diet and obesity are serious issues. Graphics provided by Deb Spicer, NYS Department of Health.

Chautauqua County
Prepared by iHi, March 2006



The population of Chautauqua County is approximately 137,645 people. Chautauqua County is located in the extreme southwest corner of New York State. It is bordered by Lake Erie to the north and by Pennsylvania to the west and south. The median household income is \$33,458 (1999) with 13.8% of the population living below the poverty level. The county land covers 1,062 square miles with a population density of 131 people per square mile.

Please note: seasonal and or student population may skew these figures.

Source: US Census and Chautauqua County

II. Community Health Data

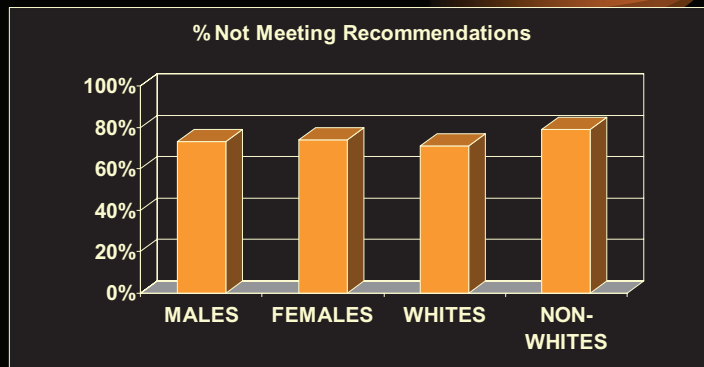
Chautauqua County is fortunate to have a detailed set of data for assessing public health. The New York State Behavioral Risk Factor Surveillance System (data) provides a general overview for statistical comparisons between state, national and county data. The following sections use available local and statewide health data to identify existing conditions and issues for Chautauqua County.

NYS BRFSS

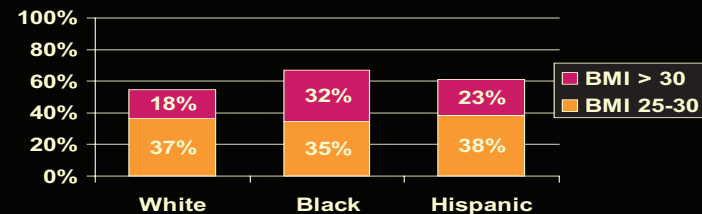
The national trends and data are reflected in the public health data provided by NYS DOH from the 2000 and 2001 BRFSS. The two charts below show levels of physical activity statewide and obesity prevalence in ethnic groups among NYS adults.

The data below indicates that more than 70% of New York State adults (1) do not meet recommended levels of physical activity and (2) that more than 50% of the State's adults are overweight or obese.

Physical Activity Among NYS Adults, (BRFSS 2000)



Obesity Among NYS Adults, By Ethnicity 2001, BRFSS



Mortality data for Chautauqua County

	Population (2000 data)	Total Deaths (per 100,000)	Total Deaths (rate)	Cerebrovascular Disease (#)	Cerebrovascular Disease (rate)	Diseases of the Heart (#)	Diseases of the Heart (rate)
NYS	18,976,457	157,425	829.6	7,935	41.8	57,924	305.2
Chautauqua	139,750	1,535	1098.4	101	72.3	520	372.1

*heart disease is a major public health issue, with levels above the statewide level

Traffic Safety Data

Health and safety are related issues. The amount that people will walk or bicycle is affected by perceived and real concerns about traffic safety. In recent years, Chautauqua County has been subject to considerable development pressure. The built environment that has resulted from these pressures, often presents barriers to active living. In a report entitled, "Chautauqua County Traffic Safety Data", dated February 2004, the Institute for Traffic Safety and Research provides the following summary of Chautauqua County safety Statistics for 2001. Note that pedestrians and bicyclists make up 4% of traffic crashes in Chautauqua County. This may be due to some extent to limited numbers of people walking and bicycling for transportation purposes, but it can also be seen as an indicator that local conditions are relatively safe for walking and biking, as compared to other counties.

New York State Department of Motor Vehicles Summary of Motor Vehicle Accidents

2004 Chautauqua County

TABLE 1 Accident Summary Totals		
Category Totals	All Accidents	Police Reported
Total Accidents	1,676	1,004†
Fatal Accidents	16	16
Non-Fatal Personal Injury Accidents	1,024	950
Reportable Property Damage Accidents	636	38†
Vehicles	2,659	1,617
Drivers Involved	2,468	1,556
Vehicle Occupants	3,491	2,366
Special Accident Series		
Pedestrian/Motor Vehicle Accidents	42	40
Bicycle/Motor Vehicle Accidents	21	20
Motorcycle Accidents	40	36
Fatalities		
Persons Killed (1)	17	17
Drivers Killed	14	14
Passengers Killed	1	1
Pedestrians Killed	0	0
Bicyclists Killed	2	2
Other	0	0
Non-Fatal Injuries		
Persons Injured (1)	1,435	1,346
Drivers Injured	960	892
Passengers Injured	414	396
Pedestrians Injured	39	37
Bicyclists Injured	17	16
Other	5	5
† It is important to note that the data for 2004 are not strictly comparable to the data for 2001 and 2002. Changes in data collection and reporting that began during 2001 with respect to property damage crashes have reduced the total number of crashes, since the changes resulted in fewer property damage crashes being captured in the statewide Accident Information System (AIS) maintained by the NYS Department of Motor Vehicles.		
(1) Includes pedestrians, bicyclists and all other non-vehicle involved persons as well as vehicle occupants regardless of seating position.		

TABLE 2(P) Severity of Accident		
	Number	Percent
Total	1,004	100.0
Fatal (K) Accidents	16	1.6
Personal Injury Accidents		
Serious (A)	105	10.5
Moderate (B)	222	22.1
Minor (C)	582	58.0
Unknown Severity	41	4.1
Property Damage (O) Accidents	38	3.8

General Notes

- * Some of the tables are based upon information received from police and motorist reports of motor vehicle accidents. Others are based only on the police reports; these are indicated by a (P).
- * The Property Damage Accident reporting level is \$1,000 or more.
- * The term "vehicle" always excludes bicycles.
- * The term "driver" always excludes bicyclists.
- * Percentages may not total 100.0 due to rounding.

III. Infrastructure Diagnosis

For the purposes of this study, the medical term ‘diagnosis’ is applied to the county’s public works infrastructure to investigate possible connections between the built environment and public health. The ‘patient’ in this case is Chautauqua County, and the diagnosis looks at whether current levels of physical activity are related to the provision of built environment features such as rural roadways with paved shoulders, trails, parks and other facilities that encourage a physically active lifestyle. Note that at the county level this is a very general analysis, and precision and scope are limited to an overview of existing conditions. Additional investigations will be necessary to supplement this study with more detailed observation and data at the community and neighborhood level.

General County Data

Chautauqua County has urban, suburban and rural environments. An overview of county demographic data is provided below:

Source: US Census

Chautauqua County	
Population (2005 estimate)	136,409
Economics	
Median Household Income (2000)	\$33,881
Per Capita Income (2000)	\$16,840
Persons Below Poverty Level (2000)	14.9%
Geographical Data	
Land Area – Square Miles (2000)	1,062
Persons per Square Mile (2000)	131.6

U.S Census Transportation Data

While limited in its ability to capture all travel by walking and bicycling (it focuses only on trips to work, not travel for shopping, school, or leisure), the U.S. Census Transportation data is a useful source of county level data. From the 2000 census data, walking and bicycling in Chautauqua County represented around 5.3% of trips to work, a 30.6% DECREASE from 1990 level.

Please see CTPP data on following page





CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP 2000)

Table 1. Profile of Selected 1990 and 2000 Characteristics

Geographic Area: Chautauqua County, New York

Subject	1990 Census		Census 2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
POPULATION						
Total population	141,895	100.0	139,750	100.0	-2,145	-1.5
In households	136,533	96.2	133,354	95.4	-3,179	-2.3
In group quarters	5,362	3.8	6,396	4.6	1,034	19.3
HOUSEHOLD SIZE						
Total households	53,667	100.0	54,488	100.0	821	1.5
1-person household	13,948	26.0	15,341	28.2	1,393	10.0
2-person household	17,542	32.7	18,656	34.2	1,114	6.4
3-person household	8,740	16.3	8,376	15.4	-364	-4.2
4-person household	8,086	15.1	7,335	13.5	-751	-9.3
5-or-more-person household	5,351	10.0	4,780	8.8	-571	-10.7
Mean number of persons per household	2.54	(X)	2.45	(X)	-0.10	(X)
VEHICLES AVAILABLE¹						
Total households	53,667	100.0	54,488	100.0	821	1.5
No vehicle available	6,637	12.4	5,983	11.0	-654	-9.9
1 vehicle available	21,184	39.5	20,741	38.1	-443	-2.1
2 vehicles available	19,301	36.0	20,776	38.1	1,475	7.6
3 vehicles available	4,988	9.3	5,353	9.8	365	7.3
4 vehicles available	1,224	2.3	1,185	2.2	-39	-3.2
5 or more vehicles available	333	0.6	450	0.8	117	35.1
Mean vehicles per household	1.52	(X)	1.57	(X)	0.05	(X)
WORKERS BY SEX¹						
Workers 16 years and over	61,148	100.0	61,735	100.0	587	1.0
Male	33,531	54.8	32,560	52.7	-971	-2.9
Female	27,617	45.2	29,175	47.3	1,558	5.6
MEANS OF TRANSPORTATION TO WORK						
Workers 16 years and over	61,148	100.0	61,734	100.0	586	1.0
Drove alone	45,134	73.8	48,470	78.5	3,336	7.4
Carpooled	7,986	13.1	6,805	11.0	-1,181	-14.8
Public transportation (including taxicab)	804	1.3	725	1.2	-79	-9.8
Bicycle or walked	4,737	7.7	3,286	5.3	-1,451	-30.6
Motorcycle or other means	423	0.7	394	0.6	-29	-6.9
Worked at home	2,064	3.4	2,054	3.3	-10	-0.5
TRAVEL TIME TO WORK						
Workers who did not work at home	59,084	100.0	59,680	100.0	596	1.0
Less than 5 minutes	4,575	7.7	4,822	8.1	247	5.4
5 to 9 minutes	13,267	22.5	12,011	20.1	-1,256	-9.5
10 to 14 minutes	13,605	23.0	13,194	22.1	-411	-3.0
15 to 19 minutes	10,877	18.4	9,782	16.4	-1,095	-10.1
20 to 29 minutes	8,858	15.0	9,059	15.2	201	2.3
30 to 44 minutes	5,083	8.6	5,986	10.0	903	17.8
45 or more minutes	2,819	4.8	4,826	8.1	2,007	71.2
Mean travel time to work (minutes)	15.3	(X)	18.4	(X)	3.1	(X)
TIME LEAVING HOME TO GO TO WORK						
Workers who did not work at home	59,084	100.0	59,680	100.0	596	1.0
5:00 a.m. to 6:59 a.m.	15,101	25.6	14,810	24.8	-291	-1.9
7:00 a.m. to 7:59 a.m.	16,414	27.8	16,468	27.6	54	0.3
8:00 a.m. to 8:59 a.m.	10,296	17.4	9,843	16.5	-453	-4.4
9:00 a.m. to 9:59 a.m.	3,216	5.4	3,031	5.1	-185	-5.8
10:00 a.m. to 11:59 a.m.	1,910	3.2	1,666	2.8	-244	-12.8
12:00 p.m. to 11:59 p.m.	11,009	18.6	11,554	19.4	545	5.0
12:00 a.m. to 4:59 a.m.	1,138	1.9	2,308	3.9	1,170	102.8

¹ See the entry for this item in the Technical Notes in the root directory or state subdirectories (filename: tech_notes.txt).
 (X) Not applicable.
 Source: U.S. Census Bureau. Census of Population and Housing, 1990 and 2000 long-form (sample) data.

Spatial Analysis using Geographic Information Systems

Through the use of census data and geocoded locations for specific spatial attributes, it is possible to identify key features within the county. For the purposes of this phase of IHI's project, Healthcare and Education facilities were identified as types of community destinations which can help describe the potential for walking to routine destinations as part of an active lifestyle. The potential of a resident walking to a destination can be identified as accessible within a .5 mile radius. This is the equivalent of approximately a 10 minute walk at an average pace of 3 miles per hour. Note that this distance is also a relatively short bicycle ride – approximately a 3 minute ride at a 10 mile per hour pace. The purpose of this diagnostic tool is not to specifically identify which individuals within the county walk or bicycle, but rather to provide a broad perspective on whether it is possible to walk or bike to certain key features within the area.







Education

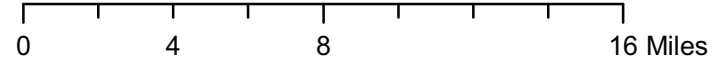
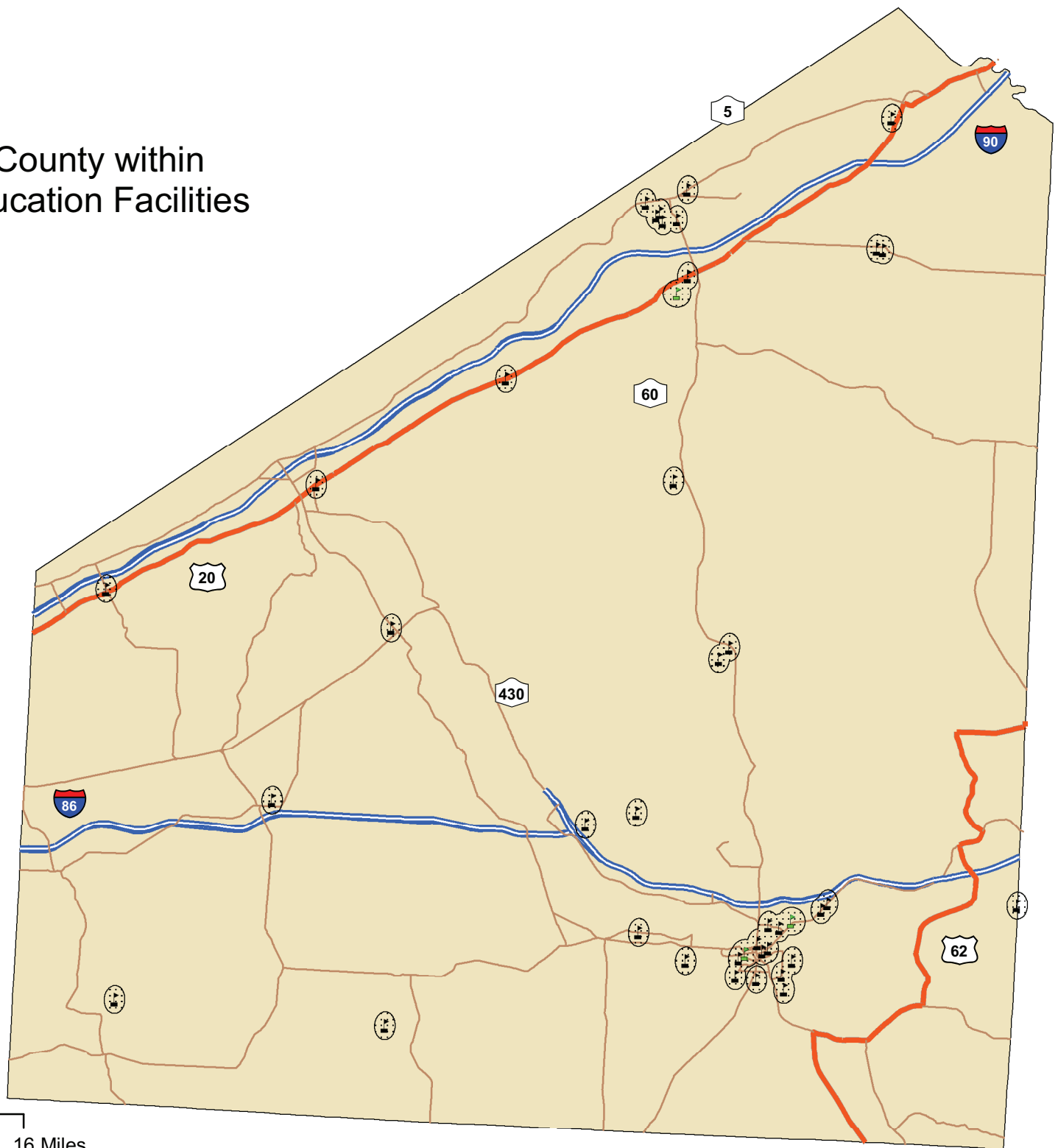
Access to schools is a part of the daily travel routine for Chautauqua County families. Nationally, the trend in the past several decades has been away from children walking or bicycling to school, and towards children being bused and driven to school. The data showing the lack of physical fitness in children (as well as faculty, staff and college students) is related to this change in daily routine. As a result, investigating the potential for schools to be a destination within walking distance of the local population can be an important step towards encouraging a more active lifestyle. About 113,333 people or 81.1% of the county population lives within walking distance of schools.

Please see Education map on following page

Areas in Chataouqua County within Walking Distance of Education Facilities



-  Schools
-  Colleges
-  1/2 Mile Buffer Zone
-  Limited Access Highway
-  Major Road
-  Minor Road








Parks

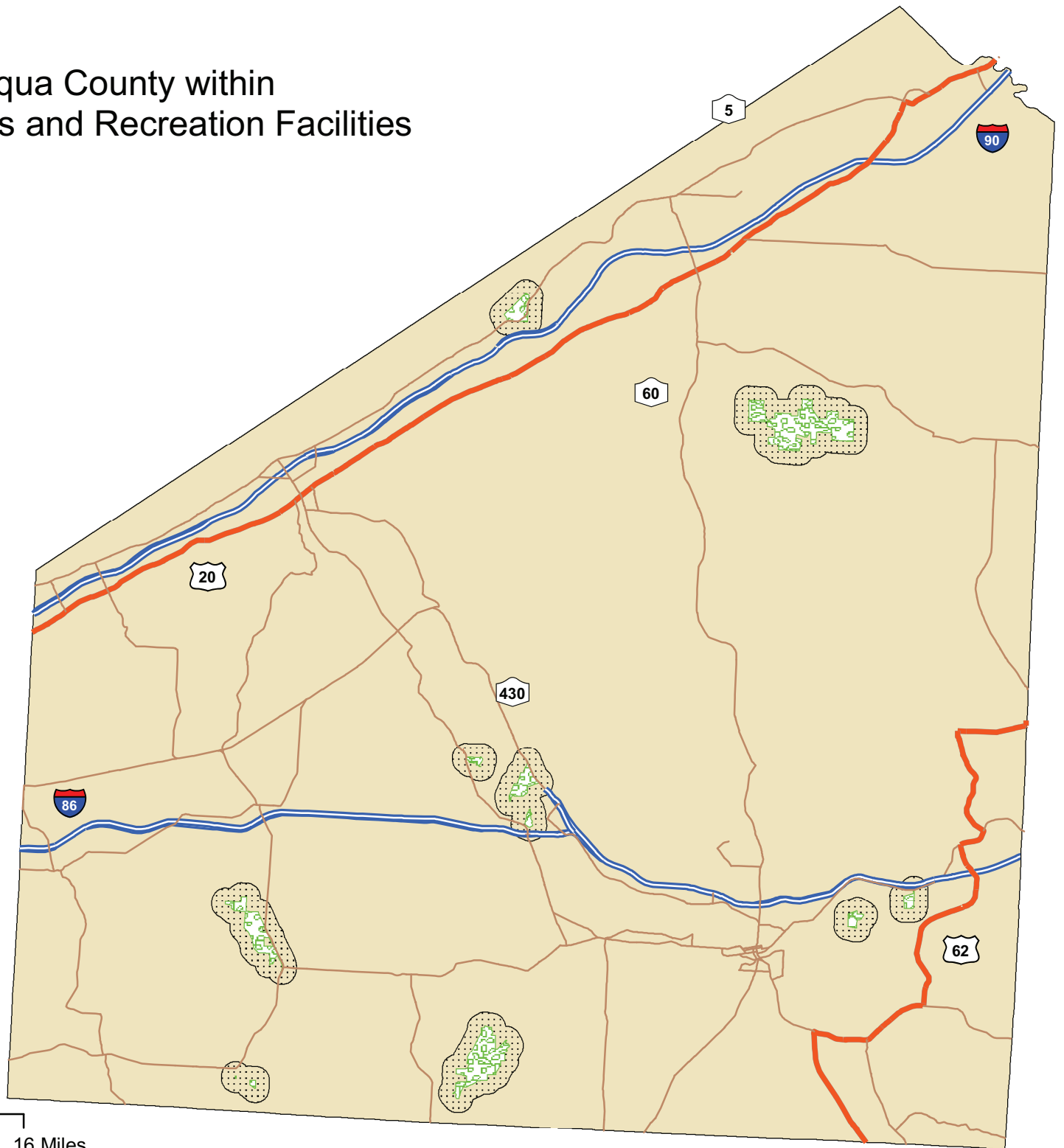
Parks and Recreation Facilities provide locations intended for physical activity, sports and other leisure time activities. Walking, hiking and bicycling are primary activities at these locations, yet in a rural setting, it is important to determine if people are able to walk or bike to parks and recreation, or if they are limited to driving a car to reach these destinations. Chautauqua County is fortunate to have a significant amount of parks and public lands focused along lakeshores, rivers, and in local communities. The G.I.S. analysis of the county's parks and recreation facilities confirms that around 47% of the population lives within walking distance of existing parks and recreation areas.

Please see Parks map on following page

Areas in Chataouqua County within Walking Distance of Parks and Recreation Facilities



	Parks and Recreation Facilities
	1/2 Mile Buffer Zone
	Limited Access Highway
	Major Road
	Minor Road



0 4 8 16 Miles


Health Institutions







Just as schools and parks can provide walk-able community destinations, health institutions can play a similar role in being a place that encourages physical activity and fitness by being a role model as a destination. This is often not the case with large hospitals and medical centers, and there are many examples of hospitals being surrounded by large parking lots without appropriate consideration for how walking and bicycling relate to public health and the medical institution's role in creating a healthy neighborhood environment. For the purpose of this analysis, healthcare institutions were identified and geocoded, and the same walking distance buffer was applied for the .5-mile radius around the facility. The data indicates that approximately 30 percent of the county population lives within walking distance of a healthcare facility.

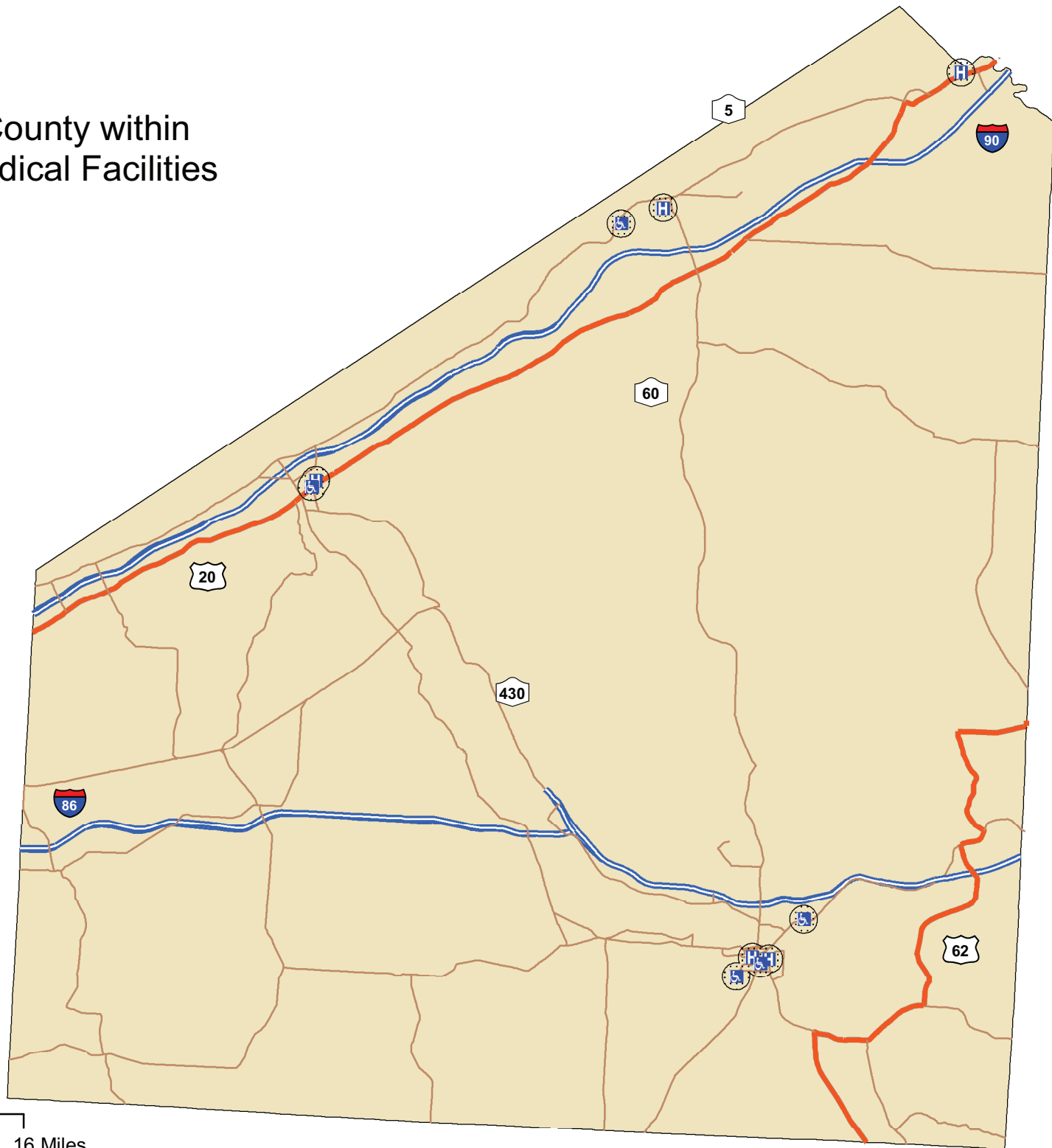
Please see Health Institutions map on following page

Areas in Chatauqua County within Walking Distance of Medical Facilities

N



-  Nursing Home
-  Hospital
-  1/2 Mile Buffer Zone
-  Limited Access Highway
-  Major Road
-  Minor Road



0 4 8 16 Miles

Transportation Infrastructure (following page)

For many people, access to jobs, education, healthcare and recreation is defined by local streets and roads. In Chautauqua County, there are more than 2,400 miles of state and local roads. The provision of paved shoulders and sidewalks along these facilities is key to providing a safe environment for pedestrians and bicyclists. Unfortunately, data is not currently available to determine the percentage of these roads that include paved shoulders, sidewalks, bike lanes or trails. An investigation of NYSDOT's *sufficiency file data* indicated that paved shoulders and sidewalks are not systematically included in the state's pavement management and information systems.

The available data table for the Chautauqua County highway system is provided on the following page.

CHAUTAUQUA COUNTY REGION 5 COUNTY 2

MINOR CIVIL DIVISION		GEO- CODE	URBAN AREA CODE	POP. 2000	TOTAL STATE TOURING ROUTE MILEAGE	CENTERLINE HIGHWAY MILEAGE BY JURISDICTION						
TYPE	Name of Town, Village or City					TOWN VILLAGE or CITY	COUNTY	TOTAL LOCAL	D.O.T. OWNED	OTHER STATE	TOTAL STATE & LOCAL	
TOWNS	Arkwright	0032		1,130	6.4	39.8	18.7	58.5	6.4	0.0	64.9	
	Busti	0104	030P	4,500	2.1	64.4	29.5	93.9	8.5	0.0	102.4	
	Carroll	0132		3,640	4.2	48.1	16.0	64.0	4.2	0.0	68.3	
	Charlotte	0146		1,380	4.4	44.9	15.4	60.3	4.4	0.0	64.7	
	Chautauqua	0150		2,910	18.7	73.2	26.3	99.5	18.7	1.5	119.7	
	Cherry Creek	0155		600	5.1	28.5	12.2	40.7	5.1	0.0	45.8	
	Clymer	0177		1,500	9.6	34.1	23.9	58.1	9.6	0.0	67.7	
	Dunkirk	0243	018	1,390	7.5	7.3	7.0	14.2	5.0	2.5	21.7	
	Ellery	0263	030P	4,240	16.0	61.9	37.5	99.4	16.4	0.0	115.7	
	Ellicott	0264	030P	5,450	14.3	50.5	28.3	78.8	14.7	0.0	93.5	
	Ellington	0266		1,640	8.9	49.2	12.7	61.9	8.9	0.0	70.8	
	French Creek	0307		940	13.9	39.7	8.9	48.6	13.9	0.0	62.5	
	Gerry	0327	030P	1,720	6.8	35.1	18.3	53.4	6.8	0.0	60.2	
	Hanover	0370		4,000	16.4	63.2	31.7	95.0	10.5	7.7	113.1	
	Harmony	0373		1,850	5.7	39.6	19.5	59.1	5.7	0.0	64.8	
	Kiantone	0437	030P	1,390	8.1	22.6	12.7	35.3	8.1	0.0	43.4	
	Mina	0535		1,180	18.6	33.1	19.1	52.3	17.3	0.0	69.6	
	North Harmony	0596	030P	2,520	15.3	60.0	22.8	82.7	15.3	0.0	98.0	
	Poland	0677	030P	2,470	21.4	45.7	6.5	52.2	21.4	0.0	73.6	
	Pomfret	0678	018P	4,000	17.1	55.8	15.3	71.1	13.1	4.1	88.3	
	Portland	0682	018P	3,960	21.3	59.1	6.8	66.0	14.1	7.1	87.2	
	Ripley	0715		2,640	30.6	43.5	14.7	58.2	24.8	7.1	90.0	
	Sheridan	0775	018P	2,840	25.6	39.5	21.9	61.4	18.6	7.0	87.0	
	Sherman	0776		840	14.6	33.8	12.6	46.3	14.6	0.0	60.9	
	Stockton	0811		1,660	1.3	41.8	31.7	73.5	1.3	0.0	74.8	
	Villanova	0860		1,120	8.4	39.8	15.1	54.9	8.4	0.0	63.3	
	Westfield	0892		1,750	23.8	53.4	14.9	68.3	16.6	7.2	92.1	
	SUBTOTAL				63,260	345.9	1207.7	500.0	1707.6	312.2	44.2	2064.1
	VILLAGES	Bemus Point	1043		340	1.3	3.5	1.0	4.4	0.3	0.0	4.7
		Brocton	1057		1,550	1.4	6.2	1.8	7.9	1.4	0.0	9.3
Cassadaga		1077		680	0.7	4.6	2.2	6.7	0.7	0.0	7.4	
Celoron		1088	030	1,300	0.0	8.3	2.7	10.9	0.0	0.0	10.9	
Cherry Creek		1095		550	1.4	3.2	1.2	4.4	1.4	0.0	5.8	
Falconer		1164	030	2,540	1.2	11.8	1.4	13.2	1.2	0.0	14.4	
Forestville		1175		770	1.1	2.8	2.1	4.9	1.1	0.0	6.0	
Fredonia		1184	018	10,710	3.1	26.3	5.2	31.5	3.1	1.7	36.2	
Lakewood		1259	030	3,260	2.6	21.0	2.8	23.8	2.6	0.0	26.3	
Mayville		1302		1,760	4.0	10.1	0.9	11.0	4.0	0.0	15.0	
Panama		1378		490	1.5	5.5	2.3	7.7	1.5	0.0	9.2	
Sherman		1456		710	2.7	2.6	1.2	3.8	2.7	0.0	6.5	
Silver Creek		1460		2,900	2.5	11.4	0.8	12.1	2.6	0.0	14.7	
Sinclairville		1462		670	0.3	3.1	5.1	8.2	0.3	0.0	8.5	
Westfield		1530		3,480	4.4	18.1	2.0	20.1	4.4	0.0	24.5	
SUBTOTAL					31,710	28.2	138.3	32.4	170.6	27.2	1.7	199.5
CITIES	Dunkirk	2012	018	13,130	4.7	51.6	7.3	58.9	3.5	1.1	63.5	
	Jamestown	2022	030	31,730	8.0	130.5	12.8	143.3	8.0	0.1	151.4	
SUBTOTAL				44,860	12.7	182.1	20.0	202.1	11.6	1.2	214.9	
COUNTY TOTAL		----	----	139,830	386.7	1528.0	552.4	2080.4	351.0	47.1	2478.5	

Infrastructure Investment Analysis

Healthcare is a significant budget expenditure and cost for New York State and local communities. The direct and indirect costs due to medical care, workers compensation claims, and lost time related to injuries is illustrated below in a graphic provided by NYSDOH.

Specifically, in Chautauqua County, physical inactivity costs over \$135 Million per year. This includes over \$22 Million in medical care costs, over \$350,000 in workers compensation costs, and over \$112 million in lost productivity. Broken down, it costs each resident of Chautauqua County around \$1,500 per year. It is estimated that a 5% increase in physical activity would save tax-payers over \$6 million each year.

Source: www.activelivingleadership.org, figures from US Census

Slide Source (bullets 1 & 2): Chenoweth, "Physical Inactivity in NYS, An Economic Cost Analysis", 1999
Slide Source (bullet 3): Pratt, M. "Higher Direct Medical Costs Associated with Physical Inactivity", *The Physician and Sports Medicine*, October, 2000. This study used data from the 1987 National Medical Expenditures Survey.

Cost of Physical Inactivity in NYS

- Inactivity costs NYS **\$3 billion** a year
- A 5% increase in physical activity rates in adults would save NY **\$180 million** a year.
- Inactive adults have **\$330** more per year in direct medical costs than active adults (in 1987 dollars).

IV. Initiatives for Chautauqua County

Steps to a Healthier New York: Chautauqua County

Chautauqua is one of four New York counties funded by the NYS Department of Health’s grant to participate in this national program. “**Steps to a HealthierNY** is a five-year cooperative agreement program funded through the U.S. Department of Health and Human Services bold new initiative, **Steps to a HealthierUS** with a goal of helping Americans live longer, better, and healthier lives. Through this program, states, cities, and tribal entities receive funds to implement chronic disease prevention efforts focused on reducing the burden of diabetes, overweight, obesity, and asthma and addressing three related risk factors – physical inactivity, poor nutrition, and tobacco use.”

*“As a result of this program, a Community Consortium was organized whose membership consists of representatives from health agencies, community advocacy groups, regional coalitions, private businesses, public schools, faith-based organizations, and diverse ethnic and minority groups. This consortium designs the community action plan, and organizes all activities and financial distribution of the funding associated with **Steps to a HealthierNY**. All activities will build on other programs and coordinate with existing community programs and resources.”* It would also be important for town and county planning officials to be involved in this consortium.

Steps Interventions for Chautauqua County

America on the Move — is a pedometer-based energy balance program promoted by the *Steps to a HealthierNY* program in Chautauqua County. This program has been used in schools, worksites, and community settings to increase physical activity among residents by asking participants to increase their total step count each day by 2,000. Since this program was initially promoted in 2005, over 5,000 residents of Chautauqua County have participated and more continue to join each day.

Community on the Move — the most public component of the “Steps” program has been the Community on the Move mini-grant. This initiative provided funding to Brocton, Cherry Creek, Kennedy, and Panama to conduct the *America on the Move* walking program. Participants in version of the *America on the Move* walking program had 12% higher completion rate than the national rate. The funding also required the community to make changes to the built environment to improve walkability. These improvements include creating or improving walking paths or sidewalks, providing signage or distance markers to walking areas, or providing benches.

School Health Infrastructure — In order to address the current issue of obesity among youths in Chautauqua County, an intervention addressing coordinated school health was developed. Districts have formed (1) School Health Advisory Councils (SHAC), (2) completed the School Health Index (SHI), and (3) drafted Wellness Policies to address physical activity and nutrition in the school setting. With 14 districts in Chautauqua County having completed the SHI and more than ten districts receiving Board of Education support for the local wellness policy, *Steps* is well on the way to improving health and wellness in local schools.

Worksite Health and Wellness — Worksites in Chautauqua County were engaged in an intervention to improve their infrastructure and address health promotion. There have been 15 worksites who formed wellness committees, completed a self-assessment called the *Heart Check*, and wrote policies to address physical activity, nutrition, or tobacco use. In addition, these worksites engaged in other components of the *Steps* program including tobacco cessation classes and *America on the Move*. This is another way to reach residents where they spend a great deal of their time, at the workplace.

Steps is an extremely beneficial program to Chautauqua County and currently there are numerous ongoing projects. Community health data is also available on their website: <http://www.ccsteps.org/>

Chautauqua Rails-to-Trails

Chautauqua has many miles of unused rail corridors throughout the entire county. *“Chautauqua Rails-to-Trails is preserving these abandoned rail corridors for conversion into safe off-road trails for recreational use: walking, running, hiking, bicycling, cross country skiing, bird watching (over 170 species identified) and horseback riding. These trails provide public access through scenic woodlands, wetlands and flowering meadows, offering trail users opportunities to observe the plants, animals and birds found in areas otherwise remote from highways and roads. The trails are available for outdoor recreational activities and environmental study for the public at large and for group outings sponsored by schools, scouts, churches and service organizations.”*

Some of the trails maintained by Chautauqua Rails-to-trails include: The *Allison Wells Ney Trail* (5mi.) offers vistas of Lake Erie; the *Ralph C. Sheldon Jr. Trail* (4.5mi.) dirt surface allowing for pedestrians and bicyclists; and The *Nadine and Paul Webb Trail* (2mi.).

Additional Facilities

The Chautauqua County Parks and Recreation Department operates trails:

The Fred J. Cusimano Westside Overland Trail, 24 miles from near the Pennsylvania New York boundary in the Town of Harmony to the south side of the Chautauqua Gorge; Earl Cardot Eastside Overland Trail, Twenty Eighth Creek Road in the Town of Gerry and proceeds northerly for 19 miles to the Canadaway Creek in the Town of Arkwright; and The Marden E. Cobb Waterway Trail contains sections of the Cassadaga and Conewango, 52 miles of generally flat-water canoeing. <http://www.co.chautauqua.ny.us/parks/parksframe.htm>

Indoor walking track at Jamestown Savings Bank Ice Area—free and open to the public year-round

V. Community Infrastructure Prescriptions

The information gathered for this project can help in informing Chautauqua County and local communities about the issues and potential solutions related to physical activity, cardiovascular fitness, and the built environment. Data in the previous sections (see NYS BRFSS data) have indicated that Chautauqua County residents are at risk for heart disease, that physical activity is declining, and that transportation and health care costs represent a significant amount of local public expenditures. In order to translate these facts into action, it is first necessary to understand the current recommendations of the health profession in terms of change in individual behavior. Currently the Surgeon General of the United States is recommending that adults have 30 minutes of moderate physical activity on most, if not all days of the week and that children have at least 60 minutes of physical activity on most days, if not all days of the week. In many cases, this amount of physical activity can be achieved while walking to work, school, or for recreation within a local community – if these destinations are accessible in terms of pedestrian facilities. At the same time, research is beginning to show that for many people, leisure time physical activity frequently involves walking, and that roads, streets and sidewalks are important facilities for this purpose.

Estimated Costs of Simple Bicycle or Pedestrian Improvements in Chautauqua County:

Lane Stripping:	\$3,300/mile
Bicycle Arrow:	\$53/each
Shared Lane Arrow:	\$71/each
Colored Pavement:	\$9/sqft

The costs listed above are based on construction of on-street bicycle lane without parking, assuming construction would begin in 2006.

Source: www.Bicyclinginfo.org

While it is not certain that there is a direct cause and effect relationship between providing sidewalks, paved shoulders, trails and bicycle facilities and specific improvements in the conditions of cardiovascular disease, there is sufficient evidence to indicate that Chautauqua County would benefit from infrastructure improvements that encourage a more active lifestyle. **The following sections identify several possible policy and funding opportunities for Chautauqua County.**

Policy Suggestions

Safe Routes to School

There is a growing national and international movement towards encouraging children to walk and bicycle to school. Schools are a logical focal point for creating safe, healthy, physically active communities. While current conditions indicate the majority of children are being bused and driven to school, changes in the physical environment (including sidewalks, crossings and traffic calming of school zones) can be combined with encouragement programs to facilitate a return to safe routes to school in Chautauqua County. Please see the iHi NY Safe Routes to School document on our website here: <http://www.albany.edu/~ihi/2briefing.pdf>.

Complete Streets

Benefits of *Complete Streets* range from improved safety conditions for pedestrians and bicyclists to less congested roadways. Numerous communities across the country have already adopted such policies. A proposed *Complete Streets* policy for Chautauqua County can be found here: <http://www.completestreets.org/index.html>.

Local Sidewalk Program / Winter Maintenance

It is common practice in Upstate New York communities for adjacent property owners to be responsible for construction and maintenance of sidewalks. While this limits a municipality's maintenance cost and shifts the existing or perceived liability to the adjacent landowner, it also creates discontinuous and often nonexistent pedestrian facilities. While there may not be a single, one size fits all solution to these issues, there are a number of excellent best practices which could be facilitated at the county level. Examples include mapping the existing sidewalk systems and identifying missing links. Sidewalk construction could be facilitated into group discount purchases in order to ease the cost burden on property owners. Winter maintenance could be enhanced through economic opportunity programs, providing jobs for the unemployed or youth seeking to enter the workforce.

Land Use and Walkability

As a 'home rule' state, New York does not have regional land use planning for rural counties, and as a result, most land use decisions are made at the local municipal level. With a dispersed rural population, the creation of compact development centers in villages and hamlets would support walking, especially if combined with locating public facilities such as post offices, libraries and local government offices within town centers. In order to encourage people to walk as part of their daily routing, it is important to group destinations and activities within walking distance of businesses and residences to the greatest extent possible.

Road Shoulder Guidelines

Many of the County's highways are low volume two lane roads. In most cases where there are few motor vehicles and traffic speeds are kept slow, these are already good places to walk or bicycle. On roads with higher traffic volumes and speeds, providing paved shoulders can be a significant benefit to motorists, bicyclists and pedestrians. A consistent policy for providing paved shoulders as a typical roadway feature could be implemented by NYSDOT, the County and municipal agencies. The document on the following page, developed in Oregon, provides an excellent rationale for these facilities.

Paved Shoulders

Reasons for Highway Shoulders

Prepared by Michael Ronkin, Bicycle and Pedestrian Program Manager & Members of the Preliminary Design Unit Oregon Department of Transportation

Before the 1971 "Bike Bill" was passed, and the terms "shoulder bikeways" or "bike lanes" were commonly used, the Oregon Highway Division advocated (1) building paved shoulders when constructing roads and (2) adding paved shoulders to existing roads. These were often referred to as "safety shoulders." There are good reasons for this term.

The following reasons are what AASHTO has to say about the benefits of shoulders in three important areas: safety, capacity and maintenance. Most of these benefits apply to both shoulders on rural highways and to marked, on-street bike lanes on urban roadways. See other side for other benefits specific to urban areas.

Safety - highways with paved shoulders have lower accident rates, as paved shoulders:

- Provide space to make evasive maneuvers;
- Accommodate driver error;
- Add a recovery area to regain control of a vehicle, as well as lateral clearance to roadside objects such as guardrail, signs and poles (highways require a "clear zone," and paved shoulders give the best recoverable surface);
- Provide space for disabled vehicles to stop or drive slowly;
- Provide increased sight distance for through vehicles and for vehicles entering the roadway (rural: in cut sections or brushy areas; urban: in areas with many sight obstructions);
- Contribute to driving ease and reduced driver strain;
- Reduce passing conflicts between motor vehicles and bicyclists and pedestrians;
- Make the crossing pedestrian more visible to motorists; and
- Provide for storm water discharge farther from the travel lanes, reducing hydroplaning, splash and spray to following vehicles, pedestrians and bicyclists.

Capacity - highways with paved shoulders can carry more traffic, as paved shoulders:

- Provide more intersection and safe stopping sight distance;
- Allow for easier exiting from travel lanes to side streets and roads (also a safety benefit);
- Provide greater effective turning radius for trucks;
- Provide space for off-tracking of truck's rear wheels in curved sections;
- Provide space for disabled vehicles, mail delivery and bus stops; and
- Provide space for bicyclists to ride at their own pace;

Maintenance - highways with paved shoulders are easier to maintain, as paved shoulders:

- Provide structural support to the pavement;
- Discharge water further from the travel lanes, reducing the undermining of the base and subgrade;
- Provide space for maintenance operations and snow storage;
- Provide space for portable maintenance signs;
- Facilitate painting of fog lines.



VI. Funding Options

Bicycle and Pedestrian Improvements can be made possible in Chautauqua County with funding through multiple avenues. There are numerous funding sources, including federal grant programs such as the Transportation Improvements Program or Congestion Mitigation Air Quality Improvement Program. Both the New York Bicycling Coalition and Parks and Trails New York (PTNY) have excellent information regarding funding.

New York Bicycling Coalition: <http://www.nybc.net/programs/funding.shtml>

Parks and Trails New York: <http://www.ptny.org/index.shtml>

There may also be state, local and private money available too. In addition, see the iHi website for more information on funding sources.

Conclusion

This report is part of our efforts to develop an approach for identifying connections between public health, transportation infrastructure and community decision-making. With that caveat in mind, the following discussion can provide some useful concepts both for Chautauqua County and for the future development of the iHi program. One way of summarizing the data collected for this document is to connect the physical activity and transportation needs of Chautauqua County with an image common to promoting healthy lifestyles – the food pyramid. While people may disagree on the exact proportions of carbohydrates and protein in a healthy diet, the concept of the food pyramid is that the most resource intensive food group – meat – should be eaten in moderation, and that the food group which can be produced with the least amount of energy and the greatest return to the population – grains – should form the basis of a healthy diet. The same principle can be applied to transportation. If we used the forms of transportation that consume the greatest amount of resources (petroleum), we would place automobiles and air travel at the top of the pyramid and attempt to conserve our use of these costly forms of travel. Walking and bicycling would form the foundation of a pyramid that is based on the principals of a healthy transportation diet.

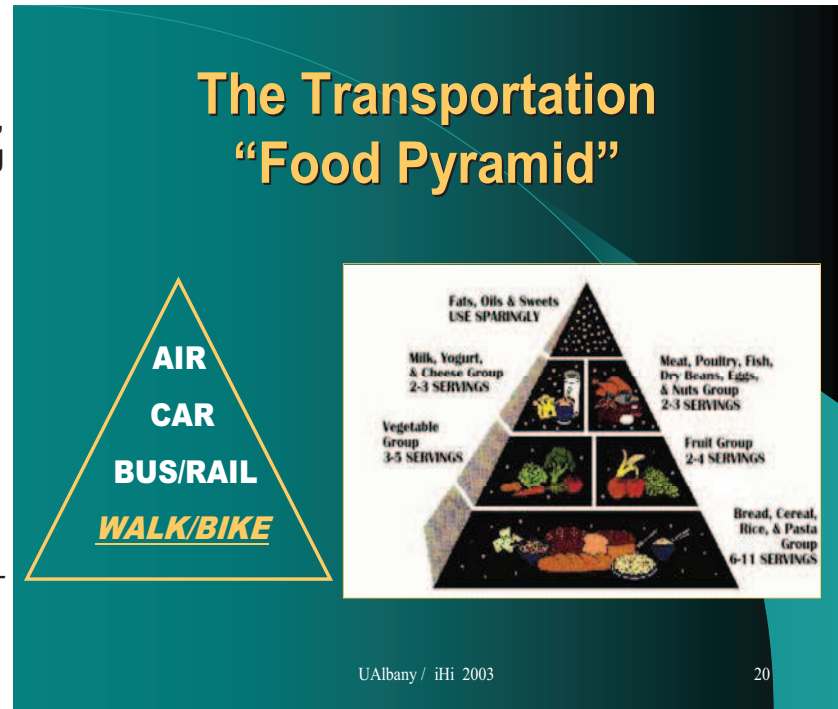
Do you know how much your local school district spends on student transportation?

Many districts allocate more funding on transportation than on physical activity programming! See the NYS Comptroller's Report and select school districts: http://www.osc.state.ny.us/localgov/datanstat/findata/index_choice.htm

Chautauqua County is faced with some important choices for the future. With a population at risk for cardiovascular disease, and with a significant percentage of county tax revenues being used for both transportation and health care, there is a need and an opportunity to increase the community's investment in healthy infrastructure. Projects such as *Steps to a HealthierNY* are all part of the solution. Bringing these initiatives together under the umbrella of combining public health and public works will create new opportunities for Chautauqua County, its residents, businesses and visitors.

The 'Transportation Food Pyramid' (Olson, 2003) shows the relationship between a healthy diet and a healthy use of transportation resources.

Please Note: The USDA now has a tool online so individuals can customize their own pyramids. Go to: <http://www.mypyramid.gov/>



Additional Important Links

Chautauqua County Health Department: <http://www.co.chautauqua.ny.us/health/healthframe.htm>

Chautauqua County Planning Department: <http://www.co.chautauqua.ny.us/planning/planframe.htm>

NYS DOH: <http://www.health.state.ny.us/>



For additional information, please contact:

Initiative for Healthy Infrastructure – iHi
State University of New York at Albany
Department of Geography and Planning
www.albany.edu/gp/ihi



Source: Chautauqua County



Healthy Infrastructure Action Plan / Survey

Thank you for being part of our efforts to connect public health, infrastructure and your community. We'd appreciate it if you would spend a few moments providing us with your opinion on this project.

County Name:

1. On a 1 to 10 scale, with '10' being the best score, is this document useful for your community? (please circle your response)

No 1 2 3 4 5 6 7 8 9 10 Yes

2. On the same 1-10 scale, are you more aware of the connection between public health and infrastructure now that you have read this document? (please circle your response)

No 1 2 3 4 5 6 7 8 9 10 Yes

3. Will you personally become and advocate for healthy infrastructure in your community as a result of this plan? (please check [x] one)

[] Yes [] No [] Not Sure

4. What plans, programs or projects should be added to the plan?

.....
.....
.....

5. What actions will your community implement as a result of this plan? (check [x] all that apply)

- Formal adoption of the plan by elected officials
- Increased funding for healthy infrastructure projects
- Formation of a healthy infrastructure task force
- Safe Routes to Schools Program
- New Policy to Include Pedestrian and Bicyclist Facilities



Healthy Infrastructure Action Plan / Survey

County Name:

6. Completion of a specific project.

Project name:

7. Other. *Please describe:*

.....
.....
.....
.....

Would you like to receive more information about iHi?
Please provide us with your contact information:

Name.....

Organization.....

Address.....

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