A1 + A2 + A3 Appendix for Pedestrians, Streetscape & Bikes + Roadway & Traffic + Curbside & Off- Street Parking

This appendix section includes traffic analysis and parking analysis plus their associated backup data, as presented in four meetings with the YVSC over the course of the project.

- **Section 1 - Meeting 1:** This first meeting presented general traffic analysis information for the study area and included a review and discussion of traffic volumes, accident data, sight distances traffic control, traffic observations and an existing conditions traffic model.
- **Section 2 - Meeting 2:** This meeting included the first significant discussion of the traffic modeling and analysis results for the six different intersection layout alternatives that were under initial consideration.
- **Section 3 - Meeting 3:** This meeting included a more detailed discussion of traffic operations for the three intersection layout alternatives that were selected at the previous meeting. The alternatives included; the "Y" Concept, the York "T" Concept, and the Long Sands "T" Concept.
- **Section 4 - Meeting 4:** This meeting provided further detailed traffic operations analysis of the two alternatives that had been selected at the previous meeting. The alternatives included; The "Y" Concept and the York "T" Concept
- **Section 5 – Traffic Volumes Figures** utilized in the study for analysis purposes

Meeting 1

This first meeting presented general traffic analysis information for the study area and included a review and discussion of traffic volumes, accident data, sight distances traffic control, traffic observations and an existing conditions traffic model.

TO: **York Village Study Committee**

FROM: **The Downtown Revitalization Collaborative**

DATE: September 18, 2014

RE: **Progress Update Memo – Traffic Analysis**
York Village Redesign Project
MMI #4606-02

1. INTRODUCTION

The purpose of this memo is to give an update to the Village Study Committee on the progress made on the traffic analysis study report which is part of the Technical Investigation Phase of the York Village Master Plan and Redesign project. We have coordinated with Dean Lessard on the required study area for this traffic analysis. Based on this, the traffic analysis study area includes the intersections of:

1. Route 1A (York Street) at Long Sands Road
2. Route 1A at Lindsay Road & Town Hall Drive
3. Route 1A at Lindsay Road #2 & Town Hall Drive
4. Route 1A at Hospital Drive
5. Route 1A at Williams Avenue
6. Long Sands Road at Public Library Drive
7. Long Sands Road at Woodbridge Road

Since the signing of the contract and the notice to proceed we have been progressing on the traffic analysis study portion of this project. To date we have completed the following tasks:

1. **Traffic Counts (Vehicles, Bikes & Peds):** Collection of vehicle turning movement data including bikes and pedestrians at the study intersection. This was completed on a weekday and Saturday in August; specifically on Tuesday August 12th and Saturday August 16th 2014.
2. **Parking:** Parking Observations and counts we also completed in August (Wednesday 8/27/14 and Saturday 8/30/14). The parking observations were done to assess the occupancy rates for on-street parking in the study area and also to determine what the average

duration of parking was for each space. Additionally, we collected gross parking counts at three off-street parking lots, including; in front of the hospital, the library lot and the lot behind the Bank of America.

3. **Accident Data:** Accident data was collected for each of the study intersections and evaluated. This was done to determine if any of the intersections were considered to be high crash locations by Maine DOT or if there were any significant accident patterns.
4. **Sight Distance:** Review of intersection sight distances at each of the study intersections. This was completed based on a posted speed of 25 mph. Maine DOT requires a minimum intersection sight distance (ISD) of 200 ft.
5. **Other Safety Concerns:** During our field visits to the study area we have noted that several of the utility poles are exposed to vehicular traffic and could become a fixed-object that vehicles could potentially hit.
6. **Preliminary Traffic Analysis:** We have begun to analyze traffic operations for the existing conditions and for the three alternative intersection layout plans that were selected by the VSC in an earlier phase of this project. We will have some initial discussion of the results at today's meeting, however, further analysis needs to be completed before final recommendations are presented to the VSC.

The collection of this traffic data will be a key component in the design process. This data will help to educate and inform all of us as we consider design options to meet the goals and objectives of this project.

Task 1 – Traffic Counts (Vehicles, Bikes & Peds)

Traffic counts were completed at the study intersections in August for a weekday and Saturday. This was done to capture traffic conditions which represent summertime conditions in York. Traffic volume stick diagrams were completed for the study area and are enclosed at the end of this memo. Sheet 1 of 2 shows the vehicular movements and Sheet 2 of 2 shows the combined Bike & Ped Movements. Some initial thoughts on the traffic volumes follow:

- Of the 3 time periods counted, the Saturday peak hour was the highest. Based on the traffic counts, we identified the weekday AM peak hour to be 8 to 9AM; the PM peak hour to be 4:30 to 5:30PM; and the Saturday peak hour to be 11 AM to Noon. These traffic volumes are shown on sheet 1 of 2 at the end of this memo.
- Heavy left-turn movement from York Street onto Long Sands Road (AM - 274, PM - 341, Sat - 462). This would tend to confirm the need for a separate left-turn lane.
- Overall traffic volumes are fairly high for only 1 travel lane in each direction in an area with a high number of side-streets and driveways.
- The Bike and Ped Volumes were highest on Saturday. These are shown on Sheet 2 of 2 at the end of this memo.

Task 2 – Parking Counts

Parking counts were taken for available on-street parking in the study area and at 3 off-street parking lots. We identified 57 existing on-street parking spaces in the study area. We also identified 3 off-street parking lots, including; in front of the hospital, the library parking lot and a lot located behind the Bank of Maine. Parking counts were taken for these areas on Wednesday August 27, 2014 and Saturday August 30, 2014 from 7 AM to 6 PM. The results indicated the following:

On-Street Parking

- 57 spaces available
- Average Occupancy; Weekday: 44% ; Saturday: 32%
- Average Duration of Parking; Weekday: 2.6 hrs; Saturday: 1.3 hrs

Off-Street Parking

- **Library Lot (Lot 1)** 89 spaces available
- Average Occupancy; Weekday: 37, 41% ; Saturday: 26, 28%
- **Hospital Lot (Lot 3)** 184 spaces available
- Average Occupancy; Weekday: 97, 52% ; Saturday: 45, 24%
- **Lot 2 Behind Bank of America;** 33 Spaces Available, Lot closed during counts

Task 3 - Accident Data

Accident Data from Maine DOT was reviewed for the study area intersections. The overall review indicated that 1 of the intersections was considered to be a high crash location by Maine DOT. Maine DOT considers intersections to be a high crash location (HCL) if it experiences 8 or more accidents in a three-year period and it has a critical rate factor (CRF) of greater than 1.0. This intersection was identified as York Street at its intersection with Long Sands Road. This intersection experienced 8 accidents during the time period of 2011 – 2013, and had a CRF of 1.51. A further breakdown of the accidents at this intersection revealed the following:

York St at Long Sands Road (MDOT Nodes 55615, 55616, 65906)

- 8 accidents; 2 in 2011, 4 in 2012, and 2 in 2013.
- Dates of accidents: Feb -1, May – 1, June – 2, July – 2, Oct - 2
- The primary accident patterns included; 4 rear-end/sideswipe type, 2 intersection movement type, 1 pedestrian and 1 bicycle.
- An accident diagram is included for the intersection at the end of this memo.
- 3 out of 8 accidents produced injury, others only property damage.
- Day of the week; Monday – 2, Tuesday - 1, Wednesday – 2, Thursday – 1, Friday – 2.
- All accidents during daylight hours; 7 in clear conditions and 1 in snow conditions.

Accident Summaries for the remaining study intersections follow:

Lindsay Rd #1 at York St (MDOT Node #55618)

- 1 accident; 1 intersection movement; date: 5/2011

Lindsay Rd #2 at York St (MDOT Node #55617)

- 1 accident; rear-end/sideswipe; date: 6/2010

Williams Ave at York St (MDOT Node #55614)

- 2 accidents; 1 rear-end/sideswipe, 1 intersection movement; dates: 1/2010 & 9/2012

Woodbridge Road at Long Sands Road (MDOT Node #56072)

- 5 accidents, 1 rear-end/sideswipe, 3 intersection movement 1 off-road; dates: 6/2012, 7/2010, 10/2010, 11/2011, 12/2011.

Task 4 – Sight Distance

Intersection sight distances were checked from each of the study intersection. Based on a 25 mph posted speed limit, Maine DOT requires minimum of 200 ft of sight distance. Below we have noted intersections where there was sight distance less than 200 ft.

Long Sands Road Looking Left onto York Street

Signs Clutter Sight Distance View Looking Left

Looking Left from Town Hall Driveway (Opposite Lindsay Rd #2)

On-street Parking Restricts Sight Distance & Utility Pole Obstructs View

Looking Left From Library Access onto Long Sands Road

On-street Parking Restricts Sight Distance Looking Left

Looking Left from Gas Station/Convenience Store Drives

On-street Parking Restricts Sight Distance Looking Left

On-street Parking Restricts Sight Distance Looking Left.

Looking Right from Williams Avenue onto York Street

On-street Parking Restricts Sight Distance Looking Right

Task 5 – Other Safety Concerns (Fixed Objects)

Looking North on Long Sands Road – Utility Poles

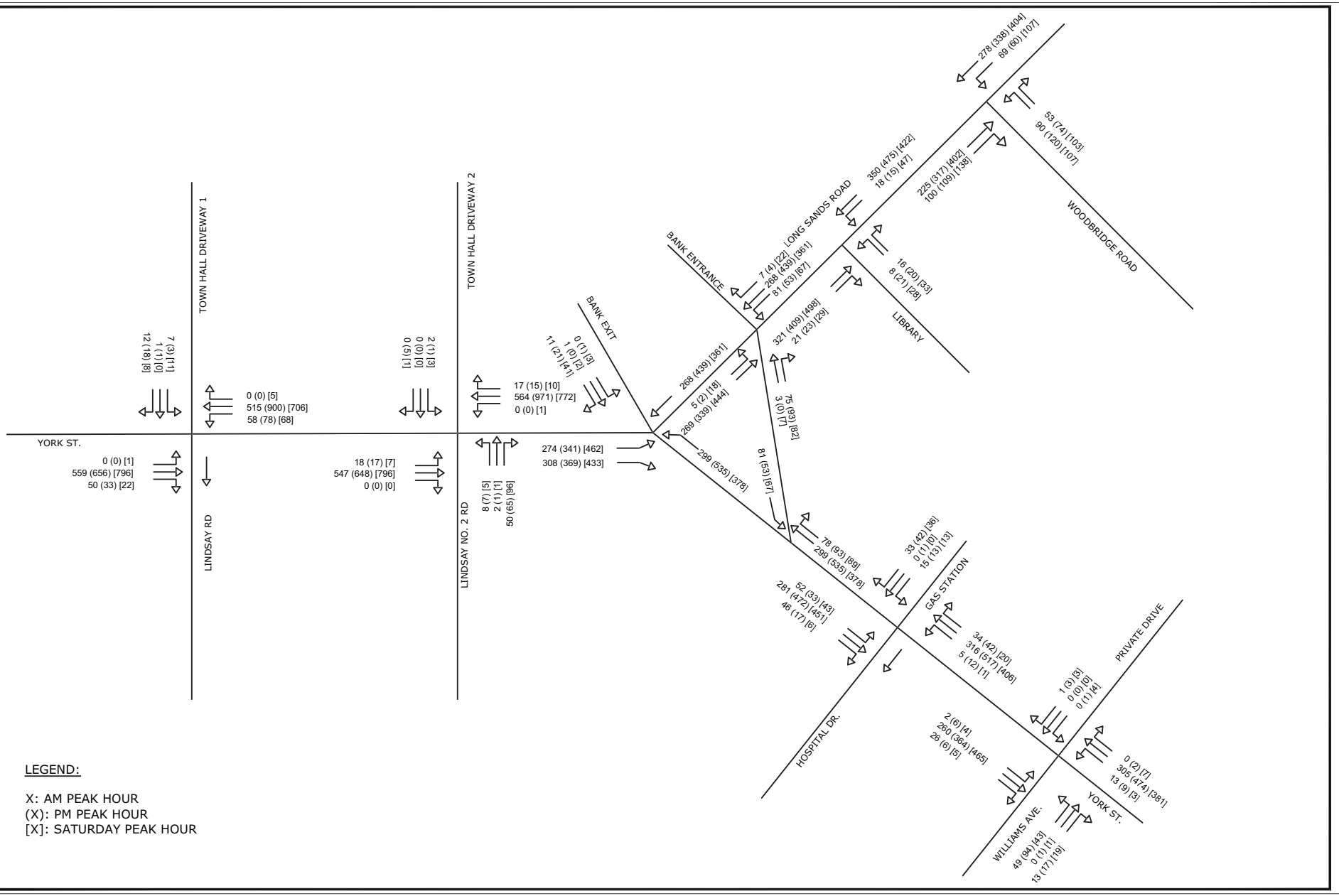
Looking South on Long Sands Road – Utility Poles

Task 6 – Preliminary Traffic Modeling & Analysis

- We have built the existing condition traffic model
- We have made initial field observations of traffic operations which we will use to calibrate the traffic model before we begin to analyze intersection layout alternatives.
- A copy of the model is attached at the in of this memo in the appendix

Appendix to Meeting 1

- **Traffic Volumes (Vehicle, Bike &Ped)**
- **Parking Counts (On-Street & Off-Street)**
- **Accident Diagram (York St at Long Sands Road)**
- **Synchro/Simtraffic Study Existing Conditions Model**



LEGEND:

X: AM PEAK HOUR
(X): PM PEAK HOUR
[X]: SATURDAY PEAK HOUR

REVISIONS

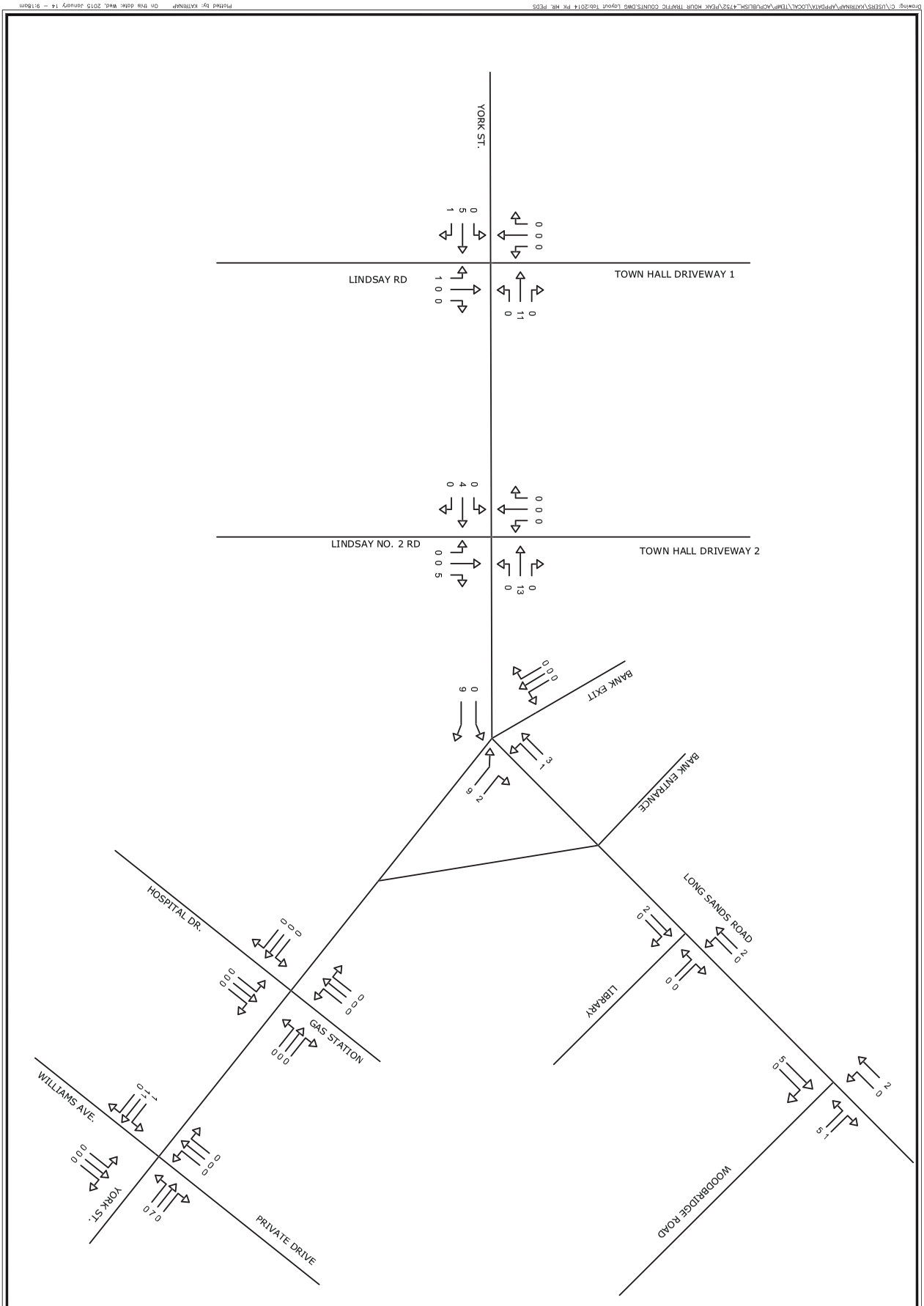
MILONE & MACBROOM®
100 Commercial Street
Suite 417
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.milonemacbroom.com

2014 PEAK HOUR TRAFFIC COUNTS

YORK STREET, LONG SANDS ROAD
YORK, ME

DESIGNED	DRAWN	CHECKED
	SMW	JQA

SCALE: NTS
DATE: OCTOBER 28, 2014
PROJECT NO.: 4606-02
SHEET NO.: 1 OF 7



2014 SATURDAY PEAK HOUR BIKE & PED VOLUMES

YORK STREET, LONG SANDS ROAD
YORK, ME

REVISIONS

SHEET NO.	5 OF 7
PROJECT NO.	4606-02
DATE	OCTOBER 28, 2014
SCALE	NTS
DESIGNED	
DRAWN	SMW
CHECKED	JQA

MILONE & MACBROOM®
100 Commercial Street
Suite 417
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.miloneandmacbroom.com

On-Street Parking Weekday: York/Long Sands: Wednesday 8/27/2014

Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	% Occupied	Average amount of time occupied (hrs)
Parking Space																									
1							X	X	X				X								X	X	X	35%	1.33
2							X		X		X				X						X	X	X	43%	0.83
3								X	X		X								X	X				30%	0.88
4							X	X	X		X				X				X		X	X	X	52%	1.00
5	X								X		X		X							X				35%	1.00
6						X	X	X	X		X				X				X	X				48%	1.38
7					X	X	X	X	X		X		X		X		X		X	X				70%	8.00
8											X				X							X		22%	0.83
9	X	X	X	X	X	X	X	X	X		X									X				52%	2.00
10							X	X	X		X				X									35%	1.33
11						X	X		X						X				X	X				35%	1.00
12	X	X	X		X	X	X						X		X		X							52%	0.86
13	X	X	X	X	X	X	X	X	X		X		X		X		X		X	X	X	X		96%	11.00
14	X	X	X	X	X	X	X	X	X		X		X		X		X		X	X	X	X	X	100%	11.50
15	X	X	X	X	X	X	X	X	X		X		X				X		X	X	X	X	X	91%	5.25
16	X	X		X				X	X		X				X		X							52%	1.20
17											X											X		13%	0.75
18					X	X	X	X	X		X		X		X		X		X	X	X			74%	2.83
19		X	X	X	X	X	X	X	X		X						X		X	X	X			70%	2.00
20									X		X				X					X		X		35%	0.80
21		X				X	X	X	X		X		X		X		X		X	X	X			74%	2.83
22			X		X	X	X	X	X		X		X		X		X		X					70%	4.00
23													X		X		X		X	X	X	X	X	48%	5.50
24											X													9%	1.00
25															X		X							17%	1.00
26								X	X		X				X		X							39%	2.25
27					X	X	X	X							X				X	X				35%	0.80
28											X				X		X							26%	1.00
29				X	X	X	X	X	X		X		X		X		X		X	X	X			78%	9.00
30		X									X				X		X							30%	0.88
31																								0%	0.00
32																								0%	0.00
33			X	X	X	X	X	X	X		X								X					48%	2.75
34	X	X	X	X	X	X	X	X	X				X		X		X				X	X	X	78%	9.00
35								X	X		X													22%	1.25
36																								0%	0.00
37							X	X																9%	1.00
38																								0%	0.00
39							X												X	X	X			17%	1.00
40											X													9%	1.00
41							X	X	X		X				X		X		X					48%	1.83
42				X		X	X	X			X		X		X									43%	5.00
43																								0%	0.00
44					X	X	X	X	X				X				X		X					43%	1.67
45				X	X	X	X	X	X		X		X		X		X		X	X	X			78%	4.50
46			X	X	X	X	X	X	X		X		X				X		X	X	X			74%	2.83
47						X			X		X								X	X	X			35%	1.33
48				X	X	X	X	X	X		X		X		X		X		X	X				74%	8.50
49							X	X	X								X		X	X	X			39%	1.50
50			X	X	X	X	X	X	X		X		X		X		X		X	X	X		X	87%	5.00
51	X	X	X	X	X	X	X	X	X		X											X	X	61%	3.50
52			X	X	X	X	X	X	X		X		X						X					57%	1.63
53											X		X						X			X		26%	0.75
54									X		X		X		X		X		X	X	X	X		61%	0.88
55							X	X	X				X						X	X				35%	0.80
56								X	X				X							X	X	X	X	39%	0.90
57					X	X	X	X	X															26%	1.00
58					X	X	X	X	X		X		X		X		X		X	X				70%	8.00
NEXT TO 57											X		X		X		X		X	X	X	X	X	57%	6.50
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	Avg % Occupied	Avg time occupied
% Occupied	16%	19%	22%	28%	38%	47%	60%	62%	67%	62%	68%	68%	44%	44%	53%	53%	69%	67%	53%	47%	36%	27%	19%	44%	2.65

On-Street Parking Weekend: York/Long Sands: Saturday 8/30/2014

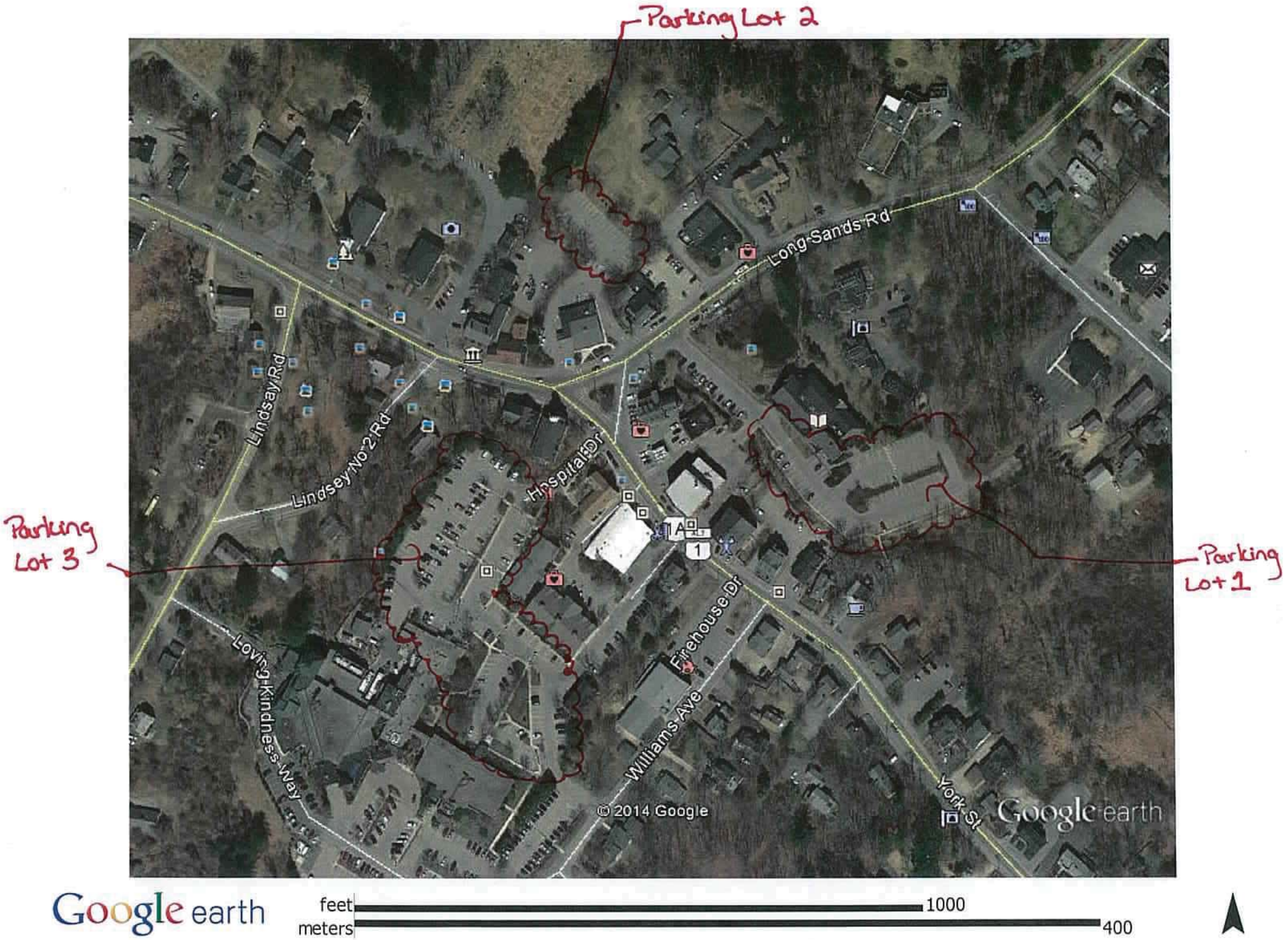
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	% Occupied	Average amount of time occupied (hrs)
Parking Space																									
1			X	X	X	X	X		X	X	X		X	X	X	X	X	X					X	65%	0.83
2			X	X	X	X	X	X	X			X	X	X	X	X		X						57%	1.30
3			X	X	X	X		X	X	X					X									35%	0.80
4				X	X	X	X	X			X	X	X	X		X								43%	0.83
5	X	X	X	X					X	X	X				X						X	X		43%	1.00
6					X	X	X	X				X	X		X	X	X				X			43%	0.83
7			X	X		X			X	X		X						X		X				35%	0.80
8			X	X	X		X	X	X	X				X	X					X				43%	1.00
9			X	X	X		X		X	X		X	X			X	X	X						48%	0.79
10			X	X	X		X	X	X	X	X			X	X	X	X							52%	0.86
11		X		X	X	X	X			X	X	X	X			X								43%	0.63
12		X	X	X	X		X	X		X	X	X	X		X	X								52%	0.67
13	X	X	X		X	X	X	X		X	X	X	X											48%	0.92
14			X	X	X	X	X	X	X	X	X	X									X	X		52%	3.00
15			X	X	X	X	X	X	X	X	X	X	X	X	X									57%	6.50
16	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	96%	11.00
17																								0%	0.00
18			X		X	X			X			X	X			X	X		X					39%	0.56
19						X	X	X	X	X	X	X	X	X	X	X								48%	2.75
20				X	X																X			13%	0.50
21				X			X	X	X	X	X	X	X					X		X				43%	1.00
22										X					X									9%	0.50
23					X	X	X	X	X	X	X	X		X		X					X			48%	1.38
24		X																						4%	0.50
25					X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	70%	4.00
26																								0%	0.00
27			X								X	X		X										17%	0.50
28												X	X	X	X	X	X	X					X	35%	2.00
29						X																		4%	0.50
30		X														X	X							13%	0.75
31																								0%	0.00
32																								0%	0.00
33	X	X	X	X	X	X	X	X	X															39%	2.25
34	X	X	X			X							X	X	X	X	X	X	X	X	X	X	X	65%	2.50
35					X						X													9%	0.50
36					X					X	X										X			17%	0.50
37																								0%	0.00
38											No parking													0%	0.00
39																								0%	0.00
40																								0%	0.00
41																								0%	0.00
42																								0%	0.00
43																								0%	0.00
44																								0%	0.00
45												X	X	X	X	X	X	X	X	X				39%	2.25
46									X	X		X	X	X	X	X	X	X	X	X	X			52%	3.00
47								X	X															9%	1.00
48				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				70%	8.00
49										X	X													9%	0.50
50									X	X	X			X	X	X								26%	1.50
51		X	X	X	X			X	X			X			X	X	X	X	X	X	X	X	X	70%	1.14
52		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X				78%	3.00
53									X				X	X	X	X	X						X	30%	0.58
54								X	X	X					X	X	X	X			X	X		39%	0.64
55					X				X					X	X	X	X	X						26%	0.60
56							X	X	X	X			X		X		X			X	X		X	43%	0.63
57						X		X						X			X	X						22%	0.63
ILLEGAL								X	X				X	X	X	X	X	X	X	X	X	X	X	57%	1.30
BEFORE 51															X									4%	0.50
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	Avg % Occupied	Avg time occupied
% Occupied	9%	19%	33%	34%	43%	34%	34%	37%	46%	43%	36%	40%	39%	37%	45%	44%	36%	31%	17%	22%	24%	12%	15%	32%	1.32

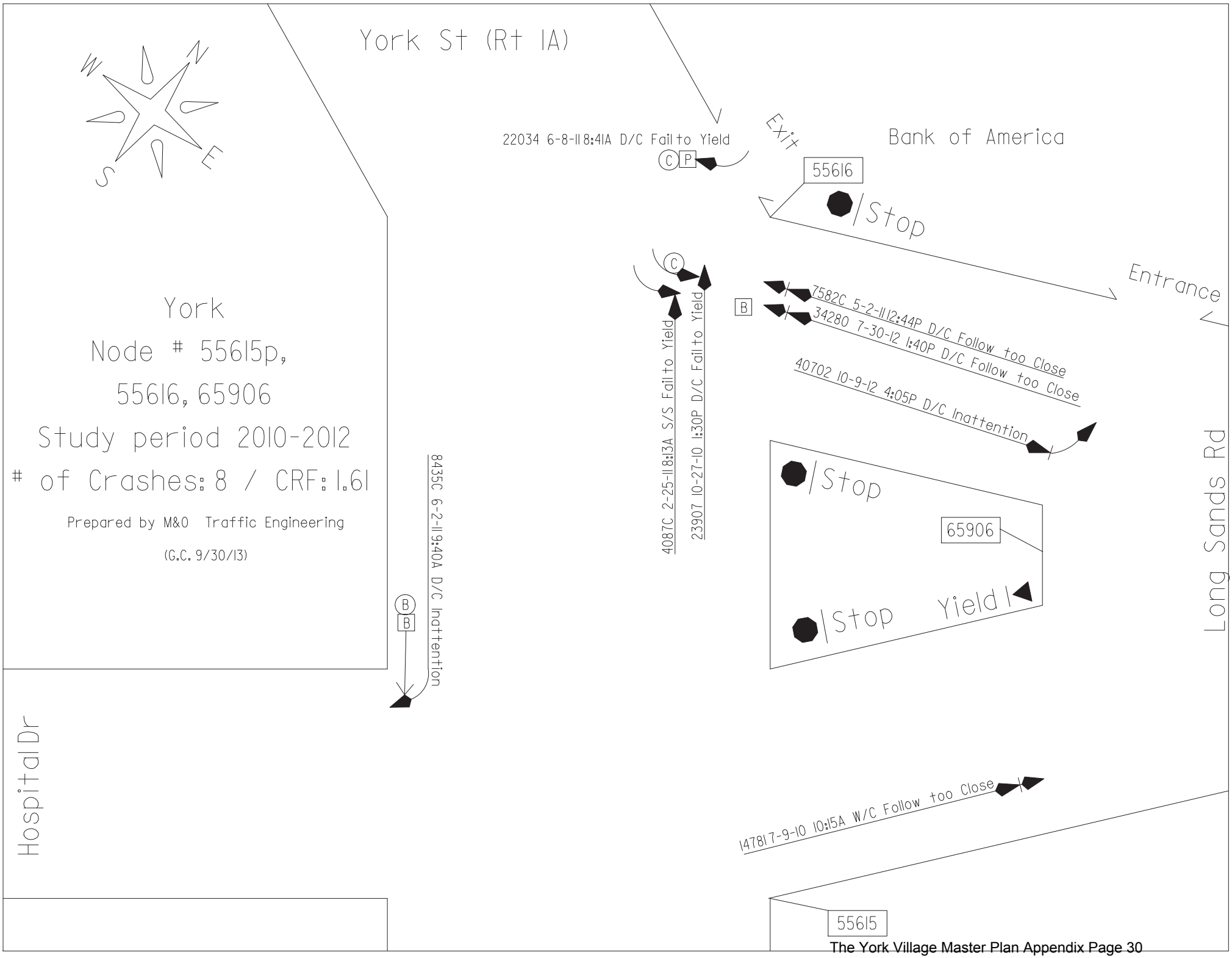

1A
York St
Hospital Dr, York, ME 03909, USA
Salisbury Ave
Firehouse Dr
© 2014 Google
Google earth
Google earth
feet
meters
300
90

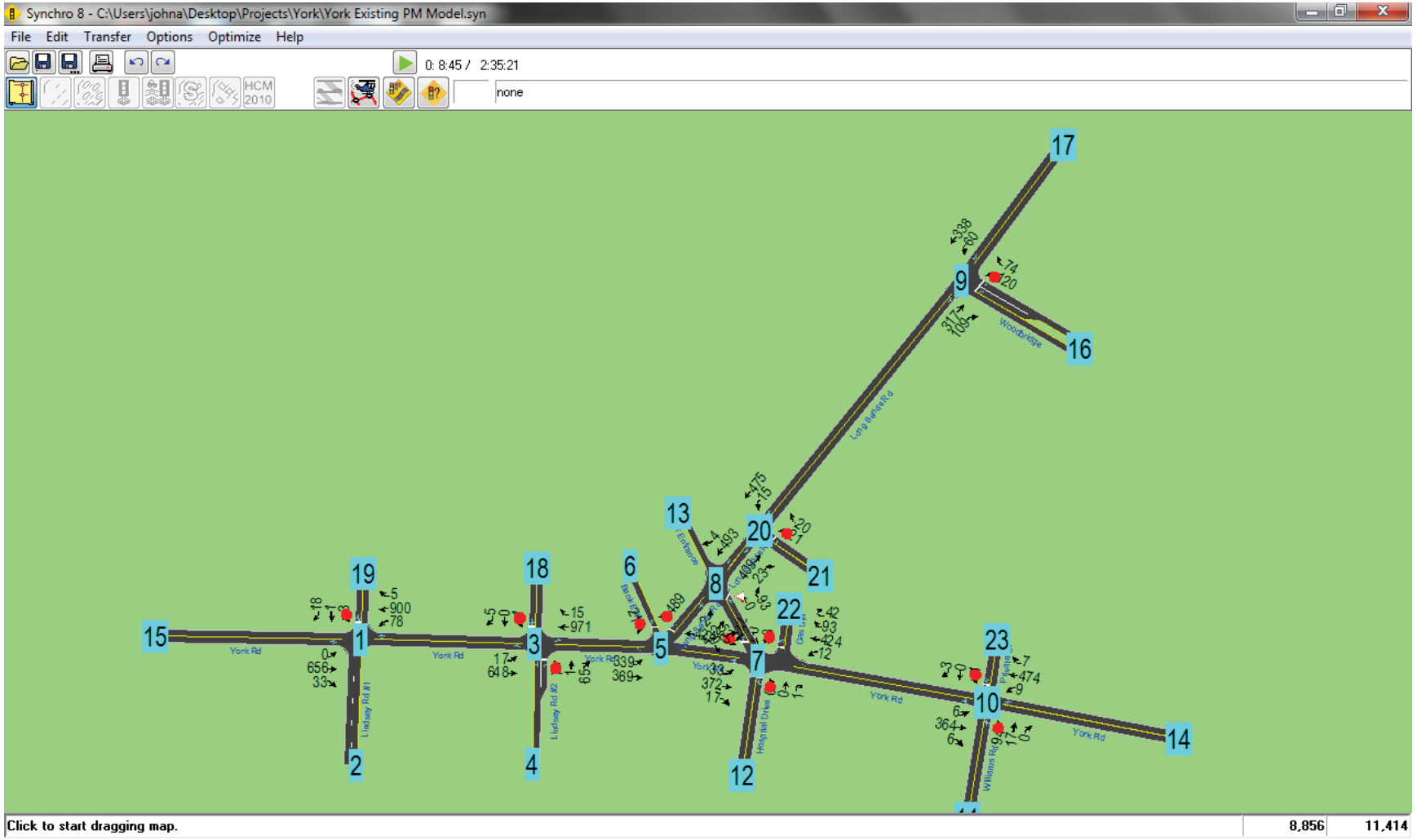

Hospital Dr, York, ME 03909, USA
© 2014 Google
Google earth
Google earth
feet
meters
500
100

	Parking Lot Counts - 8/27/14, York					
Start Time	Lot 1 Library (89)	AVG. Per Hour	% Occupied	Lot 3 Hospital (184)	AVG. Per Hour	% Occupied
07:00 AM	10			35		
07:30 AM	12	11	12%	75	55	30%
08:00 AM	17			91		
08:30 AM	24	20.5	23%	92	91.5	50%
09:00 AM	21			107		
09:30 AM	29	25	28%	113	110	60%
10:00 AM	39			129		
10:30 AM	45	42	47%	131	130	71%
11:00 AM	49			137		
11:30 AM	49	49	55%	137	137	74%
12:00 PM	46			107		
12:30 PM	46	46	52%	107	107	58%
01:00 PM	40			105		
01:30 PM	40	40	45%	105	105	57%
02:00 PM	55			99		
02:30 PM	55	55	62%	99	99	54%
03:00 PM	48			97		
03:30 PM	48	48	54%	97	97	53%
04:00 PM	54			82		
04:30 PM	45	49.5	56%	82	82	45%
05:00 PM	40			71		
05:30 PM	25	32.5	37%	67	69	38%
06:00 PM	16	16	18%	68	68	37%
Overall Average	**37**	**36**	**41%**	**97**	**96**	**52%**

	Parking Lot Counts - 8/30/14, York					
Start Time	Lot 1 Library (89)	AVG. Per Hour	% Occupied	Lot 3 Hospital (184)	AVG. Per Hour	% Occupied
07:00 AM	11			27		
07:30 AM	11	11	12%	50	38.5	21%
08:00 AM	22			53		
08:30 AM	28	25	28%	55	54	29%
09:00 AM	38			57		
09:30 AM	48	43	48%	67	62	34%
10:00 AM	37			60		
10:30 AM	50	43.5	49%	54	57	31%
11:00 AM	47			53		
11:30 AM	39	43	48%	53	53	29%
12:00 PM	40			51		
12:30 PM	37	38.5	43%	46	48.5	26%
01:00 PM	38			43		
01:30 PM	36	37	42%	39	41	22%
02:00 PM	23			36		
02:30 PM	10	16.5	19%	37	36.5	20%
03:00 PM	10			38		
03:30 PM	11	10.5	12%	37	37.5	20%
04:00 PM	14			36		
04:30 PM	11	12.5	14%	33	34.5	19%
05:00 PM	10			34		
05:30 PM	9	9.5	11%	38	36	20%
06:00 PM	8	8	9%	37	37	20%
Overall Average	**26**	**25**	**28%**	**45**	**45**	**24%**


Parking Lot 2
Parking Lot 3
Parking Lot 1
Long Sands Rd
Lindsay Rd
Lindsey No 2 Rd
Hospital Dr
Firehouse Dr
Loving Kindness Way
Williams Ave
York St
© 2014 Google
Google earth
Google earth
feet
meters
1000
400


York St (Rt 1A)
N
W
E
S
22034 6-8-11 8:41A D/C Fail to Yield
C
P
Exit
Bank of America
55616
Stop
Entrance
C
B
7582C 5-2-11 12:44P D/C Follow too Close
34280 7-30-12 1:40P D/C Follow too Close
40702 10-9-12 4:05P D/C Inattention
4087C 2-25-11 8:13A S/S Fail to Yield
23907 10-27-10 1:30P D/C Fail to Yield
Stop
65906
Stop
Yield
Long Sands Rd
8435C 6-2-11 9:40A D/C Inattention
B
B
Hospital Dr
14781 7-9-10 10:15A W/C Follow too Close
55615
York
Node # 55615p,
55616, 65906
Study period 2010-2012
# of Crashes: 8 / CRF: 1.61
Prepared by M&O Traffic Engineering
(G.C. 9/30/13)


Synchro 8 - C:\Users\johna\Desktop\Projects\York\York Existing PM Model.syn
File Edit Transfer Options Optimize Help
0: 8:45 / 2:35:21
none
HCM 2010
York Rd
Lindsey Rd #1
Lindsey Rd #2
Hospital Drive
Long Boulder Rd
Woodbridge
Williams Rd
Click to start dragging map.
8,856
11,414

Meeting 2

This meeting included the first significant discussion of the traffic modeling and analysis results for the six different intersection layout alternatives that were under initial consideration.

YORK VILLAGE STUDY - TRAFFIC REVIEW OF INITIAL 6 ALTERNATIVES

	Overall Delay (Secs.)	LOS	Delay/LOS at Nodes	Congestion/Queuing	Suggested Improvement	Comments on Improvements	Safety
Alt 1A - Monument Garden	40	E	NW - 20/C NE - 39/E SE - 2/A	York St SB Q = 630ft. Long Sands Rd Q = 640ft.	-add LT Lane on York St SB	-Addition of LT lane reduces Q on York St SB to 210ft and improves Delay to **28** (LOS D)	Intersection more complex for motorists and decision making, also more complex (3 Nodes)for peds & bikes
Alt 1B - Village Park	54	F	NW - 17/C NE - 91/F SE - 2/A	York St SB Q = 410ft. Long Sands Rd Q = 520ft.	-add LT Lane on York St SB -add LT on Long Sands Road	-Addition of LT lanes reduces Q on York St SB to 290ft and improves Delay to **35** (LOS E)	Intersection more complex for motorists and decision making, also more complex (3 Nodes) for peds & bikes
Alt 2 - Y Concept	100	F	Same	York St SB Q = 790ft. Long Sands Rd Q = 590ft.	-add LT Lane on York St SB -add LT on Long Sands Road	-Addition of LT lanes reduces Q on York St SB to 460 ft and does not reduce Q on Long Sands Rd improves Delay to **60** (LOS F)	Intersection less complex than Alt 1A & 1B, single intersection simplifies movement through area for motorists, bikes and peds.
Alt 3 - York Tee	81	F	Same	York St SB Q = 710ft. Long Sands Rd Q = 650ft.	-add LT Lane on York St SB -add LT Lane on Long Sands Road	-Addition of LT lanes reduces Q on York St SB to 270ft and does not reduce Q on Long Sands Rd and improves Delay to **56** (LOS F)	Intersection less complex than Alt 1A & 1B, single intersection simplifies movement through area for motorists, bikes and peds, curvature on York St should lower speeds
Alt 4 - Long Sands Tee	30	D	Same	York St SB Q = 30ft. Long Sands Rd Q = 240ft. York St NB Q = 290ft	-add RT Lane on York St NB & LT Lane on Long Sands Road	adding LT Lane reduces Q on Long Sands to 70 ft, improves Delay to **26** (LOS D) Overall seems to work the best of the alternatives from a vehicle perspective but does shift moderate Q to York St NB (300ft)	Intersection less complex than Alt 1A & 1B, single intersection simplifies movement through area for motorists, bikes and peds, speeds may increase on York SB/Long Sands and decrease on York NB
Alt 5 - Four-Way Concept	63	F	Same	York St SB Q = 690ft. Long Sands Rd Q = 490ft. York St NB Q = 70ft	-add LT Lane on York St SB, -add LT Lane on Long Sands	-Addition of LT lane reduces Q on York St SB to 320ft but does not reduce Q on Long Sands, and improves Delay to **41** (LOS E)	Intersection less complex than Alt 1A & 1B, single intersection simplifies movement through area for motorists, bikes and peds, introduces Hospital leg w/ potential for two-way traffic

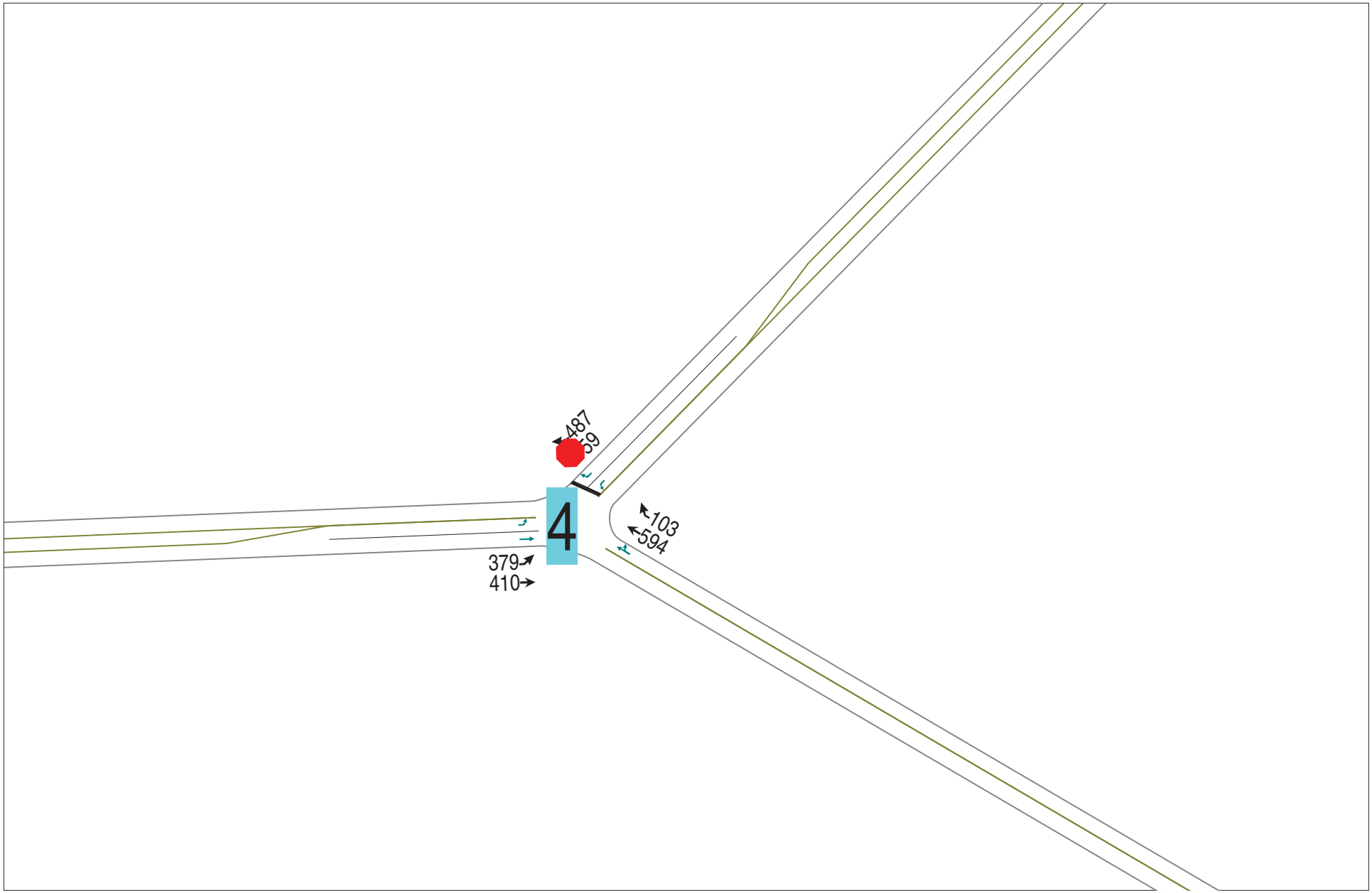
NOTE: Each Alternative was evaluated with out turn lanes initially, then turn lanes added to define improvements.

Meeting 3

This meeting included a more detailed discussion of traffic operations for the three intersection layout alternatives that were selected at the previous meeting. The alternatives included; the "Y" Concept, the York "T" Concept, and the Long Sands "T" Concept.

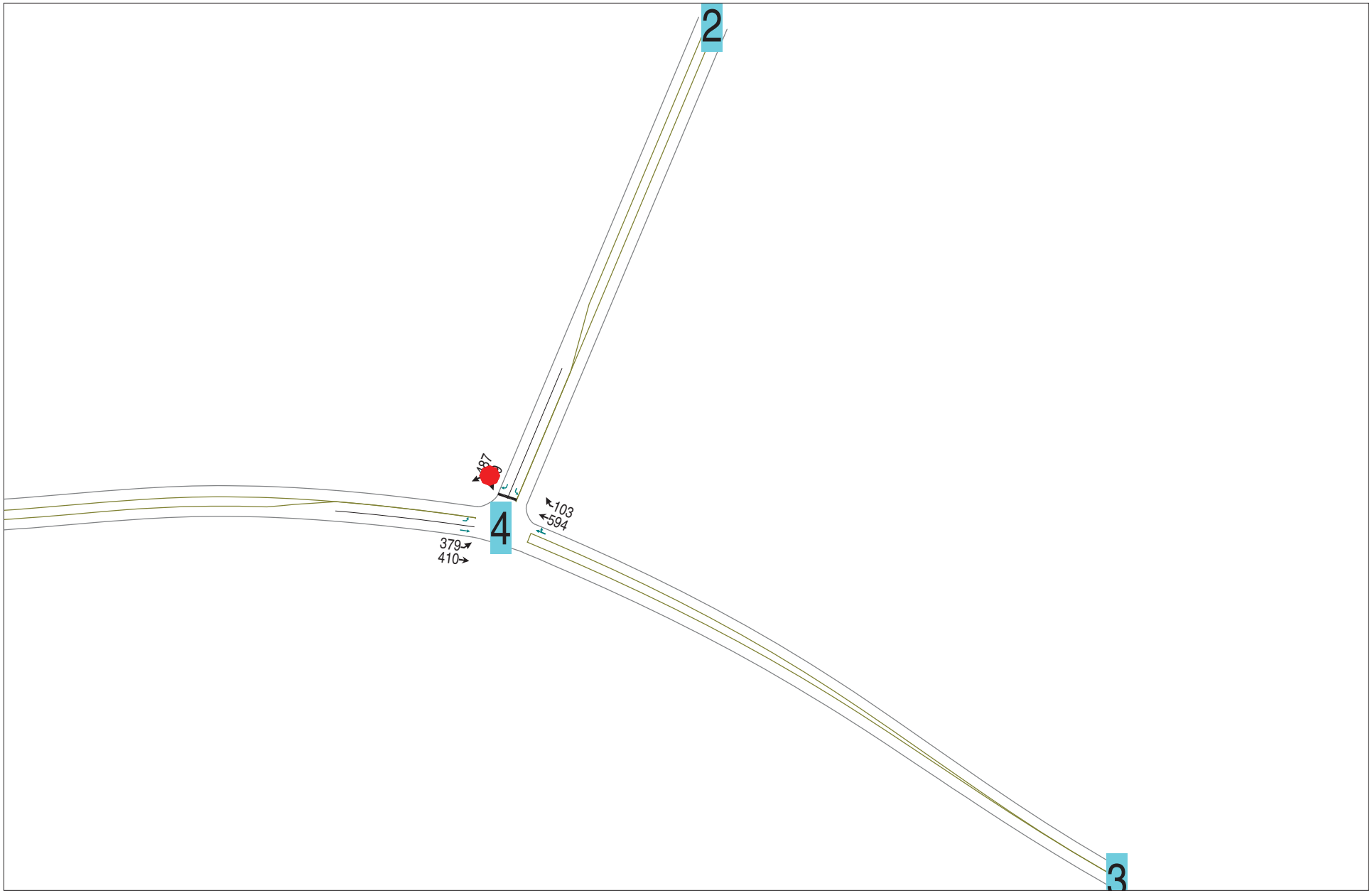
YORK VILLAGE – Y CONCEPT TRAFFIC ANALYSIS

	Unsignalized - Y Concept Single Lanes - Stop Sign on Long Sands Road	Unsignalized - Y Concept w/ 150 ft Left Turn Lanes on York St & Long Sands	Signalized - Y Concept w/ 150 ft Left Turn Lanes on York St & Long Sands
	LOS / Average Delay / 95th Q / Average Q	**LOS / Average Delay / 95th Q / Average Q**	**LOS / Average Delay / 95th Q / Average Q**
Overall	F / 76 seconds	E / 42 seconds	C / 20 seconds
York St EB	D / 31 seconds / 590 ft / 300 ft	B / 11 seconds / 240 ft/ 110 ft	B / 11 seconds / 220 ft/ 130 ft
York St WB	A / 2 seconds / 30 ft / 10 ft	A / 3 seconds / 40 ft / 10 ft	C / 24 seconds / 430 ft / 260 ft
Long Sands SB	F / 560 seconds / 650 ft / 630 ft	F / 138 seconds / 800 ft / 500 ft	C / 29 seconds / 340 ft / 190 ft


487
59
4
103
594
379
410

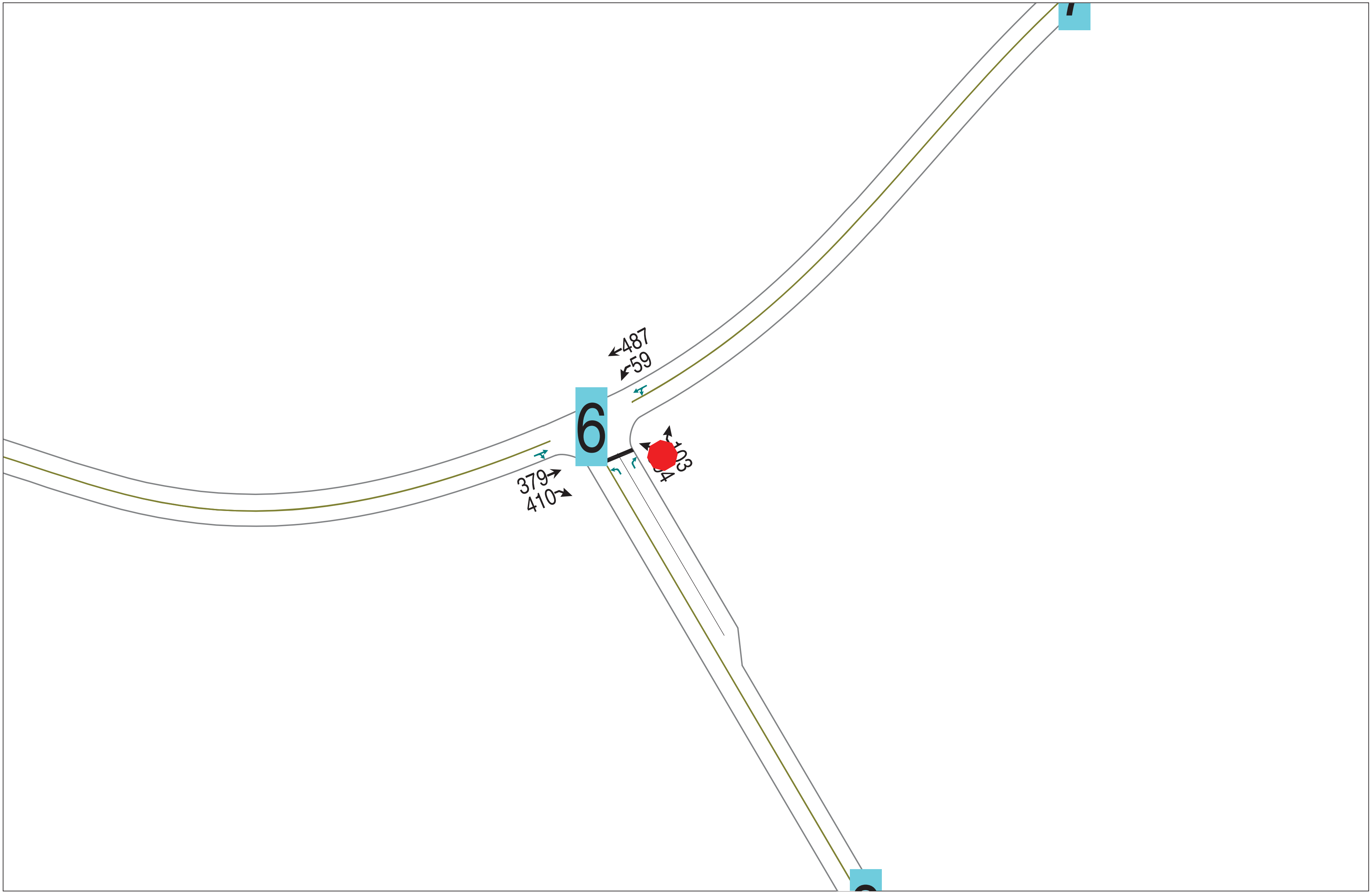
YORK VILLAGE – YORK T TRAFFIC ANALYSIS

	Unsignalized - YORK T Concept - Single Lanes - Stop Sign on Long Sands Rd	Unsignalized - YORK T Concept w/ 150 ft Left-Turn Lane on York St EB, 150 Left-Turn Lane on Long Sands SB - Stop Sign on Long Sands Rd	Signalized - York T Concept w/ 150 ft Left-Turn Lane on York St EB, 150 Left-Turn Lane on Long Sands SB
	LOS / Average Delay / 95th Q / Average Q	**LOS / Average Delay / 95th Q / Average Q**	**LOS / Average Delay / 95th Q / Average Q**
Overall	F / 61 seconds	E / 39 seconds	B / 19 seconds
York St EB	D / 25 seconds / 520 ft / 260 ft	A / 10 seconds / 210 ft/ 110 ft	B / 10 seconds / 200 ft/ 120 ft
York St WB	A / 2 seconds / 20 ft / 10 ft	A / 3 seconds / 30 ft / 10 ft	C / 26 seconds / 460 ft / 260 ft
Long Sands SB	F / 372 seconds / 590 ft / 550 ft	F / 129 seconds / 730 ft / 480 ft	C / 24 seconds / 320 ft / 180 ft


2
4
3
497
103
594
379
410

YORK VILLAGE – LONG SANDS T TRAFFIC ANALYSIS

	Unsignalized - LONG SANDS T Concept - Single Lanes - Stop Sign on York St NB	Unsignalized - LONG SANDS T Concept w/ 150 ft Right-Turn Lane on York St NB - Stop Sign on York St NB	Signalized - LONG SANDS T Concept w/ 150 ft Right-Turn Lane on York St NB, 100 Left-Turn Lane on Long Sands, 150 Right-Turn Lane on York St EB
	LOS / Average Delay / 95th Q / Average Q	**LOS / Average Delay / 95th Q / Average Q**	**LOS / Average Delay / 95th Q / Average Q**
Overall	D / 29 seconds	D / 30 seconds	B / 17 seconds
York St EB	A / 3 seconds / 20 ft / 10 ft	A / 3 seconds / 30 ft/ 10 ft	B / 14 seconds / 290 ft/ 160 ft
Long Sands WB	A / 7 seconds / 290 ft / 270 ft	A / 8 seconds / 290 ft / 270 ft	C / 21 seconds / 330 ft / 200 ft
York St NB	F / 166 seconds / 230 ft / 90 ft	F / 172 seconds / 250 ft / 100 ft	B / 17 seconds / 370 ft / 220 ft



Map - base

C:\Users\johna\Desktop\Projects\York\December Analysis\Long Sands Tee Concept w 150 ft RT Lane on York St NB Only.syn
w/ 150 ft LT Lanes on York St & Long Sands

Meeting 4

This meeting provided further detailed traffic operations analysis of the two alternatives that had been selected at the previous meeting. The alternatives included; The "Y"Concept and the York "T"Concept.

TO: **York Village Study Committee**

FROM: **The Downtown Revitalization Collaborative**

DATE: January 14, 2014

RE: **Update Traffic Operations & Parking Analysis**
York Village Redesign Project
MMI #4606-02

Purpose

The purpose of this memo is to update the traffic operations analysis for the critical intersection layout options and to update the parking analysis that was previously completed. The analysis provides additional information for the non-peak traffic volume times of the year. This will better inform the decisions that will be made to choose the preferred intersection layout alternative and to decide what areas may critical for on-street parking and what opportunities may existing in the York Village area to utilize off-street parking.

1. Previous Analysis and Decisions

We have previously analyzed three intersection alternatives including; the 1) York Tee Concept, 2) Y Concept and 3) the Long Sands T Concept. These were all analyzed based on the peak weekday PM peak hour summer design year 2035 traffic volumes. The design year traffic volumes were based on summertime traffic counts taken in August of 2014 that were increased by 0.5% per year (11% total) too account for background traffic volume growth for the years 2015 through 2035. Each of the alternatives was presented under three conditions for the weekday PM peak hour, including; unsignalized without improvements, unsignalized with improvements (turn lanes), and signalized with improvements (turn lanes). Based on the results of the Village Study Committee (VSC) Meeting on December 4, 2014, the Long Sands T concept was eliminated from consideration.

The Downtown Revitalization Collaborative team was then directed by the VSC to provide further analysis of the "York T" Concept and the "Y" Concept. The additional traffic analysis will involve reviewing both alternatives during the off-peak time of year as well as looking at the two concepts during the summer peak times without background growth (2015 volumes).

2. Additional Data Collection

To facilitate traffic analysis of the two intersection layout alternatives a second set of traffic counts were collected at the existing "Triangle" intersection during an off-peak time of year. These counts were taken on December 18th during the typical holiday shopping time of year. The traffic counts were taken for the weekday AM peak hour (7 to 9 AM) as well as the PM peak hours (230 PM to 6 PM). The weekday PM collection time was extended to capture the afternoon School exiting times. The results off the off-peak traffic counts indicated that the weekday PM peak hour counts were generally higher so this was the selected condition for analysis for the off-peak condition. For comparison, the weekday PM peak hour traffic volumes were approximately 70% of the summertime peak hour traffic volumes. In addition, a second set of parking counts were completed during this time to get a snapshot of on-street during an off-peak time of year. The parking counts were completed for the same on-street areas as the previous counts that were completed this past August.

3. Traffic Operations Analysis

In an effort to assist in the decision making process for choosing a single intersection alternative to move forward with additional traffic operations analysis was completed for the York T and the "Y" concepts. This analysis was completed for several design conditions, including:

- 2035 Summertime Weekday PM Peak Hour (this condition was previously analyzed)
- 2035 Summertime Saturday Peak Hour
- 2015 Summertime Weekday PM Peak Hour
- 2015 Summertime Weekday PM Peak Hour
- 2035 Off-Peak Weekday PM Peak Hour

For each of the alternatives an unsignalized traffic analysis was completed for the above conditions. The traffic control for both the York T and "Y" concept alternative included a stop sign on the Long Sands Road approach and free uncontrolled operations on both York St approaches. The result is shown in Table 1, 2, 3 and 4 below.

Table 1 – Unsignalized Traffic Analysis
York T Concept

CONDITION UNSIGNALIZED	**OVERALL** (LOS/Delay)	**YORK STREET EASTBOUND** (LOS/Delay/Ave Q/95th Q)	**YORK STREET WESTBOUND** (LOS/Delay/Ave Q/95th Q)	**LONG SANDS ROAD SOUTHBOUND** (LOS/Delay/Ave Q/95th Q)
2035 Summertime Weekday PM Peak Hr	E/39 secs	B/10 secs/110ft/210ft	A/3 secs /10ft/30ft	F/129 secs/480ft/730ft

2035 Summertime Saturday Peak Hr	C/24 secs	A/8 secs/110ft/190ft	A/2 secs/10ft/30ft	F/80 secs/260ft/580ft
2015 Summertime Weekday PM Peak Hr	B/14 secs	A/7 secs/90ft/170	A/2 secs/10ft/30ft	E/38 secs/180ft/360ft
2015 Summertime Weekday PM Peak Hr	B/11 secs	A/7 secs/100ft/170ft	A/2 secs/10ft/30ft	D/30 secs/110ft/230ft
2035 Off-Peak Weekday PM Peak Hr	A/4 secs	A/3 secs/50ft/90ft	A/1 secs/5ft/20ft	A/8 secs/60ft/110ft

For comparison purposes the York T concept was also analyzed for the 2035 summer PM peak condition. The result is shown in Table 2 below.

Table 2 – Signalized Traffic Analysis
York T Concept

CONDITION SIGNALIZED	**OVERALL** (LOS/Delay)	**YORK STREET EASTBOUND** (LOS/Delay/Ave Q/95th Q)	**YORK STREET WESTBOUND** (LOS/Delay/Ave Q/95th Q)	**LONG SANDS ROAD SOUTHBOUND** (LOS/Delay/Ave Q/95th Q)
2035 Summertime Weekday PM Peak Hr	B/19secs	B/10 secs/120ft/200ft	C/26 secs /260ft/460ft	C/24 secs/180ft/320ft

Table 3 – Unsignalized Traffic Analysis
"Y" Concept

CONDITION UNSIGNALIZED	**OVERALL** (LOS/Delay)	**YORK STREET EASTBOUND** (LOS/Delay/Ave Q/95th Q)	**YORK STREET WESTBOUND** (LOS/Delay/Ave Q/95th Q)	**LONG SANDS ROAD SOUTHBOUND** (LOS/Delay/Ave Q/95th Q)
2035 Summertime Weekday PM Peak Hr	E/42 secs	B/11 secs/110ft/240ft	A/3 secs /10ft/40ft	F/138 secs/500ft/800ft
2035 Summertime Saturday Peak Hr	C/19 secs	A/8 secs/110ft/190ft	A/2 secs/10ft/30ft	F/61 secs/190ft/500ft
2015 Summertime Weekday PM Peak Hr	C/17 secs	A/8 secs/100ft/180	A/2 secs/10ft/30ft	E/48 secs/200ft/420ft
2015 Summertime Weekday PM Peak Hr	B/10 secs	A/6 secs/90ft/170ft	A/2 secs/10ft/20ft	D/27 secs/100ft/230ft
2035 Off-Peak Weekday PM Peak Hr	A/6 secs	A/2 secs/70ft/120ft	A/11 secs/5ft/20ft	A/5 secs/70ft/130ft

Table 4 – Signalized Traffic Analysis
"Y" Concept

CONDITION SIGNALIZED	OVERALL (LOS/Delay)	YORK STREET EASTBOUND (LOS/Delay/Ave Q/95th Q)	YORK STREET WESTBOUND (LOS/Delay/Ave Q/95th Q)	LONG SANDS ROAD SOUTHBOUND (LOS/Delay/Ave Q/95th Q)
2035 Summertime Weekday PM Peak Hr	C/20secs	B/11 secs/130ft/220ft	C/24 secs /260ft/430ft	C/29 secs/190ft/340ft

The results indicate that these two alternatives will generally operate similarly. In the 2035 design years with the 11% background traffic volume growth both options indicate that there will be significant Queuing on the Long Sands Road southbound approach. During the 2015 design years both concept function relatively well with shorter queuing.

Optional Layout Analysis

In an effort to reduce the size and scale of the pavement and lanes to balance the intersection with the other needs (bikes, pedestrians, green space, quality of life, etc.), we have further evaluated the concept with two alternative layout features. These include;

- Utilizing a "bypass" arrangement in lieu of a formal separate left-turn lane and through lane on the York Street eastbound approach, this allows us to reduce the pavement width from 21 ft. (11 ft. through lane and 10 left-turn lane) to 17 ft. (11 through lane and a 6 ft. shoulder), while still providing some accommodation for the heavy left-turning traffic volumes. This provides an additional 4 ft. of width that could potentially be utilized for on-street parallel parking or for wider sidewalks or shared-use paths. A trade-off is the the bypass will not handle the traffic volumes as efficiently as the formal left-turn lane arrangement.
- Relocating the Long Sands Road southbound left-turn movement to the east side of the statue. This removes a significant conflicting movement from the major intersection (Long Sands at York St) and also allows the relocated left-turn movement to turn against lower traffic volumes and one less conflicting movement. The trade-off is that we have created a secondary intersection and potentially made the overall intersection larger and more complex.

We have analyzed this alternative for comparison against the 1) York T concept and the 2) Y concept for the 2015 Summer Peak Weekday PM and Saturday Peak hour condition. Table 5, below summarizes the results.

Table 5 – Unsignalized Traffic Analysis
"Optional Layout Alternative" Concept

CONDITION UNSIGNALIZED	OVERALL (LOS/Delay)	YORK STREET EASTBOUND (LOS/Delay/Ave Q/95th Q)	YORK STREET WESTBOUND (LOS/Delay/Ave Q/95th Q)	LONG SANDS ROAD SOUTHBOUND (LOS/Delay/Ave Q/95th Q)

2015 Summertime Weekday PM Peak Hr	A/9 secs	B/10 secs/100ft/200	A/1 sec/20ft/50ft	C/18 secs/230ft/430ft
2015 Summertime Weekday PM Peak Hr	A/7 secs	B/10 secs/110ft/280ft	A/1 sec/10ft/40ft	A/8 secs/130ft/240ft

4. Parking Counts & Analysis

Additional parking counts were collected on December 18, 2014 during the typical holiday shopping season for the on-street parking. These counts were taken at the same areas as the previous counts completed in August of 2014.

The previous parking counts included both available on-street parking in the study area and at 3 off-street parking lots. We identified 57 existing on-street parking spaces in the study area. We also identified 3 off-street parking lots, including; in front of the hospital, the library parking lot and a lot located behind the Bank of Maine. Parking counts were taken for these areas on Wednesday August 27, 2014 and Saturday August 30, 2014 from 7 AM to 6 PM. The results indicated the following:

On-Street Parking

- 57 spaces available
- Average Occupancy; Weekday August 27, 2014: 44% ; Saturday August 30, 2014: 32%
  Weekday December 18, 2014: 37%
- Average Duration of Parking; Weekday August 27, 2014: 2.6 hrs; Saturday August 30, 2014: 1.3 hrs
  Weekday December 18, 2014: 1.77 hrs

Off-Street Parking

- **Library Lot (Lot 1)** 89 spaces available
- Average Occupancy; Weekday: 37, 41% ; Saturday: 26, 28%
- **Hospital Lot (Lot 3)** 184 spaces available
- Average Occupancy; Weekday: 97, 52% ; Saturday: 45, 24%
- **Lot 2 Behind Bank of America;** 33 Spaces Available, Lot closed during counts

Appendix to Meeting 4

Parking Data/Counts (On-Street & Off-Street)

1. On-Street Data:

I. Weekday – December 18, 2014, Excel Table
II. Weekday – August 27, 2014, Excel Table
III. Weekend (Sat) – August 30, 2014, Excel Table
IV. On-Street Parking Spaces 1 – 29, Google Map
V. On-Street Parking Spaces 30 – 57, Google Map

2. Off-Street – Parking Lot Data:

I. Weekday – August 27, 2014, Lot 1 Library, Lot 3 Hospital, Excel Table
II. Weekend (Sat) – August 30, 2014, Lot 1 Library, Lot 3 Hospital, Excel Table
III. Off-Street Parking Lot Spaces, Google Map

On-Street Parking Weekday: York/Long Sands: 12/18/14

Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	% Occupied	Average amount of time occupied (hrs)
Parking Space																									
1		0.5	0.5	0.5					0.5	0.5	0.5		0.5		0.5	0.5	0.5	0.5		0.5				52%	1.00
2		0.5	0.5	0.5		0.5			0.5		0.5			0.5	0.5	0.5		0.5	0.5	0.5				52%	0.86
3						0.5	0.5	0.5	0.5	0.5	0.5							0.5	0.5			0.5		39%	0.90
4		0.5	0.5	0.5					0.5	0.5			0.5				0.5	0.5	0.5	0.5	0.5	0.5		52%	1.20
5		0.5	0.5			0.5	0.5	0.5		0.5	0.5					0.5				0.5				39%	0.90
6								0.5	0.5	0.5	0.5		0.5	0.5	0.5				0.5					35%	0.80
7	0.5					0.5													0.5	0.5		0.5		22%	0.50
8			0.5	0.5				0.5			0.5	0.5			0.5		0.5		0.5	0.5				39%	0.75
9					0.5	0.5	0.5	0.5				0.5					0.5	0.5	0.5	0.5		0.5		43%	1.00
10			0.5					0.5				0.5					0.5							17%	0.50
11			0.5	0.5						0.5	0.5					0.5	0.5			0.5				30%	0.58
12					0.5						0.5				0.5			0.5	0.5		0.5	0.5		30%	0.50
13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			0.5				0.5		74%	2.83
14	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			91%	5.25
15	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		78%	3.00
16					0.5		0.5				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			57%	2.17
17																								0%	0.00
18			0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5		74%	2.83
19			0.5														0.5							9%	0.50
20					0.5	0.5	0.5	0.5	0.5	0.5	0.5									0.5				35%	2.00
21																								0%	0.00
22					0.5			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5				43%	1.25
23																								0%	0.00
24										0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		57%	6.50
25									0.5	0.5	0.5	0.5								0.5	0.5			26%	1.00
26										0.5	0.5	0.5	0.5	0.5	0.5		0.5		0.5	0.5	0.5			43%	1.67
27	0.5	0.5	0.5							0.5		0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5	0.5		57%	1.63
28											0.5	0.5	0.5	0.5	0.5	0.5	0.5							30%	3.50
29		0.5	0.5						0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					57%	3.25
30				0.5	0.5	0.5	0.5	0.5	0.5	0.5														30%	3.50
31																								0%	0.00
32																								0%	0.00
33												0.5	0.5	0.5										13%	1.50
34				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5			0.5	0.5	0.5	0.5		70%	2.67
35							0.5																	4%	0.50
36							0.5																	4%	0.50
37													0.5				0.5	0.5	0.5	0.5	0.5	0.5		30%	1.75
38																								0%	0.00
39															0.5		0.5							9%	0.50
40				0.5	0.5								0.5	0.5	0.5	0.5	0.5							30%	1.75
41	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5															35%	2.00
42					0.5		0.5	0.5																13%	0.75
43	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5															39%	4.50
44						0.5	0.5	0.5	0.5															17%	2.00
45				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			0.5	0.5	0.5	0.5	0.5						57%	2.17
46			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			83%	4.75
47					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5				70%	8.00
48					0.5				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		65%	1.50
49					0.5	0.5	0.5	0.5	0.5					0.5		0.5	0.5							35%	1.00
50					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5				70%	4.00
51			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5														35%	2.00
52	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5		78%	3.00
53				0.5	0.5	0.5					0.5						0.5	0.5	0.5			0.5		35%	0.67
54											0.5	0.5	0.5				0.5	0.5	0.5					26%	0.60
55							0.5					0.5	0.5	0.5		0.5	0.5							26%	0.75
56											0.5	0.5			0.5	0.5		0.5	0.5					26%	0.60
57						0.5					0.5				0.5	0.5	0.5							22%	0.63
58					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		78%	4.50
NEXT TO 57								0.5	0.5	0.5														13%	1.50
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	Avg % Occupied	Avg time occupied
% Occupied	14%	21%	33%	33%	43%	41%	43%	45%	48%	47%	55%	45%	43%	41%	47%	43%	52%	38%	43%	43%	26%	28%	0%	37%	1.77

On-Street Parking Weekday: York/Long Sands:

Wednesday 8/27/2014

Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	% Occupied	Average amount of time occupied (hrs)
Parking Space																									
1							X	X	X				X								X	X	X	35%	1.33
2							X		X		X				X						X	X	X	43%	0.83
3								X	X		X								X	X				30%	0.88
4							X	X	X		X				X				X		X	X	X	52%	1.00
5	X								X		X		X							X				35%	1.00
6						X	X	X	X		X				X				X	X				48%	1.38
7					X	X	X	X	X		X		X		X		X		X	X				70%	8.00
8											X				X							X		22%	0.83
9	X	X	X	X	X	X	X	X	X		X									X				52%	2.00
10							X	X	X		X				X									35%	1.33
11						X	X		X						X				X	X				35%	1.00
12	X	X	X		X	X	X						X		X		X							52%	0.86
13	X	X	X	X	X	X	X	X	X		X		X		X		X		X	X	X	X		96%	11.00
14	X	X	X	X	X	X	X	X	X		X		X		X		X		X	X	X	X	X	100%	11.50
15	X	X	X	X	X	X	X	X	X		X		X				X		X	X	X	X	X	91%	5.25
16	X	X		X				X	X		X				X		X							52%	1.20
17											X											X		13%	0.75
18					X	X	X	X	X		X		X		X		X		X	X	X			74%	2.83
19		X	X	X	X	X	X	X	X		X						X		X	X	X			70%	2.00
20									X		X				X					X		X		35%	0.80
21		X				X	X	X	X		X		X		X		X		X	X	X			74%	2.83
22			X		X	X	X	X	X		X		X		X		X		X					70%	4.00
23													X		X		X		X	X	X	X	X	48%	5.50
24											X													9%	1.00
25															X		X							17%	1.00
26								X	X		X				X		X							39%	2.25
27					X	X	X	X							X				X	X				35%	0.80
28											X				X		X							26%	1.00
29				X	X	X	X	X	X		X		X		X		X		X	X	X			78%	9.00
30		X									X				X		X							30%	0.88
31																								0%	0.00
32																								0%	0.00
33			X	X	X	X	X	X	X		X								X					48%	2.75
34	X	X	X	X	X	X	X	X	X				X		X		X				X	X	X	78%	9.00
35								X	X		X													22%	1.25
36																								0%	0.00
37							X	X																9%	1.00
38																								0%	0.00
39							X												X	X	X			17%	1.00
40											X													9%	1.00
41							X	X	X		X				X		X		X					48%	1.83
42				X		X	X	X			X		X		X									43%	5.00
43																								0%	0.00
44					X	X	X	X	X				X				X		X					43%	1.67
45				X	X	X	X	X	X		X		X		X		X		X	X	X			78%	4.50
46			X	X	X	X	X	X	X		X		X				X		X	X	X			74%	2.83
47						X			X		X								X	X	X			35%	1.33
48				X	X	X	X	X	X		X		X		X		X		X	X				74%	8.50
49							X	X	X								X		X	X	X			39%	1.50
50			X	X	X	X	X	X	X		X		X		X		X		X	X	X		X	87%	5.00
51	X	X	X	X	X	X	X	X	X		X											X	X	61%	3.50
52			X	X	X	X	X	X	X		X		X						X					57%	1.63
53											X		X						X			X		26%	0.75
54									X		X		X		X		X		X	X	X	X		61%	0.88
55							X	X	X				X						X	X				35%	0.80
56								X	X				X							X	X	X	X	39%	0.90
57					X	X	X	X	X															26%	1.00
58					X	X	X	X	X		X		X		X		X		X	X				70%	8.00
NEXT TO 57											X		X		X		X		X	X	X	X	X	57%	6.50
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	Avg % Occupied	Avg time occupied
% Occupied	16%	19%	22%	28%	38%	47%	60%	62%	67%	62%	68%	68%	44%	44%	53%	53%	69%	67%	53%	47%	36%	27%	19%	44%	2.65

On-Street Parking Weekend: York/Long Sands: Saturday 8/30/2014

Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	% Occupied	Average amount of time occupied (hrs)
Parking Space																									
1			X	X	X	X	X		X	X	X		X	X	X	X	X	X					X	65%	0.83
2			X	X	X	X	X	X	X			X	X	X	X	X		X						57%	1.30
3			X	X	X	X		X	X	X					X									35%	0.80
4				X	X	X	X	X			X	X	X	X		X								43%	0.83
5	X	X	X	X					X	X	X				X						X	X		43%	1.00
6					X	X	X	X				X	X		X	X	X				X			43%	0.83
7			X	X		X			X	X		X						X		X				35%	0.80
8			X	X	X		X	X	X	X				X	X					X				43%	1.00
9			X	X	X		X		X	X		X	X			X	X	X						48%	0.79
10			X	X	X		X	X	X	X	X			X	X	X	X							52%	0.86
11		X		X	X	X	X			X	X	X	X			X								43%	0.63
12		X	X	X	X		X	X		X	X	X	X		X	X								52%	0.67
13	X	X	X		X	X	X	X		X	X	X	X											48%	0.92
14			X	X	X	X	X	X	X	X	X	X									X	X		52%	3.00
15			X	X	X	X	X	X	X	X	X	X	X	X	X									57%	6.50
16	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	96%	11.00
17																								0%	0.00
18			X		X	X			X			X	X			X	X		X					39%	0.56
19						X	X	X	X	X	X	X	X	X	X	X								48%	2.75
20				X	X																X			13%	0.50
21				X			X	X	X	X	X	X	X					X		X				43%	1.00
22										X					X									9%	0.50
23					X	X	X	X	X	X	X	X		X		X					X			48%	1.38
24		X																						4%	0.50
25					X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	70%	4.00
26																								0%	0.00
27			X								X	X		X										17%	0.50
28												X	X	X	X	X	X	X					X	35%	2.00
29						X																		4%	0.50
30		X														X	X							13%	0.75
31																								0%	0.00
32																								0%	0.00
33	X	X	X	X	X	X	X	X	X															39%	2.25
34	X	X	X			X							X	X	X	X	X	X	X	X	X	X	X	65%	2.50
35					X						X													9%	0.50
36					X					X	X										X			17%	0.50
37																								0%	0.00
38											No parking													0%	0.00
39																								0%	0.00
40																								0%	0.00
41																								0%	0.00
42																								0%	0.00
43																								0%	0.00
44																								0%	0.00
45												X	X	X	X	X	X	X	X	X				39%	2.25
46									X	X		X	X	X	X	X	X	X	X	X	X			52%	3.00
47								X	X															9%	1.00
48				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				70%	8.00
49										X	X													9%	0.50
50									X	X	X			X	X	X								26%	1.50
51		X	X	X	X			X	X			X			X	X	X	X	X	X	X	X	X	70%	1.14
52		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X				78%	3.00
53									X				X	X	X	X	X						X	30%	0.58
54								X	X	X					X	X	X	X			X	X		39%	0.64
55					X				X					X	X	X	X	X						26%	0.60
56							X	X	X	X			X		X		X			X	X		X	43%	0.63
57						X		X						X			X	X						22%	0.63
ILLEGAL								X	X				X	X	X	X	X	X	X	X	X	X	X	57%	1.30
BEFORE 51															X									4%	0.50
Time	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	1:00	1:30	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	Avg % Occupied	Avg time occupied
% Occupied	9%	19%	33%	34%	43%	34%	34%	37%	46%	43%	36%	40%	39%	37%	45%	44%	36%	31%	17%	22%	24%	12%	15%	32%	1.32


Hospital Dr, York, ME 03909, USA
York St
1A
Sansbury Ave
Firehouse Dr
© 2014 Google
Google earth
Google earth
feet
meters
300
90

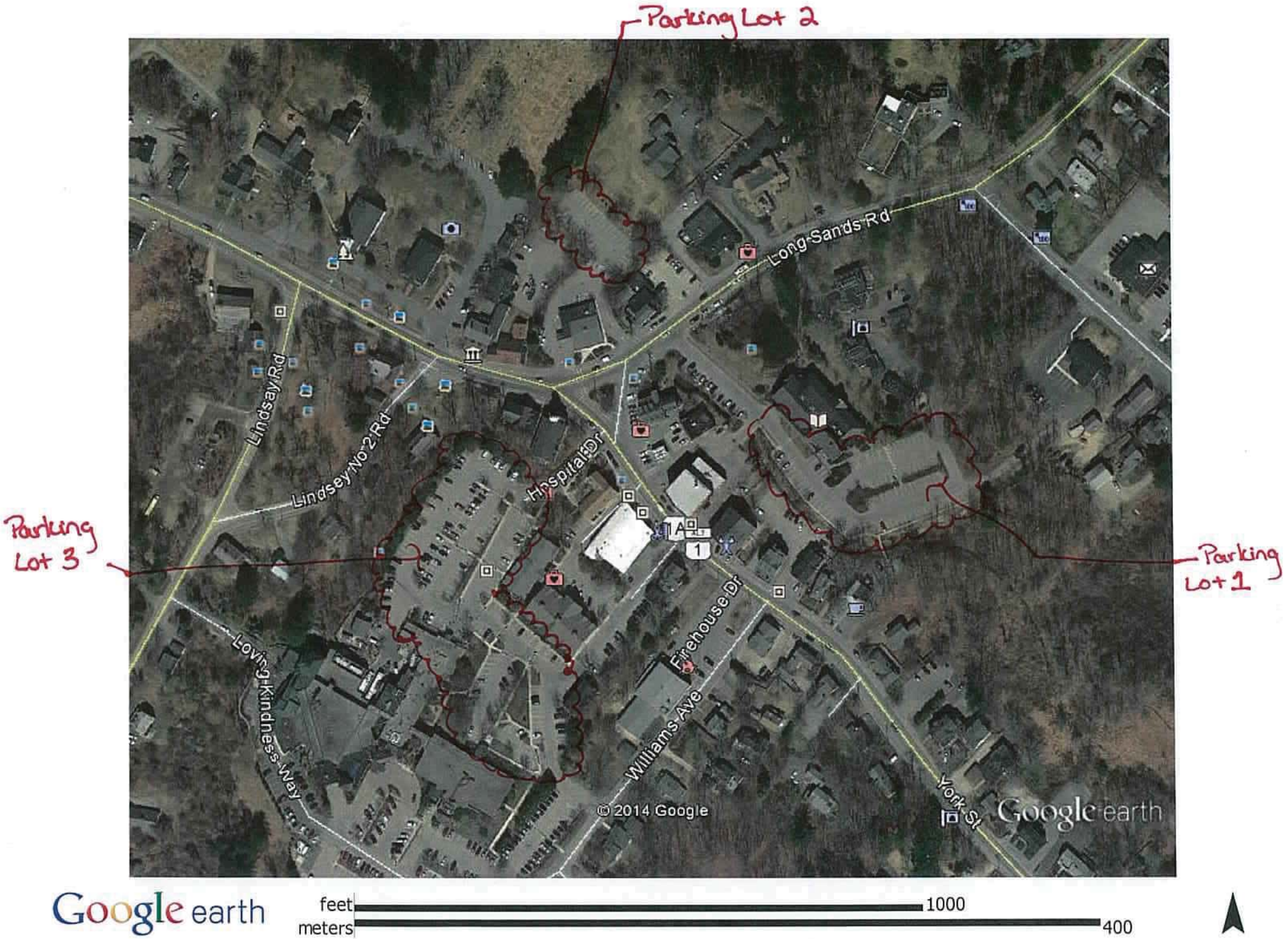
Google earth

feet 500

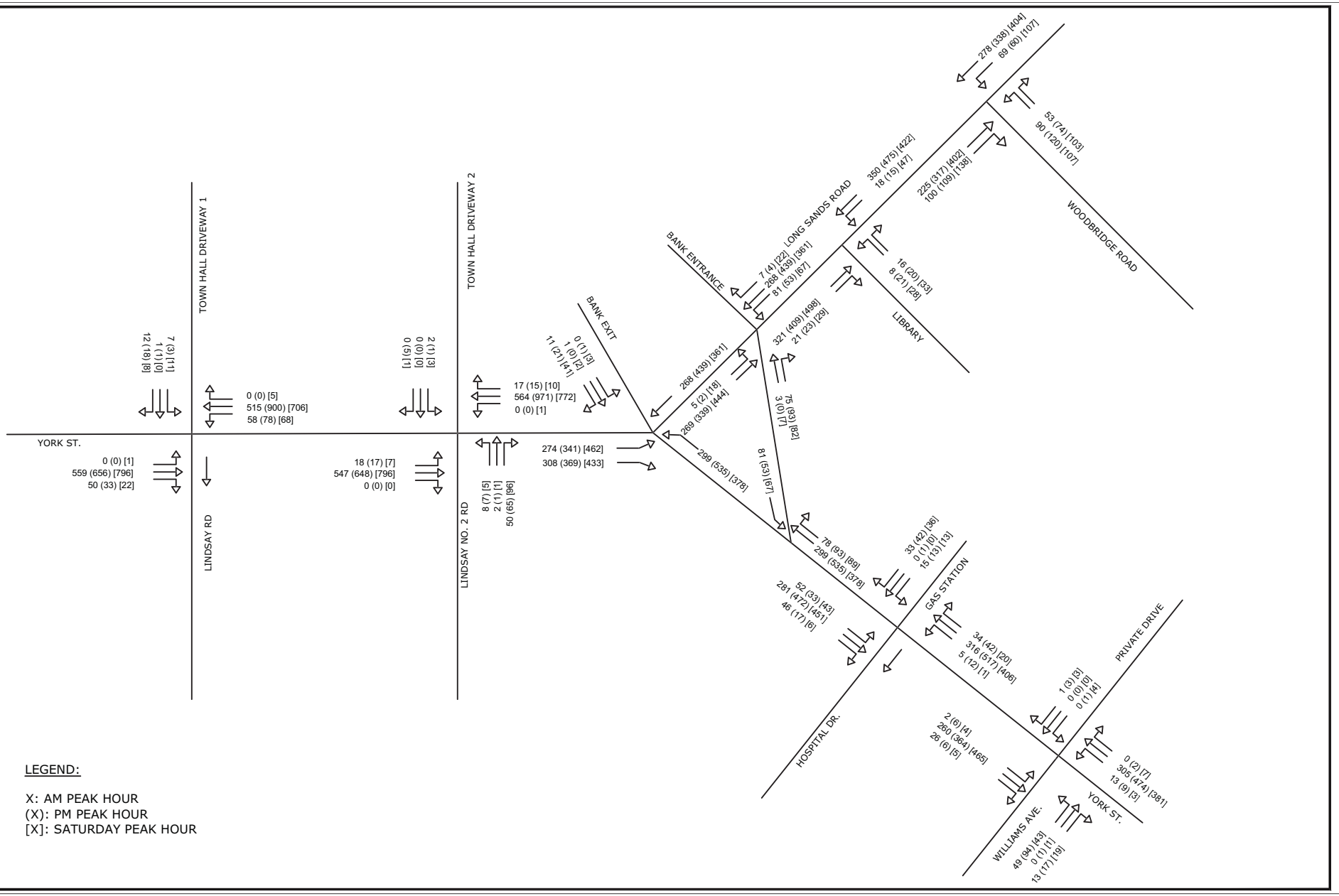
meters 100

	Parking Lot Counts - 8/27/14, York					
Start Time	Lot 1 Library (89)	AVG. Per Hour	% Occupied	Lot 3 Hospital (184)	AVG. Per Hour	% Occupied
07:00 AM	10			35		
07:30 AM	12	11	12%	75	55	30%
08:00 AM	17			91		
08:30 AM	24	20.5	23%	92	91.5	50%
09:00 AM	21			107		
09:30 AM	29	25	28%	113	110	60%
10:00 AM	39			129		
10:30 AM	45	42	47%	131	130	71%
11:00 AM	49			137		
11:30 AM	49	49	55%	137	137	74%
12:00 PM	46			107		
12:30 PM	46	46	52%	107	107	58%
01:00 PM	40			105		
01:30 PM	40	40	45%	105	105	57%
02:00 PM	55			99		
02:30 PM	55	55	62%	99	99	54%
03:00 PM	48			97		
03:30 PM	48	48	54%	97	97	53%
04:00 PM	54			82		
04:30 PM	45	49.5	56%	82	82	45%
05:00 PM	40			71		
05:30 PM	25	32.5	37%	67	69	38%
06:00 PM	16	16	18%	68	68	37%
Overall Average	**37**	**36**	**41%**	**97**	**96**	**52%**

	Parking Lot Counts - 8/30/14, York					
Start Time	Lot 1 Library (89)	AVG. Per Hour	% Occupied	Lot 3 Hospital (184)	AVG. Per Hour	% Occupied
07:00 AM	11			27		
07:30 AM	11	11	12%	50	38.5	21%
08:00 AM	22			53		
08:30 AM	28	25	28%	55	54	29%
09:00 AM	38			57		
09:30 AM	48	43	48%	67	62	34%
10:00 AM	37			60		
10:30 AM	50	43.5	49%	54	57	31%
11:00 AM	47			53		
11:30 AM	39	43	48%	53	53	29%
12:00 PM	40			51		
12:30 PM	37	38.5	43%	46	48.5	26%
01:00 PM	38			43		
01:30 PM	36	37	42%	39	41	22%
02:00 PM	23			36		
02:30 PM	10	16.5	19%	37	36.5	20%
03:00 PM	10			38		
03:30 PM	11	10.5	12%	37	37.5	20%
04:00 PM	14			36		
04:30 PM	11	12.5	14%	33	34.5	19%
05:00 PM	10			34		
05:30 PM	9	9.5	11%	38	36	20%
06:00 PM	8	8	9%	37	37	20%
Overall Average	**26**	**25**	**28%**	**45**	**45**	**24%**


Parking Lot 2
Parking Lot 3
Parking Lot 1
Long Sands Rd
Lindsay Rd
Lindsey No 2 Rd
Hospital Dr
Loving Kindness Way
Firehouse Dr
Williams Ave
York St
© 2014 Google
Google earth
Google earth
feet
meters
1000
400

Traffic Volume Figures



LEGEND:

X: AM PEAK HOUR
(X): PM PEAK HOUR
[X]: SATURDAY PEAK HOUR

REVISIONS

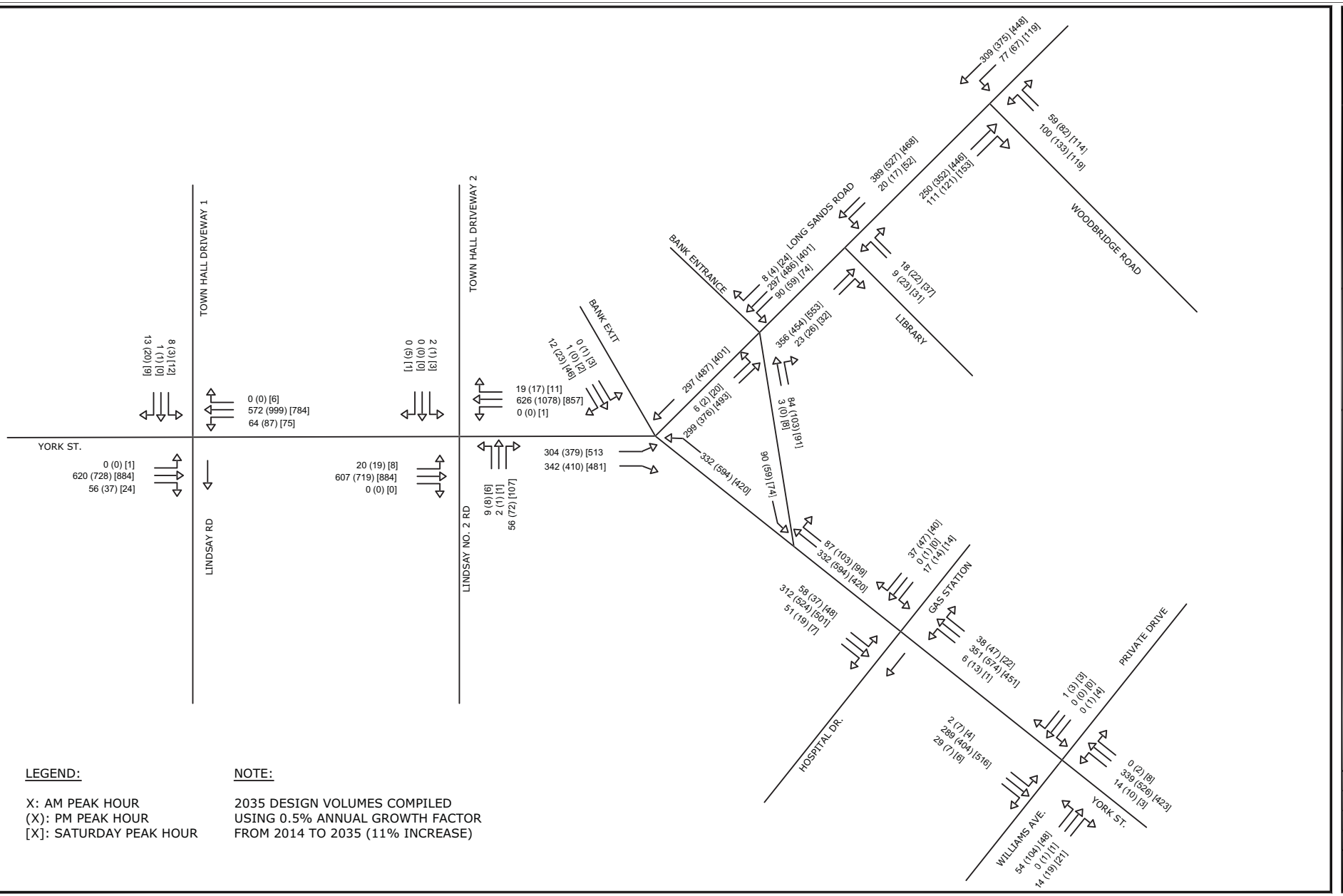
MILONE & MACBROOM®
100 Commercial Street
Suite 417
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.milonemacbroom.com

2014 PEAK HOUR TRAFFIC COUNTS

YORK STREET, LONG SANDS ROAD
YORK, ME

DESIGNED	DRAWN	CHECKED
	SMW	JQA

SCALE: NTS
DATE: OCTOBER 28, 2014
PROJECT NO.: 4606-02
SHEET NO.: 1 OF 7



LEGEND:

X: AM PEAK HOUR
(X): PM PEAK HOUR
[X]: SATURDAY PEAK HOUR

NOTE:

2035 DESIGN VOLUMES COMPILED USING 0.5% ANNUAL GROWTH FACTOR FROM 2014 TO 2035 (11% INCREASE)

MILONE & MACBROOM®
100 Commercial Street
Suite 4-17
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.milonemacbroom.com

REVISIONS

2035 PEAK HOUR TRAFFIC VOLUMES

YORK STREET, LONG SANDS ROAD
YORK, ME

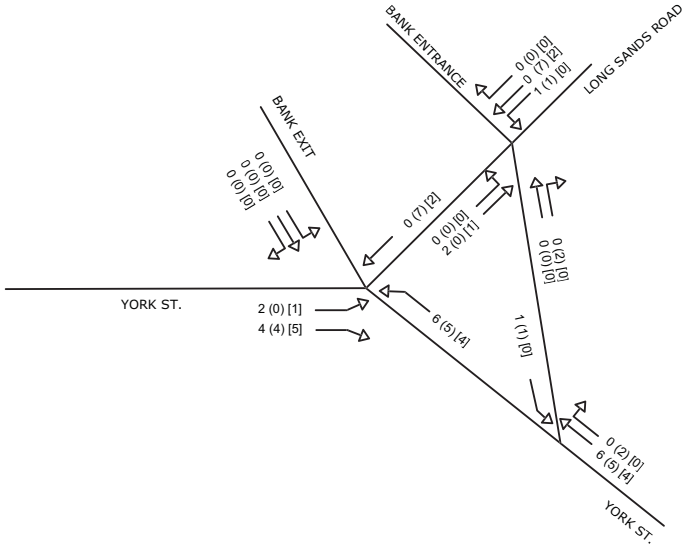
DESIGNED	DRAWN	CHECKED
	SMW	JQA

SCALE: NTS

DATE: OCTOBER 28, 2014

PROJECT NO.: 4606-02

SHEET NO.: **2 OF 7**



LEGEND:

X: AM PEAK HOUR
(X): MID-DAY PEAK HOUR
[X]: PM PEAK HOUR

MILONE & MACBROOM®
100 Commercial Street
Suite 4-17
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.milonemacbroom.com

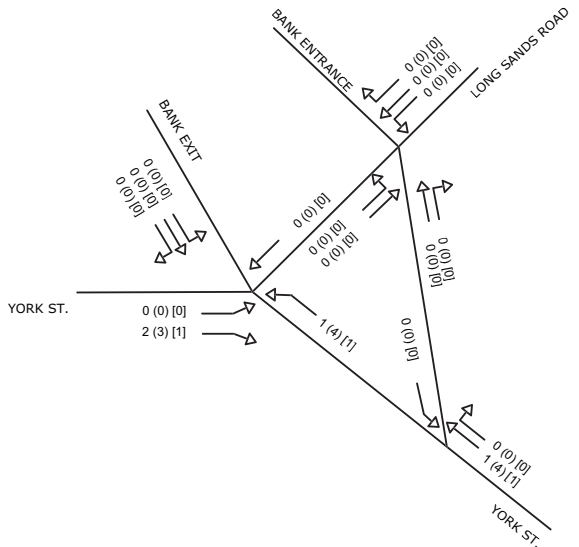
REVISIONS

2 & 3 AXLE TRUCK PEAK HOUR TRAFFIC COUNTS

YORK STREET, LONG SANDS ROAD
YORK, ME

DESIGNED	DRAWN	CHECKED
	SMW	JQA

SCALE: NTS
DATE: OCTOBER 28, 2014
PROJECT NO.: 4606-02
SHEET NO.: 3 OF 7



LEGEND:

X: AM PEAK HOUR
(X): MID-DAY PEAK HOUR
[X]: PM PEAK HOUR

MILONE & MACBROOM®
100 Commercial Street
Suite 417
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.milonemacbroom.com

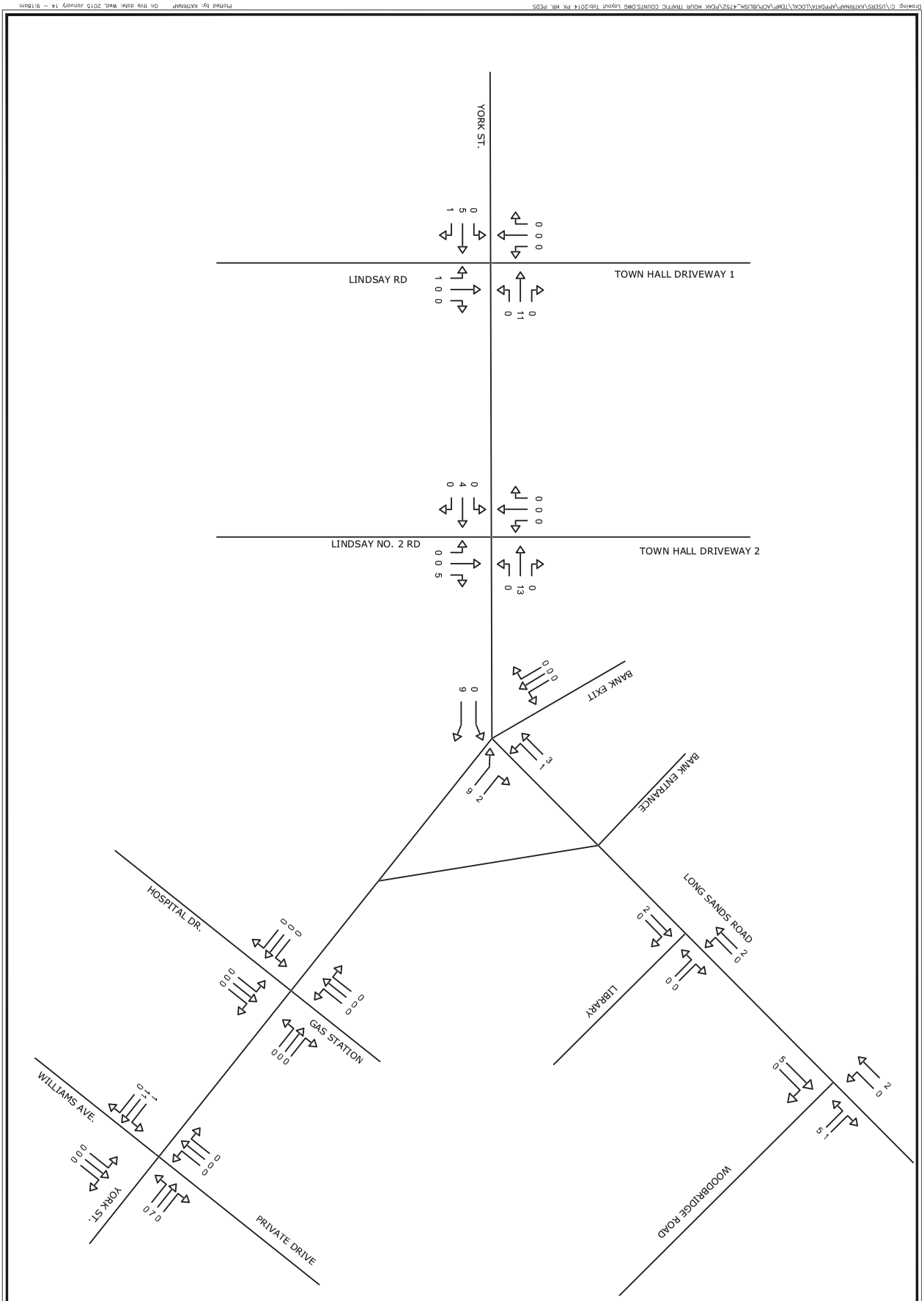
REVISIONS

TRACTOR TRAILER PEAK HOUR TRAFFIC COUNTS

YORK STREET, LONG SANDS ROAD
YORK, ME

DESIGNED	DRAWN	CHECKED
	SMW	JQA

SCALE: NTS
DATE: OCTOBER 28, 2014
PROJECT NO.: 4606-02
SHEET NO.: 4 OF 7



2014 SATURDAY PEAK HOUR BIKE & PED VOLUMES

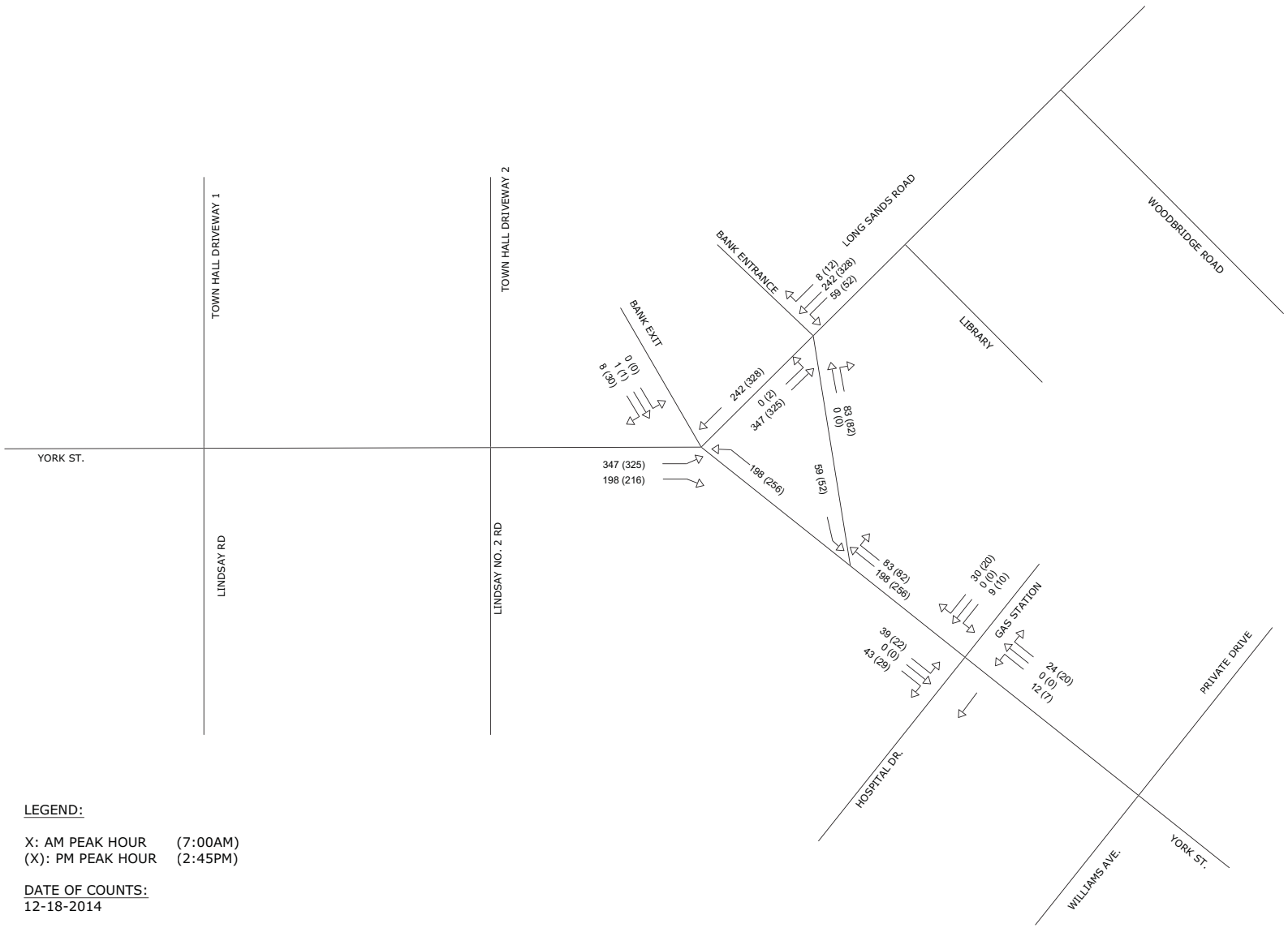
YORK STREET, LONG SANDS ROAD
YORK, ME

REVISIONS

MILONE & MACBROOM®
100 Commercial Street
Suite 417
Portland, Maine 04101
(207) 541-9544 Fax (207) 541-9548
www.miloneandmacbroom.com

5 OF 7

PROJECT NO. 4606-02
DATE OCTOBER 28, 2014
SCALE NTS
DESIGNED
DRAWN SMW
CHECKED JQA



LEGEND:

X: AM PEAK HOUR (7:00AM)
(X): PM PEAK HOUR (2:45PM)

DATE OF COUNTS:
12-18-2014

MILONE & MACBROOM®
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax (203) 272-9733
www.milonemacbroom.com

DESCRIPTION	DATE	BY

2014 OFF-PEAK HOUR TRAFFIC COUNTS

YORK STREET, LONG SANDS ROAD
YORK, MAINE

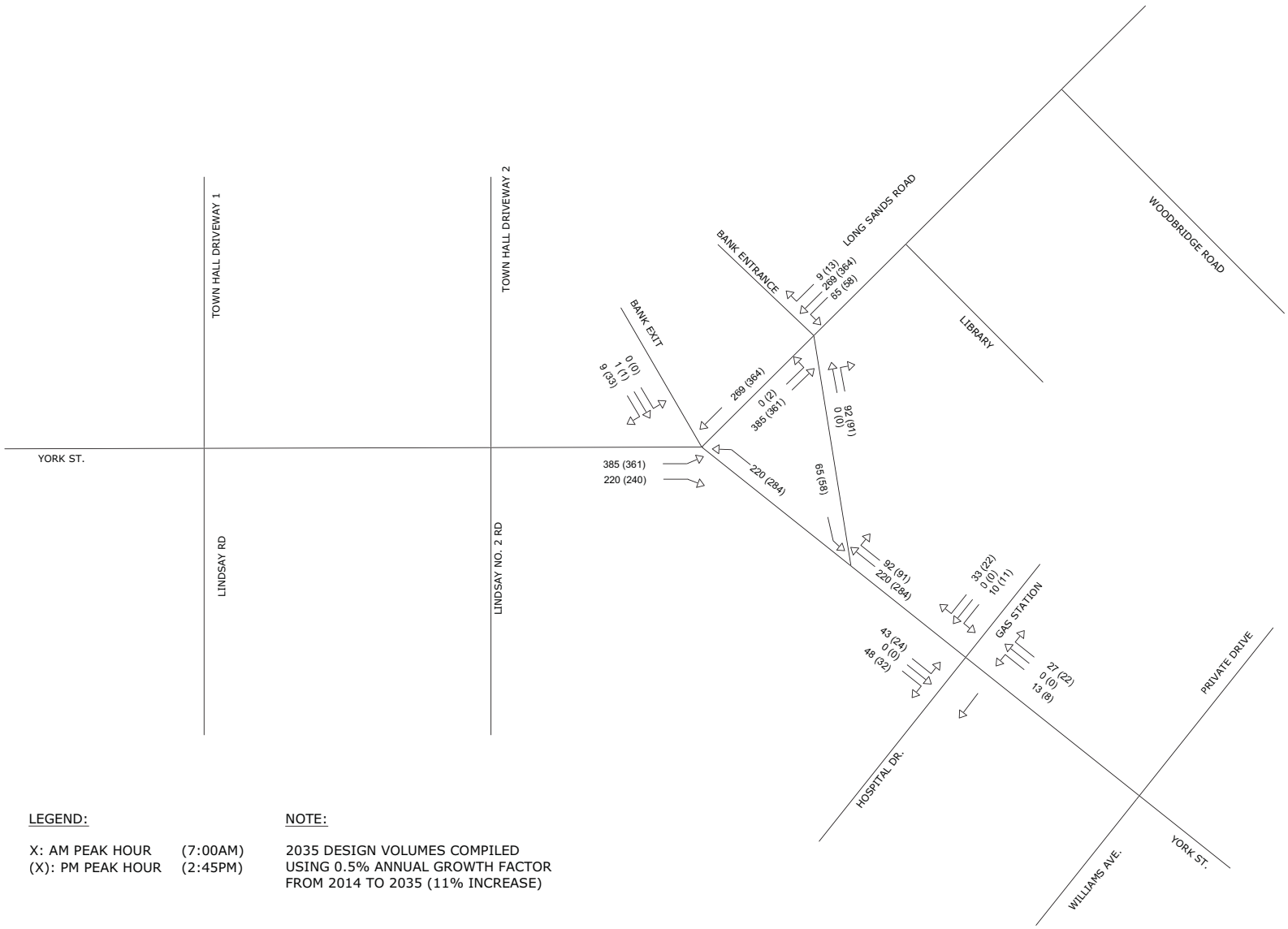
DESIGNED	DRAWN	CHECKED
	KJP	JQA

SCALE: NTS

DECEMBER 29, 2014

PROJECT NO. 4606-02

SHEET NO. 6 OF 7



LEGEND:

X: AM PEAK HOUR (7:00AM)
(X): PM PEAK HOUR (2:45PM)

NOTE:

2035 DESIGN VOLUMES COMPILED USING 0.5% ANNUAL GROWTH FACTOR FROM 2014 TO 2035 (11% INCREASE)

MILONE & MACBROOM®
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax (203) 272-9733
www.milonemacbroom.com

DESCRIPTION | DATE | BY

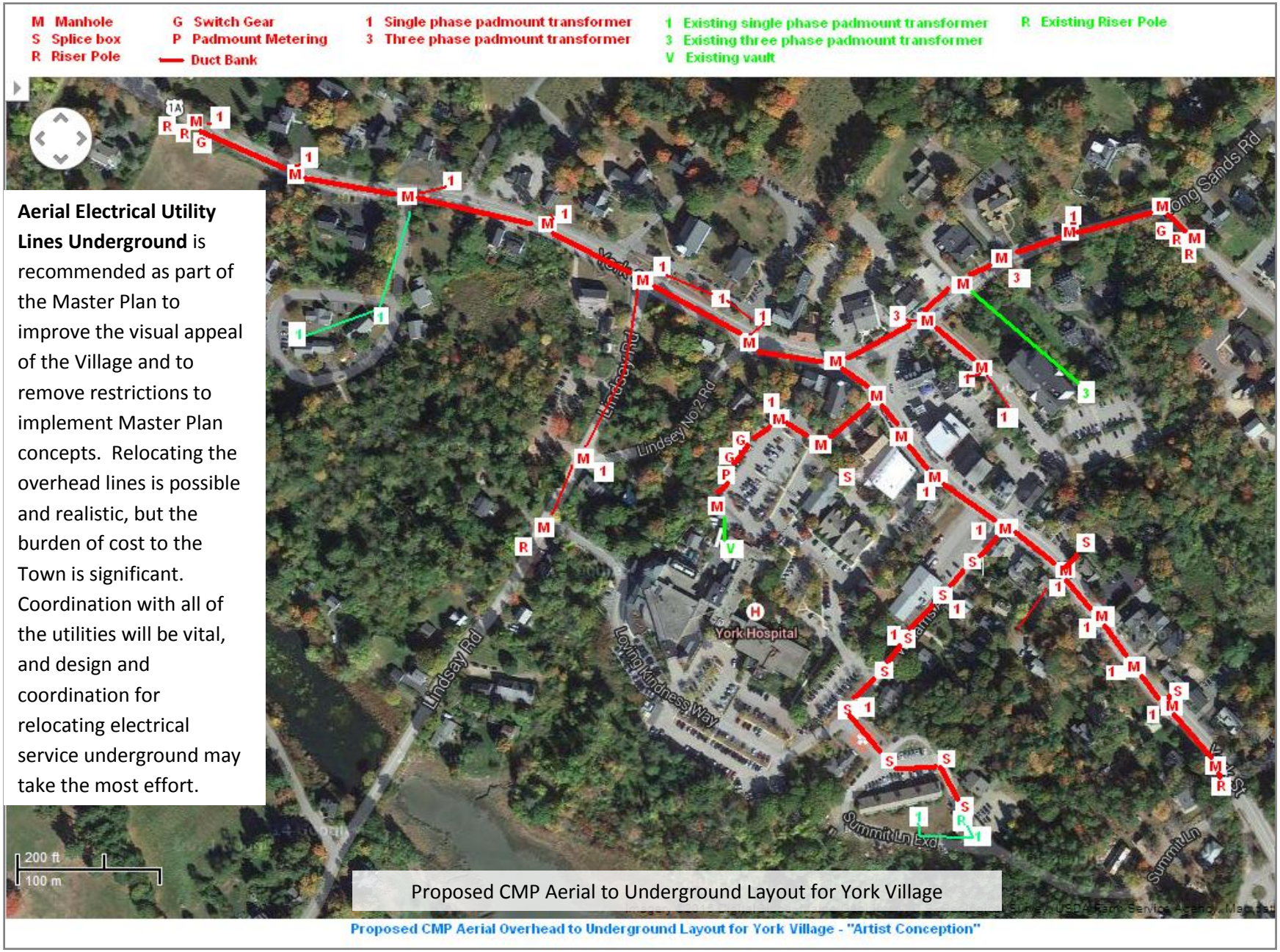
2035 OFF-PEAK HOUR TRAFFIC VOLUMES

YORK STREET, LONG SANDS ROAD
YORK, MAINE

DESIGNED	DRAWN	CHECKED
	KJP	JQA

SCALE: NTS
DATE: JANUARY 7, 2015
PROJECT NO.: 4606-02
SHEET NO.: 7 OF 7

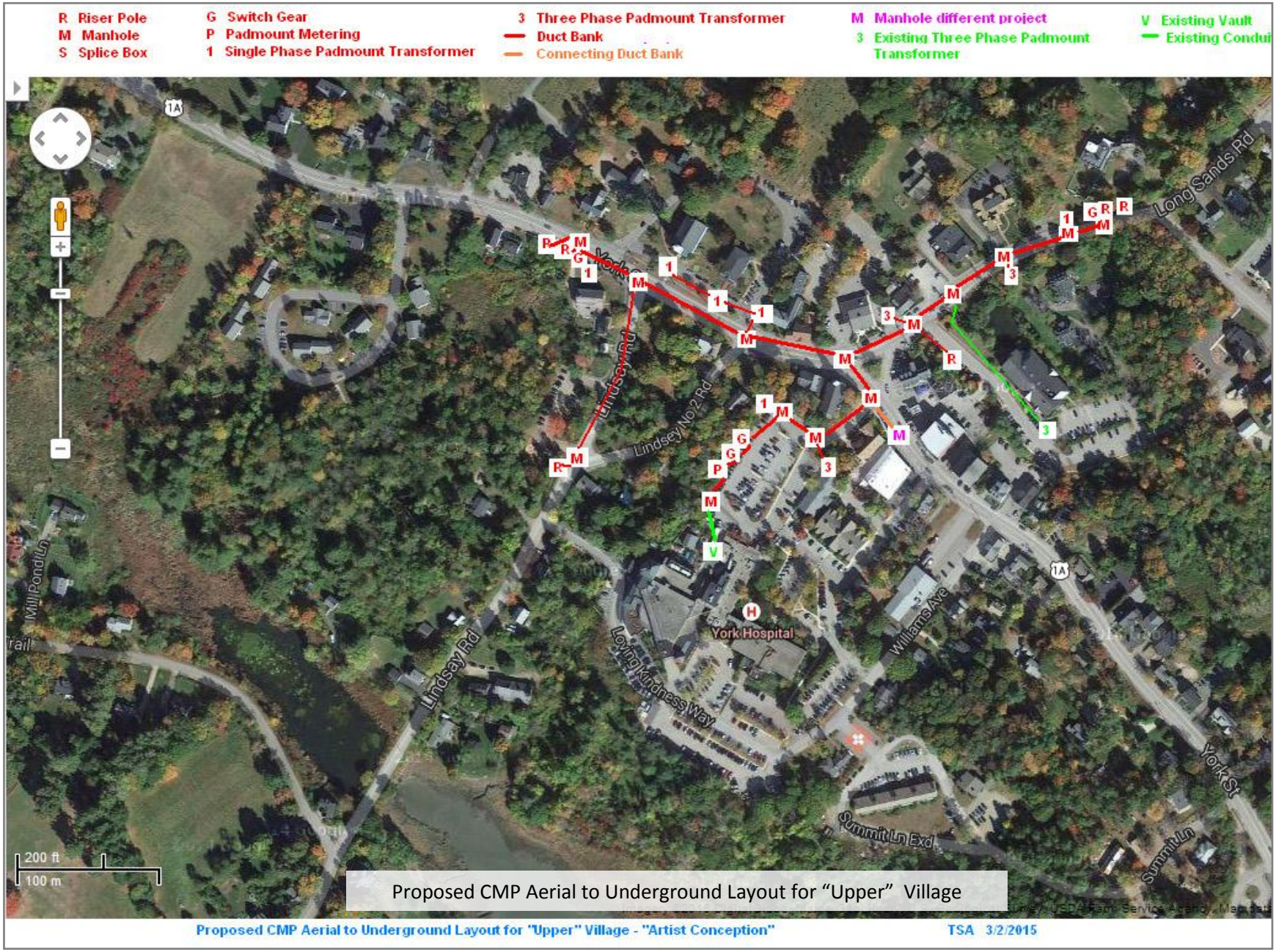
A4 Appendix for Utility Infrastructure



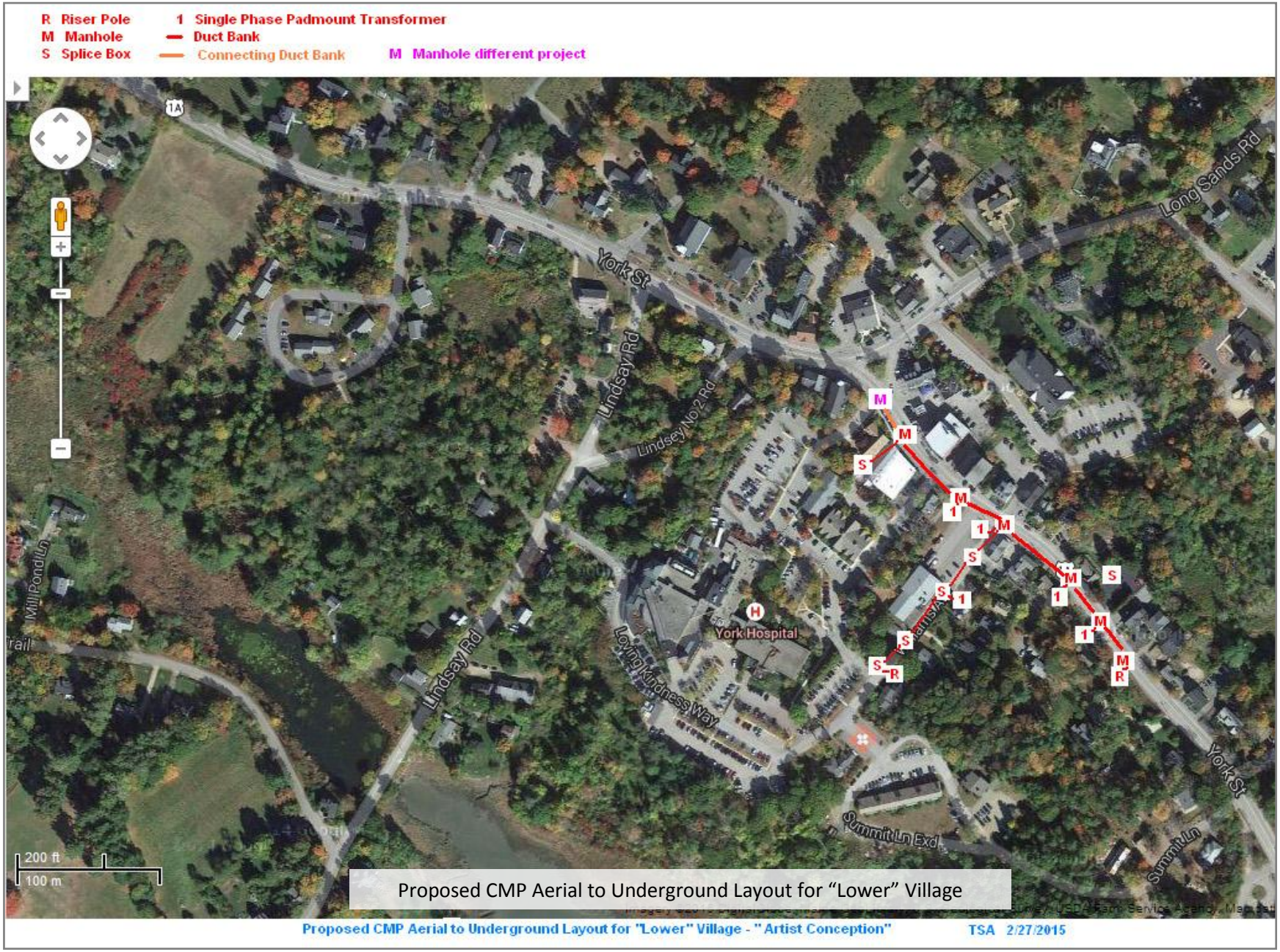
Aerial Electrical Utility Lines Underground is recommended as part of the Master Plan to improve the visual appeal of the Village and to remove restrictions to implement Master Plan concepts. Relocating the overhead lines is possible and realistic, but the burden of cost to the Town is significant. Coordination with all of the utilities will be vital, and design and coordination for relocating electrical service underground may take the most effort.

Proposed CMP Aerial to Underground Layout for York Village

Proposed CMP Aerial Overhead to Underground Layout for York Village - "Artist Conception"



Proposed CMP Aerial to Underground Layout for "Upper" Village



Proposed CMP Aerial to Underground Layout for “Lower” Village