

Sean Carbone  
Final Project  
Marcos Luna  
December 17, 2007

## Auto Body Shops in Essex County

For my GIS project I chose to create a map of auto body shops in Essex County and also to show which auto body shops are preferred shops for insurance companies. I chose this topic because my father owns an auto body shop and I work there so it interests me. The reason I chose to show which body shops are preferred shops is because in many cases the quality of work is often sacrificed in order to gain more work. What I mean by that is that insurance companies work out prices with certain shops, and if that shop agrees to charge them that price, which is usually lower than average, then the insurance company will give that shop work. When this happens many times the auto body shop is not getting the full amount of money that they need to fix the car right. The shop then might have to take short cuts so they don't lose money. So in the end the person who is loosing out is the customer because the insurance companies are happy with the price they paid, and the shop is happy because they are getting work.

To start my project I opened a map of the counties in the United States from the mgisdata folder. I then used the clip tool to cut out just Essex County. I then downloaded from <http://mass.gov/mgis/laylist.htm> the file called "Datalayers from the 2000 U.S. Census" (MassGis) because it contained road files for the state of Massachusetts. I then used the clip feature again to cut out the roads that fell within Essex County and I got something that looked like this.



After I completed created a layer with just Essex County and the roads that fell within it, I needed to make my table. I opened the table in the mgisdata folder called gas\_loc and deleted the columns and created new ones. The table has four columns; object ID, name which is text, address which is also text, and finally preferred which also is text. My mother, who is the secretary at my fathers shop, was able to get me a list of body shops in Essex County from an insurance company. I took this list and typed each one of the 216 body shops into the table along with its address and whether it was a preferred shop and came up with this.

Final - ArcMap - ArcView

File Edit View Insert Selection Tools Window Help

1,386,179

Layers

- C:\mgisdata
  - Geocoding Result: Geocoding\_Res
  - Road Clip
  - Body Shops
  - C:\mgisdata\usa\usdata.mdb
    - Essex County
    - counties selection selection
    - NAME
    - Essex
    - counties selection
    - cities
    - counties
    - states selection
    - popesmt
    - C:\mgisdata\MAss roads
      - census2000tiger\_arc
      - Census 2000 TIGER Roads
        - Primary Road, Limited Access
        - Primary Road, Not Limited Acce
        - Secondary Road
        - Local Road, Access Ramp
        - Vehicular Trail
        - Other Trails

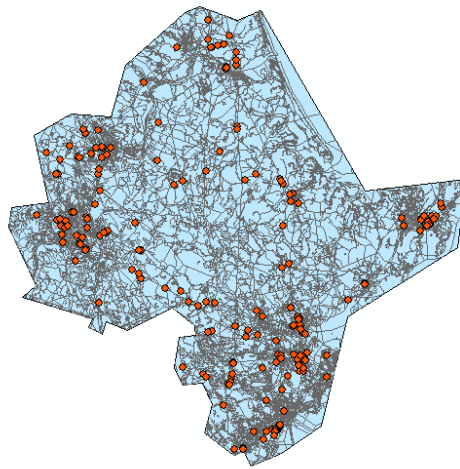
Attributes of Body Shops

OID	Name	Address	Preferred
175	Gino's Autobody	274 Newburyport Turnpike	y
176	Hardy's Autobody	68 Bradford Street	n
177	Sublime Auto Restoration	295 Newburyport Turnpike	n
178	Aleksa Auto	500 South Broadway	n
179	Alistar of qoburn	171 Boston Street	n
180	Auto Trenz Limited Partnership	57 Grove Street	n
181	Boston Street Autobody	165A Boston Street	y
182	Classic Automotive Autobody	250 Jefferson Ave	y
183	Expert Collision center	50A Broadway	n
184	Highland Ave Autobody	455 Highland Ave	n
185	Hillcrest Motor corp	207 Highland Ave	y
186	Junior's Autobody	11 Goodhue Street	n
187	K&C's Autobody	17 Rear Franklin Street	n
188	Leavitt St. Autobody	62 Leavitt Street	y
189	M&R Autobody	57 Grove Street	n
190	New Bridge Autobody	36 Bridge Street	y
191	Prestige Autobody	50 Broadway	n
192	Salem Autobody	25 Boston Street	y
193	Salem Collision	142 Canal Street	y
194	Sholdts Autobody Co.	45A Mason Street	y
195	Buddy's Garage	79 Lafayette Road	n
196	Burda Brothers Autobody	83 Bridge Road	n
197	Cassidy Autobody	25 Locust Street	n
198	Chris Autobody	100 Elm Street	n
199	Great bay Autobody	162 Bridge Road	n
200	Jims Autobody	128 Bridge Road	n
201	Stephen's Autobody	60 Jefferson Ave	n
202	Paul's Autobody	48 Rabbit Road	y
203	Seacost Motors	158 Elm Street	y
204	Amicone Autobody	550 Lincoln Ave	y
205	Collision solution center	24 Bennett Highway	y
206	J.C. Carbone&Sons	572 Lincoln Ave	n
207	Jimbo's Autobody	136 Broadway	n
208	Kens Car Care Center	20 Salem Turnpike	n
209	Melrose Autobody	117 Central Street	n
210	Nickole Autobody	819 Broadway	n
211	Northeast Autobody	208 Rear Winter Street	n
212	Pro Collision Center	233 Hamilton Street	n
213	York Ford	1497 Broadway	y
214	Swampscott Autobody	201 Essex Street	n
215	Crane Neck Auto Works	5 Crane Neck Street	n

Records: 14 | Show: All | Selected | Records (0 out of 216 Selected)

Finally all I had to do was figure out how to geocode the addresses, which only took me a few days to figure out. I created an address locator in Arc Catalog, and then geocoded the addresses and I came out with points of every auto body shop in Essex County. I had 97% of the addresses that were found over 80%. There were only three addresses that I was not able to come up with anything that was even close. My final map showing the auto body shops in Essex County looked like this.

Essex County Autobody Shops

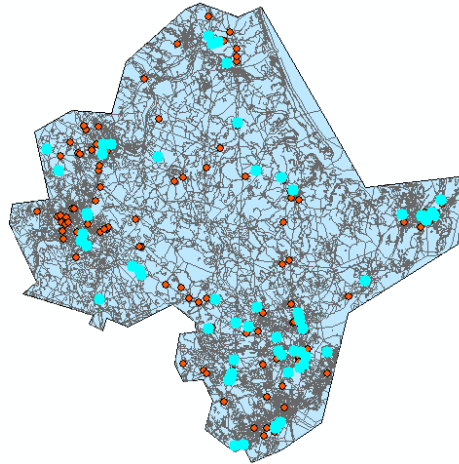


I thought this map was interesting because the majority of body shops are along the outskirts of Essex County and there is a big space in the middle where there are no body shops at all. If you look where the roads look most clustered you will find large clusters of shops which was expected. The most body shops were found in Lynn and the second most was in Lawrence, which are both big cities in Essex County.

Then I selected by attributes and selected all the shops with a “y” in the preferred column to show which shops were preferred shops to the insurance companies. The result I got was not

what I expected. I was expecting the preferred shops to be focused on the bigger cities, however they were evenly spread out across the county as you can see in this map.

Essex County Autobody Shops



This project helped me use what I have learned in this class and turn it into something that interests me. Overall the only big problem I had was using the address locator, but after I figured that out everything went fine. I was surprised to have a very few number of shops that had no match with an address since I typed them in myself and figured I would have made some errors. To improve this map I would like to get data about the income of each town so I can make a graduated color map to see if preferred shops are in lower income areas.

## Work Cited

<http://mass.gov/mgis/laylist.htm>