Traffic Sheds

Individual cars flow onto roads, like droplets of water flow into a stream.

What is a Traffic Shed?

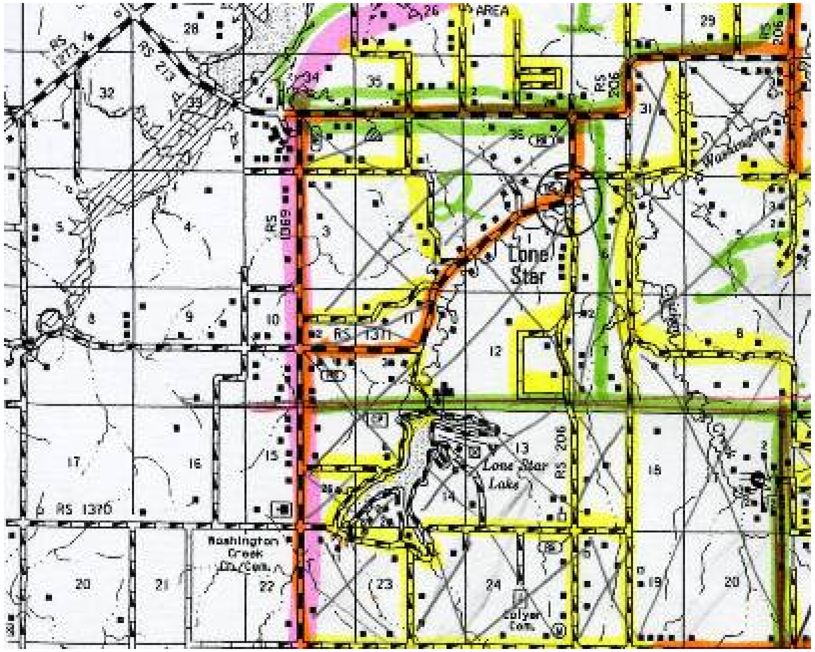
- A **Traffic Shed** is similar to a watershed. People travel on rural roads and converge onto larger paved roads to get to school or work.

- Analysis of the traffic helps to show what level of development existing roads can handle.

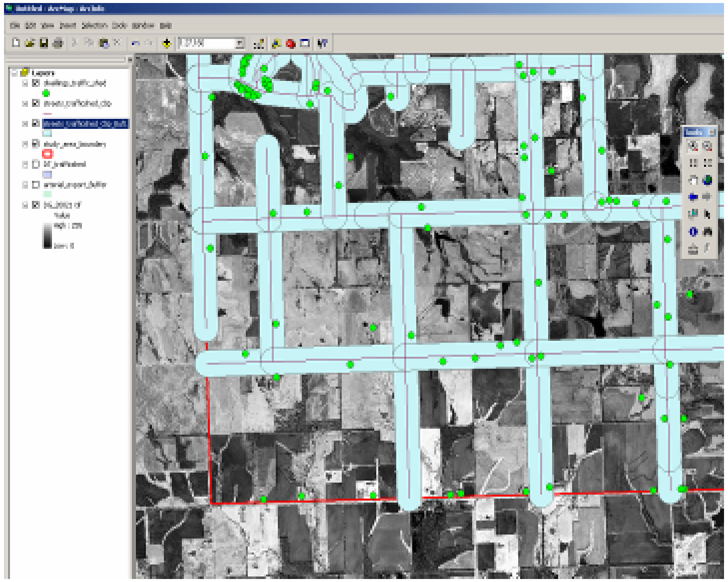
- **GIS** allows tabulation of areas and dwellings within a traffic shed to determine carrying capacity of a road.

Methodology

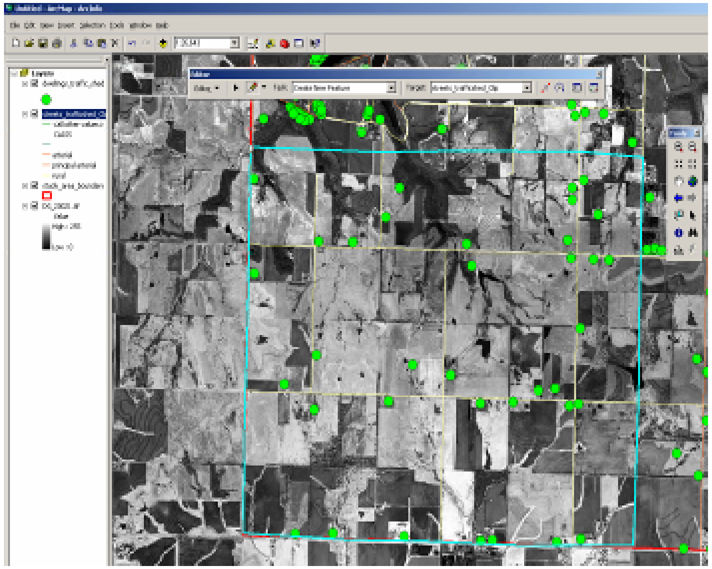
- First, digitize dwellings from a Douglas county parcel map onto an aerial photo.

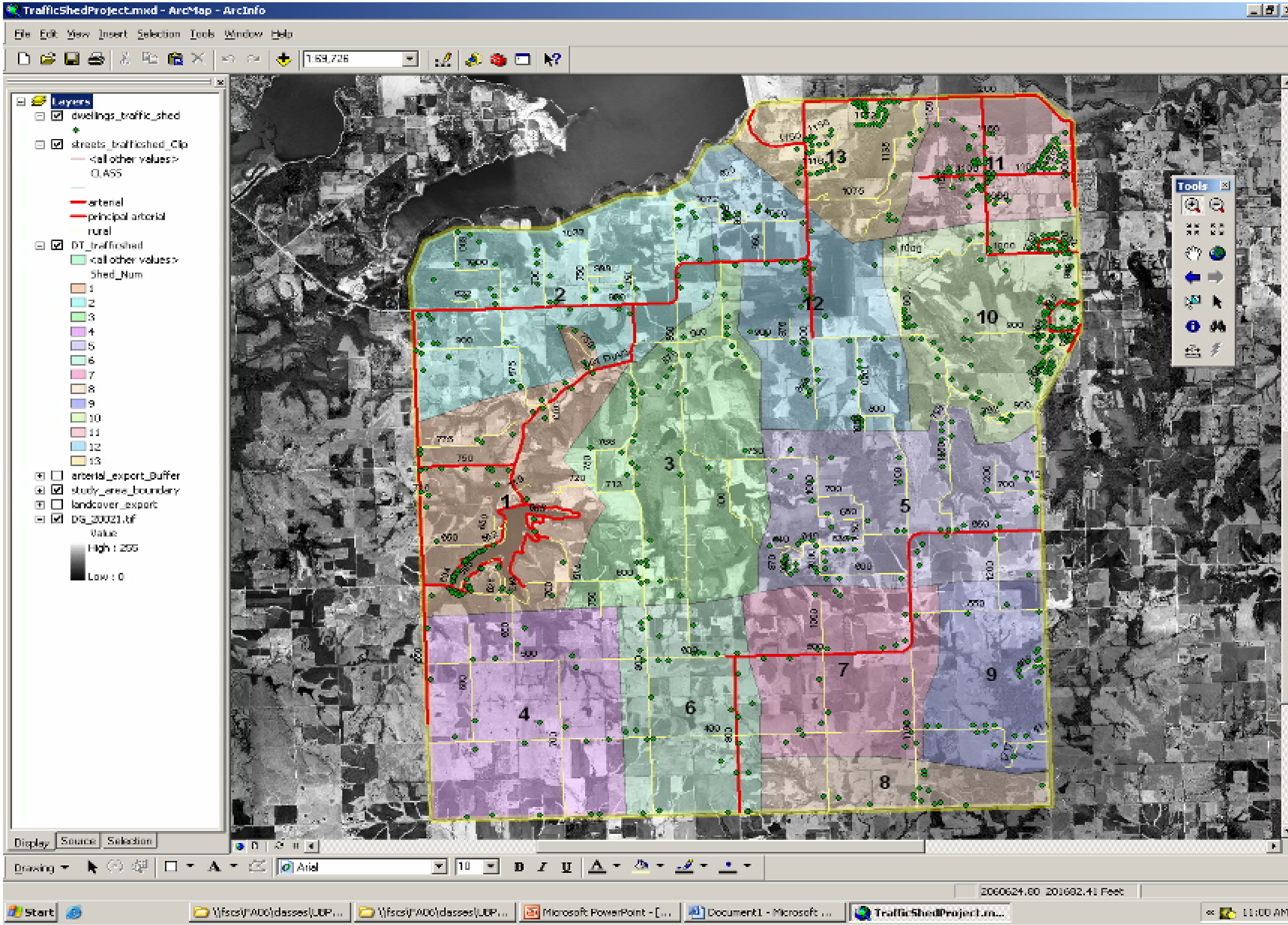


- Create buffers to help identify where people are driving.



- Create traffic sheds as a polygon feature (using snapping tool).




TrafficShedProject.mxd - ArcMap - ArcInfo
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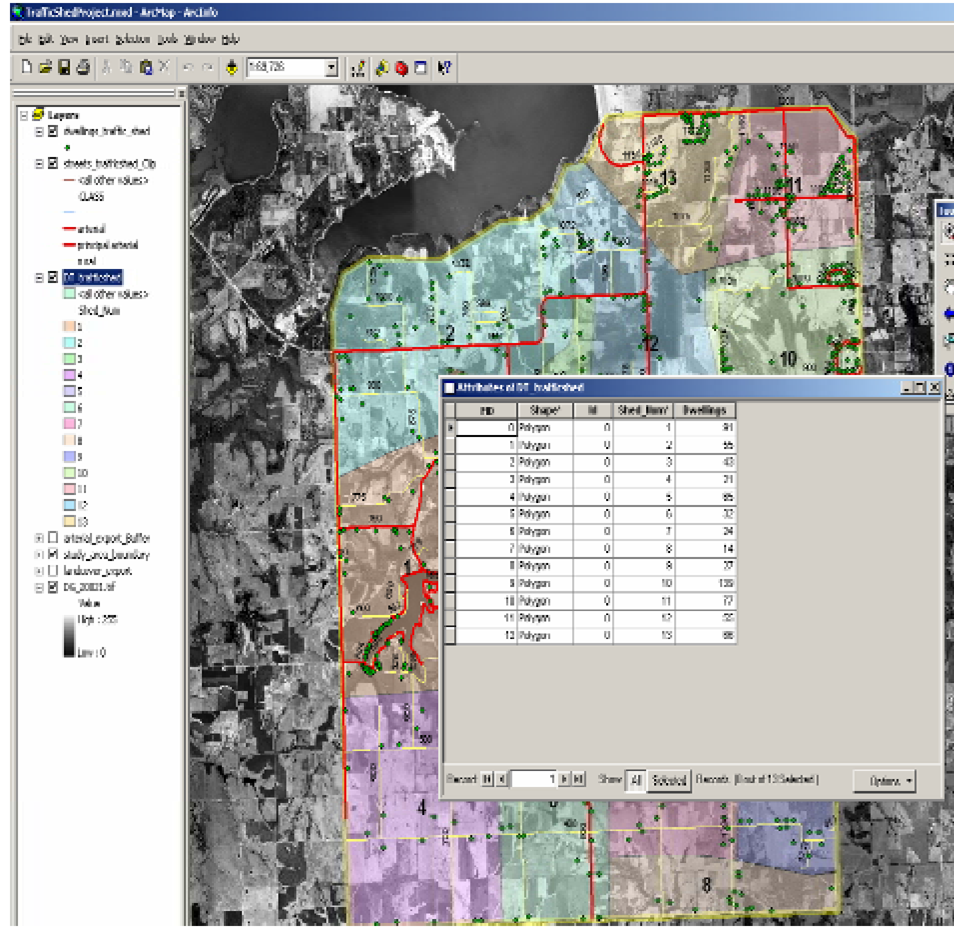
- Once traffic sheds are created, query functions are used to determine the number of houses and the acreage inside each traffic shed.



Travel Shed Analysis for Southwest Douglas County

Shed Number	Area In Sq Miles	Acres	Dwellings	Trip Generation	Total Trips	Rock roads	Capacity	Capacity with a 15% Inefficiency	Remaining Trip Capacity
1	5.38	3443.20	91	1.02	92.82	4.00	130.00	110.50	17.68
2	6.69	4281.60	55	1.02	56.10	5.00	162.50	138.13	82.03
3	6.85	4384.00	43	1.02	43.86	8.00	260.00	221.00	177.14
4	5.77	3692.80	21	1.02	21.42	5.00	162.50	138.13	116.71
5	6.20	3968.00	65	1.02	66.30	16.00	520.00	442.00	375.70
6	4.09	2617.60	32	1.02	32.64	4.00	130.00	110.50	77.86
7	4.39	2809.60	24	1.02	24.48	3.00	97.50	82.88	58.40
8	1.94	1241.60	14	1.02	14.28	2.00	65.00	55.25	40.97
9	3.09	1977.60	27	1.02	27.54	6.00	195.00	165.75	138.21
10	4.99	3193.60	139	1.02	141.78	6.00	195.00	165.75	23.97
11	2.82	1804.80	77	1.02	78.54	5.00	162.50	138.13	59.59
12	5.32	3404.80	55	1.02	56.10	8.00	260.00	221.00	164.90
13	2.78	1779.20	66	1.02	67.32	7.00	227.50	193.38	126.06

Rock Road Capacity Average 32.50
(peak hour trip generation rate per single-family detached house) *Trip Generation, Vol.1, 6th edition*
1mile = 640

Research & Literature

- Institute of Engineers, *Trip Generation Handbook*

- Lawrence/Douglas County parcel maps

- *Traffic Sheds and Rural Highway Capacity* by Lane Kendig