



# Ulster County

## Non-Motorized Transportation Plan

### Tech Memo #2: Data Summary Report

March, 2007



## Task Description

This report provides a summary of data collected and analyzed for the Ulster County Non-Motorized Transportation (NMT) Plan. The Plan will serve as a guide to the County for identifying and prioritizing NMT projects, and funding, constructing, and maintaining the NMT system. The plan will define a NMT system within Ulster County that will enhance multi-modal transportation, connect urban and rural areas, and increase recreation and conservation opportunities in the County.

The NMT Plan Scope defines this task under Task 2: Data Collection and Analysis as follows:

*To ensure the project can be completed efficiently, the Alta team will rely on data and information provided by the UCTC, combined with an interactive public involvement process to develop a network of proposed non-motorized transportation facilities. This task will include providing a review of existing facilities, including an inventory of existing facilities (with a focus on projects that connect two or more municipalities or projects of county-level significance), trailheads, and associated rest areas/parks, and other related infrastructure. The result of this task will be to consolidate the existing information available for the NMT system.*

This information will form the basis of future phases of the planning process. To accomplish this task, the project team has:

- a) Worked cooperatively with volunteers and partner non-governmental organizations in the collection of information regarding existing and potential facilities, including an on-line informational survey and public workshops.
- b) Utilized GIS-based analysis to identify areas with potential for increased use in Ulster County, and identify potential transportation, environmental, health and economic benefits.
- c) Reviewed existing safety data to identify typical crash types and potential high-incident NMT locations.

A data request memo was sent to Ulster County on January 26, 2007, including requests for the data outlined in the table on the following page.

## Ulster County NMT Plan

Items requested and received from the data Ulster County NMT request memo:

### County Wide Only Data Requests

Description	Type of File	Coverage Area
Tax Parcels	Polygon	Ulster County
Property Ownership RPS Point Data	Point	Ulster County
Municipal Boundaries	Polygon	Ulster County
DEC Wetlands	Polygon	Ulster County
Federal Wetlands	Polygon	Ulster County
County Digital Elevation Model	Raster	Ulster County
Hydrography - Streams/Rivers/Lakes/Canals	Lines	Ulster County
Hydrography - Streams/Rivers/Lakes/Canals	Polygon	Ulster County
Air Photos - High Res Natural Color	Raster	Ulster County
Utility ROW	Lines	Ulster County
Railroads	Line	Ulster County
Schools	Points	Ulster County Public & Private
Ulster County Tourism Guide Data (consultant will geocode)	Tables with Addresses	<a href="#">Contact is Rick Remsnyder (he is working on finding disk)</a>
Demographic / Census Projections	Shapes/Points	Ulster County

### County Wide & Municipal Data

Description	Type of File	Coverage Area
Local Streets	Line	Ulster County / Towns / Cities
Local Streets	Polygon	Ulster County / Towns / Cities
Parks, Preserves, & Open Space	Polygon	Local, County, Federal, Non-Profit
Conservation Easements	Polygon	Local, County, Federal, Non-Profit
Historic Site/Landmarks	Point/Polygon	Ulster County / Towns / Cities
Existing Trails (Formal & Informal)	Lines	Ulster County / Towns / Cities / NYS / Non-Profit
Proposed Trails	Lines	Ulster County / Towns / Cities / NYS / Non-Profit
User Counts for Existing Trails	Any	Ulster County / Towns / Cities / NYS
Existing Bikeways (On-street Routes, Bike Lanes)	Lines	Ulster County / Towns / Cities / NYS
Proposed Bikeways (On-street Routes, Bike Lanes)	Lines	Ulster County / Towns / Cities / NYS
Bicycle / Pedestrian Accident Data or Vehicle Accidents w/ Bike/Ped attributes	Points/Tables	Ulster County / Towns / Cities / Law Enforcement
Existing/Proposed Sidewalks	Line/Polygon	Ulster County / Towns / Cities
Tree Inventory	Point	Ulster County / Towns / Cities
Signalized Intersections	Points	Ulster County / Towns / Cities
SUNY-New Paltz - Campus Wide Data - Buildings, Walkways	Shape/Point/Line	SUNY
Major Employers	Points/Tables	Ulster County (Prefer Top 50 - Table with Addresses)
Day Care Centers	Points/Tables	Ulster County
Transit Routes	Lines	Ulster County
Transit Stops	Points/Tables	Ulster County
Zoning/Land Use Designations	Polygon	Ulster County / Towns / Cities
Archaeological - Cultural Resource Sensitive Areas	Shape/Point/Line	Ulster County / Towns / Cities
Endangered Species Presence	Shape/Point	State/Federal
Culverts	Shape/Point/Line	Ulster County / Towns / Cities
Average Daily Traffic Volume	Points or joined Lines	Ulster County / Towns / Cities
Flood Plain / Floodway	Shape	Converted from Cad
Building Footprints	Polygons	Ulster County / Towns / Cities
Shopping Centers	Points/Tables	Ulster County / Towns / Cities
Land Cover	Shapes/Rasters	Ulster County
Other Data as available	Shape/Point/Line	Ulster County / Towns / Cities
Proposed Developments	Shapes/Points	Ulster County / Towns / Cities
Campgrounds	Points	Ulster County / Towns / Cities / NYS
Water Access Points	Points	Ulster County / Towns / Cities / NYS
<b>Public Participation</b>		
Key Town Contacts (Town Supervisors, Public Works Admin, Parks & Rec)	Tables	Ulster County / Towns / Cities
School Contacts (District Administrators & Individual School Principals)	Tables	Ulster County / Towns / Cities
Stakeholders (Advocates, NYS Contacts, other)	Tables	Ulster County / Towns / Cities / NYS

## Project Survey Summary

The website for this project includes an online survey at the following address:

[www.altaplanning.com/ulsternmtp/](http://www.altaplanning.com/ulsternmtp/)

This site is hot-linked to the UCTC website, and it includes .pdf files of all project documents and presentation materials. The survey went on-line on March 5, 2007, and the consultant team will maintain a data base of survey responses. The survey was intended to provide general information about non-motorized travel in Ulster County, as well as to identify specific issues and potential projects for implementation. A survey summary is provided below:

The survey results below were collected on 3/21/07.

2. What types of non-motorized uses do you participate in? (Check all that apply)			
		Response Percent	Response Total
Cycling, On-road		80.8%	42
Cycling, Shared Use Paths		69.2%	36
Cycling, Mountain Bike		69.2%	36
<b>Walking</b>		<b>84.6%</b>	<b>44</b>
Jogging / Running		46.2%	24
In-line skating		9.6%	5
Child Strollers		9.6%	5
Equestrian		5.8%	3
Canoeing		23.1%	12
Tubing		1.9%	1
Rowing		3.8%	2
Sailing		1.9%	1
Skateboarding		3.8%	2
Wheelchair		0%	0
Cross Country Skiing/Snowshoeing		55.8%	29
<input type="button" value="View"/> Other (please specify)		11.5%	6
<b>Total Respondents</b>			<b>52</b>
(skipped this question)			1

3. Why and where do you use non-motorized travel? (Check all that apply)			
		Response Percent	Response Total
To get to work		36.5%	19
<b>For exercise</b>		<b>98.1%</b>	<b>51</b>
<b>For recreation</b>		<b>98.1%</b>	<b>51</b>
For shopping/ errands		44.2%	23
To get to school		1.9%	1
To get to a bus stop or train station		3.8%	2
I don't like bicycling		1.9%	1
<input type="button" value="View"/> Other (please specify)		7.7%	4
<b>Total Respondents</b>			<b>52</b>
(skipped this question)			1

4. How often do you ride a bike?			
		Response Percent	Response Total
Every day		7.8%	4
Several times a week		56.9%	29
Several times a month		15.7%	8
Less than once a month		9.8%	5
Not at all		11.8%	6
<a href="#">View</a> Other (please specify)		3.9%	2
<b>Total Respondents</b>			<b>51</b>
(skipped this question)			2

5. Average distance of your ride?			
		Response Percent	Response Total
Under 2 miles		18.4%	7
3 to 5 miles		15.8%	6
6 to 10 miles		31.6%	12
11 to 24 miles		39.5%	15
More than 25 miles		21.1%	8
<a href="#">View</a> Other (please specify)		5.3%	2
<b>Total Respondents</b>			<b>38</b>
(skipped this question)			15

6. Average distance that you walk or would walk to destinations?			
		Response Percent	Response Total
Less than or equal to 1500 Feet		4.7%	2
1/4-1/2 mile		16.3%	7
1/2 to 1 mile		25.6%	11
>= 1 mile - Recreation		51.2%	22
>= 1 mile - Work, Store, Transit		48.8%	21
<a href="#">View</a> Other (please specify)		7%	3
<b>Total Respondents</b>			<b>43</b>
(skipped this question)			10

7. Why and where do you walk? (Check all that apply)			
		Response Percent	Response Total
To get to work		24%	12
To get to the bus stop		4%	2
To get to the train station		2%	1
To get to school		2%	1
For shopping / errands		60%	30
For recreation / pleasure		90%	45
For exercise		80%	40
<a href="#">View</a> Other (please specify)		12%	6
<b>Total Respondents</b>			<b>50</b>
(skipped this question)			3

8. Where are your favorite places to walk?	
<a href="#">1.</a>	Walkkill Valley Rail Trail, Huguenot Village
<a href="#">2.</a>	rail trails, historic streets, town streets

<a href="#">3.</a>	nearby rail-trails
<a href="#">4.</a>	uptown kingston, rail trail
<a href="#">5.</a>	The mountain trails & rail-trails.
<a href="#">6.</a>	To local mini mall, Around neighborhood, to esopus conservancy trail
<a href="#">7.</a>	In the wooded areas
<a href="#">8.</a>	Minnewaska and all rail trails and Mohonk perserve
<a href="#">9.</a>	mtns., stream, n' village centers
<a href="#">10.</a>	Rail Trails
<a href="#">11.</a>	recreation: Mohonk Preserve
<a href="#">12.</a>	rail trails; DEC hiking trails
<a href="#">13.</a>	hiking trails
<a href="#">14.</a>	Lenape Lane- NP
<a href="#">15.</a>	rail trail, Mohonk, Minnewaska
<a href="#">16.</a>	rail trail, downtown new paltz
<a href="#">17.</a>	rail trail and quiet town streets or streets with sidewalks
<a href="#">18.</a>	Gunks
<a href="#">19.</a>	Hougenout St., Around New Paltz, Railtrail, Mohonk trails, Minnewaska park
<a href="#">20.</a>	Mohonk
<a href="#">21.</a>	in town in New Paltz
<a href="#">22.</a>	Parks and small towns
<a href="#">23.</a>	Where ever there is a sidewalk or path
<a href="#">24.</a>	rail trails, Mohonk Preserve
<a href="#">25.</a>	less traveled roads
<a href="#">26.</a>	Minnewaska, New Paltz
<a href="#">27.</a>	into the village and on the rail trail
<a href="#">28.</a>	to Downtown New Paltz
<a href="#">29.</a>	Ulster Landing Road Area
<a href="#">30.</a>	Rail trails in Ulster County
<a href="#">31.</a>	wooded areas. small towns
<a href="#">32.</a>	Parks, State Lands
<a href="#">33.</a>	The Stone Ridge Rail Trail
<a href="#">34.</a>	scenic hudson trails
<a href="#">35.</a>	Neighborhoods, Reservoir
<a href="#">36.</a>	through the city of kingston, town of ulster

<a href="#">37.</a>	woods
<a href="#">38.</a>	walkkill rail trail
<a href="#">39.</a>	all over
<a href="#">40.</a>	in the city or in the woods
<a href="#">41.</a>	209 rail trail
<a href="#">42.</a>	Around my neighborhood + job.
<a href="#">43.</a>	dirt pathways
<a href="#">44.</a>	Rail Trails, Wild Forest Preserves
<a href="#">45.</a>	Woods

<b>9. Where are your favorite places for non-motorized transportation in Ulster County? (Please be specific by including street names and intersections etc.)</b>	
<a href="#">1.</a>	Springtown Road, rail trail between Gardiner and New Paltz, rail trail between New Paltz and Rosendale, rail trail in Highland, Route 32 between New Paltz and Rosendale, Route 299 between New Paltz and Highland, North Elting Corners Road and around, Kingston city streets.
<a href="#">2.</a>	rail-trails, carriageways at mohonk and minnewaska
<a href="#">3.</a>	rail trail, jockey hill and related carriage trails, in and around the preserve, wilson state park, around kingston
<a href="#">4.</a>	Mountain trails around Awosting.
<a href="#">5.</a>	RT 209
<a href="#">6.</a>	For on road cycling - I like to ride Glasco Turnpike from Glasco to Woodstock, In the Village of Saugerties near Cantine Field and to Hummilville Road. For Mountain biking - I like to ride at Jockey Hill and High Woods multiuse area
<a href="#">7.</a>	Hurley mountain road Hurley, Ny Springtown road New Paltz, NY
<a href="#">8.</a>	a. Road bike to work in K'ston from Red Hook b. Walk near work (Broadway) during lunch time. c. Hike and Mtn. bike in the Catskill Mtns. d. Hike and Mtn. bike at other area parks/preserves/multi use areas.
<a href="#">9.</a>	Rail Trail - New Paltz, Rosendale
<a href="#">10.</a>	Hurley Rail Trail; Rosendale/Gardner rail trail
<a href="#">11.</a>	Springtown road, county rt 7, Rosendale to Kingston, Lucas Ave, 44/55 Highland to Minnewaska State Park, Mountain Rest Road, Dug Hill Road, Rt 28,RT 28A, 214, 23A, Peekamoose mountain, Basically all over Ulster County and the Catskills.
<a href="#">12.</a>	Where to begin . . . I am a serious road cyclist. I love the whole county.
<a href="#">13.</a>	Lenape Lane, NP Rail Trail
<a href="#">14.</a>	Mohonk Minnewaska rail trail - New Paltz and Highland roads with wide shoulders streets with sidewalks
<a href="#">15.</a>	Springtown Road--off 299 in New Paltz Creek Locks Road-Rosendale between 32 and 213
<a href="#">16.</a>	New Paltz downtown area

<a href="#">17.</a>	Walk, run, XC-ski at mohonk. Bike on springtown rd, mohonk rd, noth and south mtn rd, mtn rest rd, albany post, bruynwick, around ashokan reservoir.
<a href="#">18.</a>	Rail Trail in New Paltz Minnewaska State Park Mohonk Preserve
<a href="#">19.</a>	I like cycling West of New Paltz around the Shawangunks. I wish the shoulders were better on some of these roads (i.e. Rt 299 heading West to Rt 44/55) so cycling would be safer.
<a href="#">20.</a>	rail trail from Rest Plaus Road to Hurley
<a href="#">21.</a>	hopefully the new proposed path in Shandaken
<a href="#">22.</a>	South Street to Milton Turnpike and Plattekill-Ardonia Road, 44/55 until I almost get hit, New Paltz rail trail, Minnewaska
<a href="#">23.</a>	walkkill rail trail and new paltz village streets. i walk in the woods along the mill brook [tributary 13] too. i like paths that arent along roads like the one from the moriello pool to the town hall.
<a href="#">24.</a>	to downtown New Paltz Walkkill Valley Rail Trail
<a href="#">25.</a>	Ulster Landing Park Jockey Hill Area Ulster landing Road Area
<a href="#">26.</a>	Rail Trails in New Paltz, Rosendale and Highland are my favorite places in Ulster County.
<a href="#">27.</a>	Bluestone Wild Forest All the smaller County roads.
<a href="#">28.</a>	hurley rail trail, Kenneth L. Wilson state park
<a href="#">29.</a>	Rail Trails, State Parks Minnewaska, Mohonk Preserve
<a href="#">30.</a>	The choices are few as it stands right now. I ride the rail trail behind Super 8 (kingston) to the Stone ridge rail trail several times a week.
<a href="#">31.</a>	rail trails-hurley, new paltz, gardiner many bike loops on town & county roads in Ulster & Columbia counties Uptown Kingston
<a href="#">32.</a>	When going to work: Riding from the paved rail trail in Hurley to Cottekill Road in Stone Ridge.
<a href="#">33.</a>	none
<a href="#">34.</a>	rt 212,rt 28a,rt 23a,rt 214,rt 28, woodstock/west saugerties rd, wittenburg rd, manorville rd, blue mtn rd, sawkill rd, hurly mtn rd, Minnewaska state park, Mohonk preserve, Overlook Mtn, Jocky Hill, Wilson state park, rt 213
<a href="#">35.</a>	I love to Mountain Bike at Jockey Hill, Onteora Lake, Kenneth Wilson State Park. I also often use the Kingston/Hurley/Marbletown rail trail with my girlfriend for biking. For road biking, I go all over the Kingston, Esopus, Saugerties & Woodstock area.
<a href="#">36.</a>	Pretty much anywhere a car can go and walkkill rail trail, all state parklands
<a href="#">37.</a>	Bluestone Wild Forest (Jockey Hill Rd.); Onteora Lake (Rt 28) D&H Rail Trail (Hurley) O&W Rail Trail (Kingston)



10. What prevents you from using non-motorized travel more often? (Check all that apply)			
		Response Percent	Response Total
Too many cars / motorists drive too fast		68%	34
No trails near my residence		30%	15
<b>No bike lanes or on-street bike routes near my residence</b>		<b>76%</b>	<b>38</b>
Existing paths are in poor condition		18%	9
Destinations are too far away		24%	12
Not enough lighting		8%	4
I have to carry things		6%	3
I travel with small children		4%	2
I don't own a bicycle		2%	1
I don't have enough time		12%	6
<input type="button" value="View"/> Other (please specify)		20%	10
<b>Total Respondents</b>			<b>50</b>
(skipped this question)			3

11. Where are the most difficult places for you to walk or bike in Ulster County? (Please be specific by including street names and intersections etc.)	
<a href="#">1.</a>	West of New Paltz, including on Rte. 299 (no shoulder), Libertyville Rd. (County Rd. 7).
<a href="#">2.</a>	Route 208 south of New Paltz had NO shoulders in many places, and low visibility. Route 32 just north of New Paltz has concrete barriers that require bicyclers to go into the roadway, Route 299 from New Paltz to the west has no good shoulders, and it should be a very well travelled bike route to the mountains.
<a href="#">3.</a>	Rt 299 from New Paltz to 44/55. Too narrow, no bike lanes.
<a href="#">4.</a>	Right on my very own street: Plutarch Road! And this is a real, real shame!
<a href="#">5.</a>	RT 209
<a href="#">6.</a>	Route 9W in Saugerties along Barclay Heights corridor from Glasco Turnpike to Burt Street.
<a href="#">7.</a>	Hurley Mt Rd
<a href="#">8.</a>	Albany and Ulster Avenues.
<a href="#">9.</a>	Walking and biking: My own road: Union Center Road off Rte 213 Walking: Flatbush Avenue from Albany Ave. to East Chester and the neighborhood around my office at 300 Flatbush Ave, which has no sidewalks.
<a href="#">10.</a>	City of Kingston - Washington Avenue, Broadway, Abeel St.; Town of Ulster - Lucas Avenue, Ulster Avenue
<a href="#">11.</a>	rt 28, rt 209, rt 208, rt 213 any high traffic roads with no shoulder, rt 32,
<a href="#">12.</a>	In Down town NP
<a href="#">13.</a>	Main St especially west of Walkkill
<a href="#">14.</a>	crossing main street between Stop and Shop plaza and route 32; Du Bois from North Putt to route 32
<a href="#">15.</a>	32 North from New Paltz to Kingston
<a href="#">16.</a>	DuBois in New Paltz
<a href="#">17.</a>	299 in new paltz, lucas ave kingston

<a href="#">18.</a>	New Paltz Main Street. They should prohibit on-street parking there and make bike lanes instead.
<a href="#">19.</a>	High Falls, NY
<a href="#">20.</a>	Henry W. DuBois in New Paltz. This road is in desperate need of a sidewalk or bicycle/walking lane. Many people use it (or would use it) for walking and bicycling. Rt 299 West of New Paltz (as noted above).
<a href="#">21.</a>	Route 209 in Stone Ridge and Rt. 213 in High Falls
<a href="#">22.</a>	Route 28 Old plank road between Mt Tremper & Phoenicia wittennberg road
<a href="#">23.</a>	44/55
<a href="#">24.</a>	there is no safe way too walk along henry w. dubois drive in new paltz.
<a href="#">25.</a>	Kukuk lane
<a href="#">26.</a>	Rt. 9W is basically a death zone.
<a href="#">27.</a>	Route 28. Town of Ulster near Malls.
<a href="#">28.</a>	rt. 212, and rt. 28, rt. 375
<a href="#">29.</a>	I would love to commute to my job in Sugerties by bike, but there is no safe path. If 9W had a shoulder or bike lane I would definitely use it to get to work. Kings highway would be another path that I would use, if it had a bike lane, or shoulder.
<a href="#">30.</a>	See Above.
<a href="#">31.</a>	Riding from the rail trail on Cottekill road to Kripplebush is horrible, especially on Main Street in Stone Ridge. Lucas Avenue isn't much better. The trail starting at the Super 8, needs some major work en route to Hurley.
<a href="#">32.</a>	Rt 28,
<a href="#">33.</a>	along roads that have no sidewalks and cars come too close and too fast.
<a href="#">34.</a>	ulster ave, rt 9w between Saugerties and Kingston
<a href="#">35.</a>	Route-32 in the Town of Ulster by my house is very scary to Run/Bike/Walk. I live in Whittier (Indian Springs Lane) and to get to most of my running I have to take 32 for at least a mile. The speed limit is 40, but most people go at least 50 and the shoulder is almost non-existent. It is like this all the way to the 9W/32 intersection in Saugerties.
<a href="#">36.</a>	Sawkill Road (Kingston to Woodstock)Entire length, but worst for bicycles/walkers between Washington Ave and 209. Albany Ave(Kingston) Ulster Avenue (City of Kingston and Town of Ulster) Route 299 from New Paltz to Rt 44/55 Gardiner.
<a href="#">37.</a>	All roads in western Ulster County!

12. Please rank your preference for non-motorized facilities (1 = Most Preferred; 8 = Least Preferred)

	1	2	3	4	5	6	7	8	Response Average
Paved Shared Use Paths	20% (8)	<b>22% (9)</b>	15% (6)	17% (7)	10% (4)	10% (4)	2% (1)	5% (2)	<b>3.39</b>
Stone Dust Shared Use Paths	5% (2)	16% (6)	<b>27% (10)</b>	19% (7)	14% (5)	14% (5)	5% (2)	0% (0)	<b>3.81</b>
On-street bike lanes	<b>29% (12)</b>	19% (8)	17% (7)	21% (9)	5% (2)	2% (1)	5% (2)	2% (1)	<b>2.93</b>
Bike routes or boulevards on local streets	7% (3)	16% (7)	<b>25% (11)</b>	14% (6)	20% (9)	7% (3)	7% (3)	5% (2)	<b>3.95</b>
Trails or single track dirt paths	<b>38% (17)</b>	7% (3)	4% (2)	11% (5)	22% (10)	13% (6)	2% (1)	2% (1)	<b>3.33</b>
Sidewalks	5% (2)	10% (4)	12% (5)	8% (3)	12% (5)	<b>30% (12)</b>	12% (5)	10% (4)	<b>5.03</b>
Equestrian Facilities	5% (2)	7% (3)	5% (2)	2% (1)	2% (1)	7% (3)	19% (8)	<b>52% (22)</b>	<b>6.50</b>
Water Trails	7% (3)	10% (4)	2% (1)	10% (4)	5% (2)	10% (4)	<b>37% (15)</b>	20% (8)	<b>5.68</b>
<b>Total Respondents</b>									<b>51</b>
(skipped this question)									2

13. Where would you like to walk or bike from your home? (Check all that apply)

	Response Percent	Response Total
Work	60%	30
Bus Stop	18%	9
Train Station	14%	7
School	10%	5
Shopping Center	44%	22
Small stores	68%	34
Restaurant or Cafe	66%	33
<b>Off-road Pathways</b>	<b>84%</b>	<b>42</b>
Park	76%	38
<a href="#">View</a> Other (please specify)	6%	3
<b>Total Respondents</b>		<b>50</b>
(skipped this question)		3

14. What prevents you from walking more often?

	Response Percent	Response Total
<b>Too many cars/cars drive too fast</b>	<b>68%</b>	<b>34</b>
Drivers don't stop for pedestrians	50%	25
Too hard to cross the street	20%	10
No Sidewalk / the sidewalk stops	56%	28
No curb ramps	6%	3
Places are too far away	32%	16
Not enough lighting	14%	7
I have to carry things	10%	5
I travel with small children	4%	2
I don't have enough time	16%	8
<a href="#">View</a> Other (please specify)	10%	5
<b>Total Respondents</b>		<b>50</b>
(skipped this question)		3

15. If you have children, do they walk or bike to school?			
		Response Percent	Response Total
Every day		9.3%	4
Sometimes		7%	3
Never		18.6%	8
This question does not apply to me		65.1%	28
<b>Total Respondents</b>			<b>43</b>
(skipped this question)			10

16. Does your school have a Safe Routes to School Program?			
		Response Percent	Response Total
Yes		0%	0
No		21.3%	10
I don't know		38.3%	18
n/a		38.3%	18
<input type="button" value="View"/> Other (please specify)		2.1%	1
<b>Total Respondents</b>			<b>47</b>
(skipped this question)			6

18. Please tell us the non-motorized transportation improvements you would like to see in Ulster County. This could include new bike lanes, paths, or routes, enhancements to existing bikeways or intersections, additional signage, sidewalks, water access or educational and encouragement programs.
1. Improving the areas west of New Paltz, especially Rte. 299. I would also like to see greater non-motorized connectivity between major areas in Ulster County, i.e. Highland, New Paltz, Rosendale, Kingston.
  2. Have continuous sidewalks within towns and villages. Make sure there are adequate shoulders on roads that lead between towns.
  3. Bike lanes on county routes, or at least decent paved shoulders.
  4. Extensive driver education program Regarding bikes and the laws regarding bikes. New bike lanes and a developed single track network which is connected (a la Kingdom Trails in Vermont) which would make Kingston and Ulster County a world class mountain bike destination.
  5. 1] Designated bike/pedestrian-lane on local rural roadways 2] Police enforcement to ensure speed limits observed 3] Extended rail trails in Highland & New Paltz 4] #2 over & over again.
  6. new bike lanes
  7. I would like to see new bike lanes with signage added to high traffic areas along Route 9W and Route 32. Additional access to State/County owned properties for bicycle recreation. Including more mountain bike single track trails and rail trail areas in Ulster County.
  8. bike lanes having the rail trail open from Kingston to walkkill
  9. a. complete streets with room for bike travel and travel slowing devices. b. motorists should be required to yield to pedestrians on all non-interstate streets in Ulster Co.
  10. Sidewalks, bike lanes
  11. When there are sidewalks, there should be curb cuts. The shoulder of Rte 213 in Ulster Park is wide enough to provide a bicycle and walking path but is not maintained as such.
  12. more pike paths, marked bike lanes on roads, roads that have true shoulders to ride on,

	roads that do not develop steep drops to shoulder when they are repaved
<a href="#">13.</a>	I would love to see more recreational areas to walk/bike and more bike lanes on roads or better shoulders. Please lower the speed limit on springtown road.
<a href="#">14.</a>	I've heard about exciting projects to expand the current network of bike trails near New Paltz. Developing the span across the Hudson is exciting. Widening shoulders where appropriate.
<a href="#">15.</a>	No
<a href="#">16.</a>	I would like to see some bike lanes on the streets of New Paltz, Rosendale, and Kingston. I do not want to see newly paved bike routes--lets keep the natural beauty natural---no pavement on rail trail or other trails
<a href="#">17.</a>	new bike lanes on 299, springtown rd, mt rest road, and south putt corners rd
<a href="#">18.</a>	I would really like to see some sidewalks or shared pedestrian paths/bikeways. My husband and I used to always walk for recreation in every other place we lived, but we never walk anywhere here because of the lack of safe options where we live (about 3 miles south of the village). While we live on a cul-de-sac, the adjacent country road has no shoulders, sidewalks or street lights which really limits our choices (and the cars drive fast on it). With two children, I would really like to encourage them to see walking as a viable option but it's just not possible. I appreciate the efforts of this program.
<a href="#">19.</a>	New Paltz Main Street. They should prohibit on-street parking there and make bike lanes instead.
<a href="#">20.</a>	Sidewalks, bike paths
<a href="#">21.</a>	I live in New Paltz and I feel as if this town has so much potential to be a bicycle and pedestrian friendly town. The town/village itself should be set up much better to encourage, support, and promote bicycling and walking. The surrounding area (i.e. Ulster County) has so much to offer cyclists.
<a href="#">22.</a>	Equestrian use trails, sidewalks in Stone Ridge and High Falls, bike lanes, improved and extended rail trail system
<a href="#">23.</a>	new trail on UC ROW in Shandaken
<a href="#">24.</a>	Bike lanes. Many Ulster County roads that are very popular among cyclists have very little if any shoulder. Rail trails and designated paths are always good too, though I know land issues surround this.
<a href="#">25.</a>	1. Wider, paved bike lanes in as many places as possible. 2. Maintenance of the margins of roads (e.g., the 1-2 foot margin on Route 208 in New Paltz), which, when crumbling, creates a serious hazard for bicycles. 3. Signs telling motorists that they share the road with cyclists. 4. Education programs encouraging cycling for its health, environmental and cost-savings advantages, not to mention the sheer pleasure of it. 5. Education programs aimed at motorists to make them aware they share the road with cyclists. 6. County, village and town subsidies for the installation of bike racks. IF YOU BUILD THE FACILITIES, BIKES WILL COME!
<a href="#">26.</a>	all of the above
<a href="#">27.</a>	Repair to existing and additional sidewalks. "Share the Road" signage. Enforcement of illegal bicyclist behavior. Enforcement of pedestrian ROW at crosswalks. Wider shoulders on roadways.
<a href="#">28.</a>	Rail Trail development and connection between O&W in City of Kingston with D&H in Hurley, and continued development of the D&H Rail Trail south. Development of Rail Trail from City of Kingston west to High Mount. Bike lanes on tourism routes including Rt299 from New Paltz to Mohonk and Minnewaska; and on Rt 213 from City of Kingston to Rosendale/Rifton. Bike Lane and walking access along County Routes to public parks and mountain bike access trails. Access and development of Rail Trail from City of Kingston by RT 32 and Wall Street

	to connect with the New Paltz to Rosendale Rail Trail, including easement or alternative to Williams Lake. Specific bike lanes on routes leading to shopping particularly the Hudson Valley Mall area from all directions.
<a href="#">29.</a>	Wider shoulders on County roads. Education for drivers to respect cyclists. Bike lanes near schools to encourage children to ride to school. Ulster Delaware Rail line made into rail trail for all to use. Take down the bike route signs on Rt. 28, it's just too dangerous.
<a href="#">30.</a>	Bicycle lanes, and paths would be a wonderful way of encouraging non-motorized transportation.
<a href="#">31.</a>	Missing Links in O&W Rail Trails-Stone Ridge to Accord, Kerhonkson to Ellenville Hudson Valley Rail trail extension to New paltz and Wallkill Rail trail
<a href="#">32.</a>	I believe that the residents of Ulster need more safe paved and non paved paths that families can utilize. Go to the Ashokan Reservoir on the paved sections that are closed to traffic and you will find scores of people. The Stone Ridge rail trail is also very busy with walkers, roller bladers, and bicycle riders. Build the paths and people will take advantage of them.
<a href="#">33.</a>	I think that converting the railroad that parallels Rt 28 from Kingston to Arkville would open a great opportunity for all recreation and commuting by bike. Highly visible signs indicating bicycles sharing roadway would be helpful. Reminding all motorists that bicycles are traffic, and how to co-exist, should be mandatory. Eliminate some on street parking in Kingston to make room for bike lanes, such as Fair st. and Albany avenue.
<a href="#">34.</a>	-Riding through the intersection at Broadway/Chandler Drive is bad. -Route 209 in Stone Ridge is horrible. People cruise through town at 40mph+, and I have no shoulder to bail out on. -The bike path from the Super 8 in Kingston to Hurley needs desperate help. -Extending said path through Kingston to the waterfront would really be a great asset to city residents (such as me)
<a href="#">35.</a>	more bike paths
<a href="#">36.</a>	Rail Trail development and connection between O&W in City of Kingston with D&H in Hurley, and continued development of the D&H Rail Trail south. Development of Rail Trail from City of Kingston west to High Mount. Bike lanes on tourism routes including Rt299 from New Paltz to Mohonk and Minnewaska; and on Rt 213 from City of Kingston to Rosendale/Rifton. Bike Lane and walking access along County Routes to public parks and mountain bike access trails. Access and development of Rail Trail from City of Kingston by RT 32 and Wall Street to connect with the New Paltz to Rosendale Rail Trail, including easement or alternative to Williams Lake. Specific bike lanes on routes leading to shopping particularly the Hudson Valley Mall area from all directions.
<a href="#">37.</a>	sidewalks, bike lanes so that when I am driving I don't have to swerve to avoid bicyclists
<a href="#">38.</a>	Signage reminding motorists to share the road
<a href="#">39.</a>	I think that spending time to improve existing bike lanes and add more would be the most beneficial to the community. Creating more rail trails and singletrack would benefit me the most, as that is what I have the most fun using.
<a href="#">40.</a>	BIKE LANES THAT ARE ENFORCED. Most people like to park in them.
<a href="#">41.</a>	Rail Trail development and connection between O&W in City of Kingston with D&H in Hurley, and continued development of the D&H south. Development of Rail Trail from City of Kingston west to High Mount. Specific bike lanes on routes leading to shopping particularly the Hudson Valley Mall area from all directions. Bike lanes on tourism routes including Rt299 from New Paltz to Mohonk and Minnewaska; and on Rt 213 from City of Kingston to Rosendale/Rifton. Bike Lane and walking access along County Routes such as Lucas Ave from Town of Ulster into City of Kingston and Forsythe Park. Access and development of Rail Trail from City of Kingston by RT 32 and Wall Street to connect with the New Palts to Rosendale Rail Trail, including easement or alternative to Williams Lake.

## Safety Data

Bicyclist and pedestrian crashes in Ulster County were reviewed using data provided by the Ulster County Traffic Safety Board, the Fatal Accident Reporting System (FARS), and the New York State Governor’s Traffic Safety Committee. In reviewing this information, it is important to note that crash rates are difficult to determine without data for the number of people walking and bicycling. It is also important to note that fatality and injury trends are difficult to determine without location-specific geocoded data that can link crash types with infrastructure and behavioral countermeasures. That information is not currently available in Ulster County. The available data has been consolidated and presented in the following tables and maps to illustrate the number of pedestrian and bicyclist crashes, and the location of these incidents by municipality.

<b>ULSTER COUNTY</b>								
<b>CRASH DATA</b>								
	<b>1999</b>	<b>%</b>	<b>2000</b>	<b>%</b>	<b>2001</b>	<b>%</b>	<b>2002</b>	<b>%</b>
<b>TOTAL CRASHES* (events)</b>	<b>4,164</b>		<b>4,583</b>		<b>3,766 *</b>		<b>2,638 *</b>	
Fatal	20	0.5	21	0.5	27	0.7	20	0.8
Personal Injury	1,722	41.4	1,800	39.3	1,611	42.8	1766	66.9
Property Damage*	2,422	58.2	2,762	60.3	2,128 *	56.5	852 *	32.3
<b>SELECTED CRASH TYPES (events)</b>								
Pedestrian crashes	50	1.2	72	1.6	67	1.8	54	2.0
Bicycle crashes	46	1.1	47	1.0	37	1.0	31	1.2
Motorcycle crashes	74	1.8	66	1.4	85	2.3	68	2.6
<b>TOTAL FATALITIES (persons)</b>	<b>25</b>		<b>24</b>		<b>33</b>		<b>23</b>	
Drivers	17	68.0	15	62.5	19	57.6	14	60.9
Passengers	6	24.0	7	29.2	10	30.3	6	26.1
Pedestrians	2	8.0	1	4.2	2	6.1	3	13.0
Bicyclists	0	0.0	1	4.2	1	3.0	0	0.0
<b>TOTAL INJURIES** (persons)</b>	<b>2,522</b>		<b>2,631</b>		<b>2,359</b>		<b>2,413</b>	
Drivers	1,640	65.0	1,674	63.6	1,503	63.7	1605	66.5
Passengers	780	30.9	835	31.7	757	32.1	724	30.0
Pedestrians	53	2.1	74	2.8	64	2.7	50	2.1
Bicyclists	44	1.7	46	1.7	34	1.4	30	1.2

\* Starting in October 1997, the DMV recorded property damage only crashes that were reported by police but had no motorist report submitted. This policy was rescinded in mid 2001; the most direct impact of this change was a large decrease in the number of property damage only crashes; the effect is also reflected in the total number of crashes and the total number of occupants involved in crashes.

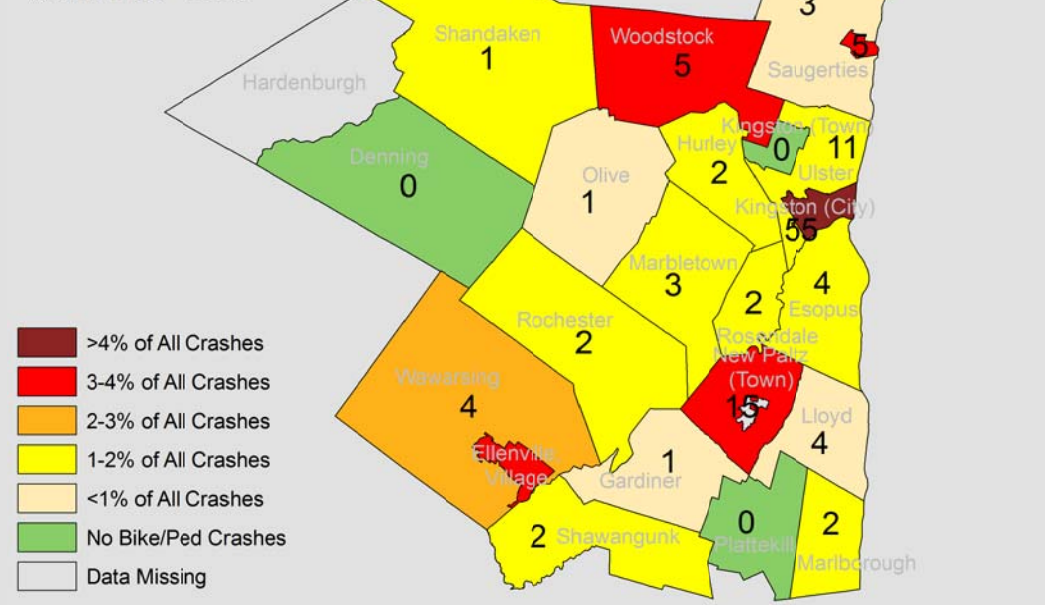
\*\* Police-reported crashes only.  
 Note: Totals may not equal the sum of the parts due to missing data.

Source: 1999-2000 NYSDMV county MV-144A, Table 1, and special county MV-144A on motorcycle crashes, Table 1.  
 2001-2002 NYSDMV AIS Data Base.

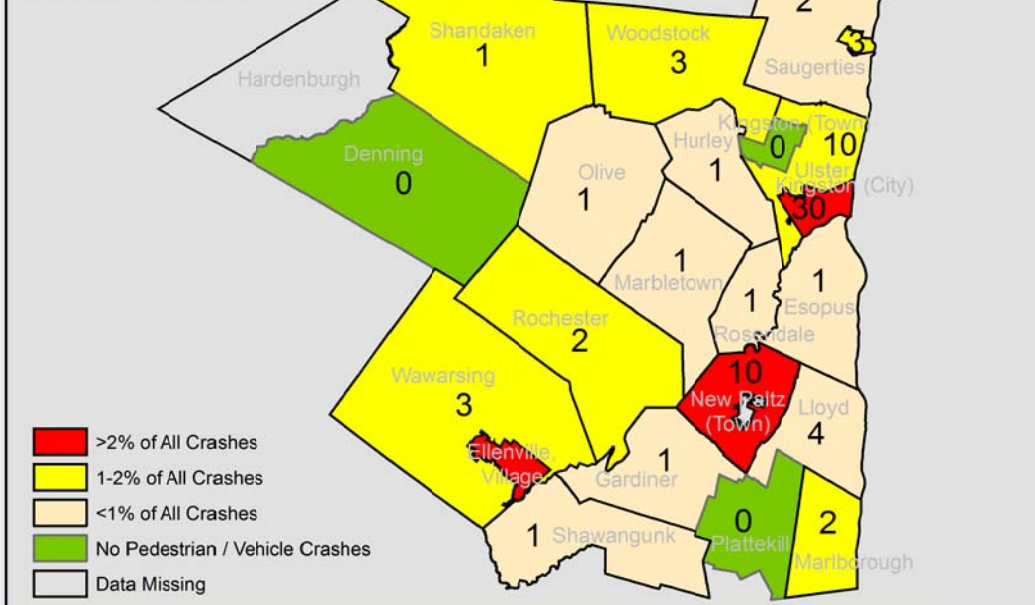
Source: Ulster County Traffic Safety Data, February 2005, Institute for Traffic Safety Management and Research, <http://www.nysgtsc.state.ny.us/02Data/ULSTER-02-Data.pdf>

# Ulster County Non-Motorized Transportation Plan

**Bicycle & Pedestrian Crashes % and Total - 2006**



**Pedestrian / Vehicle Crashes % and Total - 2006**



**New York State Bicycle & Pedestrian Safety Data Tables - 2005**  
Source: Governors Traffic Safety Committee

New York State Department of Motor Vehicles Summary of Bicycle/Motor Vehicle Accidents 2005

Category Totals	All Accidents	Police Reported
Total Accidents	5,907	5,927
Fatal Accidents	48	70
Non-Fatal Injurious Accidents	5,726	5,827
Responsible Property Damage Accidents	34	6
Other	0	0
<b>Total</b>	<b>5,824</b>	<b>5,927</b>

Category	Number	Percent
Total (All Accidents)	5,907	100.0
Fatal (Fatal Accidents)	48	0.8
Non-Fatal Injurious (Non-Fatal Injurious Accidents)	5,726	97.2
Responsible Property Damage (Responsible Property Damage Accidents)	34	0.6
Other (Other)	0	0.0
<b>Total</b>	<b>5,824</b>	<b>100.0</b>

New York State Department of Motor Vehicles Summary of Pedestrian/Motor Vehicle Accidents 2005

Category Totals	All Accidents	Police Reported
Total Accidents	15,193	15,189
Fatal Accidents	247	270
Non-Fatal Injurious Accidents	15,046	14,771
Responsible Property Damage Accidents	27	1
Other	0	0
<b>Total</b>	<b>15,074</b>	<b>15,041</b>

Category	Number	Percent
Total (All Accidents)	15,193	100.0
Fatal (Fatal Accidents)	247	1.6
Non-Fatal Injurious (Non-Fatal Injurious Accidents)	15,046	98.4
Responsible Property Damage (Responsible Property Damage Accidents)	27	0.2
Other (Other)	0	0.0
<b>Total</b>	<b>15,074</b>	<b>100.0</b>

**Ulster County Bicycle & Pedestrian Safety Data Tables - 2005**  
Source: Governors Traffic Safety Committee

2005 Ulster County

Category Totals	All Accidents	Police Reported
Total Accidents	2,835	2,897
Fatal Accidents	25	31
Non-Fatal Injurious Accidents	1,734	1,803
Responsible Property Damage Accidents	1,076	273
Other	0	0
<b>Total</b>	<b>2,805</b>	<b>2,897</b>

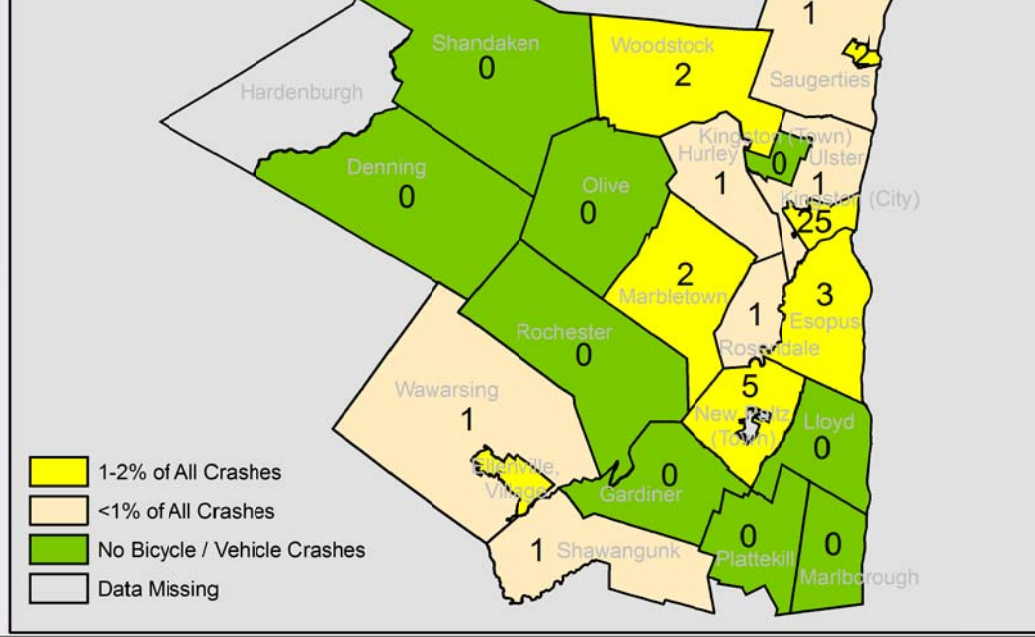
  

Age Group	Killed	Injured
Total	4	60
Under 5	0	2
5 - 9	0	1
10 - 14	0	5
15 - 19	0	11
20 - 24	0	5
25 - 29	0	7
30 - 34	0	3
35 - 39	0	2
40 - 44	0	2
45 - 49	0	3
50 - 54	1	3
55 - 59	0	1
60 - 64	0	1
65 - 69	0	3
70 - 74	0	0
75 - 79	0	0
80 and Over	0	2
Unknown Age	0	3

Age Group	Killed	Injured
Total	0	41
Under 5	0	0
5 - 9	0	2
10 - 14	0	2
15 - 19	0	5
20 - 24	0	8
25 - 29	0	3
30 - 34	0	2
35 - 39	0	1
40 - 44	0	5
45 - 49	0	4
50 - 54	0	1
55 - 59	0	3
60 - 64	0	1
65 - 69	0	0
70 - 74	0	1
75 - 79	0	0
80 and Over	0	0
Unknown Age	0	3

**Bicycle / Vehicle Crashes % and Total - 2006**



## Bicycle & Pedestrian Safety Analysis Ulster County Non-Motorized Transportation Plan

Data Provided by: ESRI, New York State, & Ulster County | Map Prepared by: Alta Planning+Design March, 2007

## Bicycle & Pedestrian Crashes by Municipality Ulster County, New York 2006





## Demand and Benefits Analysis

A variety of demand models are often used to quantify usage of existing bicycle facilities, and to estimate the potential usage of new facilities. The purpose of these models is to provide an overview of the demand and benefits for bicycling and walking in Ulster County. As with all models, the results show a range of accuracy that can vary based on a number of assumptions and available data. The models used for this study incorporated information from existing publications as well as data from the U.S. Census. All data assumptions and sources are noted in the tables following each section of the analysis.

According to data from New York State Department of Health County Health Indicator Profiles, **cardiovascular disease accounts for more than 30% of all fatalities in Ulster County**. In 2003, more people died from heart disease in Ulster County than from lung cancer, AIDS, homicides and motor vehicle crashes combined.

(source: <http://www.health.state.ny.us/statistics/chip/ulster.htm>).

Based on U.S. Census journey to work data, walking and bicycling in Ulster County have declined by more than 23% in the decade between 1990 -2000.

### CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP 2000)

#### Geographic Area: Working in Ulster County, New York

**TABLE 1. SELECTED CHARACTERISTICS BY PLACE OF WORK, 1990 and 2000**

Selected Characteristics (Universe: All Workers)	1990		2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
<b>Workers 16 years or over</b>	<b>66,863</b>	<b>100</b>	<b>64,730</b>	<b>100</b>	<b>-2,133</b>	<b>-3.2</b>
<b>Sex</b>						
Male	36,303	54.3	32,645	50.4	-3,658	-10.1
Female	30,560	45.7	32,085	49.6	1,525	5.0
<b>Mode to work</b>						
Drove alone	50,106	74.9	49,345	76.2	-761	-1.5
2-person carpool	7,163	10.7	5,480	8.5	-1,683	-23.5
3-or-more-person carpool	1,213	1.8	1,435	2.2	222	18.3
Bus or trolley bus	558	0.8	570	0.9	12	2.2
All other transit <sup>1</sup>	66	0.1	139	0.2	73	110.6
Bicycle or walked	4,066	6.1	3,120	4.8	-946	-23.3
Taxicab, motorcycle, or other mode	764	1.1	685	1.1	-79	-10.3
Worked at home	2,927	4.4	3,950	6.1	1,023	35.0

Source: <http://ctpp.transportation.org/part2/36111.htm>

2000 Census Data also show the percentage of people walking and bicycling to work in selected Ulster County Communities. Walking (4.8%) and bicycling (.8%) account for a combined 5.6% of commuter travel in Kingston, for example. Although more detailed data are not available, it important to note that walking and bicycling trips are often for social, school, errands, recreation and other types of trips that are not included in the Census journey-to-work data.

Means of Transportation:	Ulster County	%	City of Kingston	%	Village of Elbeville	%	Village of New Paltz	%	Village of Saugerties	%	Town of Esopus	%	Town of Lloyd	%	Town of Shandaken	%	Town of Woodstock	%
<b>Car/Truck/Van:</b>	72,263	88.4%	8,901	86.7%	1,298	80.9%	1,685	67.0%	1,773	90.3%	3,930	88.7%	4,375	92.0%	1,286	84.4%	2,333	73.8%
Drove Alone	63,804	78.1%	7,695	74.9%	906	56.4%	1,501	59.7%	1,489	75.9%	3,434	77.5%	3,935	82.7%	1,032	67.7%	2,127	67.2%
Carpooled	8,459	10.4%	1,206	11.7%	392	24.4%	184	7.3%	284	14.5%	496	11.2%	440	9.3%	254	16.7%	206	6.5%
<b>Public Transportation:</b>	1,803	2.2%	458	4.5%	52	3.2%	88	3.5%	10	0.5%	43	1.0%	100	2.1%	57	3.7%	112	3.5%
Bus or Trolley Bus	763	0.9%	252	2.5%	14	0.9%	63	2.5%	10	0.5%	15	0.3%	6	0.1%	39	2.6%	50	1.6%
Railroad	511	0.6%	21	0.2%	7	0.4%	7	0.3%	0	0.0%	28	0.6%	94	2.0%	0	0.0%	7	0.2%
Taxicab	281	0.3%	179	1.7%	24	1.5%	18	0.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7	0.2%
Motorcycle	16	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Bicycle	162	0.2%	82	0.8%	12	0.7%	12	0.5%	9	0.5%	0	0.0%	0	0.0%	0	0.0%	0	0.5%
Walked	3,079	3.8%	492	4.8%	185	11.5%	616	24.5%*	127	6.5%	117	2.6%*	107	2.2%	32	2.1%	135	4.3%
Other Means	453	0.6%	57	0.6%	20	1.2%	48	1.9%	7	0.4%	32	0.7%	26	0.5%	15	1.0%	24	0.8%
Worked at Home	3,950	4.8%	280	2.7	38	2.4%	67	2.7%	37	1.9%	309	7.0%	148	3.1%	134	8.8%	542	17.1%
<b>TOTAL WORKFORCE</b>	<b>81,726</b>		<b>10,270</b>		<b>1,605</b>		<b>2,516</b>		<b>1,963</b>		<b>4,431</b>		<b>4,756</b>		<b>1,824</b>		<b>3,163</b>	

\*High Proportion Reflects Student Trips to Work

### Census Transportation Data for communities in Ulster County

Source: 2003 Ulster County Transportation Plan, Means of Transportation to Work in Ulster County, p.II -37

## Demand Analysis

### Existing Bicycle Demand

The Ulster County bicycle demand model consists of several variables including commuting patterns of working adults, and predicted travel behaviors of area college students and school children. For modeling purposes, the study area included all residents within Ulster County in 2000. The information was ultimately aggregated to estimate the total existing demand for bicycle facilities in the County. Table 1 identifies the variables used in the model. Data regarding the existing labor force (including number of workers and percentage of bicycle commuters) was obtained from the 2000 Census. In addition to people commuting to the workplace via bicycle, the model also incorporates a portion of the labor force working from home. Specifically, it was assumed that about half of those working

from home would make at least one bicycling or walking trip during the workday. The 2000 Census was also used to estimate the number of children in Ulster County. This figure was combined with data from National Safe Routes to School surveys to estimate the proportion of children riding bicycles to and from school. College students constitute a third variable in the model due to the presence of SUNY-New Paltz and Ulster County Community College. Data from the Federal Highway Administration regarding bicycle mode share in university communities was used to estimate the number of students bicycling to and from these campuses. Finally, data regarding non-commute trips was obtained from the 2001 National Household Transportation Survey to estimate bicycle trips not associated with traveling to and from school or work.

Table 1 summarizes estimated existing daily bicycle trips in Ulster County. The table indicates that over 22,500 trips are made on a daily basis. Most bicycle commuting trips are made by college students as well as persons making trips while working from home. The fewest trips are made by commuters traveling to and from a workplace away from home. The model also shows that non-commuting trips comprise the vast majority of existing bicycle demand.

**Table 1**  
**Aggregate Estimate of Existing Daily Bicycling Activity in Ulster County**

<b>Variable</b>	<b>Figure</b>	<b>Calculations</b>
<b><i>Employed Adults, 16 Years and Older</i></b>		
a. Study Area Population <sup>(1)</sup>	177,749	
b. Employed Persons <sup>(2)</sup>	81,726	
c. Bicycle Commute Mode Share <sup>(2)</sup>	0.2%	
d. Bicycle Commuters	163	(b*c)
e. Work-at-Home Percentage <sup>(2)</sup>	4.8%	
f. Work-at-Home Bicycle Commuters <sup>(3)</sup>	1,961	[(b*e)/2]
<b><i>School Children</i></b>		
g. Population, ages 6-14 <sup>(4)</sup>	22,513	
h. Estimated School Bicycle Commute Mode Share <sup>(5)</sup>	2%	
i. School Bicycle Commuters	450	(g*h)
<b><i>College Students</i></b>		
j. Full-Time College Students <sup>(6)</sup>	8,861	
k. Bicycle Commute Mode Share <sup>(7)</sup>	5%	
l. College Bicycle Commuters	443	(j*k)
<b><i>Work and School Commute Trips Sub-Total</i></b>		

m. Daily Bicycle Commuters Sub-Total	3,018	(d+f+i+l)
n. Daily Bicycle Commute Trips Sub-Total	6,036	(m*2)
<b><i>Other Utilitarian and Discretionary Trips</i></b>		
o. Ratio of “Other” Trips in Relation to Commute Trips <sup>(8)</sup>	2.73	ratio
p. Estimated Non-Commute Trips	16,479	(n*o)
<b>Total Estimated Daily Bicycle Trips</b>	<b>22,516</b>	<b>(n+p)</b>

Notes:

Census data collected from 2000 U.S. Census for Ulster County.

- (1) 2000 U.S. Census, STF3, P1.
- (2) 2000 U.S. Census, STF3, P30.
- (3) Assumes 50% of population working at home makes at least 1 daily bicycle trip.
- (4) 2000 U.S. Census, STF3, P8.
- (5) Estimated share of school children who commute by bicycle, as of 2000 (source: National Safe Routes to School Surveys, 2003).
- (6) Fall 2004 full-time enrollment (Westchester Comm. College); and Fall 2004 “credit” enrollment (SUNY-Ulster/Ulster Comm. College).
- (7) Review of bicycle commute mode share in 7 university communities (source: National Bicycling & Walking Study, FHWA, Case Study #1, 1995).
- (8) 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

### Existing Pedestrian Demand

Existing demand for pedestrian facilities was estimated using a model similar to the bicycle demand model. The study area boundaries, variables and methodology for estimating pedestrian demand also generally reflect those used in the bicycle demand model. However this model included an additional variable to address transit access. Specifically, the model included pedestrian trips to and from public transit stops. Transit currently accounts for about 2 percent of commute trips in Ulster County, and the analysis assumed that about 75 percent of transit users would walk to and from transit stops. Estimating the pedestrian mode share of college students incorporated walking mode share data from other universities.

Table 2 summarizes estimated existing daily walking trips in Ulster County. The table indicates that nearly 70,000 trips are made on a daily basis. Most commute trips on foot are made by people walking to and from a workplace away from home, while college students make the fewest walking trips. The model also shows that non-commuting trips comprise the vast majority of existing pedestrian demand.

**Table 2**  
**Aggregate Estimate of Existing Daily Pedestrian Activity in Ulster County**

<b>Variable</b>	<b>Figure</b>	<b>Calculations</b>
<b><i>Employed Adults, 16 Years and Older</i></b>		
a. Study Area Population <sup>(1)</sup>	177,749	
b. Employed Persons <sup>(2)</sup>	81,726	
c. Pedestrian Commute Mode Share <sup>(2)</sup>	3.8%	
d. Pedestrian Commuters	3,106	(b*c)
e. Work-at-Home Percentage <sup>(2)</sup>	4.8%	
f. Work-at-Home Pedestrian Commuters <sup>(3)</sup>	1,961	[(b*e)/2]
g. Transit Commute Mode Share <sup>(2)</sup>	2.2%	
h. Transit Pedestrian Commuters <sup>(4)</sup>	1,348	[(b*g)*0.75]
<b><i>School Children</i></b>		
i. Population, ages 6-14 <sup>(5)</sup>	22,513	
j. Estimated School Pedestrian Commute Share <sup>(6)</sup>	11%	
k. School Pedestrian Commuters	2,476	(i*j)
<b><i>College Students</i></b>		
l. Full-Time College Students <sup>(7)</sup>	8,861	
m. Pedestrian Commute Mode Share <sup>(8)</sup>	5%	
n. College Pedestrian Commuters	443	(l*m)
<b><i>Work and School Commute Trips Sub-Total</i></b>		
o. Daily Pedestrian Commuters Sub-Total	9,335	(d+f+h+k+n)
p. Daily Pedestrian Commute Trips Sub-Total	18,670	(o*2)
<b><i>Other Utilitarian and Discretionary Trips</i></b>		
q. Ratio of "Other" Trips in Relation to Commute Trips <sup>(9)</sup>	2.73	ratio
r. Estimated Non-Commute Trips	50,969	(p*q)
<b>Total Estimated Daily Pedestrian Trips</b>		
	<b>69,639</b>	<b>(p+r)</b>

**Notes:** Census data collected from 2000 U.S. Census for Ulster County.

- (1) 2000 U.S. Census, STF3, P1.
- (2) 2000 U.S. Census, STF3, P30.
- (3) Assumes 50% of population working at home makes at least 1 daily walking trip.
- (4) Assumes 75% of transit riders access transit by foot.
- (5) 2000 U.S. Census, STF3, P8.
- (6) Estimated share of school children who commute on foot, as of 2000 (source: National Safe Routes to School Surveys, 2003).
- (7) Fall 2004 full-time enrollment (Westchester Comm. College); and Fall 2004 “credit” enrollment (SUNY-Ulster/Ulster Comm. College).
- (8) Based on walking mode share from other universities.
- (9) 27% of all trips are commute trips (source: National Household Transportation Survey, 2001).

### **Latent Demand Mapping**

There are a variety of methods for illustrating latent demand. Using GIS data for Ulster County, bicycling and walking distances are illustrated on the following map to show areas where the potential exists for improved non-motorized travel. Schools, worksites and grocery stores were identified as symbolic trip generators to illustrate potential demand. The map shows land use densities within .5 mile walking distance and 2 mile walking distance areas around these generators. This data will be combined with safety, connectivity and mode share information to identify potential project locations.

# Ulster County Non-Motorized Transportation Plan

Ulster County Non-motorized Transportation Plan		
Use Generator	Radial Trip Distance	Population
Grocery Store/Market	1 Mile	101,210
Large Employer	1 Mile	69,508
Elementary School	0.5 Mile	43,685

Source: Census 2000 - County Population 177,749

**CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP 2000)**  
**Geographic Area: Working in Ulster County, New York**  
**TABLE 3. MODE TO WORK BY VEHICLES AVAILABLE IN HOUSEHOLDS**





Mode to Work (Universe = Workers living in households)	Workers living in households...			
	Total	Without a vehicle	With 1 vehicle	With 2+ vehicles
Total	63,810	2,780	14,635	46,395
Drove alone	49,200	1,050	10,285	37,860
2-person carpool	5,425	335	1,770	3,320
3-or-more-person carpool	1,345	210	410	725
Bus or motor bus	515	155	175	185
Streetcar, trolley car, subway, or elevated, Railroad or Ferryboat	140	60	25	55
Bicycle or walked	2,700	635	890	1,170
Taxicab, motorcycle or other means	690	210	195	290
Worked at Home	3,800	125	885	2,790


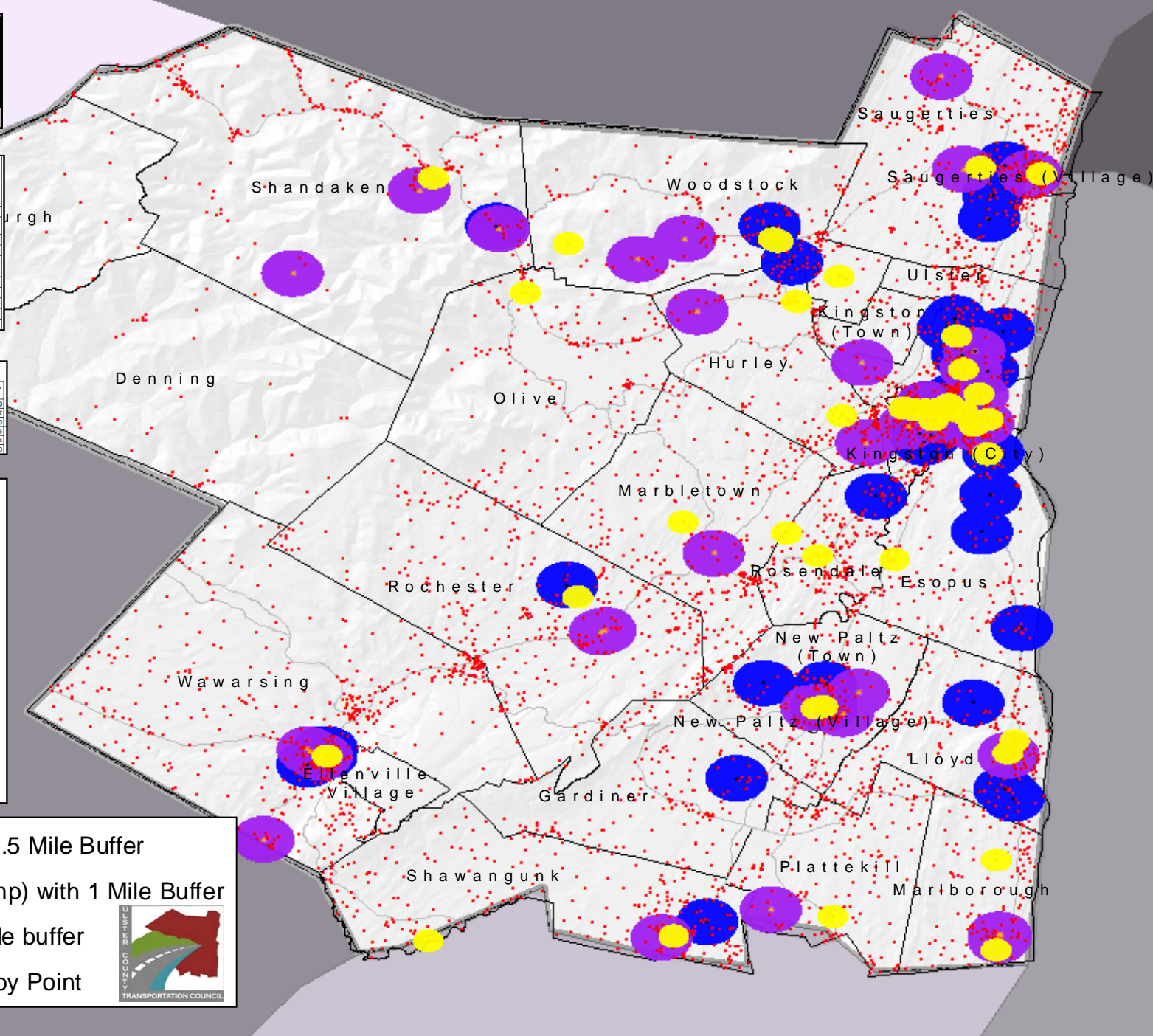
**TABLE 2. MODE TO WORK BY TRAVEL TIME, 2000**  
 (Universe = Workers who did not work at home)

	Mean travel time (mins.)	Total	Less than 10 minutes	10 to 15 minutes	16 to 20 minutes	21 to 25 minutes	26 to 30 minutes	31 to 45 minutes	46-55 minutes	56 or more minutes
Total	21.8	60,780	12,530	21,040	11,485	8,965	3,275	3,490		
Drove alone	100	205	34.5	16.9	14.7	5.4	5.7			
Carpool present	100	190	100	100	100	100	100			
Bicycle or walked	9.3	3,120	1,890	885	180	94	35	45		
Flow percent		100	60.6	28.4	5.8	3.0	1.1	1.4		
Column percent		5.1	15.1	4.2	1.6	1.0	1.1	1.3		

**CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP 2000)**  
**Geographic Area: Working in Ulster County, New York**  
**TABLE 1. SELECTED CHARACTERISTICS BY PLACE OF WORK, 1990 and 2000**

Selected Characteristics (Universe: All Workers)	1990		2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
Workers 16 years or over	66,863	100	64,730	100	-2,133	-3.2
Sex						
Male	36,303	54.3	32,645	50.4	-3,658	-10.1
Female	30,560	45.7	32,085	49.6	1,525	5.0
Mode to work						
Drove alone	50,106	74.9	49,345	76.2	-761	-1.5
2-person carpool	7,163	10.7	5,480	8.5	-1,683	-23.5
3-or-more-person carpool	1,213	1.8	1,435	2.2	222	18.3
Bus or motor bus	558	0.8	570	0.9	12	2.1
All other transit*	88	0.1	139	0.2	73	110.6
Bicycle or walked	4,066	6.1	3,120	4.8	-946	-23.3
Taxicab, motorcycle, or other mode	764	1.1	605	1.1	-79	-10.3
Worked at home	2,927	4.4	3,950	6.1	1,023	35.0
Travel time to work (Universe = Workers who did not work at home)						
Less than 5	3,127	4.9	3,405	5.6	278	8.9
5 to 9	10,290	16.1	9,125	15.0	-1,165	-11.3
10 to 14	12,631	19.8	10,910	17.9	-1,721	-13.6
15 to 19	11,979	18.7	10,130	16.7	-1,849	-15.4
20 to 24	11,916	18.6	11,485	18.9	-431	-3.6
25 to 29	9,127	14.3	8,965	14.7	-162	-1.8
30 to 34	2,647	4.1	3,275	5.4	628	23.7
35 to 39	2,219	3.5	3,480	5.7	1,261	56.8
Mean travel time (minutes)	18.8	(X)	21.8	(X)	3.0	(X)
Median travel time (minutes)	17.5	(X)	15.7	(X)	-1.8	(X)

-  Elementary Schools with 0.5 Mile Buffer
-  Large Employers (>200 emp) with 1 Mile Buffer
-  Grocery/Markets with 1 Mile buffer
-  Ulster Population Density by Point

## Benefits Analysis

In addition to models quantifying existing and future demand for non-motorized facilities, a variety of models can also quantify the benefits of such facilities. Models ("future year"~2016) were used in this analysis to estimate the positive air quality, public health, transportation, and recreation benefits associated with existing and future bicycle/pedestrian travel in Ulster County.

### Air Quality Benefits

Non-motorized travel directly and indirectly translates into fewer vehicle trips, and an associated reduction in vehicle miles traveled and auto emissions. The variables used as model inputs generally resemble the variables used in the demand models discussed earlier. Data including population, employed persons and commute mode shares were used for this analysis. In terms of daily bicycle trips, assumptions regarding the proportion of persons working at home reflect those used in the demand models. Other inputs included data regarding college student and school children commuting patterns.

Additional assumptions were used to estimate the number of reduced vehicle trips and vehicle miles traveled, as well as vehicle emissions reductions. In terms of reducing vehicle trips, it was assumed that 73 percent of bicycle trips would directly replace vehicle trips for adults and college students. For school children, the reduction was assumed to be 53 percent. To estimate the reduction of existing and future vehicle miles traveled, a bicycle roundtrip distance of eight miles was used for adults and college students; and one mile for school children. For pedestrian trips, a roundtrip distance of 1.2 miles was used for adults and college students, and a 0.5 mile distance was used for children. These distance assumptions are used in various non-motorized benefits models. The vehicle emissions reduction estimates also incorporated calculations commonly used in other models, and are identified in the footnotes of Table 3.

Estimating future benefits required additional assumptions regarding Ulster County's population and anticipated commuting patterns. According to the U.S. Census, approximately 81,700 people are currently employed in the County. A future workforce population of 90,000 was used to reflect current overall population growth trends. In terms of commuting patterns, the walking and bicycling mode shares were increased to address higher use potentially generated by the addition of new non-motorized facilities and enhancements to the existing system. The estimated proportion of residents working from home was also grown slightly.

Table 3 summarizes existing and potential future air quality improvements associated with bicycling and walking in Ulster County. Combined, bicycling and walking currently remove over 8,400 weekday vehicle trips, eliminating nearly 22,000 vehicle miles traveled. Bicycling and walking also prevent nearly 13,000 tons of vehicle emissions from entering the ambient air each weekday. Bikeway and pedestrian network enhancements are expected to generate more bicycling and walking trips in the future. This growth is expected to improve air quality by further reducing the number of vehicle trips, vehicle miles traveled and associated vehicle emissions.

It should be noted that this model only addresses commute-related trips. Unlike the demand models, this model does not account for air quality improvements associated with recreational non-motorized travel. Quantifying the benefits of recreational travel could further improve the air quality benefits of bicycling and walking.



**Table 3**  
**Existing and Potential Future Air Quality Benefits**

Vehicle Travel Reductions	Bicycle		Pedestrian	
	Existing	Future	Existing	Future
Reduced Vehicle Trips per Weekday <sup>(1)</sup>	2,113	3,537	6,319	9,233
Reduced Vehicle Trips per Year <sup>(2)</sup>	551,551	923,027	1,649,322	2,409,748
Reduced VMT per Weekday <sup>(3)</sup>	15,235	28,292	6,664	11,676
Reduced VMT per Year <sup>(2)</sup>	3,976,420	7,384,212	1,739,392	3,047,319
Vehicle Emissions Reductions	Bicycle		Pedestrian	
	Existing	Future	Existing	Future
Reduced PM <sub>10</sub> (tons per weekday) <sup>(4)</sup>	280	521	123	215
Reduced NO <sub>x</sub> (tons per weekday) <sup>(5)</sup>	7,599	14,112	3,324	5,824
Reduced ROG (tons per weekday) <sup>(6)</sup>	1,106	2,054	484	848
Reduced PM <sub>10</sub> (tons per year) <sup>(7)</sup>	73,166	135,870	32,005	56,071
Reduced NO <sub>x</sub> (tons per year) <sup>(7)</sup>	1,983,438	3,683,245	867,609	1,520,002
Reduced ROG (tons per year) <sup>(7)</sup>	288,688	536,094	126,280	221,235

Note: VMT means Vehicle Miles Traveled

- (1) Assumes 73% of bicycle trips replace vehicle trips for adults/college students; 53% reduction for school children.
- (2) Weekday trip reduction multiplied by 261 weekdays per year.
- (3) Bicycle trips: assumes average roundtrip of 8 miles for adults/college students; 1 mile for school children. Pedestrian trips: assumes average roundtrip of 1.2 miles for adults/college students; 0.5 mile for school children.
- (4) PM<sub>10</sub> reduction of 0.0184 tons per mile.
- (5) NO<sub>x</sub> reduction of 0.4988 tons per mile.
- (6) ROG reduction of 0.0726 tons per mile.
- (7) Weekday emission reduction multiplied by 261 weekdays per year.

**Other Benefits**

Bicycling and walking generate benefits beyond air quality improvements. Non-motorized transportation can also serve recreational purposes, improve mobility and improve health. The “*BikeCost*” model, made available by the National Pedestrian and Bicycle Information Center, quantifies these benefits. Though focused primarily on bicycling, the model provides a starting point for identifying the potential cost savings of improving Ulster County’s non-motorized transportation network.

Several modeling assumptions should be discussed. First, the *BikeCost* model is project-specific, requiring specific information regarding project type, facility length and year of construction. Because this study focuses on a larger study area, several variables were used. The model was based on a new 100-mile off-street trail system with an expected 2016 “mid year” of construction. The model also required other inputs obtainable from the 2000 U.S.

Census, including bicycle commute mode share, average population density and average household size.

Based on the variables described above, the *BikeCost* model estimated annual recreational, mobility and health benefits. The benefits were quantified based on a combination of research from previous studies as well as other factors (identified in the footnotes of Table 4).

Table 4 summarizes the estimated benefits of an enhanced non-motorized system in Ulster County. Except for mobility benefits, the model outputs are represented on an aggregate basis. Potential annual recreational benefits range from a low estimate of about \$80,000 to a high estimate of \$876,000. Annual health benefits range from about \$5,600 to over \$33,000. Mobility benefits were estimated on a per-trip, daily and annual basis. The roughly \$5 per-trip benefit of off-street trails could translate to an annual benefit of over \$101,000. Decreased auto usage could also generate monetary benefits. As Ulster County contains urban, suburban and rural areas, the enhanced network could generate up to \$3,500 in annual savings from reduced vehicle trips.

**Table 4**

**Estimated Aggregate Annual Benefits of an Enhanced Bikeway Network**

<b>Recreational Benefits <sup>(1)</sup></b>	<b>Low Estimate</b>	<b>Mid Estimate</b>	<b>High Estimate</b>
	\$79,576	\$429,712	\$875,339
<b>Mobility Benefits <sup>(2)</sup></b>	<b>Per-Trip</b>	<b>Daily</b>	<b>Annually</b>
	\$4.96	\$407	\$101,789
<b>Health Benefits <sup>(3)</sup></b>	<b>Low Estimate</b>	<b>Mid Estimate</b>	<b>High Estimate</b>
	\$5,581	\$17,860	\$33,487
<b>Decreased Auto Use</b>	<b>Urban</b>	<b>Suburban</b>	<b>Rural</b>
	\$3,543	\$2,180	\$273

Source: Benefit-Cost Analysis of Bicycle Facilities (“*BikeCost*”) Model, Pedestrian and Bicycle Information Center.

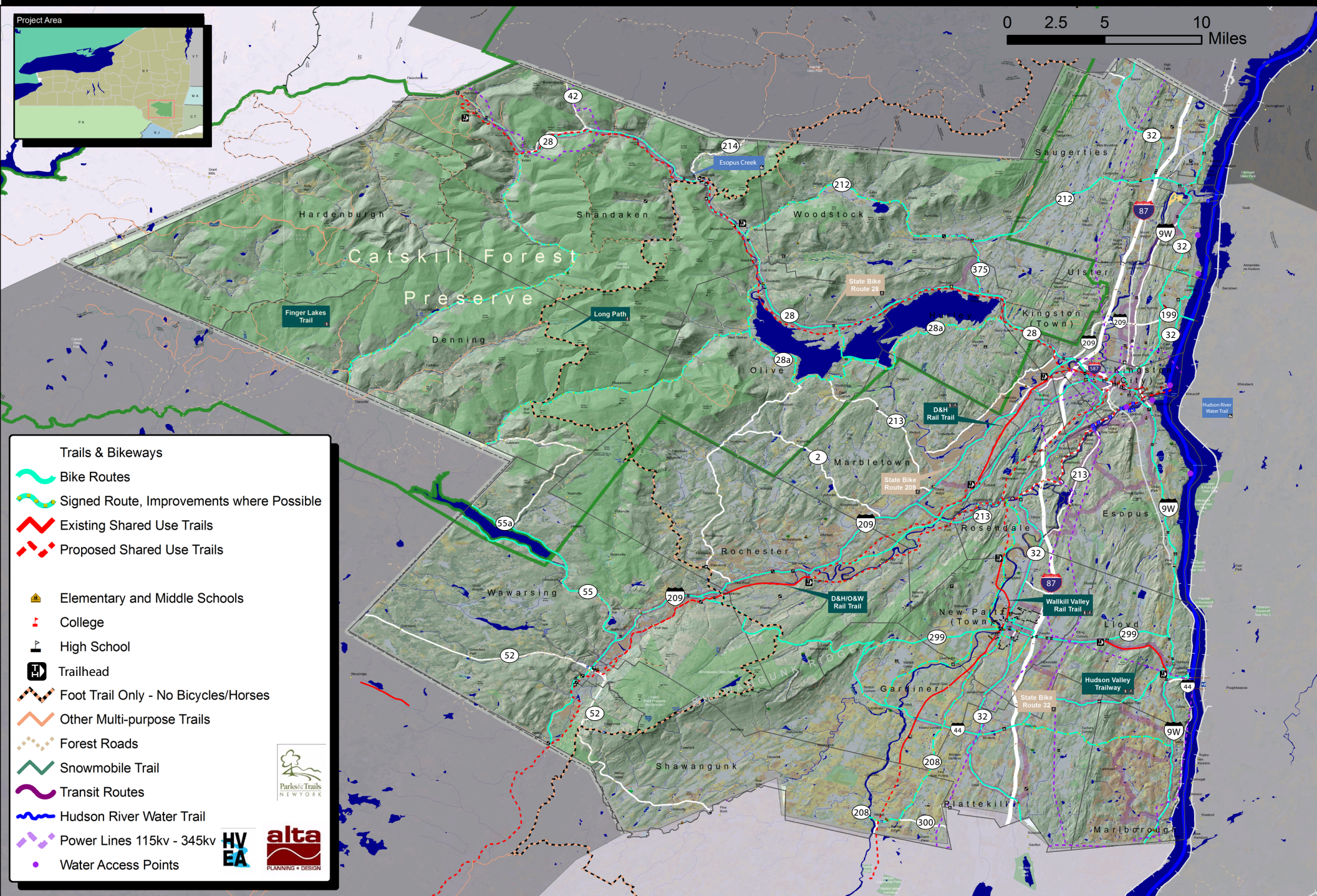
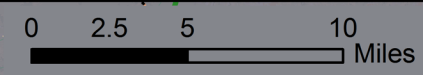
- (1) Recreational benefit estimated at \$10 per hour (based on previous studies). Assumes one hour of recreation per adult. \$10 value multiplied by the number of new cyclists minus the number of new commuters. This value multiplied by 365 days to estimate annual benefit.
- (2) Assumes an hourly time value of \$12. This value multiplied by 20.38 minutes (the amount of extra time bicycle commuters are willing to travel on an off-street path). Per-trip benefit then multiplied by the daily number of existing and induced commuters. This value then doubled to account for roundtrips, to reach daily mobility benefit. Daily benefit then multiplied by 50 weeks per year and 5 days per week.
- (3) Annual per-capita cost savings from physical activity of \$128 based on previous studies. This value then multiplied by total number of new cyclists.

## Existing and Proposed NMT Facilities

Utilizing GIS data and digitized information from existing plans and projects, a series of maps were developed to illustrate the existing non-motorized transportation infrastructure in Ulster County. This includes a wide variety of facility types, including on and off road bikeways, single track trails, water trails, shared use paths and pedestrian facilities in community centers.

The first map shows all of these facilities on a common background, and can be used to identify missing links in the county system. The second set of maps illustrates Bicycle Level of Service for roadways in the county, and is shown in two pairs. The first pair of maps illustrates two conventional alternatives for bicycle level of service (LOG BLOS and BLOS + Speed methods). The second pair of maps adds a factor for topography to this analysis, and shows level of service for both “Type A” road cyclists who prefer the challenge of the region’s terrain, and “Type B-C” cyclists who may perceive steep slopes as a barrier to cycling.

# Ulster County Non-Motorized Transportation Plan



**Trails & Bikeways**

- Bike Routes
- Signed Route, Improvements where Possible
- Existing Shared Use Trails
- Proposed Shared Use Trails

- Elementary and Middle Schools
- College
- High School
- Trailhead
- Foot Trail Only - No Bicycles/Horses
- Other Multi-purpose Trails
- Forest Roads
- Snowmobile Trail
- Transit Routes
- Hudson River Water Trail
- Power Lines 115kv - 345kv
- Water Access Points

**Partners & Logos:**

- Parks & Trails New York
- HV EA
- alta PLANNING + DESIGN



**DRAFT BASE MAP**

## Ulster County Non-Motorized Transportation Plan

Data Provided by: ESRI, NYSDOT, NYSOPRHP, NYSDEC, Catskill Center & Ulster County  
 Map Prepared by: Alta Planning+Design February, 2007

Points of Interest	Brewery	Historic Site	Marina	Off Road Vehicle Park	Tubing
BMX Track	Canoe/Kayak	Horseback Riding	Motel	Performing Arts	Winery
Beach; Swimming Pool	Golf Course	Skating	Motorcross	Full Service Resorts	
Bicycle Shop	Hang Gliding/Skydiving	Library	Movie Theater	Sailing	

