upkeep. Opportunity exists for private sector and community involvement in maintenance and enhancement of the trails. Examples of such involvement are on the Binghamton Chenango River Trail with plantings of trees, flowers and shrubs; the "Tuesday Walkers" group that maintains the plantings; trail cleanup on the Day of Caring; artistic enhancements including murals & mosaics; and organizing activities on the trails.

G. Safety/Accident Data

1. Local data

At the time of the 1996 Plan, there were two data bases of accident reports maintained by the NYSDMV. The State Accident Surveillance System (SASS) and the Consolidated Local Accident Surveillance System (CLASS) summarized accident data for the State highway system and local roads, respectively. Accidents included collisions between motor vehicles and either pedestrians or cyclists. Only reported accidents were included, using standard accident reports filed either by police agencies, or by motorists through their insurance companies.

SASS/CLASS data was extracted for Broome and Tioga Counties from 1990-1993. In all, 207 pedestrians and cyclists were injured in accidents with motor vehicles. Ten people died as a result of their injuries. The average age of Tioga County residents involved in these accidents is 15.5 while the average age for Broome County residents is 20.4. These statistics must be viewed with the understanding that except for those resulting in injury, many bicycle and pedestrian accidents go unreported.

Many of the accidents documented by SASS/CLASS occurred when pedestrians and cyclists shared the road with motorists. Other contributing factors include driver inattention, darting out of a pedestrian or cyclist, absence of adequate crosswalks, crossing against signals, cycling against the flow of traffic, view obstructions, road debris, pedestrian error, glare, or playing in the roadway. This points to a need to stress road sharing in any future safety education program.

The current source for accident information is the New York State Accident Location Information System (ALIS). ALIS is a multi-agency collaboration to develop a GIS-based Accident Location Information System (ALIS), combining several state organizations' information systems to improve the location accuracy and streamline the processing of traffic accidents. A centralized Accident Location Server automates the location processing of electronically transmitted accidents. If accidents cannot be automatically located they are 'kicked out' and put into a queue for processing by Department of Motor Vehicle (DMV) staff via an interactive web-based application. ALIS is based on the ESRI ArcGIS Server platform and supports 14 different location methods to support a variety of input location data. The system leverage a state-wide Geodatabase (New York State Data Product) that was designed to improve location of accidents and at the same time be a comprehensive data set to be used more broadly in the New York State GIS community.

The resulting accident location data is available for highway safety applications in New York State. Traffic Engineers from various local and state agencies leverage the data to conduct detailed studies, and produce reports to identify high accident locations or unusual concentrations of a particular type of accident. Once locations are identified, mitigation action such as roadway improvements (better signage, lighting, or drainage), or behavioral changes (increased law enforcement) may be taken. Moreover, this multi-agency collaboration helps substantiate the vision of enterprise GIS beyond the department level and illustrates the concept of the supra-enterprise where interdependent work groups perform their missions independently, but collaborate to achieve broader goals. (Kevin Hunt, NYSDOT & Jackie Magnant, ESRI)

Table #6 below shows ALIS data for the Binghamton Metropolitan Area for pedestrian and bicycle accidents from 2009 – 2011. This data will be used as a baseline for performance measurement.

TABLE #6 Pedestrian and Bicycle Accidents
Binghamton Metropolitan Planning Area (2009 – 2011)

By Year	**2009**	**2010**	**2011**	**Total**
Pedestrian Accidents	88	97	85	**270**
Bicycle Accidents	44	47	37	**128**

Accident Type	**Intersection**	**Non-intersection**	**Total**
Pedestrian Accidents	164	106	**270**
Bicycle Accidents	86	42	**128**

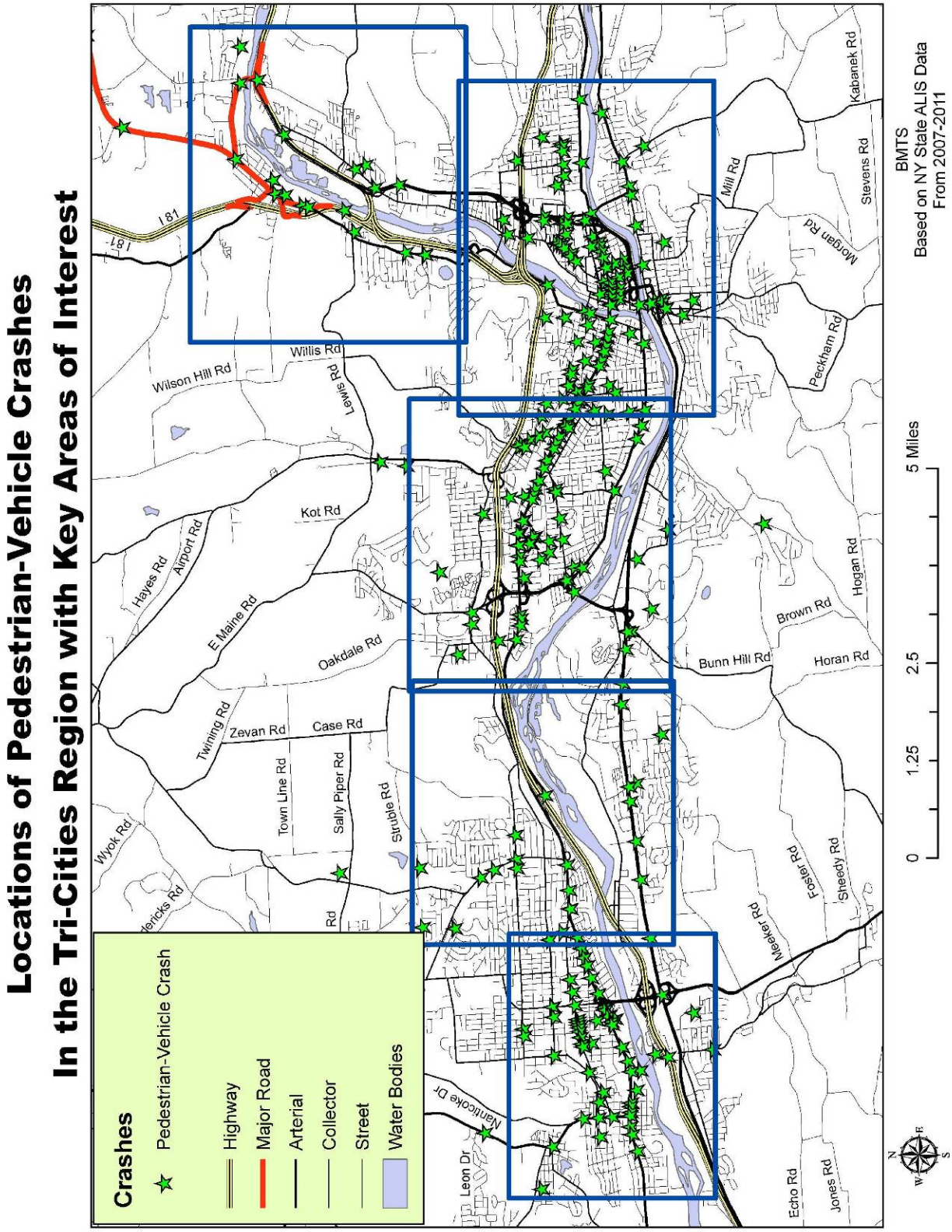
Municipality	**Pedestrian**	**Bicycle**
Binghamton (city)	125	67
Endicott	40	18
Johnson City	34	12
Union (part town)	15	10
Vestal	17	5
Chenango	6	6
Owego (village)	7	0
All others	26	10
Total	**270**	**128**

Source: New York State Accident Location Information System

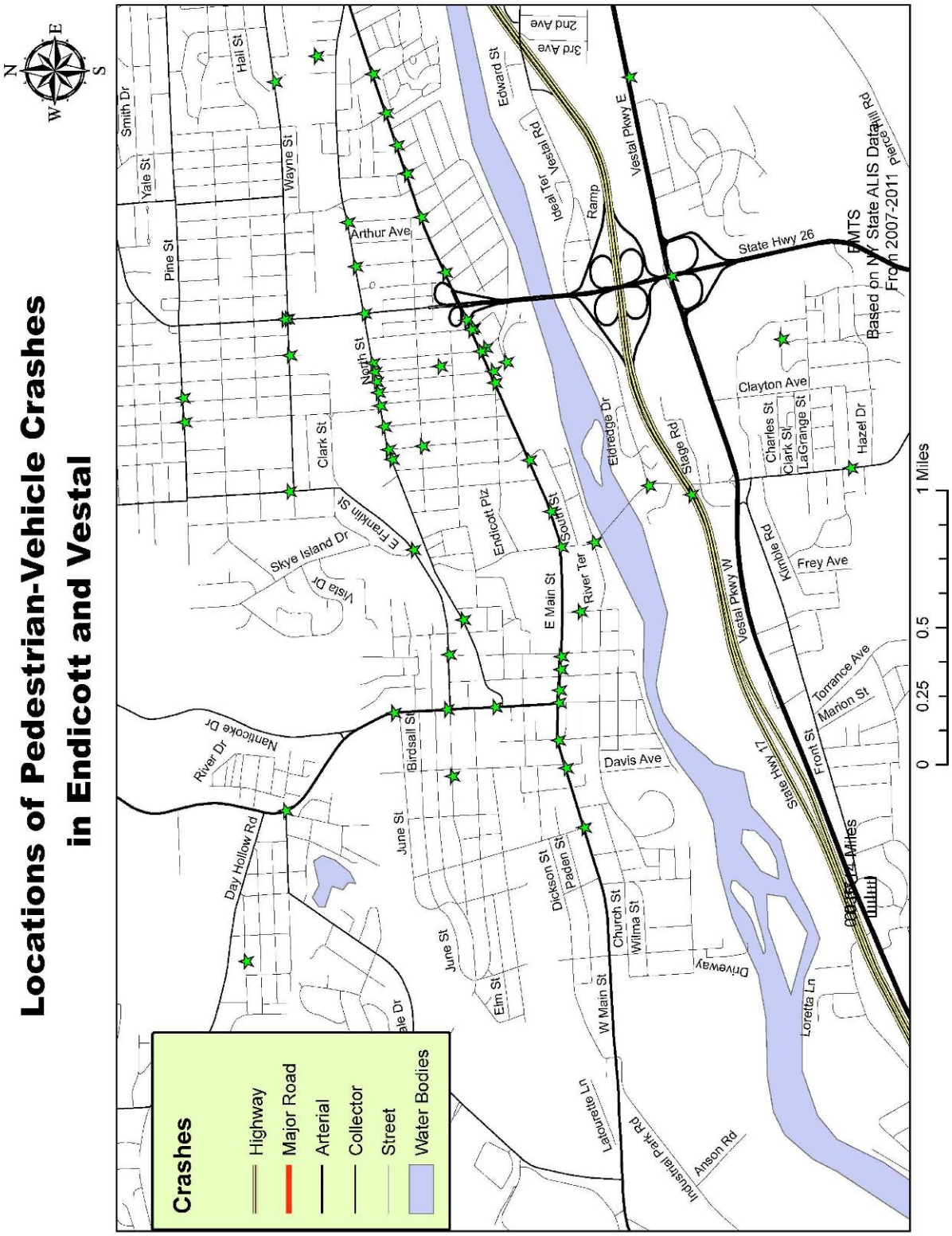
The following maps (Maps #4 – #10) show the locations of pedestrian-vehicle crashes from 2007-2011.

Vehicle-on-Pedestrian Crashes in Broome County

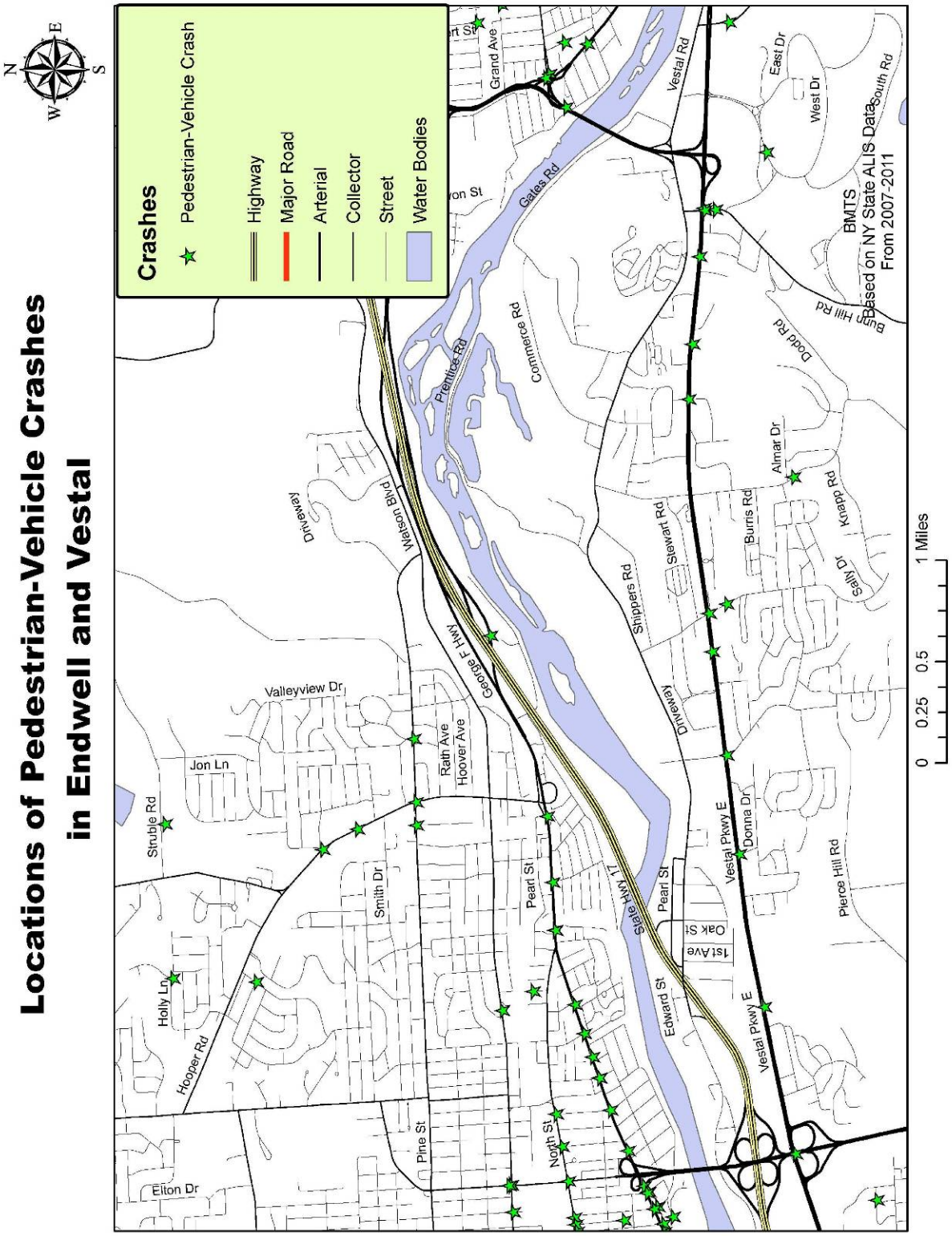
Map #4



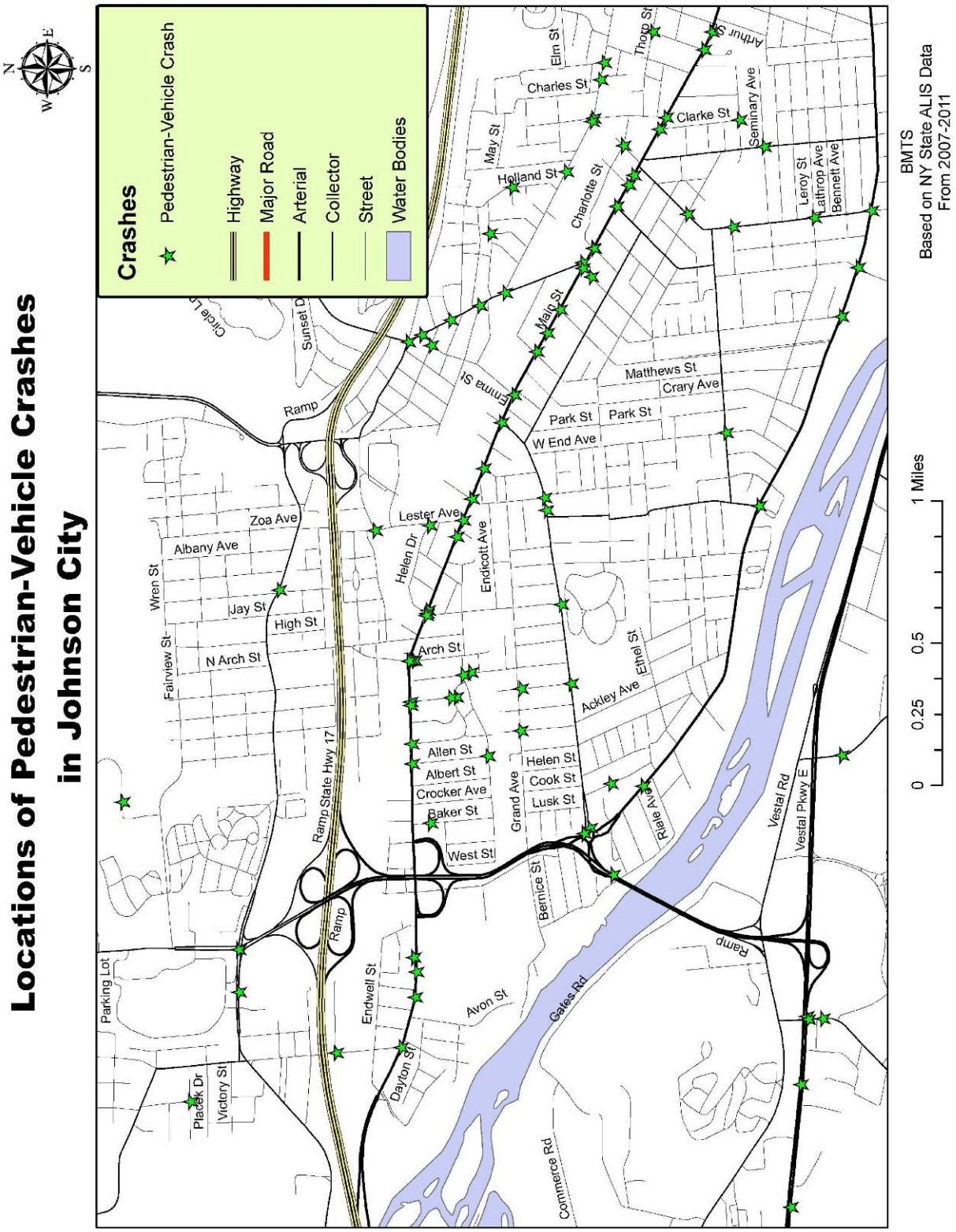
Map #5


Locations of Pedestrian-Vehicle Crashes
in Endicott and Vestal
N
E
S
W
Crashes
Highway
Major Road
Arterial
Collector
Street
Water Bodies
Based on NY State ALIS Data
From 2007-2011
BMTS
0
0.25
0.5
1 Miles
Smith Dr
Hall St
Yale St
Wayne St
Pine St
Arthur Ave
North St
Clark St
E Franklin St
Skye Island Dr
Vista Dr
Endicott Plz
Edward St
3rd Ave
2nd Ave
Ideal Ter
Vestal Rd
Ramp
Vestal Pkwy E
State Hwy 26
Pierce Hill Rd
Clayton Ave
Charles St
Clark St
LaGrange St
Hazel Dr
Eldredge Dr
Stage Rd
South St
E Main St
River Ter
Kimble Rd
Frey Ave
Vestal Pkwy W
Torrance Ave
Marion St
Front St
State Hwy 17
Nanticoke Dr
River Dr
Birdsall St
Davis Ave
June St
Day Hollow Rd
Dickson St
Paden St
Church St
Wilma St
Elm St
W Main St
Driveway
Loretta Ln
Latourette Ln
Industrial Park Rd
Anson Rd

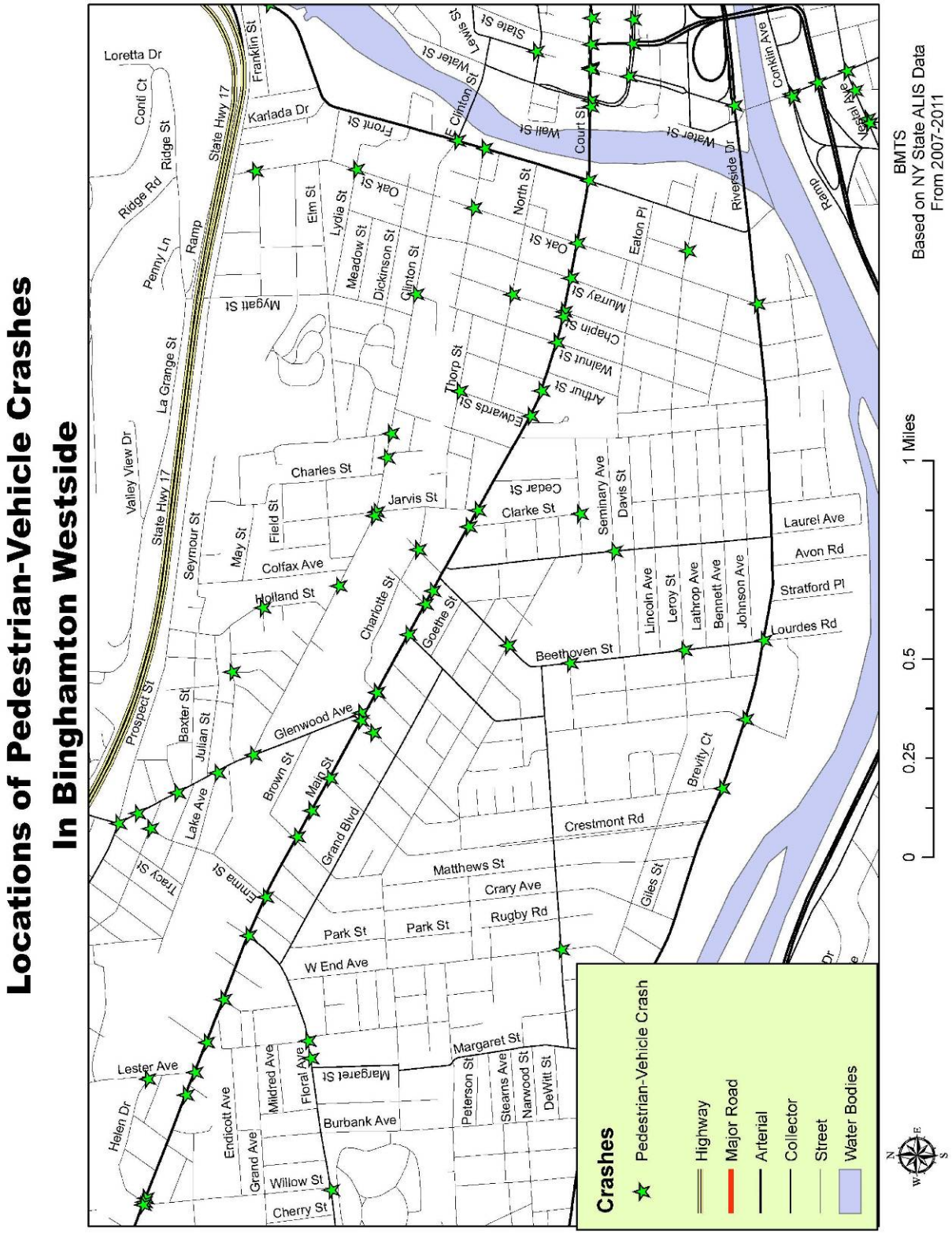
Map #6


Locations of Pedestrian-Vehicle Crashes
in Endwell and Vestal
N
E
S
W
Crashes
Pedestrian-Vehicle Crash
Highway
Major Road
Arterial
Collector
Street
Water Bodies
BMTS
Based on NY State ALIS Data
From 2007-2011
0 0.25 0.5 1 Miles
Grand Ave
Vestal Rd
East Dr
West Dr
South Rd
Gates Rd
Commerce Rd
Prentice Rd
Bunn Hill Rd
Dodd Rd
Almar Dr
Knapp Rd
Burris Rd
Stewart Rd
Shippers Rd
Driveway
Watson Blvd
Valleyview Dr
Jon Ln
Struble Rd
Rath Ave
Hoover Ave
George F Hwy
Smith Dr
Pearl St
State Hwy 17
Oak St
1st Ave
Edward St
Vestal Pkwy E
Donna Dr
Pierce Hill Rd
Holly Ln
Hooper Rd
Elton Dr
Pine St
North St

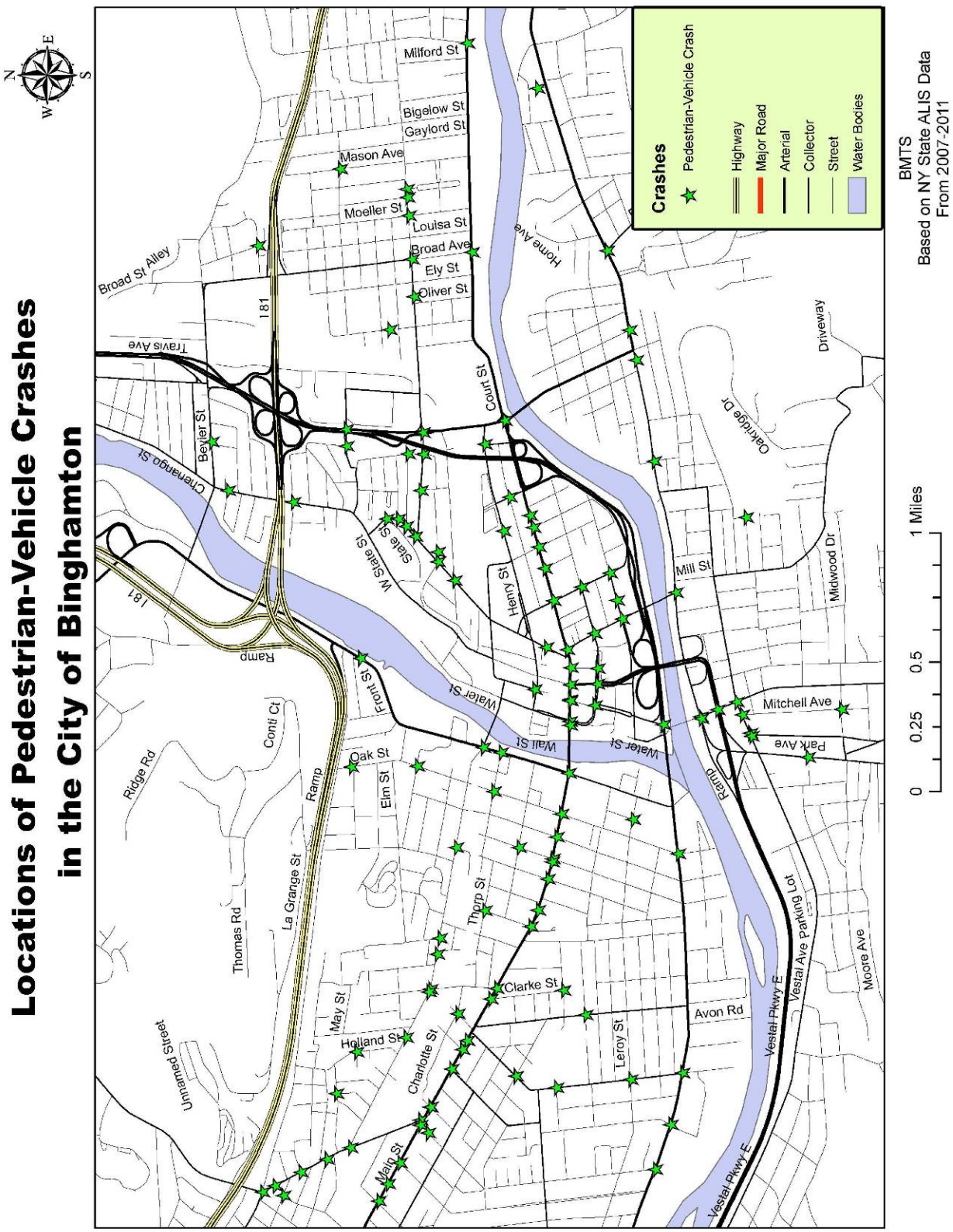
Map #7


Locations of Pedestrian-Vehicle Crashes
in Johnson City
Crashes
Pedestrian-Vehicle Crash
Highway
Major Road
Arterial
Collector
Street
Water Bodies
BMTS
Based on NY State ALIS Data
From 2007-2011
0
0.25
0.5
1 Miles
Ramp
Ramp State Hwy 17
Ramp
Ramp
Ramp
Circle Ln
Sunset Dr
Emma St
Main St
Charlotte St
May St
Holland St
Charles St
Elm St
Thorp St
Arthur St
Clarke St
Seminary Ave
Leroy St
Lathrop Ave
Bennett Ave
Matthews St
Crary Ave
Park St
Park St
W End Ave
Lester Ave
Helen Dr
Endicott Ave
Zoa Ave
Albany Ave
Wren St
Jay St
High St
N Arch St
Fairview St
Arch St
Ethel St
Ackley Ave
Allen St
Albert St
Crocker Ave
Baker St
West St
Helen St
Cook St
Lusk St
Grand Ave
Riale Ave
Bernice St
Vestal Rd
Vestal Pkwy E
Endwell St
Avon St
Gates Rd
Dayton St
Commerce Rd
Parking Lot
Placek Dr
Victory St

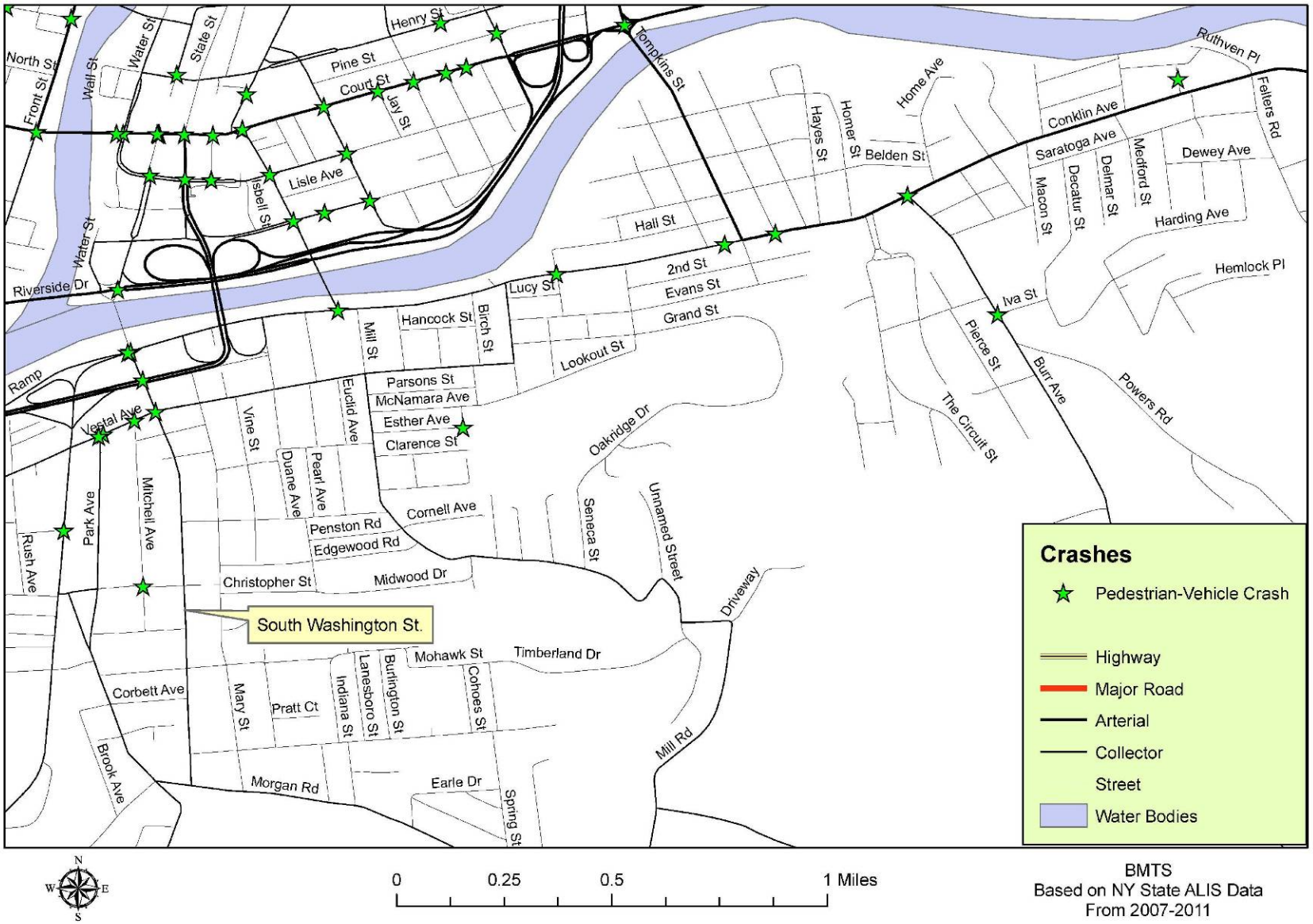
Map #8


Locations of Pedestrian-Vehicle Crashes
In Binghamton Westside
BMTS
Based on NY State ALIS Data
From 2007-2011
0
0.25
0.5
1 Miles
Crashes
Pedestrian-Vehicle Crash
Highway
Major Road
Arterial
Collector
Street
Water Bodies
Loretta Dr
Conti Ct
Ridge Rd
Ridge St
Penny Ln
Ramp
State Hwy 17
Franklin St
Karlada Dr
Front St
Clinton St
Lewis St
State St
Water St
Wall St
Court St
Conklin Ave
Vestal Ave
Riverside Dr
Ramp
Elm St
Lydia St
Oak St
North St
Eaton Pl
Meadow St
Dickinson St
Clinton St
Myrtle St
Murray St
Chapin St
Walnut St
Arthur St
Edwards St
Thorp St
La Grange St
Valley View Dr
Charles St
Jarvis St
Cedar St
Clarke St
Seminary Ave
Davis St
Seymour St
May St
Field St
Colfax Ave
Laurel Ave
Avon Rd
Stratford Pl
Lourdes Rd
Holland St
Charlotte St
Goethe St
Beethoven St
Lincoln Ave
Leroy St
Lathrop Ave
Bennett Ave
Johnson Ave
Prospect St
Baxter St
Julian St
Glenwood Ave
Brown St
Main St
Grand Blvd
Brevity Ct
Lake Ave
Crestmont Rd
Tracy St
Emma St
Matthews St
Crary Ave
Giles St
Park St
Park St
Rugby Rd
W End Ave
Lester Ave
Helen Dr
Endicott Ave
Midred Ave
Floral Ave
Margaret St
Margaret St
Burbank Ave
Peterson St
Stearns Ave
Narwood St
DeWitt St
Grand Ave
Willow St
Cherry St

Map #9


Locations of Pedestrian-Vehicle Crashes
in the City of Binghamton
N
E
S
W
Crashes
Pedestrian-Vehicle Crash
Highway
Major Road
Arterial
Collector
Street
Water Bodies
BMTS
Based on NY State ALIS Data
From 2007-2011
0
0.25
0.5
1 Miles
Milford St
Bigelow St
Gaylord St
Mason Ave
Moeller St
Louisa St
Broad Ave
Ely St
Oliver St
Broad St Alley
Travis Ave
I 81
Home Ave
Court St
Driveway
Oakridge Dr
Beyler St
Chenango St
W State St
State St
Henry St
Mill St
Midwood Dr
Ramp
Front St
Water St
Wall St
Mitchell Ave
Park Ave
Conti Ct
Ridge Rd
Oak St
Elm St
Thomas Rd
La Grange St
Thorp St
Clarke St
May St
Holland St
Charlotte St
Leroy St
Avon Rd
Vestal Pkwy E
Vestal Ave Parking Lot
Moore Ave
Unnamed Street
Maiq St

Locations of Pedestrian-Vehicle Crashes In Southside Binghamton



BMTS
Based on NY State ALIS Data
From 2007-2011

Map #10

2. Existing safety programs

Currently, the Broome County Division of Health, as part of its injury prevention mission, houses a Traffic Safety Program which includes safety education programs aimed at bicyclists and pedestrians. The program is funded through an annual grant from the Governor's Traffic Safety Committee.

NYSDOT also addresses bicycle and pedestrian safety in the course of performing safety investigations of high crash locations (HCL), and through scoping and design of its highway and bridge projects.

H. Relationship to Public Transit

Most transit passengers are pedestrians at each end of their trip. Therefore it is important to look at transit facilities as part of the pedestrian planning process. This requires examination of pedestrian access to the transit system, primarily the presence of sidewalks along bus routes, and amenities like benches and shelters.

The Broome County Department of Public Transportation operates three bus services. B.C. Transit is a fixed-route service, operating 15 routes and 2 commuter runs throughout the metropolitan area, providing about 3,000,000 trips annually. Shortly after the completion of the 1996 Pedestrian Plan, half the B.C. Transit fleet was accessible to persons with disabilities by late 1996. Since then, the entire B.C. Transit fleet has become accessible to those with disabilities. B.C. Lift is a paratransit service for persons with disabilities, operating within the metropolitan area. B.C. Country is a paratransit service for rural Broome County residents, providing rural-rural and rural-urban trips. BC Transit also operates a paratransit service in conjunction with the Broome County Office for Aging. This service helps senior citizens travel to medical facilities, residencies, and shopping.

There are several private for-profit providers. These provide ambulette, taxi, and charter bus service. The downtown Binghamton Intermodal Transit Terminal houses the intercity bus services of Coach USA and Greyhound.

One other important component of public transit in the area is the Off Campus College Transport (OCCT) service, a private non-profit transportation provider. OCCT serves Binghamton University students and staff. On average, OCCT serves 500,000 riders each year with fixed route bus service.

Tioga County also has a public transit service called, Ride Tioga. It operates both a fixed route and dial-a-ride service. Ride Tioga also travels into Broome and Tompkins County carrying passengers to and from Broome Community College and Cornell University. There is opportunity on Washington Avenue in Endicott and at the Town Square Mall for riders to connect with B.C. Transit.

I. Relationship to Public Health

Safer and better connected bicycle and pedestrian facilities are important for encouraging citizens of Broome and Tioga Counties to engage in healthy physical activities. Studies show that easily accessible and safer built environments correlate with increases in people walking and cycling, as well as decreases in driving, all of which improve people's health and wellbeing. In addition, if more people used walking or bicycling for utility purpose such as going to the store, to school, or to work, these citizens could easily achieve their daily American College of Sports Medicine (ACSM) recommended physical activity of at least 150 minutes per week of a moderate activity, such as brisk walking (Winters et al. 2010). Construction and improvement of pedestrian and bicycle facilities is all the more important, as increasing