

There are some sections where this shoulder narrows or disappears, particularly near the major intersections at Royall Street, Washington Street, Randolph Street, and Dan Road in Canton, and in Stoughton, between the Canton line and Stoughton Square. A one-meter bicycle shoulder will be added along both sides of Route 138 within the Reebok project limits at Royall Street.

Narrow and somewhat deteriorated sidewalks exist on the west side of Route 138 between the Trailside Museum/Blue Hills ski area and the MassHighway park-and-Ride lot, as well as in the segment south of I-93 to the Washington Street/Turnpike Street intersection. *It is recommended that these existing sidewalks be widened and repaved, in order to increase safety and encourage greater use by pedestrians.*

New sidewalks will be added along Route 138 north and south of Royall Street, as part of Reebok-related mitigation. Crosswalks and pedestrian signals and phasing will be added as well at that intersection. *It is recommended that the new sidewalks at Royall Street be extended and linked to the existing sidewalk to the north, opposite the ski area and Trailside Museum at the Milton/Canton line.* Finally, there will also be sidewalk/pedestrian signal improvements as part of the redesigned Route 138 intersection at Washington Street/Turnpike Street.

In one area which has been recommended for roadway improvements, the modifications include added sidewalks and bicycle accommodations. In Concern/Recommendation 8-4, it was recommended that the roadway be resurfaced and widened between Pequot Park and Merkert Inc. If this measure is approved and implemented, it would add bicycle shoulders, as well as sidewalks on both sides of Route 138. A sidewalk would especially benefit the senior housing development at Orchard Cove, as well as the lunchtime activities of employees along this Route 138 segment. MassHighway would have jurisdiction in any effort to widen the roadway.

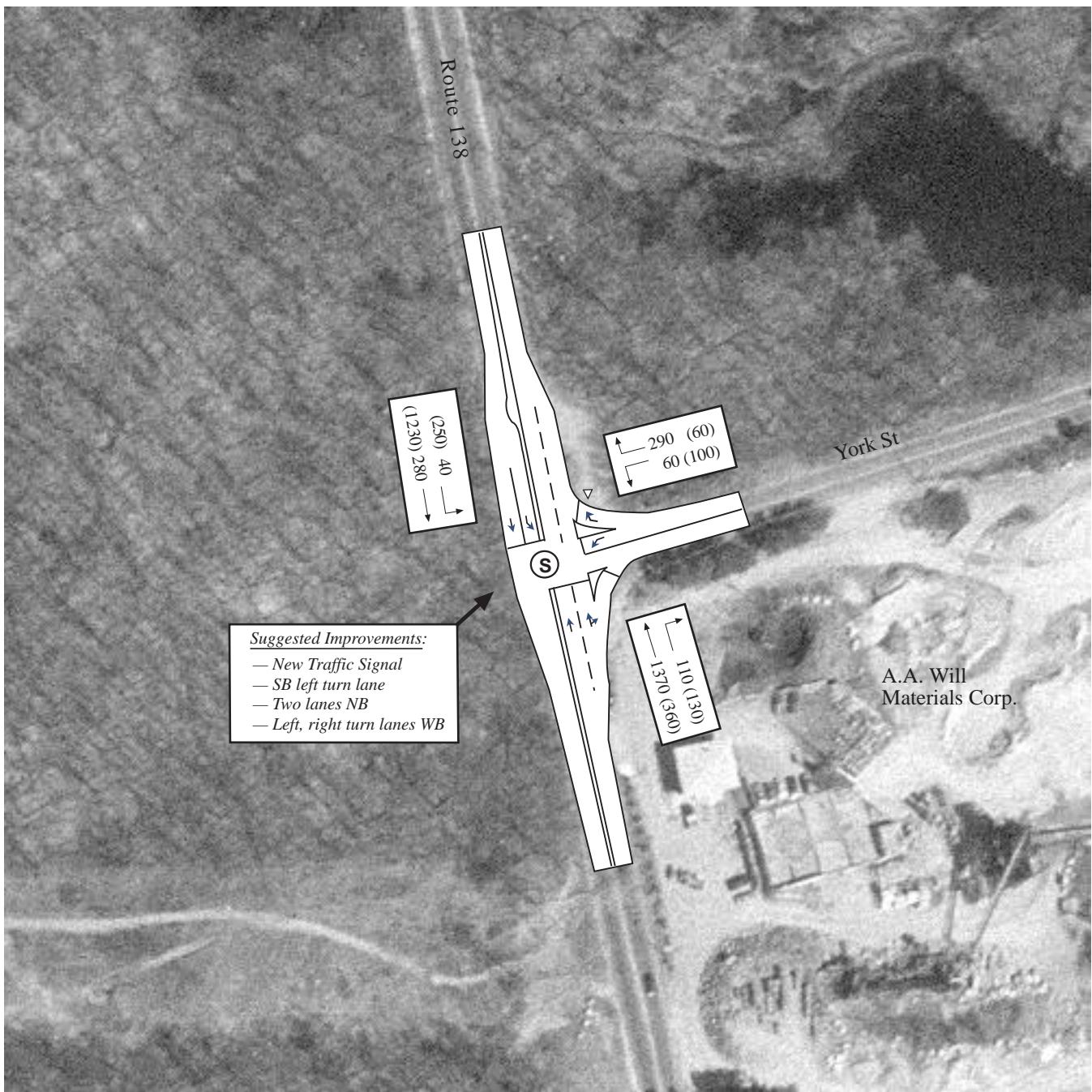
STOUGHTON

The Stoughton segment of the study area stretches from the Canton town line to Plain Street, a distance of 2.3 miles. Here, the abutters to Route 138 are predominantly commercial establishments: supermarkets, drug stores, gas stations, restaurants, cleaners, banks, photo shops, and small offices. Some residences exist throughout this segment, particularly south of Stoughton Square. Route 138 has mainly two travel lanes throughout Stoughton, but five-lane sections exist north and south of Central Street, a four-lane section in Stoughton Square, and a three-lane section (two-way center left-turn lane) between School Street and Lincoln Street.

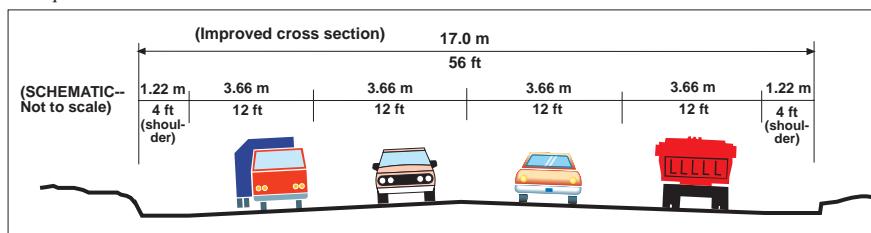
17 Concern: *"There are accidents, congestion, and difficult peak hour turning movements at Route 138 at York Street."*

Recommendation: This is a three-way intersection, with Route 138 on a steep incline. Two-way daily traffic volumes on Route 138 are about 24,000 at the Canton-Stoughton line, located 1,500 ft to the north of York Street. Figure 8 shows the 1999 AM and PM peak hour turning movements. Accident data from the Mass. Registry's 1995–1997 files listed 18 collisions, an average of 6.0 per year.

Since only four-hour traffic volumes were available on York Street, it could not be determined conclusively whether the intersection meets Signal Warrants 1 and 2. These require



Aerial photo source: MassGIS and MIT



KEY:

- = Stop
- ▽ = Yield
- (S) = Signal
- (F) = Flashing red/yellow

SCHEMATIC--Not to scale

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Route 138 Corridor
Planning Study

Figure 8

Route 138 at York St (Stoughton)
— *Suggested Intersection Improvements*
— *1999 AM (PM) Peak Hour Turning Movements*

eight hours of observed traffic volumes of sufficient magnitude; however, the four-hour volumes are of such levels that the intersection very likely meets Warrants 1 and 2. It meets Warrants 9, 10, and 11 easily (see Appendix D-3).

Therefore, it is recommended that a traffic signal be installed at this intersection. It is also recommended that the intersection be widened to allow a second travel lane northbound, an exclusive left-turn lane southbound, and exclusive left- and right-turn lanes westbound. The added lanes are required to yield acceptable LOS results. A four-lane cross section would result on Route 138, and given an available ROW of 60 ft, there should be ample space for four 12-ft lanes as well as painted shoulders/bicycle lanes on both sides. A “Signal Ahead” warning sign, similar to that recommended in Concern/Recommendation 7, should be installed south of the intersection near the crest of the hill. The recommended improvements would fall under MassHighway’s jurisdiction.

<u>ROUTE 138/YORK ST:</u>						
• Intersection LOS/Delay (1)	AM:	Turns	<u>1999</u>	<u>2020 No-Build</u>	<u>2020 Build</u> (new signal)	
		WB L,R	F / *	F / *	B / 10 (entire intersection)	
	PM:	SB L	C / 14	D / 21		
		WB L,R	F / *	F / *	D / 26	
		SB L	B / 5	B / 7	(entire intersection)	
<ul style="list-style-type: none"> Number of Collisions, 1995–1997 (Mass Registry): 18 (6.0 per year) Jurisdiction of Improvement(s): MassHighway 						
(1) = LOS is for the critical turning movements for unsignalized conditions; for the entire intersection for signalized conditions. Delay is in seconds. * = 75 or more seconds delay for signalized intersections, 60 or more seconds delay for unsignalized intersections.						

18 Concern: “A Route 138 driveway with poor sight distance to the north exists due to its location near the crest of a hill.”

Recommendation: There are four existing curb cuts accessing Albert’s Restaurant and other commercial establishments at #247 Washington Street (Route 138). Since the northernmost of the four driveways is located near a hillcrest, causing insufficient sight distance and potentially unsafe turning movements, *it is recommended that this driveway be closed, or converted to right-in only* (see Figure 9). Some or all of the remaining driveways may need some widening or upgrading should this recommendation be implemented. MassHighway and the town of Stoughton would be involved in adopting this improvement measure.

19 Concern: “There is an abundance of peak hour turning movements in the area of Route 138 at Central Street, causing accidents and increased congestion levels. This is primarily due to commercial driveways located near the intersection.”

Recommendation: *It is recommended that raised medians, ranging in length from 175 ft to 350 ft, be installed on the southbound, westbound, and northbound approaches to the intersection (see Figure 10).*

Operational analysis showed LOS F for current conditions at the intersection. The situation does not improve, of course, when 2020 volumes are analyzed, nor does it when changes are made to the cycle length, intervals, or phasings. An analysis was performed to see



Aerial photo source: MassGIS and MIT

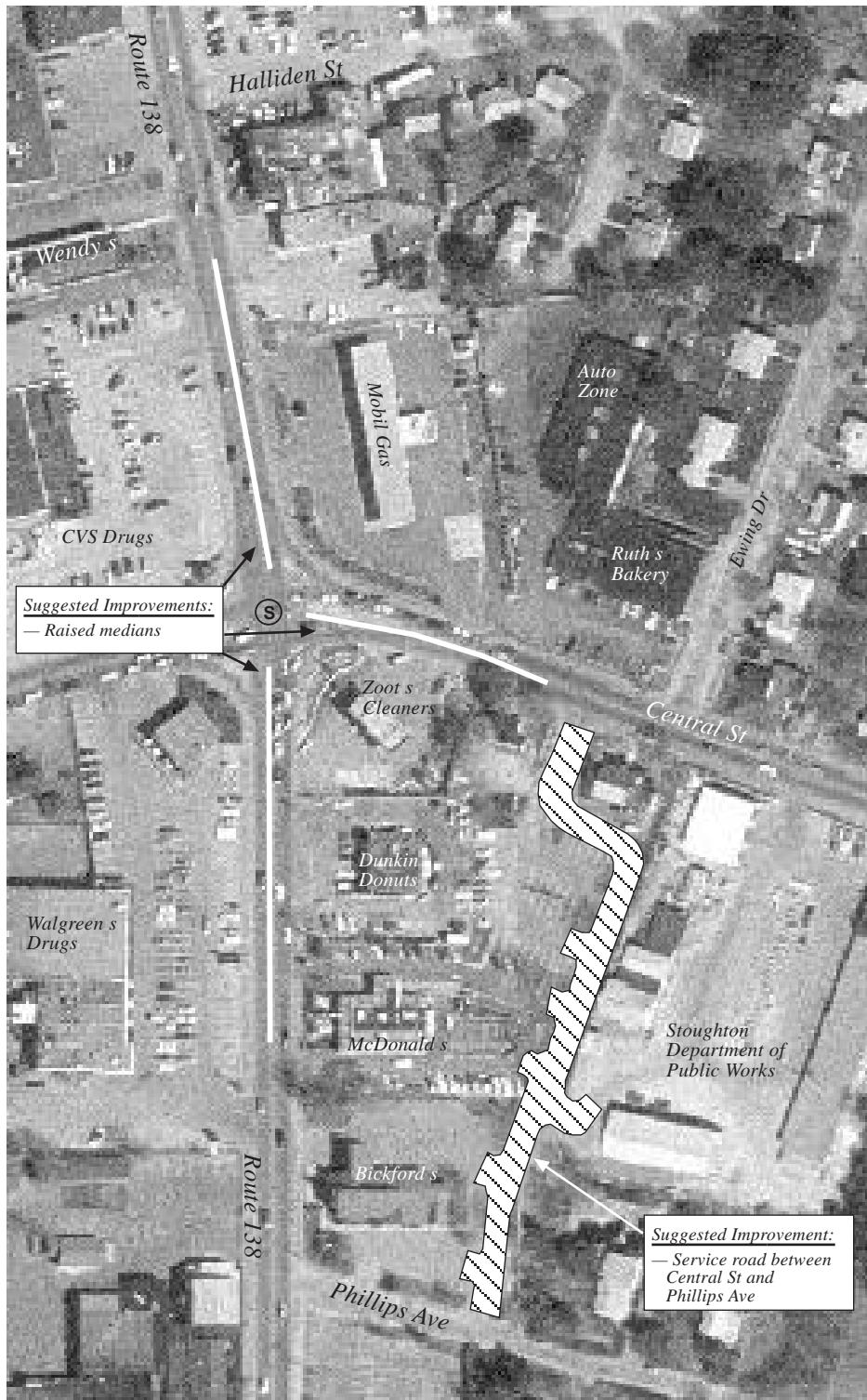
KEY:	S = Signal
● = Stop	F = Flashing red/yellow
▽ = Yield	① = Curb cuts to Albert's Restaurant/ #247 area
↑ SCHEMATIC-- Not to scale	

CTPS

**Route 138 Corridor
Planning Study**

Figure 9

**Route 138 at Albert's Restaurant/#247 (Stoughton)
— Suggested Closing/Altering of One of Four Curb Cuts**



Aerial photo source: MassGIS and MIT

KEY:
 ● = Stop (S) = Signal
 ▽ = Yield (F) = Flashing red/yellow
SCHEMATIC--
 Not to scale

CTPS
Route 138 Corridor
Planning Study

Figure 10
Route 138 at Central St (Stoughton)
— Suggested Raised Medians
— Suggested Service Road

how many additional lanes would be required to bring the LOS to D or better. It was found that an expansion of the current north-south five-lane cross section to nine lanes and of the current east-west five lanes to ten lanes would be required. It is very unlikely that such drastic capacity improvements would be pursued in order to reduce congestion at the intersection.

Figure 11 shows the AM and PM peak hour turning movements for the intersection and at the driveways of two of the southeast quadrant establishments, Dunkin' Donuts and McDonald's. From manual traffic counts, 130 left turns (90 in and 40 out) were observed at the Dunkin' Donuts driveway (AM peak hour). In order to make these left turns to or from Route 138 southbound, vehicles must first cross three northbound lanes with a combined AM peak hour volume of 1,000 vehicles, causing major interruption to northbound traffic.

The intersection has consistently been listed in MassHighway's top 1,000 "High Accident Locations." Even with reconstruction and capacity enhancement in 1995, collisions continue to occur, due to the large volume of traffic and commercial activity near the intersection.

Figures 12a, b, and c show collision diagrams for the Route 138 at Central Street area for 1997 through 1999.¹² The figures show 119 accidents (almost 40 per year), 98 of which were angle collisions. The vast majority of these involved either the Dunkin' Donuts or McDonald's driveways in the southeast, the CVS driveway in the northwest, or the Auto Zone/Ruth's Bakery/Mobil station driveways in the northeast.

It appears that the only means of reducing collisions and congestion is through geometric changes designed to channelize traffic in the general area of the intersection. The recommended improvement of raised medians on the three approaches would eliminate all left turns in and out of Dunkin Donuts, Zoot's Cleaners, CVS's Route 138 driveway (CVS's Central Street driveway would not be affected), and the Auto Zone, Ruth's Bakery, and Mobil gas station.

Since improving safety is the main concern, due to the large number of collisions, the medians are being recommended despite the fact that some businesses may be affected by the improvements. Therefore, *a second, accompanying recommendation is that a service road be created behind the businesses in the southeast quadrant.* This would mitigate the reduced access which the raised medians would effect. McDonald's currently has direct access to Central Street via its second driveway. It is recommended that access to this driveway be made available to Dunkin' Donuts and Bickford's as well, while extending the service road southward to Phillips Avenue.

From the recommended improvements, overall safety levels would improve throughout the intersection. It is acknowledged that the available ROW may not be sufficient to install medians totalling about six feet in width. Currently, there are five travel lanes within a 60-ft ROW. A small strip of land may need to be taken from the southwest quadrant, the parking area in the Walgreen's plaza, in order to accommodate this widening. Jurisdiction for adding the raised medians would be MassHighway's. The recommended service road between Central Street and Phillips Avenue would require cooperation between the various business owners and Stoughton town officials.

¹² These reported collisions, obtained from the Stoughton Police Department, occurred *since* the intersection was reconstructed in 1995.

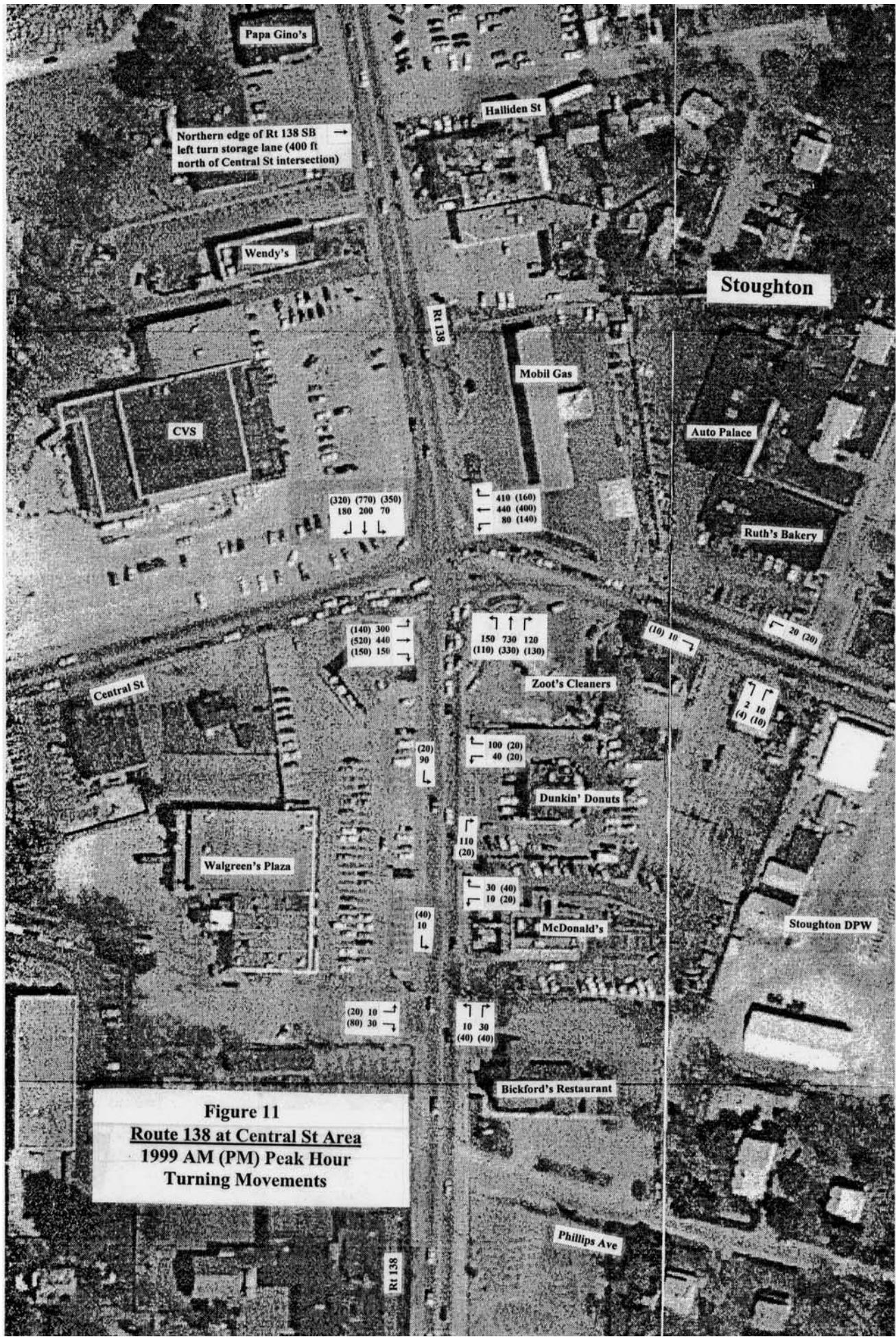


Figure 11
Route 138 at Central St Area
1999 AM (PM) Peak Hour
Turning Movements