# CHAPTER 183

#### **Becky Thompson**

From: Kyle Fox

Sent: Thursday, November 09, 2017 8:10 AM

To: Becky Thompson

Cc: Eileen Cabanel; Paul Micali

Subject: Updated Town Codes for Public Hearing

Attachments: Chapter 169 - Streets and Sidewalks PUBLIC HEARING.doc; Chapter 163 fka 138 - Solid

Waste Facility PUBLIC HEARING.doc; Chapter 183 - Vehicles Traffic PUBLIC

HEARING.doc; Chapter 81 Waterlines PUBLIC HEARING.doc; Town Code Change Summary

Spreadsheet\_PUBLIC HEARING.xls; Traffix Signal Warrant Analysis 12-18-06.pdf

Importance: High

Hi Becky,

Please find attached the Town Code sections that were updated due to feedback received during the First Reading. I have also included an updated spreadsheet documenting the proposed changes in these versions.

Also attached to this email is a traffic signal analysis for the Madeline Bennett signal from December 2006. The summary of the study recommends the traffic signal as it meets 1 of the 8 signal warrants (Peak Hour Vehicular Volume). The study also recommends that the intersection be timed so that it operates in two phases as is normal with traffic signals instead of the current 4 phase configuration - I concur with that recommendation and would suggest that we make the change in timing following this school year, including adding the signs for left turn yield on green ball.

In Chapter 169 I removed the changes to section 4, plowing snow across the road, so it is now unchanged from the previously approved version.

Please let me know if you have any questions.

Kyle

#### Kyle Fox, PE

Public Works Director Public Works Department 6 Baboosic Lake Road Merrimack, NH 03054 (603) 424-5137

https://www.facebook.com/MerrimackDPW

## Chapter 183, VEHICLES AND TRAFFIC

[HISTORY: Adopted 12-18-1986 by the Board of Selectmen; Amended by the Merrimack Town Council 5/12/2011; 2/23/2012; 10/22/15; 9/8/2016. Amendments noted where applicable.]

#### **GENERAL REFERENCES**

Bicycles -- See Ch. 101.

Emergency and fire lanes -- See Ch. 123.

Police Department -- See Ch. A198, Art. XVII.

Highway Safety Committee -- See Ch. A198, Art. XXX.

#### **ARTICLE I, General Provisions**

#### § 183-1. Amendments.

The provisions of this chapter may be amended by ordinance of the Town Council.

#### § 183-2. Repealer.

All prior ordinances, other enactments or parts of such of this Town regulating traffic and parking are hereby repealed, except that this repeal shall not affect or prevent the prosecution or punishment of any person for any act done or committed in violation of any ordinance or enactment hereby repealed prior to the taking effect of this chapter. This provision shall not apply to any Code sections or ordinances previously adopted and which may currently be a part of the Code of the Town of Merrimack.

#### § 183-3. Severability.

If any article, section, subsection, paragraph, sentence, clause or provision of this chapter shall be adjudged by any court of competent jurisdiction to be invalid, such adjudication shall not affect, impair or invalidate the remainder thereof but shall be confined in its operation to the article, section, subsection, paragraph, sentence, clause or provision thereof directly involved in the controversy in which such judgment shall have been rendered.

#### § 183-4. Traffic control.

Authorization is hereby conferred upon the Department of Public Works, Police Department and Fire Department to erect, construct and maintain the appropriate signs and signals in order to carry out the provisions of this chapter. It shall be unlawful for the driver of any vehicle to disobey the instructions of any traffic sign or signal placed in view in accordance with this chapter or state law, except upon the direction of any person authorized to control and regulate traffic, pursuant to RSA's 265:3 (Police Officers), 265:3-a (School Crossing Guards) & 265:3-b (Flag Persons).

#### **ARTICLE II, Traffic Regulations**

#### § 183-5. Violations and penalties.

Any person, firm or corporation violating the provisions of this article shall, for each violation and upon conviction thereof, pay a fine of not more than \$500.

## § 183-6. Travel restricted on certain streets.

- A. Only emergency vehicles shall be allowed to use the access to the F.E. Everett Turnpike off O'Gara Drive.
- B. Only Authorized and Emergency Vehicles are authorized to use Valleyview Drive between the posted signs indicating "AUTHORIZED AND EMERGENCY VEHICLES ONLY".

[For the purpose of this ordinance, "Authorized Vehicles" are defined as vehicles owned by the Town of Merrimack and includes, but is not limited to those of the Merrimack Police, Merrimack Fire Rescue and Public Works Departments. "Emergency Vehicles" are defined as such under RSA 259:28]

## § 183-7. Through trucking restricted.

- A. Through trucking shall not be permitted on any of the streets and parts of streets indicated in Schedule I, Through Truck Restrictions (§ 183-28), during the periods indicated.
- B. The term truck is defined by RSA 259:115-b: "Truck" shall mean every motor vehicle designed, used or maintained primarily for the transportation of property.
- C. State and local fire apparatus, state and local police vehicles, licensed ambulances and other motor vehicles, when special permits are granted by the Town of Merrimack to said motor vehicles, may enter and operate on any of the streets and highways described in Subsection A in the performance of their official duties or in accordance with the terms and conditions of the special permit. Permits required by this provision shall be issued by the Merrimack Police Department.

## § 183-8. School zone speed limits.

It shall be unlawful to operate any vehicle in excess of the speeds indicated in Schedule II, School Zone Speed Limits (§ 183-29), in the locations indicated at times when the flashing yellow "school zone" signs are in operation, or as may be otherwise posted.

## § 183-9. Speed limits.

A. It shall be unlawful to operate any vehicle at a speed greater than 30 mph unless otherwise posted. Speed limit signs entering the Town of Merrimack shall be posted at the following locations:

Chapter 183, Vehicles and Traffic - Merrimack Town Code

- 1. Daniel Webster Highway (Route 3), northbound lane by Greeley Street. (Amended by Town Council May 12, 2011)
- 2. Tinker Road by Thornton Road.
- 3. Stuart Drive by Tinker Road and Thornton Road.
- 4. Naticook Road by Pennichuck Square Shopping Center.
- 5. Boston Post Road at the intersection of Seaverns Bridge Road.
- 6. Wilson Hill Road by the Amherst Town line.
- 7. Back River Road by the Bedford Town line.
- 8. Wire Road by the Bedford Town line.
- 9. South Baboosic Lake Road at the Amherst Town line.
- 10. Daniel Webster Highway (Route 3), southbound by Bedford Road.
- 11. Pearson Road at the Bedford Town line.
- 12. Lawrence Road at the Bedford Town line.
- 13. Stowell Road at the Bedford Town line.
- 14. Woodward Road at the Bedford Town line.
- 15. Baboosic Lake Road at the Amherst Town line.
- 16. Boston Post Road at the Amherst Town line.
- 17. Craftsman Lane at the Amherst Town line.
- 18. Manchester Street at the Nashua Town line.
- 19. Boston Post Road at Milford Road (Rte 101A) (Added by Town Council May 12, 2011).
- 20. Bedford Road at Bedford Town line (Added by Town Council May 12, 2011).
- 21. Bedford Road at Davis Road (Added by Town Council May 12, 2011).
- 22. Camp Sargent Road at Gull Lane (Added by Town Council May 12, 2011).
- B. It shall be unlawful to operate any vehicle in excess of the speeds indicated in Schedule III, Speed Limits (§ 183-30), in any of the locations indicated.

#### § 183-10. Stop intersections.

The intersections described in Schedule IV, Stop Intersections (§ 183-31), are hereby designated as stop intersections.

#### § 183-11. Yield intersections.

The intersections described in Schedule V, Yield Intersections (§ 183-32), are hereby designated as yield intersections.

#### § 183-12. Traffic control signals.

Traffic control signals shall be installed and operated at the location of those streets described in Schedule VI, Traffic Control Signals (§ 183-33), attached to and made a part of this chapter.

#### § 183-13. Prohibited turns at intersections.

No person shall make a turn of the kind designated (left, right, all or U-turn) at any of the locations described in Schedule VII, Prohibited Turns at Intersections (§ 183-34), attached to and made a part of this chapter.

#### § 183-14. One-way streets.

The streets and parts of streets described in Schedule VIII, One-Way Streets (§ 183-35), are hereby designated as one-way streets.

#### **ARTICLE III, Parking Restrictions**

#### § 183-15. Definitions.

As used in this article, the following terms shall have the meanings indicated:

PUBLIC STREETS and HIGHWAYS -- All ways serviced by public snow removal equipment and all streets accepted by the Town.

#### § 183-16. Removal of vehicles.

In addition to all other penalties, fines or violations imposed under this article, all vehicles found in violation of this article may be removed by order of the Police Department. Costs of such removal and of subsequent storage of removed vehicles shall be paid by the vehicle owners prior to release of such vehicles to said owners.

#### § 183-17. All-night parking in winter.

No vehicle or trailer shall be parked on any public street or highway between the hours of 11:00 p.m. and 6:00 a.m. from November 15 to April 15.

#### § 183-18. Impeding snow removal.

No vehicle or trailer shall be parked on any public street or highway between November 15 and April 15 in such a manner as to impede snow removal.

## § 183-19. Parking prohibited at all times. [Amended by the Board of Selectmen 9-17-1987]

- A. No person shall park a vehicle or trailer at any time upon any of the streets or parts of streets thereof described in Schedule IX, Parking Prohibited at All Times (§ 183-36), attached to and made a part of this chapter.
- B. Except when necessary to avoid conflict with other traffic, or in compliance with law or the directions of a police officer or official traffic control device, no person, except a person driving an emergency vehicle, shall:
  - (1) Stop, stand or park a vehicle:
    - (a) On the roadway side of any vehicle stopped or parked at the edge or curb of a street.
    - (b) On a sidewalk.
    - (c) Within an intersection.
    - (d) On a crosswalk.
    - (e) Between a safety zone and the adjacent curb or within 30 feet of points on the curb immediately opposite the ends of a safety zone.
    - (f) Alongside or opposite any street excavation or obstruction when stopping, standing or parking would obstruct traffic.
    - (g) Upon any bridge or other elevated structure upon a way or within a highway tunnel.
    - (h) On any railroad tracks.
    - (i) At any place where official signs prohibit stopping.
    - (j) In any parking place, whether on public or private property, specially designated for the physically handicapped by means of a sign stating that the space is reserved for the physically handicapped or displaying the wheelchair symbol as defined in RSA 275-C:9, I(a), unless that person has special number plates, a number plate decal or a tag or card issued pursuant to RSA 261:86, 87 or 88.
    - (k) On any controlled access highway.
    - (l) In the area between roadways of a divided highway, including crossovers.

- (2) Stand or park a vehicle, whether occupied or not, except momentarily to pick up or discharge a passenger or passengers:
  - (a) In front of a public or private driveway.
  - (b) Within 15 feet of a fire hydrant.
  - (c) Within 20 feet of a crosswalk at an intersection.
  - (d) Within 30 feet upon the approach to any flashing signal, stop sign or traffic control signal located at the side of a roadway.
  - (e) Within 20 feet of the driveway entrance to any fire station, and on the side of a street opposite the entrance to any fire station within 75 feet of said entrance when properly posted by a sign.
  - (f) At any place where official signs prohibit standing.

#### § 183-20. Overnight parking.

- A. No person shall park any of the following defined vehicles on any street or highway in the Town of Merrimack for a period of time longer than 30 minutes between the hours of 11:00 p.m. and 5:00 a.m., local time, of any day, except persons on emergency calls:
  - (1) Camper: A separate vehicle designed for human habitation and which can be attached or detached from a pickup truck.
  - (2) Motor home: A self-contained vehicle, designed for human habitation, with its own motive power and with a passageway from the body of the home to the driver's and front passenger's seat.
  - (3) Trailer: A vehicle without motive power, designed for carrying persons or property on its own structure and to be drawn by a vehicle with motive power. The term "trailer" shall include trailer coach, semitrailer, travel trailer or utility trailer.
  - (4) Motor truck: Any motor vehicle with an empty weight of more than 5,000 pounds.
- B. Notwithstanding the above provisions, the Chief of Police may grant, at his discretion, if traffic and safety considerations permit, permission to park a vehicle on any street or highway for a period of time not to exceed 48 hours.

## § 183-21. Violations and penalties.

Any person, firm or corporation violating the provisions of this article shall, for each violation and upon conviction thereof, pay a fine of not more than \$500.

#### § 183-22. Registered owners.

Any motor vehicle parked or left in violation of any part of this article shall be presumed to have been left by the registered owner thereof. Such presumption shall be prima facie evidence of responsibility for such violation.

## **ARTICLE IV, (Reserved)**

#### §§ 183-23. through 183-27. (Reserved)

#### **ARTICLE V, Schedules**

## § 183-28. Schedule I: Through Truck Restrictions.

In accordance with the provisions of § 183-7, there shall be no through trucking on the following streets or parts thereof:

Name of Street	Hours/Days	Limits	<b>Action Date</b>
Back River Road	All/All	From Bedford Road north to	Added by
		Bedford Town Line	BOS 6/21/01
Bishop Street	All/All	Entire length in east and	Added by
		west directions	BOS 2/16/95
Camp Sargent Road	9:00 PM to 6:00	From Amherst Road to	Amended by
	AM/All	Continental Boulevard	Town Council
			5/12/2011
Camp Sargent Road	9:00 PM to 6:00	From Continental Boulevard	Amended by
	AM/All	to Tinker Road	Town Council
			5/12/2011
Depot Street	9:00 PM to 7:00	From Daniel Webster	Added by
(200)	AM/All	Highway (Route 3) to the	BOS 10/17/88
		railroad tracks	
Mill Street	9:00 PM to 7:00	From Front Street to Depot	Added by
	AM/All	Street	BOS 10/17/88
Naticook Road	9:00 PM to 6:00	From Camp Sargent Road to	Amended by
	AM/All	Continental Boulevard	Town Council
			5/12/2011
Pleasant Street	9:00 PM to 7:00	From Maple Street to Depot	Added by
	AM/All	Street	BOS 10/17/88

Tinker Road	12:00 midnight to 11:59	Intersection of Camp	Added by
SULVE COST - PROTOPORTO SULVEY - SABOLAT STABOLAT STABOLA	p.m./All	Sargent Road/Drouin Way	BOS 9/17/87
	•	and Tinker Road (south) to	
		the intersection of Tinker	
		Road and Stuart Drive	
Camp Sargent Road-	9:00 PM to 6:00 AM/all	From Thorntons Ferry	Repealed by
Naticook Road		interchange of FEE	Town Council
		Turnpike to Route 101A	5/12/2011

## § 183-29. Schedule II: School Zone Speed Limits.

A. In accordance with the provisions of § 183-8, it shall be unlawful to operate a vehicle in excess of the indicated speed in the following locations when the flashing yellow "school zone" signs are in operation:

Name of Street	Speed Limit (mph)	Limits
Baboosic Lake Road	20	From McElwain Street to O'Gara Drive
Camp Sargent Road	20	Between the 2 "school zone" speed signs

B. In accordance with the provisions of § 183-8, it shall be unlawful to operate a vehicle in excess of the indicated speed in the following locations when passing a school during recess or while children are going to or leaving school during opening or closing hours:

Name of Street	Speed Limit (mph)	Limits
Pearson Road	20	Between the two "school zone" speed signs

## § 183-30. Schedule III: Speed Limits.

In accordance with the provisions of § 183-9, it shall be unlawful to operate a vehicle in excess of the indicated speed in any of the following locations:

Name of Street	Speed Limit (mph)	Limits
Amherst Road	35	From Lester Road west to Seaverns Bridge Road
Baboosic Lake Road	35	From the intersection of Bean Road west to the Amherst Town line

Continental Boulevard	35	West from the intersection of Greeley Street
		and Camp Sargent Road to Camp Sargent
		Road

## § 183-31. Schedule IV: Stop Intersections.

As provided in  $\S$  183-10, the following described intersections are hereby designated as stop intersections, and stop signs shall be installed as follows: <sup>EN</sup>

Street	Intersection	Qualifier	Action Date
Abby Road	Peaslee Road		Added by BOS 1/4/96
Al Paul Lane	Manchester Street		Added by Town Council 5/12/2011
Allen Drive	Hilton Drive		Added by BOS 2/16/95
Angelo Lane	Daniel Webster Highway		Added by BOS 6/15/00
Arbor Street	Camp Sargent Road		
Ash Lane	Baboosic Lake road		Added by BOS 1/2/97
Atherton Road	John Lane		Added by Town Council 5/12/2011
Balsam Lane	Turkey Hill Road		Added by BOS 1/2/97
Bambi Trail	Baboosic Lake Road		
Bancroft Street	Newton Street	Northeast intersection	
Bancroft Street	Newton Street	Southwest intersection	
Bancroft Street	Turkey Hill Road		
Barbie Court	Pearson Road		Added by Town Council ??/??/2017
Bates Road	Peaslee Road		
[Barbie Court	Pearson Road		Added by Town Council ??/??/2017]
Bates Road	Seaverns Bridge Road		

<sup>&</sup>lt;sup>1</sup>Editor's Note: Stop signs shall be installed on streets listed in the first column, unless noted elsewhere.

Street	Intersection	Qualifier	Action Date
Beacon Drive	Turkey Hill Road	East intersection	
Beacon Drive	Turkey Hill road	West intersection	
Bean Road	Baboosic Lake Road		
Bean Road	Bedford Road		=
Bean Road	Woodward Road		
Beaver Brook	Patten Road		Added by BOS 1/2/97
Bedford Road	Wire Road	East and west intersection	
Beebe Lane	South Baboosic Lake Road		Added by BOS 1/2/97
Beech Street	Camp Sargent Road		
Bel Aire Avenue	McGaw Bridge Road	North intersection	Added by BOS 6/15/00
Bel Aire Avenue	McGaw Bridge Road	South intersection	Added by BOS 6/15/00
Belmont Drive	Back River Road		
Berry Lane	Amherst Road		
Bigwood Drive	Turkey Hill Road	North intersection	
Bigwood Drive	Turkey Hill Road	South intersection	
Birch Street	Currier Road	Both sides	Added by BOS 9/17/87; amended by BOS 6/15/00
Bishop Street	McElwain Street	East and west intersection	
Blueberry Court	Four Winds Road		Added by Town Council 5/12/2011
Bon Avenue	Turkey Hill Road		
Boston Post road	Craftsman Lane		Added by Town Council 5/12/2011
Bradford Drive	Belmont Drive		Added by BOS 2/16/95
Bramber Lane	Bedford Road		Added by BOS 1/2/97
Brant Drive	Mallard Point	100	Added by BOS 2/16/95
Brenda Lane	Bedford Road		Added by Town Council 5/12/2011

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Street	Intersection	Qualifier	Action Date
Brenda Lane	Whispering Pines Lane	South entrance	Added by BOS 1/4/96
Bretton Drive	Columbia Circle		Added by BOS 12/6/01
Bridle Path	Woodward Road		Added by BOS 1/2/97
Brieann Drive	Bean Road		Added by Town Council 12/15/2011
Brieann Drive	West Road		Added by Town Council 12/15/2011
Brookfield Drive	Back River Road	North intersection	
Brookfield Drive	Back River Road	South intersection	
Brookside Drive	Patten Road	North and south intersections	Added by BOS 11/2/89
Bryant Circle	Wire Road		Added by BOS 1/2/97
Bryce Drive	Amherst Road		
Buck Meadow Lane	Wire Road		Added by BOS 11/2/89
Cabot Road	Cathy Street		
Cabot Road	Woodridge Road	East and west intersections	Added by BOS 10/17/88; amended by BOS 6/15/00
Cambridge Drive	Continental Boulevard		Added by Town Council 5/12/2011
Cambridge Drive	Ingham Road		Added by Town Council 5/12/2011
Camp Sargent Road	Continental Boulevard	South intersection	
Camp Sargent Road	Naticook Road	North intersection	Added by Town Council 5/12/2011
Camp Sargent Road	Naticook Road	South intersection	Added by Town Council 5/12/2011
Carrie Drive	Patten Road		Added by BOS 1/2/97
Carter Road	Baboosic Lake Road		Added by BOS 2/16/95
Castleton Court	Camp Sargent Road		Added by BOS 1/2/97
Cathy Street	Bedford Road		Added by Town Council 5/12/2011
Cathy Street	Constance Street		
Catskill Drive	Bedford Road		Added by BOS 6/15/00
Catskill Drive	Wire Road		Added by BOS 11/2/89

Street	Intersection	Qualifier	Action Date
Cavalier Country Lane	Baboosic Lake Road		Added by BOS 1/2/97
Cedar Lane	Camp Sargent Road		
Center Street	Front Street	North intersection	
Center Street	Front Street	South intersection	
Chadsworth Court	Bedford Road		Added by Town Council 5/12/2011
Chapel Lane	Daniel Webster Highway		Added by BOS 1/2/97
Charles Road	Bates Road		Added by BOS 1/2/97
Christopher Road	West Chamberlain Road		Added by Town Council 5/12/2011
Christopher Road	Wildcat Falls Road		Added by Town Council 5/12/2011
Church Street	Baboosic Lake Road		
Church Street	Daniel Webster Highway		
Collins Avenue	Buck Meadow Lane	East/West	Added by BOS 9/19/02
Columbia Circle	Columbia Circle		Added by BOS 2/16/95
Columbia Circle	Daniel Webster Highway		Added by BOS 11/2/89
Conservation Drive	Linden Way		Added by Town Council 5/12/2011
Cota Road	Iris Drive	South	Added by BOS 2/16/95
Cota Road	Turkey Hill Road		Added by BOS 2/16/95
Country Club Lane	Back River Road		Added by BOS 10/17/88
Courtland Drive	Baboosic Lake Road		
Cramer Hill Road	Seaverns Bridge road	North intersection	Added by BOS 6/15/00
Cramer Hill Road	Seaverns Bridge road	South intersection	Added by BOS 6/15/00
Crane Lane	Ichabod Drive		Added by Town Council 5/12/2011

Street	Intersection	Qualifier	Action Date
Cranston Circle	Whittier Road		Added by Town Council 5/12/2011
[Crestview Circle	Lawrence Road		Added by Town Council ??/??/2017]
Cross Street	Amherst Road		
[Crows Nest Circle	Mast Road		Added by Town Council ??/??/2017]
Cummings Road	Naticook Road		Added by Town Council 5/12/2011
Currier Road	Baboosic Lake Road		
Cynthia Road	Naticook Road		
Dahl Road	Peaslee Road		Added by BOS 1/2/97
Danbury Drive	Baboosic Lake Road	Both directions	Amended by BOS 12/18/03
Danforth Road	Naticook Road		Added by Town Council 5/12/2011
Danville Circle	Whittier Road		Added by Town Council 5/12/2011
Davidson Avenue	Amherst Road		Added by BOS 1/2/97
Davis Road	Bedford Road		
Den Avenue	Turkey Hill Road		
Dena Avenue	Erik Street		Added by Town Council 5/12/2011
Dena Avenue	Peaslee Road		Added by BOS 1/2/97
Depot Street	Daniel Webster Highway		
Derry Street	Burt Street	Both directions	Added by BOS 10/17/88
Derry Street	Joppa road		
Dick Drive	Baboosic Lake Road		Added by BOS 2/16/95
Dirt Road	Naticook Road		Added by Town Council 5/12/2011
Dolly Road	Front Street		Added by Town Council 5/12/2011
Drake Lane	Mallard Point		Added by BOS 1/16/95
Drouin Way	Tinker Road		

Street	Intersection	Qualifier	Action Date
[Dumas Lane	Brieann Drive		Added by Town Council ??/??/2017]
Dunbarton Road	Tinker Road		Added by Town Council 5/12/2011
Dunloggin Drive	Joppa Road		
Dwyer Street	Woodward Road		Added by BOS 1/2/97
Eagle Drive	Wire Road		Added by BOS 11/2/89
East Chamberlain Road	Daniel Webster Highway		
Eden Street	Turkey Hill Road		
Edgewood Avenue	Baboosic Lake Road		
Edward Lane	John Lane	West intersection	Added by Town Council 5/12/2011
Edward Lane	John Lane	East intersection	Added by BOS 2/16/95
Ellie Drive	Jessica Drive		Added by Town Council 5/12/2011
Ellie Drive	McQuestion Road		Added by Town Council 5/12/2011
Elm Street	Daniel Webster Highway		
Elm Street	Front Street	Both directions	Added by Town Council 5/12/2011
Englewood Drive	Whittier Road		Added by Town Council 5/12/2011
Erik Street	Greenleaf Street	Both directions	Added by Town Council 5/12/2011
Fairway Drive	Back River Road		
Falcon Drive	Bedford Road		Added by BOS 11/2/89
Farmer Road	Amherst Road		Added by BOS 1/2/97
Farrar Lane	Wire Road		Added by BOS 11/2/89
Fields Farm Road	Peaslee Road		Added by BOS 10/17/88
Findlay Way	Englewood Drive		Added by Town Council 5/12/2011
Forest Drive	Joppa road		

Street	Intersection	Qualifier	Action Date
Four Seasons Lane	South Baboosic Lake Road		Added by BOS 1/2/97
Four Winds Road	Bates Road		Added by BOS 1/2/97
Fox Meadow Lane	Meetinghouse Road	East intersection	Added by Town Council 5/12/2011
Fox Meadow Lane	Meetinghouse Road	West intersection	Added by Town Council 5/12/2011
Franconia Drive	Joppa Road		
Freedom Street	Independence Drive	North intersection	Added by Town Council 5/12/2011
Freedom Street	Independence Drive	South intersection	Added by Town Council 5/12/2011
French Court	Woodward Road		Added by Town Council 5/12/2011
Front Street	Elm Street	4-way	Amended by BOS 2/16/95
Front Street	Maple Street	Both directions	Added by BOS 10/17/88
Fuller Mill Road	Amherst Road		Added by BOS 1/2/97
Gail Road	Joey Road		Added by BOS 10/17/88
Gauthier Road	Peaslee Road		Added by BOS 1/2/97
Glenwood Lane	Baboosic Lake Road		
Glenwood Lane	Joppa Road		
Grapevine Road	Pearson Road		Added by Town Council 11/18/2010
Greatstone Drive	Baboosic Lake Road		Added by BOS 1/2/97
Greenleaf Street	Erik Street	Both directions	Added by Town Council 5/12/2011
Greenleaf Street	Seaverns Bridge road		Added by BOS 1/2/97
Greens Pond Road	Continental Boulevard		
Greens Pond Road	Naticook Road		Added by BOS 1/2/97
Greenwich Drive	Patten Road		Added by BOS 1/4/96
Greenwood Road	South Baboosic Lake Road		Added by Town Council 5/12/2011
Hadley Road	McElwain Street	North intersection	Added by Town Council 5/12/2011

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Street	Intersection	Qualifier	<b>Action Date</b>
Hadley Road	McElwain Street	South intersection	Added by Town Council 5/12/2011
Haines Terrace	Peaslee Road		
Haise Way	Bedford Road		Added by BOS 1/2/97
Halletts Way	Baboosic Lake Road		
Halletts Way	Joppa Road		Added by BOS 1/2/97
Hamilton Court	Pearson Road		Added by Town Council ??/??/2017
Hamlet Circle	Woodward Road		Added by BOS 1/2/97
Hampstead Road	Tinker Road		Added by Town Council 5/12/2011
Hancock Lane	Baboosic Lake Road	A CONTRACTOR OF THE CONTRACTOR	
Hansom Drive	Bates Road		Added by BOS 1/2/97
Harrington Drive	Wilson Hill Road		Added by Town Council 5/12/2011
Harris Avenue	Daniel Webster Highway		
Hartwood Drive	Independence Drive		Added by Town Council 5/12/2011
Hartwood Drive	Joppa Road		
Hartwood Drive	Woodland Drive	Both directions	Added by Town Council 5/12/2011
Hassell Road	Naticook Road		Added by Town Council 5/12/2011
Henry Clay Drive	Daniel Webster Highway		Added by Town Council 5/12/2011
Heritage Drive	Patten Road		Added by BOS 1/2/97
Herrick Street	Daniel Webster Highway		
Herrick Street	King Street	Both directions	Added by Town Council 5/12/2011
Hillside Terrace	Baboosic Lake Road		Added by BOS 10/17/88
Hillside Terrace	Wire Road		

Street	Intersection	Qualifier	<b>Action Date</b>
Hilton Drive	Daniel Webster		
SX II.	Highway		
Hitchinpost Lane	Woodward Road		Added by BOS 1/2/97
[Holts Landing	Tinker Road		Added by Town Council ??/??/2017]
Hoyt Street	Daniel Webster Highway	North intersection	
Hoyt Street	Daniel Webster Highway	South intersection	
Hutchinson Road	Naticook Road		Added by Town Council 5/12/2011
Ichabod Drive	Wire Road		Added by Town Council 5/12/2011
Independence Drive	Baboosic Lake Road		Added by Town Council 5/12/2011
Ingham Road	Camp Sargent Road		
Iris Drive	Cota Road	North	Added by BOS 2/16/95
Iris Drive	Turkey Hill Road		
Island Drive	D.W. Drive		Added by Town Council 9/8/2016
Island Drive Ext.	Daniel Webster Highway		
Ivy Drive	Wire Road		Added by BOS 11/2/89
Jade Road	Turkey Hill Road		Added by BOS 1/2/97
Jakes Lane	Patten Road	North and south intersection	Added by BOS 11/2/89
Jason Drive	Wire Road		Added by BOS 1/2/97
Jebb Road	Baboosic Lake Road		Added BOS 1/2/97
Jefferson Drive	Bean Road		Added BOS 1/2/97
Jessica Drive	Baboosic Lake Road		Added by Town Council 5/12/2011
Jessica Drive	Ellie Drive	Both directions	Added by Town Council 5/12/2011
Jessica Drive	Jessica Drive		Added by Town Council 5/12/2011
Jo Ellen Drive	Amherst Road		200

Street	Intersection	Qualifier	Action Date
Jo Ellen Drive	Sunrise Drive		
Joanne Street	Cathy Street		
Joey Road	Naticook Road		
John Lane	Edward Lane		Added by Town Council 5/12/2011
John Lane	Wildcat Falls		Added by BOS 2/16/95
	Road		
Joppa Road	Baboosic Lake	North and south	
	Road	intersection	
Joppa Road	Bedford Road		Amended by Town Council 5/12/2011
Joppa Road	Turkey Hill Road		
Kendall Court	Grapevine Drive		Added by Town Council 11/18/2010
King Street	Herrick Street	Eastbound	Added by BOS 1/4/96
King Street	Herrick Street	Westbound	Added by BOS 1/4/96
Kittredge Lane	Davis Road		Added by Town Council 5/12/2011
Klara Drive	Bean Road		Added by Town Council 5/12/2011
Knollwood Drive	Joppa Road		Added by BOS 1/2/97
Kyle road	Dahl Road		Added by BOS 6/15/00
Lamson Drive	Naticook Road	North Intersection	
Lamson Drive	Naticook Road	South Intersection	
Landau Way	Seaverns Bridge Road		Added by BOS 1/2/97
Lawrence Road	Bedford Road		
Leblanc Lane	Tinker Road		Added by Town Council 5/12/2011
Lesa Drive	Baboosic Lake Road		Added by BOS 2/16/95; amended by BOS 6/15/00
Lester Road	Amherst Road		Added by BOS 1/2/97; amended by BOS 6/15/00
Lilac Court	Bedford Road		Added by Town Council 12/15/2011
Linda Lane	McQuestion road		Added by Town Council 5/12/2011

Street	Intersection	Qualifier	Action Date
Lois Lane (Formerly	Bedford Road		Added by BOS 2/16/95;
Whispering Pines Lane)			Amended by Town Council
			12/15/2011
Lois Lane (Formerly	Wire Road		Amended by BOS 6/15/00;
Whispering Pines Lane)			Amended by Town
			Council 12/15/2011
Longa Road	Baboosic Lake		Added by BOS 1/2/97
	Road		
Loop road	Daniel Webster	South intersection	Added by BOS 11/2/89
	Highway		74
Loop Road	Daniel Webster	North intersection	
	Highway		
Lorraine Road	Naticook Road		
Lyons Road	Pearson Road		Added by BOS 1/2/97
Madeline Bennett Drive			Added by Town Council
			5/12/2011
Maidstone Drive	Baboosic Lake		
	Road		
Maidstone Drive	Patten Road		Added by BOS 1/2/97
Mallard Point Road	Wire Road	North intersection	Added by Town Council
			5/12/2011
Mallard Point Road	Wire Road	South intersection	Added by Town Council
	6.1 Styletic strain assessment waters		5/12/2011
Manchester Street	Daniel Webster		
	Highway		
Maple Street	Daniel Webster		
	Highway		
Marty Drive	Baboosic Lake	West intersection	Added by Town Council
and a second sec	Road		5/12/2011
Marty Drive	Baboosic Lake	East intersection	Added by BOS 2/16/95
3.23.23.23.23.23.23.24.25.23.23.23.23.23.23.23.23.23.23.23.23.23.	Road	TO CONTROL OF THE PROPERTY OF	
Mary Paul Lane	Baboosic Lake		Added by BOS 1/2/97
And the second of the second o	Road		
Maryann Lane	Bates Road		Added by BOS 10/17/88
Mason Road	Amherst Road		,
Mast road	Daniel Webster		Added by Town Council
	Highway		5/12/2011

Street	Intersection	Qualifier	Action Date
Mast Road	Railroad	Both directions	Added by Town Council 5/12/2011
Mayhew Road	Baboosic Lake		Added by BOS 1/2/97
	Road		100
McElwain Street	Baboosic Lake		
	Road		
McGaw Bridge Road	Daniel Webster		
	Highway		
McGaw Bridge Road	Wire Road		Added by BOS 10/17/88
Meadowview Lane	McQuestion Road		Added by BOS 1/2/97
Meetinghouse Road	Amherst Road		
Meetinghouse Road	Turkey Hill Road		
Merrill Road	Amherst Road		Added by Town Council 5/12/2011
Merrymeeting Drive	McQuestion Road		Added by BOS 1/2/97
Mill Street	Depot Street		Added by BOS 11/2/89
Miriam Road	Baboosic Lake Road		Added by BOS 1/2/97
Mitchell Street	Baboosic Lake Road		Added by BOS 1/4/96
Mountain View Drive	Parkhurst Road		Added by BOS 2/16/95
MUES Parking Lot	School Street		Added by Town Council 5/12/2011
Mullikan Road	Wilson Hill Road		Added by BOS 1/2/97
Nathan Hale Lane	Meetinghouse Road		Added by Town Council 5/12/2011
Naticook Road	Amherst Road		
Naticook Road	Continental Boulevard		Amended by Town Council 5/12/2011
Naticook Road	Peaslee Road		
Naticook Terrace	Naticook Road		Added by Town Council 5/12/2011
Naticook/Camp Sargent Road Connector	Naticook Road	Naticook/Camp Sargent Road	
Nora Road	Lamson Drive		Added BOS 2/16/95
Nora Road	Peter Road		Added BOS 10/17/88
O'Gara Drive	Baboosic Lake Road		

Street	Intersection	Qualifier	Action Date
Oak Ridge Avenue	McGaw Bridge		Added by Town Council
	Road		5/12/2011
Oak Street	Bretton Drive		Added by Town Council
			5/12/2011
Old Blood Road	Wilson Hill Road		Added by BOS 1/2/97
Olde Road	Baboosic Lake		Added by Town Council
	Road		5/12/2011
Olde Road	Tomahawk Drive		Added by BOS 2/16/95
Packard Drive	Back River Road		Added by BOS 1/2/97
Paige Drive	Pearson Road		Added by BOS 1/2/97
Palmeri Drive	Naticook Road		Added by BOS 1/4/96
Parker Drive	Baboosic Lake Road		Added by BOS 6/15/00
Parker Drive	South Baboosic		Added by BOS 1/2/97;
Tarker Drive	Lake Road		amended by BOS 6/15/00
Parkhurst Road	Baboosic Lake		amended by BOS 6/13/00
Tarkitarst Road	Road		
Parkhurst Road	Woodward Road		Added by BOS 2/16/95
Patten Road	Baboosic Lake	East and west	Amended by Town Council
	Road	branch	5/12/2011
Patten Road	Joppa Road		
Pearson Road	Bedford Road		
Peaslee Road	Amherst Road		
Penrose Lane	Turkey Hill Road		Added by BOS 1/2/97
Peter Road	Naticook Road		
Pheasant Run	Back River Road		Added by BOS 2/16/95
Piedmont Avenue	Amherst Road		Added by BOS 1/2/97
Pilgrim Avenue	Baboosic Lake		
=	Road		
Pilgrim Avenue	Turkey Hill Road		
Pine Street	Daniel Webster		
	Highway		
Pine Street	Front Street		Added by Town Council 5/12/2011
Pinetree Lane	Joppa Road		
Pinewood Drive	Hilton Drive		Added by BOS 2/16/95
Pleasant Street	Maple Street		Added by Town Council 5/12/2011

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Street	Intersection	Qualifier	Action Date
[Pollard Road	Amherst Road		Added by Town Council ??/??/2017]
[Portside Drive	Tinker Road		Added by Town Council ??/??/2017]
Priscilla Lane	Daniel Webster Highway		
Proctor Road	Parkhurst Road		Added by BOS 2/16/95
Profile Drive	Bean Road		Added by BOS 1/2/97
Quincy Lane	Baboosic Lake Road		
Railroad Avenue	Daniel Webster Highway	South intersection	
Railroad Avenue	North spur at Railroad Avenue		
Rainbow Avenue	Daniel Webster Highway		
Raymond Drive	Back River Road		
Reeds Ferry Way	Level Street		Added by BOS 2/16/95
Reeds Ferry Way	Paige Drive		Added by Town Council 5/12/2011
Ridgewood Drive	Joppa Road		
Ries Drive	Back River Road		Added by BOS 10/17/88
Riley Lane	Cassie Lane		Added by Town Council 5/12/2011
Riley Lane	Fox Meadow Lane		Added by Town Council 5/12/2011
Rimmon Court	Springfield Circle		Added by BOS 6/15/00
Rivergate Road	Wilson Hill Road		Added by BOS 1/2/97
Riverside Drive	Amherst Road		Added by BOS 1/2/97
Rose Lane	Baboosic Lake Road		Added by Town Council 5/12/2011
Rushmore Court	Peaslee Road	99. 0	Added by BOS 1/2/97
Rutherford Street	Oxford Street	100000	Added by BOS 10/17/88
Rutherford Street	West Chamberlain Road	1	Added by BOS 2/16/95
Samuel J Drive	Baboosic Lake Road		Added by Town Council 12/15/2011

Street	Intersection	Qualifier	Action Date
Sarah Drive	Turkey Hill Road		Added by Town Council 5/12/2011
Savannah Way	County Road		Added by BOS 6/15/00
Savannah Way	Springfield Circle		Added by BOS 6/15/00
Seaverns Bridge Road	Amherst Road		Added by BOS 9/17/87; amended by BOS 10/17/88
Seaverns Bridge Road	Boston Post Road		
Shady Lane	Baboosic Lake Road		
Small Lane	Bedford road		Added by Town Council 5/12/2011
Smith Road	Daniel Webster Highway	North intersection	
Smith Road	Daniel Webster Highway	South intersection	
Souhegan Drive	Currier Road	Both sides (south intersection)	Added by BOS 9/17/87; amended by BOS 6/15/00
South Baboosic Lake	Baboosic Lake		,
Road	Road		
Spaulding Drive	Peaslee Road		
Spruce Street	Camp Sargent Road		
Star Drive	Daniel Webster Highway		
Steeplechase Drive	Woodward Road		Added by BOS 1/2/97
Stevens Avenue	Amherst Road		
Stowell Road	Parkhurst road		Added by Town Council 5/12/2011
Stuart Drive	Thornton Road West		Added by BOS 9/17/87
Stuart Drive	Tinker Road		
Sunrise Drive	Turkey Hill Road		
Taconic Drive	Springfield Circle		Added by BOS 6/15/00
Tallant Road	Continental Boulevard		, , , , , , , , , , , , , , , , , , , ,
Tanglewood Way	Joppa Road		Added by BOS 1/2/97

Street	Intersection	Qualifier	Action Date
Thomas Road	Baboosic Lake		Added by BOS 1/2/97
	Road		
Thornton Road West	Stuart Drive	East intersection	Added by BOS 9/17/87
Thornton Road West	Stuart Drive	West intersection	Added by BOS 9/17/87
Thornton Road West	Tinker Road	North and south intersection	
Tiffany Lane	Birch Street		Added by BOS 9/19/02
Tiffany Lane	Souhegan Drive		Added by BOS 2/16/95
Timber Lane	Joppa Road		Amended by BOS 6/15/00
Tinker Road	Camp Sargent Road		
Tinker Road	Thornton Road		Added by Town Council 5/12/2011
Tomahawk Drive	Baboosic Lake Road		Added by BOS 1/2/97
Tomahawk Drive	Greatstone Drive		Added by BOS 6/15/00
Tomasian Drive	Amherst Road		Added by BOS 1/2/97
Trowbridge Road	South Baboosic Lake Road	North intersection	Added by BOS 1/2/97
Trowbridge Road	South Baboosic Lake Road	South intersection	Added by BOS 1/2/97
Turkey Hill Road	Amherst Road		
Turkey Hill Road	Baboosic Lake Road		Added by BOS 6/15/00
Turkey Hill Road	McQuestion Road		
Twin Bridge Road	Daniel Webster Highway		
Upham Road	Wilson Hill Road		Added by BOS 1/2/97
Valleyview Drive	Patten Road		Added by BOS 1/2/97
Walden Drive	Patten Road		Added by BOS 1/2/97; amended by BOS 6/15/00
Wallace Drive	Jo Ellen Drive		
Wallace Drive	Turkey Hill Road		
Warren Lane	Boston Post Road		Added by BOS 1/2/97
Wasserman Heights	Naticook Road		Added by Town Council 5/12/2011
Watkins Road	Amherst Road		

Street	Intersection	Qualifier	Action Date
Webb Drive	Daniel Webster Highway		
West Chamberlain Road	Turkey Hill Road		
West Road	Bean Road		Added by BOS 1/2/97
Westborn Drive	Naticook Road		1 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2
Westcott Drive	Bean Road		Added by Town Council 5/12/2011
Weston Road	Davis Road		Added by Town Council 5/12/2011
Whispering Pines Lane	Bedford Road		Added by BOS 2/16/95
Whispering Pines Lane	Wire Road		Amended by BOS 6/15/00; Amended by Town Council 12/15/2011
Whittier Road	Camp Sargent Road	East intersection	Added by Town Council 5/12/2011
Whittier Road	Camp Sargent Road	West intersection	Added by Town Council 5/12/2011
Wildcat Falls Road	John Lane		Added by BOS 2/16/95
William Street	Daniel Webster Highway		Added by BOS 11/2/89
Wilson Hill road	McQuestion Road		
Windover Lane	Pearson Road		Added by BOS 1/2/97
Windsor Drive	Baboosic Lake Road	North intersection	Added by BOS 1/2/97
Windsor Drive	Baboosic Lake Road	South intersection	Added by BOS 1/2/97
[Windy Hollow Circle	Tomasian Drive		Added by Town Council ??/??/2017
Wintergreen Drive	Sycamore Lane	Both directions	Added by BOS 1/4/96
Wintergreen Drive	Turkey Hill Road		Added by BOS 1/4/96
Wire Road	Bedford Road	North and south intersection	Added by BOS 11/2/89
Wire Road	Daniel Webster Highway		Added by BOS 6/15/00
Wood Street	Sunnydale Drive		Added by BOS 6/15/00
Woodbine Lane	Bean Road	East intersection	Added by BOS 1/2/97

Street	Intersection	Qualifier	<b>Action Date</b>
Woodbine Lane	Bean Road	West intersection	Added by BOS 1/2/97
Woodbury Street	Daniel Webster		
	Highway		
Woodhaven Circle	Pearson Road	North intersection	Added by BOS 1/2/97
Woodhaven Circle	Pearson Road	South intersection	Added by BOS 1/2/97
Woodland Drive	Baboosic Lake		
	Road		
Woodland Drive	Hartwood Drive	Both directions	Added by Town Council
			5/12/2011
Woodridge Road	Bedford Road		Added by Town Council
<i>C</i>			5/12/2011
Worster Avenue	Baboosic Lake		Amended by BOS 6/15/00
	Road		
Wright Avenue	Boston and Maine	East and west	
	Railroad	intersection	
Wright Avenue	Daniel Webster		
	Highway		

Access Road, Dept. of	Continental	One way, west	Repealed by Town
Environmental	Boulevard		Council 5/12/2011
Conservation			
Back River Road	Bedford Road		Repealed by Town
			Council 5/12/2011
Boston Post Road			Repealed by BOS
			10/17/88
Cathy Street			Repealed by BOS 6/15/00
Craftsman Lane	Boston Post road		Added by BOS 1/2/97
			Repealed by Town
			Council 5/12/2011
Cramer Hill Road			Added by BOS 1/2/97;
			repealed by BOS 6/15/00
Executive Park Drive	Amherst Road		Repealed by Town
			Council 5/12/2011
Loop Road			Repealed by BOS 6/15/00
Lagany Drive	Daniel Webster		Added by BOS 1/2/97 –
Lozeau Drive			Repealed by Town
	highway		Council 5/12/2011

McQuestion Road	Baboosic Lake	Repealed by Town
	Road	Council 5/12/2011
Old Twin Bridge Road		Repealed by BOS 6/15/00
Sentry Way	Daniel Webster	Repealed by Town
	Highway	Council 5/12/2011
Sycamore Lane	Wintergreen Drive	Added by BOS 12/6/01;
		Repealed by Town
		Council 5/12/2011
Whitewood Lane	Wintergreen Drive	Added by BOS 12/6/01;
		Repealed by Town
		Council 5/12/2011

## § 183-32. Schedule V: Yield Intersections.

As provided in § 183-11, the following described intersections are hereby designated as yield intersections, and yield signs shall be installed as follows: <sup>EN</sup>

Street	Intersecting Street	Qualifier	Action Date
Craftsman Lane	Boston Post Road		
Daniel Webster Drive	Daniel Webster	North	
	Highway	intersection	
Erik Street	Erik Street Circle	North	Added by Town Council
		entrance	5/12/2011
Erik Street	Erik Street Circle	South	Added by Town Council
		entrance	5/12/2011
Railroad Avenue	Daniel Webster	North	
	Highway	intersection	111111111111111111111111111111111111111
Railroad Avenue spur	Railroad Avenue		Added by Town Council 5/12/2011
Woodbury Street	McElwain Street		

Access Road, Department of	Continental	Right turn,	Repealed by Town Council
Environmental Conservation	Boulevard	east	5/12/2011
Gauthier Road	Peaslee Road		Amended by BOS 6/15/00
			Repealed by Town Council

<sup>&</sup>lt;sup>2</sup>Editor's Note: Yield signs shall be installed on streets listed in the first column, unless noted elsewhere.

		5/12/2011
McGaw Bridge Road		Repealed by BOS 10/17/88
Naticook Road		Repealed by BOS 10/17/88
Naticook/Camp Sargent	Camp Sargent	Repealed by Town Council
Road Connector	Road	5/12/2011
Turkey Hill Road		Repealed by BOS 6/15/00

## § 183-33. Schedule VI: Traffic Control Signals.

In accordance with the provisions of § 183-12, traffic control signals shall be installed at the following described locations:

Intersection	<b>Action Date</b>
The intersection of Daniel Webster Highway (Route 3) and Bedford	
Road	
The intersection of Daniel Webster Highway (Route 3) and Front	
Street	
The intersection of Daniel Webster Highway (Route 3) and Baboosic	
Lake Road	
The intersection of Daniel Webster Highway (Route 3) and the	
Merrimack Village Mall access	
The intersection of Daniel Webster Highway (Route 3) and Shaw's	
Shopping Center between Pole Nos. 112 and 113	
[The intersection of Baboosic Lake Road and Madeline Bennett	Added by Town
Lane and McQuestion Road	Council ??/??/2017]
The intersection of Baboosic Lake Road and Madeline Bennett Lane	Added by Town Council
and McQuestion Road	<u>??/??/2017</u>
The intersection of Daniel Webster Highway and Connell's	Added by BOS 6/15/00
Shopping Center	
The intersection of Daniel Webster Highway (Route 3) and Rainbow	Added by BOS 12/18/03
Avenue.	
The intersection of Continental Boulevard, Amherst Road, Greeley	Repealed by Town
Street and Camp Sargent Road	Council 5/12/2011

# § 183-34. Schedule VII: Prohibited Turns at Intersections.

In accordance with the provisions of § 183-13, no person shall make a turn of the kind designated below at any of the following locations:

Name of Street	Direction of Travel	Prohibited Turn	At Intersection of	Action Date
Church Street	East	Left	Daniel Webster Highway	Added by BOS 2/16/95
Daniel Webster Drive	North	Left	Daniel Webster Highway	Added by BOS 9/17/87
Daniel Webster Highway	South	Left	Daniel Webster Drive (north exit)	Added by BOS 9/17/87
Daniel Webster Highway	North	Right	Loop Road (north exit)	Added by Town Council 5/12/2011
Daniel Webster Highway	South	Left	Walgreens	Added by Town Council 5/12/2011
Daniel Webster Highway	North	Left	Woodbury Street	
Loop Road	North	Left	Daniel Webster Highway	
Woodbury Street	East	Left	Daniel Webster Highway (between 2:00 p.m. and 3:00 p.m. on school days)	Added by BOS 2/16/95

## § 183-35. Schedule VIII: One-Way Streets.

As provided in § 183-14, the following described streets or parts of streets are hereby designated as one-way streets, and vehicles traveling on them shall proceed only in the direction indicated:

Name of Street	Direction of Travel	Limits	Action Date
Daniel Webster Drive			Repealed by BOS 10/17/88
Erik Street	South	Erik Street circle	Added by Town Council 5/12/2011
Erik Street	North	Erik Street circle	Added by Town Council 5/12/2011

Name of Street	Direction of Travel	Limits	Action Date
[McElwain Street	North	Prohibited from entering McElwain Street traveling north past Woodbury Street.  Northbound traffic must make a right turn down Woodbury Street (between 2:00 p.m. and 3:00 p.m. school days)	Removed by Town Council ??/??/????]

## § 183-36. Schedule IX: Parking Prohibited at All Times.

In accordance with the provisions of § 183-19, no person shall park a vehicle at any time upon any of the following described streets or parts of streets:

Name of Street	Side	Location	Action Date
Baboosic Lake Road	Both	From Daniel Webster Highway to the west side of F.E. Everett Turnpike overpass (except for vehicles used for attending funerals and weddings parked on the south side from McElwain Street to the Merrimack Middle School)	
Bishop Street	Both	From McElwain Street west to School Street during school hours (7:00 a.m. to 4:00 p.m.) on school days	Added by BOS 2/16/95
Columbia Circle	Both	Entire length	Added by BOS 1/17/02
Daniel Webster Highway	Both	From Greeley Street to Bedford Road	
Hadley Road	South	South entrance of Hadley Road, on the south side of the street, for a distance of 400 feet	Added by BOS 6/15/00
Island Drive	North	From Daniel Webster Drive east for 845 feet	
Island Drive	South	From Daniel Webster Drive east for 830 feet	
Loop Road	East	300 feet from the south entrance off of Daniel Webster Highway	Added by BOS 1/4/96

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Name of Street	Side	Location	Action Date	
Loop Road	West	Entire length		
Mastricola Middle	East	From Baboosic Lake Road to Bishop		
School access road		Street		
McElwain Street	East/West	From Baboosic Lake Road south for 105 feet		
McGaw Bridge Road	East	From Daniel Webster Highway south to a point opposite Oak Ridge Avenue		
McGaw Bridge Road	West	From Daniel Webster Highway south for 280 feet		
Naticook/Camp	Both	From Camp Sargent Road to		
Sargent Road Connector		Naticook Road		
Naticook Road	Both	From the intersection of Camp		
		Sargent Road to the intersection of		
		Dirt Road		
Naticook	Both	From New England Telephone		
Road/Camp Sargent		Company Pole No. 2450/2 (public		
Road		service pole No. 25) to Drouin Way		
[Sunset Drive Both		From the end of Sunset Drive to 40' north of the pump station fence	Added by Town Council ??/??/2017	

Authenticated:	
Nancy M. Harrington, Town Council Chairman	Date
Diane Trippett, Town Clerk / Tax Collector	Date



74 Northeastern Boulevard, Suite 20B Nashua, New Hampshire 03062 Tel. (603) 880-5100 ~ Fax (603) 880-6507 Email: reb@reb-eng.com ~ www.reb-eng.com

### **MEMORANDUM**

TO:

Mr. Matthew D. Shevenell

Merrimack School District

36 McElwain Street Merrimack, NH 03054 FROM:

Robert E. Bollinger, P.E., PTOE

Robert E. Bollinger Engineering, PLLC

74 Northeastern Blvd., Suite 20B

Nashua, NH 03062

DATE:

December 18, 2006

JOB NO: 06004

SUBJECT:

Traffic Signal Warrants Analysis

Baboosic Lake Rd. at McQuestion Rd. & Madeline Bennett Ln.

Merrimack, New Hampshire

Robert E. Bollinger Engineering, PLLC (REB) has completed a traffic signal warrants analysis at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane in Merrimack, New Hampshire. Figure 1 depicts the site location relative to the existing roadway network.

This intersection currently operates under traffic signal control, and has operated under traffic signal control since 2005, when the traffic signal became operational as part of the Merrimack Middle School project. This assessment reviews the existing traffic characteristics of this intersection, provides a detailed signal warrants analysis, and culminates with recommendations pertaining to the signal operations at this location.

A review of the analysis completed as a part of this assessment indicates that traffic signal control at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane is justified based on existing traffic volumes. The following summarizes our findings.

### **EXISTING CONDITIONS**

A comprehensive field inventory of traffic conditions at the study area intersection was conducted in December 2006. This investigation consisted of an inventory of existing roadway geometry, traffic volumes, operating characteristics, posted speed limits and land use information within the study area. The following describes the study area intersection.

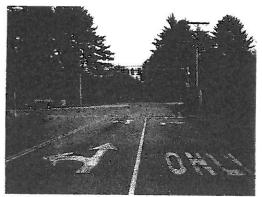




Site Location Map

### Intersections

### Baboosic Lake Road at McQuestion Road and Madeline



McQuestion Road intersects Baboosic Lake Road from the south, and Madeline Bennett Lane intersects Baboosic Lake Road from the west to form this four-legged, intersection under traffic signal control. It should be noted that Baboosic Lake Road forms both the north and east legs of this intersection. The McQuestion Road northbound approach provides an 11-foot wide general purpose travel lane, with a 1-foot wide marked shoulder provided. The Baboosic Lake Road southbound approach provides an 11-foot wide general purpose travel lane, with a 2-foot wide marked shoulder provided. The Madeline Bennett Lane eastbound approach consists of a 12-foot

wide shared through/left-turn lane, that provides approximately 125-feet of storage, and a 12-foot wide right-turn lane; right-turns on red are prohibited on this approach. The Baboosic Lake Road westbound approach consists of a 12-foot wide shared through/left-turn lane, and an 11-foot wide right-turn lane, that provides approximately 50-feet of storage. The directions of travel on Baboosic Lake Road, McQuestion Road, and Madeline Bennett Lane are separated by a double-yellow centerline. The posted speed limit in the vicinity of the intersection is 30 mph on the Baboosic Lake Road and McQuestion Road approaches.

Bituminous concrete sidewalks, measuring approximately 5-feet in width, are present on all four corners of the intersection. The sidewalk present on the north side of Madeline Bennett lane is provided from the intersection to the Merrimack Middle School. A 6-foot wide crosswalk and pedestal mounted pedestrian crosswalk indicators are provided across the north, south, and west legs of the intersection. Land use in the vicinity of the intersection consists of residential and institutional properties.

The existing traffic signal operates with a four-phase signal sequence: all northbound movements, followed by all eastbound movements, followed by all southbound movements, followed by all westbound movements. An exclusive pedestrian phase, if actuated, is also provided.

### **Spot Speed Measurements**

Vehicle travel speed measurements were performed on Baboosic Lake Road, north of Marty Road (south end), and on McQuestion Road, north of Ellie Lane, using a hand-held Doppler radar speed gun. At each location a total of 80 observations were performed, with 40 observations taken in the northbound direction and 40 observations taken in the southbound direction. Table 1 summarizes the vehicle travel speed measurements on Baboosic Lake Road and McQuestion Road.

As shown in Table 1, the average travel speed on Baboosic Lake Road was measured to be approximately 40 mph, while the 85<sup>th</sup> percentile speed, the speed most often utilized for design purposes, was measured to be approximately 43 to 44 mph. By way of comparison, the posted speed limit on this section of Baboosic Lake Road is 30 mph.

The average travel speed on McQuestion Road was measured to be approximately 38 to 39 mph, while the 85<sup>th</sup> percentile speed was measured to be approximately 42 mph. By way of comparison, the posted speed limit on this section of McQuestion Road is 30 mph.

Table 1
VEHICLE TRAVEL SPEEED MEASUREMENTS

Baboosic Lake Road, north of N	Marty Drive (south en	d)
	Direction	of Travel
Average Travel Speed (mph)	Northbound	Southbound
Average Travel Speed (mph)	40	40
85th Percentile Speed (mph)	44	43
Posted Speed Limit (mph)	30	30

### McQuestion Road, north of Ellie Drive

Direction of Travel					
Northbound	Southbound				
38	39				
42	42				
30	30				
	Northbound 38 42				

### **Existing Traffic Volumes**

To determine existing traffic volumes and flow patterns in the study area, a manual turning movement count (TMC) was conducted on, Tuesday, December 5, 2006 at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane. The TMC was conducted over a 13-hour period from 6:00 AM to 7:00 PM in order to record traffic volumes during the time period that contains the greatest percentage of 24-hour traffic.

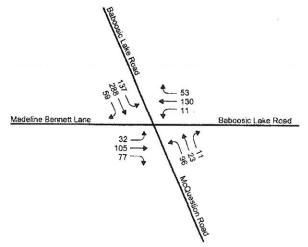
A review of the peak period traffic counts indicates that the weekday morning peak hour occurred between 6:45 to 7:45 AM, the school afternoon peak hour occurred between 2:00 to 3:00 PM, and the weekday evening peak hour occurred between 5:15 and 6:15 PM. The existing peak hour traffic volumes are depicted in Figure 2. An hourly summary of the entire 13-hour TMC, by approach is provided in Table 2, which also provides observed pedestrian activity at the intersection.

Table 2
EXISTING TRAFFIC VOLUMES (Vehicles per hour - vph)

	Baboosic	McQuestion	Baboosic	Madeline	
	Lake Road	Road	Lake Road	Bennett Lane	Pedestrians
Time	SB	NB	WB	EB	(peds/hr)
6-7	277	52	66	29	0
7-8	483	107	183	194	2
8-9	334	44	81	16	2
9-10	172	46	59	13	3
10-11	116	63	84	13	0
11-12	112	55	69	12	0
12-1	112	78	69	12	12
1-2	107	79	104	16	0
2-3	140	100	154	120	3
3-4	160	172	163	65	1
4-5	145	191	175	29	2
5-6	166	323	154	53	0
6-7	154	243	175	46	0
Total	2478	1553	1536	618	25

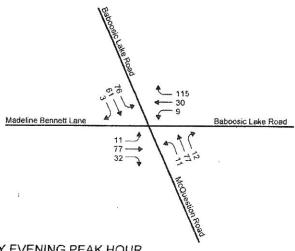
### Signal Warrants Analysis - Baboosic Lake Rd at McQuestion Rd & Madeline Bennett Ln - Merrimack, NH

### WEEKDAY MORNING PEAK HOUR



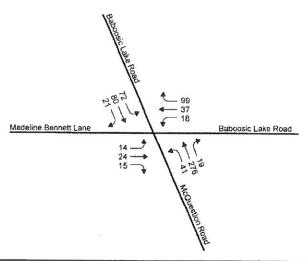
Tuesday, December 5, 2006 6:45 to 7:45 AM

### SCHOOL AFTERNOON PEAK HOUR



Tuesday, December 5, 2006 2:00 to 3:00 PM

### WEEKDAY EVENING PEAK HOUR



Tuesday, December 5, 2006 5:15 to 6:15 PM



REB

Not to Scale

Robert E. Bollinger Engineering, P.L.L.C. Transportation Engineering & Planning Figure 2

2006 Existing Peak Hour **Traffic Volumes** 

### Motor Vehicle Crash Data

Motor vehicle crash information for the study area intersection was obtained from the NHDOT for the most recent three-year period available (January 2001-December 2003) in order to identify crash rates and patterns in the study area. Over the three-year period the NHDOT data indicate that a total of 1,384 crashes were recorded Town wide. Of these, 4 crashes contained sufficient detail to locate them within the study area. These data are summarized by intersection, type, severity, and day of occurrence, and are presented in Table 3. As shown in Table 3, the study area locations averaged approximately 1.0 or fewer crashes per year over the three-year review period.

At the intersection of Baboosic Lake Road at McQuestion road and Madeline Bennett Lane, 3 crashes were reported. The majority of crashes were classified as "other" type collisions, occurred with dry pavement conditions, occurred on a weekday, and involved property damage only. No fatalities were reported at this location.

At the intersection of Baboosic Lake Road at Danbury Drive, 1 crash was reported. This crash was classified as an "other" type collision, occurred on wet pavement, occurred on a weekday, and involved personal injury. No fatalities were reported at this location. No crashes were reported at the intersection of McQuestion Road at Merry Meeting Road.

Table 3
CRASH DATA SUMMARY<sup>a</sup>

	Baboosic Lake Road at McQuestion Road	Baboosic Lake Road at Danbury Drive	McQuestion Road at Merry Meeting Drive
Year:			
2001	1	1	0
2002	1	0	0
2003	<u>I</u>	<u>0</u>	<u>0</u>
Total	3	1	$\frac{\omega}{0}$
Average (crashes/year)	1.00	0.33	0.00
Туре:			
Angle	0	0	0
Rear-End	1	0	0
Head-On	0	0	0
Sideswipe	0	. 0	0
Other/Unknown	<u>2</u>	1	<u>0</u>
Total	3	1	$\overline{0}$
Pavement Conditions			
Dry	3	0	0
Wet	0	1	0
Snow/Slush	0	0	0
Ice	0	0	0
Other	0	0	0
Unknown	<u>0</u>	<u>0</u>	$\overline{0}$
Total	3	1	0
Day of Week:			
Monday through Friday	3	1	0
Saturday and Sunday	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	1	0
Severity			
Property Damage Only	3	0	0
Injury Accident	0	1	0
Fatal Accident	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	ī	0

<sup>&</sup>lt;sup>a</sup> Source: NH Department of Transportation

### TRAFFIC SIGNAL WARRANTS

The Manual on Uniform Traffic Control Devices (MUTCD)<sup>1</sup> sets forth the criteria for studies and factors for justifying traffic control signals, and states that a traffic control signal should not be installed unless one or more of the Warrant Criteria are satisfied. These factors generally take into consideration the following items: traffic volumes on the major street(s) and minor street(s), vehicle travel speeds in the vicinity of the intersection, pedestrian activity, and crash experience.

<sup>&</sup>lt;sup>1</sup> Manual on Uniform Traffic Control Devices, Federal Highway Administration, Washington, D.C. (2003)

From these factors, the following Warrants were considered for analysis:

- Warrant 1 Eight Hour Vehicular Volume
- Warrant 2 Four Hour Vehicular Volume
- Warrant 3 Peak Hour Vehicular Volume
- Warrant 4 Pedestrian Volume
- Warrant 5 School Crossing
- Warrant 6 Coordinated Signal System
- Warrant 7 Crash Experience
- Warrant 8 Roadway Network

The MUTCD indicates that traffic volumes used for signal warrants analysis should represent an average day. As traffic volumes at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane were recorded in December, average month seasonal adjustment factors obtained from the NH Department of Transportation were applied to raw traffic volumes to obtain average traffic conditions. The resulting 2006 average month traffic volumes are shown in Table 4.

Table 4
SIGNAL WARRANT ANALYSIS TRAFFIC VOLUMES (vph)

		2006 Averag	ge Month Irai	fic Conditions'		*
	Baboosic Lake Road	McQuestion Road	Baboosic Lake Road	Madeline Bennett Lane		lumes Utilized al Warrants
TIME	SB	NB	WB	EB	Major <sup>2</sup>	Minor <sup>3</sup>
6-7	313	59	75	33	372	75
7-8	546	121	207	219	667	219
8-9	377	50	92	18	427	92
9-10	194	52	67	15	246	67
10-11	119	65	87	13	184	87
11-12	115	57	71	12	172	71
12-1	115	80	71	12	195	71
1-2	110	81	107	16	191	107
2-3	150	107	165	128	257	165
3-4	171	184	174	70	355	174
4-5	155	204	187	31	359	187
5-6	178	346	165	57	524	165
6-7	165	260	187	49	425	187

According to the MUTCD an engineering study for determining signal warrants should be based on an average day; volumes shown are based on NHDOT Seasonal Adjustment Factors.

The traffic volumes contained in Table 4, along with other variables (crash history, vehicle speeds, pedestrian volumes) were used as the basis for evaluating the traffic signal control warrant criteria. The results of this analysis are summarized in Table 5 and demonstrate that Warrant 3 (Peak Hour Traffic Volumes) is satisfied under 2006 average month conditions. Accordingly, traffic signal control at this location can be justified. Detailed calculations pertaining to this analysis are included as an attachment.

<sup>&</sup>lt;sup>2</sup> Vehicles per hour on major sreet (total of both approaches); major street is considered NB McQuestion Rd. approach, and SB Baboosic Lake Rd. approach.

<sup>&</sup>lt;sup>3</sup> Vehicles per hour on higher-volume minor street approach (one direction only); minor street is considered the higher of the EB Madeline Bennett Lane approach, or the WB Baboosic Lake Rd. approach.

Table 5
SIGNAL WARRANTS SUMMARY

Warrant	Warrant Satisfied (Yes/No)
Warrant 1A - Eight Hour Minimum Vehicular Volume	No
Warrant 1B - Eight Hour Interruption of Continuous Traffic	No
Warrant 2 - Four Hour Vehicular Volume	No
Warrant 3 - Peak Hour Vehicular Volume	Yes
Warrant 4 - Pedestrian Volume	No
Warrant 5 - School Crossing	No
Warrant 6 - Coordinated Signal System	No
Warrant 7 - Crash Experience	No
Warrant 8 - Roadway Network	No

<sup>&</sup>lt;sup>a</sup> Based on 2006 Average Month Conditions.

### TRAFFIC OPERATIONS ANALYSIS

In order to assess quality of flow, roadway capacity and delay under existing traffic conditions, the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane was analyzed according to the methodologies of the *Highway Capacity Manual*<sup>2</sup>, as replicated by the *Synchro Traffic Signal Coordination Software (Version 6.0 – Build 614)*, whereby a Level-of-Service is assigned to individual lane groups and to the entire intersection.

A Level-of-Service (LOS) is simply a letter grade (A through F), which categorizes the average control delay associated with a particular lane group, approach, or the entire intersection, with LOS A representing the best operating condition (minimal delays), and LOS F representing congested or constrained operating conditions. Table 6 describes the criteria used in an unsignalized intersection capacity analysis.

Table 6
LEVEL-OF-SERVICE CRITERIA FOR
SIGNALIZED INTERSECTIONS<sup>2</sup>

Level-of-Service	Average Control Dela (seconds per vehicle)
Α	≤ 10.0
В	> 10.0 to 20.0
C	> 20.0 to 35.0
D	> 35.0 to 55.0
E	> 55.0 to 80.0
F	> 80.0

<sup>\*</sup>Source: Highway Capacity Manual (page 16-2)

<sup>&</sup>lt;sup>2</sup> Highway Capacity Manual, Transportation Research Board, Washington, D.C. (2000)

### **Analysis Results**

Under 2006 Existing traffic volume conditions, the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane was shown to operate at LOS D during the weekday morning peak hour, LOS B during the school afternoon peak hour, and at LOS C during the weekday evening peak hour.

Under existing conditions, this intersection was analyzed based on the current signal phasing and timing plan. It is important to note that the current signal phasing plan differs from the original plan submitted by Vanasse & Associates (VAI)<sup>3</sup> in July 2004. The VAI plan clearly indicates that the "preferential phase sequence" is for a basic two-phase system, with all northbound and southbound proceeding simultaneously, followed by all eastbound and westbound movements proceeding simultaneously, with an exclusive pedestrian phase, if actuated.

As reported earlier, the existing traffic signal operates with a four-phase signal sequence: all northbound movements, followed by all eastbound movements, followed by all southbound movements, followed by all westbound movements. An exclusive pedestrian phase, if actuated, is also provided. Plans indicate that the current revised signal phasing was done at the Town's request in January 2005.

The current four-phase sequence greatly increases the total lost time, or unused time during which no vehicles are processed through the intersection, per cycle. As lost time increases at a signalized intersection, control delay for individual lane groups, and for the overall intersection greatly increases.

In order to demonstrate the difference that a two-phase system has on control delay, and corresponding LOS, REB analyzed 2006 traffic volumes with the two-phase system proposed by VAI. The results demonstrate that with a two-phase operation the intersection is expected to operate at LOS B during the weekday morning peak hour, LOS A during the school afternoon peak hour, and at LOS A during the weekday evening peak hour. The side by side comparison of results is shown in Table 7.

Accordingly, consideration should be given to returning signal operation at this location to the preferential phasing sequence recommended by VAI in 2004. If the phasing sequence were to be changed, it is recommended that supplemental MUTCD R10-12 (Left Turn Yield on Green) signs be added to the existing signal mast arms, as, according to MUTCD standards, when used, traffic signal signs should be located adjacent to the signal face to which they apply.

<sup>&</sup>lt;sup>3</sup> "Traffic Signal Plan," and "Traffic Signal Data Sheet," prepared by Vanasse & Associates, Inc. (July 2004)

Table 7
INTERSECTION LEVEL-OF-SERVICE SUMMARY

	20	06 Existi	ng".	2006 v	v/lmprov	ements <sup>e</sup>
Signalized Intersection/Peak Hour/Movement		Delay	LOS <sup>d</sup>	_V/C	Delay	LOS
Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane						
Weekday Morning Peak Hour						
McQuestion Road NB LT/TH/RT	0.82	52.5	D	0.35	5.3	Α
Baboosic Lake Road SB LT/TH/RT	0.93	48.7	D	0.61	7.4	A
Madeline Bennett Lane EB LT/TH	0.87	56.1	E	0.71	21.7	C
Madeline Bennett Lane EB RT	0.50	31.3	C	0.36	13.8	В
Baboosic Lake Road WB LT/TH	0.88	61.0	E	0.56	15.9	В
Baboosic Lake Road WB RT	0.14	29.8	C	0.06	12.3	В
Overall Intersection	0.89	49.6	D	0.64	11.7	В
School Afternoon Peak Hour						
McQuestion Road NB LT/TH/RT	0.39	17.6	В	0.12	4.0	Α
Baboosic Lake Road SB LT/TH/RT	0.56	19.7	В	0.12	4.2	A
Madeline Bennett Lane EB LT/TH	0.45	18.2	В	0.15	15.3	В
Madeline Bennett Lane EB RT	0.17	16.4	В	0.13	14.1	В
Baboosic Lake Road WB LT/TH	0.23	18.1	В	0.15	14.1	В
Baboosic Lake Road WB RT	0.11	17.6	В	0.11	14.1	
Overall Intersection	0.42	18.2	В	0.24	9.9	В <b>А</b>
Weekday Evening Peak Hour						
McQuestion Road NB LT/TH/RT	0.73	20.6	С	0.22	4.0	
Baboosic Lake Road SB LT/TH/RT	0.63	23.5	C	0.33	4.0	A
Madeline Bennett Lane EB LT/TH	0.45	21.3	C	0.19	3.6	A
Madeline Bennett Lane EB RT	0.43	19.8	0.00	0.31	17.5	В
Baboosic Lake Road WB LT/TH	0.21	20.2	B· C	0.12	16.5	В
Baboosic Lake Road WB RT	0.29	19.1	A 200	0.20	16.9	В
Overall Intersection	0.58	100 00	В	0.07	16.3	В
C. C. all Affectorion	0.58	21.0	C	0.33	8.5	A

<sup>&</sup>lt;sup>a</sup> Existing phasing plan.

<sup>&</sup>lt;sup>b</sup> Volume-to-Capacity Ratio

<sup>&</sup>lt;sup>c</sup> Average control delay per vehicle (seconds)

d Level-of-Service

e Revised phasing and timing plan, in accordance with VAI Signal Plan dated July 2004.

NB = northbound, SB = southbound, EB = eastbound, WB = westbound

LT = left-turning movements, TH = through movements, RT = right-turning movements

### CONCLUSIONS & RECOMMENDATIONS

A review of the analysis completed as a part of this assessment indicates that traffic signal control at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane is justified based on existing traffic volumes. Specifically, Warrant 3 (Peak Hour Traffic Volumes) is satisfied under 2006 average month conditions.

The current four-phase signal sequence results in significantly more lost time and corresponding control delay at the intersection of Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane. Analysis demonstrates that implementing a two-phase signal sequence, originally proposed in July 2004, would result in significantly less delay at the intersection, with improved LOS. Accordingly, consideration should be given to returning signal operation at this location to the preferential phasing sequence recommended by VAI in 2004. If the phasing sequence were to be changed, it is recommended that supplemental MUTCD R10-12 (Left Turn Yield on Green) signs be added to the existing signal mast arms, and should be located adjacent to the signal face to which they apply.

HIMMINING NEW HAMS

 12/18/00

Attachments

10

### **ATTACHMENTS**

Turning Movement Counts	A1-A6
Seasonal Adjustment Data	
Spot Speed Observations	A8-A9
NHDOT Crash Data	A10-A17
Signal Warrants Analysis	
Signalized Intersection Capacity Analysis	
Previous Signal Plans	

### Robert E. Bollinger Engineering, P.L.L.C 74 Northeastern Blvd., Suite 20B

74 Northeastern Blvd., Suite 20E Nashua, NH 03062

603-880-5100 (Tel) 603-880-6507 (Fax)

N/S: Baboosic Lake Road/McQuestion Road E/W: Madeline Bennett/Baboosic Lake Road

City, State: Merrimack, NH

1:

www.reb-eng.com

File Name: Baboosic Lake & McQuestion

Site Code : 06004 Start Date : 12/5/2006

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	В.	aboosic		Rd.	В	aboosic		₹d.	1		stion R	d.	Ma		Bennet	t Ln.	
		South			ļ	West					bound				bound	r	
Start Time	Right	Thru	Left		Right	Thru	Left	App. Total	Right	Thru		App. Total	Right	Thru		App. Total	Int. Total
06:00 AM	0	27	9	36	2	2	7	5	0	0	3	3	0	0	0	0	44 72
06:15 AM	1	36	16	53	3	6	1	10	0	5	3 7	8	1	0 2	0	1	108
06:30 AM	3	54	25	82	7	9	0	16 35	0	1 5	26	8	0 7	15	4	2 26	200
06:45 AM	24	44	38	106	6 18	27 44	2	66	2	11	39	33 52	8	17	4	29	424
Total	28	161	88	277	10	44	4	00	2	1.1	39	52	0	17	4	25	424
07:00 AM	21	65	45	131	9	45	3	57	5	7	40	52	26	38	12	76	316
07:15 AM	11	81	23	115	16	54	2	72	3	7	25	35	35	45	10	90	312
07:30 AM	3	98	31	132	22	4	4	30	1	4	5	10	9	7	6	22	194
07:45 AM	1	66	38	105	16	3	5	24	4	4	2	10	1	4	1	6	145
Total	36	310	137	483	63	106	14	. 183	13	22	72	107	71	94	29	194	967
	l) tomore						ă.										
08:00 AM	0	68	43	111	18	3	1	22	3	8	0	11	0	2	٥	2	146
08:15 AM	0	54	33	87	13	3	4	20	2	6	3	11	2	3	2	7	125
08:30 AM	0	53	25	78	8	5	3	16	4	9	0	13	2	0	2	4	111
08:45 AM	0	40	18	58	19	3_	1	23	3	6	0	9	1	1	1	3	93
Total	0	215	119	· 334	58	14	9	81	12	29	3	44	5	6	5	16	475
20.00.444		40	47	57		2	2	15	1 2	11	. 0	13	1 0	1	1	2	87
09:00 AM	0	40	17	57	9	3 5	3	15 19	2	11 13	2	15	0	7	1	8	88
09:15 AM 09:30 AM	1	34 22	11 18	46 40	10	1	2	13	4	6	1	11	0	Ó	ò	0	64
09:45 AM	0	16	13	29	7	5	0	12	ō	5	2	7	1	2	0	3	51
Total	1	112	59	172		14	9	59	6	35	5	46	1	10	2	13	290
TOLAT		112	00	1,,_		100		,	-							,	
10:00 AM	2	19	10	31	17,	1	1	19	1	13	1.	15	0	4	0	4	69
10:15 AM	0	14	17	31	19	4	1	24	2	15	0	17	0	3	3	6	78
10:30 AM	0	10	10	20	18	1	3	22	5	15	2	22	0	0	0	0	64
10:45 AM	0	17	17	34	15	2	2	19	2	6	1	9	3	0	0	3	65
Total	2	60	54	116	69	8	7	84	10	49	4	63	3	7	3	13	276
			9.9	04	1 40	•	_	47		1.1	0	12	2	1	0	3	54
11:00 AM	1	9	11	21	13	2	2	17 20	2 2	11 12	0	13 14	1	3	0	4	67
11:15 AM	1	14	14 17	29 29	15	1	2	10	2	10	1	13	1	0	0	1	53
11:30 AM 11:45 AM	1	11 12	21	33	22	Ö	ő	22	1	14	ó	15	Ó	2	2	. 4	74
Total	3	46	63	112	56	6	7	69	7	47	1	55	4	6	2	12	248
Total		40	00	1,2	, 55		1558	•			370						
12:00 PM	1	18	9	28	12	3	1	16	3	17	0	20	0	1	0	1	65
12:15 PM	0	12	15	27	11	2	1	14	4	14	1	19	0	3	0	3	63
12:30 PM	1	22	9	32	14	1	3	18	1	18	2	21	2	1	0	3	74
12:45 PM	0	13	12	25	18	3	0	21	1	17	0	18	3	1	1_	5	69
Total	2	65	45	112	55	9	5	69	9	66	3	78	5	6	1	12	271
2007-01-1 - MANAGEMENT AND	PO 8000	(2)000000	NO.								_	15	i .		•		r7
01:00 PM	1	15	9	25	11	1	3	15	1	12	2	15	1	1	0	2	57 82
01:15 PM	0	15	13	28	21	2	3	26	1	22	3	26 24	2	0	0	2 7	82 78
01:30 PM	0	7	12	19	23	5	0	28	3	19 7	2	14	5 1	3	1	5	89
01:45 PM	0	18 55	17 51	35 107	12	21 29	8	35 104	9	60	10	79	9	5	2	16	306
Total	1	20	31	107	1 01	29	0	104	9	00	10	, 13	, ,	J	_		000
02:00 PM	0	9	10	19	26	21	2	49	3	14	6	23	6	33	2	41	132
02:00 PM	2	16	23	41	23	5	2	30	4	22	ŏ	26	9	23	3	35	132
02:30 PM	1	17	20	38	37	2	5	44	2	19	1	22	9	13	5	27	131
02:45 PM	ó	19	23	42	29	2	0	31	3	22	4	29	8	8	1	17	119
Total	3	61	76	140	115	30	9	154	12	77	11	100	32	77	11	120	514
		V. <del>S</del> are		1. A. C.				uncort.it	the transfer			consists 1					
03:00 PM	1	13	20	34	41	5	3	49	5	39	2	46	2	10	0	12	141
03:15 PM	3	12	26	41	29	13	0	42	2	32	1	35	6	5	3	14	132
03:30 PM	0	14	24	38	24	13	6	43	4	36	6	46	10	8	6	24	151
03:45 PM	2	16	29	47	22	4	3	29	7	35	3	45	5	8	2	15	136
Total	6	55	99	160	116	35	12	163	18	142	12	172	23	31	11	65	560

### Robert E. Bollinger Engineering, P.L.L.C 74 Northeastern Blvd., Suite 20B

74 Northeastern Blvd., Suite 20B Nashua, NH 03062 603-880-5100 (Tel)

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City, State: Merrimack, NH

603-880-6507 (Fax)

www.reb-eng.com

File Name: Baboosic Lake & McQuestion

Site Code : 06004 Start Date : 12/5/2006

Page No : 2

Groups Printed- Cars - Trucks

	В	aboosic	Lake	Rd.	В	aboosic				McQue	stion Ro	<u>1</u> _	Ma	deline	Bennet	t Ln.	
	Southbound				West	bound		Northbound				Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int, Total
04:00 PM	1	20	19	40	32	3	2	37	0	45	2	47	4	8	1	13	137
04:15 PM	2	20	18	40	52	1	4	57	0	47	0	47	2	2	2	6	150
04:30 PM	0	12	20	32	40	3	4	47	6	36	1	43	0	3	0	3	125
04:45 PM	1	15	17	33	32	0	2	34	5	47	2	54	1	4	2	7	128
Total	4	67	74	145	156	7	12	175	11	175	5	191	7	17	5	29	540
05:00 PM	2	19	12	33	30	4	4	38	5	46	3	54	1	1	1	3	128
05:15 PM	3	19	23	45	26	8	6	40	3	73	11	87	2	4	2	8	180
05:30 PM	12	15	15	42	18	13	1	32	8	68	13	89	11	12	10	33	196
05:45 PM	5	25	16	46	29	12	3	44	5	77	11	93	2	7	0	9	192
Total	22	78	66	166	103	37	14	154	21	264	38	323	16	24	13	53	696
			. 1														
06:00 PM	1	21	18	40 ]	26	4	. 8	38	3 -	58	6	67	0	1	2	3	148
06:15 PM	0	14	23	37	27	7	3	37	4	47	4	55	1	3	0	4	133
06:30 PM	1	18	13	32	39	9	2	50	3	41	8	52	1	1	0	2	136
06:45 PM	11	24	10	45	19	30	1	50	2	42	25	69	14	19	4	37	201
Total	13	77	64	154	111	50	14	175	12	188	43	243	16	24	6	46	618
Grand Total	121	1362	995	2478	1023	389	124	1536	142	1165	246	1553	200	324	94	618	6185
Apprch %	4.9	55	40.2	1	66.6	25.3	8.1		9.1	75	15.8		32.4	52.4	15.2	1	
Total %	2	22	16.1	40.1	16.5	6.3	2	24.8	2.3	18.8	4	25.1	3.2	5.2	1.5	10	
Cars	111	1327	948	2386	962	344	115	1421	139	1136	239	1514	190	295	86	571	5892
% Cars	91.7	97.4	95.3	96.3	94	88.4	92.7	92.5	97.9	97.5	97.2	97.5	95	91	91.5	92.4	95.3
Trucks	10	35	47	92	61	45	9	115	3	29	7	39	10	29	8	47	293
% Trucks	8.3	2.6	4.7	3.7	6	11.6	.7.3	7.5	2.1	2.5	2.8	2.5	5	9	8.5	7.6	4.7

Robert E. Bollinger Engineering, P.L.L.C 74 Northeastern Blvd., Suite 20B Nashua, NH 03062

603-880-5100 (Tel) 603-880-6507 (Fax)

N/S: Baboosic Lake Road/McQuestion Road E/W: Madeline Bennett/Baboosic Lake Road

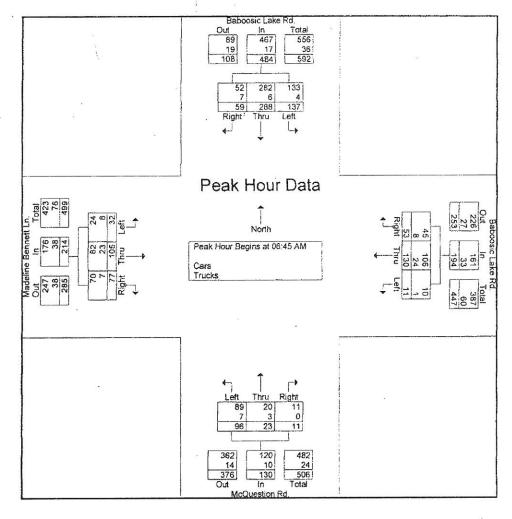
City, State: Merrimack, NH

www.reb-eng.com

File Name: Baboosic Lake & McQuestion

Site Code : 06004 Start Date : 12/5/2006

-	В		Lake F bound	Rd.	Ba	Baboosic Lake Rd. Westbound			1		stion Rd bound		Madeline Bennett Ln. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Ana	lysis Fr	om 06:0	O AM to	06:45 F	M - Pea	k 1 of 1											
Peak Hour for I	Entire Ir	tersecti	ion Begi	ns at 06	45 AM												
06:45 AM	24	44	38	106	6	27	2	35	2	5	26	33	7	15	4	26	200
07:00 AM	21	65	45	131	9	45	3	57	5	7	40	52	26	38	12	76	316
07:15 AM	11	81	23	115	16	54	2	72	3	7	25	35	35	45	10	90	312
07:30 AM	3	98	31	132	22	4	. 4	30	1	4	5	10	9	7	6	22	194
Total Volume	59	288	137	484	53	130	11	194	11	23	96	130	77	105	32	214	1022
% App. Total	12.2	59.5	28.3		27.3	67	5.7		8.5	17.7	73.8		36	49.1	15		
PHF	.615	.735	.761	.917	.602	.602	.688	.674	.550	.821	.600	.625	.550	.583	.667	.594	.809
Cars	52	282	133	467	45	106	10	161	11	20	89	120	70	82	24	176	924
% Cars	88.1	97.9	97.1	96.5	84.9	81.5	90.9	83.0	100	87.0	92.7	92.3	90.9	78.1	75.0	82.2	90.4
Trucks	7	6	4	17	8	24	: 1	33	0	3	7	10	7	23	8	38	98
% Trucks	11.9	2.1	2.9	3.5	15.1	18.5	9.1	17.0	0	13.0	7.3	7.7	9.1	21.9	25.0	17.8	9.6



# Robert E. Bollinger Engineering, P.L.L.C 74 Northeastern Blvd., Suite 20B

Nashua, NH 03062 603-880-5100 (Tel) 603-880-6507 (Fax)

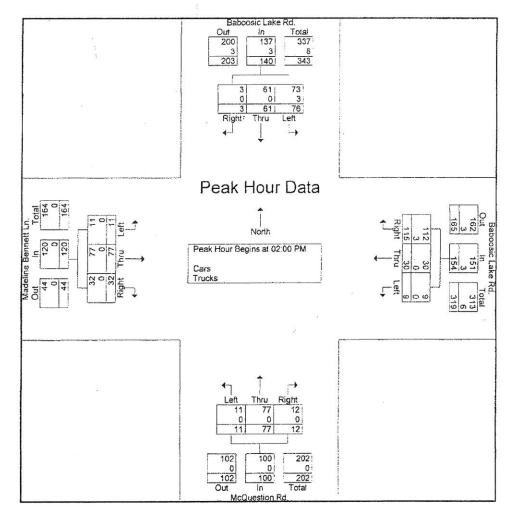
N/S: Baboosic Lake Road/McQuestion Road E/W: Madeline Bennett/Baboosic Lake Road

City, State: Merrimack, NH

File Name: Baboosic Lake & McQuestion www.reb-eng.com

Site Code : 06004 Start Date : 12/5/2006

	В		Lake F	₹d.	В	Baboosic Lake Rd. Westbound			ı	McQues North		d.	Ма	deline l Easti	Bennet bound	t Ln.	
Start Time	Right	Thru	- A. T	App. Total	Right	Thru	Left	App. Total	Right	Right   Thru   Left   App. Total   Right   Th		Thru	Left	Int. Total			
Peak Hour Ana	lysis Fr	om 02:0	00 PM to	02:45 F	M - Pea	k 1 of	1 .										V.III.II. X. 12.
Peak Hour for I	Entire In	tersect	ion Beg	ins at 02	:00 PM												
02:00 PM	0	9	10	19	26	21	2	49	3	14	6	23	6	33	2	41	132
02:15 PM	2	16	23	41	23	5	2	30	4	22	0	26	9	23	3	35	132
02:30 PM	1	17	20	38	37	2	5	44	2	19	1	22	9	13	5	27	131
02:45 PM	0	19	23	42	29	2	0	31	3	22	4	29	8	8	1	17	119
Total Volume	3	61	76	140	115	30	9	154	12	77	11	100	32	77	11	120	514
% App. Total	2.1	43.6	54.3		74.7	19.5	5.8		12	77	11		26.7	64.2	9.2		
PHF	.375	.803	.826	.833	.777	.357	.450	.786	.750	.875	.458	.862	.889	.583	.550	.732	.973
Cars	3	61	73	137	112	30	9	151	12	77	11	100	32	77	11	120	508
% Cars	100	100	96.1	97.9	97.4	100	100	98.1	100	100	100	100	100	100	100	100	98.8
Trucks	0	0	3	3	3	0	0	3	0.	0	0	0	0	0	0	0	6
% Trucks	0	0	3.9	2.1	2.6	0	0	1.9	0	0	0	0	0	0	0	0	1.2



### Robert E. Bollinger Engineering, P.L.L.C

74 Northeastern Blvd., Suite 20B Nashua, NH 03062

603-880-5100 (Tel) 603-880-6507 (Fax) www.reb-eng.com

N/S: Baboosic Lake Road/McQuestion Road

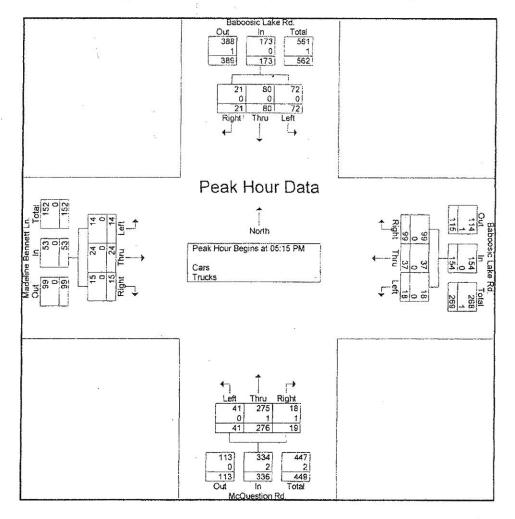
E/W: Madeline Bennett/Baboosic Lake Road

City, State: Merrimack, NH

File Name: Baboosic Lake & McQuestion

Site Code : 06004 Start Date : 12/5/2006

	В		Lake F	Rd.	В	aboosic	Lake I	Rd.		McQue North	stion R	d.	Ma	ideline East	t Ln.		
Start Time	Right	*****		App. Total	Right				Right	Thru			Right	Thru	Left	App. Total	Int. Total
Peak Hour Ana	lysis Fr	om 01:4											7/			, r.pp. rotal	
Peak Hour for I	Entire In	tersect	ion Beg	ins at 05	15 PM												
05:15 PM	3	19	23	45	26	8	6	40	3	73	11	87	2	4	2	8	180
05:30 PM	12	15	15	42	18	13	1	32	8	68	13	89	11	12	10	33	196
05:45 PM	5	25	16	46	29	12	3	44	5	77	11	93	2	7	0	9	192
06:00 PM	1	21	18	40	26	4	8	38	3	58	6	67	0	1	2	3	148
Total Volume	21	80	72	173	99	37	18	154	19	276	41	336	15	24	14	53	716
% App. Total	12.1	46.2	41.6		64.3	24	11.7		5.7	82.1	12.2		28.3	45.3	26.4		
PHF	.438	.800	.783	.940	.853	.712	.563	.875	.594	.896	.788	.903	.341	.500	.350	.402	.913
Cars	21	80	72	173	99	37	18	154	18	275	41	334	15	24	14	53	714
% Cars	100	100	100	100	100	100	100	100	94.7	99.6	100	99.4	100	100	100	100	99.7
Trucks	0	0	0	0	0	0	. 0	0	1	1	0	2	0	0	0	0	2
% Trucks	0	0	0	0	0	0	0	0	5.3	0.4	0	0.6	0	0	0	0	0.3



# Pedestrian Count Baboosic Lake Road at McQuestion Road and Madeline Bennett Lane Observed on Tuesday, December 5, 2006

Time Interval	East/West	North/South	<u>Total</u>	
600-615	0	0	0	
615-630	0	0	0	
630-645	0	0	0	
645-700	0	0	0	
700-715	1	0	1	
715-730	0	0 ,	0	
730-745	1	0	1	
745-800	0	0	0	
800-815	0	0	0	
815-830	0	0	0	
830-845	0	0	0	
845-900	0	2	2	
900-915	0	0	0	
915-930	0	3	3	i
930-945	. 0	Ο.	0 .	
945-1000	. 0 '	0	0	
1000-1015	0 ,	0	0	
1015-1030	0	0	. 0 .	
1030-1045	0	0	0	
1045-1100	0	0	0	
1100-1115	0	O	0	
1115-1130	0 \	0	0	
1130-1145	0	0	0	
1145-1200	0	0	0	
1200-1215	0 -	0	0	
1215-1230	0	0	. 0	
1230-1245	6	6 🔻	12	
1245-1300	0	0	0	
1300-1315	0	0	0	
1315-1330	0	0	0	
1330-1345	Ō	0	Ō	
1345-1400	0	0	0	
1400-1415	0	0	Ō	
1415-1430	3	0	3	
1430-1445	Ö	0	0	
1445-1500	0	ő	0	
1500-1515	0	Ö	0	
1515-1530	0	1	1	
1530-1545	0 .	Ö	Ó	
1545-1600	0	0	0	
1600-1615	0	0	0	
1615-1630	0	1	1	
		1	1	
1630-1645 1645-1700	0	0	0	
1700-1715	0	0	0	
1715-1730	0	0	0	
1730-1745	0	0	0	
1745-1800	0	0	0	
1800-1815	0	0	. 0	
1815-1830	0	0	0	
1830-1845	0	0	0	
1845-1900	0	0 .	0 .	
Total	11	14	25	

Hour	Total
600-700	0
700-800	2
800-900	2
900-1000	3
1000-1100	0
1100-1200	0
1200-1300	12
1300-1400	0
1400-1500	3
1500-1600	1
1600-1700	2
1700-1800	0
1800-1900	0
Total	25

Job No. 06004 Merrimack, NH

### Group 4 Averages

Peak Hou	ır Data							
Group 4 /	Averages	Urban Hig	hways					
				i Da	1.			
Month	AM	Mid	PM	Sat Mid	AM	Mid	PM	Sat Mid
Jan	17956	14139	20629	16378		1.13	1.10	1.1
Feb	16671	13272	19515	15865		1.20	1.16	1.14
Mar	17336	13673	20008	14073		1.17	1.13	1.29
Apr	17917	14739	21300	16719		1.08	1.06	1.08
May	20989	17281	24791	19788	0.91	0.92	0.91	0.92
Jun	21214	17725	24685	19584	0.90	0.90	0.92	0.93
Jul	19199	18275	24496	19701	0.99	0.87	0.92	0.92
Aug	19866	17943	24543	20056	0.96	0.89	0.92	0.90
Sep	20685	16715	24240	19055	0.92	0.96	0.93	0.95
Oct .	121552	17:118	24644	19538	0.88	0.93	0.92	0.93
Nov	18378	15225	21563	18309	1.04	1.05	1.05	0.99
Dec	16861	15537	21102	18520	(1.13)	1.03)	1.07	0.98
Average	19052	15970	22626	18132				
If a Statio	n has mon	oths with no on Average		s not inclu	ided here.			



# Spot Speed Study

Client:

Merrimack School District

Location:

Baboosic Lake Rd, north of Marty Dr

(south end)

Job #:

06004

Date:

Wednesday, December 6, 2006

Town/City:

Merrimack, NH

Weather:

clear, 46° F

### I. Recorded Data

	North	bound				Sout	hbound	
Observation	Speed (mph)	Observation	Speed (mph)	i	Observation	Speed (mph)	Observation	Speed (mph)
. 1	37	21 '	37		1	39	21	35
2	41	22	41		2	41	22	43
3	43	23	39		3	38	2,3	42
4	47	24	43		4	42	24	37
5	41	. 25	38		5	38	25	44
6	41	26	45		6	38	26	32
7	39	27	41		7	41	27	35
8	38	28	38		8	42	28	40
9	37	29	36		9	37	29	42
10	45	30	42		10	40	30	42
11	44	31	36		11	36	31	39
12	46	32	40		12	36	32	48
13	37	33	38		13	43	33	37
- 14	41	34	36		14	45	34	43
15	40	35	45		15	37	35	44
16	43	36	34		16	38	36	42
17	39	37	43		17	36	37	32
18	37	38	45		18	37	38	38
19	35	39	44		19	36	39	41
20	37	40	37		20	43	40	55

### II. Statistical Summaries

Northbound	Ė	Southboun	d
Observations =	40 vehicles	Observations =	40 vehicles
High Speed = .	47 mph	High Speed =	55 mph
Low Speed =	34 mph	Low Speed =	32 mph
Average Speed =	40 mph	Average Speed =	40 mph
Median Speed =	40 mph	Median Speed =	40 mph
85th Percentile Speed =	44 mph	85th Percentile Speed =	43 mph
Posted Speed Limit =	30 mph	Posted Speed Limit =	30 mph



## Spot Speed Study

Client:

Merrimack School District

Job#:

06004

Town/City: Merrimack, NH Location:

McQuestion Rd., north of Ellie Dr.

Wednesday, December 6, 2006 Date:

Weather:

clear, 46° F

### I. Recorded Data

### Northbound

### Southbound

Observation	Speed (mph)	Observation	Speed (mph)		Observation	Speed (mph)	Observation	Speed (mph)
1	36	21	47	-	1	35	21	39
2	42	22	35	į	2	38	22	39
3	38	23	33		3	38	23	40
4	36	24	38.		. 4	40	24	38
5	38	25	39		5	40	25	38
6	35	26	35		6	42	26	37
7	33	27	35		7	39	27	43
8	36	28	40		8	36	28	43
9	44	29	35		9	42	29	38
10	39	30	38		10	40	30	42
11	34	31	. 38		11	39	31	41
12	39	32	36		12	42	32	43
13	34	33	41	1	13	38	33	41
14	39	34	32		14	38	34	39
15	37	35	40		15	36	35	35
16	41	36	43		16	39	36	43
17	40	37	34		17	41	37	45
18	36	38	39		18	31	38	37
19	36	39	43		19	37	39	39
20	42	40	43		20	43	40	40

### II. Statistical Summaries

Northbound		Southbound	
Observations =	40 vehicles	Observations =	40 vehicles
High Speed =	47 mph	High Speed =	45 mph
Low Speed =	32 mph	Low Speed =	31 mph
Average Speed =	38 mph	Average Speed =	39 mph
Median Speed =	38 mph	Median Speed =	39 mph
85th Percentile Speed =	42 mph	85th Percentile Speed =	42 mph
Posted Speed Limit =	30 mph	Posted Speed Limit =	30 mph

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MERRIMACK

AIR

	02: Other Divided Highway 98: Other 03: Not Physically Divided 99: Unknown 04: Undivided Road I Way Traffic	RF: Additional Roadway Features	01: Roadway Under Construction 04: None of the Above 02: Roadway Inder Maintenance 99: Unknown	ssing		01: Straight and Level – 04: Curve and Level 98: Other 02: Straight and Grade 05: Curve and Grade 99: Unknown 03: Straight at Hillerest 06: Curve at Hillerest 00: Unknown		11: Normal OS: Loses Gravel / Matter	Holes / Bumps 98:	03; Worn 04: Low / Soff Shoulders 00: Unknown	OC. C. mfan Contillance Openham	of the condition of regulary	01: Dry 04: Ice 07: Sand/Dust/Oil	w/Slush 06: Debris 99:	LT: Lighting Condition at Time of Accident	01: Baylight 06: Dark - No Street Lights	.86	03: Dusk od: Dark - Stroot Lights On 60: Unknown		WF: Weather Conditions at Time of Accident	M. Class	07: Claudy	03: Rain	Snow 11:	05;	Fog Blowing Material	DC: Diagram Code (Angle of Vehicles at Collision)		02: Callision While Passing 07: Head On Collision	Collision at Right Angle 98: Other	The state of the s
FILE LEGEND		MM: Month of Accident DD: Day of Month	¥	PK: Number of Pedestrain Fatalities PI: Number of Pedestrian Injuries		B.	12: Spill (2 Wheel Vehicle) 13: Fire			17: Motor Vehicle in Transport 18: Pedal Cycle / Moped		98: Unknown			11: Barrier / Fence					98: Other 00: Thknown / None		ON CTBEET. Occurred on Street Name	1		INT STREET; Intersecting Street Name		07; Ramp / Rotary		10;	nan	
ACCIDENT	YRCASE	YR: Year of Accident Case: D.O.S. Accident File Number	Day: Day of Week of Accident	K: Total Fatalities PK: Numl I: Total Injuries PI: Numb	V: Number of Vehicles Involved	TY: Type of Accident	91; Other Motor Vehicle 12; 02; Motor Vehicle Crossine Median 13;	03: Parked Motor Vehicle	04: Kanroau 11 am 05: Bicyclist	06; Pedestrian 07: Animal		09: Other Object		OS: Object Struck		UZ: Sign Fost		05: Light Pole	05: Tree	08; Building / Wall	10: Median	The second second	ONRIE: Occurred On Koure	D. Direction from Intersecting Street	INRTE: Intersecting Route	FE: Location of First Harmful Event	01: At Intersection	03; Along the Road	04: Along the Road at Driveway Access	05: Off Roadway on Shoulder / Median 06: Off Roadway Beyond Shoulder	

2 REPORT PAGE: 69 RD RF AL CO SC LT WT 03 04 01 01 03 01 04 03 04 05 98 03 01 04 03 04 05 98 03 01 04 03 04 05 98 03 01 04	02 04 05 01 01 04 01 03 04 04 01 03 04 04 01 01 02 03 04 04 01 01 01 02 03 04 04 01 01 01 02 03 04 06 01 01 06 01 03 04 05 01 05 01 04 04 05 01 05 01 04 04 05 01 05 01 04	03 03 04 01 01 01 01 02 98 01 03 04 01 01 01 01 02 98 01 03 04 01 01 01 06 01 04 05 03 04 02 98 03 01 04 98 01 02 04 04 01 01 01 01 98 03 03 04 01 01 01 01 98 03 03 04 01 01 01 01 98 03 03 00 00 00 02 98 98 03 00 00 00 01 08 01 98	03 03 04 04 03 03 01 04 98. 03 03 04 05 01 01 04 01 98 01 03 04 04 01 01 01 01 08 03 03 04 04 01 02 01 01 98 03 03 04 05 01 02 01 01 98 03 03 04 05 01 02 04 01 98 01 03 04 05 98 03 01 04 98 03 03 04 05 01 01 01 01 98 03 03 04 05 01 01 01 01 98	05 00 00 00 01 00 01 03 04 01 01 01 01 01 03 04 01 01 01 01 01 03 04 03 01 02 06 01 2 REPORT PAGE: 69	: 3 REPORT PAGE: 691
TY: HILLSBOROUGH TOWN PAGE; INRTE INT STREET FE  CROSS STREET 03  CROSS STREET 03  LESTER ROAD 04  MEETINGHOUSE 04	DGE RD	TEKK NCE DR VE DR DR LAKE RD	39 BACKRIVER RD  BELMONT ST  BROOKFIELD DR  COUNTRY CLUB LANE  PHEASANT RUN  RIES DRIVE  RIVER ROAD  SPRING POND RD  CAYMOND DRIVE  DHEASANT RUN  O  O  RAYMOND DRIVE  O  O  O  O  O  O  O  O  O  D  O  D  O  D  O  D  O  D  O  D  O  D  O  D  D	BABOOSIC LAKE RD 03 BABOOSIC LAKE RD 04 BEDFORD ROAD 03 BACK RIVER 01 HILLSBOROUGH TOWN PAGE:	HILLSBOROUGH TOWN PAGE;
REPORT COUNTY: D INR? F W F E F E F AT	300/F E AT 50/F W AT AT 300/F W	AT AT 1056/F W AT 1380/F E 150/F W	AT 500/F S 10/F S AT AT 200/F N 1/F E 100/F N	MTY:	
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ON 06/06/02 MASTR PK PI V TY OS ONRTE 2 01 00 2 01 00 06 1 10 06 2 01 00 1 10 06 1 10 06	1 07 00 2 01 00 2 01 00 2 01 00 2 01 00 1 11 00 3 01 00 2 01 00	01 01 01 01 01 01	2 01 00 0 10 98 0 10 98 1 07 00 2 01 00 1 07 00 2 01 00 2 01 00	2 03 00 1 10 17 2 01 00 1 10 17 2 01 00 06/06/02 MASTR	6/06/02 MASTR
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2006 TRAFFIC SIGNAL WARRANTS ANALYSIS - 06004, BABOOSIC LAKE ROAD AT MCQUESTION ROAD & MADELINE BENNETT LANE MERRIMACK, NEW HAMPSHIRE 1 LANE MAJOR APPROACH / 2 LANES MINOR APPROACH

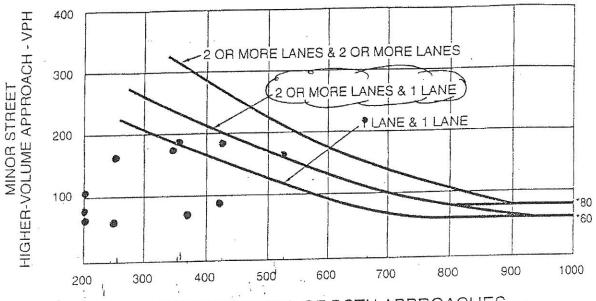
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1		voich.	Major	VARIES	VARIES	VARIES	VARIES	VARIES	VAPIES	VADITO	の出とよう	VARIES	VARIES	VARIES	MARIES		VARIED	VARIES		Hours Satisfied	Hours Dog	Marrant Satisfied	Valiant Sa
	T	т	.T																			`	7
8		Satisfied	Causilet	0	-	0	0	0	C	o c	> 6	0	0	0	C	,	-	0		~	7	2	
WARRANT 28		Minor	1011111	VARIES	VARIES	VARIES	VARIES	VARIES	VARIES	VARIES	OLIVE ON THE	VARIES	VARIES	VARIES	VARIES	VADICE	01210	VARIES		þ	Pa	fied	
M		Major	of the state of the	VARIES	VARIES	VARIES	VARIES	VARIES	VARIES	VARIES		クロアイン	VARIES	VARIES	VARIES	VAPIES	3	VARIES		Hours Satisfied	Hours Required	Warrant Satisfied	
	T		. [	_									-										נ
(%04)		Satisfied		<b>&gt;</b>	τ-	0	0	0	0	0	· c	) (	0	0	0	C	) !	0		۲	8	02	
WARRANT 1B (70%)		Minor	20	2 1	70	20	20	70	70	70	2.0	0 0	9	70	70	70		0/		fied	ired	fisfied	-
WAR		Major	505	2 2 2	525	525	525	525	525	525	525	) (	272	525	525	525	1 (	272		Hours Satisfied	Hours Required	Warrant Satisfied	
			Г													_	_						1
(%02)		Satisfied	c	,	- 1	o	0	0	0	0	c	0 0	٠ د	Υ-	-	-	•	_	,	S	æ	9	
WARRANT 1A		Minor	140		140	140	140	140	140	140	140	4.40	0.	140	140	140	2.7	240		lled	ired	isfied	
WAR		Major	350	0 7 6	320	350	350	350	350	350	350	250	000	320	350	350	040	220		Hours Satisfied	Hours Required	Warrant Satisfied	
					****																=		
(Average Month)		Minor	7.5	210	612	97	19	χòi	7.1	71	107	שאלי	3 1	4/-	181	165	187	2					
(Averag		Major	372	667	100	174	240	184	172	195	191	257	200	333	328	524	426	245					
1		Time	6-7	7-8	o c	0 0	2 5	;	11-12	12-1	1-2	2-3	) ( ) 4	4 1	t-4	5-6	6-7						

See attached graphs.

# Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES— VEHICLES PER HOUR (VPH)

\*Note: 80.vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

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Table 4
SIGNAL WARRANT ANALYSIS TRAFFIC VOLUMES (vph)

2006 Average Month Traffic Conditions<sup>1</sup>

Madeline Traffic Volumes Utilized Baboosic Baboosic McQuestion Bennett Lane for Signal Warrants Lake Road Road Lake Road Major<sup>2</sup> Minor3 WB EB TIME SB NB 6-7 Y J7 7-8 8-9 N 9-10 10-11 N 11-12 12-1 1-2 2-3 3-4 4-5 ₹5-6 

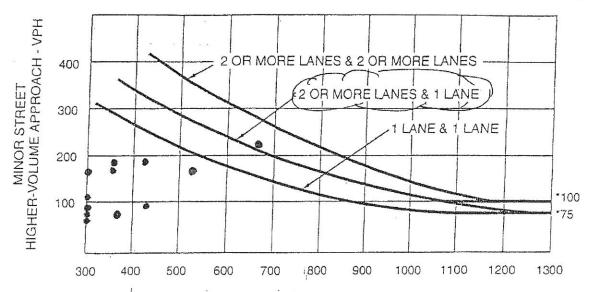
<sup>&</sup>lt;sup>1</sup> According to the MUTCD an engineering study for determining signal warrants should be based on an average day; volumes shown are based on NHDOT Seasonal Adjustment Factors.

<sup>&</sup>lt;sup>2</sup> Vehicles per hour on major sreet (total of both approaches); major street is considered NB McQuestion Rd. approach, and SB Baboosic Lake Rd. approach.

<sup>&</sup>lt;sup>3</sup> Vehicles per hour on higher-volume minor street approach (one direction only); minor street is considered the higher of the EB Madeline Bennett Lane approach, or the WB Baboosic Lake Rd. approach.

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



### MAJOR STREET—TOTAL OF BOTH APPROACHES— VEHICLES PER HOUR (VPH)

\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Table 4
SIGNAL WARRANT ANALYSIS TRAFFIC VOLUMES (vph)

2006 Average Month Traffic Conditions1

	Baboosic Lake Road	McQuestion Road	Baboosic Lake Road	Madeline Bennett Lane		umes Utilized al Warrants	Warrant
TIME	SB	NB	WB	EB	Major <sup>2</sup>	Minor <sup>3</sup>	YIN
6-7	313	59	75	33	372	75	N
<del>→&gt;</del> 7-8	546	121	207	219	667	219	Y
8-9	377	50	92	18	427	92	N
9-10	194	52	67	15	246	67	$\mathcal{N}$
10-11	119	65	87	13	184	87	$\sim$
11-12	115	57	71	12	172	71	$\mathcal{N}$
12-1	115	80	71	12	195	71	N
1-2	110	81	107	16	191	107	N
2-3	150	107	165	128	257	165	N
3-4	171	184	174	70	355	174	N
4-5	155	204	187	31	359	187	N
5-6	178	346	165	57	524	165	N
6-7	165	260	187	49	425	187	N

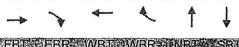
<sup>&</sup>lt;sup>1</sup> According to the MUTCD an engineering study for determining signal warrants should be based on an average day; volumes shown are based on NHDOT Seasonal Adjustment Factors.

Sect 4C.0t

<sup>&</sup>lt;sup>2</sup> Vehicles per hour on major sreet (total of both approaches); major street is considered NB McQuestion Rd. approach, and SB Baboosic Lake Rd. approach.

<sup>&</sup>lt;sup>3</sup> Vehicles per hour on higher-volume minor street approach (one direction only); minor street is considered the higher of the EB Madeline Bennett Lane approach, or the WB Baboosic Lake Rd. approach.

	À	->	V	•	4	*	4	<b>†</b>	1	100	1	4
Movement	EBL	EBIT	EBR	WBL	WBT/	WBR	ENBE	WNBT.	NBR 2	SBL	SBT	SBR
Lane Configurations		4	7		· 4	7		4			4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	11	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0	in en gordiniste. Marianti en		4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85	a-la tej		0.85		- 0.99	in in		0.98	
Flt Protected		0.99	1.00		1.00	1.00		0.96			0.99	
Satd. Flow (prot)		1531	1482		1601	1358		1629	20.00		1721	
Fit Permitted		0.99	1.00		1.00	1.00		0.96			0.99	
Satd. Flow (perm)		1531	1482		1601	1358		1629			1721	
Volume (vph)	32	105	77	11	130	53	96	23	11	137	288	59
Peak-hour factor, PHF	0.59	0.59	0.59	0.67	0.67	0.67	0.63	0.63	0.63	0.92	0.92	0.92
Adj. Flow (vph)	54	178	131	16	194	79	152	37	17	149	313	64
RTOR Reduction (vph)	0	0	0	. 0	1 0		0	4	.0	0	6	0
Lane Group Flow (vph)	, 0	232.	131	. 0	210	28	0	202	0	0	520	0
Heavy Vehicles (%)	25%	22%	. 9%	- 9%	19%	15%	7%	13%	0%	3%	2%	12%
Turn Type	Split		Perm	Split		Perm	Split			Split		
Protected Phases	4	4	- <b>1</b>	8	. 8		2	2		, 6	. 6	
Permitted Phases			4			8						
Actuated Green, G (s)		12.0	12.0		10.0	10.0	ar Phil	10.0			23.9	
Effective Green, g (s)	2.0	14.0	14.0	- 53	12.0	12.0		12.0			25.9	
Actuated g/C Ratio		0.18	0.18		0.15	0.15		0.15			0.32	
Clearance Time (s)		6.0	6.0		6.0	6.0		6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3 1 25	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		268	260	, :	240	204		245			558	
v/s Ratio Prot		c0.15			c0.13	in a ma		c0.12	.= .		c0.30	
v/s Ratio Perm			0.09			0.02					2000 2000	11
v/c Ratio		0.87	0.50		0.88	0.14		0.82			0.93	
Uniform Delay, d1		32.0	29.8		33.2	29.5		32.9			26.1	
Progression Factor		1.00	1.00	4.154	1.00	1.00		1.00			1.00	
Incremental Delay, d2		24.0	1.5		27.8	0.3		19.6	(80)		22.6	
Delay (s)		56.1	31.3		61.0	29.8	1, 1,	52.5			48.7	
Level of Service		Ε	С		E	C	E 100 100 100	D	60 E		D	
Approach Delay (s)		47.1		1 / 1	52.5		· ,,,	52.5			48.7	
Approach LOS		D			D			D			D	
Intersection Summary					Here's							
HCM Average Control D	elay		49.6	ŀ	ICM Le	vel of Se	ervice		D			
HCM Volume to Capacit	y ratio		0.89					e de la compania				
Actuated Cycle Length (	s)		79.9			lost time			16.0			
Intersection Capacity Ut		191	50.3%		CU Lev	el of Sei	rvice	Section 1	: A			
Analysis Period (min)			15	and a second			en later	the contract of the				
c Critical Lane Group									. 17 4 4			



Lane Group	EBT.	SEBR	WBT	<b>PWBR</b>	NBI	SBL
Lane Configurations	स	74	ર્સ	74	43	<del>.</del>
Volume (vph)	105	77	130	53	23	
Lane Group Flow (vph)	232	131	210	79	206	526
Turn Type	to see	Perm	and the	Perm		
Protected Phases	4		8		2	6
Permitted Phases		4	j.	8		
Detector Phases	4	4	8	8	2	6
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	18.0	18.0	16.0	16.0	16.0	30.0
Total Split (%)	22.5%	22.5%	20.0%	20.0%	20.0%	37.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag					1	
Lead-Lag Optimize?	1					the state of the s
Recall Mode	None	None	None	None	None	None
v/c Ratio	0.87	0.51	0.88	0.31	0.83	0.93
Control Delay	63.7	37.5	68.9	15.9	60.5	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	37.5	68.9	15.9	60.5	52.3
Queue Length 50th (ft)	114	60	104	8	99	248
Queue Length 95th (ft)	116	71	#135	27	112	#442
Internal Link Dist (ft)	1603		1821		1417	1247
Turn Bay Length (ft)		175		50		
Base Capacity (vph)	268	259	240	255		566
Starvation Cap Reductn	. 0	0	. 0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	. 0	. 0	0	0.	0	0
Reduced v/c Ratio	0.87	0.51	0.88	0.31	0.83	0.93
Intersection Summary.					Aft Est	
Thersection Summary 5	ut Fabiliti	X 15 1.45		<b>经外部的</b>	2000年	

Cycle Length: 80

Actuated Cycle Length: 79.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Madeline Bennett Lane & Baboosic Lake Road

<b>√</b> <sub>@2</sub>	<b>№</b> ø6	Ø4	<b>₹</b> 68	
16s 2000	# 90 Set / 19 Set / 1		100000000000000000000000000000000000000	- 188

	ᄼ	->	V	*	<b>←</b>	4	4	1	P	1	*	4
Movement Service But AEBUT ABOUT WAR WAR AND NOT NOR SBLY SBLY SBLY												
Lane Configurations		र्स	74		स	۴		4			€}>	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	11	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		4.0	day address		4.0		e dan e	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00	gran - space		1.00	
Frt		1.00	0.85		1.00	0.85		0.98			1.00	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.97	
Satd. Flow (prot)		1543	1482		1609	1358		1617	Mi Kilina	·	1734	
Flt Permitted		0.99	1.00		0.99	1.00		0.99			0.97	
Satd. Flow (perm)		1543	1482		1609	1358	y wash	1617			1734	
Volume (vph)	11	77	32	9	30	115	11	. 77	12	76	61	3
Peak-hour factor, PHF	0.73	0.73	0.73	0.79	0.79	0.79	0.86	0.86	0.86	0.83	0.83	0.83
Adj. Flow (vph)	15	105	44	11	38	146	13	90	14	92	73	4
RTOR Reduction (vph)	. 0	. 0	0	0	J. O.	sed Cartifican a same	0.	. 10	. 0	0	2	0
Lane Group Flow (vph)	, 0	120.	44	. 0	49	20	0	107	0	0	167	0
Heavy Vehicles (%)	25%	22%	9%	9%	19%		7%	13%	3%	3%	2%	12%
Turn Type	Split		Perm	Split		Perm	Split			Split		
Protected Phases	. 4	4		8	8		2	2		6	6	
Permitted Phases			4			8				9		
Actuated Green, G (s)	7	5.8	5.8		4.1	4.1		5.8			5.8	
Effective Green, g (s)	N.	7.8	7.8		6.1	6.1		7.8			7.8	
Actuated g/C Ratio		0.17	0.17	44.	0.13		Advis di	0.17	a de la		0.17	
Clearance Time (s)		6.0	6.0		6.0	6.0	A	6.0			6.0	
Vehicle Extension (s)	1	'3.0	3.0	1.0	3.0	3.0	40 (	3.0			3.0	
Lane Grp Cap (vph)		265	254		216	182	(1981 S.W.	277			297	
v/s Ratio Prot		c0.08		J. 4636	c0.03	the late of the same		c0.07	A. A. B.		c0.10	
v/s Ratio Perm			0.03			0.01	en ere a		100			
v/c Ratio		0.45	0.17	Augusta J	0.23	0.11	Aught L	0.39	water istir		0.56	
Uniform Delay, d1		16.9	16.1		17.6	17.3		16.7	. 50		17.3	
Progression Factor		1.00	1.00		1.00	, 1.00		1.00			1.00	
Incremental Delay, d2		1.2	0.3		0.5	0.3	A VER E	0.9	- 1,-1;		2.4	
Delay (s)		18.2	16.4		18.1	ু 17. <b>6</b> ু	14	17.6			19.7	
Level of Service		В	В	manage attracts at their	B	B mariatana	grande are an expense	B	e na sejanojaj.		B 19.7	
Approach Delay (s)		17.7	e e e	ili kwanasini	11/2/	Establication	Ar bedalah da	17.6	หรอสแบงในน้ำ		27 0000	
Approach LOS		В			В			В		waterway word commen	В	es diversion statute
Intersection Summary				7.4	<i>C</i> .						R. San	A. H. K.
HCM Average Control D		W. 3	18.2		ICM Le	vel of Se	rvice		<b>B</b>			
HCM Volume to Capacit			0.42	The second state of the second		1802 F 1003			a talkan		# a .	
Actuated Cycle Length (			45.5			ost time		1 127 27	16.0			
Intersection Capacity Utilization 32.3% ICU Level of Service A												
Analysis Period (min)	2 2	3.	15	4991 I 137120	SPRINGER (PRING)	uranasiro et	GB KRITHRYTELI	t par jud	90. 1997 <u>(</u> 1919), 12	a appropriately		16
c Critical Lane Group	and Transition		SECTION OF	1		er dan de	STURFY.		在自治性。	titi ya K	7.0	

		*	4	1	1	Ţ	
Lane Group	EBT	EBR	W YVBT	<b>W</b> BR	TENBI	, SBI	
Lane Configurations	स	71	ની	74	4	• 4	•
Volume (vph)	77	32	30	115	7 77	61	
Lane Group Flow (vph)	120	44	49	146	117	169	)
Turn Type		Perm		Perm			Control (Control (Con
Protected Phases	4		8	*** 10 ******	2	2 6	2. A Marie Andrea Grand Marie and Ma
Permitted Phases		4	14 g (1822)	8	40430		
Detector Phases	4	4	8	8	2	? 6	Security of the American Market Control of the Cont
Minimum Initial (s)	5.0	- 5.0	5.0	5.0	5.0	5,0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	13.0	13,0	11.0	11.0	13.0	13.0	
Total Split (%)	26.0%	26.0%	22.0%	22.0%	26.0%	26.0%	)
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	<b>)</b> Spanis grant
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag			:				
Lead-Lag Optimize?	ı			2			*************
Recall Mode	None	None	None	None	None	None	
v/c Ratio	0.47	0.18	0.23	0.48	0.42	0.58	
Control Delay	24.5	19.4	22.1	10.3	21.4	26.4	No. I to the second sec
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.5	19.4	22.1	. 10.3	21.4	26.4	
Queue Length 50th (ft)	32	11	13	0	27	45	
Queue Length 95th (ft)	56	26	32	29	.61	84	
Internal Link Dist (ft)	1603		1821		1417	1247	
Turn Bay Length (ft)		175		50			
Base Capacity (vph)	261	251	213	306	284	295	
Starvation Cap Reductn	0	0	0	. 0	. 0	. 0	ie.
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	A 100
Reduced v/c Ratio	0.46	0.18	0.23	0.48	0.41	0.57	

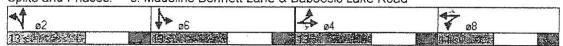
Intersection Summary

Cycle Length: 50

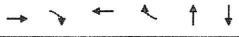
Actuated Cycle Length: 51.7

Natural Cycle: 50

Control Type: Actuated-Uncoordinated



		<b>→</b>	*	1	4-	1	4	†	1	-	1	4
Movement	EBL	EBI.	EBR	<b>EWB</b>	MET	WER	ENBL	ANBTA	NBR.	ZSBE	SBT	SBR
Lane Configurations		4	7		ર્ની	ī <sup>r</sup>		4			4	
Ideal Flow (vphpl)	1900	1900	1900	் 1900°∌	1900	ំ1900	/1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	11	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt	4.3.34	1.00	0.85		1,00	0.85		- 0.99	#svie		0.98	
Flt Protected	7 w	0.98	1.00		0.98	1.00		0.99			0.98	
Satd. Flow (prot)	. 4 4	1866	1615	Servena yere i Talkalan saya	1870	1561		1807			1770	
FIt Permitted		0.98	1.00		0.98	1.00		0.99			0.98	
Satd. Flow (perm)	2 - 1	1866	1615		1870	1561		1807	alakay 1		1770	
Volume (vph)	14	24	15	18	37	99	41	276	19	72	80	21
Peak-hour factor, PHF	0.40	0.40	0.40	≥0.88	0.88	0.88	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	35	60	38	20	42	112	46	307	21	77	85	22
RTOR Reduction (vph)	. 0	0	0	. 0	1 0	99	0	4	0	0	8	0
Lane Group Flow (vph)	, 0	95.	38	٠ 0,	62	13	0	370	0	0	176	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Turn Type	Split		Perm	Split		Perm	Split			Split		
Protected Phases	4	4		8	8	render in der State (1965). Vocas State (1965)	2	2		6	6	
Permitted Phases			4			8		34				
Actuated Green, G (s)	١	3.4	3.4		3:4	3.4		11.5	n ar still e d		5.5	
Effective Green, g (s)	ì	5.4	5.4		5.4	5.4		13.5			7.5	
Actuated g/C Ratio		0.11	0.11		0.11	0.11	ar Late 1	0.28			0.16	
Clearance Time (s)		6.0	.6.0		6.0	6.0		6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0	Y2		3.0	
Lane Grp Cap (vph)		211	182		211	176	19.000	510			278	
v/s Ratio Prot		c0.05			c0.03			c0.21			c0.10	
v/s Ratio Perm			0.02			0.01					101 1212	
v/c Ratio		0.45	0.21		0.29	0.07	8 130	0.73	. A vide		0.63	***
Uniform Delay, d1		19.8	19.3		19.5	19.0		15.5			18.9	
Progression Factor		1.00	1.00	Salah in ini	1.00	1.00	Marie.	1.00			1.00	
Incremental Delay, d2		1.5	0.6	777 TV 1	8.0	0.2		5.1		N	4.6	
Delay (s)		21.3	19.8		20.2	19.1		20.6			23.5	
Level of Service		С	В		C	В	A	С		9	С	
Approach Delay (s)		20.9			19.5			20.6	dia di	i	23.5	
Approach LOS		С			В			С			С	
Intersection Summary											10 TH	
HCM Average Control D	elay		21.0	Н	ICM Lev	vel of Se	rvice	est consists and	С			
HCM Volume to Capacit		erius Nei	0.58		veri				gareer in 1 1000 an oak	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		**
Actuated Cycle Length (			47.8	S	ium of le	ost time	(s)		16.0			
Intersection Capacity Ut			40.0%		CU Leve	el of Sen	vice		, A .			
Analysis Period (min)		. 22	15	nghing mang kipananan manasa man	d buttermounted	Maria pro- es a es a esca-	a i to agree par	eren e marine	ga, a grandy togal yent lik	,		
c Critical Lane Group		Sala						eller Ka	That .	(40) · · ·		



THE PROPERTY PARTY WAS INVESTIGATED AND SECURIOR SECTION AND ADMINISTRATION OF THE PROPERTY PARTY PART	27		Methodo aco			TO THE PARTY OF TH		The second second	and the second	· ************************************	Trans Vir William	NEDEWOOD.		
Lane Group	* E81	FEBR	WIBI	AVBR	NI NI	SSBI					2547			<b>等</b> 不
Lane Configurations	र्स	7	र्स	7	4	4								
Volume (vph)	24	15	"too" at a 25 to	99	. 195 42	47.4								
Lane Group Flow (vph)	95	38	62		374	184		12977						
Turn Type		Perm		Perm			graphy. Garage							
Protected Phases	4		8	727 8 9	. 2	6								
Permitted Phases		4		8					d					
Detector Phases	4	4	8	8	2	6								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0		À À.						
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0								
Total Split (s)	11.0	1		11.0										
Total Split (%)	18.3%	18.3%		18.3%										
Yellow Time (s)	4.0	4.0	4.0	4.0	1 2 - parent	denne to se caree or				1				
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0								
Lead/Lag		¥	A STATE OF	a je diga. Matakana				e le se						
Lead-Lag Optimize?	1			٠.										
Recall Mode	None	None	None	None	None	None								
v/c Ratio	0.35	0.16	0.23	0.35	0.66	0.54								
Control Delay	28.6	25.8	26.4	9.7	22.6	28.5								
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0								
Total Delay	28.6	25.8	26.4	9.7	22.6	28.5				. *				
Queue Length 50th (ft)	32	12	20	0	110	58			•					
Queue Length 95th (ft)	30	16	51	37	189	#129	100	4						
Internal Link Dist (ft)	1603		1821		1417	1247								
Turn Bay Length (ft)	•	175		50		St.		. 88						
Base Capacity (vph)	270	233	270	321	658	362								
Starvation Cap Reductn	0	O.	0	0	0	0								
Spillback Cap Reductn	0	0	0	0	0	0		* / 7	ECSION					
Storage Cap Reductn	0	0	0	0:	0	0								
Reduced v/c Ratio	0.35	0.16	0.23	0.35	0.57	0.51	Augustic Stendar		1					
And the success of the second success of the success of the second												engeregetat		NO THE STATE OF TH
Intersection Summary,		20.00	STATE S		34.6	51 75 75	<b>米</b> /名法	755	<b>扩张器</b> 数			22.2	36,58	統經

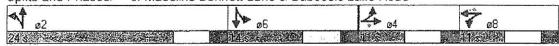
Actuated Cycle Length: 50.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



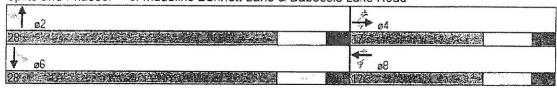
	٨	>	*	1	4-	*	4	1	1	1	1	1
Movement A	EBL	EBT	EBR	W/BP	WBT	WBR	NBL	NBJE	NBR	#SBL	SBT	SBR
Lane Configurations		ন	7		ર્લ	7		4			₩	
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	11	11	11	11	11	11	11
Total Lost time (s)	-111	4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.99			0.98	
Flt Protected		0.99	1.00		1.00	1.00		0.96			0.99	
Satd. Flow (prot)		V 90 0	1482		1601	1358		1629			1721	
Flt Permitted		0.86	1.00		0.96	1.00		0.59			0.85	
Satd. Flow (perm)		1335	1482	19474w-	-	1358	7.643.19 <b>4</b> 20	999			1484	
Volume (vph)	32	105	77	11	130	53	96	23	11	137	288	59
Peak-hour factor, PHF	0.59		0.59	0.67	" Me and the state of	expense has been and the	0.63	0.63	0.63	0.92	0.92	0.92
Adj. Flow (vph)	54	178	131	16	194	79	152	37	17	149	313	64
RTOR Reduction (vph)	0	0	0	0		115 - 1 1	0	7	. 0	. 0	10	0
Lane Group Flow (vph)	, 0	232.	131	. 0	210	19	0	199	0	0	516	0
Heavy Vehicles (%)	25%	22%	9%	9%	19%	15%	7%	13%	0%	3%	2%	12%
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4	1	an Bu	8			2		2	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	5	8.3	8.3		8.3	8.3	100	21.9			21.9	
Effective Green, g (s)	1	10.3	10.3	8	10.3	10.3		23.9			23.9	
Actuated g/C Ratio		0.24	0.24		0.24	0.24		0.57	n e		0.57	
Clearance Time (s)		6.0	6.0	ares all off to	6.0	6.0	A 200 In 180	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		326	362		375	331		566			840	
v/s Ratio Prot	100	, N		j ja njedo			si tir u		44.0		-0.05	
v/s Ratio Perm		c0.17	0.09	sar i i	0.14	0.01		0.20	3 0		c0.35	
v/c Ratio_		0.71	0.36	Tost Earl	0.56	0.06		0.35			0.61	
Uniform Delay, d1		14.6	13.2	egise kura egis galagija	14.0	12.2	200	5.0			6.1 1.00	
Progression Factor		1.00	1.00		1.00	1.00		1.00		\$ (e)	1.00	
Incremental Delay, d2		7.2	0.6	or extra 15.9 Fig.	1.9	0.1		0.4 5.3	N.		7.4	
Delay (s)		21.7	13.8	a sila tali	15.9				(*)		7. <del>4</del> A	
Level of Service		C	В	tunum Armu	B	В	ν, τ	5.3		0	7.4	
Approach Delay (s)		18.9	深口塔爾	d, dall	14.9		in the second	5.3 A			7. <del>4</del> A	
Approach LOS		В			В		B. 14. 49.4779445.478579. D.			THE STATE OF THE STATE OF		af technical and taking
Intersection Summary												14.76
HCM Average Control D			11.7		CM Le	vel of S	ervice		В			
HCM Volume to Capaci		1.11	0.64				A James	e and a				
Actuated Cycle Length (	The second secon		42.2			ost time		2	8.0			
Intersection Capacity Ut	tilization		50.3%	JC	U Lev	el of Se	rvice		A	9		
Analysis Period (min)		* * *	15	zanem a maner primer	y cest more care	oners com	enter to a la constitución de	e a anciden	ange segaser			
c Critical Lane Group						地区高		Mall Mar		*. *	7 9	

	*	▶	*	*	€	*	4	†	1	1	
Lane Group.	<b>SEB</b> E	EBI	EEBR	F WBL.	WEI	WER	MINBE	A NBT	SBL	SBT	
Lane Configurations		र्स	ř		र्स	7		4		4	
Volume (vph)	32	105	77	11	130	53	96	23	137	288	
Lane Group Flow (vph)	0	232	131	0	210	79	0	206	0	526	ň.
Turn Type	Perm		Perm	ূ Perm ়		Perm	Perm	t the	Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		4	8-	enti te i	8	2		6		
Detector Phases	4	4	4	8	8	8	2	2	6	6	
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	17.0				17.0		28.0	28.0	28.0	28.0	
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	62.2%	62.2%	62.2%	62.2%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag	E	t (* j		Section 1	1						
Lead-Lag Optimize?	1										
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	
v/c Ratio		0.62	0.32		0.49	0.18		0.35		0.58	
Control Delay		21.5	14.4		16.9	5.2	1.7	8.0	635	10.3	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	
Total Delay	V	21.5	14.4		16.9	5.2		8.0		10.3	
Queue Length 50th (ft)	i i	45	23		39	0		25		80	
Queue Length 95th (ft)	,	61	36		63	12		35		164	
Internal Link Dist (ft)		1603			1821			1417		1247	
Turn Bay Length (ft)			175			50					
Base Capacity (vph)		400	437		457	456		619		943	
Starvation Cap Reductn		Q	0		0	. 0	net and	. 0	*	0	
Spillback Cap Reductn		0	0		0	0	W.O. 1041	0		0	
Storage Cap Reductn	10 041004	0	0	<u> </u>	0	. 0		. 0		0	
Reduced v/c Ratio		0.58	0.30	Control No. 100 100	0.46	0.17	# 175# 1	0.33		0.56	
Intersection Summary z											

Actuated Cycle Length: 41

Natural Cycle: 45

Control Type: Actuated-Uncoordinated



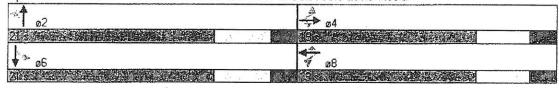
Movement :	3
Lane Configurations 4 7 4 7	
Ideal Flow (yphpl) 1900 1900 1900 1900 1900 1900 1900 190	
lane Width 12 12 12 12 12 11 11 11 11 11 11 11	1
Total Lost time (s) 4.0 4.0 4.0 4.0 4.0 4.0	
Lane Util, Factor 1.00 1.00 1.00 1.00 1.00 1.00	
Frt 1.00 0.85 1.00 0.85 0.98 1.00	
Fit Protected 0.99 1.00 0.99 1.00 0.99 0.97	
Satd. Flow (prot) 1543 1482 1609 1358 1617 1734	
Fit Permitted 0.96 1.00 0.91 1.00 0.97 0.82	
Satd. Flow (perm) 1486 1482 1487 1358 1578 1455	_
Volume (vph) 11 77 32 9 30 115 11 77 12 76 61	3
Peak-hour factor PHF 0.73 0.73 0.73 0.79 0.79 0.79 0.86 0.86 0.86 0.83 0.83 0.83	3
Adi. Flow (vph) 15 105 44 11 38 146 13 90 14 92 73	4
RTOR Reduction (yph) 0 0 0 0 0 0 0 113 0 6 0 2	0
Lane Group Flow (vph)   0 120 44 0 49 33 0 111 0 0 167	0
Heavy Vehicles (%) 25% 22% 9% 9% 19% 15% 7% 13% 3% 3% 2% 12%	0
Turn Type Perm Perm Perm Perm Perm Perm	
Protected Phases 4 8 2	
Permitted Phases 4 4 8 8 2 6	
Actuated Green, G (s) 8.1 8.1 8.1 24.8 24.8	
Effective Green g (s) 10.1 10.1 10.1 26.8 26.8	
Actuated g/C Ratio 0.22 0.22 0.22 0.60 0.60	
Clearance Time (s) 6.0 6.0 6.0 6.0 6.0	
Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0	_
Lane Grp Cap (vph) 334 333 334 305 942 868	
v/s Ratio Prot	
v/s Ratio Perm c0.08 0.03 0.03 0.02 0.07 c0.12	
v/c Ratio 0.36 0.13 0.15 0.11 0.12 0.19	
Uniform Delay d1 14.7 13.9 13.9 13.8 3.9 4.1	
Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00	
Incremental Delay, d2 0.7 0.2 0.2 0.2 0.1 0.1	
Delay (s) 15.3 14.1 14.0 4.0 4.2	
Level of Service B B B B A A	
Approach Delay (s) 15.0 14.0 4.0 4.2	
Approach LOS B B A A	
Intersection Summary	7
HCM Average Control Delay 9.9 HCM Level of Service A	
HCM Volume to Capacity ratio 0.24	
Actuated Cycle Length (s) 44.9 Sum of lost time (s) 8.0	
Intersection Capacity Utilization 32:3% ICU Level of Service A	
Analysis Period (min) 15	
c Critical Lane Group	

	A	>	A	1	4	*	-4/	<b>†</b>	1	ļ	
Lane (Group	s, EBL	<b>第18</b> 日	e ÆBRe	EWE	WBT	WBR	NBL	NBT	***SBL	SBT	
Lane Configurations		र्स	7		र्स	7		44		43	
Volume (vph)	11	77	32	9	30	115	11	77	76	61	X
Lane Group Flow (vph)	0	120	44	0	49	146	Ô	117	0	169	
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm		
Protected Phases		4			8			2		6	
Permitted Phases	4		4.	. 8		8	2		6	67	
Detector Phases	4	4	4	8	8	8	2	2	6	6	*
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	S 9
Total Split (s)	19.0	19.0	19.0	19.0	19.0	19.0	21.0	21.0	. 21.0	21.0	
Total Split (%)	47.5%	47.5%	47.5%	47.5% 4	17.5%	47.5%	52.5%	52.5%	52.5%	52.5%	
Yellow Time (s)	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag	·	Your all all									
Lead-Lag Optimize?	1		en in a fa - ande af inferie	3	An Albertania Artic	end edu	Z+	2.7			
Recall Mode	None	None	None	None -	None:	None	Min	Min	Min	Min	
v/c Ratio		0.29	0.11		0.12	0.31		0.12	* *	0.19	
Control Delay	4, 4, 10	9.3	7.8		7.8	3.8	N	5.4		6.1	
Queue Delay		0.0	0.0	*******	0.0	0.0	9 1	0.0		0.0	
Total Delay		9.3	7.8		7.8	3.8		5.4		6.1	
Queue Length 50th (ft)	ý.	11	4		4	0		9		15	
Queue Length 95th (ft)		29	14		16	16		29		41	T.
Internal Link Dist (ft)		1603			1821			1417		1247	
Turn Bay Length (ft)			175	Application of the second		50					10
Base Capacity (vph)		530	523		537	573		1074		973	
Starvation Cap Reductn	F %	. 0,	0		0	0	e e	0		. 0	
Spillback Cap Reductn		0	0		0	0		0		0	
Storage Cap Reductn		O.	0	and The	0.	0		. 0		0	
Reduced v/c Ratio		0.23	0.08		0.09	0.25	er that shad a	0.11		0.17	F 182 88 19
Intersection Summary											

Actuated Cycle Length: 47

Natural Cycle: 40

Control Type: Actuated-Uncoordinated



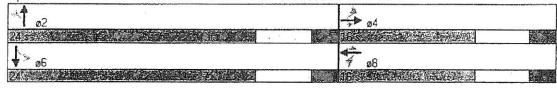
	♪	-	V		4-	*	4	†	1	1	1	4
Movement : E-2	I EEU	JEB III	EDK	WELL!	eval Bit o	WVBR#	ENBL	NBT	NBRA	SBL	SBT	SBR
Lane Configurations		स	7		र्भ	7		44			4	
Ideal Flow (vphpl)	1900		1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	11	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		4.0	<b>14.0</b>		4.0			4.0	i
Lane Util. Factor	All State & Car Allie & Proceeding 2000	1.00	1.00		1.00	1.00		1.00			1.00	
Frt Transfer State		1:00	⊝0.85±	4-19-13-6	The state of the state of	6.85		0.99	llander (f. 15.	i. Secondo Esta	0.98	
Flt Protected	CONTRACTOR DESCRIPTION	0.98	1.00	57455536377563	0.98	1.00		0.99		2.00	0.98	
Satd. Flow (prot)		1866	1615		1870	1561		1807		1	1770	
Fit Permitted	C Tables Ir - a figure	0.86	1.00		0.87	1.00		0.95			0.78	
Satd. Flow (perm)	才等不够	1626	1615	Warren Wind	1654			1730			1405	***************************************
Volume (vph)	14	24	15	18	37	99	41	276	19	72	80	21
Peak-hour factor, PHF	0.40	0.40	0.40	0.88	0.88	0.88	0.90	0.90	0.90	0.94	0.94	0.94
Adj. Flow (vph)	35	60	38	20	42	112	46	307	21	77	85	22
RTOR Reduction (vph)	· 0		0	. 0	T	ું 91	0	4	0	. 0	8	0
Lane Group Flow (vph)	, 0	95.	38	. 0	62	21	0	370	0	0	176	0
Heavy Vehicles (%)	0%-	- 0%	0%	∞ 0%	0%	0%	0%	0%	5%	0%	0%	0%
Turn Type	Perm		Perm	Perm		Perm	Perm	7		Perm		
Protected Phases		4	ostavetet Galerati		8	an angentana a Namangkana di		. 2			6	
Permitted Phases	4		4	8		8	2		4.5	6		
Actuated Green, G (s)		7.2	7.2		7.2	7.2		29.4			29.4	
Effective Green, g (s)	/	9.2	9.2		9.2	9.2		31.4			31.4	
Actuated g/C Ratio	gik) and	0.19	0.19		0.19	0.19	Advis i	0.65			0.65	
Clearance Time (s)		6.0	6.0		6.0	6.0		6.0	1		6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	MARKET.	3.0			3.0	
Lane Grp Cap (vph)		308	306		313	295	e.b	1118	A 155	174 E	908	
v/s Ratio Prot						4.400	Shale San A	2. S. M				
v/s Ratio Perm		c0.06	0.02		0.04	0.01		c0.21	19790		0.13	
v/c Ratio	en e	- 0.31	0.12	Control Hand	0.20	0.07	ecaza i	0.33	ai – na atsi	/ //	0.19	e e
Uniform Delay, d1		17.0	16.4		16.6	16.2	orro de 28 o	3.9			3.5	
Progression Factor		1.00	1.00	Wil Sá	1.00			1.00		i tala	1.00	60 to 100
Incremental Delay, d2		0.6	0.2		0.3	0.1	en in de mant en en	0.2	* 10 (10 to 10 to	este ja	0.1	
Delay (s)		17.5	16.5		.16.9	16.3	artinia kain	4.0	al tarta	p. 3.1	3.6	
Level of Service		В	В	DAY HER DOWNS COME BOOK	В	В	en e	Α	neod ja jo	estation and	A.	an t
Approach Delay (s)		17.2			16.5	e Seini		4.0	arthurista	l (s. dl.	3.0	
Approach LOS		В			В			А			A	
Intersection Summany								16.5				
HCM Average Control I	Delay		8.5	ŀ		vel of S	ervice	1 35,50	Α			
HCM Volume to Capac	ity ratio		0.33		A			A sal		Same in	i i fil Nasasana na n	
Actuated Cycle Length	(s)		48.6			ost time			8.0			
Intersection Capacity U			40.0%		CU Lev	el of Se	rvice,	h	A		ililian	
Analysis Period (min)			15	ما الدروانجان والحرار ورايية فيونونو مدار	an hoperand model on least	TO TRACE STATE	Property of the Property of	er en en en en en en	a populat Joseph	en staatin alka		
c Critical Lane Group	Liberary Liberary							Same a			Se	

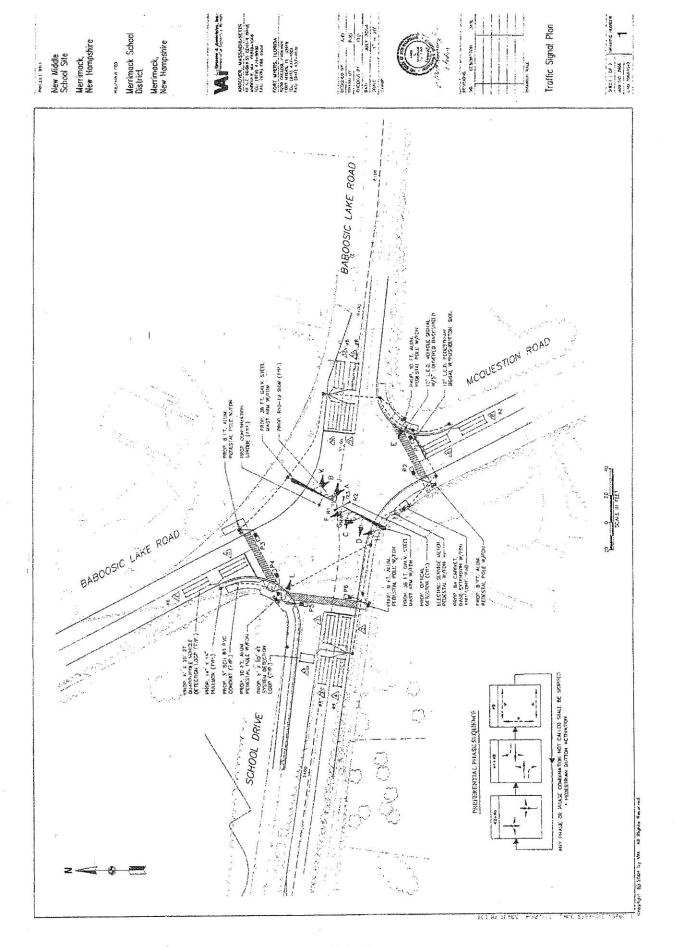
	À	<b>→</b>	*	*	4-	*	4	<b>†</b>	1	1	
Lane Group	(5B)	<b>MEBI</b>	EER	<b>WWB</b>	<b>W</b> BT	AWBR	NBL	NBT	J SBL	SBT?	
Lane Configurations		सी	7/		र्स	. 7		43+		4	
Volume (vph)	14	24	15	18	37	99	41	276	72	80	. *
Lane Group Flow (vph)	0	95	38	0	62	112	0	374	0	184	
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	-	
Protected Phases		4			8			2		6	
Permitted Phases	4	udrikululu Kasanian	- 4	. 8		8	2		6		15
Detector Phases	4	4	4	8	8	8	2	2	6	6	
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	24.0	24.0	24.0	24.0	80
Total Split (%)	40.0% 4						60.0%	60.0%	60.0%	60.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag											
Lead-Lag Optimize?	1										
	None			None	None.	None	Min	Min	Min	Min	
v/c Ratio		0.24			0.16	0.25		0.32		0.19	
Control Delay		10.8	9.9		10.1	4.3		5.7		4.9	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	
Total Delay		10.8	9.9		10.1	4.3		5.7		4.9	
Queue Length 50th (ft)	ì	11	4		7	0		35		14	
Queue Length 95th (ft)		16	9		28	. 22		89	(9)	43	
Internal Link Dist (ft)		1603	4		1821			1417		1247	
Turn Bay Length (ft)			175			50					
Base Capacity (vph)		459	444	, 1	467	510		1231		989	
Starvation Cap Reductn	Maria de la composición dela composición de la composición de la composición de la composición dela composición de la composición dela composición dela composición de la composición dela composición de la composición dela composición de	0	. 0	t Harabaran Salaharan Salaharan Salaharan	0	0		. 0		0	_
Spillback Cap Reductn		0	0		0	0		0		0	
Storage Cap Reductn		0	0	a izan Marana Kasal	0	0		0		0	
Reduced v/c Ratio		0.21	0.09		0.13	0.22		0.30		0.19	
Intersection Surriman							z inch	J-8278)			
THE PROPERTY OF THE PROPERTY O	STATE OF THE PARTY	Extrema in	and the same of	a relative P	TAX THE HOLE	The state of the s	necessary a	or productive a	127		2.3400元—4.35000000000000000000000000000000000000

Actuated Cycle Length: 50

Natural Cycle: 40

Control Type: Actuated-Uncoordinated



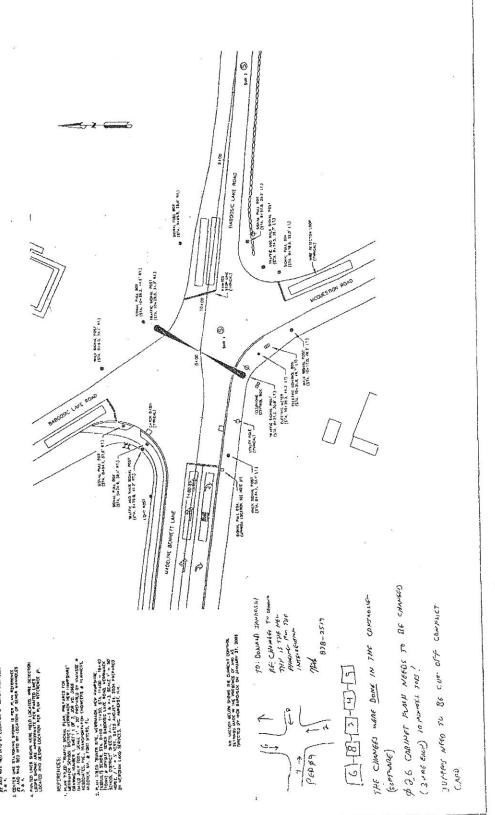


Christian of Language ANDOVER, MASSACHUSETTS TO HE BUSMESS CENTER USING MASSACH AND DEPARTMENT TO (\$73) 415-4800 FAX: (\$75) 456-4800 Merrimack School District Merrimack, New Hampshire Merrimock, New Hampshire FORT MYERS, FLORIDA 1770 CHIEFE PARKET 1701 MATRIA IN 13819 151. (8-1) 137-4874 1781 (8-1) 437-4834 Traffic Signal Data Sheet New Middle School Site 1/20/04 DIAMEST SINE PERTON ION JUL JOANSE Mang thatford plan PECENTRAL BY WANTED BY DANE SCALE STANE EN-WES PCSIST RESIST RESIST RESIST (ULO OF ACUS) SIRES GARES (ULC OF ACS) FILES OF ACC (ULC OF ACS) A RI RESPONSE TO A PRETRUPTION SCHAL RECEIVED AT AN INTERSECTION THE CONTROLLES AND A PROPISE CREEKEN THE CONTROLLES AND A PROPISE CREEKEN THAN THE PRETRUCTOR THE CREEKEN THAN THE PRETRUCTOR THE CREEKEN THAN THE PRETRUCTOR OF THE PROPISE OF THE CREEKEN THAN THE PRETRUCTOR OF THE PROPISE OF THE CREEKEN THAN THE CREEKEN THAN THE CREEKEN THAN THE CREEKEN THE CREEKEN THAN THE CREEKEN THE CRE PS-DEGLECT V-VENCLE PRICATES SHALL BE ACTUATED BY ALL OPPICAL SHALL SHAL RECORD FIFTD MEASUREMENTS ARONE MUSHAL CLEARANCES SHALL BE PROWNED ON PHASES THAT ARE TO BE TERMINATED BY PREEMFITON (XEMAID). ANY MINSE OR MINSE COMPRISHEN WIT CALED SIMI: HE SAPPED . PERCETHAN MITTER ACTIVATION PREWIN SIGNALS FROM MULTIPLE APPROACHES SHAM, RESERVO ON A FIRST DETECTED, FIRST SERVED BASS. EXISTING EMERGENCY VEHICLE PREEMPTION OPERATION Shuthermer PREFERENTIAL PHASE SEQUENCE HORTIGROUM WES TROUND EASTBOUND DIRECTION EXISTING PRICEATITION RECENTED PHASE CALLS CALLS OF (ODS) \* P ç 10 WADOCT U H DEPECTOR DATA PINSE COMPECIEN 7 SMF.CT DPPECT DIFECT DRECET DIRECT CIPLES DIMECT (JASEC) DIRECT 13340 CHECT DRECT SISTER (1 - 4 0 žį 9 õ PRESENCE. 33H363Rui FIRSTACE PRESENCE PNESSINCE BNESSAGE FRESTACE PRESOUN PRESENCE 2 B/W (1,1 (0.) R/W (0.1 (1).2 WE G TANKS PHASE G 6.430 62.3 N. 20° 8'120 9.150 6.170 6,420 8 6.20 N. 420. 6,3 ,02×.9 8,410, PHASE N 20 cs S PILASE ? NET USER 10MF SHIDTICATIONS SUMBLYN NEODT STEEWAANSME AS ORICCUD BY 10MF SE WEDDIAME OF SAIRING WORKS. ALL RECTION LOSTS STALL OF TAGGED IN THE CARRIEST AND PULLIDEX AS SHOWN WITH DESIGNOR HUNDED, PHAKSE, LANK DIRECTION AND LINDS LOCATION (EXAMPLE: U., M., MILT, FRT). S. SGHAL CONTRACTORS SHALL MERY ALL DENALS ARE HISTALLED PER CHARELY (ADDRED) MAY T.D. STANDARYS SUMAL COMPRICION SHALL FAC AND TEST EVERY VEHICLE DETECTION LOSIF AND RECORD THE SYSIAL'S. 7.8 PRAST 5 CONSTRUCTION NOTES: CONTRACTOR SHALL "DIS SAFE" AND WRITEY ALL URLURS PRICK TO FORSTRUCTOR. LEO, NOTINE SEQUENCE AND TRUBE CHART Plants 5 ABCOCKONAK PP HQT GESD \* ALL SEXALS SHALL BE DIRBLY MESHATED. ALL STATE LENS ALL STALL MOK. 100K DIAMSE COPPLY THING (SECONDS) **P**O F-145E 3 NOT + PHANE 1 PIASE 2 KOTICE TO BOUGHO. AN ALIBONIE PHENICE AND PRICE TO FURNISMIC AND INSTALLAGE THE "PHEFERALD EACLE" STANDARD SHALL, DE SUBMITTO, 1, FLASHING OFFRATION PER MILLICO.

2. MAX II PI OPERATION DURING SCHOOL OPERING AND CLOSING TIMES. NOT PLUS ALL MISCELLAMEOUR EQUIPMENT AND MATERIAL MEGESSARY TO ENVANTE A COMPLETE OFFICATION RAFFIC CONTROL SIGNAL TYSEFLE OLGOSPICH 19 CRITTOTTER (LACT OR TOWN APPROVED ECHAL) 19 (Pri., PAD, DAYTOLLED CAPINET ASSUBLY, PAR CARBET WYKTHEINN HASE, PLE MENOT SPECS/TOWN SPICES. DARODSICIAKE KUAR AT ARVRIKTUSEKOAD MERRIMACK, NIF (SEC.) MAJOR LEMS LIST MAL/SPLIT 530 U 3 SCK 60 PULBOX Crippel 63 2015 by 4M. Al Rights Rosewad. RABOUSIC LATER ROAD 39PE MUDIESTIDN BOAD SCHON, MARK HABYGSC ( AKE ROAD BARYSE I AKE ROAD PEDESTINAN PERIODO CALEN CHOLE RIPERAL VANIGUE BREET SANIGUE BREET SELOW CREET AL RID CLEAR WALE WEERAL PER. CLEAR WALE WEERAL 047 51, 621

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