

NICKEY LINE LOCKDOWN USAGE REPORT MAY 2020



Nickey Line Lockdown Users at Five Ways

INTRODUCTION

1. The Coronavirus lockdown in late March 2020 immediately resulted in much greater use of the Nickey Line than normal, with the widespread impression being gained of much higher numbers of users than any previously ever seen.
2. Sample counts over the Harpenden to Redbourn Lane section in late April and early May appeared to confirm this, with projected usage apparently well above the base usage of 4,100 per week counted in early July 2013.
3. To obtain a more definitive usage estimate, a 'Whole Line' survey was undertaken from 14th May till the month end. This was mostly based on reports from users of how many people they had seen using the Line in 30 minute periods whilst they were using the Line themselves in their normal exercise breaks from Lockdown.

4. Whilst two formal surveys had been undertaken by Friends of the Nickey Line over the Harpenden section (2006 and 2013) and one on the Redbourn Lane roundabout crossings (in 2015), this was our first major survey to cover Hemel Hempstead and Redbourn use.
5. More than 50 volunteers reported a total of more than 280 counts overall, each count covering the 'stream' of users over one or more sections of the Line and ranging from before 7.00 until 21.00 on the day in question. We managed to cover most sections of the Line for most hourly time slots of the day spread across the different days of the week. Some volunteers provided extra details of usage, e.g. separate numbers of cyclists / walkers / runners or reports on successive days - which were very helpful. We are very grateful for our volunteers' time and diligence and they made this survey possible.

MAIN RESULTS

1. The typical way people use the Nickey Line is very different between individuals but also between different sections of the Line - this affected both the user count and the analysis. Neighbouring sections tend to 'share' users with a 'stream' of users going from section to section but users go on and/or come off the Line at different points between and within sections.
2. 'Local' versus 'Long Distance' traffic:
 - Some users stayed 'Local' in one section; others travelled 'Long Distance' over much of the Line so could be counted multiple times by different volunteers - this was particularly true for cyclists and runners.
 - Harpenden to Five Ways (Townsend Lane extension junction) sections provided by far the highest volumes and we used this as our base count of uses – both 'Local' and 'Long Distance'.
 - Five Ways and Roundwood junctions were normally the busiest points of the Line with many people leaving the Line or joining it there. The Five Ways to Redbourn Lane section ('Knott Wood') saw on average 15% lower usage than the Harpenden sections (based on a count of over 600 users' travel routes at Five Ways over 4 days) and this factor was applied to shared stream counts covering these sections.
 - The Redbourn to Hemel Hempstead sections saw lower traffic overall and we needed to split this into 'Local' and 'Long Distance' to avoid double counting 'Long Distance' users with the base Harpenden counts. This was done by interviewing samples of users and by assessing the type of traffic: for example, most 'hardened' runners and cyclists in formal sports gear and usually travelling at high speed were found to be 'Long Distance' in each section but mums with push chairs were usually 'Local'.
 - Hemel Hempstead traffic was predominantly 'Local' (85%), Hunters Oak and the neighbouring 'Redbourn Rural' were split 50% 'Local' / 50% 'Long Distance' and Redbourn was mainly 'Long Distance' / 'Through' traffic (70%).
3. 'One Way' versus 'Two Way' Use:
 - Some users go one way only on the Line in any one trip so would probably be seen once; others go out and return via the Line so may have been seen and counted twice in any section. As an example of the effect of this behaviour, if 20 people were counted in a section over a period and they were all 'one way' users, the user

count estimate would be 20; if they were all 'two way' users, the user count estimate would be 10.

- A total of approximately 800 users of all types and across the different main sections were asked if their use was one way or two way.
- Hemel users were 20% one way; Hunters Oak and Redbourn Rural 10 % one way; Redbourn 20% one way', Harpenden sections' users were 50% one way / 50% two way.

4. Time and Day Behaviour:

- People use the Line at different times and on different days normally, with good weather encouraging greater use.
- Users appeared early – before 7.00 (where we had a count) – and peaked late morning or the afternoon before dipping after 7 p.m. Use continued after 21.00 and indeed into the dark with individual users being encountered but we did not do any formal counts of this.
- Lockdown and the broadly consistent good weather across this period smoothed the day to day pattern out somewhat with less distinct peak days than previously seen / expected. Although we did not have enough counts to produce reliable separate estimates, Sundays and the Bank Holiday did appear to still see higher usage but Saturdays did not.

5. Overall Usage Estimates for Individual Line Sections:

- **Daily usage over the individual Redbourn to Hemel Hempstead sections was estimated at about 300 uses per day** but each section had missing observations in some hourly periods. See Appendix Table 1.
- **Allowing for missed counts, we are probably looking at about 350 uses per day in each of these sections** – some shared users from the 'stream' of users; some different users from 'Local' traffic.
- **The Harpenden sections saw many more observations and also much higher volumes - with user traffic estimated at over 1,000 individual uses per day over these sections.** Again some of these will be shared users from the 'stream' of users; some different users from 'Local' traffic.
- N.B. These volumes are corrected for two way users so reflect the number of people using the Line, not just the numbers physically seen and reported by volunteers. People who used the line more than once a day, e.g. perhaps dog walkers, would be counted separately each time.

6. Overall Line User Estimates:

- To estimate the real number of individual users on the Line overall, we must remove the duplication in counts from Long Distance users. We have used:
 - i. The highest estimate of average users from the Harpenden locations (which have substantial sharing of the user stream but also some different users) - unless there were too few counts for reliability from that section, in which case the next highest reliable count was used
 - ii. The higher estimate of average 'Local' users from the very similar/ neighbouring Hunters Oak and Redbourn Rural locations which have a high degree sharing of the user stream - unless there were too few counts for reliability from that section

- iii. The estimates of average 'Local' users from both Redbourn and Hemel Hempstead.
- Ignoring time slots where we had no counts, **our estimate of daily Lockdown users across the Nickey Line was 1,677 and the weekly estimate 11,739.** See Appendix Table 2.
 - Making allowance for the missing slots would probably add about 60 users a day, **putting the daily estimate at about 1,740 and the matching weekly figure 12,180.**
 - **Allowing for statistical variation, the best overall weekly estimate of Nickey Line Lockdown usage is about 12,000 uses.** This compares with the last record figure of base usage of 4,100 per week from July 2013, i.e. Lockdown usage was almost three times higher than any previously seen usage.

PLEASE SEE THE APPENDIX FOR MORE DETAILS OF THE ANALYSIS AND SPREADSHEETS.

OUR THANKS GO ONCE AGAIN TO OUR VOLUNTEERS WHO PROVIDED THE BASIC COUNTS – WE COULD NOT HAVE DONE THIS WITHOUT THEM.

PLEASE SEND ANY QUESTIONS TO DAVE ABERNETHY AT DAVEA@NICKEYLINE.ORG

Dave Abernethy
Chairman, Friends of the Nickey Line
6 Bramble Close, Harpenden, AL5 4AN
07788 198283
DaveA@nickeyline.org
31/7/20

APPENDIX - NICKEY LINE LOCKDOWN USAGE REPORT

STANDARD LOCATIONS USED IN THE ANALYSIS

Hemel Hempstead

Hemel	Central Hemel from Midland Pub end to Hartwell Ford
Hunters Oak	From Hartwell Ford to Cherry Tree lane

Redbourn

Redbourn Rural	Cherry Tree lane to M1
Redbourn	Round Redbourn from M1 to Redbourn Lane

Harpenden

Knott Wood	Redbourn Lane to Five Ways
Five Ways	
Roundwood	Five Ways to Roundwood Crossing
Luton Road	Roundwood Crossing to Hollybush Lane

ANALYSIS MAIN POINTS

1. Counts are normally all users seen (plus the observer) within 30 minutes as the observer uses the Nickey Line (usually walking but a small number were from running or cycling). A few are single point counts - usually at Five Ways which is a major 'hub'. Some counts - usually runners or cyclists - may be shorter than 30 minutes. If judged too short or 'lumpy' to be reliable for scaling up to an hour they have been ignored.
2. Counts are scaled up to 1 hour in 1 hour time slots throughout the day. Simple 30 minute counts from walking or static points were doubled to reflect the greater traffic assuming the same usage rate from a 'new' set of users - with any repeat counting of an individual user being only from their return legs. Check observations have supported this as largely valid through the day with similar usage been seen from different users before or after the '30 minutes'. (The main variations are early or late in each day as usage grows or drops off, hence the use of hourly slots to minimise problems).
Runners or cyclists can see users over a long section of the Line very quickly - almost presenting an instant picture of the usage stream. These counts are meaningful but scaling demands more judgement to avoid overestimation - the key being how far they would have covered in 'walking' time. Some counts have been taken as an hour's equivalent already and others with shorter distances covered were scaled up by only a factor of 1.5 to make up the hour's stream.
3. Counts reflect a 'stream' of usage usually along adjoining sections of the Line which therefore have a lot of common users with some joining or leaving at different points. The main volumes seen were from the Harpenden end of the Line with a high degree of shared traffic between the individual sections there. These have been taken as providing the base count for an hour's slot with the Redbourn to Hemel sections usage being divided into 'Long Distance' traffic and 'Local' traffic - the Long Distance users were assumed to be included in the Harpenden counts; the Local traffic provided additional usage to be included in our overall count of Nickey Line 'uses'.

4. The Long Distance v Local split was estimated in each relevant section (Hemel Hempstead /Hunters Oak and Redbourn Rural/ Redbourn) from asking samples of users how far they were travelling as well as using their appearance and mode of transport which turned out to be a good indicator also - for example, most 'hardened' runners and cyclists in formal sports gear and usually travelling at high speed were long distance in each section but mums with push chairs were local. Hemel Hempstead traffic was predominantly Local (85%), Hunters Oak & Redbourn Rural were split 50/50 and Redbourn was mainly Long Distance / 'through ' traffic (70%).
5. Where the Knott Wood section was included in a count covering the Harpenden sections too, a reduction of 15% was applied to the Knott Wood count since a large number of users leave at Five Ways (based on a count of over 600 users' travel routes at Five Ways over 4 days.)
6. A key part of the calculation was the adjustment for one way/two way use. Single way users would expect to be only counted once, but two way users would be counted twice - once on their outward leg and once on their return leg. A total of approximately 800 users of all types across the different main sections were asked if their use was one way or two way. Hemel users were 20% one way; Hunters Oak and Redbourn Rural 10 % one way; Redbourn 20% one way; Harpenden sections users were 50/50. As an example of the effect of this adjustment, if 20 people were counted and they were all one way, the user count would be 20; if they were all 2 way users, the user count would be 10.
7. All counts were in the 'Lockdown' period. We counted from before 7.00 till 21.00 each day primarily from 14th May until 31st May with a few late counts included up to 3rd June and a few pilot counts from the end of April and early May also included. Some sections were not covered in some hourly slots - we have not estimated these slots but left them empty in the main analysis. The effect on the overall usage estimate is felt to be small but we have added estimates of the missing usage to produce the final usage figures for completeness.
We did not have enough readings across the Line sections to give good estimates for different days but Saturdays appeared to be more like weekdays than we have come to expect pre Lockdown. Sundays and the May Bank holiday appeared to have higher usage than other days still.
8. **Overall Usage Estimates for Individual Line Sections (Including Long Distance Users):**
 - a. **Daily usage over the individual Redbourn to Hemel Hempstead sections was counted at about 300 uses per day by all types of users** but each section had missing observations in some hourly periods. See Table 1 below.
 - b. **Allowing for missing counts, we are probably looking at about 350 uses per day in each of these sections** – some shared users from the 'stream' of users; some different users from 'Local' joiners.
 - c. **The Harpenden sections saw many more observations and also much higher volumes - with user traffic estimated at over 1,000 individual uses per day over these sections.** Again some of these will shared users from the 'stream' of users; some different users from 'Local' joiners.
 - d. N.B. These volumes are corrected for two way users so reflect the number of people using the Line, not just the numbers physically seen and reported by volunteers. People who used the line more than once a day, e.g. perhaps dog walkers, would be counted separately each time.

TABLE 1 - AVERAGE DAILY NUMBERS OF ALL USERS BY LINE SECTION WHERE COUNTS HELD

Hour	Hemel	Hunters Oak	Redbourn Rural	Redbourn	Knott Wood	Five Ways	Roundwood	Luton Road
Before 7	6.1	7.7			10.2	11.7	10.9	11.5
7 - 8	6.6	14.3	13.1	14.8	27.1	32.5	36.7	32.6
8 - 9	19.4	9.2	14.0		41.8	44.7	48.0	36.4
9 - 10	16.3	23.8	18.2	25.8	46.9	68.0	73.5	73.5
10 - 11	26.4			45.6	42.9	54.1	51.9	49.0
11 - 12	36.6	14.9	48.4	45.2	49.0	69.0	67.7	98.4
12 - 13	33.2	42.1	11.0	19.2	40.4	67.1	83.1	76.9
13 - 14	21.6	19.8		24.6	50.2	85.0	85.0	83.3
14- 15	24.8	23.1		22.8	59.5	85.3	65.5	65.5
15- 16	29.4	51.2	46.2	33.6	72.5	100.6	88.8	78.6
16 -17	31.0	30.3	37.4	20.4	54.9	86.1	108.1	97.3
17- 18	25.8	25.3	25.3	28.8	66.2	93.0	177.0	81.0
18- 19	29.2	58.6	58.6		78.1	108.2	98.4	122.3
19 - 20					31.4	52.7	28.2	46.7
20 - 21				10.8	42.8	68.4	55.9	51.4
TOTALS	306.4	320.3	272.2	291.6	713.9	1026.4	1078.7	1004.4

All figures adjusted for Two Way users but include both Local and Long Distance users.

9. Overall Line User Estimates:

- a. To estimate the real number of individual users on the Line overall, we must remove the duplication in counts from Long Distance users. We have used:
 - i. The highest estimate of average users from the Harpenden sections (which have substantial sharing of the user stream but also some different users from multiple entry points) - unless there were too few counts for reliability from that section, in which case the next highest reliable count was used
 - ii. The higher estimate of average 'Local' users from the very similar/ neighbouring Hunters Oak and Redbourn Rural sections which have a high degree sharing of the user stream – again, unless there were too few counts for reliability from that section
 - iii. The estimates of average 'Local' users from both Redbourn and Hemel Hempstead.
 - iv. No estimates of users from sections and time slots without formal counts

- b. Ignoring time slots where we had no counts, **our estimate of daily Lockdown users across the Nickey Line was 1,677 and the weekly estimate was 11,739.** See Table 2 below.

- c. Making allowance for the missing slots would probably add about 60 users a day overall, **putting the daily estimate at about 1,740 and the weekly figure 12,180.**

d. ALLOWING FOR STATISTICAL VARIATION, THE BEST OVERALL WEEKLY ESTIMATE OF NICKEY LINE LOCKDOWN USAGE IS 12,000 USES.

e. This weekly Nickey Line Lockdown usage count of 12,000 uses compares with the last record figure of base usage of 4,100 per week from July 2013, an increase of almost 200%. To put it another way, Lockdown usage has been almost three times higher than any previously seen usage.

TABLE 2 - AVERAGE NUMBERS OF OVERALL NICKEY LINE USERS WHERE COUNTS HELD

Hour	Hemel Local Uses	Paired Locations with substantial sharing of stream so maximum average count used unless too few counts for reliability		Redbourn Local Uses	Grouped Locations with substantial sharing of stream so maximum average count used unless too few counts for reliability				AVERAGE DAILY USERS
		Hunters Oak Local Uses	Redbourn Rural Local Uses		Knott Wood	Five Ways	Roundwood	Luton Road	
Before 7	5.2	3.9				11.7			20.8
7 - 8	5.6	7.2		4.4			36.7		53.9
8 - 9	16.5		7.0				48.0		71.5
9 - 10	13.9	23.8		7.7			73.5		118.9
10 - 11	22.4			13.7		54.1			90.2
11 - 12	31.1		24.2	13.6				98.4	167.3
12 - 13	28.2	21.0		19.2			83.1		151.5
13 - 14	18.4	9.9		7.4			85.0		120.7
14- 15	21.1	11.6		6.8		85.3			124.8
15- 16	25.0	25.6		10.1		100.6			161.3
16 -17	26.3		18.7	6.1			108.1		159.2
17- 18	21.9		12.7	8.6		93.0			136.2
18- 19	24.8	29.3						122.3	176.4
19 - 20						52.7			52.7
20 - 21			3.2			68.4			71.6
DAILY AVERAGE TOTAL									1,677.0
WEEKLY ESTIMATE									11,739.0

This report was produced by Dave Abernethy on behalf of Friends of the Nickey Line. Please send any enquiries or comments to the author.

Dave Abernethy
 Chairman, Friends of the Nickey Line
 6 Bramble Close, Harpenden, AL5 4AN
 07788 198283
DaveA@nickeyline.org

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