

ADOLF MALIĆ, D.Sc.
 ZORAN STIPERSKI, D.Sc.
 DRAŽEN KOVAČEVIĆ, B.Eng.
 Vukelićeva 4, Zagreb

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REASONS FOR USING INTERURBAN BUS TRANSPORT

SUMMARY

The authors analyse the reasons for using the interurban bus transport in Croatia based on a survey carried out in 1996, on a sample of 2,293 passengers. The respondents gave reasons for taking the interurban bus. The results indicate that the main reason for taking the bus are going to or returning from work. Other reasons included going to school, visiting relatives and administrative obligations at the local district.

1. INTRODUCTION

Various models for estimating the interurban transport demand can be found in the literature on traffic research. In these models it is important to study the phenomenon of travelling, which consists of two parts: generating and attracting travelling. Precisely the part related to attracting travelling includes the element of the reasons for travelling.

In planning an interurban bus network, it is necessary, among other things, to know the structure of the reasons for using the interurban bus transport, or, in other words, to know why people need the interurban bus connection. It is assumed that the majority of people will use the interurban bus for basic common everyday needs: going to work, to school, visiting relatives and friends, for administration, shopping, visiting doctors, business trips, and finally, for holidays and recreation. It is useful to analyse the reasons for travelling into more details, according to e.g. the time of departure, travelling distance, passengers' age and sex.

2. METHOD

The hierarchy of reasons for using the interurban bus has been obtained based on the survey carried out in 1996, covering a sample of 2,293 passengers. The passengers were interviewed on the bus, right upon entering. The sample structure is presented in Tables 1 (passengers sample) and 2 (bus lines sample). The sur-

vey contained, among some other questions, two main questions: reason for travelling and travelling distance. The reasons for travelling included 8 options: work, school, shopping, holiday/recreation, administration, relatives/friends, business, and health.

Table 1 - the sample structure of the respondents (N = 2 293)

Relevant variables		N	%
1. Sex	a) male	1308	57
	b) female	985	43
2. Age	a) 19 and younger	393	17
	b) 20-34	708	31
	c) 35-49	840	37
	d) 50-64	319	14
	e) 65 and older	33	1

Table 2 - the sample structure of the analysed bus lines (N = 56)

Relevant variables			
1. the length of the line	a) 1-49 km	10	18
	b) 50-99 km	9	16
	c) 100-149 km	2	4
	d) 150-199 km	11	20
	e) 200-249 km	7	13
	f) 250-299 km	3	5
	g) 300 and more km	14	25
Average line length: 222 km			
2. Average number of seats on the bus: 50,4			
3. Places of departures and arrivals:	a) Zagreb	32	29
	b) Gospić	14	13
	c) Rijeka	7	6
	d) Split	7	6
	e) others	52	46

3. RESULTS

3.1. Hierarchy Of Reasons For Using Interurban Bus Transport On Workdays

The main reason for using interurban bus on workdays is going to work or returning from work. One third of the passengers (33%) uses the interurban bus precisely for this reason: work. School is the second (17%) most important reason for using the interurban bus. After that follow, in order of importance, relatives/friends (11%), administrative business at the local district (10%), shopping (8%), and health (7%). Business (4%) and holidays/recreation (1%) are the two less important reasons for using the interurban bus transport. This shows that people travel by bus primarily for existentially important reasons: work, school, administration, shopping, health and on business. Few people travel for leisure or because of friendships: holiday, recreation and relatives/friends.

Table 3 - Reasons for travelling on workdays (Monday - Friday)

Reason for travelling		
1. Work	709	33
2. School	376	17
3. Relatives/friends	234	11
4. Administration	211	10
5. Shopping	182	8
6. Health	147	7
7. Business	97	4
8. Holidays, recreation	31	1
9. other	176	8

3.2. Hierarchy Of Reasons For Using Interurban Bus Transport On Workdays According To The Departure Time

The reasons for using the interurban bus change depending on the time of departure. Thus, a majority of passengers travel to work by buses that depart at 4 and 5 a.m.; at 4 a.m. - 65% of passengers travel to work, and at 5 a.m. - 67%. School is the second most important reason for such early travelling: 10% of passengers travel to school at 4 a.m., and 19% at 5 a.m. During the following hours the reason *work* is con-

stantly reduced, and the reason *school* increases. At 6 a.m. 29% of passengers travels to work, and 20% to school. An hour later, at 7 a.m., the dominating reason for travelling is going to school (47%), the second most important is going to work (22%). Only later, at 8 a.m. travel people more frequently for other reasons. At 8 a.m. they mostly go to the local district for administrative reasons (32%), shopping (24%) and to visit the doctors (17%). The main wave of passengers going to work or to school has passed, because at 8 a.m. 11% go to work, and only 4% to school. Visiting of relatives and friends is the most frequent reason for using interurban buses, departing at 9 a.m.

These results lead to a conclusion that there are four morning interurban bus passenger waves: the first dominated by the employees (at 4, 5 and 6 a.m.), the second by the schoolchildren (at 7 a.m.), the third by persons who have administrative obligations at the local district, or have to go to the hospital, or to go shopping (at 8 a.m.), and the fourth dominated by people who in their free time visit their relatives and friends (at 9 a.m.).

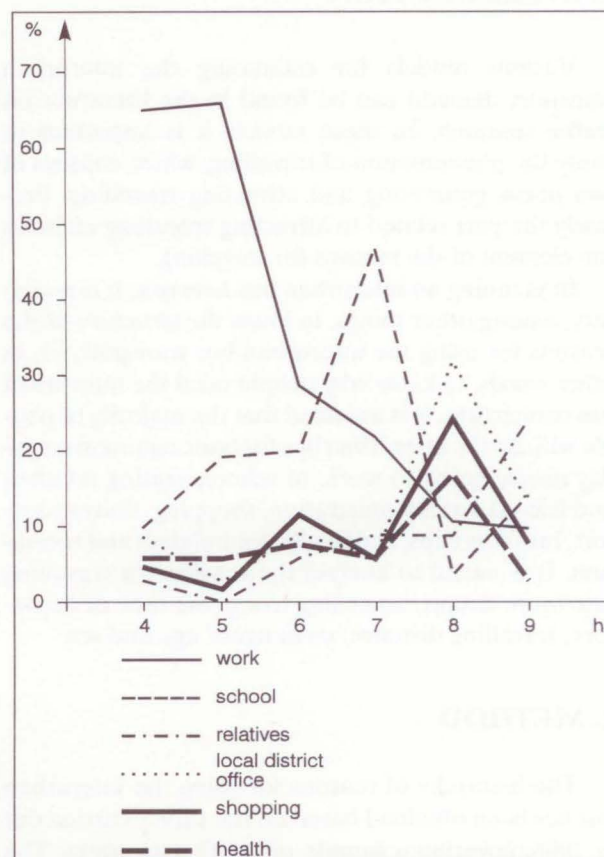


Figure 1 - Reasons for travelling on workdays (Monday - Friday) according to the bus departure time from the starting place

Table 4 - Reasons for travelling on workdays (Monday - Friday) according to the bus departure time from the starting place in %

Reasons for travelling	Bus departure time from the starting place					
	4	5	6	7	8	9
1. Work	65	67	29	22	11	10
2. School	10	19	20	47	4	14
3. Relatives/friends	3	0	6	9	9	24
4. Administration	9	3	9	6	32	13
5. Shopping	5	2	12	6	24	8
6. Health	6	6	8	6	17	3
7. Business	0	3	5	4	1	6
8. Holidays, recreation	0	0	0,2	0	0,6	2
9. other	1	1	11	1	0	22

3.3. Hierarchy Of Reasons For Using Interurban Bus Transport On Workdays According To The Travelling Distance

At shorter distances the dominating reason is going to work. Thus, on lines up to 100 km 36 - 49% of passengers go to work. Passengers on longer-distance lines very rarely travel because of going to work. Schoolchildren travel to school on short, medium, but also long-distance lines. The reason for this is that some schoolchildren travel to school every day (on short and medium-distance lines), and others travel once a week or less (on long-distance lines). These are mainly students or secondary school children who live in the place of schooling. It is interesting that on medium- and long-distance lines the majority of passen-

gers travels to visit relatives or friends. With other reasons no special rules can be noticed regarding the line distance.

In conclusion of this part of analysis, conditionally speaking, there are two dominant reasons for travelling regarding line distance: on shorter lines (up to 100 km) the main reason is going to work, and on medium and longer-distance lines (over 150 km) the main reason is visiting relatives and friends.

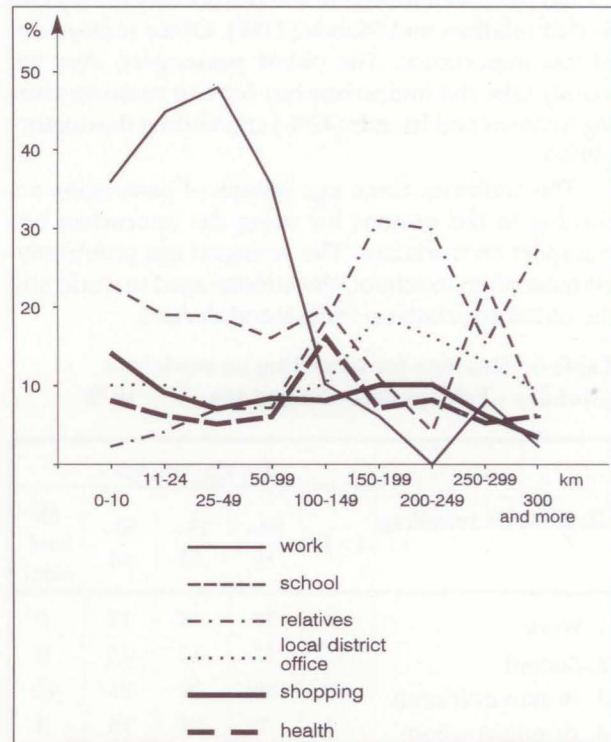


Figure 2 - Reasons for travelling on workdays (Monday - Friday) according to the distance

Table 5 - Reasons for travelling on workdays (Monday - Friday) according to the distance in %

Reasons for travelling	Distance in km								
	0 - 10	11 - 24	25 - 49	50 - 99	100 -149	150 - 199	200 - 249	250 - 299	300 and more
1. Work	36	45	49	36	10	6	0	8	2
2. School	23	19	19	16	20	11	4	23	7
3. Relatives/friends	2	4	7	7	18	31	30	15	27
4. Administration	10	10	7	8	10	19	16	13	9
5. Shopping	14	9	7	8	8	10	10	6	3
6. Health	8	6	5	6	16	7	8	5	6
7. Business	0,8	0,7	2	7	6	4	16	14	21
8. Holidays, recreation	0,3	0	0	1	1	3	6	5	6
9. other	6	6	4	11	11	9	10	13	19

3.4. Hierarchy Of Reasons For Using Interurban Bus Transport On Workdays According To The Passengers' Age

The passengers' age significantly affects the reasons for travelling. Thus, it is to be expected that the youngest passengers (younger than 19) travel most often for the reasons of schooling (77%). Somewhat older passengers, in the age between 20 and 49, travel most often because of work. Other reasons are much less frequent. Senior passengers (between the age of 50 and 64) travel mostly to see the doctors (24%) and to visit relatives and friends (21%). Other reasons are of less importance. The oldest passengers, over 65, mainly take the interurban bus for two reasons: visiting relatives and friends (42%) and visiting the doctors (39%).

This indicates three age groups of passengers according to the reasons for using the interurban bus transport on workdays. The youngest age group travels most often to school, the middle-aged to work, and the oldest to relatives, friends and doctors.

Table 6 - Reasons for travelling on workdays (Monday - Friday) according to age in %

Reasons for travelling	Passengers' age				
	1 - 19	20 - 34	35 - 49	50 - 64	65 and elder
1. Work	2	38	48	12	0
2. School	77	12	0,2	0,3	0
3. Relatives/friends	3	10	10	21	42
4. Administration	2	8	13	15	3
5. Shopping	4	10	9	10	9
6. Health	1	3	5	24	39
7. Business	0	6	8	6	0
8. Holidays, recreation	2	2	1	0,3	0
9. other	8	10	7	11	6

3.5. Hierarchy Of Reasons For Using Interurban Bus Transport On Workdays According To The Passengers' Sex

There are certain differences in the reasons for using interurban bus connection regarding sex. The greatest difference between women and men is in administration purposes and visiting relatives and friends. Women, namely, travel more often (15%) than men (8% of all the travelling), to relatives and friends. On the other hand, though, men (12%) travel more often than women (7% of all the travelling) for administration purposes to the local district.

Table 7 - Reasons for travelling on workdays (Monday - Friday) according to sex in %

Reasons for travelling	Passengers' sex	
	Male	Female
1. Work	34	29
2. School	15	20
3. Relatives/friends	8	15
4. Administration	12	7
5. Shopping	7	10
6. Health	7	7
7. Business	7	3
8. Holidays, recreation	0,8	3
9. other	10	7

4. CONCLUSIONS

- 1) People most frequently use interurban bus transport because of going to (or returning from) work. According to the survey results, one third or 33% of all the interurban bus passengers travelled on workdays to work or from work. Travelling to school is the second most important reason (17%) for using the interurban bus transport. The third and fourth place of importance are the reasons of visiting relatives, friends and the local district.
- 2) Based on a more detailed structure of the reasons for using interurban bus transport according to the hour of departure, four waves of passengers during morning hours (from 4 until 9 a.m.) can be observed. The first wave is dominated by the workers / employees (at 4, 5 and 6 a.m.), the second by the schoolchildren (at 7 a.m.), the third by persons who have to do some administration obligations at the local district, or have to go to the hospital or to go shopping (at 8 a.m.), and the fourth wave is dominated by persons who visit their relatives and friends (at 9 a.m.).
- 3) On the short-distance interurban bus lines (up to 100 km), the main reason for travelling is going to work, whereas on the medium-, and long-distance lines (over 150 km), the majority travels to relatives and friends.
- 4) The youngest age group (under 19) most often use the interurban bus transport for going to school, the middle-aged group (between 20 and 49) use interurban bus transport for going to work, and the oldest group (over 65) for visiting relatives, friends or going to the doctors. In the middle-senior age group (between 50 and 64), several reasons are of almost equal importance: visiting the doctor (24%), relatives and friends (21%), the local district (15%), going to work (12%) and shopping (10%).

SAŽETAK

RAZLOZI PUTOVANJA MEĐUMJESNIM AUTOBUSOM

Autori u radu analiziraju razloge putovanja međumjesnim autobusom u Hrvatskoj na temelju ankete provedene 1996. godine, kojom je ispitano 2293 putnika. Ispitanici su naveli razloge putovanja međumjesnim autobusom. Pokazalo se da je razlog odlaska ili dolaska na posao najvažniji razlog putovanja. Putnici još putuju zbog školovanja, posjećivanja rodbine i uredovanja u općini.

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