

## TECHNICAL MEMORANDUM

**TO:** Art Martineau, PE, Town Engineer  
Town of Andover - Department of Public Works  
5 Campanelli Drive  
Andover, Massachusetts 01810  
Attn: Officer Glen Ota

**DATE:** November 13, 2024

**FROM:** Samuel W. Gregorio, PE, PTOE, RSP<sub>1</sub>, Project Manager  
Rana Eslamifard, Transportation Engineer

**PROJECT #:** T1265.10

**RE:** Lincoln Street Corridor Safety Improvements - Andover, Massachusetts  
One-Way Flow & Cut Through Assessment (Pilot Program Update)

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### INTRODUCTION

TEC, Inc. (TEC) has been retained by the Town of Andover (the "Town") to evaluate the traffic impacts associated with a one-way flow condition along Lincoln Street in Andover, Massachusetts. The one-way flow was explored in order to facilitate the construction of a shared use path along the same corridor. The project would seek to construct a shared use path along the easterly side of Lincoln Street between Lowell Street (Route 133) and Shawsheen Road which will close a network gap between the accommodations provided along each arterial corridor. To minimize the horizontal impact of the project with respect to right-of-way, the proposal would reallocate roadway width to the shared use path resulting in a narrower vehicular travel way which would be expected to only carry a single direction of travel.

### **Original One-Way Flow & Cut Through Assessment (May 2024)**

On May 29, 2024, TEC submitted a *One-Way Flow & Cut Through Assessment* (the "May 2024 Assessment") for Lincoln Street that summarized the existing traffic volumes, the existing travel times, and a flow recommendation for Lincoln Street based on the proposed project. The assessment provided documentation as to the anticipated effect of converting Lincoln Street to one-way flow; including the effects to the neighboring neighborhood roadways: Cindy Lane, Marilyn Road, Arthur Road, Theodore Avenue, and Cyr Circle. The general recommendation that was presented in the assessment was to provide one-way flow in the Lincoln Street southbound direction.

### **August & September 2024 Pilot Program**

On Monday, August 19, 2024 the Town of Andover implemented a pilot program along Lincoln Street to mimic the one-way flow conditions along Lincoln Street southbound using traffic cones / drums, covering all traffic signs related to the turn restrictions from Lowell Street to Lincoln Street, and implementing electronic variable message signs (VMS) which highlighted the pilot program. The pilot program was in place until Saturday, September 21, 2024 to include five (5) weeks of usage in order to allow for neighborhood, local, and school related traffic to adjust to the conditions. TEC utilized the final days of the pilot program to conduct traffic counts and travel time

runs when the adjustment period was fulfilled. The following assessment reviews the results of the pilot program and provides comparisons, where warranted, to the original assessment in May 2024 while providing updated information to inform the execution of the considered project along the Lincoln Street corridor.

## **EXISTING CONDITIONS**

### **Geometric Conditions**

Lincoln Street is a 2,000-foot-long two-lane north-south local roadway under the jurisdiction of the Town of Andover. The roadway provides a direct connection between Lowell Street to the north and Shawsheen Road to the south. Lincoln Street provides a single travel lane in each direction with direction flow unmarked. A sidewalk is provided along the easterly edge of pavement between Shawsheen Road and Marilyn Road with no formal bicycle accommodation provided. Signed turn restrictions are posted to restrict Lowell Street, both eastbound and westbound, turning traffic onto Lincoln Street between 7:30 am and 8:30 pm (Monday to Friday) coinciding with the Andover High School and West Middle School arrival times. A similar 'No Left Turn' restriction is posted along Marilyn Road at Lincoln Street for the same hours to deter cut-through traffic along the other neighborhood roadways.

Lincoln Street provides one of three access/egress points to a series of neighborhood roadway including: Cindy Lane, Marilyn Road, Arthur Road, and Theodore Avenue. Specifically, Marilyn Road intersects Lincoln Street approximately 570-feet south of Lowell Street and both Arthur Road and Theodore Avenue intersect Lowell Street approximately 700-feet and 950-feet east of Lincoln Street, respectively. If utilized as a cut-through, these neighborhood streets have no direct connection and travel within these neighborhood streets require two (2) or three (3) turning movements. Separately, Cyr Circle intersects Lincoln Street approximately 650-feet north of Shawsheen Road; however, the local roadway has no outlet.

### **Existing Traffic Volumes**

To establish existing traffic volume conditions along the Lincoln Street corridor during the one-way flow pilot program, TEC commissioned Turning Movement Counts (TMCs) during a typical weekday on Wednesday, September 18, 2024 from 7:00 am to 7:00 pm at both the corridor terminus intersections of Lowell Street / Lincoln Street / Chandler Circle and Shawsheen Road / Lincoln Street. Area schools were in regular session during the time of traffic counts and the pilot program had been in place for nearly five (5) weeks. A detailed summary of the TMC, partitioned into 15-minute intervals, is provided within Attachment A.

Note that the two-way flow condition traffic volumes prior to the placement of the pilot program were completed on Tuesday, April 23, 2024 from 7:00 am to 7:00 pm. A breakdown of the hourly Lincoln Street specific traffic volumes prior to and during the pilot program at each end of the corridor is provided in Tables 1 and 2 for the Lowell Street terminus end and Shawsheen Road terminus end, respectively.

**Table 1 – Summary of Lincoln Street (Lowell St) Terminus Traffic Volumes by Hour**

Time Period	April 2024 (Two-Way Flow)			September 2024 (One-Way Pilot)			Net Change
	Lincoln NB	Lincoln SB	Total	Lincoln NB	Lincoln SB	Total	
7a-8a	19	10	29	0	54	54	+ 25
8a-9p	26	13	39	0	50	50	+ 11
9a-10a	21	12	33	0	24	24	- 9
10a-11a	17	12	29	0	20	20	- 9
11a-12p	20	15	35	0	12	12	- 23
12p-1p	26	13	39	0	26	26	- 13
1p-2p	17	23	40	0	24	24	- 16
2p-3p	36	32	68	0	30	30	- 38
3p-4p	76	30	106	0	26	26	- 80
4p-5p	37	30	67	0	44	44	- 23
5p-6p	48	32	80	0	59	59	- 21
6p-7p	37	20	57	0	55	55	- 2

**Table 2 – Summary of Lincoln Street (Shawsheen Rd) Terminus Traffic Volumes by Hour**

Time Period	April 2024 (Two-Way Flow)			September 2024 (One-Way Pilot)			Net Change
	Lincoln NB	Lincoln SB	Total	Lincoln NB	Lincoln SB	Total	
7a-8a	17	13	30	0	62	62	+ 32
8a-9p	19	32	51	0	54	54	+ 3
9a-10a	22	16	38	0	16	16	- 22
10a-11a	17	18	35	0	19	19	- 16
11a-12p	16	17	33	0	20	20	- 13
12p-1p	32	22	54	0	27	27	- 27
1p-2p	18	23	41	0	24	24	- 17
2p-3p	37	34	71	0	34	34	- 37
3p-4p	71	36	107	0	30	30	- 77
4p-5p	48	38	86	0	54	54	- 32
5p-6p	56	45	101	0	51	51	- 50
6p-7p	39	34	73	0	46	46	- 27

Both Tables 1 and 2 generally outline a similar result at each end of the Lincoln Street corridor. The April 2024 traffic volumes under two-way flow conditions and the September 2024 traffic volumes during the one-way flow pilot program clearly show a consistent drop in overall traffic volumes along the corridor except for the weekday morning peak hours from 7:00 am to 9:00 am. This two-hour increase in traffic volumes was expected and directly predicted in the original May 2024 Assessment as the turn restrictions onto Lincoln Street between 7:30 am and 8:30 am would need to be removed if one-way flow was established. That specific 1-hour block of time between 7:30 am and 8:30 am represents nearly 75% of the two-hour time period's traffic volumes coinciding with Andover High School arrival. Also consistent with the original May 2024 Assessment, there was no substantive change in the hour-by-hour traffic volumes along Lincoln Street southbound following the weekday morning peak hours except for the 4:00 pm – 5:00 pm hour where the southbound volume grew 42% (from 38 vehicles to 54 vehicles); however, the overall volume along Lincoln Street still decreased by 32 total vehicles (from 86 vehicles to 54 vehicles) with the removal of all northbound traffic.

## **Travel Time Measurements**

TEC staff conducted various vehicular travel time runs via three (3) separate origin / destination routes during the peak morning hour (7:50 am to 8:50 am) on Thursday, September 19, 2024 and during the peak afternoon hour (3:00 pm to 4:00 pm) to determine the travel time characteristics of the direction flow condition. Each route consisted of a minimum of three (3) separate directional runs over the course of the selected peak hour. The three (3) routes directly mimic the travel time routes completed in May 2024 and included:

- Lincoln Street to/from intersection of Lowell Street (Route 133) / Shawsheen Road / Beacon Street (center of intersection).
  - This takes the place of travel to/from the West Parish Cemetery (WPC) driven in May 2024.
- Lincoln Street to/from Stop & Shop (S&S) along North Main Street (Route 28)
- Lincoln Street to/from Shawsheen Square (North Main Street / Lowell Street / Haverhill Street intersection)

The three bidirectional routes were chosen to emphasize a key regional route choice, as well as a common origin/destination point. Lincoln Street to/from the intersection of Lowell Street / Shawsheen Road / Beacon Street representing travel to/from Interstate 93, Lincoln Street to/from Stop & Shop representing travel to/from Route 28 and points generally south and east including Downtown Andover, and Lincoln Street to/from Shawsheen Square representing travel to/from Interstate 495. Unlike in May 2024, each of the runs was completed along Lincoln Street southbound only as the one-way pilot program was in place; however, the second possible route choice for each origin/destination was completed where a vehicle leaving Lincoln Street southbound to Shawsheen Road could travel to the origin/destination from either a right-turn or left-turn out of Lincoln Street. For instance, TEC accounted for the possibility that a neighborhood driver has two possible routes to get to their destination for a Lincoln Street southbound condition.

Similar to the original Assessment the peak morning hour travel time runs were completed between 7:50 am to 8:50 am to balance between the Lincoln Street traffic volume peak (8:00 am to 9:00 am) and the general roadway network peak (7:30 am to 8:30 am) while capturing the traffic to/from the school campus prior to the bell. This was to allow for a mix of travel time runs experiences. Similarly, the peak afternoon hour travel time runs were completed between 3:00 pm to 4:00 pm to balance between the Lincoln Street traffic volume peak (2:30 pm to 3:30 pm) and the general roadway network peak (3:00 pm to 4:00 pm) while capturing the traffic to/from the school campus following the bell. Each hour-long block does include the individual peak 15-min time period of Lincoln Street volume.

Each travel time run started and/or ended along Lincoln Street at its intersection with Marilyn Road to provide a consistent frame of reference.

## ***Summary of Travel Time Run Results***

Table 3 presents a summary of the average travel time runs during the recent weekday morning peak hour during the pilot program while Table 4 provides a comparison summary to the faster route choice travel time from the previous May 2024 travel time runs prior to the pilot program

and the recent September 2024 time runs during to the pilot program. Note that this assumes the faster possible route is actually chosen by any resident. Overall, the travel times should be considered a reasonable estimate which may fluctuate modestly on a day-to-day basis. Travel time run data is provided in Attachment B.

**Table 3 – Average Vehicular Travel Times for Weekday Morning (7:50 am to 8:50 am) During Pilot Program**

<u>Route Choice</u>	<u>Time</u>
Origin / Destination: West Parish	
<i>Lincoln St [SB] to WP via Shawsheen Rd to Lowell St</i>	= 2:29
<i>WP to Lincoln St [SB] via Lowell St</i>	= 1:04
Origin / Destination: Stop & Shop	
<i>Lincoln St [SB] to S&amp;S via Shawsheen Rd to Stevens St to RT 28</i>	= 3:41
<i>Lincoln St [SB] to S&amp;S via Shawsheen Rd to Lowell St to RT 28</i>	= 7:43
<i>S&amp;S to Lincoln St [SB] via RT 28 to Stevens St to Shawsheen Rd to Lowell St</i>	= 7:17
<i>S&amp;S to Lincoln St [SB] via RT 28 to Lowell St</i>	= 3:07
Origin / Destination: Shawsheen Village	
<i>Lincoln St [SB] to Shawsheen Village via Shawsheen Rd to Stevens St to RT 28</i>	= 5:03
<i>Lincoln St [SB] to Shawsheen Village via Shawsheen Rd to Lowell St</i>	= 6:28
<i>Shawsheen Village to Lincoln St [SB] via RT 28 to Stevens St to Shawsheen Rd to Lowell St</i>	= 8:32
<i>Shawsheen Village to Lincoln St [SB] via Lowell St</i>	= 1:45

**Table 4 – Before and After Comparison of Vehicular Travel Times for Weekday Morning (7:50 am to 8:50 am) – Fastest Direction**

<u>Route Choice</u>	<u>May 2024 (Before Pilot)</u>	<u>September 2024 (During Pilot)<sup>a</sup></u>
Origin / Destination: West Parish		
<i>Lincoln St to WP</i>	= 2:22	2:29
<i>WP to Lincoln St</i>	= 2:13	1:04
Origin / Destination: Stop & Shop		
<i>Lincoln St to S&amp;S</i>	= 3:38	3:41
<i>S&amp;S to Lincoln St</i>	= 3:55	3:07
Origin / Destination: Shawsheen Village		
<i>Lincoln St to Shawsheen Village</i>	= 2:18	5:03
<i>Shawsheen Village to Lincoln St</i>	= 2:15	1:45

<sup>a</sup> From Table 3

The weekday morning travel time runs indicate the following key characteristics for travel to/from the Lincoln Street neighborhood:

- Travel time to/from the West Parish area or points west are generally comparable (within a minute) before and after the change in flow characteristics along Lincoln Street.
- Travel time to/from Stop & Shop is generally comparable (within a minute) before and after the change in flow characteristics along Lincoln Street.
- Travel time to/from Shawsheen Village is affected in the direction of Shawsheen Village. The travel time runs indicate that this travel time may double from 2:18 to 5:03 generally as a vehicle must make a more circuitous route. Note that this was predicted in the May 2024 Assessment. Travel to Lincoln Street from Shawsheen Village is generally comparable (within a minute) before and after the change in flow characteristics along Lincoln Street.

Table 5 presents a summary of the average travel time runs during the recent weekday evening peak hour during the pilot program while Table 6 provides a comparison summary to the faster route choice travel time from the previous May 2024 travel time runs prior to the pilot program and the recent September 2024 time runs during to the pilot program. Travel time run data is provided in Attachment B.

**Table 5 – Average Vehicular Travel Times for Weekday Afternoon (3:00 pm to 4:00 pm) During Pilot Program**

<u>Route Choice</u>	<u>Time</u>
Origin / Destination: West Parish	
<i>Lincoln St [SB] to WP via Shawsheen Rd to Lowell St</i>	= 4:15
<i>WP to Lincoln St [SB] via Lowell St</i>	= 1:09
Origin / Destination: Stop & Shop	
<i>Lincoln St [SB] to S&amp;S via Shawsheen Rd to Stevens St to RT 28</i>	= 5:15
<i>Lincoln St [SB] to S&amp;S via Shawsheen Rd to Lowell St to RT 28</i>	= 9:44
<i>S&amp;S to Lincoln St [SB] via RT 28 to Stevens St to Shawsheen Rd to Lowell St</i>	= 6:29
<i>S&amp;S to Lincoln St [SB] via RT 28 to Lowell St</i>	= 4:12
Origin / Destination: Shawsheen Village	
<i>Lincoln St [SB] to Shawsheen Village via Shawsheen Rd to Stevens St to RT 28</i>	= 7:43
<i>Lincoln St [SB] to Shawsheen Village via Shawsheen Rd to Lowell St</i>	= 8:05
<i>Shawsheen Village to Lincoln St [SB] via RT 28 to Stevens St to Shawsheen Rd to Lowell St</i>	= 8:08
<i>Shawsheen Village to Lincoln St [SB] via Lowell St</i>	= 1:44

**Table 6 – Before and After Comparison of Vehicular Travel Times for Weekday Afternoon (3:00 pm to 4:00 pm) – Fastest Direction**

<u>Route Choice</u>		<u>May 2024 (Before Pilot)</u>	<u>September 2024 (During Pilot)<sup>a</sup></u>
Origin / Destination: West Parish			
<i>Lincoln St to WP</i>	=	3:19	4:15
<i>WP to Lincoln St</i>	=	3:10	1:09
Origin / Destination: Stop & Shop			
<i>Lincoln St to S&amp;S</i>	=	4:52	5:15
<i>S&amp;S to Lincoln St</i>	=	3:17	4:12
Origin / Destination: Shawsheen Village			
<i>Lincoln St to Shawsheen Village</i>	=	4:58	7:43
<i>Shawsheen Village to Lincoln St</i>	=	2:25	1:44

<sup>a</sup>From Table 5

The weekday evening travel time runs indicate the following key characteristics for travel to/from the Lincoln Street neighborhood:

- Travel time to/from the West Parish area or points west are generally comparable (within a minute or better) before and after the change in flow characteristics along Lincoln Street.
- Travel time to/from Stop & Shop is generally comparable (within a minute) before and after the change in flow characteristics along Lincoln Street.
- Travel time to/from Shawsheen Village is affected in the direction of Shawsheen Village. The travel time runs indicate that this travel time will increase from 4:58 to 7:43 generally as a vehicle must make a more circuitous route. Note that this was predicted in the May 2024 Assessment. Travel to Lincoln Street from Shawsheen Village is generally comparable (within a minute) before and after the change in flow characteristics along Lincoln Street.

## DISCUSSION

As part of the flow evaluation, TEC assessed and updated the traffic impact evaluation under three (3) specific categories, including effect on the connecting neighborhood roadways, effect on school related cut-through traffic, and effect on resident travel times. Each category is summarized separately below:

### Effect on Connecting Neighborhood Roadways

It is anticipated that there would be minimal impact on the connecting neighborhood roadways of Cindy Lane, Marilyn Road, Arthur Road, and Theodore Avenue following implementation of a one-way flow condition along Lincoln Street, regardless of directional flow. Note that any one-way

flow condition along Lincoln Street would require the removal of the posted restrictions from Lowell Street between 7:30 am and 8:30 am.

- There is no significant change in the terminus volume difference at each end of Lincoln Street between May 2024 traffic volumes and the September 2024 traffic volumes with exception for the weekday morning peak hour as previously stated. The no significant change suggests that there is no noticeable change in the traffic volumes along Cindy Lane, Marilyn Road, Arthur Road, and Theodore Avenue as a result of the one-way flow condition. TEC notes that a minimal amount of traffic volume is likely still using these several roadways as a cut-through; however, TEC would suggest that it is comparable to the prior experience if not less where the Lincoln Street northbound traffic has been eliminated.

### **Effect on School Related Cut-Through Traffic**

The implementation of one-way flow as part of the pilot program showed that the traffic volumes in the southbound direction would increase during the weekday morning peak period, which coincides with the school arrival period. As the turn restrictions are removed, there was 44 more southbound vehicles from 7:00 am – 8:00 am and 37 more vehicles from 8:00 am – 9:00 am. This is most likely school-related traffic; however, some traffic would be expected to be from general cut-through as reiterated by some residents during the public forum completed earlier in the summer. This condition was predicted in the May 2024 Assessment as it was reasonable to assume that the removal of the turn restrictions alone would result in an increase in traffic volumes. TEC's assertion in the May 2024 Assessment that the weekday morning increase would not be the inverse of the weekday afternoon's previously traffic volume (71 vehicles NB in PM prior to pilot program vs. 54 vehicles SB in AM during the pilot program) was correct as the northbound condition provides would have provided the more desirable traffic route to bypass the traffic signal at the intersection of Lowell Street / Shawsheen Road / Beacon Street and the stop sign at the southerly end of Lincoln Street abutting the school queues is not present for northbound travel.

In the weekday afternoon peak coinciding with school dismissal (3:00 pm – 4:00 pm) the Lincoln Street southbound volume is slightly less but comparable during the pilot program as the overall volume along Lincoln Street is much less with the removal of the northbound traffic flow.

### **Effect on Resident Travel Times**

The travel time runs originally depicted a faster origin to destination route through a mix of Lincoln Street northbound and southbound conditions. Similar to the May 2024 Assessment, the travel time runs indicate that Lincoln Street southbound pilot program travel times are comparable to the conditions in May 2024 and that the only origin to destination route that is expected to experience a significant impact to travel time is a Lincoln Street vehicle destined to Shawsheen Village where the travel time may in fact double. Overall, TEC continues to suggest that there is no substantial effect on the neighborhood residents except for this single destination condition. Even with a doubling effect of this route's travel time, the travel time would still be expected to be less than 8 minutes.

## RECOMMENDATION

TEC continues to recommend a **Lincoln Street southbound one-way flow condition** to be incorporated into the Town's project as a) there is not expected to be any substantial change in traffic along the connecting neighborhood streets (Cindy Lane, Marilyn Road, Arthur Road, and Theodore Avenue), b) the more applicable desire for non-resident Lincoln Street use appears to be northbound regardless of the existing posted restriction, and c) the general benefit, in most conditions, of resident travel time in the Lincoln Street southbound direction. It can be expected that the overall Lincoln Street southbound traffic volumes would be retained as part of this condition in which the northbound traffic volumes are removed resulting in much less overall traffic volumes. In addition, TEC would expect that the traffic volumes between 7:30 am and 8:30 am along Lincoln Street will slightly increase with the removal of the posted turn restriction; however, this slight increase should be limited to only this hour.

## **Attachment A**

Turning Movement Counts (TMCs)

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
 City: Andover  
 Control: 1-Way Stop(NB)

Project ID: 24-430144-001  
 Date: 9/18/2024

### Data - Total

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	1	1	4	0	2	59	2	0	5	105	0	0	179				
7:15 AM	0	0	0	0	1	0	1	0	2	93	0	0	4	126	1	0	228				
7:30 AM	0	0	0	0	6	2	7	0	1	79	1	0	8	162	1	0	267				
7:45 AM	0	0	0	0	1	8	4	0	2	69	4	0	19	171	1	0	279				
8:00 AM	0	0	0	0	1	3	2	0	0	89	4	0	13	155	2	0	269				
8:15 AM	0	0	0	0	0	2	4	0	4	65	2	0	8	138	2	0	225				
8:30 AM	0	0	0	0	3	2	2	0	2	69	3	0	4	138	0	0	223				
8:45 AM	0	0	0	0	1	1	3	0	1	82	2	0	6	133	1	0	230				
9:00 AM	0	0	0	0	1	1	2	0	4	79	3	0	3	113	4	0	210				
9:15 AM	0	0	0	0	1	1	1	0	2	81	4	0	0	79	2	0	171				
9:30 AM	0	0	0	0	1	3	4	0	2	67	1	0	2	63	3	0	146				
9:45 AM	0	0	0	0	0	2	6	0	0	65	2	0	2	60	2	0	139				
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	17	26	40	0	22	897	28	0	74	1443	19	0	2566				
					20.48%	31.33%	48.19%	0.00%	2.32%	94.72%	2.96%	0.00%	4.82%	93.95%	1.24%	0.00%					
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																TOTAL				
<b>PEAK HR VOL:</b>	0	0	0	0	9	13	14	0	5	330	9	0	44	614	5	0	1043				
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.375	0.406	0.500	0.000	0.625	0.887	0.563	0.000	0.579	0.898	0.625	0.000	0.935				
						0.600				0.905				0.868							

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	0	0	0	0	3	4	0	1	56	0	0	6	62	4	0	136
10:15 AM	0	0	0	0	1	0	4	0	4	54	1	0	2	74	0	0	140
10:30 AM	0	0	0	0	0	0	0	0	2	72	0	0	2	57	2	0	135
10:45 AM	0	0	0	0	0	1	0	0	2	74	2	0	3	62	0	0	144
11:00 AM	0	0	0	0	2	1	2	0	3	54	0	0	3	57	1	0	123
11:15 AM	0	0	0	0	0	0	1	0	2	50	0	0	2	59	2	1	117
11:30 AM	0	0	0	0	1	0	1	0	2	58	1	0	0	80	1	0	144
11:45 AM	0	0	0	0	1	1	2	0	5	62	2	0	2	72	1	0	148
12:00 PM	0	0	0	0	0	1	4	0	3	70	2	0	1	74	1	0	156
12:15 PM	0	0	0	0	0	0	1	0	4	72	1	0	6	76	1	0	161
12:30 PM	0	0	0	0	1	3	1	0	2	56	0	0	3	69	0	0	135
12:45 PM	0	0	0	0	0	1	2	0	2	51	3	0	5	70	2	0	136
1:00 PM	0	0	0	0	2	1	0	0	0	50	1	0	5	66	1	0	126
1:15 PM	0	0	0	0	0	1	2	0	1	53	1	0	3	50	3	0	114
1:30 PM	0	0	0	0	0	3	2	0	1	52	2	0	1	68	0	0	129
1:45 PM	0	0	0	0	1	0	4	0	2	54	2	0	4	67	2	0	136
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s:</b>	0	0	0	0	9	16	30	0	36	938	18	0	48	1063	21	1	2180
					16.36%	29.09%	54.55%	0.00%	3.63%	94.56%	1.81%	0.00%	4.24%	93.82%	1.85%	0.09%	
<b>PEAK HR:</b>	11:30 AM - 12:30 PM																TOTAL
<b>PEAK HR VOL:</b>	0	0	0	0	2	2	8	0	14	262	6	0	9	302	4	0	609
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.500	0.500	0.500	0.000	0.700	0.910	0.750	0.000	0.375	0.944	1.000	0.000	0.946
						0.600				0.916				0.949			

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	3	3	0	2	70	0	0	1	83	2	0	164
2:15 PM	0	0	0	0	1	1	4	0	5	65	0	0	6	94	0	0	176
2:30 PM	0	0	0	0	0	2	2	0	2	66	0	0	5	90	2	0	169
2:45 PM	0	0	0	0	2	1	1	0	4	68	2	0	9	91	3	0	181
3:00 PM	0	0	0	0	0	0	3	0	6	84	0	0	5	96	2	0	196
3:15 PM	0	0	0	0	0	3	4	0	6	70	2	0	6	119	1	0	211
3:30 PM	0	0	0	0	0	1	2	0	6	85	2	0	4	95	0	0	195
3:45 PM	0	0	0	0	1	0	5	0	6	74	0	0	3	79	2	0	170
4:00 PM	0	0	0	0	1	2	3	0	5	80	1	0	7	120	3	0	222
4:15 PM	0	0	0	0	0	0	1	0	8	92	1	0	9	90	2	0	203
4:30 PM	0	0	0	0	2	3	3	0	2	92	0	0	7	93	0	0	202
4:45 PM	0	0	0	0	0	8	2	0	2	76	2	0	4	87	1	0	182
5:00 PM	0	0	0	0	0	4	4	0	2	107	1	0	4	96	1	0	219
5:15 PM	0	0	0	0	1	1	2	0	2	84	11	0	15	110	0	0	226
5:30 PM	0	0	0	0	1	2	4	0	7	77	7	0	7	100	4	0	209
5:45 PM	0	0	0	0	2	1	3	0	4	67	0	0	6	111	2	0	196
6:00 PM	0	0	0	0	2	3	4	0	9	101	5	0	7	96	1	0	228
6:15 PM	0	0	0	0	1	6	1	0	10	55	7	0	8	105	3	0	196
6:30 PM	0	0	1	0	0	3	1	0	8	65	3	0	1	69	1	0	152
6:45 PM	0	0	0	0	0	2	2	0	6	64	4	0	6	76	3	0	163
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s:</b>	0	0	1	0	14	46	54	0	102	1542	48	0	120	1900	33	0	3860
	0.00%	0.00%	100.00%	0.00%	12.28%	40.35%	47.37%	0.00%	6.03%	91.13%	2.84%	0.00%	5.85%	92.55%	1.61%	0.00%	
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																TOTAL
<b>PEAK HR VOL:</b>	0	0	0	0	6	7	13	0	22	329	23	0	35	417	7	0	859
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.750	0.583	0.813	0.000	0.611	0.814	0.523	0.000	0.583	0.939	0.438	0.000	0.942
						0.722				0.813				0.918			

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
 City: Andover  
 Control: 1-Way Stop(NB)

Project ID: 24-430144-001  
 Date: 9/18/2024

### Data - Cars

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	1	1	4	0	2	54	2	0	4	103	0	0	0	0	171		
7:15 AM	0	0	0	0	1	0	1	0	1	89	0	0	4	122	1	0	0	0	219		
7:30 AM	0	0	0	0	6	2	6	0	0	75	1	0	7	156	1	0	0	0	254		
7:45 AM	0	0	0	0	1	8	4	0	2	65	4	0	19	168	1	0	0	0	272		
8:00 AM	0	0	0	0	1	3	2	0	0	87	4	0	12	147	2	0	0	0	258		
8:15 AM	0	0	0	0	0	2	4	0	4	63	2	0	7	133	2	0	0	0	217		
8:30 AM	0	0	0	0	3	2	2	0	1	67	3	0	3	134	0	0	0	0	215		
8:45 AM	0	0	0	0	1	0	3	0	1	78	2	0	6	125	1	0	0	0	217		
9:00 AM	0	0	0	0	1	1	1	0	3	78	3	0	3	108	4	0	0	0	202		
9:15 AM	0	0	0	0	1	1	1	0	2	78	2	0	0	76	2	0	0	0	163		
9:30 AM	0	0	0	0	1	3	4	0	1	62	1	0	2	63	3	0	0	0	140		
9:45 AM	0	0	0	0	0	2	6	0	0	62	2	0	2	59	2	0	0	0	135		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s :</b>	0	0	0	0	17	25	38	0	17	858	26	0	69	1394	19	0	2463				
					21.25%	31.25%	47.50%	0.00%	1.89%	95.23%	2.89%	0.00%	4.66%	94.06%	1.28%	0.00%					
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	9	13	13	0	3	316	9	0	42	593	5	0	1003				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.375	0.406	0.542	0.000	0.375	0.888	0.563	0.000	0.553	0.882	0.625	0.000	0.922				
						0.625				0.901				0.851							

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
NOON	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
10:00 AM	0	0	0	0	0	3	4	0	1	51	0	0	6	60	4	0	0	0	129		
10:15 AM	0	0	0	0	1	0	3	0	4	50	1	0	2	73	0	0	0	0	134		
10:30 AM	0	0	0	0	0	0	0	0	2	72	0	0	2	55	2	0	0	0	133		
10:45 AM	0	0	0	0	0	1	0	0	2	71	2	0	3	61	0	0	0	0	140		
11:00 AM	0	0	0	0	2	1	1	0	3	50	0	0	2	56	1	0	0	0	116		
11:15 AM	0	0	0	0	0	0	1	0	2	47	0	0	2	57	2	0	0	0	111		
11:30 AM	0	0	0	0	1	0	1	0	2	56	1	0	0	77	1	0	0	0	139		
11:45 AM	0	0	0	0	1	1	2	0	4	58	2	0	2	70	1	0	0	0	141		
12:00 PM	0	0	0	0	0	1	3	0	3	69	2	0	0	71	1	0	0	0	150		
12:15 PM	0	0	0	0	0	0	1	0	3	69	1	0	5	70	1	0	0	0	150		
12:30 PM	0	0	0	0	1	3	1	0	2	55	0	0	3	65	0	0	0	0	130		
12:45 PM	0	0	0	0	0	1	1	0	2	48	3	0	4	68	2	0	0	0	129		
1:00 PM	0	0	0	0	2	1	0	0	0	49	0	0	4	63	1	0	0	0	120		
1:15 PM	0	0	0	0	0	1	1	0	1	53	1	0	3	48	3	0	0	0	111		
1:30 PM	0	0	0	0	0	3	2	0	1	50	2	0	1	66	0	0	0	0	125		
1:45 PM	0	0	0	0	1	0	4	0	2	53	2	0	4	65	1	0	0	0	132		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s :</b>	0	0	0	0	9	16	25	0	34	901	17	0	43	1025	20	0	2090				
					18.00%	32.00%	50.00%	0.00%	3.57%	94.64%	1.79%	0.00%	3.95%	94.21%	1.84%	0.00%					
<b>PEAK HR :</b>	11:30 AM - 12:30 PM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	2	2	7	0	12	252	6	0	7	288	4	0	580				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.500	0.500	0.583	0.000	0.750	0.913	0.750	0.000	0.350	0.935	1.000	0.000	0.967				
						0.688				0.912				0.958							

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
2:00 PM	0	0	0	0	0	3	3	0	2	66	0	0	1	81	2	0	0	0	158		
2:15 PM	0	0	0	0	1	1	3	0	5	64	0	0	6	90	0	0	0	0	170		
2:30 PM	0	0	0	0	0	2	2	0	2	65	0	0	5	89	2	0	0	0	167		
2:45 PM	0	0	0	0	2	1	1	0	4	66	2	0	9	88	3	0	0	0	176		
3:00 PM	0	0	0	0	0	0	3	0	6	83	0	0	5	96	2	0	0	0	195		
3:15 PM	0	0	0	0	0	3	3	0	6	69	2	0	6	113	1	0	0	0	203		
3:30 PM	0	0	0	0	0	1	2	0	5	82	2	0	3	94	0	0	0	0	189		
3:45 PM	0	0	0	0	1	0	5	0	6	71	0	0	3	74	2	0	0	0	162		
4:00 PM	0	0	0	0	1	2	3	0	5	74	1	0	7	119	3	0	0	0	215		
4:15 PM	0	0	0	0	0	0	1	0	8	92	1	0	8	89	2	0	0	0	201		
4:30 PM	0	0	0	0	2	3	3	0	2	90	0	0	7	93	0	0	0	0	200		
4:45 PM	0	0	0	0	0	8	2	0	2	75	2	0	4	87	1	0	0	0	181		
5:00 PM	0	0	0	0	0	4	4	0	2	106	1	0	4	95	1	0	0	0	217		
5:15 PM	0	0	0	0	1	1	2	0	2	83	11	0	15	110	0	0	0	0	225		
5:30 PM	0	0	0	0	1	2	3	0	7	76	7	0	7	100	4	0	0	0	207		
5:45 PM	0	0	0	0	2	1	3	0	4	66	0	0	6	110	2	0	0	0	194		
6:00 PM	0	0	0	0	2	2	4	0	9	101	5	0	7	96	1	0	0	0	227		
6:15 PM	0	0	0	0	1	6	1	0	10	55	7	0	8	104	3	0	0	0	195		
6:30 PM	0	0	1	0	0	3	1	0	8	65	3	0	1	68	1	0	0	0	151		
6:45 PM	0	0	0	0	0	2	2	0	6	64	4	0	6	76	3	0	0	0	163		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s :</b>	0	0	1	0	14	45	51	0	101	1513	48	0	118	1872	33	0	3796				
	0.00%	0.00%	100.00%	0.00%	12.73%	40.91%	46.36%	0.00%	6.08%	91.03%	2.89%	0.00%	5.83%	92.54%	1.63%	0.00%					
<b>PEAK HR :</b>	05:15 PM - 06:15 PM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	6	6	12	0	22	326	23	0	35	416	7	0	853				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.750	0.750	0.750	0.000	0.611	0.807	0.523	0.000	0.583	0.945	0.438	0.000	0.939				
						0.750				0.807				0.916							

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
 City: Andover  
 Control: 1-Way Stop(NB)

Project ID: 24-430144-001  
 Date: 9/18/2024

### Data - Buses

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL					
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND									
AM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3	
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	5	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL	
<b>APPROACH %'s:</b>	0	0	0	0	0	0	1	0	2	4	0	0	2	6	0	0	25.00%	75.00%	0.00%	0.00%	15	
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																TOTAL					
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	1	0	1	1	0	0	1	2	0	0	6					6
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.500	0.000	0.000	0.500					0.500

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL					
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND									
NOON	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU						
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL	
<b>APPROACH %'s:</b>	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0.00%	100.00%	0.00%	0.00%	4	
<b>PEAK HR:</b>	11:30 AM - 12:30 PM																TOTAL					
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2					2
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500					0.500

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				TOTAL					
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND									
PM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU						
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
3:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL	
<b>APPROACH %'s:</b>	0	0	0	0	0	0	0	0	1	2	0	0	1	4	0	0	33.33%	66.67%	0.00%	0.00%	8	
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																TOTAL					
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					0
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					0.000

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Chandler Cir/Lincoln St & Lowell St/SR 133  
**City:** Andover  
**Control:** 1-Way Stop(NB)

**Project ID:** 24-430144-001  
**Date:** 9/18/2024

### Data - Duals

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133																											
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL																							
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU																								
7:00 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	6																							
7:15 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	0	5																							
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9																							
7:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4																							
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6																							
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	1	4	0	0	7																							
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5																							
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3																							
9:00 AM	0	0	0	0	0	0	1	0	1	1	0	0	0	5	0	0	8																							
9:15 AM	0	0	0	0	0	0	0	0	0	3	1	0	0	3	0	0	7																							
9:30 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5																							
9:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2																							
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>																							
<b>APPROACH %'s:</b>	0	0	0	0	0	0	1	0	2	31	1	0	1	31	0	0	67																							
	0.00%				100.00%				5.88%				91.18%				2.94%				0.00%				3.13%				96.88%				0.00%				0.00%			
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>																							
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	1	11	0	0	0	12	0	0	24																							
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.688	0.000	0.000	0.000	0.600	0.000	0.000	0.667																							
					0.750								0.600																											

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL															
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU																
10:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4															
10:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
10:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4															
11:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	4															
11:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
11:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
11:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
12:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	1	0	0	4															
12:15 PM	0	0	0	0	0	0	0	0	1	2	0	0	1	4	0	0	8															
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4															
12:45 PM	0	0	0	0	0	0	1	0	0	2	0	0	1	2	0	0	6															
1:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3															
1:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	3															
1:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>															
<b>APPROACH %'s:</b>	0	0	0	0	0	0	3	0	1	24	0	0	5	26	0	0	59															
	0.00%				100.00%				4.00%				96.00%				16.13%				83.87%				0.00%				0.00%			
<b>PEAK HR:</b>	11:30 AM - 12:30 PM																<b>TOTAL</b>															
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	1	0	1	7	0	0	2	9	0	0	20															
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.875	0.000	0.000	0.500	0.563	0.000	0.000	0.625															
					0.250				0.667				0.550																			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL															
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU																
2:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5															
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3															
2:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2															
2:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
3:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	4															
3:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	4															
3:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4															
4:00 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	7															
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2															
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2															
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
6:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1															
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>															
<b>APPROACH %'s:</b>	0	0	0	0	0	1	1	0	0	24	0	0	1	18	0	0	45															
	0.00%				50.00%				100.00%				0.00%				5.26%				94.74%				0.00%				0.00%			
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																<b>TOTAL</b>															
<b>PEAK HR VOL:</b>	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	4															
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	1.000															
					0.250				0.500				0.250																			

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
 City: Andover  
 Control: 1-Way Stop(NB)

Project ID: 24-430144-001  
 Date: 9/18/2024

### Data - TTST

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133											
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL							
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU								
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2							
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3							
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1							
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2							
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4							
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1							
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
8:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	3	0	0	5							
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
9:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1							
9:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1							
9:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1							
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>							
<b>APPROACH %'s:</b>	0	0	0	0	0	1	0	0	1	4	1	0	2	12	0	0	21							
	0.00%				100.00%				16.67%				66.67%				16.67%				0.00%			
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>							
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	2	0	0	1	7	0	0	10							
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.583	0.000	0.000	0.625							
									0.250				0.500											

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL															
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU																
10:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3															
10:15 AM	0	0	0	0	0	0	1	0	0	3	0	0	0	1	0	0	5															
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1															
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
11:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2															
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2															
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
11:45 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3															
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2															
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2															
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1															
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	3															
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3															
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>															
<b>APPROACH %'s:</b>	0	0	0	0	0	0	2	0	1	11	1	0	0	10	1	1	27															
	0.00%				0.00%				100.00%				0.00%				7.69%				84.62%				7.69%				0.00%			
<b>PEAK HR:</b>	11:30 AM - 12:30 PM																<b>TOTAL</b>															
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	1	3	0	0	0	3	0	0	7															
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.000	0.000	0.375	0.000	0.000	0.583															
									0.333				0.375																			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL											
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU												
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1											
2:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2											
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1											
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2											
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1											
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2											
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1											
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1											
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>											
<b>APPROACH %'s:</b>	0	0	0	0	0	0	2	0	0	3	0	0	0	6	0	0	11											
	0.00%				0.00%				100.00%				0.00%				0.00%				100.00%				0.00%			
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																<b>TOTAL</b>											
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2											
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500											
					0.250				0.250																			

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
 City: Andover  
 Control: 1-Way Stop(NB)

Project ID: 24-430144-001  
 Date: 9/18/2024

### Data - Bikes

NS/EW Streets:	Chandler Cir/Lincoln St				Chandler Cir/Lincoln St				Lowell St/SR 133				Lowell St/SR 133				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
<b>PEAK HR :</b>	07:15 AM - 08:15 AM				0				0				1				TOTAL
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	3
<b>PEAK HR :</b>	11:30 AM - 12:30 PM				0				0				0				TOTAL
<b>PEAK HR VOL :</b>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	1	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	5
<b>PEAK HR :</b>	05:15 PM - 06:15 PM				0				0				0				TOTAL
<b>PEAK HR VOL :</b>	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500

# National Data & Surveying Services Intersection Turning Movement Count

Location: Chandler Cir/Lincoln St & Lowell St/SR 133  
City: Andover

Project ID: 24-430144-001  
Date: 9/18/2024

## Data - Pedestrians (Crosswalks)

NS/EW Streets	Chandler Cir/Lincoln St		Chandler Cir/Lincoln St		Lowell St/SR 133		Lowell St/SR 133		Mid Block		TOTAL
	FR	WB	FR	WB	NR	SB	NR	SB	NR	SB	
<b>AM</b>	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		MID BLOCK		
7:00 AM	1	3	0	0	0	0	0	0	2	1	7
7:15 AM	0	1	0	0	0	0	0	0	0	0	1
7:30 AM	2	0	0	0	0	0	0	0	0	6	8
7:45 AM	1	0	0	0	0	0	0	0	0	11	14
8:00 AM	2	0	0	0	0	0	0	0	0	2	5
8:15 AM	1	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	1	0	0	0	0	0	0	1	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	1	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	10	7	0	0	0	0	0	0	3	21	41
<b>APPROACH %:</b>	58.54%		41.46%						12.50%		87.50%
<b>PEAK HR:</b>	09:15 AM - 09:15 PM										
<b>PEAK HR VOL:</b>	7		0		0		0		0		19
<b>PEAK HR FACTOR:</b>	0.583		0.500		0.000		0.000		0.432		0.500
	0.750										
<b>NOON</b>	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		MID BLOCK		
10:00 AM	0	1	1	1	0	0	0	0	2	0	5
10:15 AM	2	2	0	0	0	0	0	0	3	0	7
10:30 AM	1	2	2	2	0	0	0	0	0	2	7
10:45 AM	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	4	7	3	1	0	0	0	0	5	2	22
<b>APPROACH %:</b>	36.36%		63.64%		75.00%		25.00%		71.43%		28.57%
<b>PEAK HR:</b>	10:30 AM - 10:30 PM										
<b>PEAK HR VOL:</b>	2		0		0		0		0		2
<b>PEAK HR FACTOR:</b>	0.250		0.250		0.000		0.000		0.250		0.250
	0.250										
<b>PM</b>	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		MID BLOCK		
2:00 PM	0	0	0	0	0	0	0	0	1	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	1	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	1	0	0	0	0	0	0	0	1	1	3
3:00 PM	1	2	0	0	1	0	0	0	24	0	28
3:15 PM	1	0	0	0	0	0	0	0	0	1	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	1	0	0	0	0	0	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	1	0	0	1	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	0	0	0	0	2	0	4
5:45 PM	2	0	0	0	2	2	0	0	0	0	6
6:00 PM	0	1	0	0	0	0	0	0	0	0	3
6:15 PM	1	1	0	0	0	0	0	0	2	1	5
6:30 PM	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	9	8	1	0	3	3	0	0	31	6	60
<b>APPROACH %:</b>	52.54%		47.46%		100.00%		0.00%		50.00%		50.00%
<b>PEAK HR:</b>	03:00 PM - 06:15 PM										
<b>PEAK HR VOL:</b>	5		0		2		2		2		13
<b>PEAK HR FACTOR:</b>	0.250		0.417		0.250		0.250		0.250		0.542
	0.583				0.750		0.750		0.750		

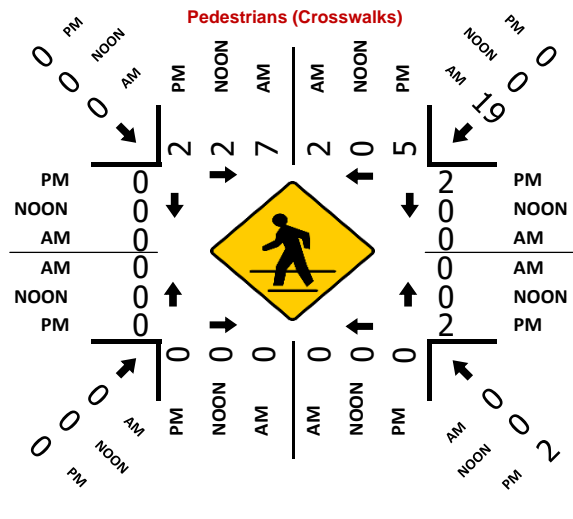
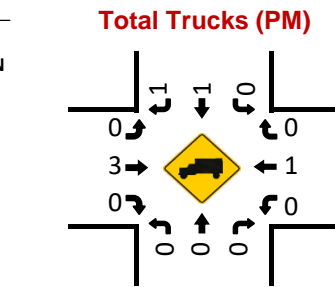
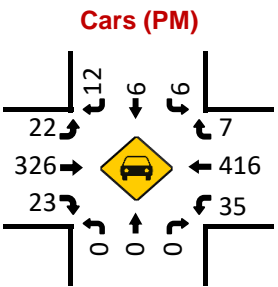
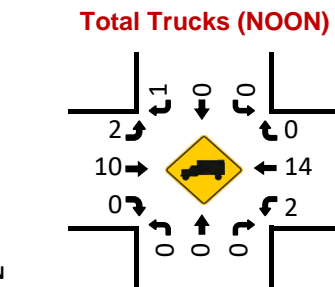
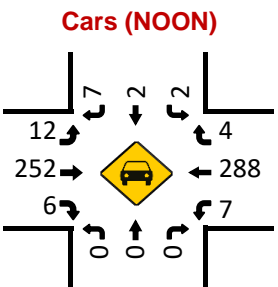
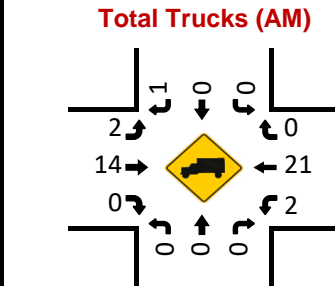
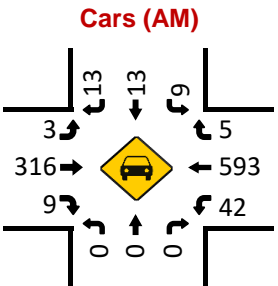
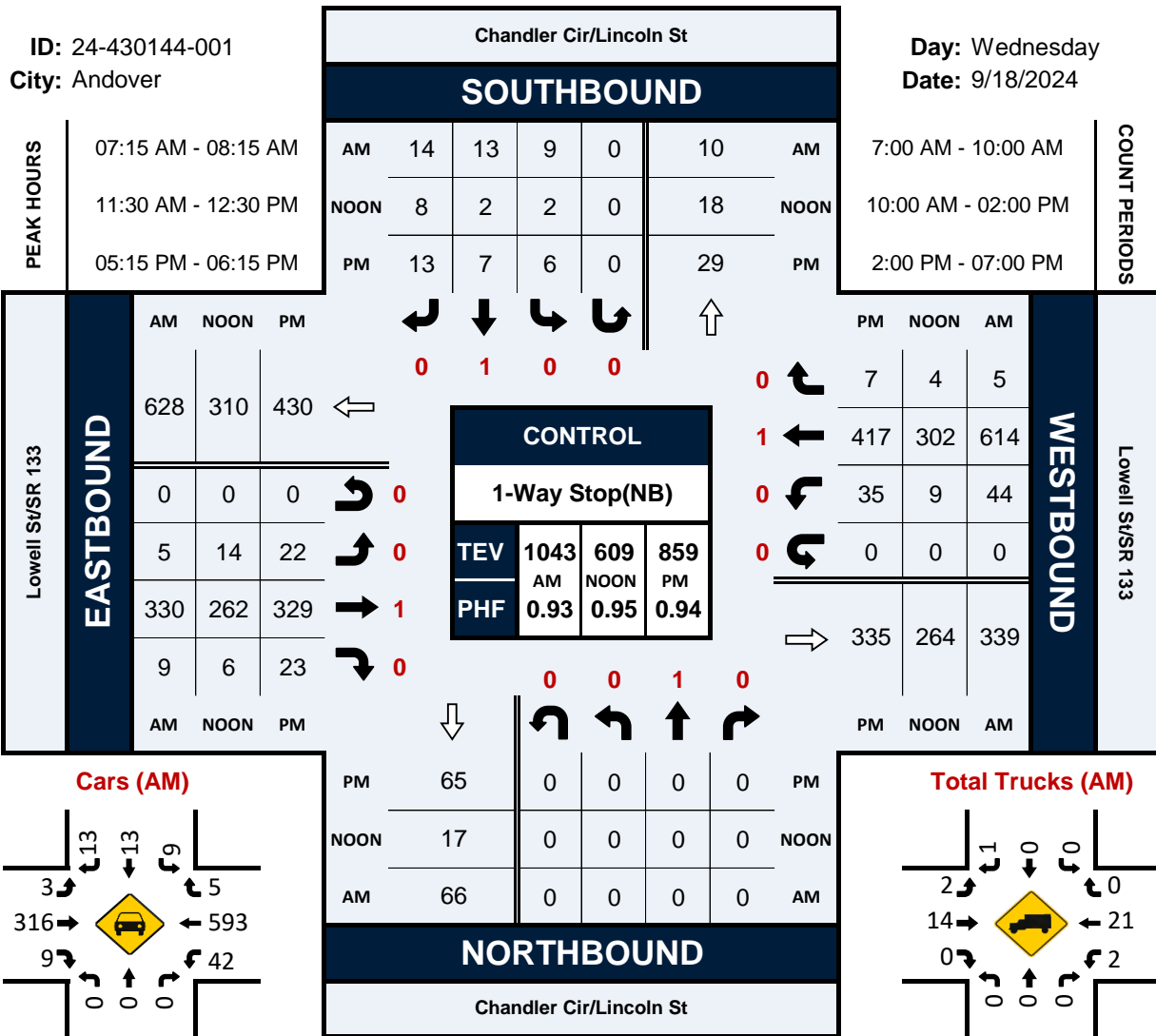


# Chandler Cir/Lincoln St & Lowell St/SR 133

## Peak Hour Turning Movement Count

ID: 24-430144-001  
City: Andover

Day: Wednesday  
Date: 9/18/2024





# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Lincoln St & Shawsheen Rd  
 City: Andover  
 Control: 1-Way Stop(SB)

Project ID: 24-430144-002  
 Date: 9/18/2024

### Data - Cars

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	6	0	0	0	0	84	0	0	0	33	0	0	0	0	123		
7:15 AM	0	0	0	0	5	0	1	0	0	141	0	0	0	42	0	0	0	0	189		
7:30 AM	0	0	0	0	12	0	1	0	0	174	0	0	0	40	0	0	0	0	227		
7:45 AM	0	0	0	0	35	0	1	0	0	132	0	0	0	46	0	0	0	0	214		
8:00 AM	0	0	0	0	20	0	2	0	0	159	0	0	0	99	0	0	0	0	280		
8:15 AM	0	0	0	0	9	0	1	0	0	75	0	0	0	63	0	0	0	0	148		
8:30 AM	0	0	0	0	8	0	2	0	0	107	0	0	0	66	0	0	0	0	183		
8:45 AM	0	0	0	0	8	0	1	0	0	109	0	0	0	86	0	0	0	0	204		
9:00 AM	0	0	0	0	4	0	1	0	0	105	0	0	0	68	0	0	0	0	178		
9:15 AM	0	0	0	0	3	0	0	0	0	89	0	0	0	53	0	0	0	0	145		
9:30 AM	0	0	0	0	5	0	1	0	0	62	0	0	0	36	0	0	0	0	104		
9:45 AM	0	0	0	0	2	0	0	0	0	65	0	0	0	63	0	0	0	0	130		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>				
<b>APPROACH %'s :</b>	0	0	0	0	117	0	11	0	0	1302	0	0	0	695	0	0	2125				
	91.41%				0.00%	8.59%		0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%		0.00%				
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>				
<b>PEAK HR VOL :</b>	0	0	0	0	72	0	5	0	0	606	0	0	0	227	0	0	910				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.514	0.000	0.625	0.000	0.000	0.871	0.000	0.000	0.000	0.573	0.000	0.000	0.813				
					0.535				0.871				0.573								

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
NOON	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
10:00 AM	0	0	0	0	9	0	1	0	0	64	0	0	0	44	0	0	0	0	118		
10:15 AM	0	0	0	0	2	0	1	0	0	53	0	0	0	48	0	0	0	0	104		
10:30 AM	0	0	0	0	2	0	0	0	0	46	0	0	0	49	0	0	0	0	97		
10:45 AM	0	0	0	0	3	0	1	0	0	58	0	0	0	45	0	0	0	0	107		
11:00 AM	0	0	0	0	3	0	0	0	0	56	0	0	0	54	0	0	0	0	113		
11:15 AM	0	0	0	0	4	0	1	0	0	65	0	0	0	38	0	0	0	0	108		
11:30 AM	0	0	0	0	3	0	0	0	0	59	0	0	0	72	0	0	0	0	134		
11:45 AM	0	0	0	0	5	0	1	0	0	66	0	0	0	67	0	0	0	0	139		
12:00 PM	0	0	0	0	1	0	1	0	0	80	0	0	0	63	0	0	0	0	145		
12:15 PM	0	0	0	0	3	0	2	0	0	83	0	0	0	75	0	0	0	0	163		
12:30 PM	0	0	0	0	8	0	3	0	0	66	0	0	0	56	0	0	0	0	133		
12:45 PM	0	0	0	0	8	0	0	0	0	70	0	0	0	59	0	0	0	0	137		
1:00 PM	0	0	0	0	6	0	3	0	0	66	0	0	0	59	0	0	0	0	134		
1:15 PM	0	0	0	0	4	0	1	0	0	71	0	0	0	56	0	0	0	0	132		
1:30 PM	0	0	0	0	7	0	0	0	0	49	0	0	0	73	0	0	0	0	129		
1:45 PM	0	0	0	0	1	0	0	0	0	62	0	0	0	42	0	0	0	0	105		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>				
<b>APPROACH %'s :</b>	0	0	0	0	117	0	15	0	0	1014	0	0	0	900	0	0	1998				
	82.14%				0.00%	17.86%		0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%		0.00%				
<b>PEAK HR :</b>	12:00 PM - 01:00 PM																<b>TOTAL</b>				
<b>PEAK HR VOL :</b>	0	0	0	0	20	0	6	0	0	299	0	0	0	253	0	0	578				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.625	0.000	0.500	0.000	0.000	0.901	0.000	0.000	0.000	0.843	0.000	0.000	0.887				
					0.591				0.901				0.843								

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
2:00 PM	0	0	0	0	4	0	2	0	0	61	0	0	0	59	0	0	0	0	126		
2:15 PM	0	0	0	0	8	0	0	0	0	59	0	0	0	61	0	0	0	0	128		
2:30 PM	0	0	0	0	7	0	2	0	0	86	0	0	0	68	0	0	0	0	163		
2:45 PM	0	0	0	0	7	0	2	0	0	97	0	0	0	93	0	0	0	0	199		
3:00 PM	0	0	0	0	5	0	3	0	0	89	0	0	0	163	0	0	0	0	260		
3:15 PM	0	0	0	0	7	0	1	0	0	93	0	0	0	77	0	0	1	0	179		
3:30 PM	0	0	0	0	5	0	0	0	0	88	0	0	0	90	0	0	0	0	183		
3:45 PM	0	0	0	0	6	0	0	0	0	137	0	0	0	70	0	0	0	0	213		
4:00 PM	0	0	0	0	12	0	3	0	0	107	0	0	0	112	0	0	0	0	234		
4:15 PM	0	0	0	0	8	0	2	0	0	133	0	1	0	96	0	0	0	0	240		
4:30 PM	0	0	0	0	10	0	0	0	0	130	0	0	0	144	0	0	0	0	284		
4:45 PM	0	0	0	0	18	0	0	0	0	115	0	0	0	98	0	0	0	0	231		
5:00 PM	0	0	0	0	7	0	1	0	0	94	0	0	0	128	0	0	0	0	230		
5:15 PM	0	0	0	0	18	0	0	0	0	138	0	0	0	136	0	0	0	0	292		
5:30 PM	0	0	0	0	9	0	5	0	0	149	0	0	0	138	0	0	0	0	301		
5:45 PM	0	0	0	0	10	0	1	0	0	159	0	0	0	110	0	0	0	0	280		
6:00 PM	0	0	0	0	9	0	0	0	0	120	0	0	0	120	0	0	0	0	249		
6:15 PM	0	0	0	0	20	0	1	0	0	116	0	0	0	106	0	0	0	0	243		
6:30 PM	0	0	0	0	5	0	0	0	0	58	0	0	0	148	0	0	0	0	211		
6:45 PM	0	0	0	0	9	0	1	0	0	60	0	0	0	72	0	0	0	0	142		
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>				
<b>APPROACH %'s :</b>	0	0	0	0	184	0	24	0	0	2089	0	1	0	2089	0	1	4388				
	88.46%				0.00%	11.54%		0.00%	0.00%	99.95%	0.00%	0.05%	0.00%	99.95%	0.00%		0.05%				
<b>PEAK HR :</b>	05:15 PM - 06:15 PM																<b>TOTAL</b>				
<b>PEAK HR VOL :</b>	0	0	0	0	46	0	6	0	0	566	0	0	0	504	0	0	1122				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.639	0.000	0.300	0.000	0.000	0.890	0.000	0.000	0.000	0.913	0.000	0.000	0.932				
					0.722				0.890				0.913								

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Lincoln St & Shawsheen Rd  
**City:** Andover  
**Control:** 1-Way Stop(SB)

**Project ID:** 24-430144-002  
**Date:** 9/18/2024

### Data - Buses

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3	
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3	
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	5	
7:45 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	6	0	0	0	0	0	14	
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	4	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL
<b>APPROACH %'s:</b>	0	0	0	0	1	0	0	0	0	18	0	0	0	19	0	0					38
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																TOTAL				
<b>PEAK HR VOL:</b>	0	0	0	0	1	0	0	0	0	14	0	0	0	11	0	0					26
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.458	0.000	0.000					0.464

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
NOON	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
10:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	3	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	4	
1:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL
<b>APPROACH %'s:</b>	0	0	0	0	0	0	0	0	0	12	0	0	0	6	0	0					18
<b>PEAK HR:</b>	12:00 PM - 01:00 PM																TOTAL				
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0					2
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000					0.500

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
2:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	
2:30 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	1	0	0	0	0	0	11	
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0	0	0	7	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8	
3:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	3	
3:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
3:45 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	4	
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4	
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL
<b>APPROACH %'s:</b>	0	0	0	0	1	0	0	0	0	28	0	0	0	24	0	0					53
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																TOTAL				
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					0
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					0

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Lincoln St & Shawsheen Rd  
 City: Andover  
 Control: 1-Way Stop(SB)

Project ID: 24-430144-002  
 Date: 9/18/2024

### Data - Duals

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	7
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
9:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	7
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>	
<b>APPROACH %'s:</b>	0	0	0	0	1	0	0	0	0	26	0	0	0	21	0	0	48	
<b>PEAK HR:</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>	
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	7	0	0	0	8	0	0	15	
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.500	0.000	0.000	0.536	

NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
10:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
10:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
11:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	3
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	3	0	0	0	5
12:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5
12:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	4
1:00 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	5	0	0	0	9
1:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	6
1:30 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5
1:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	4
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>	
<b>APPROACH %'s:</b>	0	0	0	0	2	0	3	0	0	27	0	0	0	23	0	0	55	
<b>PEAK HR:</b>	12:00 PM - 01:00 PM																<b>TOTAL</b>	
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	1	0	0	7	0	0	0	7	0	0	15	
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.583	0.000	0.000	0.750	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
2:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0	7
2:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	5
2:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	6
3:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
3:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>	
<b>APPROACH %'s:</b>	0	0	0	0	2	0	4	0	0	16	0	0	0	17	0	0	39	
<b>PEAK HR:</b>	05:15 PM - 06:15 PM																<b>TOTAL</b>	
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Lincoln St & Shawsheen Rd  
 City: Andover  
 Control: 1-Way Stop(SB)

Project ID: 24-430144-002  
 Date: 9/18/2024

### Data - TTST

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	
9:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	2	0	0	0	0	8	0	0	0	3	0	0	13				
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500				

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
NOON	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	3	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	5	
1:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
1:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	1	0	0	0	0	6	0	0	0	17	0	0	24				
<b>PEAK HR :</b>	12:00 PM - 01:00 PM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0	0	8				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.417	0.000	0.000	0.400				

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	5				
<b>PEAK HR :</b>	05:15 PM - 06:15 PM																TOTAL				
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0				

# National Data & Surveying Services

## Intersection Turning Movement Count

Location: Lincoln St & Shawsheen Rd  
 City: Andover  
 Control: 1-Way Stop(SB)

Project ID: 24-430144-002  
 Date: 9/18/2024

### Data - Bikes

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2				
<b>PEAK HR:</b>	07:15 AM - 08:15 AM				1	0	0	0	0	0	0	0	0	0	0	0	1				
<b>PEAK HR VOL:</b>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1				
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250				

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
NOON	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	1	0	0	0	0	3	0	0	0	3	2	1	10				
<b>PEAK HR:</b>	12:00 PM - 01:00 PM				1	0	0	0	0	1	0	0	0	2	0	0	4				
<b>PEAK HR VOL:</b>	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	4				
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.500				

NS/EW Streets:	Lincoln St				Lincoln St				Shawsheen Rd				Shawsheen Rd				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL VOLUMES:</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL				
<b>APPROACH %'s:</b>	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.00%	50.00%	50.00%	0.00%	8				
<b>PEAK HR:</b>	05:15 PM - 06:15 PM				0	0	0	0	0	3	0	0	0	0	1	0	4				
<b>PEAK HR VOL:</b>	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	4				
<b>PEAK HR FACTOR:</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.250	0.000	0.500				

# National Data & Surveying Services

## Intersection Turning Movement Count

**Location:** Lincoln St & Shawsheen Rd  
**City:** Andover

**Project ID:** 24-430144-002  
**Date:** 9/18/2024

### Data - Pedestrians (Crosswalks)

NS/EW Streets:	Lincoln St		Lincoln St		Shawsheen Rd		Shawsheen Rd		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
AM	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	1	0	0	0	0	0	0	0	1
7:15 AM	2	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	2	1	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	3	1	0	0	0	0	0	0	4
<b>TOTAL VOLUMES :</b>	EB 8	WB 4	EB 0	WB 0	NB 0	SB 0	NB 0	SB 0	TOTAL 12
<b>APPROACH %'s :</b>	66.67%	33.33%							
<b>PEAK HR :</b>	07:15 AM - 08:15 AM								TOTAL 5
<b>PEAK HR VOL :</b>	4	1	0	0	0	0	0	0	
<b>PEAK HR FACTOR :</b>	0.500	0.250							0.417

NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	1	1	0	0	0	0	0	0	2
10:15 AM	0	0	0	0	0	0	0	0	0
10:30 AM	1	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0
11:30 AM	0	1	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0
12:00 PM	1	2	0	0	0	0	0	0	3
12:15 PM	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	1	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	EB 3	WB 4	EB 0	WB 0	NB 1	SB 0	NB 0	SB 1	TOTAL 9
<b>APPROACH %'s :</b>	42.86%	57.14%			100.00%	0.00%	0.00%	100.00%	
<b>PEAK HR :</b>	12:00 PM - 01:00 PM								TOTAL 4
<b>PEAK HR VOL :</b>	1	2	0	0	1	0	0	0	
<b>PEAK HR FACTOR :</b>	0.250	0.250			0.250	0.250			0.333

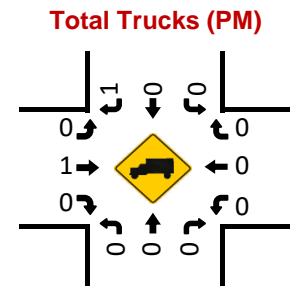
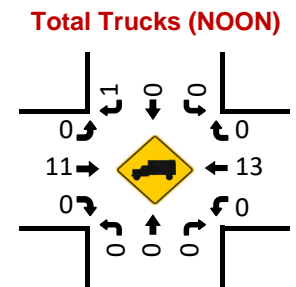
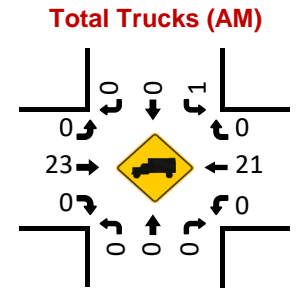
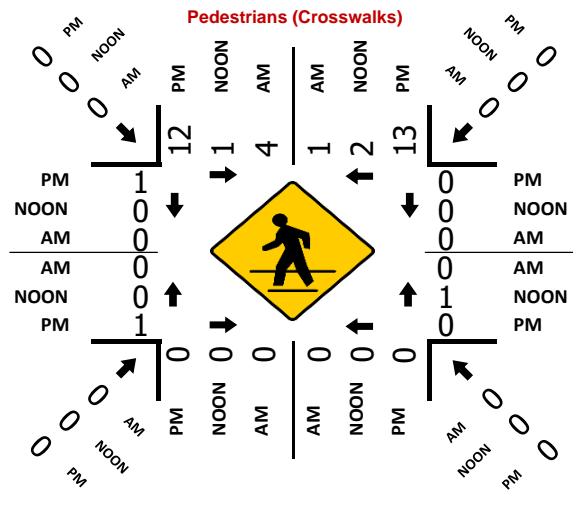
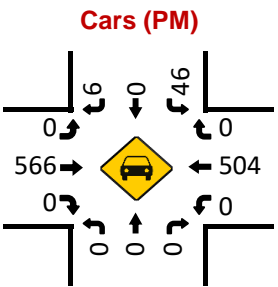
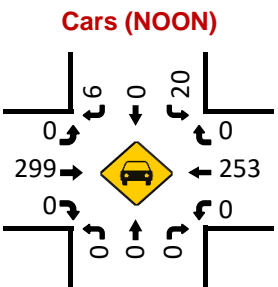
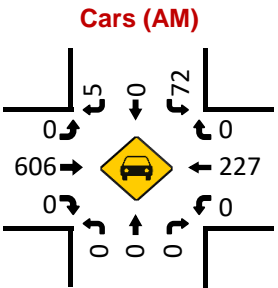
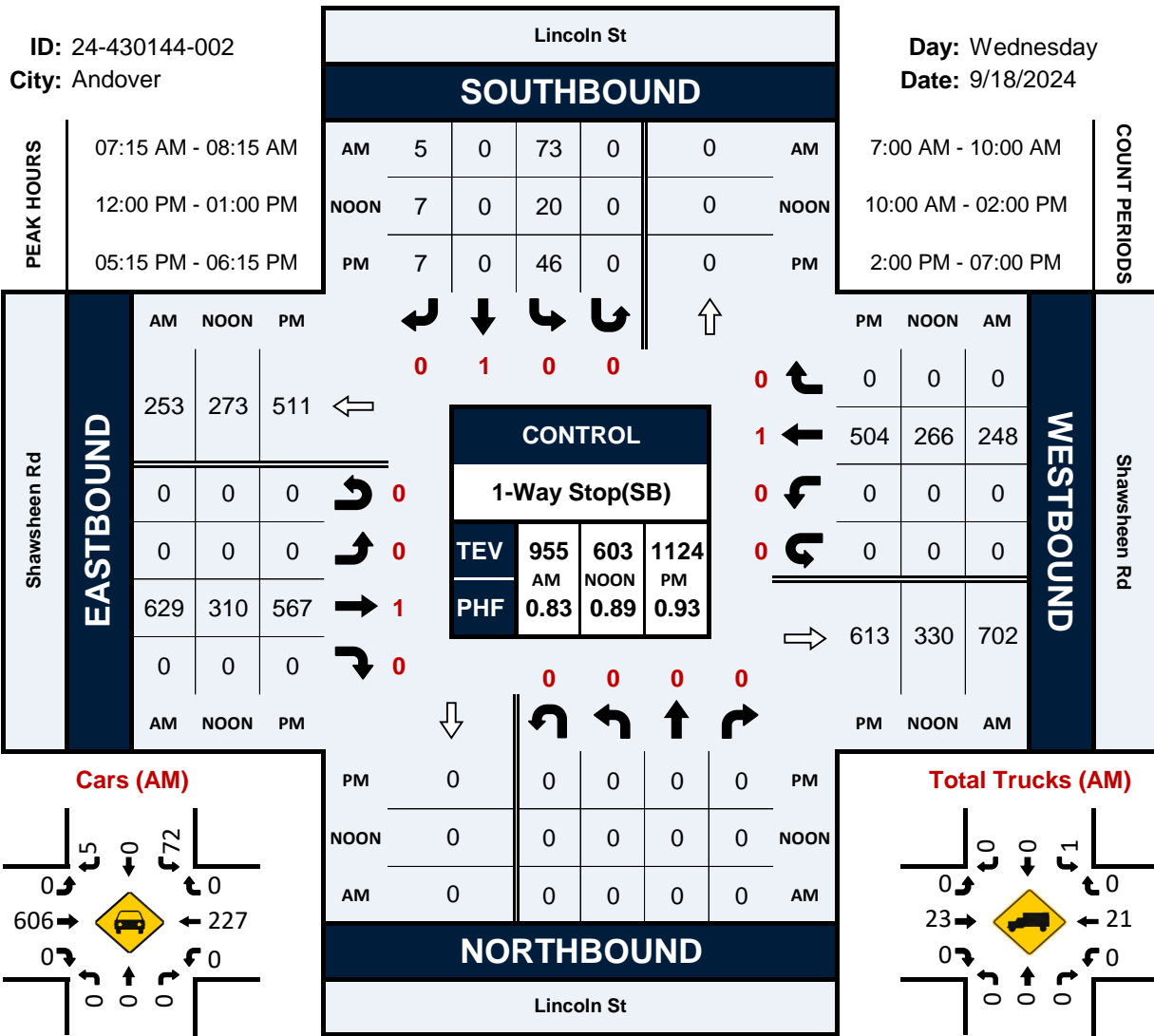
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0
2:45 PM	1	22	0	0	0	0	0	0	23
3:00 PM	2	9	0	0	0	0	0	0	11
3:15 PM	3	2	0	0	0	0	0	0	5
3:30 PM	2	2	0	0	5	3	0	0	12
3:45 PM	3	1	0	0	0	0	0	0	4
4:00 PM	0	2	0	0	0	0	0	0	2
4:15 PM	1	0	0	0	0	0	0	0	1
4:30 PM	1	0	0	0	0	0	0	0	1
4:45 PM	1	1	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	0	0	0	0	1
5:15 PM	5	5	0	0	0	0	0	0	10
5:30 PM	2	2	0	0	0	0	1	1	6
5:45 PM	2	2	0	0	0	0	0	0	4
6:00 PM	3	4	0	0	0	0	0	0	7
6:15 PM	5	2	0	0	0	0	0	0	7
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	EB 31	WB 55	EB 0	WB 0	NB 5	SB 3	NB 1	SB 1	TOTAL 96
<b>APPROACH %'s :</b>	36.05%	63.95%			62.50%	37.50%	50.00%	50.00%	
<b>PEAK HR :</b>	05:15 PM - 06:15 PM								TOTAL 27
<b>PEAK HR VOL :</b>	12	13	0	0	0	0	1	1	
<b>PEAK HR FACTOR :</b>	0.600	0.650					0.250	0.250	0.675

# Lincoln St & Shawsheen Rd

## Peak Hour Turning Movement Count

ID: 24-430144-002  
City: Andover

Day: Wednesday  
Date: 9/18/2024

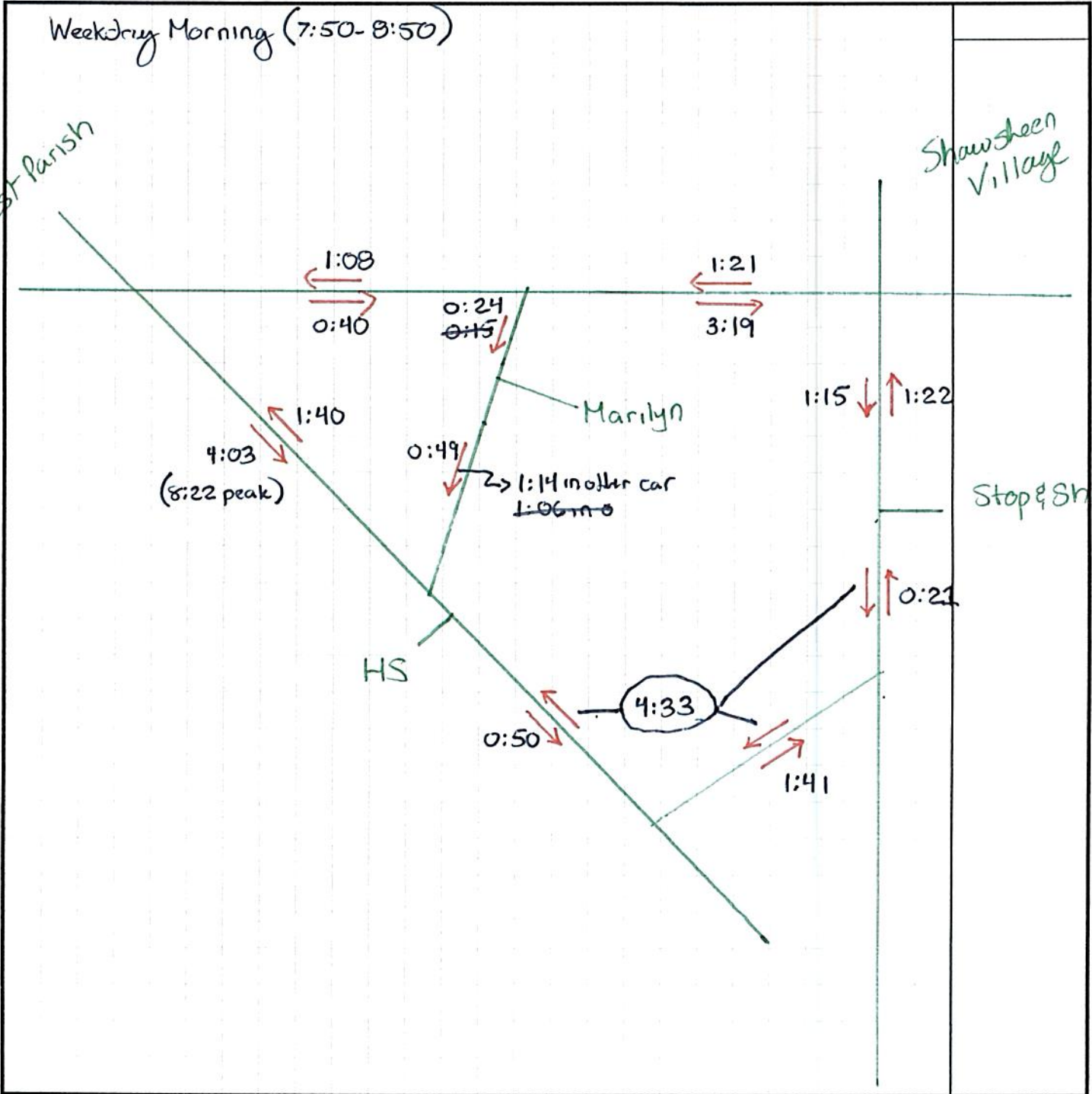


**Attachment B**

Travel Time Runs

JOB: Lincoln St One-Way  
 LOCATION: Andover, MA  
 TITLE: Travel Time Runs  
 CALCULATED BY: SWG, KRD, RLD

JOB NUMBER: T1265.10  
 DATE: 9/19/2024  
 SHEET: 1 OF 2  
 CHECKED BY: \_\_\_\_\_



JOB: Lincoln Street One-Way  
 LOCATION: Andover, MA  
 TITLE: Travel Time Runs  
 CALCULATED BY: SWG, KR D, RLD

JOB NUMBER: T1265.10  
 DATE: 9/19/2024  
 SHEET: 2 OF 2  
 CHECKED BY: \_\_\_\_\_

