

This article about the public information design of the Reykjavík bus system appeared (in Icelandic) in Iceland's main daily newspaper Morgunblaðið, 6. september 2005, pp. 22-23. It was followed up by a response from bus system director Ásgeir Eiríksson, "Áhugaverðar nýjungar á döfinni hjá Strætó," Morgunblaðið, 7. september 2005, p. 27, and an editorial "Að skilja strætókerfið," Morgunblaðið, 9. september 2005, p. 26.

New routes, outdated signs

By Ian Watson

We should all be grateful to the people at Strætó, who have worked hard to bring Reykjavík a new set of bus routes. On balance, the new system is a big improvement. Strætó's management had guts. They changed routes, moved stops, and rearranged people's daily habits and mental maps. They knew that bus routes are human creations, not God-given facts of the natural world.

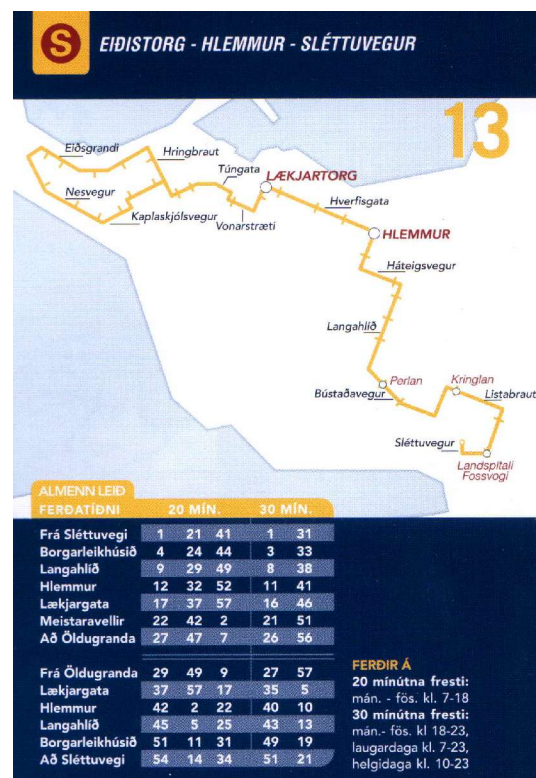
Unfortunately, a great route system is useless if users cannot figure out which bus to take and when it will come. This article is a review of Strætó's timetables and graphics – of what is, these days, called their "information design."

Strætó's printed bus schedules present timings in a table format (see the illustration) which I'll call a "time chart." This is one thing that Strætó has *not* changed. And that's unfortunate. The cognitive operations that one has to go through to read the current time charts are nothing short of acrobatic. Say, for example, that you're standing at the bus stop in front of Nóatún on Hringbraut, and trying to get to Kringlan by bus 13. You want to figure out when the next bus will come, so you look at the time chart.

Sounds easy, right? It's not. First you have to figure out which half of the chart to look at, since buses go in two directions. The only way to do this is to find two places listed on the chart and to match them to the route that the bus you want will travel. Fortunately, you happen to know that on its way to Kringlan, bus 13 will stop at Lækjargata *before* Hlemmur, not the other way around.

Therefore, you need to look at the half of the chart on which Lækjargata appears *above* Hlemmur, not below. This is no simple deduction. To make it, one needs a fairly well-developed mental map of the route – something that one cannot expect of the elderly, the disabled, or of visitors from out of town.

Once you figure out which side of the time chart to use, you might think you would be able to see when the next bus is coming. Not so fast. First, you have to pinpoint which two spots listed on the time chart are to either side of the point you are standing at. In this case, it's



Öldugrandi and Lækjargata, but you'll only know that if you know Reykjavík. (The bus 13 map doesn't help. In fact, it lists neither Öldugrandi nor Lækjargata.) Then, you have to figure out whether the bus is currently running at 20 or 30 minute intervals (or not at all). This requires checking your watch and consulting the list to the right side of the timetable. The list is in Icelandic only, which is tough luck for tourists. At around 18:00 on a weekday, when many routes change from 20 to 30 minute intervals, it can be really hard to figure out how often a bus is running.

But assuming that you're lucky enough to have the answer to these two questions in hand, you can now figure out exactly which cells of the time chart to look at. They tell you that, during business hours, the next bus 13 will come a few minutes after "29 49 9." Now, I don't know if it's just me, but I always have trouble mentally placing the current number of minutes after the hour into the listed times, especially when the listings go "round the bend" (29 49 9, as opposed to 9 29 49). But on a good day, if your watch shows that the time is five minutes past the hour, you should be able to work out that you have roughly five or ten minutes to wait.

Folks, this is complicated. It's hard. It took three dense paragraphs to describe. And answering a slightly more advanced but still quite reasonable question, like "Which bus will come first, 11 or 13?" requires solving *two* of these math problems. By the time you finish, the bus may have come!

The time charts do have the advantage of condensing a lot of information into a small space. It is possible to fit the entire system schedule on a single poster. If you're good, from this single poster, you can work out the schedule for a transfer trip, involving three buses, going all the way across town or even to Kjalarnes. But brevity is no advantage if you can't unravel the result.

Some people might say to me at this point, "Come on. You can just check the schedule online." Indeed, the online trip planner at www.bus.is is quite good and Strætó deserves praise for improving it recently. However, it takes some time to fire up the computer, navigate to the web site, compose one's query and understand the results. And I never seem to be near a computer at the very moment I need to check the bus schedule.

Is there a better way? Yes!

Many European cities post customized timetables at each stop which show, in full, the time at which every bus will stop at that stop. I repeat, at *that* stop, not the next stop, and not the stop across the street. Moreover, most European cities allow you to print out, off the Internet, a copy of the complete timetable for any given stop, and tack it up for easy reference. In hotels, in

Prague Public Transport
Data validity

Krátkodobé změny provozu nemusi být uvedeny v jízdních řádech

Connections Departures Stop leaflets Trips Places

You can find timetable for the stop by clicking on ▼ in front of its name.

Tram 18 Vetrník > Vozovna Pankrác 12.8.2005 (whole week)

Min.	Stop	Hour	Workdays	Hour	Saturday + Sunday
0	▼ Petřiny	0	10A 30A 50A	0	10A 30A 50A
1	▼ Obchodní dům Petřiny	1		1	
2	0 Vetrník	2		2	
3	1 ▼ Vojenská nemocnice	3		3	
4	3 ▼ Baterie	4	51	4	51
5	4 ▼ Orechovka	5	11 29 47	5	11 31 51
6	5 ▼ Sibeliova	6	03 15 27 37 47 57	6	11 31 47
7	7 ▼ Vozovna Strešovice	7	07 17 27 37 47 57	7	02 17 32 47
8	9 ▼ Prašný most	8	07 17 27 39 43A 51	8	02 17 32 47
9	11 ▼ Hradčanská	9	03 15 27 39 51	9	02 17 32 47
10	13 ▼ Chotkovy sady	10	03 15 27 39 51	10	02 17 32 47
11	16 ▼ Malostranská	11	03 15 27 39 51	11	02 17 32 47
12	18 ▼ Staroměstská	12	03 15 27 39 51	12	02 17 32 47
13	20 ▼ Karlovy lázně	13	03 15 27 39 51	13	02 17 32 47
14	22 ▼ Národní divadlo	14	03 15 27 37 47 57	14	02 17 32 47
15	24 ▼ Národní třída	15	07 17 27 37 47 57	15	02 17 32 47
16	26 ▼ Karlovo náměstí	16	07 17 27 37 47 57	16	02 17 32 47
17	28 ▼ Morán	17	07 17 27 37 47 57	17	02 17 32 47

homes, and at various public institutions, one regularly sees exactly such a timetable tacked up on the wall. The illustration shows a copy of the timetable for the Vetrník tram stop in Prague. All you need to know to read it is the time and the day of the week.

There's another problem. Strætó has never taken the trouble to name its stops. In many European cities, each bus stop has a name (just like subway stops in London or Paris). The name is posted on the bus shelter and also on the printed timetables. Naming stops has lots of advantages. Inside the bus, named stops let drivers or computerized message boards announce the next stop to passengers in a concise manner. Named stops are also easier to remember, think about, and refer to. People learn the system more easily, and even start to define their identity by the name of the stop they live by.

I read in the paper that Strætó is planning to put up digital display boards at every stop which will tell us when the next bus is coming. This is an appealing and glamorous idea, but it puts the cart before the horse. More helpful would be simply to name the stops, to post more detailed timetable information at them in a form that is relatively inexpensive to update, and to allow people to print out full timetables for each stop at home.

A quick fix, that would improve the usability of the system without even having to replace the time charts, would be to place a red "you are here" dot or arrow on every time chart posted at a bus stop. The dot would show the stop's position on the chart, and help passengers zero in on the right cells in the table.

The biggest problem with public transport in Reykjavík has been the lack of ridership. Many people say that Iceland is a car culture and that it is hopeless to put money into public transport. I think not. And I think it would boost ridership if people could figure out when the next bus is coming! Providing good information on a public transport system costs a pittance relative to the costs of buses, fuel, labor, or the new card readers that Strætó has installed. In fact, my guess is that the folks at Strætó would agree with my suggestions, but have simply been too busy with route changes to worry about information design. Posting decent timetables appears to cost only a couple reams of A4 paper, some ink, the output of a computer program that Strætó probably already owns, and the labor to stick them in the frames at every stop. Now that we have a well-designed bus system, let's finish the job by giving people the information they need to use it.

Lest you think timetable design is only of interest to cranks, there is plenty of research on public transport information design. Two worthwhile summaries are at www.trg.soton.ac.uk/bpg and www.its.usyd.edu.au/bus_and_coach_themes/BestPractice.pdf.

I am, by the way, not a specialist in this field but have nevertheless tried to make a small contribution.

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