

Effect of Radio News on Listeners' Awareness of Transportation Problems

Shintaro TERABE ^a, Nano UESHIRO ^b, Hidehiro YAMAZAKI ^c, Makoto KASAI ^d

^{a,b,c,d} *Department of Civil Engineering, Tokyo University of Science, 2641, Yamazaki, Noda-shi, Chiba 278-8510, Japan*

^a *E-mail: terabe@rs.noda.tus.ac.jp*

^d *E-mail: kasai@rs.noda.tus.ac.jp*

Abstract: During the public involvement process, it is important to increase public interest in the transportation investment. Public authorities may use mass media, as they help to increase public understanding of public works. This study examines the effect of road-related radio news on the awareness of transportation infrastructure projects. Radio broadcasting is still an important player in media even in the Internet era, because it is not expensive and it helps other media. The authors created two audio tracks, which were fictional radio programs, for the experiment. Both tracks were 12-min music programs, where one of them contained road-related-news and another contained non-road-related news. After the program ended, listeners were requested to answer a questionnaire survey. There was a significant difference across three items, which were all related to traffic congestion and accidents. Thus, it can be found that road traffic-related radio news increases the awareness of a transportation improvement project.

Keywords: Public Involvement, Citizen Participation, Transportation Planning Process, Information Distribution, Mass Media, Outreach.

1. INTRODUCTION

Citizens are currently allowed to participate in the transportation planning process. Planning authorities, such as national and local governments, use several public involvement techniques, such as public meetings, open houses, symposia, workshops, and so on. Compared to before, opportunities for outreach to the public regarding long-term plans and transportation improvement programs have increased. However, citizens may not adequately understand or recognize the content and purpose of the plan and project. In other words, the planning authorities are not able to arouse the interest of citizens. Therefore, at the early stage of the planning process, it is very important to increase public interest in the transportation investment.

When members of the public listen to a news report regarding traffic problems, they are expected to be aware of the means to solve them. Public authorities may use these news reports in the early stage of the public involvement process, as they help to increase public understanding of public works and transportation investment. This study examines the effect of road-related radio news on the awareness of transportation infrastructure projects.

2. ABOUT RADIO NEWS

Radio broadcasting is an area of media in which information is sent from radio stations to the public. Broadcasts can contain several programs such as talk shows, sports, music, and news.

Figure 1 shows the share of media contact during a single day, on the basis of a consumer survey by a Japanese broadcasting station, which interviewed 4840 people in 2010. The graph shows that radio is still an important player in media.

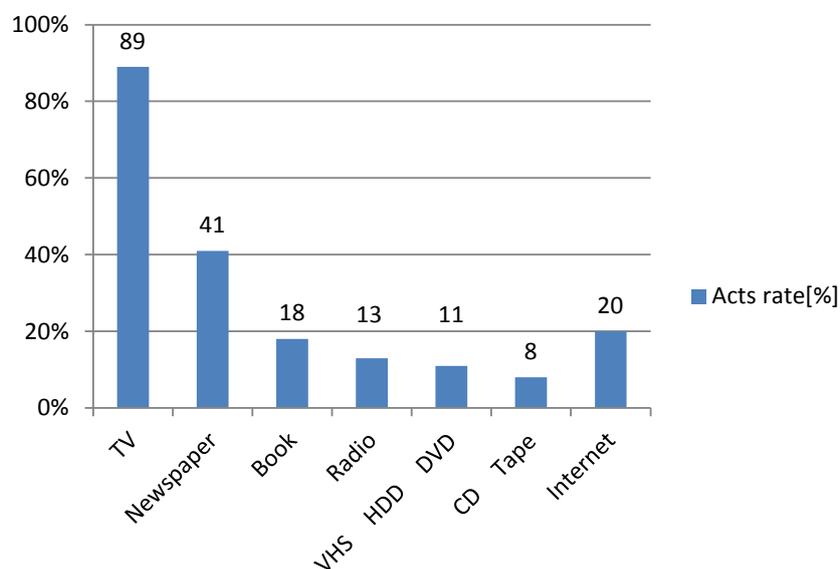


Figure 1. Share of media contact (multiple answers)

Radio is not as large a media player as TV and newspapers. However, there are some advantages to radio as an advertising medium. First, the advertising cost for radio is cheaper than that for TV and newspapers, and both producing and broadcasting costs for programs and advertisements are low. Second, a smaller target area can be focused on than for bigger media. TV and newspapers sometimes cover broader areas, whole countries or some regions in Japan; however, the radio can cover one or a few cities. Thus, radio broadcasting is suitable for dealing with area-specific information. Last, people are able to do something, such as driving a car, cooking, even working or studying, while listening to the radio. Therefore, the radio cannot be neglected among the media even if the internet era has changed our lives.

Planning authorities may want to increase people's awareness during the public involvement process. Media strategy is important when outreach is concerned as described in a document produced by the US Federal Highway Administration (FHWA 2013). Mass media have a central role in improving public awareness. Some studies have already dealt with the relationship between mass media and citizens' opinion, however, there is no experimental study on radio news related to traffic problem (Althaus and Tewksbury, 2000; Bremmer and Bryan, 2008; Chaffee and Frank, 1996; Kimura, Kendall and Terabe, 2012; Koyama, Terabe and Uchiyama, 2010; Ryley and Gjersoe, 2006; Terabe and Kin, 2010).

3. EXPERIMENT

In this study, the authors investigate whether road traffic-related news in a radio program affects the awareness of a transportation improvement project. It is difficult to compare two groups who had and had not listened to a specific radio program by general listeners' survey. So classroom experiment was employed. Even if the result does not reflect general public attitude, experiment based on social psychology and statistical test must be worth to examine.

3.1 Method

The authors created two audio tracks for the experiment, A and B. Both tracks were 12-min music programs, where non-road-related news was contained in audio A and road-related-news was contained in audio B. The MC started the program by introducing the names of some songs and the songs followed for 5 minutes. The 2 minute news was inserted during the midstream of the program. The songs continued after the news section. There were no commercials during the program.

The road-related news that was included in audio B highlighted problems regarding traffic conditions such as increased congestion and accidents. The fictional news script was written by the authors, but was created by referring to original news that had been broadcast around the region. It helped the listeners feel that the news was original. The fictional news about traffic issues did not report on a specific street or town, but on listeners' region or prefecture, covering a broader area. The reason was to avoid a difference in awareness among listeners. If the news reported is on traffic in a relatively small area, some listeners may have understood well but others may not have thought the news was related to their daily life.

The examples of fictional news are as follows:

Yesterday, the traffic information center released a highway congestion forecast for the summer vacation. On the basis of this report, having the most serious region congestion will be around the metropolitan area and it is expected that 47 periods of traffic congestions will be observed, which will be the worst ever seen.

The local police authority reported that the number of rear-end traffic accidents has increased in the last year. A professional commented that the reason is related to an increase in congestion.

The news that was not related to road problems, inserted in audio A, dealt with the Olympic game results, the increase of social network service users, and so on.

The listeners for this experiment were university students. They were randomly divided into two groups: group A, which consisted of 20 people, who listened to audio A; and group B, which consisted of 22 people, who listened to audio B. Upon arrival in a meeting room, participants were instructed to carefully listen to the radio program with the expectation of later answering questions about the program. The authors did not let them know the purpose of the research.

After the program ended, listeners were requested to answer a questionnaire survey about their attitude toward a transportation improvement project and other issues. The former questions were to perceive how respondents thought about transportation improvements, which are road improvements to reduce congestion, traffic safety investment, and rail projects to promote public transit. Listeners were asked to answer by choosing along a seven-point scale for each project from "strongly disagree" (= 1) to "strongly agree" (= 7). The latter questions were dummy questions, and were on environmental issues related to greenhouse gas reduction and the evaluation of the radio program. If the questions were limited only to the transportation improvement project, respondents may have wondered why they were only being asked about transportation issues. Those questions were incidentally used to hide the actual purpose of the study.

3.2 Result of Experiment

Two mean scores of each question from group A and B were compared with each other. If the differences were statistically significant, the road related radio news had some effects on listeners' awareness. The differences of means are resulted in Table 1.

Table 1. Mean difference across the two groups

Questions		Average		Difference
		Group A	Group B	
(1)	There are many construction projects that I do not understand the purposes of.	4.79	4.57	-0.22
(2)	Public works need flexible planning that is modified by societal change.	5.74	6.05	0.31
(3)	Citizens should participate in public works planning, even if they cannot spare time.	3.74	4.62	0.88
(4)	It is not necessary to build more roads in the metropolitan area.	4.16	3.43	-0.73
(5)	Traffic congestion is a problem that should be solved.	5.74	6.33	0.60**
(6)	Traffic accidents are a problem that should be solved.	5.95	6.67	0.72***
(7)	It is necessary to increase road-related public works for reducing traffic congestion.	4.32	5.33	1.02*
(8)	It is necessary to increase road-related public works for reducing traffic accidents.	5.16	5.86	0.70
(9)	It is not necessary to build more railways in the metropolitan area.	3.84	4.19	0.35
(10)	Even if it takes time, building cheap conventional railway is better than building expensive railway that provides easy access to the city center.	4.37	4.62	0.25

*Significant at 10% **Significant at 5% ***Significant at 1%

There was a significant difference across three items among the evaluation scores of the ten questions. They were “(5) Traffic congestion is a problem that should be solved,” “(6) Traffic accidents are a problem that should be solved,” and “(7) It is necessary to increase the road-related public works for reducing traffic congestion.” These three questions are related to the road problems. That is, the consciousness of a respondent with respect to road problems improved when they listened to news that highlighted the road traffic-related problem.

There were no significant differences in the other seven questions. They were concerned with the road authorities of the metropolitan area, validity after construction, flexibility of the investment plan accompanying a societal change, and about railway companies.

It was expected that a difference would arise with respect to a change of consciousness regarding the road authorities of the metropolitan area having heard road related news. However, contrary to anticipation, there was no significant difference in this result. This may be because it is not a question relevant to traffic congestion or to accidents, which the road-related news described. It is thought that the change in the listener’s consciousness was limited to topics that were mentioned on the news. Moreover, it is thought that the factors of validity after construction, flexibility of the investment plan accompanying a societal change, and concern about railway companies did not increase because the contents of news were limited to the road-related problem.

4. DISCUSSION

There was a difference in evaluation scores for attitudes toward transportation investment, which resulted from listening to road-related news on the radio. It is possible to highlight some key issues.

4.1 A “Music Program” instead of a “Talk Show”

In a previous experiment, not described in this manuscript, the authors tried to use a talk show as a radio program. The same news was inserted into a 20 min talk show. The result of the previous experiment, however, showed no effects on listeners' awareness. The program was of the format that the MC and a guest talked, sometimes involving laughter. The participants listened to the radio and were interested in the conversation. Therefore, news stopped being conspicuous and it can be said that traffic-related news did not leave an impression on the listeners.

In this experiment, a radio program focusing on music was used, and road-related news was inserted into the music program. Thus, contrast was apparent in the program, which meant that the news made an impression on the listeners. Listeners may pay attention to the news when the music stopped, which may be why the effect of this experiment was significant.

When planning authorities want to use mass media such as TV or radio programs for outreach activities, programs between music are, therefore, preferable. If music programs are not available, programs with fewer talk elements are better. A long range transportation plan, transportation improvement program, and construction project are mainly explained by text using a calm tone. Issues and discussion related to transportation problems are also described verbally. It is worth considering choosing a section between music or programs with fewer talk elements so as to differentiate both types of content, which results in increasing the appeal of planning authorities and public works.

4.2 Pay Attention to Commercials

The authors previously examined the effect of traffic-related radio news with programs containing commercials, however, this also ended in failure. Commercials are advertising, paid classified messages or information over radio, and are intended to sell a product, item or service. Commercial broadcast generally depends on advertising income. Therefore, commercials are not negligible in mass media except for public broadcasting.

In this experiment, all the commercials were removed from the program and it succeeded in arousing listeners' attention. We experience the impressive effect of commercials such as when they use one phrase several times over. If the program provided by planning authorities or traffic-related news is shown after such a commercial, listeners lose attention.

5. CONCLUSION

In this research, the authors investigate whether road traffic-related news in a radio program affects the awareness of a transportation improvement project. The results showed that only consciousness related to road transportation changed, and others related to railways did not

change. Thereby, planning authorities may consider using news programs over mass media as an outreach activity.

REFERENCES

- Althaus, S. L. and Tewksbury, D.(2000) Patterns of Internet and Traditional News Media Use in a Networked Community, *Political Communication*, Vol.17, No.1, pp. 21-45.
- Bremmer, D., and Bryan, J. H., Jr.(2008) Bridging the Gap Between Agencies and Citizens Performance Journalism as a Practical Solution to Communicate Performance Measures and Results, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2046, Transportation Research Board of the National Academies, Washington, D.C., pp. 20-29.
- Chaffee, S. and Frank, S.(1996) How Americans Get Political Information: Print Versus Broadcast News, *The Media and Politics*, Vol. 546, No. 1, pp. 48-58.
- Federal Highway Administration (2013). *Public Involvement Techniques for Transportation Decision-making*.
http://www.fhwa.dot.gov/planning/public_involvement/publications/techniques/index.cfm. Accessed Jul. 27, 2013.
- Kimura, S., Kendall, A. and Terabe, S. (2012), Performance Journalism of Transportation Issues in Newspapers: Case Study on California High Speed Rail, *Proceedings of the 91st Annual Meeting of Transportation Research Board*, CD-ROM, Transportation Research Board of the National Academies, Washington, D.C., 12-3165.
- Koyama, O., Terabe, S. and Uchiyama, H.(2010), Number of News Articles on Various Transportation Issues, *Journal of the Eastern Asia Society for Transportation Studies*, vol.8, pp.57-69.
- Ryley, T. and Gjersoe, N. (2006), Newspaper Response to the Edinburgh Congestion Charging Proposals, *Transport Policy*, Vol. 13, pp. 66-73.
- Terabe, S. and Kin, T. (2010), Measuring Public Outreach: Estimation of Information Audience Rate, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2174, Transportation Research Board of the National Academies, Washington, D.C., pp. 84-88.