

“Vierenheim Household Transport”

GERMANY

SUMMARY

The city of Viernheim has followed an environmentally-friendly urban planning strategy, and since 1994 it has been a “Brundtland city”. It won the title in a competition run by the Environment Ministry in the state of Hessen. The Brundtland report – drawn up in 1987 by the UN Commission for the Environment and Development and named after its president – calls for a reduction in energy consumption in order to decrease carbon dioxide emissions. Viernheim runs many sustainable energy projects. The city authority wants to preserve the environment for future generations through sustainable measures.

One priority is to reduce carbon dioxide caused by private car trips. The city of Viernheim has created a good infrastructure for bicycle and pedestrian traffic, and is improving the provision of public transport. Additionally, the city authority has tried to reduce car trips through traffic calming measures. Thus it has implemented the full range of classic traffic planning measures.

The actual provision of different modes of transport is not the only factor affecting people’s choice. Subjective factors also play an important role.

This is where Individualised Marketing (IndiMark®) can be applied. Individualised Marketing is a phased, targeted approach that involves direct contact with households. It identifies those households willing and able to change their travel behaviour, and focuses attention on them. It provides these households with personalised information and incentives to encourage them to switch to public transport, walking and cycling.

In 1998, an experiment using Individualised Marketing proved a success in Viernheim. It was funded by the Deutsche Bundesstiftung Umwelt (The German Federal Foundation for the Environment), which recognised the innovative nature and the importance of such an experiment. Individualised Marketing proved its effectiveness. There was the potential for the public to switch to environmentally-friendly modes of transport.

After this experiment, Socialdata proposed a large-scale application of Individualised Marketing in Viernheim to promote environmentally-friendly modes. Viernheim is the first city in Germany to apply Individualised Marketing to all environmentally-friendly modes (walking, cycling, public transport) on a large scale. Therefore this project is a pilot for the whole country.

METHOD

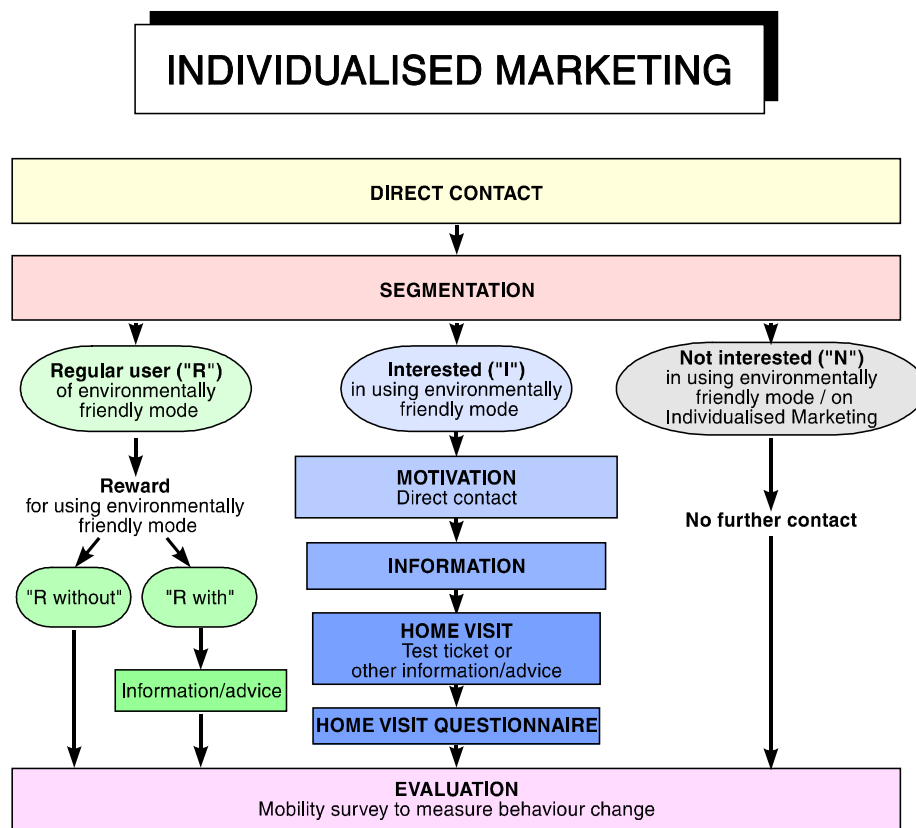
Individualised Marketing - The concept

Traditionally, modal shifts have been brought about through the changes to transport services and infrastructure, including pricing, and longer-term policies concerning land use. Although improvements to the transport system are necessary to increase usage, they are of limited value if people are unaware of them.

We all perceive the world subjectively. These subjective views are incomplete and distorted, but they are nevertheless what determines behaviour. This is not to say that the individual does not behave rationally; rather that rationality is subjective. In order to influence behaviour (regarding modal choice) there are both “measures concerning the system” (hard policies) and “measures concerning the mind” (soft policies). The impact of soft policies is underestimated – as already stated, while improvements to the transport system are necessary to increase passenger numbers, their value is limited if people are not aware of them.

Based on this, Socialdata developed the concept of Individualised Marketing to encourage people to use environmentally-friendly modes more frequently. The concept as applied in Viernheim was as follows:

In general, Individualised Marketing means establishing a dialogue through an individualised, direct contact approach that follows a detailed step-by-step procedure.



Running through all the stages is a communication process based on personal contact, providing information and further support on an individual basis. This personal contact can

be more effective in motivating people to think about their daily travel, providing them with information if requested, and supporting their wishes to try out the alternatives. The choice is always left to the individual.

Contact Phase

During the contact phase all households/ people in a defined area are contacted. The aim is to collect information for the “segmentation” in Phase Two. All households in the target area receive a letter introducing the project, and they are then personally contacted by telephone.

Segmentation Phase

In the segmentation phase, the information obtained during the contact phase is used to divide people/households into ten groups according to specific criteria. These form three main groups:

- Group **‘I’** (interested households): the “receptive” households that are more likely to change or continue using environmentally-friendly modes of transport if given personal contact, motivation and information. This group is selected to receive the most attention.
- Group **‘R’** (at least one member of the household uses environmentally-friendly modes regularly): this group benefits from encouragement and support, and members are rewarded with a small gift.

Group **‘R’** is further divided into those who do not require more information (**‘R without’**), and those who may need some updated information (**‘R with’**).

- Group **‘N’** (not interested households): receives no further contact. These are households who do not wish to participate, or have no interest in, intention of, or possibility of using environmentally-friendly modes.

Motivation Phase

During this phase, detailed discussions with group **‘I’** and **‘R with’** are undertaken to identify and support their needs.

This phase also includes a mail-out of a list of services, and follow-up telephone discussions.

Information Phase

All information required is provided, and is delivered personally.

Persuasion Phase

Finally, specially selected households from group **‘I’** are given opportunities to try out the public transport system, in order to encourage them to use alternative modes more frequently.

Objectives

Socialdata, the local public transport operator and the local city authority set the campaign objectives in accordance with the project's policy objectives. Four main campaign objectives were set for this case study, to be met by Individualised Marketing:

- To raise overall awareness of environmentally-friendly modes, and of problems related to car use;
- To enhance information given to people on different modes of transport (car, bicycle, bus) or different activities such as car-sharing;
- To create a dialogue with the public (they are approached step-by-step and have opportunities to respond by taking up offers);
- To increase the modal split of environmentally-friendly modes of transport.

The aim of reducing car use is to improve air quality and the health of individuals. If car usage was to be reduced, people would as a consequence switch to other modes of transport. A reduction in car usage would lead to a reduction in congestion levels, and improve overall safety on the roads.

Leaders and partners

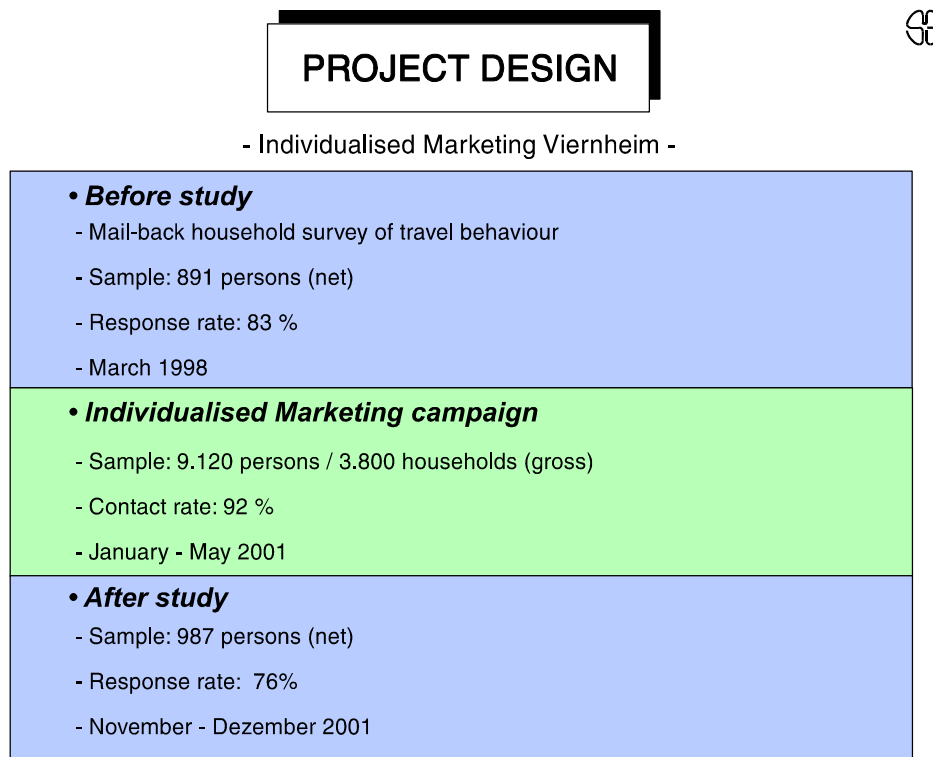
This case study succeeded in integrating different partners. Socialdata was the campaign manager and was responsible for implementation. The city of Viernheim, which initiated the project with Socialdata, supported the campaign and its evaluation. The local public transport operators (Stadtwerke Viernheim and Verkehrsverbund Rhein-Neckar) were also involved and made available materials concerning public transport. The campaign was also supported by health insurance companies (Barmer Ersatzkasse, Deutsche Angestellten Krankenkasse and Techniker Krankenkasse), local private companies (Bodyworld Fitnesscenter and TeilAuto) and a non-profit organisation (ADFC). All these took part in the project to motivate people to use environmentally-friendly modes more often. They contributed materials giving information about walking, cycling and car sharing, which were sent to households. The project partners also offered other services, which will be described in the following chapters.

Campaign details

This chapter will give a summary of the campaign details.

A target area was defined with 9120 inhabitants, corresponding to 3800 households, in the Nordweststadt, Weststadt and Breslauer Berg areas of Viernheim.

The following graph outlines the design and timescale of the project:



The project began with the marketing campaign. A ‘before’ survey was not necessary because data was already available from March 1998 that could be used for the case study. We had used the New KONTV[®] design for that postal survey, in which residents were asked to tell us about their travel for a given sample day. Altogether 891 people (net), or 8% of those asked, had responded.

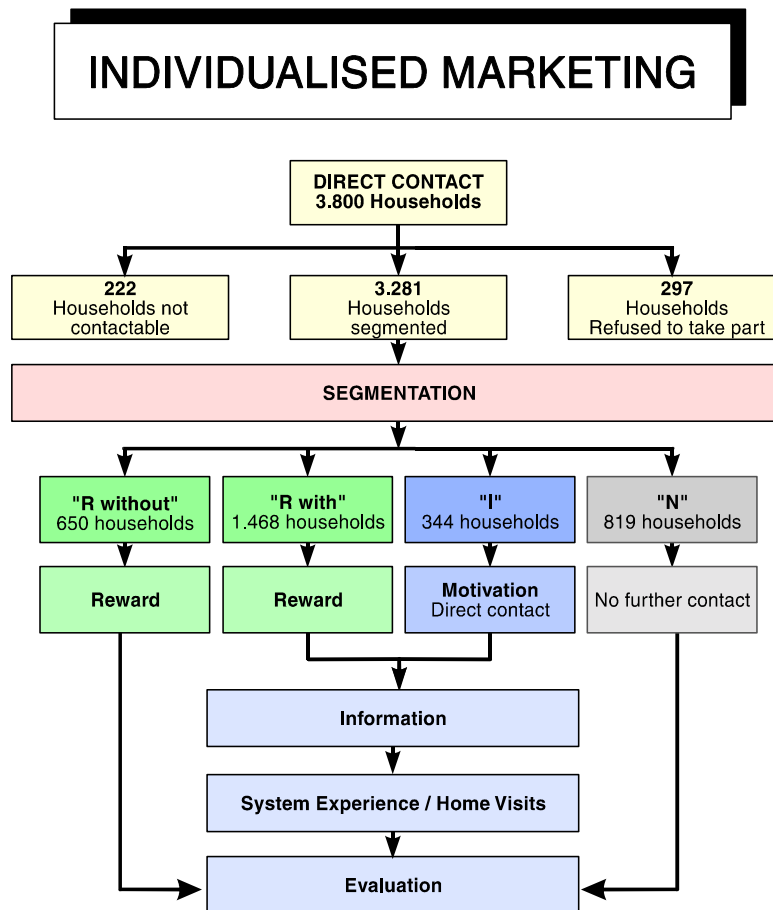
During the marketing campaign in 2001, 9120 people in 3800 households were contacted between January and May 2001. We reached a contact rate of 92%.

An ‘after’ survey was implemented to evaluate the marketing campaign. The survey was conducted from November to December 2001. During the ‘after’ evaluation 987 people (net) were surveyed with a response rate of 76%.

The European Commission funded the project, providing 50% of the costs, while the Stadtwerke of Viernheim – one of the local public transport operators – paid for the other half.

IMPLEMENTATION OF THE CAMPAIGN

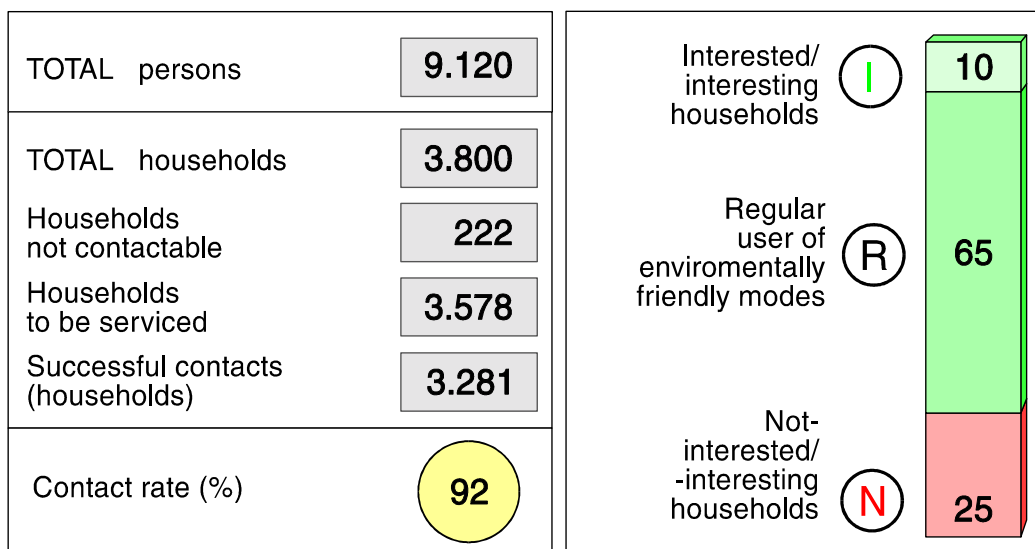
The “Method” section outlined the concept of Individualised Marketing that was applied in Viernheim. We will now present the results of the Individualised Marketing phases.



Contact Phase & Segmentation Phase

The campaign began with the contact phase, in which households were contacted and asked to answer a few questions on their travel behaviour, attitudes etc. During this phase, 3800 households were contacted by telephone. A good response rate of 92% was reached. We successfully contacted 3281 households, and then divided them into groups. A further 297 households declined to take part when they were contacted. We were unable to contact 222 households.

CONTACT- / SEGMENTATION PHASE



The information obtained in the contact phase was used for classification in the second phase - the “segmentation phase”. In the segmentation phase, the respondents were divided into the three main groups: ‘**I**’ (households that were interested in the campaign or who were judged to be potentially responsive to the campaign), ‘**R**’ (regular users of public transport), and ‘**N**’ (households that were not interested, and were judged unlikely to be responsive).

The **R** category was divided into two sub-groups: ‘**R with**’ (households which requested further information about environmentally-friendly modes) and ‘**R without**’ (households which did not request further information about environmentally-friendly modes).

Of the households contacted, 10% were interested, 65% were regular users of environmentally-friendly modes, and 25% were not interested. Only those in the **I, R with** and **R without** groups were contacted again. No further contact was made with those in the **N** group.

Confirmation Phase

The confirmation phase was aimed at the ‘**R**’ category and involved giving out small gifts, intended to show recipients approval for their behaviour.

INDIVIDUALISED MARKETING



- Delivered material, "Presents" -

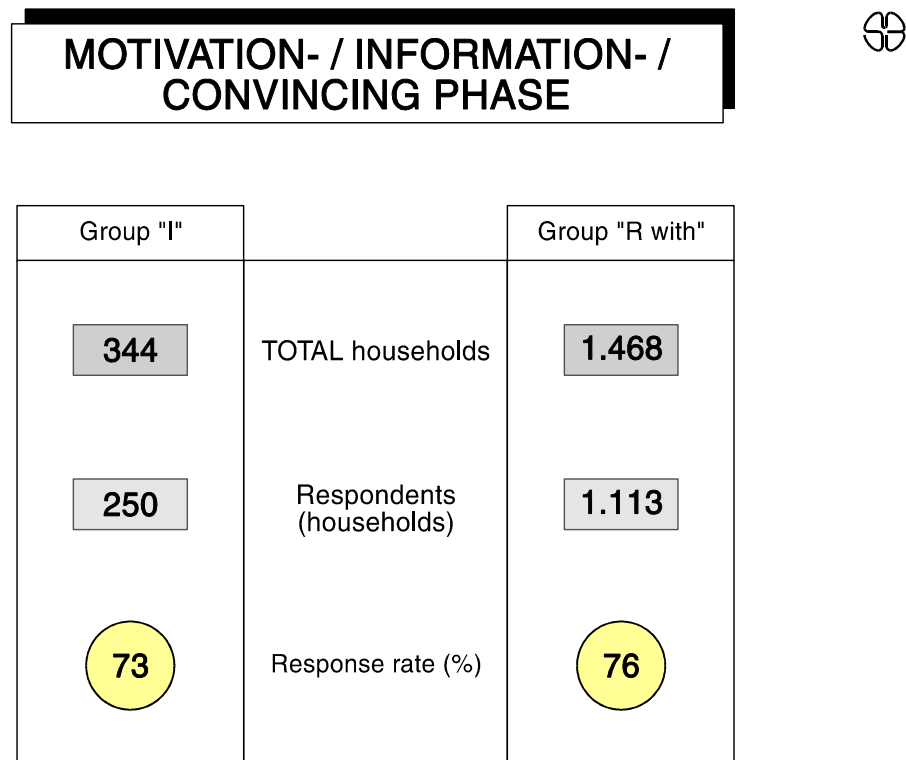
Group "R with" (%)		Group "R without" (%)
24	<ul style="list-style-type: none"> • Umbrella • Foldable backpack • Bicycle repair set • Mouse pad • Coffee cup 	30
23		29
24		26
23		8
6		7

Presents like umbrellas, cups, mouse pads, foldable backpacks and repair kits for bikes were offered. The most popular presents were umbrellas, foldable backpacks and the bicycle repair set. In total 1537 presents were distributed.

Motivation Phase & Information Phase

In the next phase – the motivation phase – the problems and requests of the ‘**I**’ and ‘**R with**’ groups were examined in detail, and then immediately addressed in the information phase.

Most of the households which regularly used environmentally-friendly modes of transport asked for information materials. (In group ‘**R with**’, 1113 out of 1468 households made such a request).



The above graph demonstrates the level of interest among the respondents in the information materials. The response rates of 73% in the ‘**I**’ group and 76% in the ‘**R**’ group show the high demand. It is interesting that the ‘**R**’ group has a greater interest than the ‘**I**’ group. It proves that the need in this group is very high.

The most-requested information was the bus timetable, followed by material about the routes and the tariff.

INDIVIDUALISED MARKETING



- Delivered material, Public Transport -

Group "I" (%)		Group "R with" (%)
68	• Stadtbuss Viernheim: Time table	77
53	• Stadtbuss Viernheim: Network of routes	52
44	• Stadtbuss Viernheim: The brochure	42
53	• VRN time table Part Bergstraße	56
50	• Trips in VRN region	49
49	• VRN tariff brochure	49
8	• Schedule of specific bus stop	12
2	• Personalised time table	3

There was also a supply of material about cycling and walking.

The ADFC¹ put a lot of information material about cycling at the disposal of this campaign.

¹ ADFC (Allgemeiner Deutscher FahrradClub e.V.): The German Cycling Club, which aims to promote the use of bicycles and protect the interests of cyclists. Their aim is to conserve the environment, water and energy; protect people's health; and contribute to a reduction in car use and noise pollution.

INDIVIDUALISED MARKETING



- Delivered material, Cycling -

Group "I" (%)		Group "R with" (%)
42	<ul style="list-style-type: none"> • Discovering Germany per bicycle • Information leaflets: 	31
26	<ul style="list-style-type: none"> • Maintenance and care 	37
22	<ul style="list-style-type: none"> • Padlocks for bicycles 	34
21	<ul style="list-style-type: none"> • Bicycle lightning 	32
18	<ul style="list-style-type: none"> • Bicycle tyres 	30
21	<ul style="list-style-type: none"> • The seat has to fit 	30
21	<ul style="list-style-type: none"> • Get up on the bike 	27
17	<ul style="list-style-type: none"> • Bicycle gears 	26
17	<ul style="list-style-type: none"> • Bicycles for children 	26
16	<ul style="list-style-type: none"> • Bicycle baggage bags 	25
21	<ul style="list-style-type: none"> • Bicycle and wall 	25
15	<ul style="list-style-type: none"> • Seats for children 	25
16	<ul style="list-style-type: none"> • Bicycle helmets 	24
17	<ul style="list-style-type: none"> • Children and cycling 	23
11	<ul style="list-style-type: none"> • Bicycle trailers 	21

Some of the leaflets were particularly popular. The ‘Discovering Germany by Bicycle’ brochure was very frequently requested. But ADFC leaflets such as ‘Maintenance and Care’, ‘Padlocks for Bicycles’ and ‘Bicycle Lights’ were also popular.

The pamphlets relating to walking were particularly popular with the ‘I’ group.

INDIVIDUALISED MARKETING



- Delivered material, Walking -

Group "I" (%)		Group "R with" (%)
55	<ul style="list-style-type: none"> • Hiking & Wogging General advice for leisure time activities 	50
52	<ul style="list-style-type: none"> • Exercise Sport and well-being Fitness training & relaxation 	49
51	<ul style="list-style-type: none"> • Walking Heart and blood circulation training for everyone 	47

(Note: “Wogging” is the German word for keep-fit exercise by walking)

The first brochure, which offered general advice about walking as a leisure-time activity, was the most popular. The materials about walking were produced by the health insurance companies.

To promote car sharing, households were offered a leaflet entitled: “Being mobile in the Rhein-Neckar region without your own car”.

In total, 11194 information leaflets were distributed during the campaign. This means that each household requested on average 8.2 items of information. This shows the high demand for information about environmentally-friendly modes.

In total: group R requested 9217 items of material, while group I asked for 1977 items. These figures show it is always necessary to offer a service to a group to keep them using environmentally-friendly modes of transport in the future.

Convincing Phase

In the final phase – the convincing phase – telephone contacts and, if requested, home visits were made to follow up the printed information. At this point, if judged appropriate, some “test tickets” were handed out to encourage people to try out public transport for a limited period of time. (Test tickets were distributed only to group ‘**I**’ households, as giving them to ‘**R with**’ households would have meant that those residents would not have needed to buy the tickets they would normally have bought. This would have led to a drop in ticket sales for the public transport operator – the so-called “cannibalism effect”. During home visits, 253 test tickets were handed out. They enabled households to use all public transport in the city of Viernheim for free for four weeks from February to March 2001. In addition, they were offered a test “24-plus” ticket for the Verkehrsverbund Rhein-Neckar (VRN). These tickets gave one day’s free public transport travel to five people throughout the city of Viernheim and the region. During the convincing phase, five households requested a consultation about the public transport in their city.

In addition, a variety of services were offered to the ‘**R with**’ and ‘**I**’ group to promote walking, cycling and car sharing:

- A consultation about bicycles
- A guided bicycle tour led by the ADFC
- A guided tour of a thermal power station in Viernheim
- A 10-day voucher for a fitness studio
- A consultation about car sharing
- A trial car-share under special conditions

There was a total of 2050 requests for the above services.

CAMPAIGN ASSESSMENT

Methodology

For the ‘before’ survey in March 1998, Socialdata surveyed travel behaviour using questionnaires modelled on the internationally known New KONTV[®] design. This means that the questions are the same in each survey. In every survey, there is a household questionnaire and a personal one. The household questionnaire asks for general information, including the number of inhabitants, number of vehicles, types of employment, and possession of season tickets.

For the personal questionnaire, each member of the household is asked to give details about all trips made on a given day. The forms ask about the purpose of the trip, the mode of transport used, the travelling time, distances, activities and mobility.

Due to local restrictions concerning the availability of resources, the Viernheim household case study had to be carried out before the TAPESTRY Common Assessment Framework was complete. This meant that the assessment in Viernheim was more limited than some other TAPESTRY case studies in terms of its coverage of certain issues, e.g.:

- Attitudes to transport, including views on existing transport information provision;
- Perception of problems and obstacles;
- Reasons for travel and the need to travel;
- Level of awareness of transport issues;
- Willingness / ability to change (by target groups).

However, the Viernheim project used a travel diary to obtain data about how people actually travelled, rather than how they usually travelled.

For the ‘after’ survey Socialdata used the same questionnaires that were used in the ‘before’ survey. So there were no changes. The content of the questionnaires was the same as had been designed for the ‘before’ evaluation. In addition to the KONTV questionnaire, Socialdata distributed a short follow-up questionnaire.

Target audience

The target audiences for the Viernheim case study were as specified in the marketing strategy. The campaign focused on households and persons in a defined geographical area. The target audiences were defined in the design phase in discussion between the partners (City of Viernheim, the Stadtwerke and Socialdata).

For the 'before' evaluation, 891 persons (net) were surveyed in a household travel survey in March 1998. For the case study implementation, 9000 people were contacted for the Individualised Marketing initiative from January to May 2001. In the 'after' evaluation, 990 people were surveyed on their mobility behaviour from November to December 2001. In addition, a telephone survey of 280 people (net) was carried out to find out more about their awareness and attitudes.

Results of the campaign – 'Before' and 'After' comparison

A 'before' and an 'after' survey were conducted to evaluate the effects of Individualised Marketing.

The 'before' data was available from a survey in March 1998. The IndiMark[®] campaign was conducted from January to March 2001. The 'after' survey was carried out from November to December 2001.

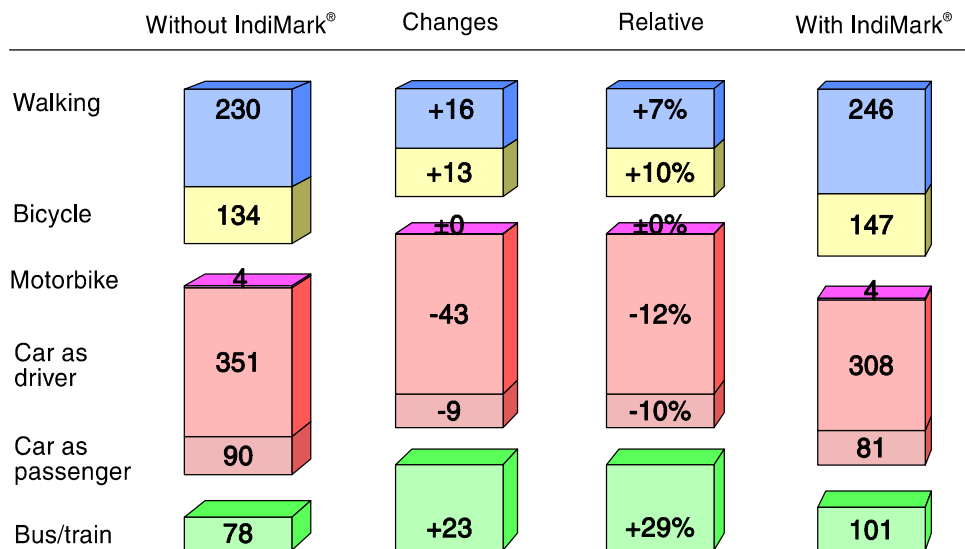
The campaign brought about important changes in mobility behaviour, which are presented next in this report. We have presented the comparison as "with IndiMark[®]" and "without IndiMark[®]". The "with IndiMark[®]" category covers the 'after' evaluation from the target group. The "without IndiMark[®]" category contains the 'after' evaluation from the control group – but modified to take into account the results of the 'before' survey among the target group. This is to show what would have happened if IndiMark[®] had not been applied.



INDIMARK EVALUATION

- Viernheim -

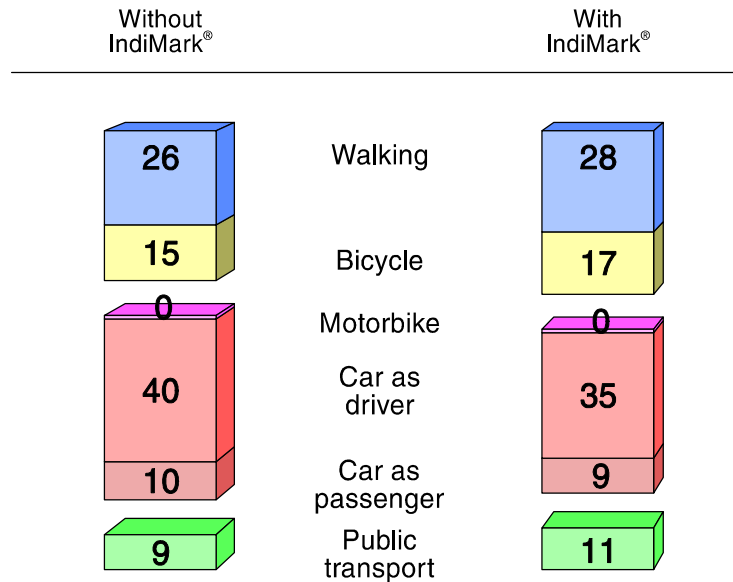
Trips per person and year



The table shows that without IndiMark®, the number of trips made by car (either as a driver or a passenger) is almost the same as those made by environmentally-friendly modes such as walking, cycling, bus and train (441 trips against 442). With IndiMark®, the number of trips taken as a car driver is down by 43 trips, and those as a passenger in a car by nine trips. Journeys made by bus or train went up by 23 trips. There was also an increase in bicycle trips (up 13) and walking (up 16). So environmentally-friendly modes increased by 52 trips. At the same time, it was possible to reduce the number of trips by car (as driver or passenger) by 52. In relative terms, this means that environmentally-friendly modes of transport were up by 46% after IndiMark®. Private motor vehicles were reduced by 22%.

MODE CHOICE

- Viernheim -



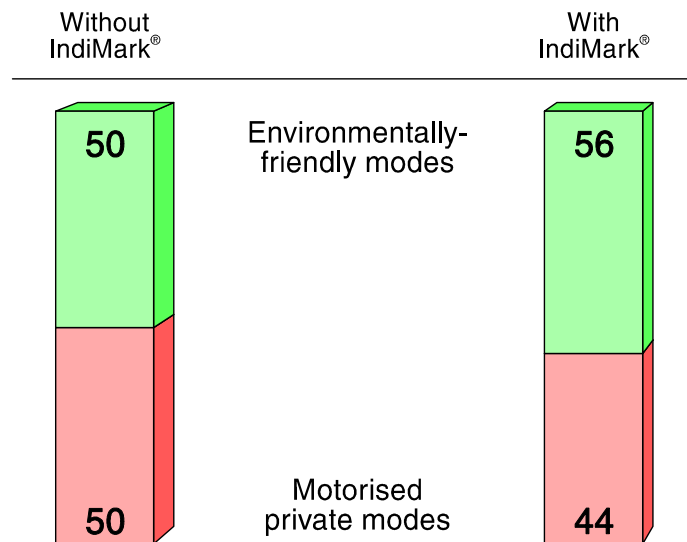
Respondents “without IndiMark®” made 26% of their trips on foot. The bicycle was used for 15 % of all trips, whereas half were made by car (as driver or passenger). Public transport was used for 9% of journeys. Respondents “with IndiMark®” used environmentally-friendly modes more frequently. For example, 28% of their trips were on foot and 17% by bicycle. Respondents drove cars for one trip in three, and travelled in them as passengers for 9% of journeys. 11% of the trips were made on public transport.

After Individualised Marketing, the use of public transport rose by 2% (from 9% to 11%). The campaign led to an increase in cycling – from 15 to 17% - and in walking – from 26 to 28%.

The proportional increase in use of environmentally-friendly modes of transport was made at the expense of private motor vehicles. These were down 6% after the IndiMark® campaign.

MODE CHOICE

- Viernheim -



Individualised Marketing appeared to result in an increase in the use of environmentally friendly modes at the expense of private motor vehicles.

We also examined the statistical significance of the changes in choice of modes. We looked to see if the changes had any impact on the daily travel of the target group:

MOBILITY

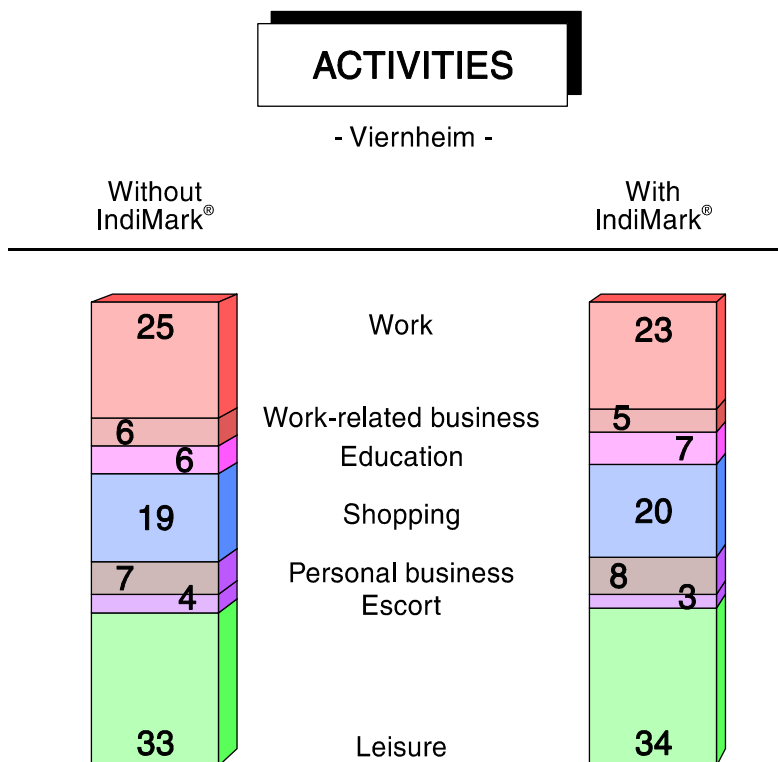
- Viernheim -

Without IndiMark®	Per person/day	With IndiMark®
1,5	ACTIVITIES	1,5
48'	TRAVEL TIME (min)	48'
2,6	TRIPS	2,6
14	DISTANCE (km)	13

In Viernheim, an average of 1.5 activities were carried out per person per day. These necessitated 2.6 journeys, which totalled 48 minutes. People travelled an average of 14 km.

The changes in the mode of transport after the Individualised Marketing campaign did not affect daily mobility. With IndiMark®, the results were much the same as without. The only difference was that respondents “with IndiMark®” travelled an average of one kilometre less.

Viernheim residents carried out much the same activities as those without. There were no great changes:



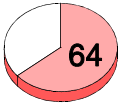
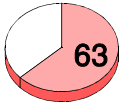






A large proportion of activities were for the purposes of leisure (33 and 34%); for work (25 and 23%); and for shopping (19 and 20%). Work-related business, education, personal business, and accompanying other people were less common reasons to make journeys.

Individualised Marketing influenced the levels of private car usage. Results “with IndiMark®” showed that car usage had dropped by one per cent to 63%. Cars were used for an average of two trips per day.

CAR USAGE



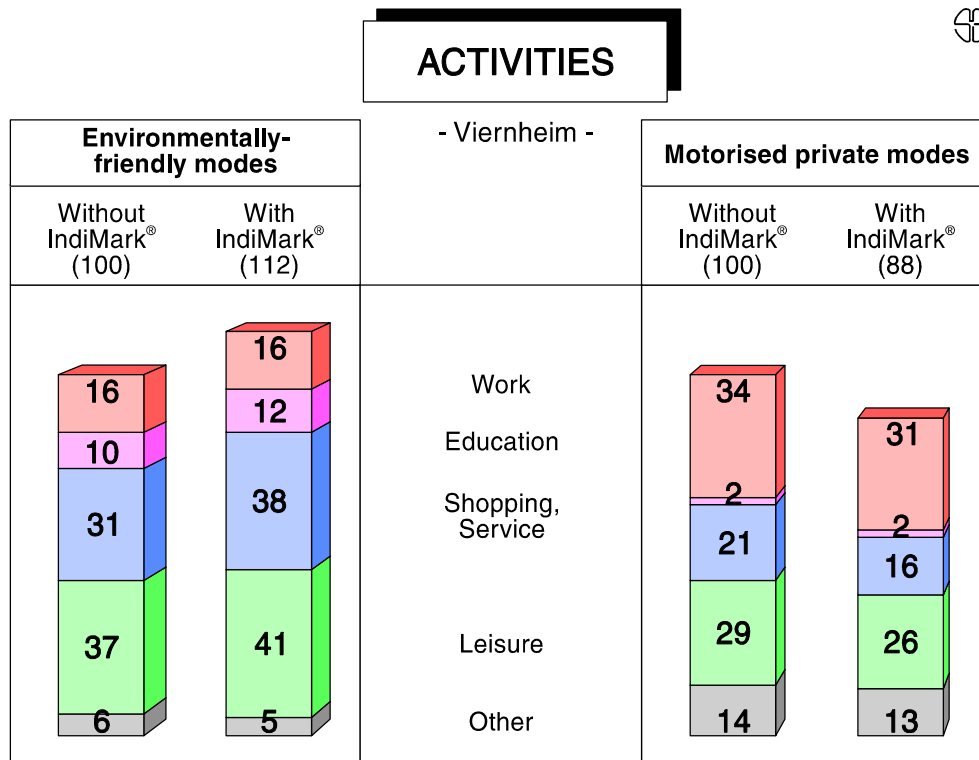
- Viernheim -

Without IndiMark®	Per (private) car/day	With IndiMark®
 <p>64</p>	USAGE (%)	 <p>63</p>
 <p>2,2</p>	TRIPS	 <p>2,0</p>
 <p>37'</p>	DURATION (min)	 <p>32'</p>
 <p>1,3</p>	OCCUPANCY (per trip)	 <p>1,3</p>

After the IndiMark® campaign, the average person used the car for just 32 minutes per day. Average rates of car occupancy were unchanged (1.3).

When sorted by type of activity, further differences came to light.

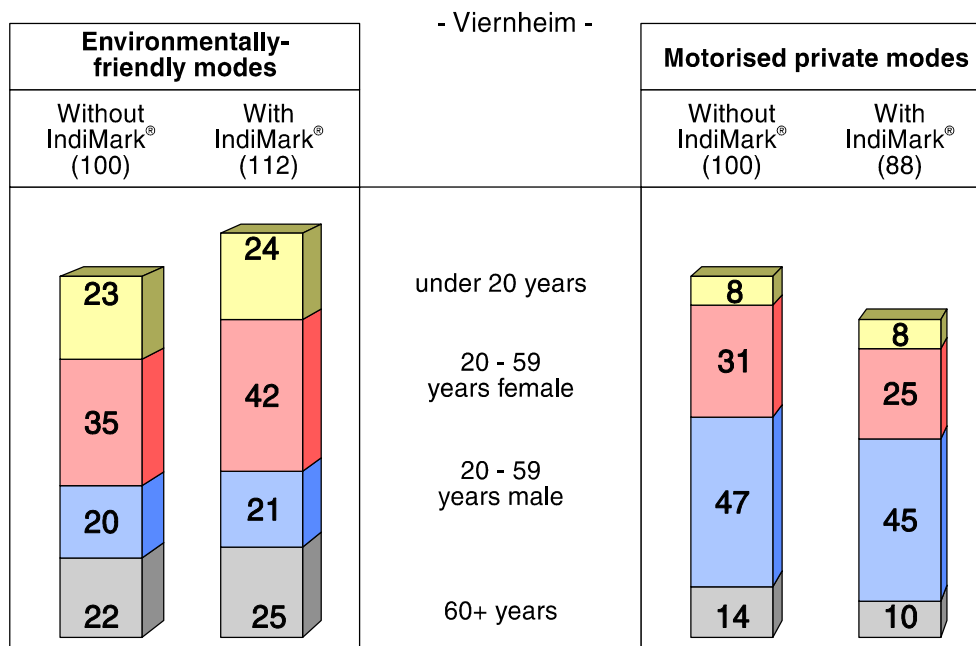
The use of environmentally friendly modes rose by 12% “with IndiMark[®]”, while private motor vehicle usage decreased by 12%.



Environmentally-friendly modes were used more for all types of journey. Shopping trips went up by 7%, and leisure trips by 4%.

IndiMark[®] appeared to have reduced the use of private motor vehicles. They were used for 21% of all shopping trips “without IndiMark[®]”, and 16% “with IndiMark[®]”. They were also used less for leisure and work purposes.

SOCIODEMOGRAPHY

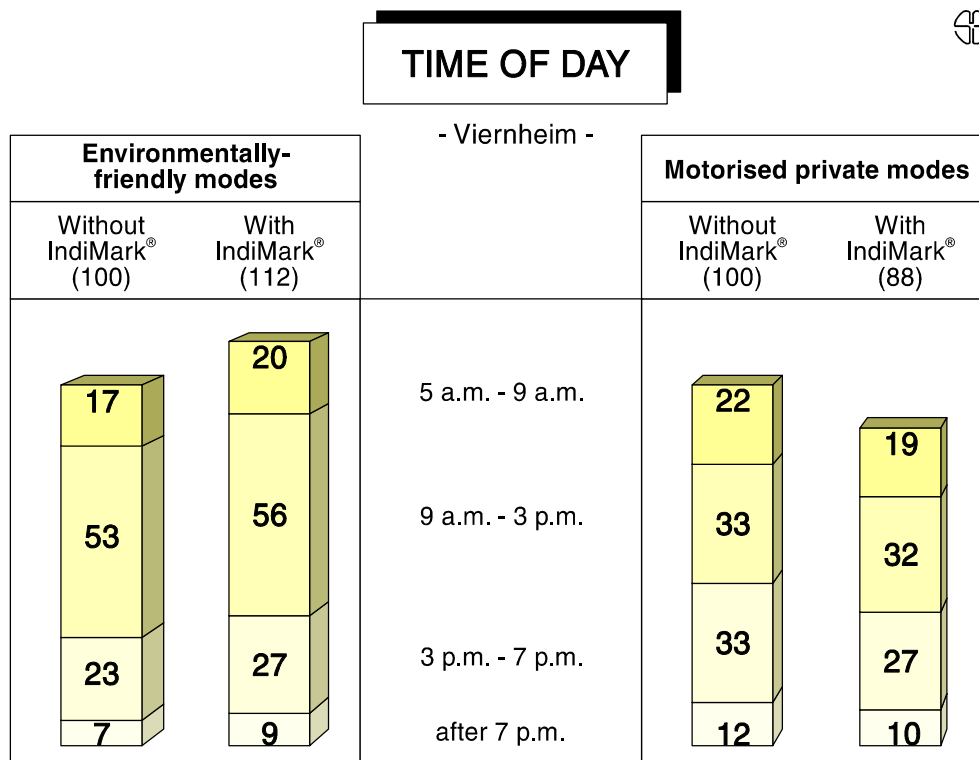


A socio-demographic look at the respondents revealed the following:

Without IndiMark®, 23% of all trips using environmentally-friendly modes were made by the under-20s, 35% by women aged between 20 and 59, 20% by men aged 20-59, and 22 % by people aged 60 or older. These proportions changed after the IndiMark® campaign. The increase in usage of environmentally-friendly modes was especially marked among women aged between 20 and 59 (35% to 42%). People aged over 60 also used more environmentally-friendly modes. The increase among people aged under 20, and among men aged between 20 and 59, was smaller.

The use of motor vehicles also dropped among women aged 20 to 59 with IndiMark®. Before the campaign, they had used motor vehicles for 31% of all trips: this dropped to 25%. Among men aged 20 to 59, the figure dropped by 2%. After the campaign, this category of respondents used private motor vehicles for 45% of all trips. People aged 60 and above also used private cars less after the campaign – the figure dropped from 14% to 10%. Among the under-20s, the proportion stayed the same at 8%.

The use of environmentally-friendly modes also changed with the time of day.



Without IndiMark®, almost one-fifth of all trips (17%) using environmentally-friendly modes were made between 5 and 9am. More than a half of environmentally-friendly trips were made between 9am and 3pm. A quarter were between 3pm and 7pm, and 7% were after 7pm. With IndiMark®, there was a higher usage of environmentally-friendly modes in all time segments. From 5am to 9am and 9am to 3pm, the figure rose 3%. The greatest increase was seen from 3pm to 7pm, when there was an increase of 4%. After 7pm, the figure was 2%.

After IndiMark®, there was a decrease in the use of private motor vehicles throughout the day. The afternoon period, from 3pm to 7pm, saw a particular drop, from 33% of all trips to 27%. From 5am to 9am, the figure was down to 19% from 22%. Between 9am to 3pm, such trips were down by 1% to 32%, and after 7pm the percentage of trips made by private motor vehicle decreased from 12% to 10%.

CONCLUSIONS

The large-scale application of Individualised Marketing in Viernheim was a real success. The high response rate (for example, 92% in the contact phase) and the high levels of interest from the target group justified the initiative. The importance of the campaign was indicated by the number of requests for information materials. The offer of a free ticket to try out public transport was well received. For the first time in a large-scale application in Germany, walking and cycling were promoted too. The project showed that these two modes of transport still have great potential, which could be exploited. The target groups requested a great deal of information material concerning walking and cycling. The campaign showed that Individualised Marketing could gain the attention of the target group, and increase the interest in environmentally-friendly modes.

The above positive indicators were the direct result of the marketing campaign. Comparisons ‘before’ and ‘after’ the campaign (with and without IndiMark®) show the success of the project. With Individualised Marketing, the share of environmentally-friendly modes increased by the following percentage:

- Walking: 7 %
- Bicycle: 10 %
- Public transport: 29 %

Journeys by car (as a driver) were reduced by 12%. In total, the use of environmentally-friendly modes increased by 12%. After the Individualised Marketing initiative, use of private motor vehicles decreased by 12%.

The results show that with high levels of contact, motivation and information, Individualised Marketing can lead to success. An important aspect of Individualised Marketing is the segmentation of different groups to avoid the “cannibalism effect” (for example, offering free tickets to those who would otherwise have bought them), and to find ways to motivate households to use environmentally-friendly modes more frequently. Individualised Marketing can lead to changes in travel behaviour.