

# Tobacco Programming Needs Assessment in a Southwestern Pennsylvania Community

Sarah R. Thurston, M.A.  
Toni L. Felice, Ph.D.



Department of Applied Research  
Pittsburgh, Pennsylvania

# Pennsylvania Tobacco Facts<sup>1</sup>

- 23.7% of PA adults and 23.1% of PA high school students use tobacco
- 20,100 PA adults die each year from their own smoking
- \$5.19 billion: PA healthcare costs directly caused by smoking
- \$680: PA yearly household tax burden related to smoking-caused government expenditures

<sup>1</sup> U.S. Centers for Disease Control and Prevention (CDC), *Sustaining State Programs for Tobacco Control, Data Highlights, 2006*.

# Project Background

- PA Act 77 (2001): Master Settlement Agreement (MSA) Funds
  - MSA funds paid out by 5 major tobacco manufacturers: "Reimbursement to states for costs incurred as a result of residents' tobacco use."<sup>2</sup>
  - PA to receive between \$397-\$459 million yearly<sup>2</sup>
  - PA spent \$30.3 million in 2007 on tobacco programming<sup>3</sup>

<sup>2</sup> <http://www.tobaccofreewashington.org/KnowledgeinAction/FAQ/MSA%20background-Act%2077.pdf>

<sup>3</sup> <http://tobaccofreekids.org/reports/settlements/state.php?StateID=PA>

# Project Purpose

- Conduct an annual tobacco program needs assessment
- Provide materials for tobacco prevention and cessation programming
- Create tools to engage and educate community leaders and decision makers

# Project Focus

## Pennsylvania



# Data

- **Population by Census Tract**

US Census Bureau

- **Tobacco Use by Zip Code**

Residential Survey

- **Tobacco Users**

Residential Survey

- **Cessation Providers**

Tobacco Free Coalition website

# Data (cont.)

- **Tobacco Retailers**

County Drug and Alcohol Commission

- **Schools**

PA Department of Education

- **Smoke-Free Restaurants**

Tobacco Free Coalition Website

**The 2004 United States Surgeon General Report stated there is sufficient evidence to infer a causal relationship between smoking and the following cancers: lung, laryngeal, oral (buccal), pharyngeal, esophageal, pancreatic, bladder, kidney, and cervical.**



# Data (cont.)

- Cancers

- Tobacco-related Cancer Incidence Rate
- Tobacco-related Cancer Death Rate
- Cervical Cancer Incidence Rate
- Cervical Cancer Death Rate

Cancer Rate calculated as:

$(\# \text{ of reported cases} / \text{population}) * 100,000$

# Project Challenges

- Westmoreland County is mainly rural, created geocoding issues

Work-around:

Zip+4 file purchased from US  
Postal Service

Rural addresses geocoded to Zip+4  
location

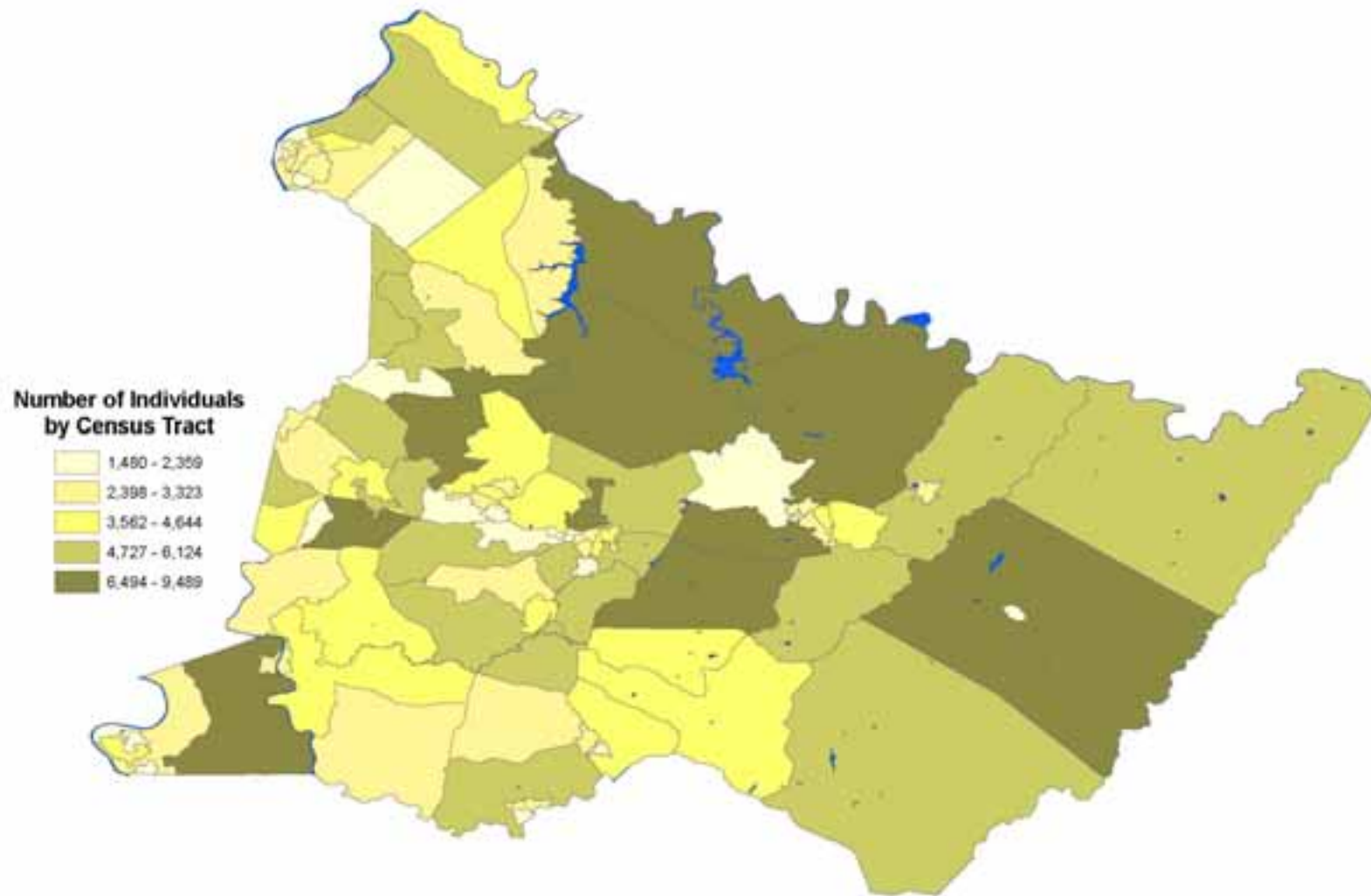
# Mapping Methods

- Geocoding
- Distance between Points Tool<sup>4</sup>  
(between layers) with nearest neighbor function
- Multi-ring Buffer Zone Tool
- Point Count in Polygon Tool<sup>4</sup>

<sup>4</sup> Hawth's Analysis Tools for ArcGIS. Available from: <http://www.spataleecology.com/index.php>

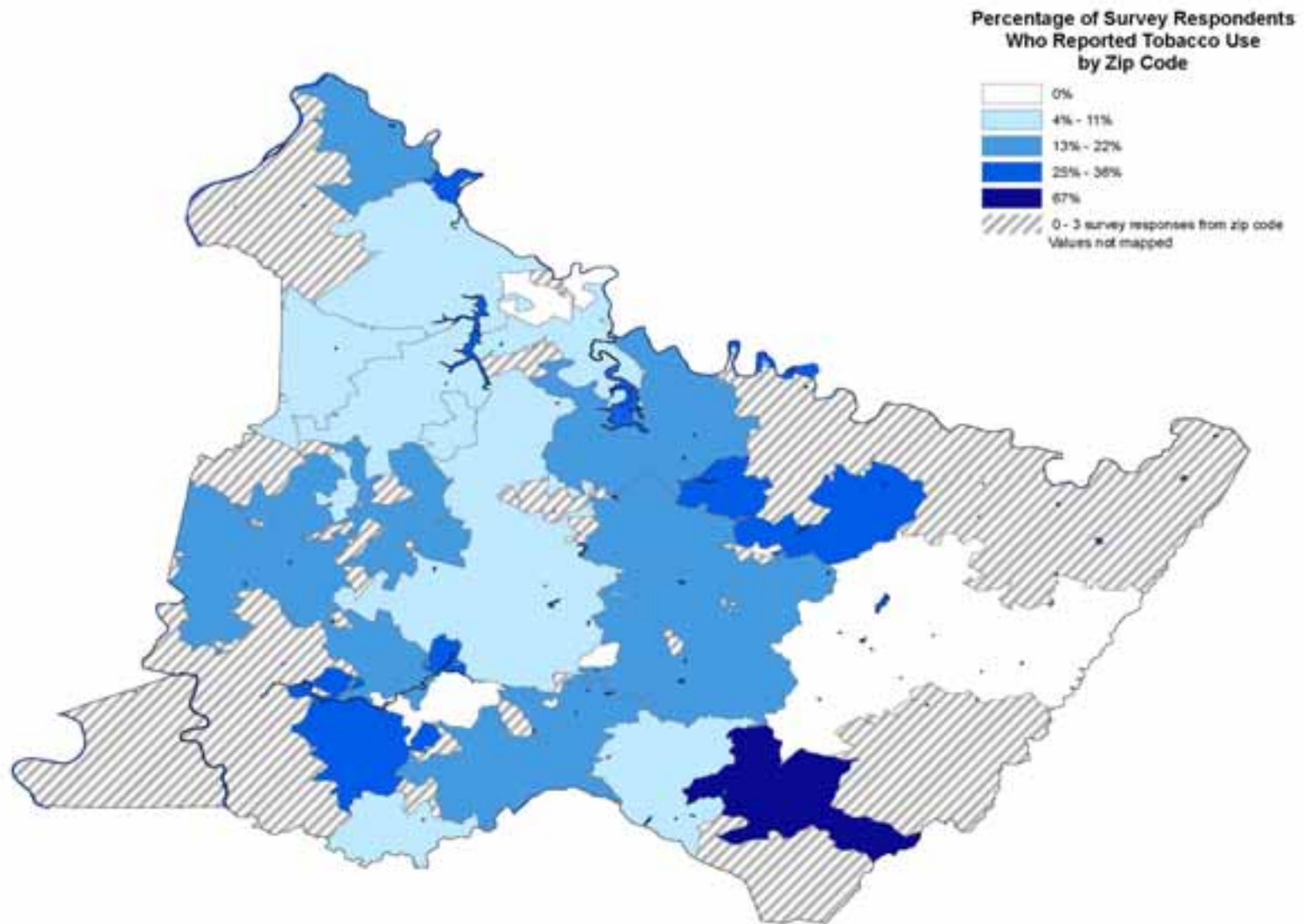
# Tobacco User Data Results

# Westmoreland County, PA



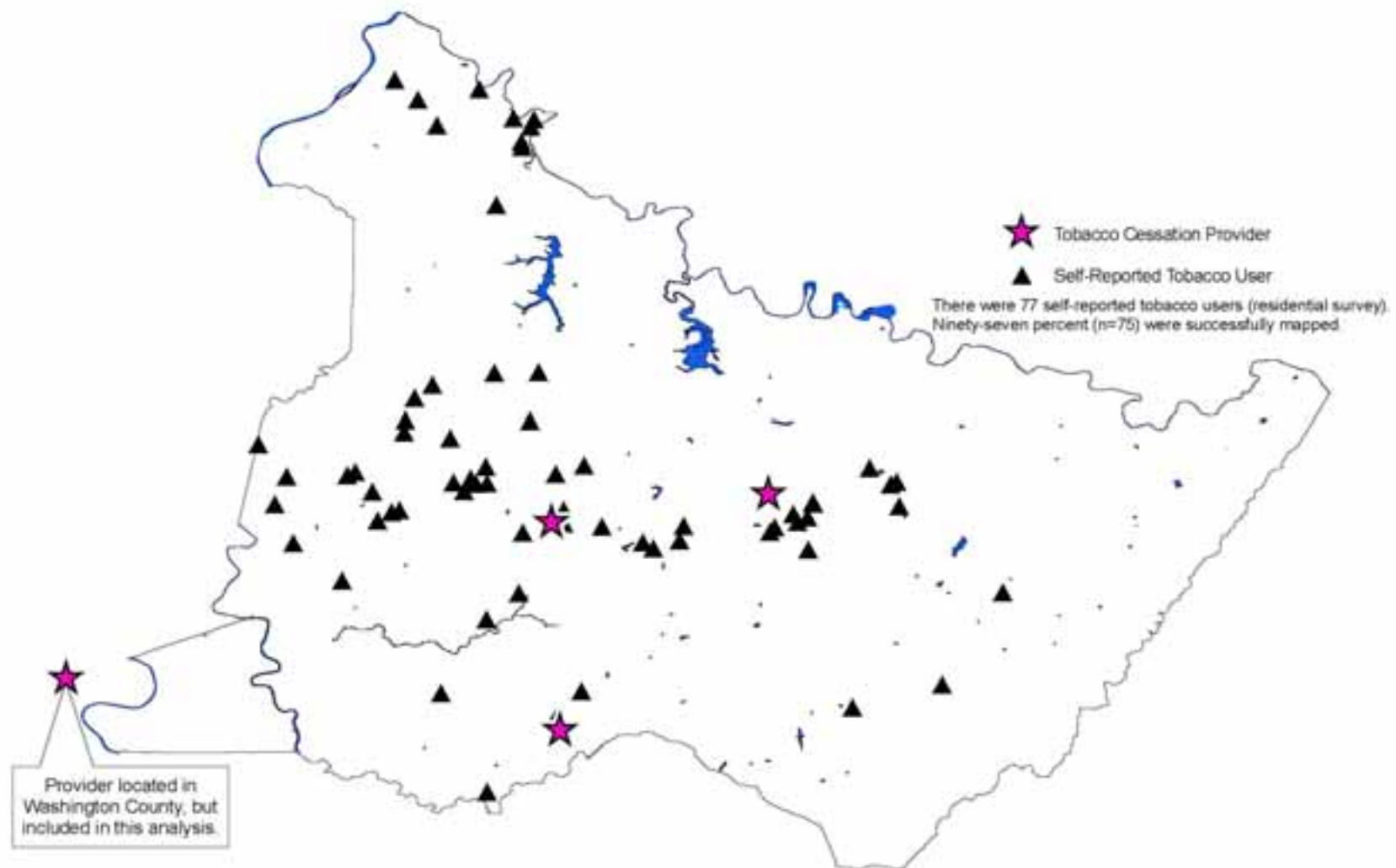
Data Source: US Census Bureau, 2000

# Westmoreland County, PA



Data Source: Adagio Health Tobacco Needs Assessment Survey, 2006

# Westmoreland County, PA



Data Source: Westmoreland County Tobacco Free Coalition Website, 6/2007  
Data Source: Adagio Health Tobacco Needs Assessment Survey, 2006

✓ Average US rural resident travels 7-14 miles for an individual “daily activity” trip.<sup>5</sup>

✓ Average US urban resident travels 6-12 miles for an individual “daily activity” trip.<sup>5</sup>

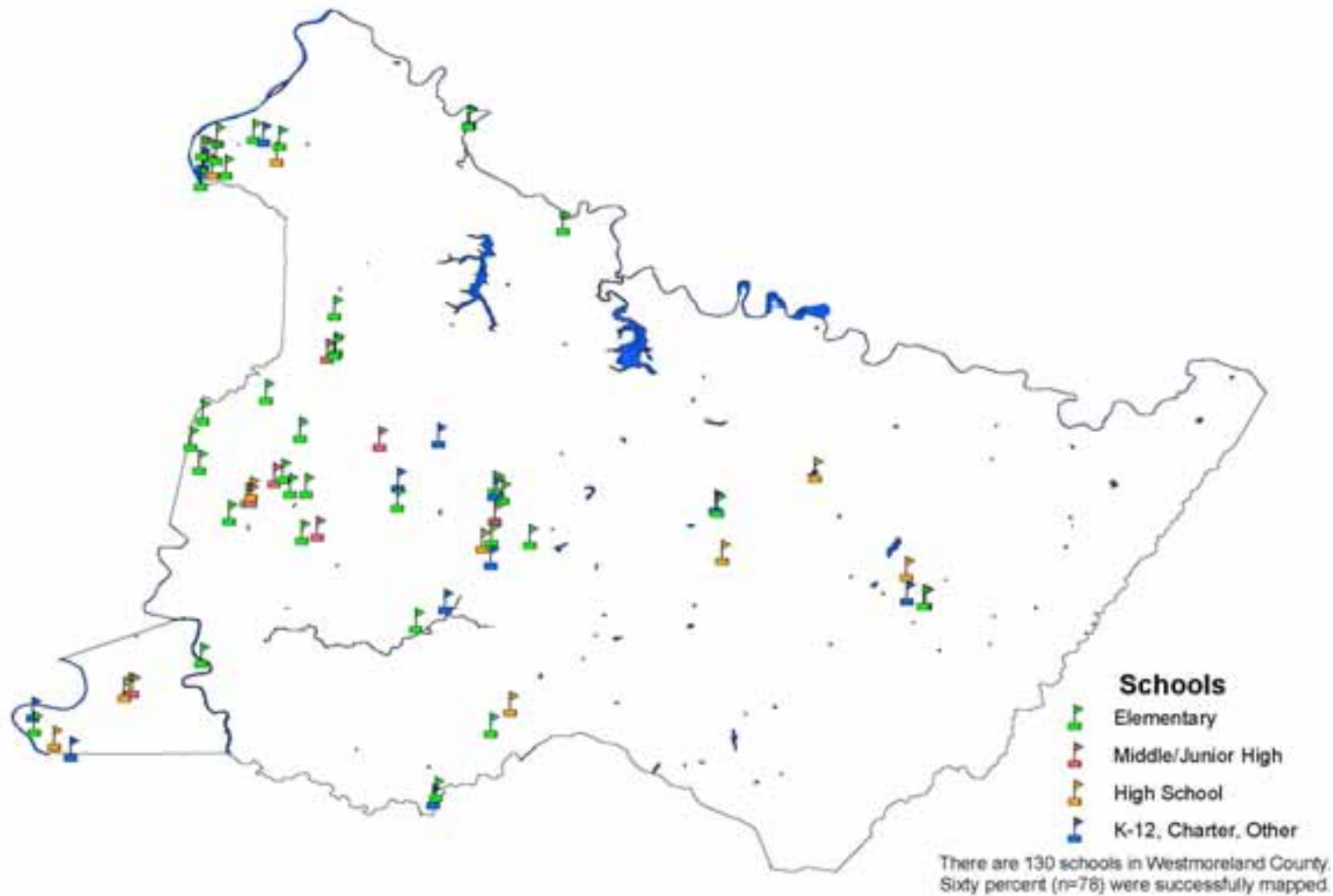
Distance to nearest cessation provider	% of tobacco users	Cessation providers: serving 76% of self-reported tobacco users* within 10 miles. *residential survey
0-5 Miles	46%	
6-10 Miles	30%	
11-15 Miles	10%	
16-20 Miles	4%	
20+ Miles	10%	

<sup>5</sup> United States Department of Transportation, Federal Highway Administration. (2005). National Household Travel Survey. [http://www.fhwa.dot.gov/policy/ohim/hs05/national\\_household.htm](http://www.fhwa.dot.gov/policy/ohim/hs05/national_household.htm)

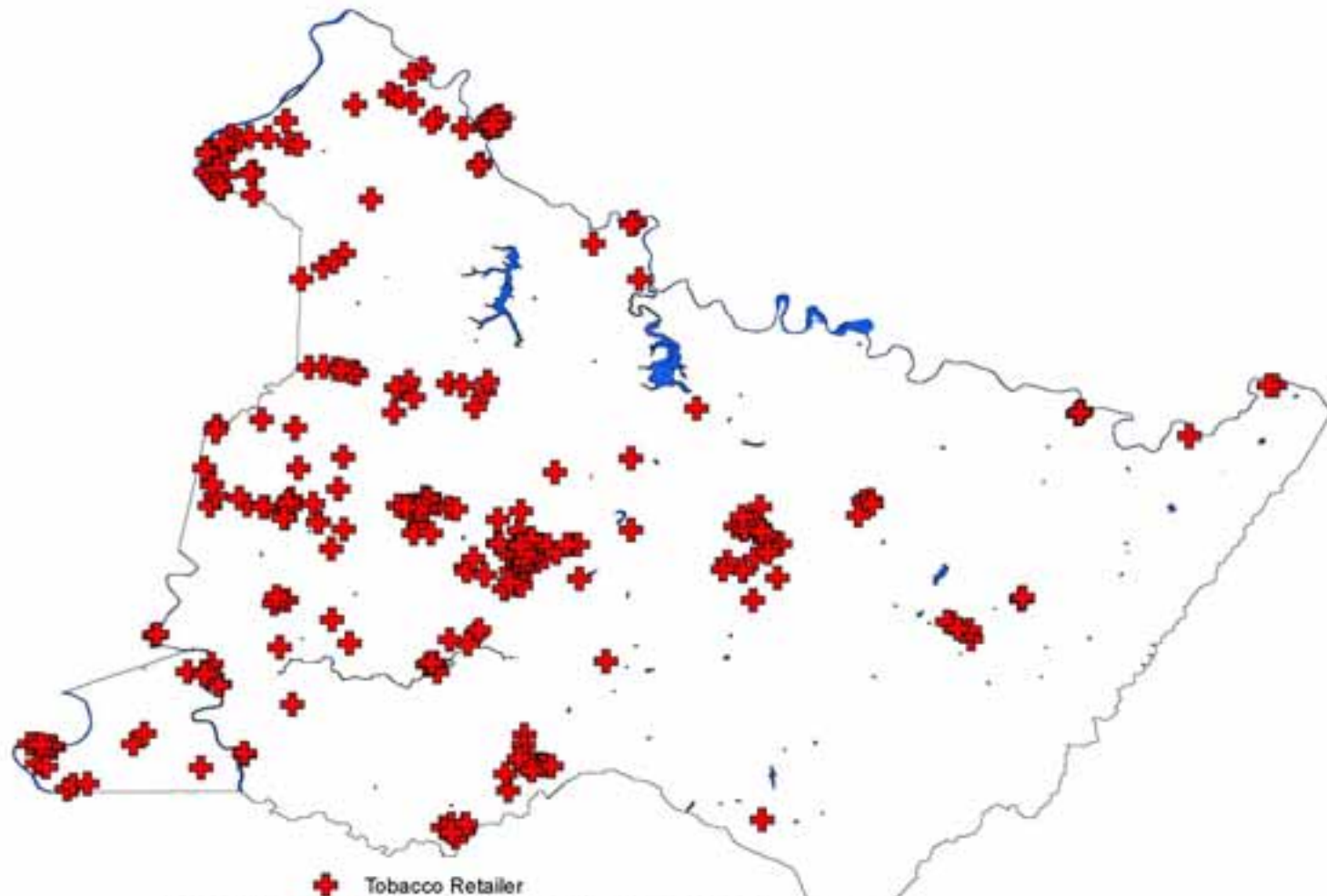


# School Data Results

# Westmoreland County, PA



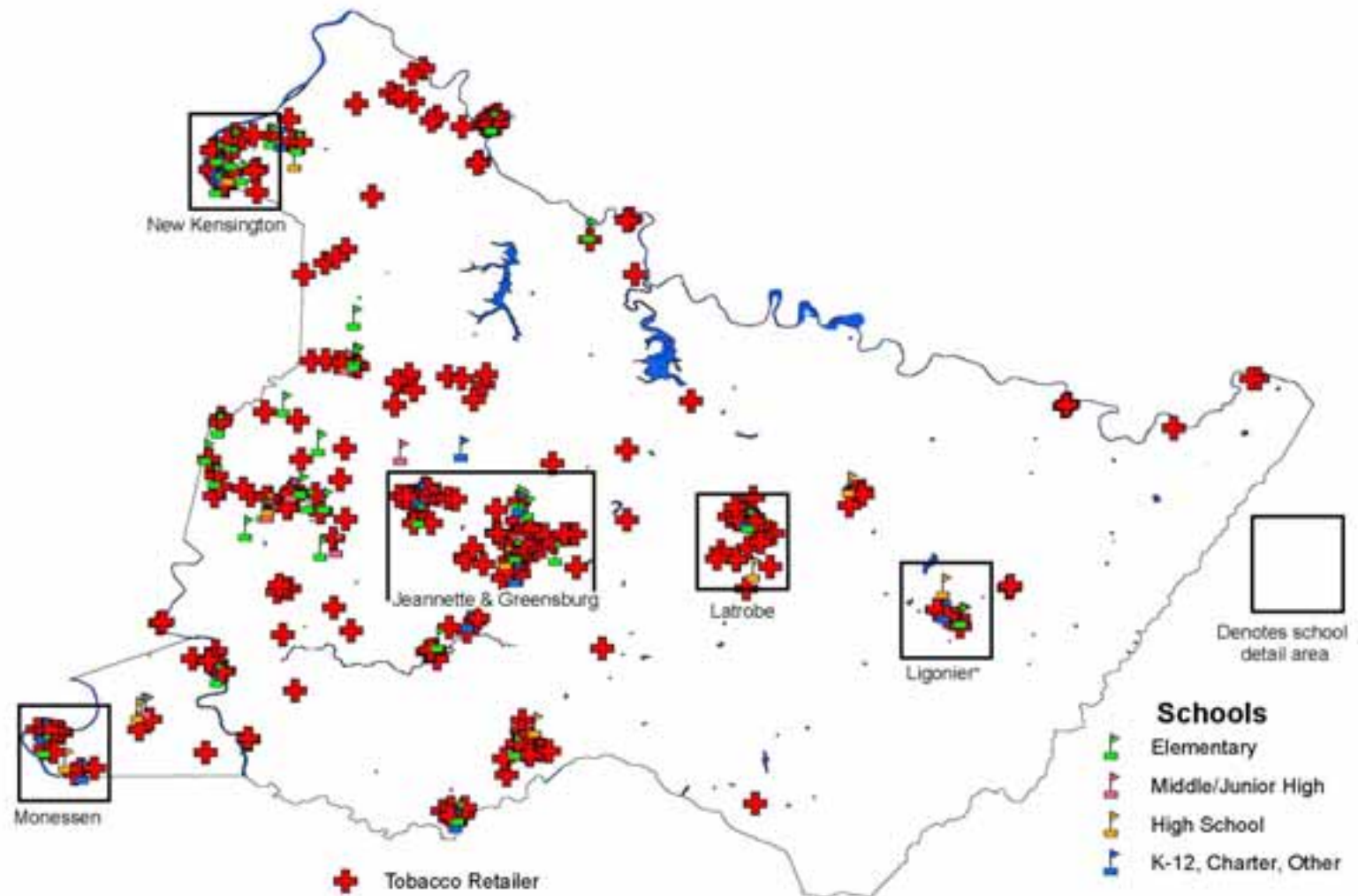
# Westmoreland County, PA



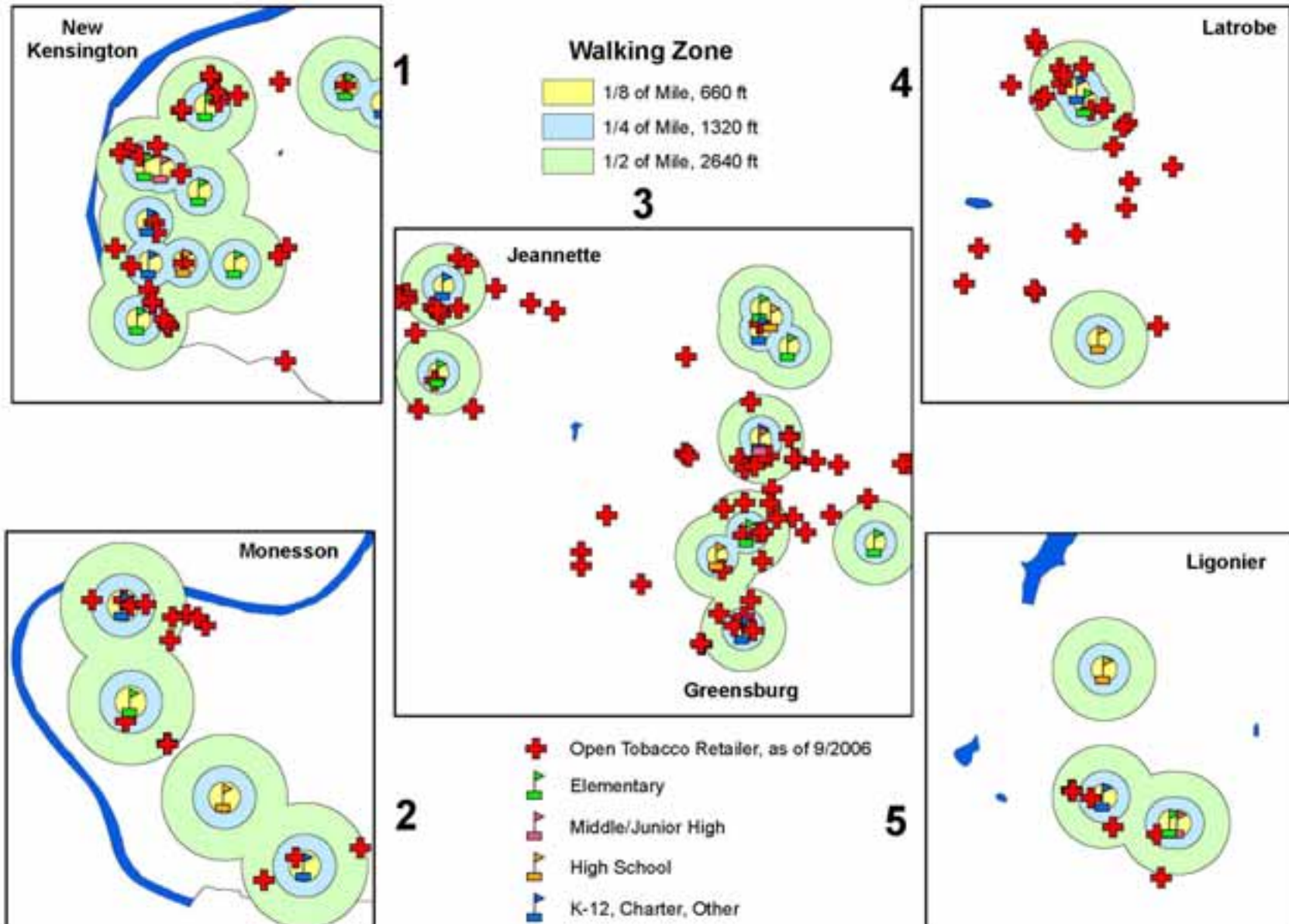
There are 388 tobacco retailers in Westmoreland County (as of 9/2006).  
Eighty-two percent (n=320) were successfully mapped.

Data Source: Westmoreland Drug and Alcohol Commission

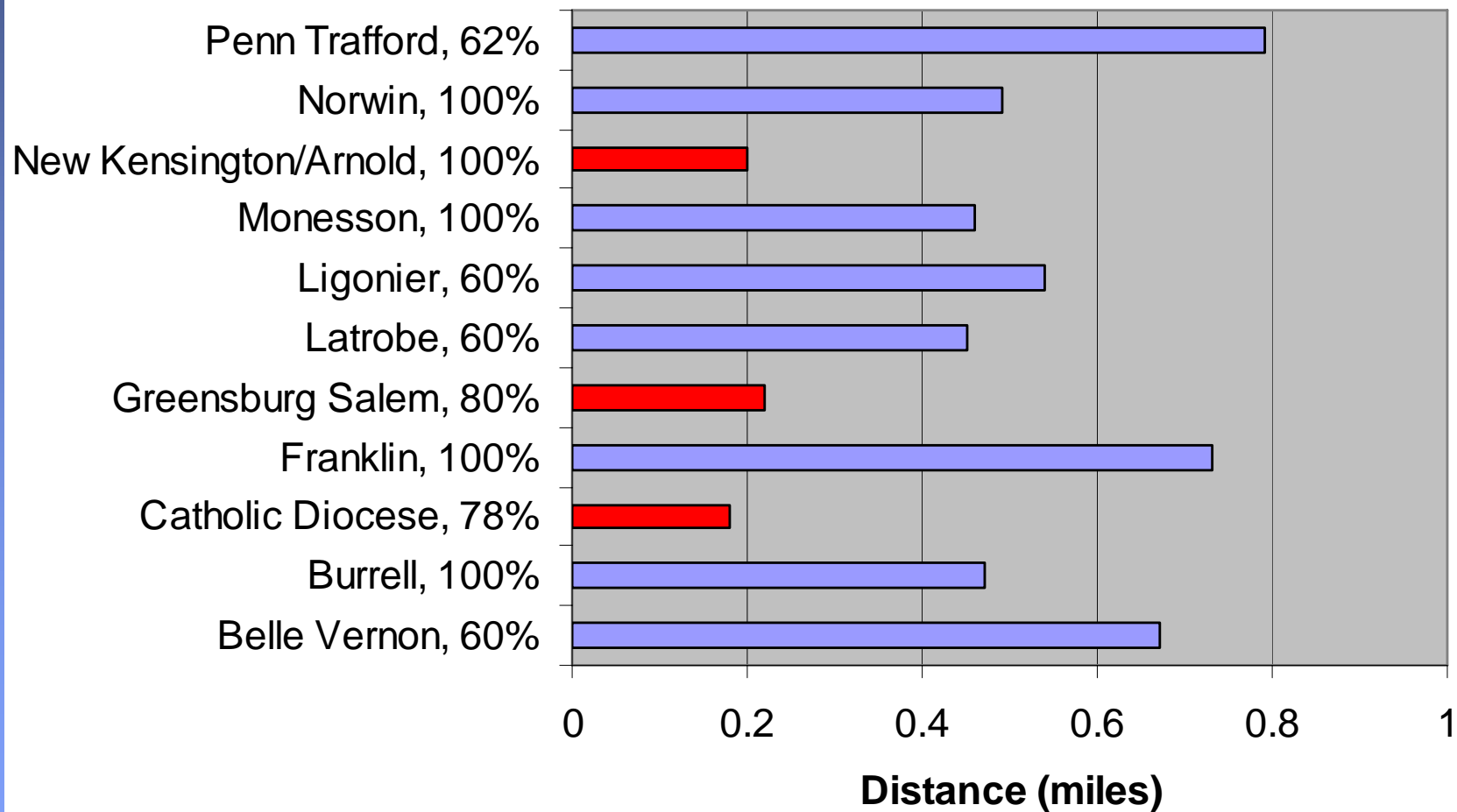
# Westmoreland County, PA



# Westmoreland County, PA



# Average Distance to Nearest Tobacco Retailer grouped by School District



# Average Number of Retailers Nearby

School District	Average # of retailers within 1/2 mile
Belle Vernon, 60%	0
Burrell, 100%	1
Catholic Diocese, 78%	6.6
Franklin, 100%	2.6
Greensburg Salem, 80%	5.5
Latrobe, 60%	4.3
Ligonier, 60%	1.5
Monesson, 100%	1
New Kensington/Arnold, 100%	4.1
Norwin, 100%	1.1
Penn Trafford, 62%	0.6

# Youth Tobacco Use

- 58% of US students have tried smoking<sup>6</sup>
- 23% of US high school students are regular smokers<sup>7</sup>
- Over 60% of middle and high school students reported they are not asked for ID when purchasing tobacco<sup>8</sup>

<sup>6</sup> Grunbaum JA, Kann L, Kinchen SA, Ross JG, Hawkins J, Lowry R, et al. Youth Risk Behavior Surveillance-United States, 2003. *Morbidity and Mortality Weekly Report* 2004; 53(SS-2):1-95.

<sup>7</sup> Centers for Disease Control and Prevention. Cigarette Use Among High School Students-United States, 1991-2005. *Morbidity and Mortality Weekly Report* 2006;55(26). Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5526a2.htm>

<sup>8</sup> Centers for Disease Control and Prevention. Tobacco Use, Access, and Exposure to Tobacco in Media Among Middle and High School Student-United States, 2004. *Morbidity and Mortality Weekly Report* 2004;54(12):297-301. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5412a1.htm>



# Schools and Tobacco<sup>9</sup>

Schools with a  
high density of  
tobacco retailers  
in the area

=

Students who  
can purchase  
their own  
cigarettes

Students who  
can purchase  
their own  
cigarettes

=

Regular  
smokers

Schools with a  
high density of  
tobacco retailers  
in the area

=

Overall higher  
student  
smoking rate

<sup>9</sup> Leatherdale, Scott & Strath, Jocelyn. (2007). Tobacco Retailer Density Surrounding Schools and Cigarette Access Behaviors Among Underage Smoking Students. *Annals of Behavioral Medicine* 33(1):105-111.

# Youth Access to Tobacco

- 25% of youth regular smokers & up to 66% of youth occasional smokers obtain cigarettes from social network<sup>10</sup>
- More frequent retailer requests for ID from youth occasional smokers leads them to seek out other sources of cigarettes<sup>11</sup>

<sup>10</sup> Croghan E, Aveyard P, Griffin C, & Cheng KK. (2003). The importance of social sources of cigarettes to school students. *Tobacco Control* 12:67-73.

<sup>11</sup> Leatherdale, Scott. (2005). Predictors of different cigarette access behaviours among occasional and regular smoking youth. *Canadian Journal of Public Health* 96(5):348-52.

# Implications

Youth tobacco use problem has several facets:

- Retailer sales to youth
- Tobacco retailer locations
- Youth social supply network

Current efforts - retailer monitoring  
- do not address the full issue.

Can use GIS to build a more  
comprehensive prevention plan.

**Thank you**