



MEMORANDUM

TO: PATRICIA ELDREDGE
CC:

FROM: JEANIE ALEXANDER, P.E.
BILL WUENSCH, P.E., PTOE

ORGANIZATION: CHARLOTTESVILLE MUSIC INSTITUTE

DATE: JULY 15, 2017

PHONE NUMBER: 434.326.3635

SENDER'S REFERENCE NUMBER:

RE: CHARLOTTESVILLE MUSIC INSTITUTE SUP

YOUR REFERENCE NUMBER:

☐ URGENT ☒ FOR YOUR USE ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

INTRODUCTION AND PURPOSE

This memo contains traffic data (trip generation and distribution) in support of a special use permit for the Charlottesville Music Institute (CMI) which plans to temporarily lease 8,300 square feet of space in an existing warehouse at 1740 Broadway Street in Albemarle County for a five-year period (Tax Map Parcel 077000000040K0). At the end of the five-year lease period the space will revert back to the existing warehouse use at which time, CMI intends to build a dedicated facility near Polo Grounds Road.

The existing building is located on the north side of Broadway Street and access to the building and parking area is proposed at the existing driveway on Broadway Street. The site is bounded to the north by the railroad tracks. **Figure 1** illustrates the site location.

The uses of the space will include lessons, theory classes, and ensemble groups. These activities will occur during weekdays from 10:00 AM to 9:00 PM and on weekends from 10:00 AM to 6:00 PM.

SITE TRIP GENERATION

Traffic engineers typically rely on the Institute of Transportation Engineer's (ITE) *Trip Generation Manual* for predicting the amount of new traffic that results from proposed development. Currently the ITE manual does not have data for a use similar to that proposed by the CMI.

An understanding of how each of the uses operate is key to determining the trip generation for CMI. A brief explanation of the lessons, theory classes, ensemble groups, and staff schedules is provided below.

- **Lessons** - The majority of students will attend lessons from 10:00AM-1:00PM (likely adults and homeschoolers) and 4:00PM-7:00PM during the week and 10:00AM-7:00PM and 12:00-5:00PM on Saturday and Sunday, respectively. Eight levels of instruction will be provided. The duration of the lesson depends upon the level. For example, lessons for Levels 1-3 are

30 minutes while lessons for Levels 7 and 8 are two hours. Sixteen private rooms are available for individual instruction.

- Theory Classes – These classes will be offered on weekdays from 4:00 PM – 7:00 PM and are one hour in duration with a maximum of 40 students.
- Ensemble Groups – These groups will be schedule on Saturday from 10:00AM-6:00PM and Sunday from 2:00-5:00PM with a maximum of 40 participants.
- Staff – Staff will be present when any activities are underway at CMI. On weekdays these hours are 10:00AM-1:00PM and 4:00-7:00PM, Saturdays 10:00AM-7:00PM, and Sundays 12:00PM-5:00PM. Twelve staff members will be present on weekdays and ten on weekends.

Using the information above, CMI staff was able to provide specific information about the number of lessons, theory classes, ensemble groups, and staff who will be using the building and the when these activities will occur (see Attachments). This information was used to create an hourly breakdown of trips. It is assumed that all students, ensemble members, and staff arrive prior their scheduled time and depart after. For example, those scheduled for a 30-minute lesson beginning at 10AM arrive in the 9-10AM hour and depart in the 10-11AM hour.

In the absence of ITE data, trip generation estimates were created based on the information above for two scenarios. The first conservative worst case scenario assumes all lessons are only 30 minutes, all classes are full, and all ensembles are at maximum participation. The second scenario assumes lessons are two hours, classes are 50% full, and ensembles are at 50% participation. The hourly breakdown of trips for these two scenarios is attached. The peak hour trip generation resulting from the hourly breakdowns for each scenario are shown in **Table 1** and **Table 2**.

Table 1 Trip Generation – Most Conservative

	Weekday		Saturday		Sunday	
	5 - 6 PM		3-4, 4-5, and 5-6 PM		3 - 4 PM	
	in	out	in	out	in	out
lessons	32	32	32	32	32	32
theory	40	40	40	40	40	40
staff	0	0	0	0	0	0
in/out total	72	72	72	72	72	72
hourly total	144		144		144	

Table 2 Trip Generation – Reduced Assumptions

	Weekday		Saturday		Sunday	
	3-4, and 5-6 PM		3-4, and 4-5 PM		3 - 4 PM	
	in	out	in	out	in	out
lessons	0	0	8	8	0	8
theory	20	20	20	20	20	20
staff	0	0	0	0	0	0
in/out total	20	20	28	28	20	28
hourly total	40		56		48	

A comparison of Tables 1 and 2 highlights the range of trips the CMI may generate. The trips shown in Table 1 are the maximum possible, similar to the trips generated by a shopping center during the holiday season. While it is helpful to know this information, this traffic scenario is unlikely to occur.

The trips shown in Table 2 are more likely to occur, however, may be low. Considering the range of trip generation, most likely the trips generated by the CMI will be somewhere between those shown in Tables 1 and 2.

SITE TRIP DISTRIBUTION

The trips noted above in Tables 1 and 2 are expected to travel to and from the site as shown in Figure 2. This trip distribution to the area roadway network is based on an understanding of existing travel patterns. The specific assumptions are outlined below.

- 10% to/from the south via Franklin Street,
- 15% to/from the north via Franklin Street,
- 75% to/from the west via Carlton Avenue,
- Of the 75% on Carlton Avenue, 10% continue to/from the west on Carlton Avenue, 30% to/from the north on Carlton Road, and 35% to/from the south on Carlton Road.

FINDINGS AND CONCLUSIONS

The traffic impact of the CMI is difficult to quantify based on the trip generation alone. To provide more context, the existing traffic volumes on Carlton Avenue approaching Carlton Road were examined. Based on the Woolen Mills Traffic Impact Study prepared by EPR, P.C. in November 2016, during the afternoon peak hour approximately 264 vehicles (96 eastbound and 168 westbound) are anticipated in 2018. (These volumes do not include traffic generated by the Woolen Mills project.) Figure 5 from the Woolen Mills Study is attached.

Assuming that the actual number of trips generated by CMI is halfway between the most conservative number, 144 trips, and reduced number, 40 trips, for the afternoon peak hour, 92 trips would be expected. Applying the distribution anticipated (92×0.75) 69 of these trips are anticipated to use Carlton Avenue. Added to the existing traffic volumes (264) the CMI trips would make up approximately 21% of the afternoon peak hour trips on Carlton Avenue ($69/(264+69)$).

Based on the preceding analysis, the proposed CMI special use permit to lease 8,300 square feet of existing space at 1740 Broadway Street is not expected to have a significant impact on the surrounding roadway network over the five-year lease period.

END OF MEMORANDUM

Attachments

Figure 1

Figure 2

CMI Maximum Flow During Peak Hours

Hourly Trip Summary

Figure 5 2018 No Build Traffic Volumes – Woolen Mills TIS November 2016

Figure 1 Location Map

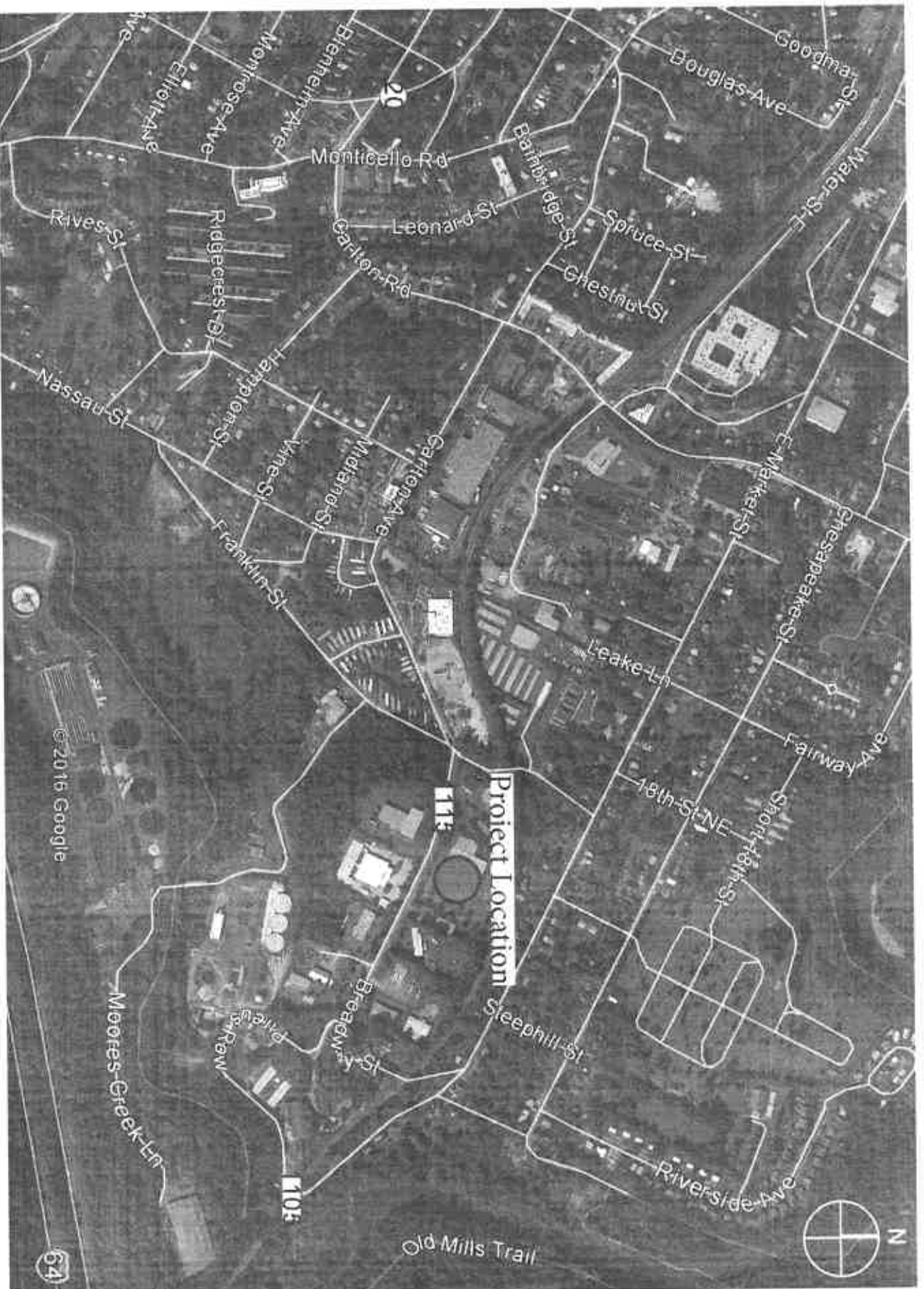
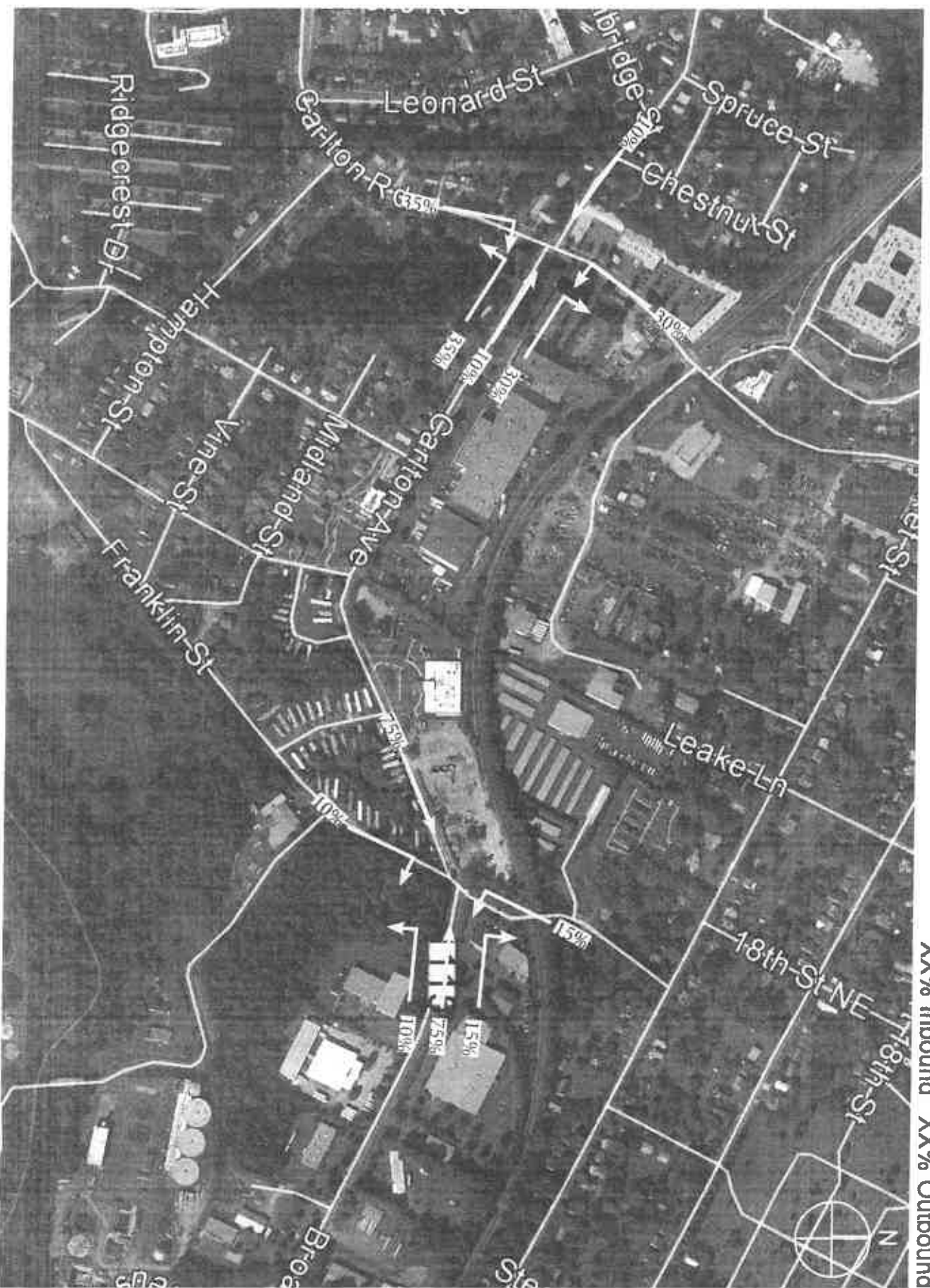


Figure 2 Site Trip Distribution



**CHARLOTTESVILLE MUSIC INSTITUTE
MAXIMUM TRAFFIC FLOW DURING PEAK HOURS**

WEEKDAYS

Category	Peak Time	Max Number of Cars*
STUDENTS		
Lessons	10 AM – 1 PM	16/half-hour
	4 PM – 7 PM	16/half-hour
Theory Classes	4 PM – 7 PM	40
STAFF	10 AM, 1 PM	12, 12
	4 PM, 7 PM	12, 12
Maximum Total		84/hr

WEEKENDS

Category	Peak Time	Max Number of Cars*
STUDENTS		
Lessons	Sat 10-7; Sun 12-5	16/half-hour
Ensemble	Sat 2-6; Sun 2-5	40
STAFF	Sat 10AM; 7PM	10
	Sun 12PM; 5PM	10
Maximum Total		82/hr

*Based on one car per student; one car per staff member. Carpooling will reduce these numbers.

Most Conservative/Worst Case

CMI Hourly Trip Summary

Weekday																						
	9-10 AM		10-11 AM		11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM		5 - 6 PM		6 - 7 PM		7 - 8 PM	
	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out
lessons	16	0	32	16	32	32	16	32	0	16	0	0	16	0	32	16	32	32	16	32	0	16
theory	0	0	0	0	0	0	0	0	0	0	0	0	40	0	40	0	40	40	0	40	0	40
staff	12	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12
In/out total	28	0	32	16	32	32	16	32	0	28	0	0	68	0	72	16	72	72	16	72	0	68
hourly total	28		48		64		48		28		0		68		88		144		88		68	

Saturday																						
	9-10 AM		10-11 AM		11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM		5 - 6 PM		6 - 7 PM		7 - 8 PM	
	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out
lessons	16	0	32	16	32	32	32	32	32	32	32	32	32	32	32	32	32	32	16	32	0	16
theory	0	0	0	0	0	0	0	0	0	0	40	0	40	0	40	40	40	40	0	40	0	40
staff	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
in/out total	26	0	32	16	32	32	32	32	32	72	32	72	32	72	72	72	72	72	16	72	0	66
hourly total	26		48		64		64		104		104		144		144		144		88		66	

Sunday														
	11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM		5 - 6 PM	
	in	out	in	out	in	out	in	out	in	out	in	out	in	out
lessons	16	0	32	16	32	32	32	32	32	32	16	32	0	16
ensemble	0	0	0	0	40	0	40	0	40	40	0	40	0	40
staff	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total in/out	26	0	32	16	72	32	72	32	72	72	16	72	0	66
Hourly Total	26		48		104		104		144		88		66	

CMI Hourly Trip Summary

Reduced scenario - 2 hour lessons, 50% ensemble/theory

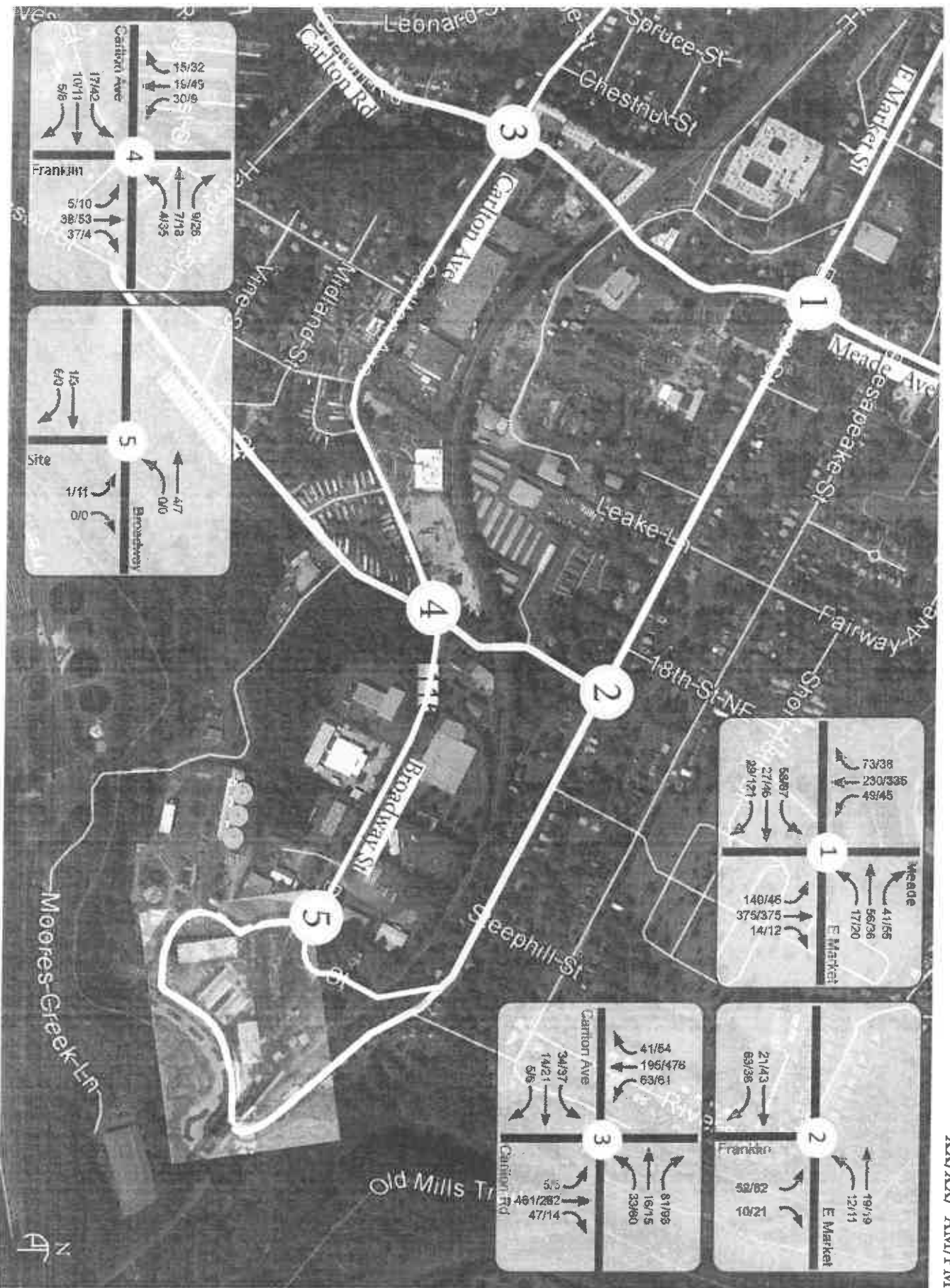
Weekday																							
	9-10 AM		10-11 AM		11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM		5 - 6 PM		6 - 7 PM		7 - 8 PM		
	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	
lessons	8	0	8	0	0	0	0	8	0	8	0	0	8	0	8	0	0	0	0	8	0	8	0
ensemble	0	0	0	0	0	0	0	0	0	0	0	0	20	0	20	0	20	0	0	20	0	20	
staff	12	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	12	
Total in/out	20	0	8	0	0	0	0	8	0	20	0	0	40	0	28	0	20	20	0	28	0	40	
Hourly Total	20		8		0		8		20		0		40		28		40		28		40		

Saturday																							
	9-10 AM		10-11 AM		11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM		5 - 6 PM		6 - 7 PM		7 - 8 PM		
	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	in	out	
lessons	8	0	8	0	8	0	8	8	8	8	8	8	8	8	8	8	0	8	0	8	0	8	
ensemble	0	0	0	0	0	0	0	0	20	0	20	0	20	20	20	20	20	20	0	20	0	20	
staff	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
Total in/out	18	0	8	0	8	0	8	8	28	8	28	8	28	28	28	28	28	20	28	0	28	0	38
Hourly Total	18		8		8		16		36		36		56		56		48		28		38		

Sunday													
		11AM - 12PM		12 - 1 PM		1 - 2 PM		2 - 3 PM		3 - 4 PM		4 - 5 PM	
		in	out	in	out	in	out	in	out	in	out	in	out
		8	0	8	0	8	0	8	8	0	8	0	8
lessons		8	0	8	0	8	0	8	8	0	8	0	8
ensemble		0	0	0	0	20	0	20	0	20	20	0	20
staff		10	0	0	0	0	0	0	0	0	0	0	10
Total in/out		18	0	8	0	28	0	28	8	20	28	0	38
Hourly Total		18	0	8	0	28	0	36	8	48	28	28	38

Figure 5 2018 No Build Traffic Volumes

XX/XX/ AM/PM



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