



Bicycles

Element of Green Design in
Philadelphia

Bicycles and Green Design

Bicycles contribute to the greening of a city in general:

- Significantly reduced energy consumption -- only energy input aside from human power necessary is in initial construction and periodic maintenance of bike
- Healthier on level of pollution reduction as well as on individual health level

Other Benefits to Bicycle Use:

- Cheaper (Average cost per year of owning a car estimated at: \$10,672 (<http://www.wral.com/traffic/4801024/detail.html>))
- Easier to maintain
- Can be faster than all other modes
- Quality of life -- it's outside, provides exercise

Presentation Overview

Is Philadelphia a positive forum for bicycle transport?

Can bicycles thus be used as an element of green design in the city?

Key Design Elements:

- Access
- Safety
- Supportive Facilities
- Incentives
- Favorable laws/regulations
- Marketing
- Technology
- Reliability

Philadelphia Biking Facts

of bike lane miles 170

of off road trail miles 34

Bike Racks 1000 >>>2000 more in 2006

Bike Maps? First in 1999, update in 2002

Hazard Report Form? no

of bike rack equipped buses 80%

Bikes on Trains? YES

Bike shops 30

% of trips by bike? 3%

Bike to Work Day? YES

of Rain/snow days n/a, **# of days below 45 degrees** n/a

Recycled Bike Program? Neighborhood Bike Works

Bike bridges? No

Bike Boulevards? No

Bike undercrossings? 5th St Tunnel with bike lanes

Population 1.5 Million

Planned More bike lanes through resurfacing and more bike racks

Local Bike Activist Organizations? Bicycle Coalition of Greater Philadelphia

<http://www.bikeroute.com/NationalMayorsRide2005/Philly/PhillyBiking.html>

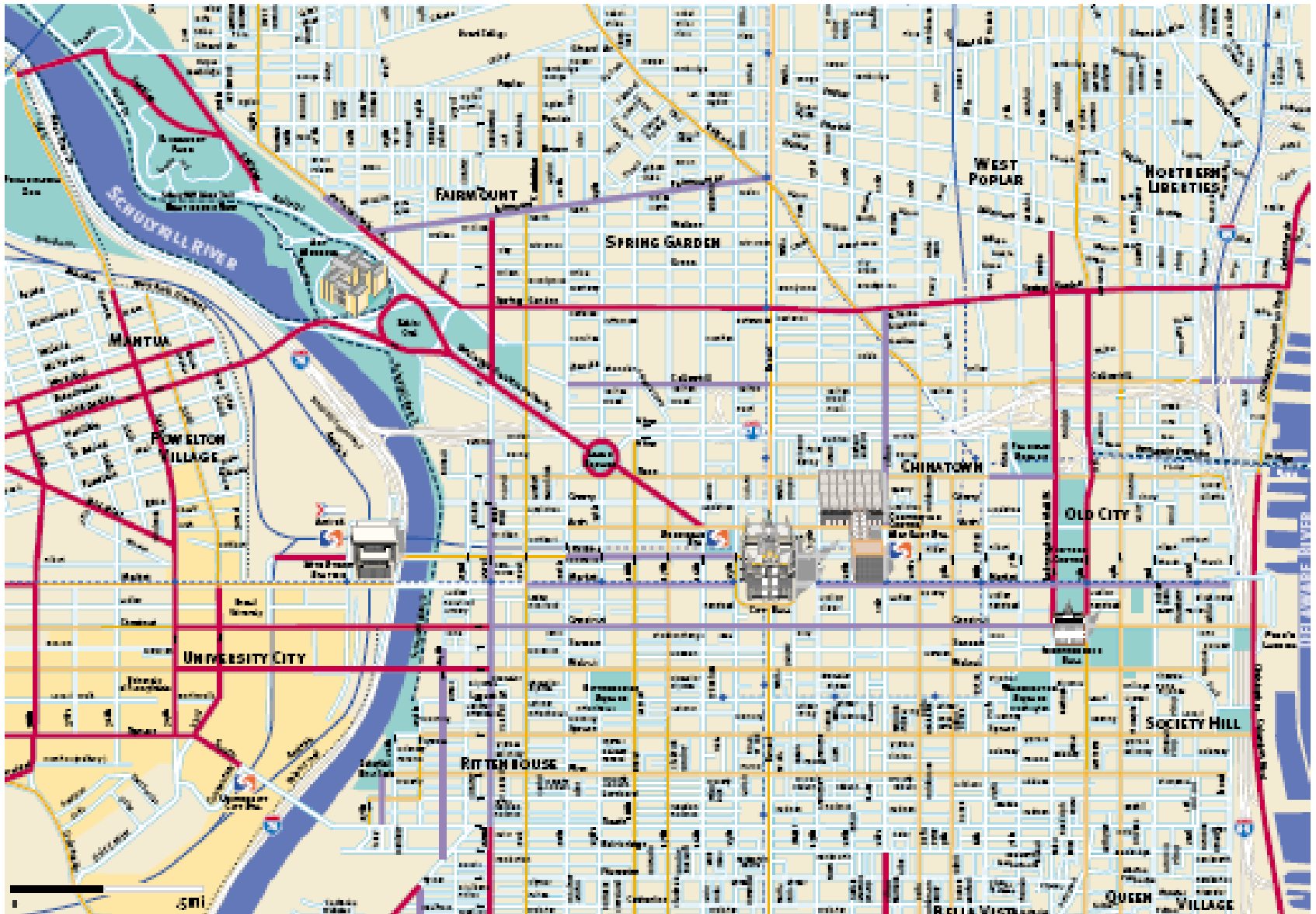
Estimated that
25,000 commute
to work by bicycle.
1.6% of the
population

<http://www.bicyclecoalition.org/>

[bike2work.htm](#)

Access Positives

- ✓ City structure: city has defined center & high density of people under two main employers (UofPenn and the City)
- ✓ Relatively short distances to immediate outlying suburbs with more or less direct routes to city
- ✓ Significant system of bike lanes and bike trails and defined plan to evaluate and create more lanes (<http://www.worldisround.com/articles/11873/index.html> and <http://community.webshots.com/album/159915037emgvCk>)
- ✓ Provision of bike racks and/or meters and other locations to lock bike
- ✓ Large volume of students who already bike, or are candidates for biking and a substantial young population -- median age: 34 (<http://philadelphia.areaconnect.com/statistics.htm>)
 - ✓ High population of younger people can assist in demand for access in that there is less of chance of younger people owning a car, may be enticed by financial arguments for riding, and possibly more willing to try new ideas



Red lines- bike lanes, Purple lines - bike-friendly <http://www.bicyclecoalition.org/map/centercity.pdf>

Access Positives - Potential

Advocacy organization working to improve access --

Bicycle Coalition of Greater Philadelphia:

- Facilitating the construction of recreational trails across the region;
- Advocating for the addition of hundreds of miles of [bike lanes](#);
- Increasing bicycle-access on regional [public transportation](#) systems;
- Securing closure of [West River Drive](#) for recreational purposes on weekends;
- Establishing the [largest in-school bicycle education program](#) in the country;
- Lobbying political leaders to support bicycle-friendly policy;
- Reviewing transportation projects to ensure accommodations for cyclists;
<http://www.bicyclecoalition.org/>

The city has a written plan in line with national plan:

"The bicycle network routes will be designed to accommodate commuter and recreational cyclists by creating linkages to major sites related to employment, recreation, culture and tourism, retail, and institutional uses, as well as to provide connections to existing and proposed bicycle routes in the counties bordering Philadelphia. The network will encourage automobile trip reduction by providing planned access"

(<http://www.phila.gov/streets/the%20bicycle%20network.html> and <http://www.bicyclinginfo.org/pp/nbws1.htm>)

Philadelphia Scenes



<http://www.bicyclecoalition.org/map/centercity.pdf>



http://www.phillybikeclub.org/cottongrtycity/city_5.JPG



<http://www.worldisround.com/articles/11873/photo7.html>

Access - Negatives

- ✓ Lack of bike lanes on suburban-city routes
- ✓ Lack of bike paths for commuting purposes -- bike paths have more recreational purpose & are often desolate during commuting hours
- ✓ Narrow streets make sharing with cars difficult (higher potential for future traffic calming measures, however)
- ✓ Need relatively reliable/good bikes for longer commuting (cost issue?)

Safety - Positives

- ✓ Bicycle Awareness and safety campaigns (BCGP) and wealth of internet safety resources particular to city & general
- ✓ City committed to reducing bike injuries and death by 10%
<http://www.phila.gov/streets/the%20bicycle%20network.html>
- ✓ Large and growing system of bike lanes

Safety - Negatives

- ✓ Philadelphia still predominated by cars -- narrow streets, road rage
(In '97, 62% of Philadelphia residents owned cars)
<http://www.philaplanning.org/data/manayunk/survey.html>
- ✓ Desolate bike paths
- ✓ High rates of bike theft -- in '02, Philadelphia was 8th for bike theft rate. And “the highest concentration of bike thefts are in urban areas and college campuses” <http://bicyclehabitat.com/site/page.cfm?PageID=139>
- ✓ In 2004, 1,925 bikes were reported stolen with no significant decrease since 1999 (but at least no significant increase)
<http://www.cml.upenn.edu/crimebase/cbsMatrixRequest.asp>

Facilities

Public facilities: Increasing number of bike racks
(although most are unsheltered)

However, private and public facilities supporting
commuting to work are lacking:

Safe and sheltered place for bikes parked for 8 hours
or more per day (or overnight parking when
necessary)

Facilities for changing/showering (In survey, 85% of bicycle
commuters said they do not shower upon arrival to work. Bike
websites suggest moist towelettes, or avoiding tough sweaty
rides, but I would argue this is not a viable option for
encouraging commuting among general public)

<http://www.biketraffic.org/trickstips/clothes/ridingtowork.htm>

Incentives

Are the above mentioned efforts enough incentive to encourage someone who is not already interested in riding (for recreation or commuting) to get on a bike and ride to work?

Possible Barriers:

- Fear for safety
- Lack of facilities for storage of bike & clean-up of person upon arrival to work
- Financial barriers to purchase of comfortable bike with appropriate technology for type of ride
- Weather and existing fitness level

In Conclusion

- Philadelphia has made positive improvements, and has great potential to make the city more friendly to cyclists
- Funding available nationally to help make it more of a priority
- Structural improvements, however, lack of policy and educational improvements
 - City policy & private sector integral to this effort:
As is show in Europe, necessity for:
 - Need for more private partnerships
 - Need for more demands by biking commuters
 - Need for Philadelphia, as in many European cities, to set policy giving bicycles equal status to, and in some cases special privileges, over cars

For future study:

- What are private Philadelphia companies and organizations doing to encourage ridership?
- How is the city working with area businesses to increase ridership?