The potential for switching modes

A segmentation approach on analysing the possibility of modal shift in the Netherlands

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Preface

This report is the written part of my Bachelor Thesis, or, more officially, of the course 'CTB3000 – Bachelor Eindwerk Q1'. During eight weeks, I have taken on a subject from within the 'Transport and Planning' track, and used is as the basis for this thesis. Besides the written report, a final presentation is part of the course as well.

The thesis is useful for everybody who would like to gain more insight in the use of modes in the Netherlands, since it shows both the current situation, possible situations and underlying relations of transportation mode choice. In chapter 2 the methodology is explained. The beginning of chapter 3 is showing an overall image of modal choice in the Netherlands. Readers interested in specific subgroups can look at the graphs in chapter 3.2.1. Potential, theoretical splits are shown further on in chapter three. The relations are mentioned by comments and tables throughout the chapter.

Of course, this thesis could not have been completed without the help of some people I'd like to mention here. Firstly, I'd like to thank my two course coaches, dr. ir. Wouter J. Schakel and dr. ir. Yufei Yuan. They have coached me and my peers within the course with their weekly, sometimes brutally honest but always fair, feedback on the delivered work. From within the course, I'd also like to thank ir. Rolf P. Koster, who is supervising this course for the track 'Transport and Planning', for both his feedback and the organisation. From the KiM, I'd like to thank dr. Sascha Hoogendoorn-Lanser and ir. Mathijs de Haas, for providing the data that forms the core of this research. Finally, I'd like to give special thanks to PhD candidate María J. Alonso Gonzalez. She is not only the issuer of this thesis' subject, but she has functioned as my external advisor from beginning to end. Her weekly feedback, connections with the KiM, experience with accompanying bachelor theses and inexhaustible enthusiasm were invaluable, for which I'm truly grateful.

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Abstract

Reduced mobility due to congestion and climate change are two large issues, especially due to the increasing urbanisation. This is also true for the Netherlands. It is widely agreed upon that private car ownership is not a durable mode of transportation, and that a shift from this most-used transportation mode towards special and environmentally more durable transportation modes, like public transport and cycling, is desirable.
It is up until now unclear however, where the effort for facilitating this shift could best be focussed. A clearer insight in the travel patterns is therefore needed. Therefore, this report is aimed to answer the question: 'Which group of people from the Dutch population, for which trips, could choose another mode of transportation than the car, based on the objective factors time and cost?'

To obtain the desired insight, both a general and a segmentation approach analysis is done on travel data from the MPN, the Mobiliteitspanel Nederland. This data contains information for over 60.000 trips, which have been performed by around 10.000 people during the course of three days. This data is used to form a general modal split.
By clustering the trips on socio-economical-, trip or travel pattern characteristics, and comparing the modal splits of the subgroups, insight is obtained on the real use of transportation modes.
A theoretical modal split is made based on the consideration of 'time' and 'time and cost'. For the 'time' consideration, subgroup modal splits are made as well and compared to the real subgroup modal splits, with the help of statistical tests. The 'time and cost' consideration has two prices for the cost of the car, and therefore two modal splits. Those two modal splits will be compared to the general real modal split.

It becomes clear that, when looking at a time consideration only, public transport is almost never the best transportation mode, but the bicycle is the big winner. When looking at both time and cost considerations, the bicycle proves to be even better, with the car being the worst if both fixed and variable car costs are taken into account.
The segmentation analysis proves that while males, people who commute and trips performed during rush hours have the least potential to switch from the car to another mode based on the time consideration, females, elderly people, trips performed outside rush hours and trips performed in the weekends have the biggest potential based on a time consideration. The latter group obviously has other, more important considerations apart from time.
To be able to facilitate modal shift, either the time and cost of modes other than the car should be improved for commuting trips, or car alternatives should be made suitable for performing under the other considerations people have when choosing the car for their non-commuting trips.

The KiM, Kennisinstituut voor Mobiliteit, could do further research on the other considerations, or improve the model for time and cost and further analyse the influence of those considerations on the transportation mode choice. Policy makers could use these findings to improve travel time for the bicycle and public transport, and then investigate if this has indeed a modal shift as a consequence.

1. Introduction

This introduction consists of three parts. The first one provides insight in the context of this research. In the second part, a problem definition is formed. Questions as why, what and for whom this research is necessary are answered here. In the last part, the research question is defined, the delimitations are set and the setup of the rest of the thesis is described.

1.1 The research within the bigger picture

Urbanisation and climate change are two factors that influence the way people travel and by that mobility. At the same time, transportation itself has an influence on both urbanisation and climate change. From the roughly 40 million tons of CO2 pollution per year caused by transportation in the Netherlands, about half is due to personal road traffic (CBS, 2015). On a total of almost 160 million tons CO2 per year (CBS, 2018a) this means that over 10% of the national CO2 emission is caused by personal vehicle road traffic. A profound understanding transportation is necessary to be able to tackle it's negative consequences and build a socially and environmentally sustainable future.

1.2 Choosing the mode of transportation

For each trip someone makes, he or she either walks, or takes a mode of transportation somewhere between his or her origin and destination. Their choice of mode greatly influences the cost, travel time and environmental impact, both ecologically as socially (e.g., ecologically because of pollution, socially because of congestion). As mentioned in the previous paragraph, cars have a large share in creating congestion and pollution. A modal switch from car to less polluting and less congesting modes is therefore desirable. Making a switch would mean, however, that at least a part of the population should choose, for at least a part of their current car trips, another mode of transportation instead. But how do we know which part of the population this is? And for which trips, and to which modes would that be beneficial?

The answers to the above mentioned questions are crucial for researchers and policy makers alike. Researchers could use this knowledge as a starting point for further research on modal choice and on transportation in general. This research aims to give an answer to those questions by providing insight into the different modes people in the Netherlands choose and the possibility for them to shift to other modes that contribute positively in combating the negative effects of urbanisation and transportation.

In the European Union the car is the most used mode of transport. With an average of 83.1% of inland passenger kilometres, it is way higher than any other mode of transportation (Eurostat, 2018). In the Netherlands this number is somewhat lower, with only 71% of the total passenger kilometres done by car, either as a driver or passenger (Centraal Bureau voor de Statistiek, n.d.). Even so, this is still almost three quarters of the total performed passenger kilometres. This large number is understandable, since people in the Netherlands like the car (*Factsheet - Stabiele beelden: trends in beleving en beeldvorming van mobiliteit | Brochure | Kennisinstituut voor Mobiliteitsbeleid*, 2018). Although in the Netherlands the bicycle is seen as equally pleasant to use as the car, it has a lower transport performance in passenger-kilometres . This could be mostly attributed to the lack of speed and range compared to the car. It appears that choices of mode are made both of subjective factors, like likeability, and objective factors, like speed and price. It is therefore very difficult to exactly point out which factors influence the actual choice in the end: After the introduction of a toll charge on entering a certain area of Stockholm by car, congestion during rush hour was almost non-existent on the main access roads. However, more than half of the drivers indicated not to have the feeling to have changed their minds on how to travel (Jonas Eliasson, 2012). It is therefore necessary to make certain simplifications on the set of considerations people make to choose their mode. In this report

the considerations ‘time’ and ‘time + cost’ are used. With these considerations it is possible to determine whether a mode is ‘better’ than another one, and to answer the research question which is presented in section 1.3.

Policy makers may use both this and the from here out following research to know where to focus their attention to facilitate modal shift. The TU Delft Transport & Planning section and the KiM, short for ‘Kennisinstituut voor Mobiliteitsbeleid’ (EN: Knowledge Institute for Mobility Policy), can be seen as the two most interested research party’s for the results of the thesis. More specifically, PhD candidate María J. Alonso Gonzalez, who proposed this subject to be researched, is the main client. Dr. Ir. Wouter Schakel and Dr. Ir. Yufei Yuan are the other two clients, representing the TU Delft’s Transport & Planning section as a whole. The KiM is represented by Dr. Sascha Hoogendoorn-Lanser. Since the KiM is a part of the Ministry of Infrastructure and Water Management, it could indirectly provide the information from this thesis to policy makers throughout the Netherlands.

1.3 The research question and research setup

Using the previous two paragraphs, the following research question is formed:

‘Which group of people from the Dutch population, for which trips, could choose another mode of transportation than the car, based on the objective factors time and cost?’

To answer this question, two sub questions are made: ‘How much is the potential for modal shift?’ is the first sub question, and ‘For who or which trips is there potential for modal shift?’. For answering both questions, a general and a segmentation approach is used. With information on trips made in the Netherlands and the people they are done by, subgroups are formed based on socio-economical- and trip characteristics. With statistical software the general modal split and a modal split for each subgroup are created. A chi-square test is performed on the modal split of each subgroup to determine whether there is a significant difference in transportation mode choice between the subgroup categories.

After that, theoretical trip data, provided via the Google API, is added to each existing trip. The theoretical trip data is information on the time and distance the same trip would have theoretically taken if done by each of four main modes (car, bicycle, walking or public transport). A theoretical general modal split and a theoretical modal split for each subgroup are formed, both in absolute values (for the general modal split only) and by using a logit model distribution. These splits show what people should have chosen based on a time consideration only. By performing either a Mann-Whitney U test or a Kruskal-Wallis test on the theoretical modal splits, it is shown if there is a significant difference between the subgroups for the theoretically best modal split. This test is repeated, but then only for trips that have originally been done by car.

For the ‘time + cost’ consideration, a price is modelled for each of the theoretical trips. Combined with the time values, a theoretical split can be made based on both time and cost consideration. The tests done on the time consideration modal split are repeated for the general modal split and some of the subgroup modal splits. However, for the price of the car, more two prices are used, to gain insight in the influence of car cost on the modal split as well.

The exact methodology is explained in chapter 2 ‘Methodology’. The results and analyses are found in chapter 3 ‘Results and analyses’. In chapter 4 ‘Final ’ the findings are formed into an answer to the research question and the use of these findings to the stakeholders are discussed. After chapter 4 is the Reference list, followed by several Appendices.

2. Methodology

This chapter provides clarification on the data used for the research, the statistical program SPSS and the way the data is analysed using this program. It is also explained on which basis the subgroup segmentation is made and what categories each subgroup contains. It is important to mention that, prior to the data validation, during the data addition and during the segmentation process, a lot of refining has been done on the dataset. The exact operations are logged in detail in an .txt file, which can be found in Appendix C.

2.1 MPN survey data

The 'Kennisinstituut voor Mobiliteitsbeleid' (Knowledge Institute for Mobility Policy), or KiM, is a part of the Dutch Ministry of Infrastructure and Water Management. The KiM has set-up a survey panel called the 'Mobiliteitspanel Nederland' (Mobility Panel Netherlands), or MPN. The aim of the MPN is to provide insight in long-term mobility behaviour of people in the Netherlands. This survey consists of about 4000 panel members. ("Over het MPN | Mobiliteitspanel Nederland | Kennisinstituut voor Mobiliteitsbeleid," n.d.) For the year 2017 these members have delivered a travel diary they have held for three days. During these days they have reported their travel behaviour together with some additional questions. Additional information about these panel members is also provided by the participants.

For the theoretical splits to be calculated, besides the actual chosen mode per trip, a set of virtual trips has to be made. These virtual trips provide information on the time, cost and pollution in case an alternative mode would have been chosen. These virtual trips are done by putting the origin and destination of each trip into a code. The code uses a Google API to come up with the theoretical data of the alternative modes. The processing through the Google API has also been done by the KiM.

2.2 The programs SPSS and Excel for data analysis

All the information from the MPN has been stored in several .sav files that can be opened and analysed using the program SPSS. This software will be used to refine the file from the MPN, to analyse the descriptive statistics of the data and to render the graphs needed for the data insight.

For some calculations it is either more convenient or necessary to use Excel instead of SPSS, since it is better suitable for some of the operations.

2.3 Validating the MPN data

With data from OViN a modal split for the Netherlands is made. OViN stands for 'Onderzoek Verplaatsingen in Nederland' (Research Movements in the Netherlands) and is a research done by the CBS (Central Bureau for Statistics). (Centraal Bureau voor de Statistiek, n.d.) In this yearly recurring research, among other things, the total transport performance of the Netherlands for the year is provided in tables. (CBS, 2018b) The calculation of this transport performance is done in this same document.

A modal split for the MPN survey data is made as well. This is done for both the total travelled distance in km per mode, as for the total number of trips per mode. For the OViN split, table data is first manually inserted into SPSS. To form the modal split, SPSS is asked to make a pie chart selecting the modes as variables and the number of trips as the segments' values.

2.4 Adding theoretical trip data

The MPN trip diaries include the duration of the individual trips that each individual has made. These trips could have been performed using other modes of transport, too. Therefore, the time each specific trip would have taken with the use of four different modes of transport (walking, cycling, PT and car), as well as the distance for each mode, are calculated (externally, by the KiM). For PT, it is also specified how much time and what distance each leg of the trip took. The Google API automatically provided the most ideal car trip with respect to time, taking into account traffic but not taking into account shorter but more fuel efficient routes. This could give a bias when analysing the most time plus cost efficient modal split (see 2.6), since for public transport multiple public transport alternatives are compared first, taking both cost per kilometre and value of time into account. It is therefore assumed that the fastest car trip is also the most fuel efficient. This assumption can be made since it is known in general that the type of road with the highest speed (the freeway) generally has the best fuel efficiency (freeway mileage vs. city mileage).

For PT, there are more than one alternatives worked out, depending on the trip. Alternatives with 'walking' as the only mode within the trip, are disregarded. This is done by increasing the alternative time to 9.999.999 seconds. This extremely large number makes sure the alternative with 'walking' as only mode will not appear as a viable option in any of the comparisons.

A final part of this section is adding a fixed time penalty per trip for the modes 'bicycle' and 'car'. Since the trip duration provided assumes direct departure with the specific mode, it will most likely make the 'car' to be the best alternative for almost every trip. The time to walk to the car, to get out of the parking spot, to find a parking spot at the destination, to park again and to walk from the parking spot to the destination is not accounted for. For the bicycle there is similar unaccounted time. Since it is impossible to know for each trip what this extra time was, a penalty of five minutes per trip is added to each car trip, and one minute for each bicycle trip. These penalty values are estimated on the 'gut feeling' of the researcher.

2.5 Forming the most time efficient modal split

To create a modal split representing the choice based on time consideration only, the times needed to complete each specific trip using the four theoretical modes of transport are compared. The mode that needs the least time is chosen as most time efficient for the specific trip, the so called 'winner'. This is done for each individual trip. This produces the overall split, with a 'winner takes it all' distribution.

The abovementioned split does not, however, take into consideration the difference between the best and the second, the best and the third, etc. To take into account that, even when based on time only, there are some uncertainties for each trip which add to the uncertainty of what the fastest mode is, a split with logit distribution is created. For each trip, not one but all four modes influence the modal split, by calculating a ratio is for each mode. Together, all the ratio's add to 1.0 per trip. Equation 1 shows the formula used for calculating the car ratio for a certain trip. Here, tc s the trip duration for the car. tb, tw and tp are the trip durations for the bicycle, walking and public transportation alternatives. R is the ratio for the specific trip.

$$R = \frac{EXP(-tc)}{EXP(-tc) + EXP(-tb) + EXP(-tw) + EXP(-tp)}$$

Equation 1

Adding all the ratios R for each mode and dividing it by the ratio of all modes together (which is the same as the number of analysed trips) will give the split with a logit distribution.

2.6 Forming the most time plus cost efficient modal split

The forming of the most time plus cost efficient modal split is done in part the same way as the most time efficient modal split is made: For each trip, a theoretical time is calculated for each mode, after which a 'winner takes it all' modal split can be made for the 'most time plus cost efficient' modal choice consideration. Then, Equation 1 is used to create a logit model distribution for each trip. The distribution for all trips can be used to make pie charts and tables representing the modal split based on the 'most time plus cost efficient' modal choice consideration. The difference with the 'most efficient time' modal choice consideration is that the theoretical time which is calculated is not the readily provided trip duration, but the Generalised Journey Time with Cost (GJTC). The GJTC formula is discussed in 2.6.1. In 2.6.2 and 2.6.3 the origin of the values to be used in the GJTC are explained. The models used in this section are very crude models used only to get a general insight. For more detailed research on the influence of price on the modal split, these models will need to be refined.

2.6.1 Generalised Journey Time with Cost

The difference with the 'most efficient time' modal choice consideration is that the theoretical time which is calculated is not the readily provided trip duration, but the Generalised Journey Time with Cost (GJTC [minute]), which includes the trip cost, the trip duration and the relative time appreciation for the different legs of the trip (in case of the public transport mode). The formula of the GJTC is given in Equation 2. GJT is generalised journey time [minute] , VOT is value of time for the specific mode [€ / minute], and P is trip price [€].

$$GJTC = GJT + \frac{1}{VOT} * P$$

Equation 2

The reason for which the GJTC is used instead of Generalised Costs [€], as would be expected when comparing transportation modes, is because there is no reliable data for the value of time for the bicycle and the walking mode. Even if reliable data would be known for the VOT of the bicycle mode (and, presumably also for the walking mode) in the Netherlands, it would still be difficult to use this data in this research, since the VOT for the bicycle is very dependent on the physical trip conditions. The presence of separate bicycle paths, for example, already has influence on how cyclists value time on the bicycle (Börjesson & Eliasson, 2012). Since the price for the walking and the bicycle modes are so low compared to the car and the public transport modes, this price can be assumed zero, thus eliminating the need for knowing the VOT for these transportation modes in Equation 2.

2.6.2 Generalised Journey Time and Value Of Time

The generalised Journey time is the regular time split up in the different legs of the trip, with each leg multiplied by a factor. The number of transfers is also added and multiplied by a factor. By doing this, the regular journey time is generalised to take into account the different appraisal given by travellers for each leg (For instance, a traveller might opt for an alternative with a longer non-generalised journey time, if it involves less walking or less transfers). The formula for the GJT is given by Equation 3. t^f is the walking time, t^w is the waiting time, t^v is the in-vehicle time and n^t is the number of transfers, each with their respective α's. αf=2, αw=2 and αt = 10 (Alonso-González, Liu, Cats, Van Oort, & Hoogendoorn, 2018).

$$GJT = \alpha f * t^f + aw * t^w + tv + at * n^t$$

Equation 3

The Value Of Time is the passenger appraisal of time (reduction) for each transportation mode. For instance, if the VOT is 12 [€ / hour] for a certain mode, it means passengers would be willing to pay €2 more for a journey time reduction of 10 minutes. The VOT depends both on the type of passenger, type of journey and the mode itself. For this study, which is more focussed on an overall insight, difference in VOT will be made only for the different transportation modes: €7,50 / hour for the car mode, €6,50 / hour for the train mode (Kouwenhoven et al., 2014). In the price for the latter the VOT for train trips (€7,00 / hour) and the one for BTM trips (€6,00 / hour) have been merged into an estimated VOT for both, since the model would otherwise become too complicated for this research. For the 'hidden' waiting time before the start of the public transport trip (the time between the desired moment of leaving the origin and the actually possible moment of leaving, caused by the fixed schedule of public transport), a factor of α = 1 is used. This is done because activities at the origin could still be performed during the 'hidden' waiting time, like doing the dishes or talking to colleagues, which couldn't be done during regular waiting time. It is therefore reasonable to not count the 'hidden' waiting time as heavy as regular waiting time.

2.6.3 Calculating trip price

Trip price for the car is calculated by assuming an average per kilometre, including fixed costs like insurance and depreciation, and multiplying it by the trip distance. The price assumed is €0.49 / kilometre, which has it's origin by looking at the price per kilometre for an average lease vehicle found on the website of the 'NS', the Dutch National Railway company (NS, n.d.). The same page also shows the price per kilometre at €0.19 / kilometre, when fixed costs are not taken into account. For both prices ('low car cost' and 'normal car cost') a general journey time with cost is made and analysed. Initially, it was planned to research a third, higher price. A so called 'pollution penalty' would be added in the form of an extra charge per kilometre to simulate higher fuel prices. But since analysing the price of €0.49 / kilometre already shows extremely low percentages for the car mode, it is deemed unnecessary to analyse the higher price per kilometre as well.

Since the railway company might give a more negative (more expensive) image of the car because of it's implicit interest in rail passengers, this number has been compared to costs found on the website of The Nibud (Nibud, 2018). The Nibud (nationaal instituut voor budgetvoorlichting, or national institute for budget information) is an independent institute researching household costs for people in the Netherlands (Nibud, n.d.). The numbers from the Nibud page agree with the NS.

Of course, both the price per kilometre as the fixed costs averaged per kilometre can differ depending on the type of car, the type of roads used (inner/outer city) and the number of kilometres driven per year, but for the purpose of the general insight in this thesis, one price is seen as an accurate enough estimation.

The trip price for public transport will be calculated by adding the prices for each leg of the trip to get the total trip price. This price is either zero (legs done by walking), a base fare with an additional fare per kilometre (BTM) and an average price per kilometre but with a minimum tariff (train). It is important to note that, if the leg previous to the leg to be calculated is performed with the same public transport company, the base fare or minimum tariff will be disregarded, since the public transport companies don't charge base- or minimum fares for passengers transferring within the same company. Due to the time frame of this research, regional exceptions, where a base fare for the train exempts the traveller for BTM and vice versa, or where several companies operate the same line, are disregarded. This is something that should be looked into when continuing research from this part of the report onwards.

For the train the average price is €0.13 / km on average (NS, n.d.). The NS webpage also tells that the average cost for trips during rush hour (without fare reduction) is €0.19 / kilometre, and the average cost outside rush hour (with 40% fare reduction) is €0.11 / kilometre. Combining these three fares, it can be assumed that three quarters of the trips are done with 40% reduction. This ratio is needed to combine the minimum fare without reduction (2,30) and with fare reduction (1,40) as seen when calculating the price between Zoetermeer and Zoetermeer Oost (about 1 km distance) on the N.S. website ("Reisplanner | Reisinformatie | NS," n.d.). The minimum fare then becomes €1.63 on average for the train. The cases where the high speed train is indicated as the transportation mode will, for simplicity, still be priced at normal train fares, since these cases are under 10 on 33.842 trips.

For BTM, the base fare is €0.90 with an additional €0.13 / kilometre on average (slight differences between public transportation companies exist) ("Hoeveel kost het reizen met de bus met de OV-chipkaart? - Ervaar het OV," n.d.). An exception is the ferry, which, in this data set, is only done by the GVB. This ferry is free of charge, so no cost is calculated for this mode.

2.7 Subgroup segmentation

This section describes the subgroups in which the general data is segmented, as well as some specific explanation for the segmentation choice. In general, the basis is a rough assumption with the constraints imposed by the data availability. There is a total of eleven subgroups. With this segmentation, subgroup specific splits can be made for the real and the theoretical modal splits, that are later on used to compare the groups.

2.7.1 Socio-economical segmentation

The socio-economical segmentation is based on the provided background data of each survey member. The selection criteria are:

- Gender (male or female)
- Age (12-17, 18-29, 30-49, 50-69 and 70+ in years)
- Household income (< 27.000, 27.000 - <67.000 and > 67.000 in € / year)
- Education level (lower, middle, higher and unknown)
- Urbanisation level (low, high and highest)

The age sections are based on approximate life stages: 12-17 for teenagers, 18-29 for students and starters, 30 - 49 for the working class with children, 50-70 for the senior working class without children and 70+ for pensioners.

The income sections are roughly based on the 2018 income tax classification system ("Tarieven box 1 (werk en woning) in 2018 AOW-leeftijd nog niet bereikt," n.d.).

The education level is set up the following way, showing the highest finished degree:
Lower education contains respondents with no or only primary school education.
Middle education contains respondents with VMBO, MBO and first three years of HAVO/VWO (This roughly translates to all the vocational schools and the first half of theoretical high school).
Higher education contains respondents with HAVO, VWO and HBO/WO (theoretical high school, college and university degrees)

The urbanisation level is a number provided with the KiM data that indicates the level of urbanisation of the location of the respondent's household, based on the amount of inhabitants per square kilometre. 1 is very highly urban (> 2500 inh./km^2), 2 is highly urban (1500 – 2500 inh./km^2) and 5 is non-urban (< 500- inh./km^2). Because it is expected that in the highest two urbanisation levels there could still be a lot of difference between them, they are looked at separately, while the lower three levels (everything below 1500 inh./km^2) are taken as one 'non-urban' group.

2.7.2 Trip characteristic segmentation

For this segmentation, the same is done as in 2.7.1, but based on characteristics of the trip instead of the respondent. These selection criteria are:

- Trip purpose (work, education, shopping and services and pickups, visits, sport and leisure and unknown)
- Distance travelled (0-1, 1-5, 5-15, 15-50, 50+ in kilometres)
- Time of the day (peak / off-peak)
- Day of the week (workday / weekend)

The choice for the trip purpose categories are mostly self-explanatory. Shopping, services and pickups are put in the same category under the assumption they are the same type of 'daily chore' trips. This could be going to the hairdresser, buying groceries, bringing children to their friends etc. It could be said that shopping is an entirely different activity, like 'going to another city for a day of shopping'. However, one can argue that this is mostly a leisure activity, since browsing stores and having a good time with friends would be a better description as compared to buying merchandise. Leisure includes sports activities and family visits.

The categorisation for the lower distances is based on an estimated distance people are willing to take certain modes. 0-1 for walking, 1-5 for the bicycle, and 5-15, 15-50 and 50+ for PT and car. For the latter groups, it is mostly interesting to see whether there is a difference in performance between PT and the car.

For the time of day subgroup, peak is defined as the time between 7:00-9:00 and between 16:00-19:00, based on an estimation done by the researcher.

2.7.3 Travel pattern segmentation

The last segmentation is based on a household characteristic and a personal characteristic, that could be used as an indication of travel patterns. These are:

- OV-card possession (yes / no)
- Household car possession (yes / no)

OV-card, with OV standing for 'Openbaar Vervoer', 'Public Transport' in Dutch, is a card that can be charged with a sum to be used on any public transport operator in the Netherlands, eliminating the need to buy a ticket before every trip and for every separate operator.

2.8 Visualisation and Analysis for shift potential

Based on the actual and the virtual data, modal splits are made in pie chart and histogram form to visualise the results, while tables are added in the appendices to show numerical information on the modal splits. The actual analysis consists of two parts. The first part answers the first sub-question: How much is the potential for modal shift? The second part answers the second sub-question: 'For who or what is there potential for modal shift?'

2.8.1 General potential for modal shift

The potential for shift is shown as the difference between general modal split percentages for each mode between the real split and the theoretical splits based on the different considerations. For these splits a Sankey diagram is made to give more insight to the origin and destination of the trips that have a changed mode when taking the considerations into account. This is done by putting the amount of real trips for each category, and then following to which mode the specific trip ends up in the theoretical distribution.

2.8.2 Subgroup difference

To see whether there is an actual difference between the subgroups, there are three statistical tests that need to be done.

The first one is to indicate whether there is an actual difference between the performed trips of the categories in the subgroups or not. A chi-square test is done for this, comparing the actual number of trips done for each mode, by each category. If the p-value is significant (< 0.05), it means there is a significant difference between the modes used by each category.

The second one is either a Mann-Whitney U test (for subgroups with two categories) or a Kruskal-Wallis (for more than two categories). Here the theoretical logit distribution for each trip is used, comparing it against the different categories. A significant difference (again $p < 0.05$) means that the trips performed are different for each category. (If the categories would perform the same kind of trips, the 'best' splits would be similar). The test are non-parametric tests because the values of the logit ratio for each category are non-parametric distributed (because a logit model distribution is used).

The last test is meant to show whether there is a difference in potential for shift between the categories of the subgroups. Since the focus of this report lies on the potential for modal shift from the car towards other modes, only trips that have been done by car in reality are used for this test. The same operations are done as with test two, but now the interpretation is different. A significantly low p-value means that there is a difference between one category and another when looking at how much of the car trips could better be done by another mode.

3. Results and analyses

In this chapter the graphs portraying the resulting data are shown. The tables showing the percentages for the modal splits and the difference between the real and theoretical modal splits can be found in Appendix A. The tables portraying the statistical tests can be found in Appendix B.

3.1 MPN vs. OViN comparison

The pie charts representing the modal split based on data from the OViN (Figure 1) and data from the MPN (Figure 2) are shown for comparison.

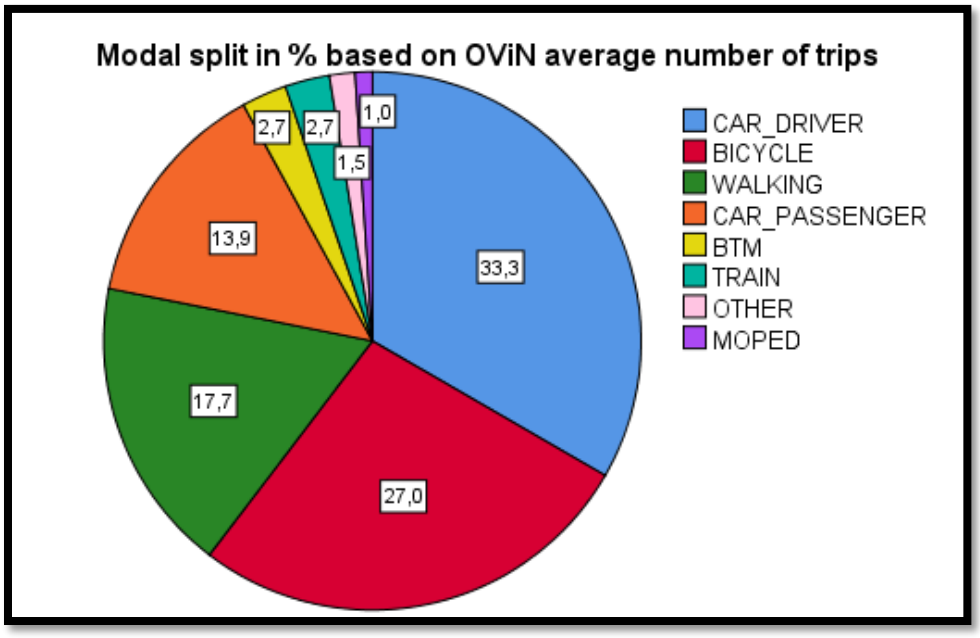

Figure 1: Modal split in % based on the OViN number of trips

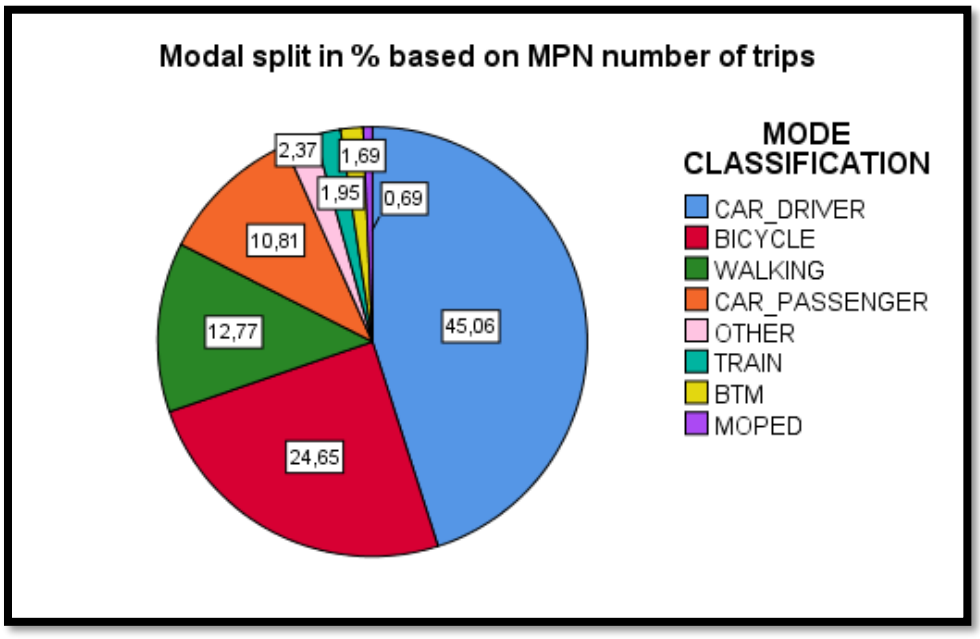

Figure 2: Modal split in % based on the MPN number of trips

When comparing Figure 1 with Figure 2 it can be seen that there are both similarities and differences between the OViN and the MPN modal splits. Especially for walking and public transport the relative differences are big. However, after simplifying the different modes into the five groups (car including trips as a passenger, bicycle, walking, public transport including BTM and 'other') the absolute difference in percentage points is smaller than 10 % for every category (See Table 1, Appendix A). The, by far, four biggest categories are also the same ones in both modal splits. It therefore is assumed that the MPN data is still valid for this report.

The differences should be taken into account, and where necessary further investigated, when using data from this report in future studies.

A possible explanation for the differences could be, among other things, the way of surveying and the application of correction factors. The OViN uses a more thorough way to recruit it's survey members. For instance, when not responding on a survey invitation by mail, survey takers personally go to the houses of the selected survey citizens (S. Hoogendoorn-Lanser, personal communication, September 12, 2018). Also, OViN makes an estimation for the entire Dutch population with a survey $1/200^{th}$ the size of the population, taken on a single day. Several correction factors are added to create a National estimation (CBS, 2018b). The data from the MPN contains a factor ten less respondents, has no correction factors applied and contains information gathered during the course of three days.

3.2 General modal split analysis

This section contains pie charts representing the modal split of the real used modes (Figure 3), the theoretical modal split based on the time consideration distributed by the logit model (Figure 4) and by an absolute distribution (Figure 5). The theoretical modal splits based on time and cost considerations are shown as well, both for 'low car cost' (Figure 6) and 'normal car cost' (Figure 7).

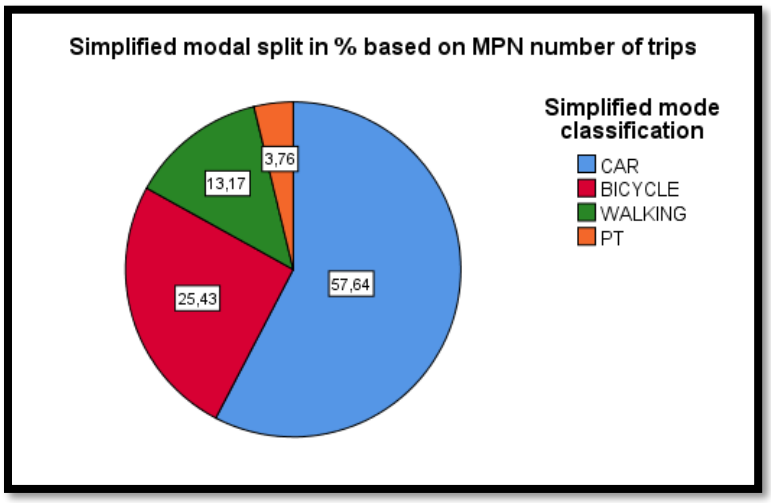

Figure 3: General real modal split in % based on MPN number of trips

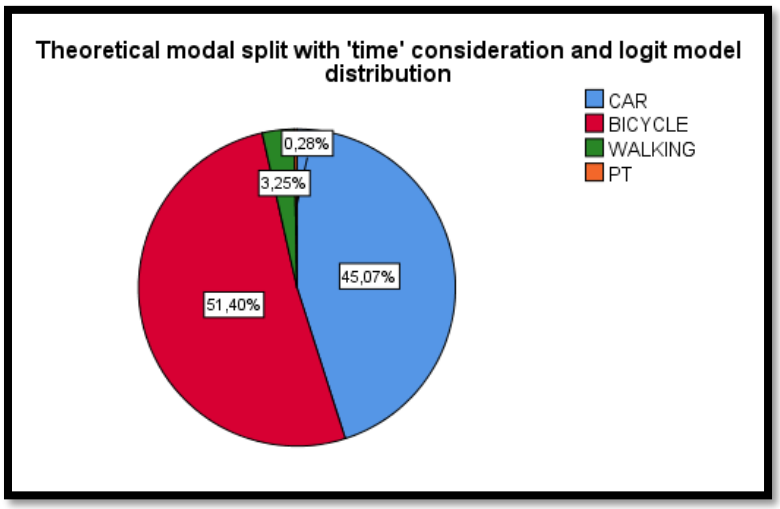

Figure 4: General theoretical modal split with 'time' consideration and logit model distribution

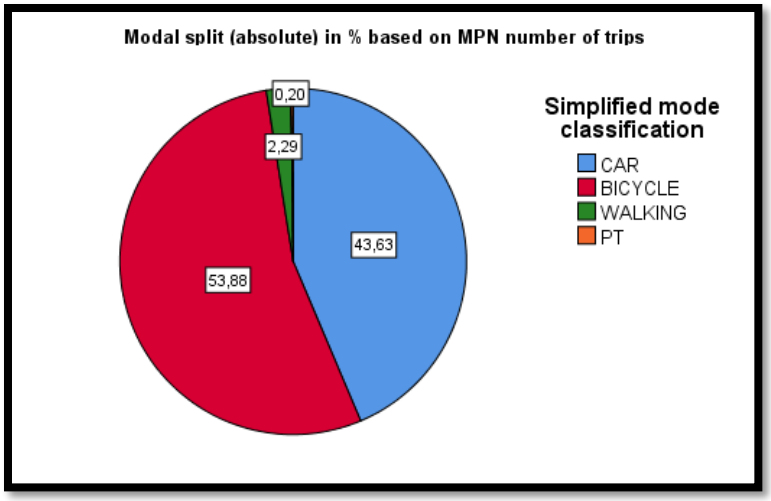

Figure 5: General theoretical modal split with 'time' consideration and absolute distribution

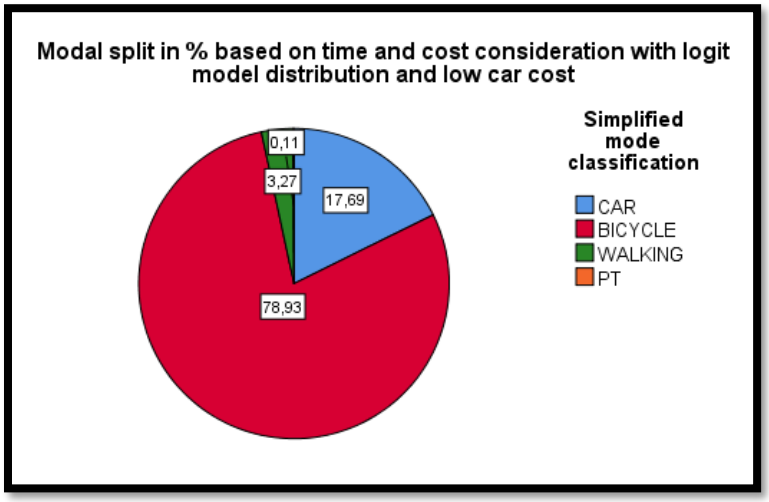

Figure 6: General theoretical modal split with 'time and cost' consideration with low car cost and logit distribution

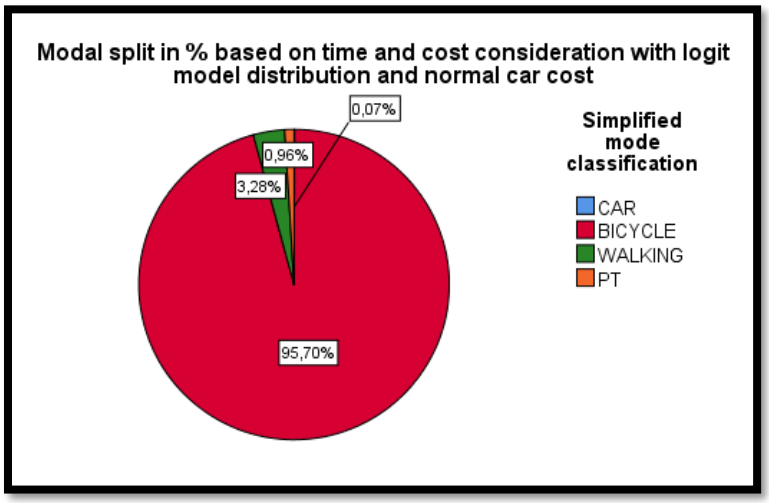

Figure 7: General theoretical modal split with 'time and cost' consideration with normal car cost and logit distribution

The first thing to mention is that it appears that the logit distribution in Figure 4 does not to differ much from the absolute distribution in Figure 5. However, the low percentage modes walking and public transport are almost ona and a half times as large in the logit distribution model compared to

the absolute model (See Table 2, Appendix A). Especially at the lower distances small time irregularities can have a large influence on which mode is faster if only the absolute winner is taken. It is therefore reasonable to continue using the logit model distribution.

When looking at the difference between the real modal split in Figure 3 and the time consideration graph in Figure 4, it becomes clear that the bicycle is substantially better suited for a lot of trips, if 'time' is the only consideration. All the other transportation modes have reduced percentages, with public transport having the biggest relative reduction (See Table 3, Appendix A). Apparently there are other considerations than time only to make people choose the car, or public transportation.

Comparing the real modal split with the time and cost consideration splits in Figure 6: General theoretical modal split with 'time and cost' consideration with low car cost and logit distribution in Figure 6 and Figure 7, it can be seen that there are even less trips best done by car. In the latter figure, car trips have almost disappeared completely. It is also notable that the largest theoretical percentage for the public transportation mode is found when both time and price with 'normal car cost' are taken into account.

Comparing the general modal splits already gives some insights, but it still remains unclear which percentages went to which mode. Therefore, a Sankey diagram is made for each consideration.

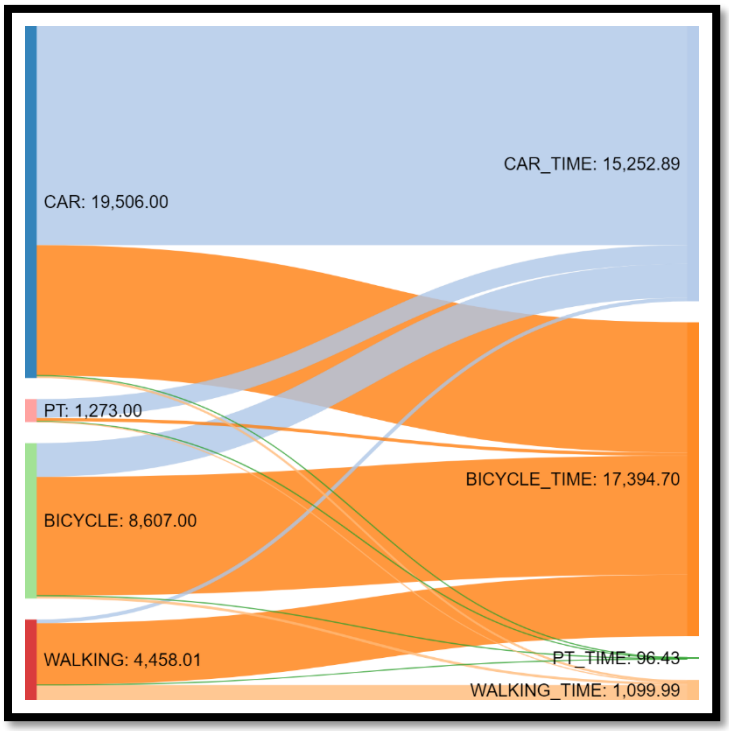

Figure 8: Sankey diagram for the origin and destination of real trips towards 'time' consideration logit distribution trips

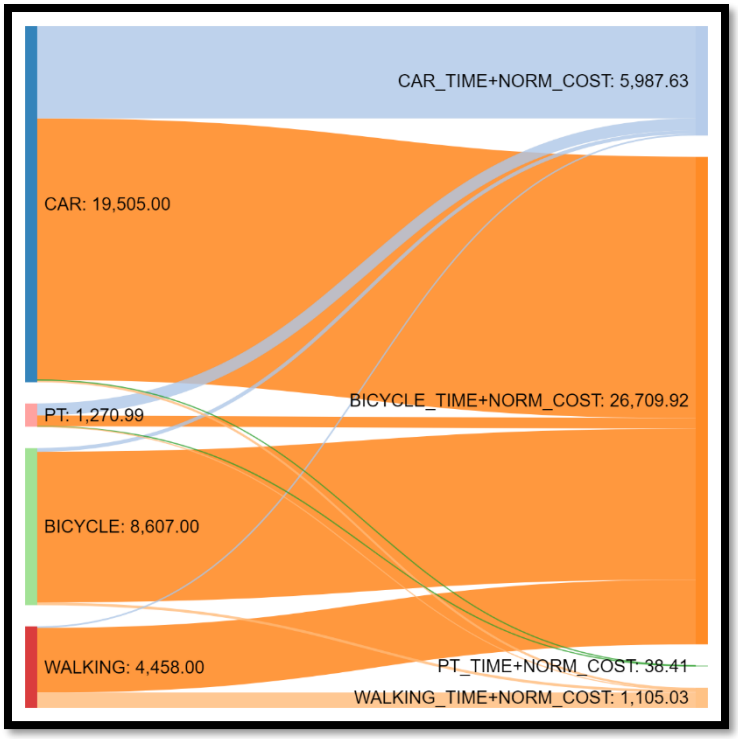

Figure 9: Sankey diagram for the origin and destination of real trips towards 'time and cost' consideration with low car cost logit distribution trips

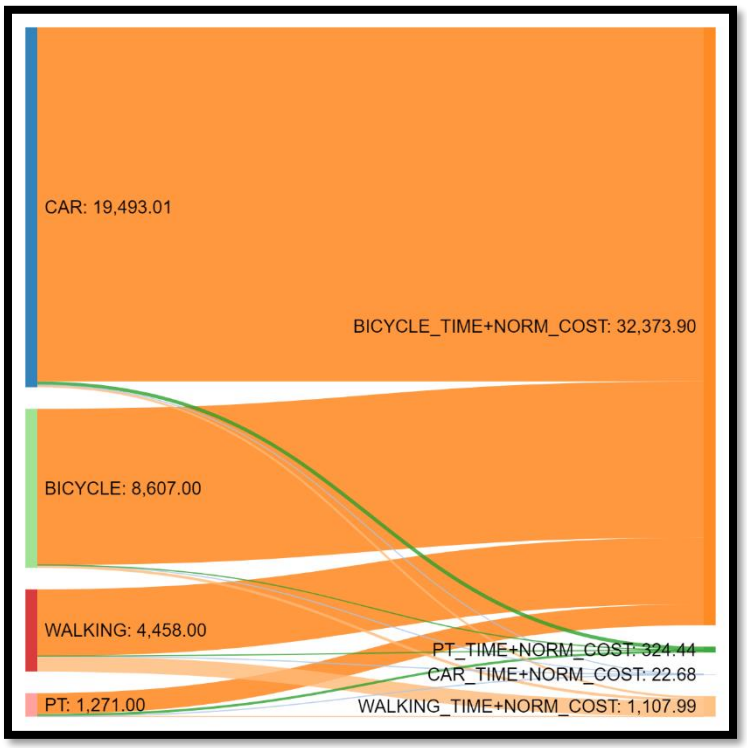

Figure 10: Sankey diagram for the origin and destination of real trips towards 'time and cost' consideration with normal car cost logit distribution trips

The Sankey diagram for the time only consideration (Figure 8) shows that the biggest part of the public transport trips is reassigned to the car mode. This is to be expected, since speed is seen as one of the cars' advantages. More unexpected is the amount of car trips that have been reassigned

towards the bicycle mode. Apparently time is a relatively small consideration in choosing the car mode. Walking delivers an even larger share of it's trips to cycling. This is somewhat expected, since walking might often be the only possibility if a personal vehicle is not at hand when performing the trip.

When looking at Figure 9 compared with Figure 8, it is visible that the share of car trips going to the bicycle transportation mode has doubled, while the share of bicycle trips going to the car mode has almost disappeared. In Figure 10, with the average car cost per kilometre applied, almost all the trips are going to the bicycle. Only walking keeps some share of it's original trips. As mentioned earlier, more trips now end up at the public transport mode than in the other theoretical cases. It is notable that the biggest part of these trips appear to origin from car trips, which means that taking into account fuel price and fixed costs for the car has an advantage for the public transportation mode. In other words, if people already have a car, they might as well use it since the fixed costs are already payed. But if all costs are taken into account it is better to either take the bike or use public transport, from a time and cost perspective.

3.3 Segmentation analysis

For the segmentation analysis, the general modal splits with the real trips and the time consideration theoretical trips are divided into subgroups. They are shown in stacked histograms. This section is sub-divided into the three characteristics criteria on which the segmentation is based. The tables used for crating the chi-square tests, as well as the tables for the Mann-Whitney U test and Kruskal-Wallis test are shown in Appendix B.

3.3.1 Socio-economical characteristics

The modal splits based on gender, age, income, education level and urbanisation level are treated in this section.

3.3.1.1 Gender segmentation

Of the 4168 persons in the data, 1924 is male and 2244 is female. Figure 11 shows the segmentation for the real modal split and Figure 12 for the split based on 'time' consideration.

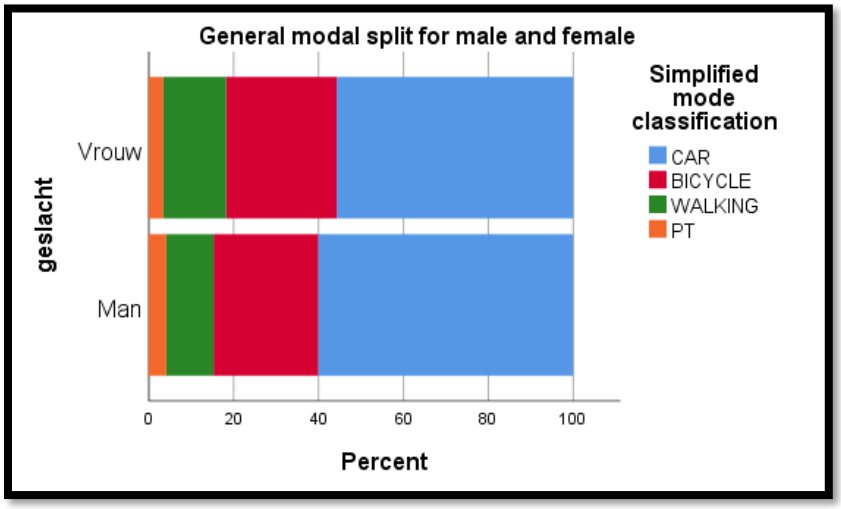

Figure 11: Real modal split for gender categories

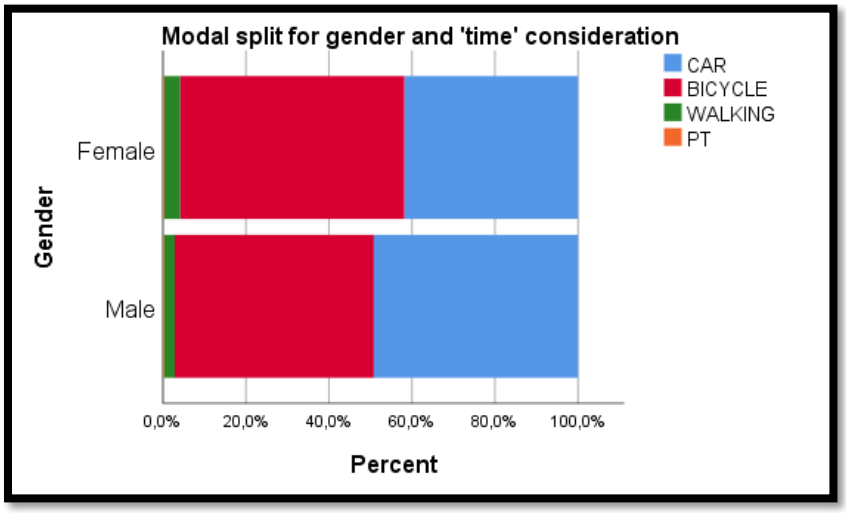

Figure 12: Modal split for gender categories and 'time' consideration by logit model distribution

Looking at the modal splits and Table 7 in Appendix A, it becomes clear that, even though males drive relatively more often than females, it is females that have the most relative potential for modal shift from the car to other modes. The Mann-Whitney U test for the 'time' consideration (See Table 29,

Appendix B) shows that males and females perform somewhat different trips as well. For the trips where the car, bicycle or walking would be better suited, they have different trips. But for trips where public transport is the best suited mode, there is not a significant difference in trips between males and females. Finally, the Mann-Whitney U test 'time' consideration for which originally only cars were used shows that there is no difference between males and females if the alternative for the car is walking or public transport (See Table Table 30, Appendix B).

As a last remark, it is interesting to see that females perform more trips than males: 14924 of the trips were performed by males, while 18918 were performed by females.

3.3.1.2 Age segmentation

In this section, the differences between the different age sections is shown. From the total of 4168, there are 270, 539, 1377, 1416 and 566 respondents per category, from young to old respectively.

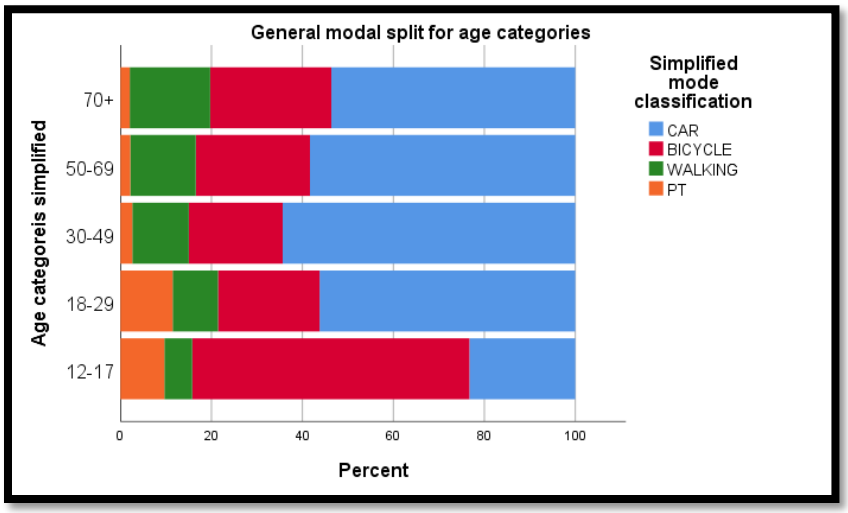

Figure 13: Real modal split for age categories

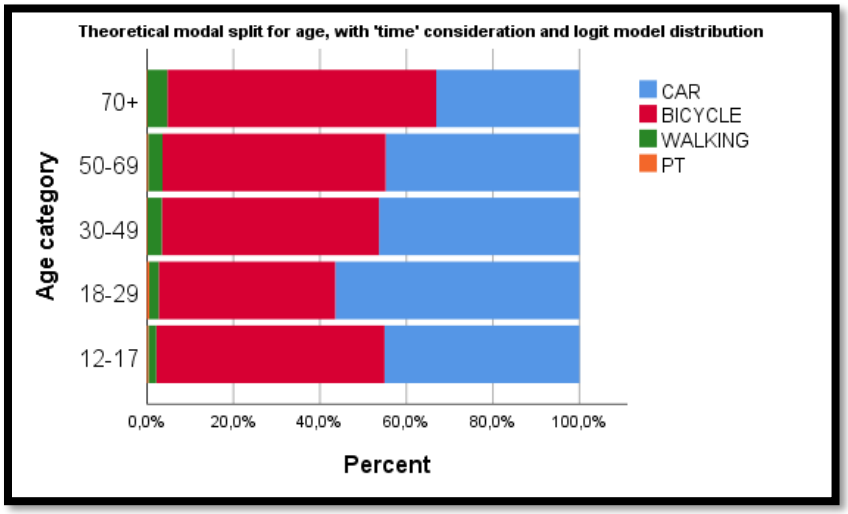

Figure 14: Modal split for age categories and 'time' consideration by logit model distribution

Figure 13 shows that the car is most used by people in the age category 30-49, while Figure 14 shows that people aged 18-29 should use the car the most, based on the time consideration. Looking at Table 9, Appendix A, we can see that especially elderly people and young working class people have much potential to switch from car to other modes. For persons younger than eighteen years, this is

the other way around. For teenagers, it is logical they could do more trips by car than they actually can, because they are not allowed to drive themselves. It is interesting to notice that students have almost exactly the most time efficient use of the car mode. At a higher age, a possible explanation for an increase in car usage can be both the availability of the car, as the comfort and practicality when having children. At an age where children have usually left the house, the amount of trips done 'inefficiently' drop slightly, only to rise again at elderly age. Also this is logical, since the latter group is probable to have the physical inability to use other modes.

3.3.1.3 Income segmentation

The differences between household income level are shown in this section. There are 2508 households, of which 461 in the low-income category, 1340 in the middle, and 372 in the high-income category. From 335 households it is unknown what the income is. It is noteworthy that the data on income is not very accurate, since households often don't know their actual income precisely, or simply don't want to tell it (S. Hoogendoorn-Lanser, personal communication, September 12, 2018).

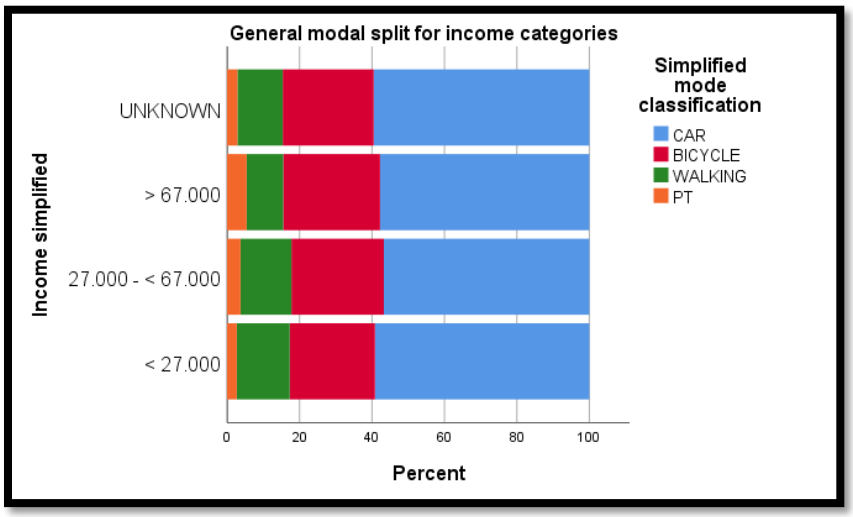

Figure 15: Real modal split for income categories

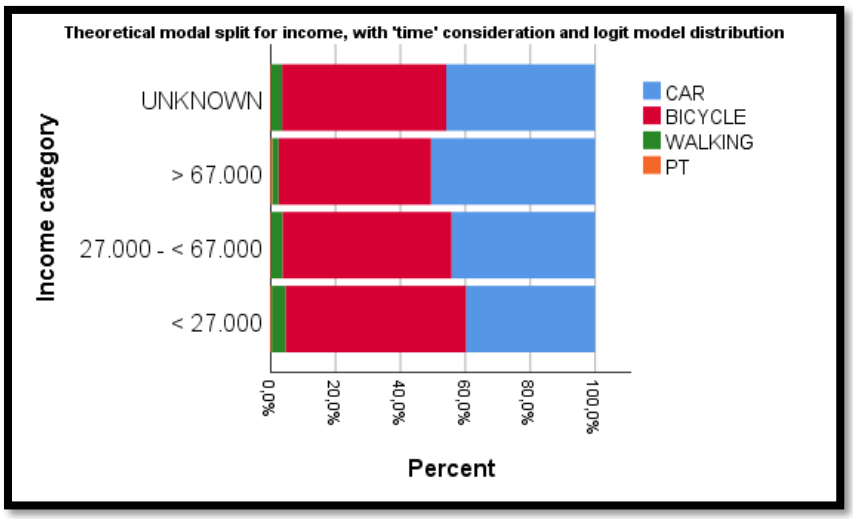

Figure 16: Theoretical modal split for income, with 'time' consideration and logit model distribution

Figure 15 shows that high income travellers use public transport the most from all categories, and low income travellers have the highest rate of car usage. This is in contrast with Figure 16, which shows that low income travellers should use the car less compared to high income travellers, based on the time consideration.

3.3.1.4 Education segmentation

In this section, the education categories are analysed. From the 4168 respondents, 374 fall in the lower education category, 1947 in the middle and 1842 in the higher education category. From 5 persons it is unknown what heir education level is.

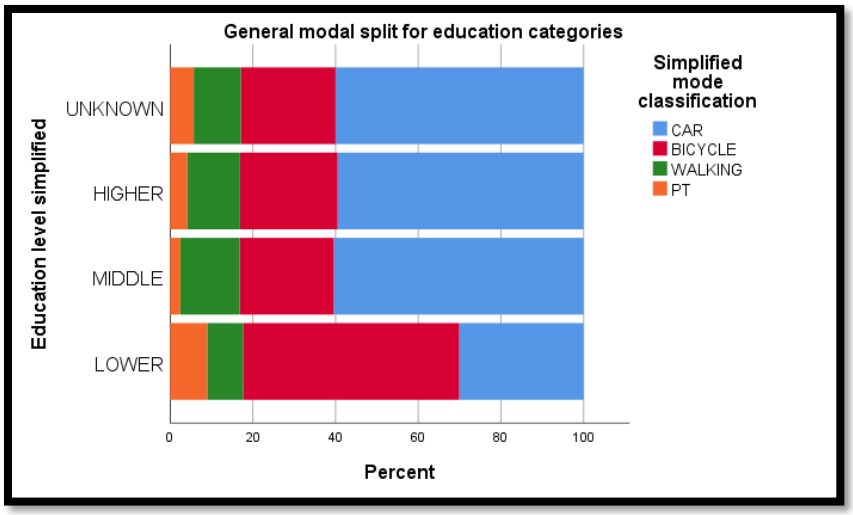

Figure 17: Real modal split for education categories

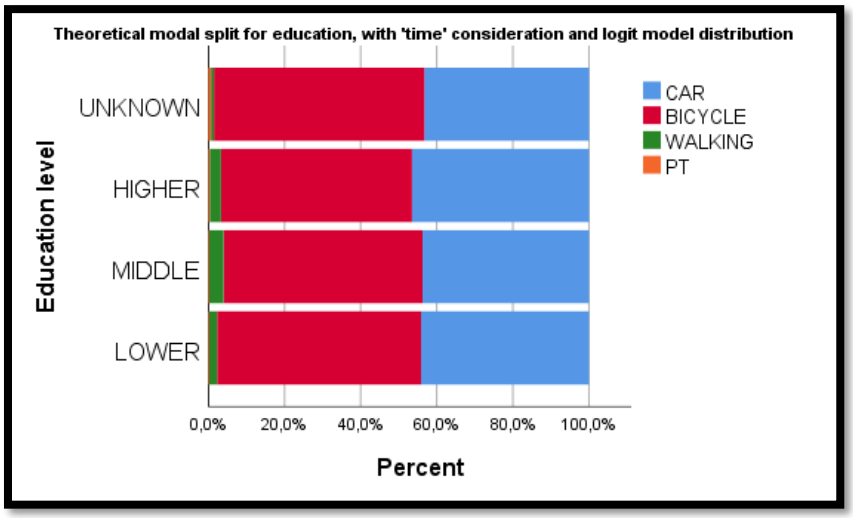

Figure 18: Theoretical modal split for education, with 'time' consideration and logit model distribution

Figure 17 shows that lower educated people use the car way less compared to the other categories, while for the other categories de difference appears minimal. Figure 18 shows little apparent difference between categories as well, apart from the Lower education category. The Kruskal-Wallis test however does show a significant difference, meaning people with different education levels do in fact perform different trips (See Table 38, Appendix B)

Apparently there is a lot of shift potential for the lower education level. This could be explained, however, by the fact that a lot of people with only a primary school education are still underaged, and therefore cannot drive a car. Indeed, from the 374 lower educated participants, 247 (66%) is under 18.

3.3.1.5 Urbanisation segmentation

This section treats the urbanisation segmentation.

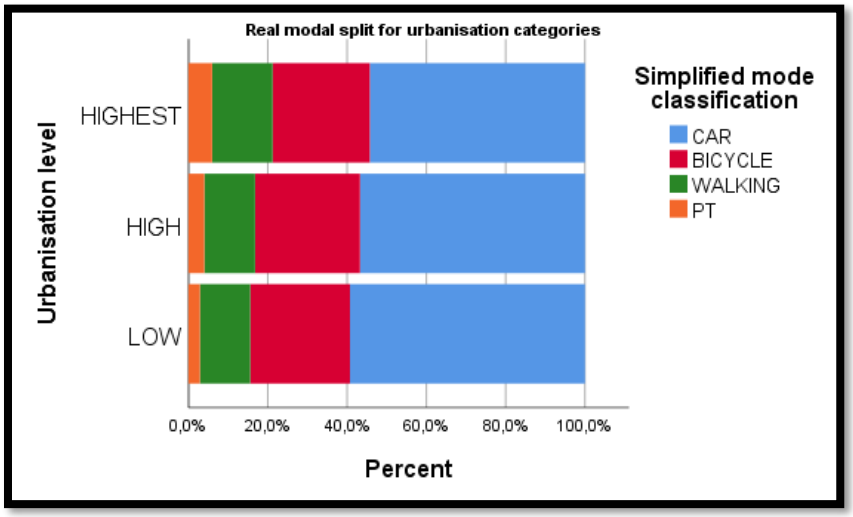

Figure 19: Real modal split for urbanisation categories

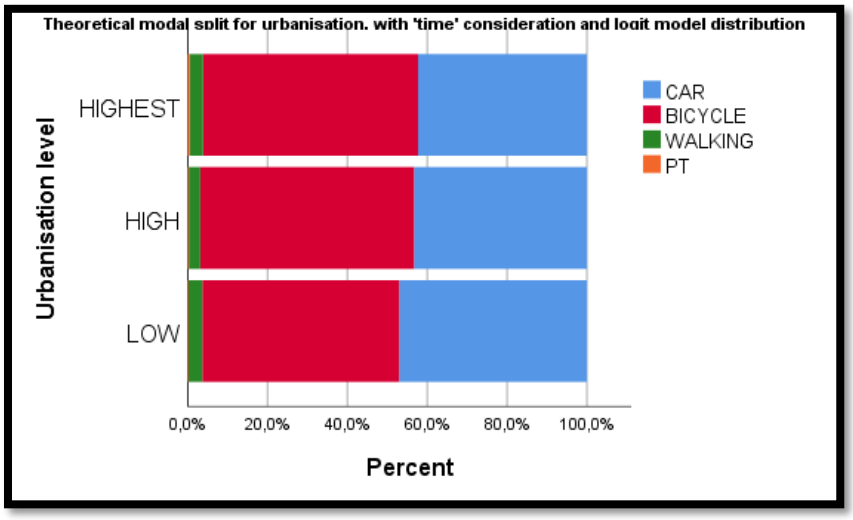

Figure 20: Theoretical modal split for urbanisation, with 'time' consideration and logit model distribution

It is expected to see people in urban areas taking public transport more often (as seen in Figure 19), since a dense network with a lot of demand can offer better service. The theoretical 'fastest' time for public transport is also larger for densely populated areas (See Figure 20). However, even in densely

populated areas, public transport is losing percentages in the 'time' consideration modal split compared to the real one. The bicycle mode is the only mode that gains percentages, which it does by a lot (See Table 15, Appendix A)

3.3.2 Trip characteristics

The modal splits based on purpose, distance, time of the day and day of the week are treated in this section.

3.3.2.1 Trip purpose segmentation

Out of the 33.842 trips made, 6780 are done for work, 1676 for education, 14.544 for shopping, services and pickups, 3596 for visits, 6638 for sport and leisure, while for 608 trips it is unknown.

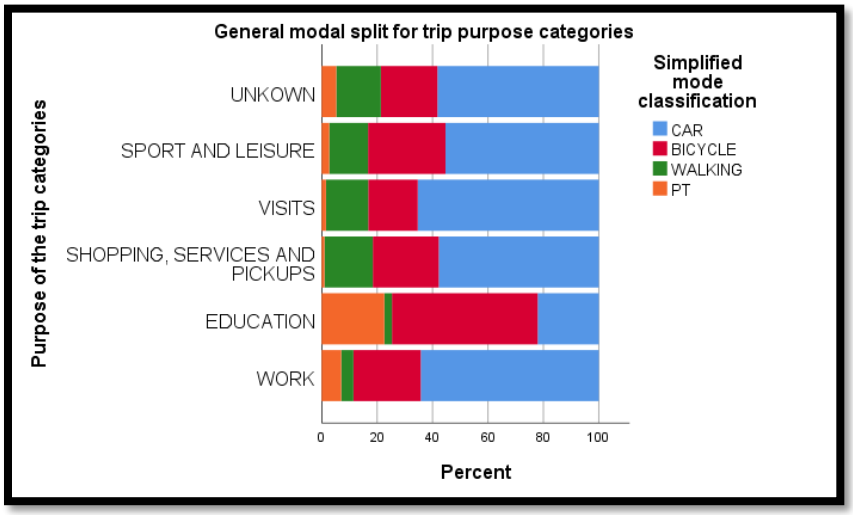

Figure 21: Real modal split for trip purpose categories

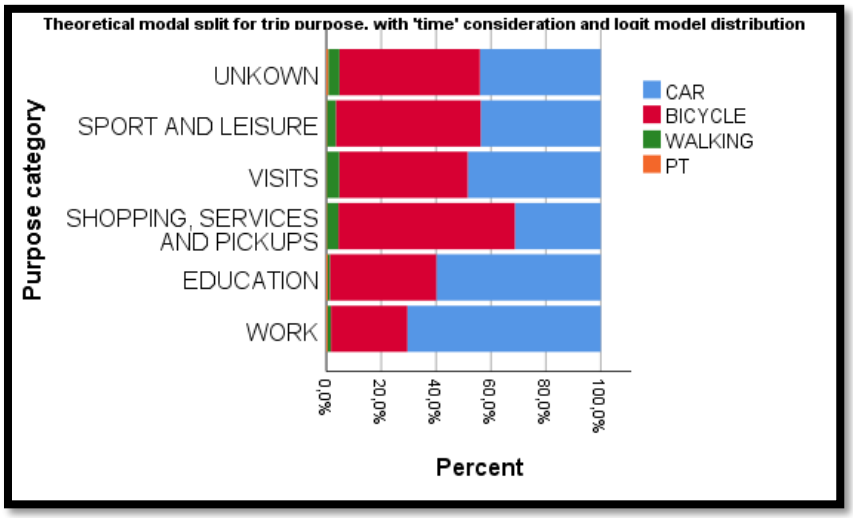

Figure 22: Theoretical modal split for trip purpose, with 'time' consideration and logit model distribution

Figure 21 shows that it depends a lot on the motive of the trip which transportation mode is chosen. Figure 22 shows a lot of difference between which modes are best, considering time, as well, depending on the trip purpose. While for most trips there is potential for decrease in car trips and increase in bike trips, for education it is the other way around. This is expected, since educational

trips are probably performed by mostly underaged persons. A unexpected abnormality is that, apart from the bicycle, the car has potential for increase in the work category as well (See Table 17, Appendix A). It is also noticeable that for work commute public transport has a relatively large role in the real modal split (See Table 16, Appendix A). A possible explanation for both the abnormalities from the work and the education trips, is that both are done mostly by underaged persons.

After further investigation, the hypothesis seems to be true for education, where 926 of the 1676 (55%) education related trips are done by persons under 18 years old. For the work category, this is not true. Only 168 of the 6780 trips are done by underaged persons. Other explications should be investigated, like the preference for public transport during the commute because of the possibility to do other activities during this time. The lack of (cheap) parking possibility's at the work destination could play a role as well.

3.3.2.2 Trip distance segmentation

In this section the segmentation based on trip distance is analysed. It should be mentioned that round-trips have not been excluded from the data set, since they proved to be of insignificant numbers (11 from the total of 33.842). For the interval 0 – 1 kilometre, 8485 trips have been made. 12093 have been made for 1-5, 6558 for 5-15, 4946 for 15-50 and 1760 trips went further than 50 kilometres.

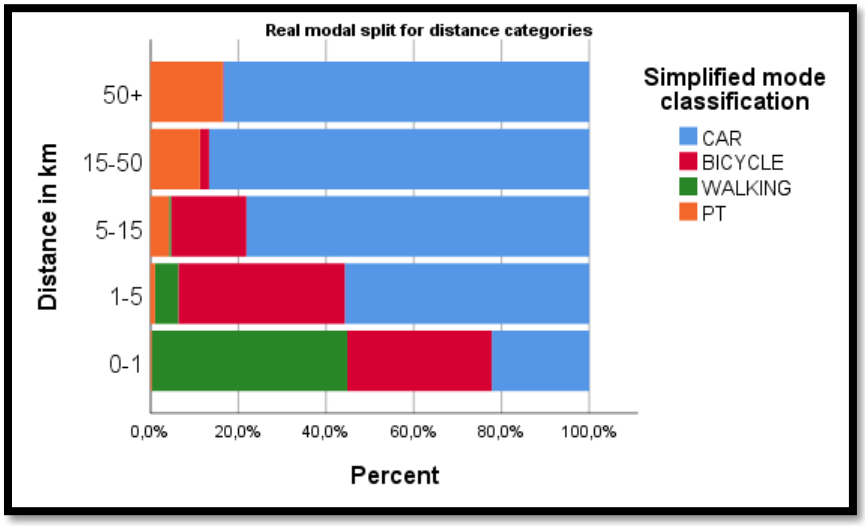

Figure 23: Real modal split for trip distance categories

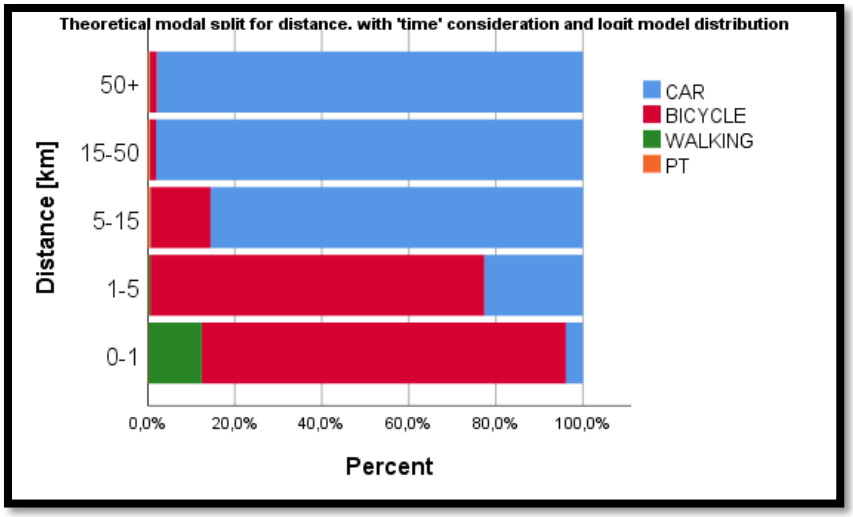

Figure 24: Theoretical modal split for trip distance, with 'time' consideration and logit model distribution

There are both expected and unexpected things showing up in this segmentation. Firstly, it is expected that people will use the slower, human powered modes for the lower distances, and the car and the public transport for the higher ranges (See Figure 23). The 'time' consideration theoretical split is more unexpected. There appears to be more potential for the bicycle to be used as a mode even for distances above 50 kilometres , than for public transport. Also, there is enormous potential for the car trips on distances up to five kilometres to be taken over by the bicycle (See Figure 24)

Further investigation reveals that, from the 1760 trips above 50 kilometres, only 29 were 'absolute winners' for the bicycle mode. For all these trips, the theoretical distance was never above 50 kilometres. Since it is only a few cases for which this gives a significant difference, it is assumed that the data is still good enough to work with. For further research, more care should be taken when theoretical and real distance differ.

On the other hand, the large potential for the trips by car to be carried out other modes does go in line with the other findings so far. Reasons like comfort, the disability to use other modes or the practicality for transporting children and goods could be reasons to use the car, even if it's not necessarily the fastest mode.

3.3.2.3 Trip time of day segmentation

From the 33.842 trips, 11.686 are done during peak hours, and 22.156 during off-peak hours. It should be noted that this segmentation is does not take into account if it is a working day or a weekend day.

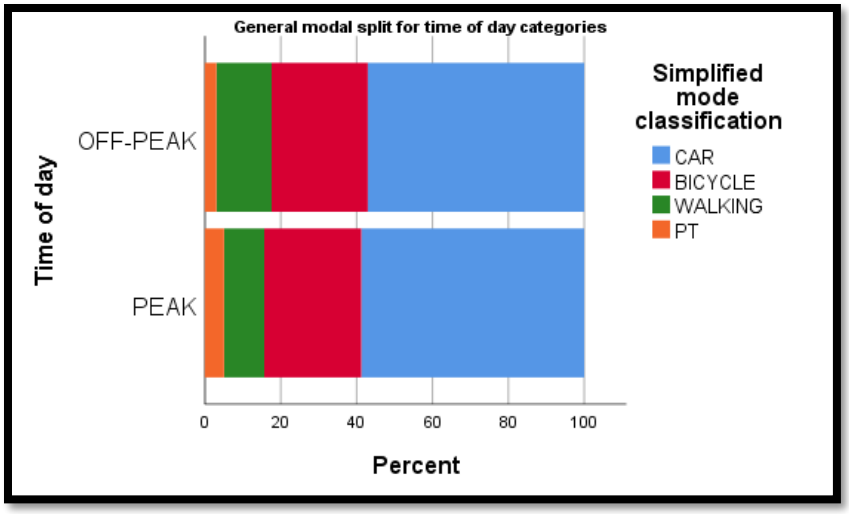

Figure 25: Real modal split for trip time of the day categories

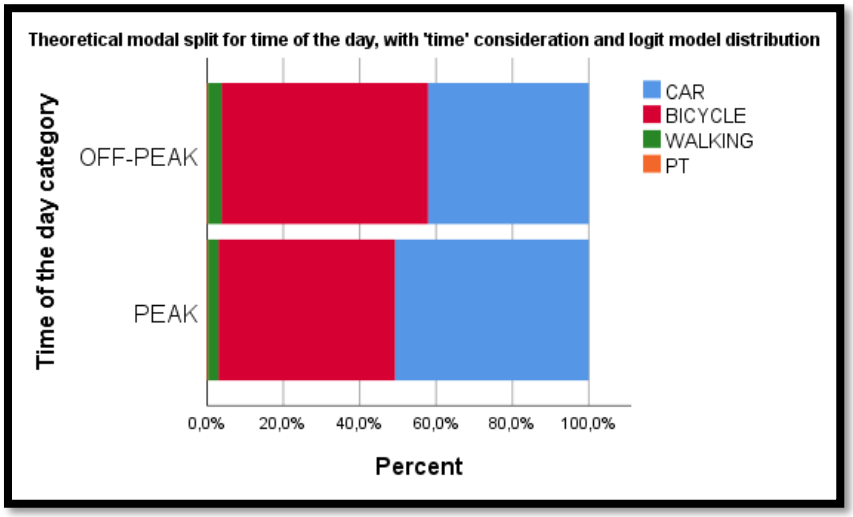

Figure 26:Theoretical modal split for time of the day, with 'time' consideration and logit model distribution

Figure 25 shows that during peak hour more trips are performed by both public transport and the car. Figure 26 and Table 21 in Appendix A make it is visible that during peak hours there is less potential for switch from the car mode. A possible explanation is that, during peak hours, only the more necessary trips are made, for which the practicality of the car in ways of carrying capacity is less important compared to activities done outside peak hours. Therefore, the car is already more often chosen if it's actually faster, compared to off-peak.

3.3.2.4 Trip day of the week segmentation

From the 33.842 trips, 26011 are made during the week and 7831 during the weekend.

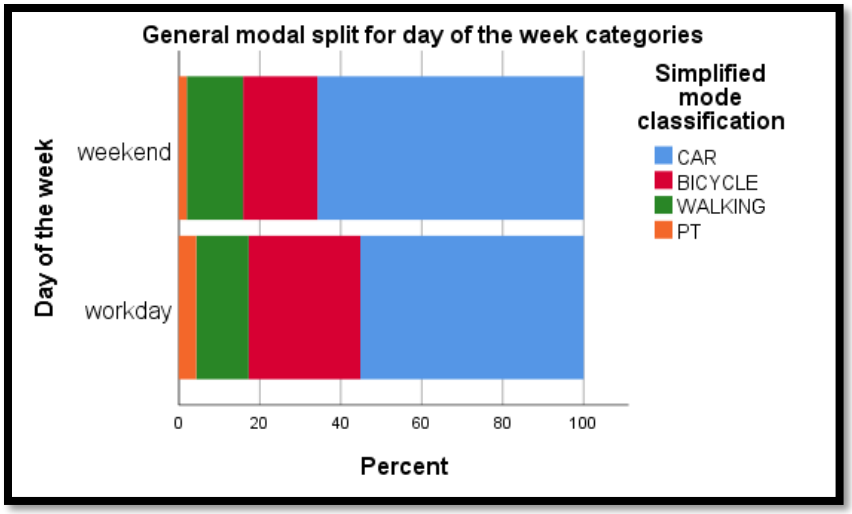

Figure 27: Real modal split for trip day of the week categories

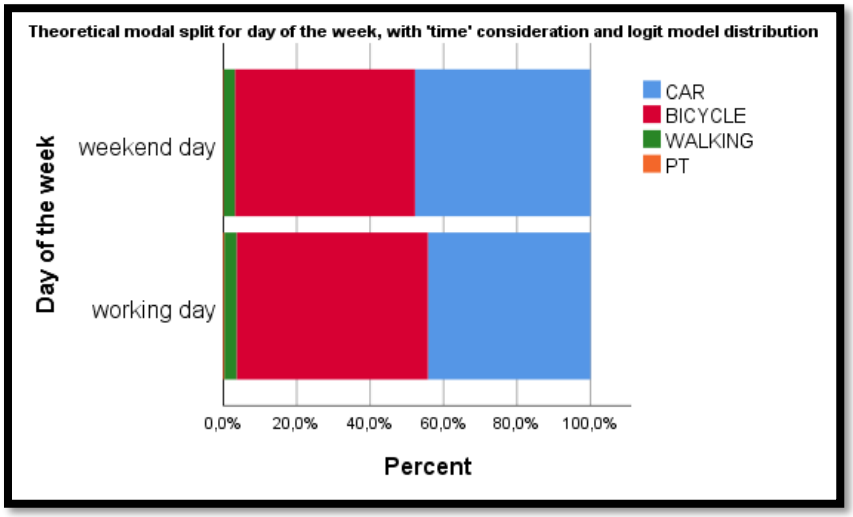

Figure 28: Theoretical modal split for day of the week, with 'time' consideration and logit model distribution

It is visible from Figure 27 that the absolute share of the car mode is larger in the weekend compared to the weekday. Figure 28 shows that the car should be used in the weekend more often as well, if the fastest mode is preferred. However, the potential for shift is also larger in the weekend (See Table 23, Appendix A). This is in line with the other findings, which indicate that for non-commuting, non-rush hour trips, travel time is a less important factor for choosing the car.

3.3.3 Travel pattern characteristics

The modal splits based on OV-card ownership and household car ownership are analysed here. The possession of an OV-card or a car may influence how often people take a certain mode, but also having different travel patterns.

3.3.3.1 Car ownership segmentation

From the 2508 households in the dataset, 2391 indicate to have a car, while only 117 say not to have a car in the household.

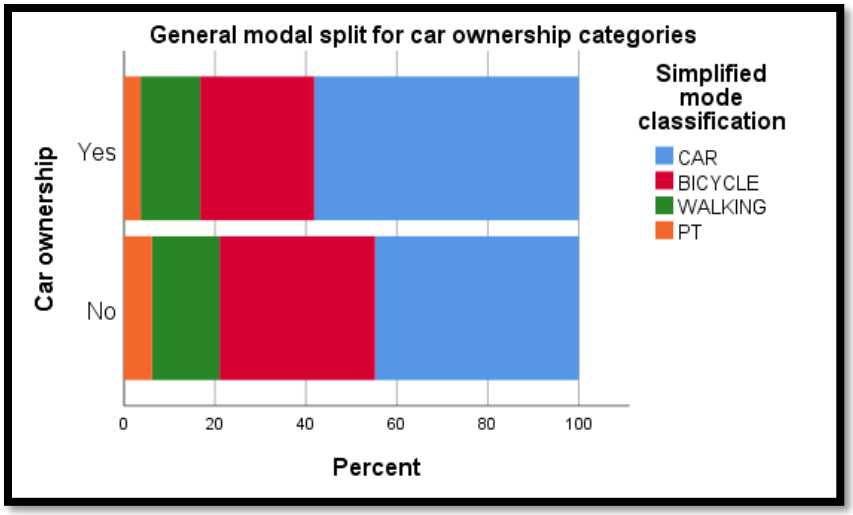

Figure 29: Real modal split for car availability within the household categories

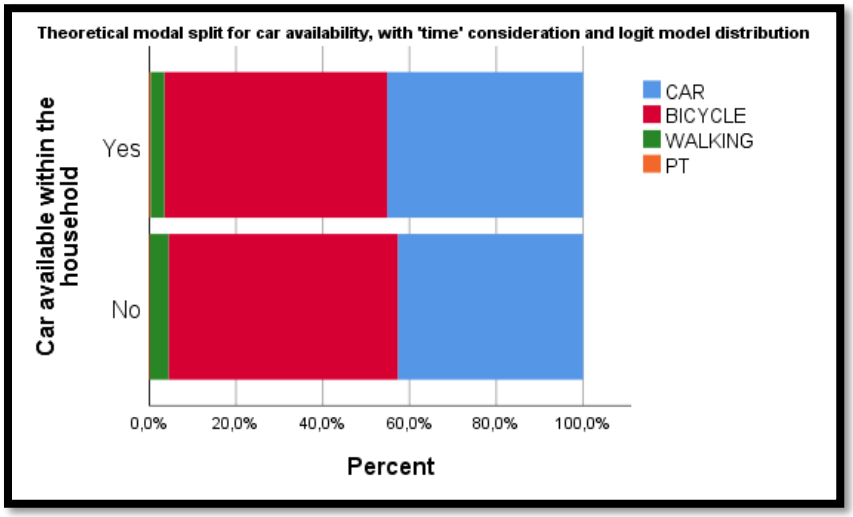

Figure 30: Theoretical modal split for car availability within the household, with 'time' consideration and logit model distribution

The first thing to notice from Figure 29 is that people with a car in the household do indeed perform more trips with public transport and less with the car. However, it is unexpected that even without a car in the household, still almost half of the trips are performed with a car. This could indicate that car sharing is quite substantial, and is worthy to be further investigated in future research. Figure 30 shows that there is also a slight difference between the trips people perform depending on whether they do or do not have a car in the household: People without a car have slightly more trips they could perform faster with either the bicycle, or walking (See Table 24, Appendix A). However, the Mann-Whitney test (See Table 56, Appendix B) shows there is not a significant difference, probably due to the relatively small group of non-car owning households.

3.3.3.2 OV-card ownership segmentation

From the 4168 respondents, 2698 possess an OV-card, while 1470 do not.

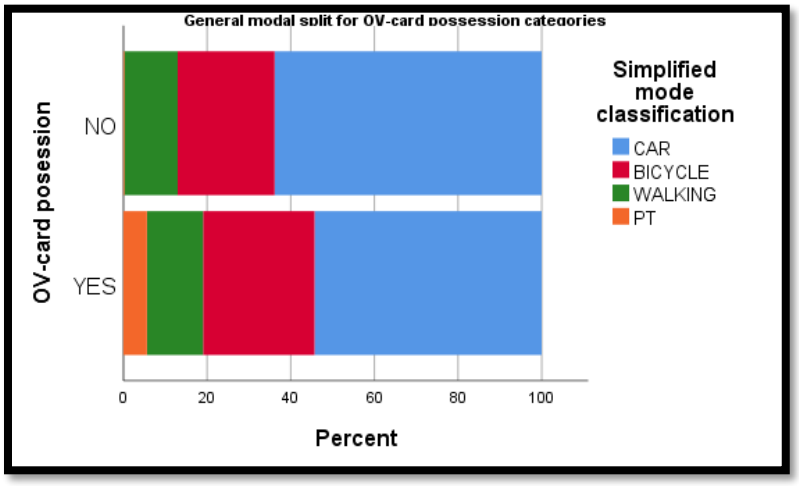

Figure 31: Real modal split for car availability within the household categories

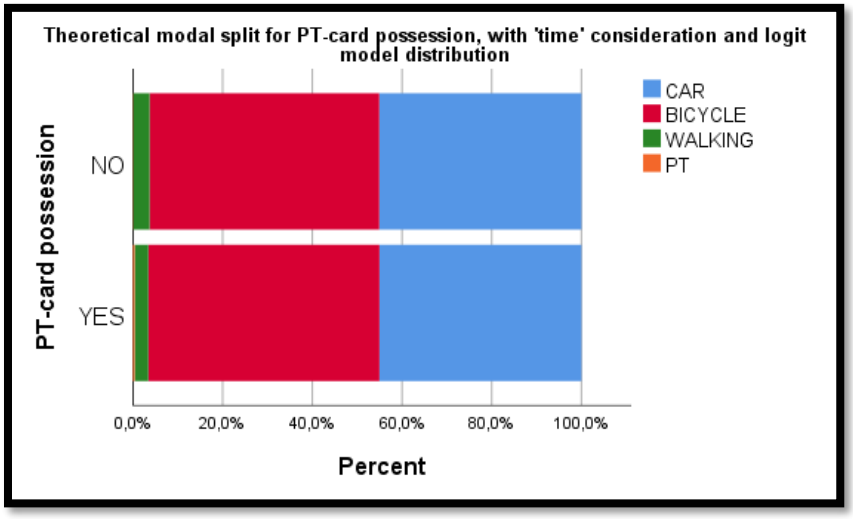

Figure 32:Theoretical modal split for PT-card availability within the household, with 'time' consideration and logit model distribution

Having an OV-card clearly is related to how often public transport is used, as seen in Figure 31. Practically, trips performed by public transport are only done by people who poses an OV-card. Since more than one third of the respondents claims not to have an OV-card, this means that one third of the respondents never takes public transport. As opposed to the household car possession segmentation, OV-card possession does not appear to influence some of the trips (See Figure 32). The trips fastest done by the car mode and the bicycle mode are the same for both categories. For the walking mode and the public transport mode, however, there is a significant difference. This is confirmed by the Mann-Whitney U test (See Table 59, Appendix B). The difference might be due to people having OV-cards where public transport possibilities are better, or because people that have personal motives to choose public transport also live in places where public transport is better.

4. Final discussion and conclusion

4.1 Final discussion

The first sub question can be answered with the analysis done in 3.2 'General modal split analysis': Theoretically, the potential for shift from the car is very large towards the bicycle, for both 'time' consideration as the 'time plus cost' considerations. Either two fifths, if time is important, four fifths if time and variable costs for the car are important, and all the trips, if the total average cost per kilometre for the car is important, could better be done by bicycle. Apparently there are other considerations than cost or time that make people opt for the car, like transport capacity, social safety or status. It is also very unlikely that people are willing to take the bicycle if that means cycling for hours long, especially with bad weather conditions. And it must be said that the calculation of the generalised journey time with cost is a very rough model.

The second sub question can be answered with the analysis done in 3.3 'Segmentation analysis'. There are differences in car use between all the subgroups, and differences in the amount of trips that could best be done by car for all subgroups except for the ones based on trip characteristics. Based on the time consideration, the trips done by females, elderly people or people who are likely to have small children, done outside peak hours for other trips than for commuting have the most potential to shift, while trips done by males, for commuting purposes have less potential for shift when time is of the essence. This could be explained by the fact that, if it is mostly males that work on regular hours, they use the car mostly for commute. For commuting it appears that the fastest mode is chosen.

Further research should point out what the other considerations are for which people use the car, and how existing, non-car transportation modes can be made suitable with regard to those considerations as well. Only then can policy makers act on in to reduce the amount of car trips done when the car is neither faster nor more cost efficient than other modes. The role of time with cost should also be further investigated by developing a more accurate model for calculating either the generalised costs or the generalised journey time with costs. With those insights the modes public transport and the bicycle can be improved to compete for the preferred mode for commuters, thus facilitating a modal shift for those trips.

4.2 Conclusion

In conclusion, the answer to the research question 'Which group of people from the Dutch population, for which trips, could choose another mode of transportation than the car, based on the objective factors time and cost?' is simply said: Mostly for elderly people or people probable to have children that are performing non-commuting trips outside of peak hours. For them there is a large part of their trips they could perform by bicycle instead. The answer to this question means that there are probably other considerations that are important for these kind of people and for these trips. For researchers this means that it must be further investigated what considerations these are, before policy makers can actively facilitate a modal shift.

The answer on the research question also makes clear that for people that are doing commuting trips during peak hours, time and cost are of the essence. The exact influence of cost is to be further researched, but it is already reasonable to assume that, if time is improved for transportation modes other than the car, this will facilitate a modal shift without other considerations. Policy makers should focus on improving travel time for the other modes, and then investigate if a modal shift has indeed taken place.

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A. Appendix A

This appendix contains the percentages from the general- and subgroup modal splits.

a. Table for the MPN vs. OViN modal splits

	OViN %	MPN %	Absolute difference %	Relative difference %/%
Car	47.2	55.87	8.67	+ 0.184
Bicycle	27	24.65	- 2.35	- 0.087
Walking	17.7	12.77	- 4.93	- 0.279
PT	5.4	3.64	- 1.76	- 0.326
Other	2.7	3.07	0.37	+ 0.137

Table 1: Difference between the OViN and MPN modal split

The absolute and relative difference in percent is given in Table 1 for the main modes (car including trips as a passenger, bicycle, walking and public transport including BTM) and the other modes ('Other').

b. Tables for the general modal splits

	Time logit %	Time absolute %	Absolute difference %	Relative increase %/%
Car	45,07	43,63	-1,44	-0,032
Bicycle	51,4	53,88	2,48	0,048
Walking	3,25	2,29	-0,96	-0,295
PT	0,28	0,2	-0,08	-0,286

Table 2: The percentages and relative differences between the 'time' consideration logit distribution and the absolute distribution modal split

A.	Real %	Time logit %	Absolute difference %	Relative increase %/%
Car	57,64	45,07	-12,57	-0,218
Bicycle	25,46	51,4	25,94	1,019
Walking	13,17	3,25	-9,92	-0,753
PT	3,76	0,28	-3,48	-0,926

Table 3: The percentages and relative differences between the real modal split and the 'time' consideration logit distribution modal split

	Real %	Time and Cost low %	Absolute difference %	Relative increase %/%
Car	57,64	17,69	-39,95	-0,69
Bicycle	25,46	78,93	53,47	2,10
Walking	13,17	3,27	-9,9	-0,75
PT	3,76	0,11	-3,65	-0,97

Table 4: The percentages and relative differences between the real modal split and the 'time and cost' consideration with low car cost logit distribution modal split

	Real %	Time and Cost low %	Absolute difference %	Relative increase %/%
Car	57,64	0,07	-57,57	-1,00
Bicycle	25,46	95,7	70,24	2,76
Walking	13,17	3,28	-9,89	-0,75
PT	3,76	0,96	-2,8	-0,74

Table 5: The percentages and relative differences between the real modal split and the 'time and cost' consideration with normal car cost logit distribution modal split

c. Tables for the segmentation modal splits

In this section the tables showing the percentages and differences between the real and the theoretical modal split based on time consideration with logit model distribution are shown.

i. Modal splits based on gender

B.	Car %		Bicycle %		Walking %		PT %	
Gender	Real	'Time'	Real	'Time'	Real	'Time'	Real	'Time'
Female	55,69	41,83	26,06	54,11	14,80	3,76	3,45	0,30
Male	60,10	49,17	24,64	47,97	11,12	2,60	4,14	0,26

Table 6: Percentages of the modal splits for gender with different considerations

Real to 'Time'	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Female	-13,86	28,05	-11,03	-3,16	-0,249	1,076	-0,746	-0,914
Male	-10,94	23,33	-8,52	-3,88	-0,182	0,947	-0,766	-0,936

Table 7: Absolute and relative difference between the real and 'time' consideration gender segmentation modal split

ii. Modal splits based on age

	Car %		Bicycle %		Walking %		PT %	
	Real	'Time'	Real	'Time'	Real	'Time'	Real	'Time'
70+	53,65	33,12	26,63	62,16	17,68	4,55	2,03	0,18
50 to 69	58,35	44,81	25,11	51,56	14,39	3,34	2,15	0,29
30 to 49	64,33	46,33	20,66	50,21	12,41	3,24	2,59	0,22
18 to 29	56,25	56,48	22,35	40,81	9,99	2,15	11,41	0,57
12 to 17	23,30	45,08	60,94	52,75	6,13	1,83	9,63	0,34

Table 8: Percentages of the modal splits for age with different considerations

Real to 'Time'	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
70+	-20,53	35,52	-13,14	-1,86	-0,383	1,334	-0,743	-0,913
50 to 69	-13,53	26,45	-11,05	-1,86	-0,232	1,053	-0,768	-0,865
30 to 49	-18,00	29,55	-9,17	-2,38	-0,280	1,430	-0,739	-0,916
18 to 29	0,23	18,46	-7,84	-10,85	0,004	0,826	-0,785	-0,950
12 to 17	21,78	-8,19	-4,29	-9,30	0,935	-0,134	-0,701	-0,965

Table 9: Absolute and relative difference between the real and 'time' consideration age segmentation modal split

iii. Modal splits based on income

	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Unknown	59,56	45,92	25,09	50,54	12,55	3,28	2,80	0,25
> 67000	57,80	50,56	26,71	46,98	10,09	2,02	5,40	0,44
27000 - <67000	56,72	44,25	25,55	52,09	14,04	3,43	3,68	0,23
< 27000	59,20	39,88	23,54	55,58	14,59	4,23	2,68	0,31

Table 10: Percentages of the modal splits for income with different considerations

Real to 'Time'	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Unknown	-13,64	25,46	-9,27	-2,54	-0,229	1,015	-0,738	-0,909
> 67000	-7,23	20,27	-8,07	-4,96	-0,125	0,759	-0,800	-0,919
27000 - <67000	-12,47	26,54	-10,62	-3,46	-0,220	1,039	-0,756	-0,939
< 27000	-19,32	32,04	-10,36	-2,36	-0,326	1,361	-0,710	-0,883

Table 11: Absolute and relative difference between the real and 'time' consideration income segmentation modal split

iv. Modal splits based on education

	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Unknown	60,00	43,24	22,86	55,30	11,43	0,77	5,71	0,69
Higher	59,49	46,52	23,61	50,16	12,74	2,99	4,16	0,34
Middle	60,44	43,73	22,72	52,30	14,39	3,73	2,44	0,24
Lower	30,08	44,12	52,28	53,61	8,68	2,05	8,95	0,22

Table 12: Percentages of the modal splits for education with different considerations

'Real to time'			Absolute %			Relative %/%		
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Unknown	-16,76	32,44	-10,66	-5,03	-0,279	1,419	-0,933	-0,880
Higher	-12,97	26,54	-9,75	-3,82	-0,218	1,124	-0,765	-0,919
Middle	-16,71	29,58	-10,66	-2,21	-0,276	1,302	-0,741	-0,904
Lower	14,03	1,32	-6,63	-8,73	0,467	0,025	-0,764	-0,975

Table 13: Absolute and relative difference between the real and 'time' consideration education segmentation modal split

v. Modal splits based on urbanisation

	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Highest	54,27	42,31	24,50	53,85	15,27	3,31	5,95	0,52
High	56,77	43,31	26,44	53,54	12,80	2,88	3,99	0,26
Low	59,27	47,01	25,16	49,34	12,69	3,44	2,88	0,21

Table 14: Percentages of the modal splits for education with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Highest	-11,96	29,35	-11,96	-5,43	-0,220	1,198	-0,783	-0,912
High	-13,46	27,10	-9,91	-3,73	-0,237	1,025	-0,775	-0,934
Low	-12,26	24,17	-9,24	-2,67	-0,207	0,961	-0,729	-0,926

Table 15: Absolute and relative difference between the real and 'time' consideration education segmentation modal split

vi. Modal splits based on trip purpose

Trip purpose	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Unkown	58,22	44,06	20,39	51,13	16,12	4,14	5,26	0,67
Sport and leisure	55,33	43,79	27,96	52,78	14,00	3,24	2,71	0,19
Visits	65,35	48,52	17,85	46,79	15,27	4,54	1,53	0,15
Shopping, services and pickups	57,77	31,28	23,76	64,35	17,44	4,15	1,02	0,22
Education	22,08	59,87	52,57	38,86	2,74	0,74	22,61	0,53
Work	64,26	70,50	24,31	27,84	4,41	1,18	7,02	0,49

Table 16: Percentages of the modal splits for trip purpose with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Unknown	-14,17	30,74	-11,98	-4,59	-0,243	1,507	-0,743	-0,873
Sport and leisure	-11,54	24,82	-10,75	-2,52	-0,209	0,888	-0,768	-0,930
Visits	-16,83	28,94	-10,73	-1,38	-0,258	1,621	-0,703	-0,902
Shopping, services and pickups	-26,49	40,59	-13,29	-0,81	-0,459	1,708	-0,762	-0,789
Education	37,80	-13,71	-2,00	-22,08	1,712	-0,261	-0,730	-0,977
Work	6,23	3,53	-3,23	-6,53	0,097	0,145	-0,732	-0,931

Table 17: Absolute and relative difference between the real and 'time' consideration trip purpose segmentation modal split

vii. Modal splits based on trip distance

Trip distance	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
50+	83,41	97,91	0,11	1,57	0,06	0,19	16,42	0,33
15-50	86,66	98,08	2,00	1,51	0,04	0,08	11,30	0,33
5-15	78,15	85,53	17,17	13,83	0,44	0,15	4,24	0,49
1-5	55,74	22,65	37,93	76,75	5,29	0,37	1,03	0,23
0-5	22,23	3,88	32,92	83,72	44,62	12,23	0,24	0,16

Table 18: Percentages of the modal splits for trip distance with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
50+	14,51	1,45	0,13	-16,09	0,174	12,790	2,270	-0,980
15-50	11,43	-0,49	0,04	-10,98	0,132	-0,244	0,965	-0,971
5-15	7,38	-3,34	-0,29	-3,75	0,094	-0,195	-0,651	-0,885
1-5	-33,09	38,82	-4,92	-0,81	-0,594	1,023	-0,930	-0,779
0-5	-18,35	50,81	-32,39	-0,07	-0,825	1,543	-0,726	-0,307

Table 19: Absolute and relative difference between the real and 'time' consideration trip distance segmentation modal split

viii. Modal splits based on trip time of day

Trip time of day	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Off-peak	57,05	42,08	25,34	54,12	14,54	3,52	3,07	0,28
Peak	58,75	50,73	25,61	46,25	10,58	2,73	5,06	0,29

Table 20: Percentages of the modal splits for trip time of day with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Off-peak	-14,97	28,78	-11,02	-2,79	-0,262	1,136	-0,758	-0,909
Peak	-8,02	20,63	-7,84	-4,77	-0,136	0,806	-0,742	-0,943

Table 21: Absolute and relative difference between the real and 'time' consideration trip time of day segmentation modal split

ix. Modal splits based on trip day of the week

Trip day of the week	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Weekend	65,76	47,79	18,35	49,01	13,91	3,03	1,98	0,17
Workday	55,19	44,25	27,57	52,12	12,95	3,32	4,29	0,32

Table 22: Percentages of the modal splits for trip day of the week with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
Weekend	-17,98	30,66	-10,88	-1,81	-0,273	1,671	-0,782	-0,916
Workday	-10,94	24,55	-9,64	-3,97	-0,198	0,891	-0,744	-0,926

Table 23: Absolute and relative difference between the real and 'time' consideration trip day of the week segmentation modal split

x. Modal split based on car ownership

	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
Yes	58,17	45,16	25,07	51,34	13,11	3,21	3,65	0,29
No	44,79	42,74	34,22	52,81	14,78	4,28	6,21	0,18

Table 24: Percentages of the modal splits for household car availability with different considerations

Absolute %				Relative %/%			
Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
-13,01	26,27	-9,90	-3,37	-0,224	1,048	-0,755	-0,922
-2,05	18,59	-10,50	-6,03	-0,046	0,543	-0,711	-0,972

Table 25: Absolute and relative difference between the real and 'time' consideration household availability segmentation modal split

xi. Modal split based on OV-card ownership

	Car %		Bicycle %		Walking %		PT %	
	Real	Time	Real	Time	Real	Time	Real	Time
No	63,86	45,08	23,14	51,20	12,75	3,62	0,25	0,10
Yes	54,29	45,06	26,67	51,50	13,40	3,05	5,64	0,38

Table 26: Percentages of the modal splits for OV-card possession with different considerations

	Absolute %				Relative %/%			
	Car	Bicycle	Walking	PT	Car	Bicycle	Walking	PT
No	-18,79	28,07	-9,14	-0,14	-0,294	1,213	-0,716	-0,588
Yes	-9,23	24,84	-10,34	-5,26	-0,170	0,931	-0,772	-0,933

Table 27: Absolute and relative difference between the real and 'time' consideration OV-card possession segmentation modal split

B. Appendix B

This appendix contains the tables representing the performed statistical tests from the segmentation analysis.

a. Tables for the gender segmentation tests

REAL					
Category:	Gender				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
MALE	8970	3677	1659	618	14924
FEMALE	10536	4930	2799	653	18918
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
MALE	8601,96	3795,605	1965,936	560,4989	14924
FEMALE	10904,04	4811,395	2492,064	710,5011	18918
GRAND TOTAL	19506	8607	4458	1271	33842
p	3,17E-28				

Table 28: Chi-square test for the gender segmentation

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	125540655,500	128300413,000	125682919,000	139415397,500
Wilcoxon W	304495476,500	239670763,000	237053269,000	318370218,500
Z	-17,538	-14,418	-17,352	-1,982
Asymp. Sig. (2-tailed)	,000	,000	,000	,047
a. Grouping Variable: geslacht				

Table 29: Mann-Whitney U test for the gender segmentation 'time' consideration

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	43259836,500	43153276,000	43359005,500	45346670,000
Wilcoxon W	98768752,500	83388211,000	83593940,500	85581605,000
Z	-10,246	-10,462	-9,938	-4,874
Asymp. Sig. (2-tailed)	,000	,000	,000	,000
a. Grouping Variable: geslacht				

Table 30: Mann-Whitney U test with CARS ONLY for the gender segmentation and 'time' consideration

b. Tables for the age segmentation tests

Category:	Age				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
12 to 17	445	1164	117	184	1910
18 to 29	2134	848	379	433	3794
30 to 49	7836	2517	1512	316	12181
50 to 69	6585	2834	1624	243	11286
70+	2506	1244	826	95	4671
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
12 to 17	1100,89	485,77	251,60	71,73	1910
18 to 29	2186,80	964,92	499,78	142,49	3794
30 to 49	7020,94	3097,98	1604,60	457,48	12181
50 to 69	6505,07	2870,36	1486,70	423,87	11286
70+	2692,29	1187,97	615,31	175,43	4671
GRAND TOTAL	19506	8607	4458	1271	33842
p	0				

Table 31: Chi-square test for the age segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	574,179	571,154	656,577	89,518
df	4	4	4	4
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Age categoreis simplified				

Table 32: Kruskal Wallis test for the age segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	360,149	357,616	372,136	86,643
df	4	4	4	4
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Age categoreis simplified				

Table 33: Kruskal Wallis test with CARS ONLY for the age segmentation and 'time' consideration

c. Tables for the income segmentation tests

Category:	Income				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
< 27000	2764	1099	681	125	4669
27000 - <67000	10401	4685	2575	675	18336
> 67000	3722	1720	650	348	6440
Unknown	2619	1103	552	123	4397
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
< 27000	2691,14	1187,46	615,05	175,35	4669
27000 - <67000	10568,58	4663,38	2415,40	688,64	18336
> 67000	3711,92	1637,88	848,34	241,87	6440
Unknown	2534,36	1118,28	579,22	165,14	4397
GRAND TOTAL	19506	8607	4458	1271	33842
p	5,47E-29				

Table 34: Chi-square test for the income segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	154,269	101,095	226,719	48,835
df	3	3	3	3
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Income simplified				

Table 35: Kruskal Wallis test for the income segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	150,277	149,678	152,228	26,182
df	3	3	3	3
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Income simplified				

Table 36: Kruskal Wallis test with CARS ONLY for the income segmentation and 'time' consideration

d. Tables for the education segmentation tests

Category:	Education				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Lower	790	1373	228	235	2626
Middle	9251	3477	2203	374	15305
Higher	9444	3749	2023	660	15876
Unknown	21	8	4	2	35
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Lower	1513,59	667,87	345,92	98,62	2626
Middle	8821,56	3892,50	2016,12	574,81	15305
Higher	9150,68	4037,73	2091,34	596,25	15876
Unknown	20,17	8,90	4,61	1,31	35
GRAND TOTAL	19506	8607	4458	1271	33842
p	0				

Table 37: Chi-square test for the education segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	39,419	56,721	99,565	60,880
df	3	3	3	3
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Education level simplified				

Table 38: Kruskal Wallis test for the education segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	56,799	60,716	67,851	4,243
df	3	3	3	3
Asymp. Sig.	,000	,000	,000	,236
a. Kruskal Wallis Test				
b. Grouping Variable: Education level simplified				

Table 39 Kruskal Wallis test with CARS ONLY for the education segmentation and 'time' consideration

e. Tables for the urbanisation segmentation tests

Category:	Urbanisation				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Highest	3227	1457	908	354	5946
High	5798	2701	1307	408	10214
Low	10481	4449	2243	509	17682
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Highest	3427,181	1512,24	783,2654	223,3132	5946
High	5887,19	2597,716	1345,488	383,606	10214
Low	10191,63	4497,044	2329,246	664,0808	17682
GRAND TOTAL	19506	8607	4458	1271	33842
p	2,73E-33				

Table 40: Chi-square test for the urbanisation segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	122,350	102,540	,175	1851,951
df	2	2	2	2
Asymp. Sig.	,000	,000	,916	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Urbanisation categories				

Table 41: Kruskal Wallis test for the urbanisation segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	95,876	91,755	21,432	1079,438
df	2	2	2	2
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Urbanisation categories				

Table 42: Kruskal Wallis test with CARS ONLY for the urbanisation segmentation and 'time' consideration

f. Tables for the trip purpose segmentation tests

Category:	Trip purpose				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Work	4357	1648	299	476	6780
Education	370	881	46	379	1676
Shopping, services and pickups	8402	3456	2537	149	14544
Visits	2350	642	549	55	3596
Sport and leisure	3673	1856	929	180	6638
Unknown	354	124	98	32	608
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Work	3907,89	1724,35	893,13	254,64	6780
Education	966,0202	426,2553	220,7792	62,94533	1676
Shopping, services and pickups	8382,93	3698,96	1915,88	546,23	14544
Visits	2072,68	914,57	473,70	135,05	3596
Sport and leisure	3826,04	1688,24	874,42	249,30	6638
Unknown	350,44	154,63	80,09	22,83	608
GRAND TOTAL	19506	8607	4458	1271	33842
p	0				

Table 43: Chi-square test for the trip purpose segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	3838,634	3465,664	4329,692	437,069
df	5	5	5	5
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Purpose of the trip categories				

Table 44: Kruskal Wallis test for the trip purpose segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	2914,309	2831,093	2968,833	284,156
df	5	5	5	5
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Purpose of the trip categories				

Table 45: Kruskal Wallis test with CARS ONLY for the trip purpose segmentation and 'time' consideration

g. Tables for the trip distance segmentation tests

Category:	Distance				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
0 to 1	1886	2793	3786	20	8485
1 to 5	6741	4587	640	125	12093
5 to 15	5125	1126	29	278	6558
15 to 50	4286	99	2	559	4946
50+	1468	2	1	289	1760
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
	4890,62	2157,98	1117,73	318,67	8485
	6970,22	3075,60	1593,01	454,18	12093
	3779,93	1667,89	863,88	246,30	6558
	2850,80	1257,91	651,54	185,76	4946
	1014,44	447,62	231,84	66,10	1760
GRAND TOTAL	19506	8607	4458	1271	33842
p	0				

Table 46: Chi-square test for the trip distance segmentation

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	23749,259	21895,609	27549,225	6656,941
df	4	4	4	4
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Distance class simple				

Table 47: Kruskal Wallis test for the trip distance segmentation and 'time' consideration

Test Statistics[a,b]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Kruskal-Wallis H	14954,111	14959,018	16079,896	3013,969
df	4	4	4	4
Asymp. Sig.	,000	,000	,000	,000
a. Kruskal Wallis Test				
b. Grouping Variable: Distance class simple				

Table 48: Kruskal Wallis test with CARS ONLY only for the trip distance segmentation and 'time' consideration

h. Tables for the trip time of day segmentation tests

Category:	Time of the day				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Peak	6866	2993	1236	591	11686
Off-peak	12640	5614	3222	680	22156
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Peak	6735,628	2972,088	1539,394	438,8897	11686
Off-peak	12770,37	5634,912	2918,606	832,1103	22156
GRAND TOTAL	19506	8607	4458	1271	33842
p	6,65E-38				

Table 49: Chi-square test for the trip time of day segmentation

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	115961410,000	116077194,500	114391580,000	123177862,000
Wilcoxon W	361416656,000	184364335,500	182678721,000	368633108,000
Z	-15,818	-15,658	-17,631	-7,425
Asymp. Sig. (2-tailed)	,000	,000	,000	,000
a. Grouping Variable: TOD				

Table 50: Mann-Whitney U test for the trip time of day segmentation 'time' consideration

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	38831414,000	38781006,000	38644787,500	42457386,000
Wilcoxon W	118722534,000	62355417,000	62219198,500	122348506,000
Z	-12,212	-12,279	-12,643	-2,496
Asymp. Sig. (2-tailed)	,000	,000	,000	,013
a. Grouping Variable: TOD				

Table 51: Mann-Whitney U test with CARS ONLY for the trip time of the day segmentation and 'time' consideration

i. Tables for the trip day of the week segmentation tests

Category:	Day of the week				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Working day	14356	7170	3369	1116	26011
Weekend day	5150	1437	1089	155	7831
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Working day	14992,33	6615,35	3426,424	976,8921	26011
Weekend day	4513,666	1991,65	1031,576	294,1079	7831
GRAND TOTAL	19506	8607	4458	1271	33842
p	5,39E-88				

Table 52: Chi-square test for the trip day of the week segmentation

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	96929027,500	96982709,500	97158652,000	88805231,000
Wilcoxon W	435228093,500	127648905,500	127824848,000	119471427,000
Z	-6,497	-6,417	-6,185	-17,384
Asymp. Sig. (2-tailed)	,000	,000	,000	,000
a. Grouping Variable: DAGSOORT				

Table 53: Mann-Whitney U test for the trip day of the week segmentation 'time' consideration

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	35428351,500	35294886,000	35454964,500	30704556,500
Wilcoxon W	138482897,500	48558711,000	48718789,500	43968381,500
Z	-4,462	-4,822	-4,361	-18,095
Asymp. Sig. (2-tailed)	,000	,000	,000	,000
a. Grouping Variable: DAGSOORT				

Table 54: Mann-Whitney U test with CARS ONLY for the trip day of the week segmentation and 'time' consideration

j. Tables for the household car availability segmentation tests

Category:	Car availability within the household				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
No	606	463	200	84	1353
Yes	18900	8144	4258	1187	32489
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
No	779,8481	344,1071	178,2304	50,81446	1353
Yes	18726,15	8262,893	4279,77	1220,186	32489
GRAND TOTAL	19506	8607	4458	1271	33842
p	2,3E-23				

Table 55: Chi-square test for the household car availability segmentation

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	21527797,000	21657413,500	21649544,500	21946083,500
Wilcoxon W	22443778,000	549441218,500	549433349,500	549729888,500
Z	-1,283	-,913	-,935	-,094
Asymp. Sig. (2-tailed)	,200	,361	,350	,925
a. Grouping Variable: Wel of geen auto in het huishouden				

Table 56: Mann-Whitney U test for the household car availability segmentation 'time' consideration

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	5318099,500	5396171,000	5294547,000	5476035,500
Wilcoxon W	183932549,500	5580092,000	5478468,000	184090485,500
Z	-3,011	-2,422	-3,167	-1,840
Asymp. Sig. (2-tailed)	,003	,015	,002	,066
a. Grouping Variable: Wel of geen auto in het huishouden				

Table 57: Mann-Whitney U test with CARS ONLY for the household car availability segmentation and 'time' consideration

k. Tables for OV-chipcard possession segmentation tests

Category:	PT-card possession				
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Yes	11954	5871	2950	1242	22017
No	7552	2736	1508	29	11825
GRAND TOTAL	19506	8607	4458	1271	33842
Expected					
Row Labels	CAR	BICYCLE	WALKING	PT	GRAND TOTAL
Yes	12690,25	5599,56	2900,295	826,8899	22017
No	6815,745	3007,44	1557,705	444,1101	11825
GRAND TOTAL	19506	8607	4458	1271	33842
p	3,8E-164				

Table 58: Chi-square test for OV-card possession segmentation

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	128734740,500	129019321,000	125718585,000	115008059,000
Wilcoxon W	371119893,500	198940546,000	368103738,000	184929284,000
Z	-1,684	-1,349	-5,201	-17,884
Asymp. Sig. (2-tailed)	,092	,177	,000	,000
a. Grouping Variable: PT-card posession				

Table 59: Mann-Whitney U test for the OV-card possession segmentation 'time' consideration

Test Statistics[a]				
	logit_ratio_car	logit_ratio_bicycle	logit_ratio_walking	logit_ratio_PT
Mann-Whitney U	44692068,000	44420319,500	43578628,500	40752776,000
Wilcoxon W	73212196,000	115875354,500	115033663,500	69272904,000
Z	-1,171	-1,874	-4,072	-11,468
Asymp. Sig. (2-tailed)	,241	,061	,000	,000
a. Grouping Variable: PT-card posession				

Table 60: Mann-Whitney U test with CARS ONLY for OV-card possession segmentation and 'time' consideration

C. Appendix C

This appendix contains the log in .txt format that describes in detail which operations have been performed with the program SPSS on the received data sets.

Steps for data Analysis SPSS

MERGING THE DIARY, HOUSEHOLD, PERSONAL AND THE ALTERNATIVE WALK, BIKE, CAR AND TRANSIT DATA

- Open the 'DAGBOEK data 2017_anoniem'file
- Save file as 'Combined_data'
- Use 'add variables' to match Combined... one-to-many with 'HH data 2017_anoniem' on variable'HHID'
- Use 'add variables' to match Combined... one-to many with 'P data 2017_anoniem' on variable 'PERSID'
- Open 'DiaryID_car_bike_walk_traveltimes_anonymous' and save in .xlsx format
- Open 'DiaryID_transit_traveltimes_anonymous' in excel and save in .xlsx format
- Open 'DiaryID_car_bike_walk_traveltimes_anonymous' in SPSS
- Open 'DiaryID_transit_traveltimes_anonymous' in SPSS
- Change 'VPLID' in Combined... to 'DiaryID'
- Use 'add variables' to match Combined... one-to-one with 'DiaryID_car_bike_walk_traveltimes_anonymous' on variable 'DiaryID'
- Use 'add variables' to match Combined... one-to-one with 'DiaryID_transit_traveltimes_anonymous' on variable 'DiaryID'

THE FILES ARE NOW MERGED INTO 1 FILE WITH 61859 CASES AND 1329 VARIABLES

FILTERING THE DATA AND VARIABLES

PERSOON
- -Delete variable

HHID
- -Delete cases with missing HHID

PERSID
- -Delete cases with missing PERSID

HH_VALID
- -Delete variable

IMPHHDATA
- -Delete variable

P_VALID
- -Delete variable

JAAR
- -Delete variable

DiaryID
- -Delete cases with missing values

WEGGEWEEST
- -Delete variable

VERTREKP
- -Delete variable

AANTVPL
- -Delete variable

VPLDAGNR
- -Delete variable

VERPL

-Delete variable
VERPLNR
-Delete variable
TOER
-Delete non-zero cases
-Delete variable
TOER_TYPE
-Delete variable
AANTRIT
-DO NOTHING
DOEL
-Delete variable
MOTIEF
-DO NOTHING
KMOTIEF
-DO NOTHING
VERTPROV
-Delete variable
AANKPROV
-Delete variable
AFSTV
-Delete cases with missing AFSTV
KAFSTV
-DO NOTHING
HVM
-DO NOTHING
KHVM
-DO NOTHING
KVERTTIJD
-DO NOTHING
REISDUUR
-Delete values under 1 (min)
KREISDUUR
-DO NOTHING
ROLAUTO
-Delete variable
PARKEERKOSTEN
-Delete variable
VERTRAGING
-DO NOTHING
RitID
-DO NOTHING
RIT
-Delete variable
RITNR
-DO NOTHING
RVM
-Delete variable
KRVM
-DO NOTHING
Bestuurder
-Delete variable

SAMENREIZEN
-Delete variable
BAFSTV
-Delete variable
BHVM
-Delete variable
KBHVM
-Delete variable
KBRVM
-Delete variable
AFSTVBL
-Delete variable
REISDUURBL
-Delete variable
CORRECTIE_VVM
-Delete variable
MARKERING_VVM
-Delete variable
CORRECTIE_AFSTAND
-Delete variable
CORRECTIE_REISTIJD
-Delete variable
CORRECTIE_VERTREKDATUM
-Delete variable
MARKERING_REISTIJD1
-Delete variable
MARKERING_REISTIJD2
-Delete variable
MARKERING_AFSTAND
-Delete variable
MARKERING_OMWEG
-Delete variable
MARKERING_OVERIG
-Delete variable
WOONPC2
-Delete variable
DAGSOORT
-Do nothing
VERTREKPC2
-Delete variable
AANKPC2
-Delete variable
DEELNAMEHH
-Delete variable
PERSID_GK
-Delete variable
STED_GM
-Do nothing
PROV
-Delete variable
COROP
-Delete variable

HHPERS
-Delete variable
HHSAM
-Delete variable
N_KIND
-Delete variable
HHBRUTOINK2_W5
-Do nothing
HHAUTO_N
-Delete variable
HHAUTO
-Delete rows with value '99'
HHBESTEL
-Delete variable
HHHYBRID
-Delete variable
HHMOTOR
-Delete variable
HHBROM
-Delete variable
HHSNOR
-Delete variable
HHFIETS
-Delete variable
HHVOUWFIETS
-Delete variable
HHEBIKE
-Delete variable
HHPEDEL
-Delete variable
HHSCOOT
-Delete variable
HHOVG
-Delete variable
HHGEEN
-Delete variable
HHPARK1
-Do nothing
HHPARK2
-Do nothing
HHPARK3
-Do nothing
HHPARK4
-Do nothing
N_AUTOMOTOR
-Delete variable
KILOMETRAGE
-Delete rows with value '10'
KENTEKENINFO
-Delete variable
DEELNAME
-Delete variable

DEELNAMEP
-Delete variable
GESLACHT
-Do nothing
POSITIEHH
-Delete variable
HERKOMST_W5
-Delete variable
WERKSITUATIE_MEEST_w5
-Delete variable
WERKSITUATIE_ANDERS1 T/M ..._ANDERS8
-Delete variable
WERKZAAM
-Delete variable
SECTORWERK
-Delete variable
OPLEIDING
-Delete rows with value '98' and '99'
WERKURENRECHT
-Delete variable
N_URENVAST
-Delete variable
N_URENTHUIS
-Delete variable
N_URENELDERS
-Delete variable
N_URENONDERWEG
-Delete variable
VVM_WERK_w5
-Do nothing
RIJBEWIJS
-Do nothing
RIJBEWIJS_AUTO
-Delete variable
RIJBEWIJS_MOTOR
-Delete variable
RIJBEWIJS_BROM_w5
-Delete variable
RIJBEWIJS_VRACHT_w5
-Delete variable
PVVM
-Delete variable
PAUTO
-Do nothing
PHYBRID
-Delete variable
PBESTEL
-Delete variable
PMOTOR
-Delete variable
PBROM
-Delete variable

PSNOR
-Delete variable
PFIETS
-Delete variable
PSNOR
-Delete variable
PFIETS
-Delete variable
PVOUWFIETS
-Delete variable
PEBIKE
-Delete variable
PSCOOT
-Delete variable
PPEDEL
-Delete variable
POVERIG
-Delete variable
STELLING_PARK
-Delete variable
STELLING_AUTO
-Delete variable
STELLING_FIETS_w5
-Delete variable
STELLING_OV
-Delete variable
VVM_VOORKEUR_w5_WERK T/M ..._VTOVERIG
-Delete variable
VOORKEUR_WERK1 T/M ...VTOVERIG12
-Delete variable
BEZIT_OVKAART
-Delete rows with value '6', '98' and '99'
TYPE_OVKAART1 T/M ...OVKAART9
-Delete variable
BESCHIK_AUTO
-Delete variable
DEELAUTO_GEBR T/M ...FREQ
-Delete variable
GEBRUIK_PARK1 T/M ...PARK4
-Delete variable
N_ACTIVITEIT_w5_1 T/M ...13
-Delete variable
GEBRINTERNETW3_w5_10 T/M ...25
-Delete variable
GEBRUIK_SNOR T/M ...PRIVE
-Delete variable
EVENT1 T/M ...17
-Delete variable
ALL EVENT...
-Delete variable
ALL INVLOED...
-Delete variable

ALL MILIEU...
-Delete variable
BESPARING_ENERGIE_WONING
-Delete variable
ACTIE_MILIEU_REIS
-Delete variable
KLEEFT2
-Do nothing
Time_driv
-Delete rows with no value
Status_driv
-Delete variable
Status_bike
-Delete rows with value 'ROUTE_NOT_FOUND'
-Delete variable
Status_walk
-Delete rows with value 'ROUTE_NOT_FOUND'
-Delete variable
status
-Delete rows with value 'ZERO_RESULTS'
-Delete variable

COUNT NUMBER OF ALTERNATIVES
-Use 'Compute Variable'
-Target Variable: 'number_of_alt'
-Numeric Expression: '1'
-Use 'Compute Variable'
-Target Variable: 'number_of_alt'
-Numeric Expression: '2'
-If...: 'MISSING(duration_incl_waiting_alt2) = 0'
-Use 'Compute Variable'
-Target Variable: 'number_of_alt'
-Numeric Expression: '3'
-If...: 'MISSING(duration_incl_waiting_alt3) = 0'
-Use 'Compute Variable'
-Target Variable: 'number_of_alt'
-Numeric Expression: '4'
-If...: 'MISSING(duration_incl_waiting_alt4) = 0'

DISREGARD WALK ONLY ALTERNATIVES
-Use 'Compute Variable'
-Target Variable: 'duration_incl_waiting_alt1'
-Numeric Expression: '9999999'
-If...: 'only_walking_alt1 = 1'
-Use 'Compute Variable'
-Target Variable: 'duration_incl_waiting_alt2'
-Numeric Expression: '9999999'
-If...: 'only_walking_alt2 = 1'
-Use 'Compute Variable'
-Target Variable: 'duration_incl_waiting_alt3'
-Numeric Expression: '9999999'
-If...: 'only_walking_alt3 = 1'

-Use 'Compute Variable'
-Target Variable: 'duration_incl_waiting_alt4'
-Numeric Expression: '9999999'
-If...: 'only_walking_alt1 = 1'
-Make variable
-'fastest_transit_time'
-Use 'Compute Variable'
-Target Variable: 'fastest_transit_time'
-Numeric Expression: 'duration_incl_waiting_alt1'
-If...: 'number_of_alt = 1'
-Use 'Compute Variable'
-Target Variable: 'fastest_transit_time'
-Numeric Expression: 'MIN(duration_incl_waiting_alt1,duration_incl_waiting_alt2)'
-If...: 'number_of_alt = 2'
-Use 'Compute Variable'
-Target Variable: 'fastest_transit_time'
-Numeric Expression: 'MIN(duration_incl_waiting_alt1,duration_incl_waiting_alt2
, duration_incl_waiting_alt3)'
-If...: 'number_of_alt = 3'
-Use 'Compute Variable'
-Target Variable: 'fastest_transit_time'
-Numeric Expression: 'MIN(duration_incl_waiting_alt1,duration_incl_waiting_alt2
,duration_incl_waiting_alt3,duration_incl_waiting_alt4)'
-If...: 'number_of_alt = 4'

SIMPLIFY DATA FOR LOGIT MODEL

-Make variable
-'round_time_car' with Width = 8 and Decimals = 2
-'round_time_bicycle' with Width = 8 and Decimals = 2
-'round_time_walking' with Width = 8 and Decimals = 2
-'round_time_PT' with Width = 8 and Decimals = 2
-Use 'Compute Variable'
-Target Variable: 'round_time_car'
-Numeric Expression: 'Time_traffic_drive/60'
-Use 'Compute Variable'
-Target Variable: 'round_time_bicycle'
-Numeric Expression: 'Time_bike/60'
-Use 'Compute Variable'
-Target Variable: 'round_time_walking'
-Numeric Expression: 'Time_walk/60'
-Use 'Compute Variable'
-Target Variable: 'round_time_PT'
-Numeric Expression: 'fastest_transit_time/60'
-If...: 'fastest_transit_time < 9999999'
-Use 'Compute Variable'
-Target Variable: 'round_time_PT'
-Numeric Expression: '9999999
-If...: 'fastest_transit_time = 9999999'

ADD TIME PENALTY FOR CAR AND BICYCLE

-Use 'Compute Variable'
-Target Variable: 'round_time_car'
-Numeric Expression: 'round_time_car + 5'
-Use 'Compute Variable'

-Target Variable: 'round_time_bicycle'
-Numeric Expression: 'round_time_bicycle + 1'

CALCULATE LOGIT DISTRIBUTION PER TRIP

-Make variable
-'logit_ratio_car'
-'logit_ratio_bicycle'
-'logit_ratio_walking'
-'logit_ratio_PT'
-Use 'Compute Variable'
-Target Variable: 'logit_ratio_car'
-Numeric Expression: 'EXP(- (round_time_car)) / (EXP(- (round_time_car)) + EXP(- (round_time_bicycle)) + EXP(- (round_time_walking)) + EXP(- (round_time_PT)))
-Use 'Compute Variable'
-Target Variable: 'logit_ratio_bicycle'
-Numeric Expression: 'EXP(- (round_time_bicycle)) / (EXP(- (round_time_car)) + EXP(- (round_time_bicycle)) + EXP(- (round_time_walking)) + EXP(- (round_time_PT)))'
-Use 'Compute Variable'
-Target Variable: 'logit_ratio_walking'
-Numeric Expression: 'EXP(- (round_time_walking)) / (EXP(- (round_time_car)) + EXP(- (round_time_bicycle)) + EXP(- (round_time_walking)) + EXP(- (round_time_PT)))'
-Use 'Compute Variable'
-Target Variable: 'logit_ratio_PT'
-Numeric Expression: 'EXP(- (round_time_PT)) / (EXP(- (round_time_car)) + EXP(- (round_time_bicycle)) + EXP(- (round_time_walking)) + EXP(- (round_time_PT)))'

SIMPLIFY TO FOUR MODES AND DISREGARD OTHER MODES

-Make variable:
-'KHVM_SIMPLE'
-Values:
-1= 'CAR'
-2= 'BICYCLE'
-3= 'WALKING'
-4= 'PT'
-Use 'Compute Variable'
-Target Variable: 'KHVM_SIMPLE'
-Numeric Expression: '1'
-If...: 'KHVM = 1 OR 2'
-Use 'Compute Variable'
-Target Variable: 'KHVM_SIMPLE'
-Numeric Expression: '2'
-If...: 'KHVM = 6'
-Use 'Compute Variable'
-Target Variable: 'KHVM_SIMPLE'
-Numeric Expression: '3'
-If...: 'KHVM = 7'
-Use 'Compute Variable'
-Target Variable: 'KHVM_SIMPLE'

-Numeric Expression: '4'
-If...: 'KHVM = 3 OR KHVM = 4'
-Variable KHVM_SIMPLE:
-Delete rows with value '.'
-Delete variable:
-KHVM
-HVM

TO BUILD THE FIRST SANKEY DIAGRAM
-Report: Summaries in Colums
-Data Columns: 'RitID:n'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 19506, BICYCLE = 8607,
WALKING = 4458, PT = 1273
-Report: Summaries in Colums
-Data Columns: 'logit_ratio_car:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 12138.53, BICYCLE = 1872.05,
WALKING = 204.53, PT = 1037.78
-Report: Summaries in Colums
-Data Columns: 'logit_ratio_bicycle:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 7220.83, BICYCLE = 6576.44,
WALKING = 3416.41, PT = 181.02
-Report: Summaries in Colums
-Data Columns: 'logit_ratio_walking:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 118.75, BICYCLE = 144.02, WALKING = 828.60,
PT = 8.62, Total = 1099.99
-Report: Summaries in Colums
-Data Columns: 'logit_ratio_PT:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 27.89, BICYCLE = 14.49, WALKING = 8.47,
PT = 45.58, Total = 96.43
MAKE SIMPLIFIED AGE SUBGROUP
-Make variable:
-'AGE'
-Values:
-1= '12-17'
-2= '18-29'
-3= '30-49'
-4= '50-69'
-5= '70+'
-Use 'Compute Variable'
-Target Variable: 'AGE'
-Numeric Expression: '1'
-If...: 'KLEEFT2 = 2'
-Use 'Compute Variable'
-Target Variable: 'AGE'
-Numeric Expression: '2'
-If...: 'KLEEFT2 = 3 OR KLEEFT2 = 4'
-Use 'Compute Variable'

-Target Variable: 'AGE'
-Numeric Expression: '3'
-If...: 'KLEEFT2 = 5 OR KLEEFT2 = 6'
-Use 'Compute Variable'
-Target Variable: 'AGE'
-Numeric Expression: '4'
-If...: 'KLEEFT2 = 7 OR KLEEFT2 = 8'
-Use 'Compute Variable'
-Target Variable: 'AGE'
-Numeric Expression: '5'
-If...: 'KLEEFT2 = 9 OR KLEEFT2 = 10'
-Delete variable:
-KLEEFT2

MAKE SIMPLIFIED INCOME SUBGROUP
-Make variable:
-'INCOME'
-Values:
-1= '<27.000'
-2= '27.000-<67.000'
-3= '>67.000'
-4= 'UKNOWN'
-Use 'Compute Variable'
-Target Variable: 'INCOME'
-Numeric Expression: '1'
-If...: 'HHBRUTOINK2_w5 = 1 OR HHBRUTOINK2_w5 = 2'
-Use 'Compute Variable'
-Target Variable: 'INCOME'
-Numeric Expression: '2'
-If...: 'HHBRUTOINK2_w5 = 3 OR HHBRUTOINK2_w5 = 4'
-Use 'Compute Variable'
-Target Variable: 'INCOME'
-Numeric Expression: '3'
-If...: 'HHBRUTOINK2_w5 = 5 OR HHBRUTOINK2_w5 = 6'
-Use 'Compute Variable'
-Target Variable: 'INCOME'
-Numeric Expression: '4'
-If...: 'HHBRUTOINK2_w5 = 7'

MAKE SIMPLIFIED EDUCATION SUBGROUP
-Make variable:
-'EDUCATION'
-Values:
-1= 'LOWER'
-2= 'MIDDLE'
-3= 'HIGHER'
-4= 'UKNOWN'
-Use 'Compute Variable'
-Target Variable: 'EDUCATION'
-Numeric Expression: '1'
-If...: 'OPLEIDING = 1 OR OPLEIDING = 2'
-Use 'Compute Variable'

-Target Variable: 'EDUCATION'
-Numeric Expression: '2'
-If...: 'OPLEIDING = 3 OR OPLEIDING = 4 OR OPLEIDING = 5'
-Use 'Compute Variable'
-Target Variable: 'EDUCATION'
-Numeric Expression: '3'
-If...: 'OPLEIDING = 6 OR OPLEIDING = 7 OR OPLEIDING = 8'
-Use 'Compute Variable'
-Target Variable: 'EDUCATION'
-Numeric Expression: '4'
-If...: 'OPLEIDING = 9'
-Delete variable:
-OPLEIDING

MAKE SIMPLIFIED URBANISATION SUBGROUP
-Make variable:
-'URBANISATION'
-Values:
-1= 'HIGHEST'
-2= 'HIGH'
-3= 'LOW'
-Use 'Compute Variable'
-Target Variable: 'URBANISATION'
-Numeric Expression: '1'
-If...: 'STED_GM = 1'
-Use 'Compute Variable'
-Target Variable: 'URBANISATION'
-Numeric Expression: '2'
-If...: 'STED_GM = 2'
-Use 'Compute Variable'
-Target Variable: 'URBANISATION'
-Numeric Expression: '3'
-If...: 'STED_GM = 3 OR STED_GM = 4 OR STED_GM = 5'
-Delete variable:
-STED_GM

MAKE SIMPLIFIED PURPOSE SUBGROUP
-Make variable:
-'PURPOSE'
-Values:
-1= 'WORK'
-2= 'EDUCATION'
-3= 'SHOPPING, SERVICES AND PICKUPS'
-4= 'VISITS'
-5= 'SPORT AND LEISURE'
-6= 'UNKNOWN'
-Use 'Compute Variable'
-Target Variable: 'PURPOSE'
-Numeric Expression: '1'
-If...: 'MOTIEF = 1 OR MOTIEF = 2'
-Use 'Compute Variable'
-Target Variable: 'PURPOSE'

```
            -Numeric Expression: '2'
            -If...: 'MOTIEF = 6'
        -Use 'Compute Variable'
            -Target Variable: 'PURPOSE'
            -Numeric Expression: '3'
            -If...: 'MOTIEF = 4 OR MOTIEF = 5 OR MOTIEF = 7 OR MOTIEF = 12'
        -Use 'Compute Variable'
            -Target Variable: 'PURPOSE'
            -Numeric Expression: '4'
            -If...: 'MOTIEF = 8'
        -Use 'Compute Variable'
            -Target Variable: 'PURPOSE'
            -Numeric Expression: '5'
            -If...: 'MOTIEF = 9 OR MOTIEF = 10 OR MOTIEF = 11'
        -Use 'Compute Variable'
            -Target Variable: 'PURPOSE'
            -Numeric Expression: '6'
            -If...: 'MOTIEF = 13 OR MOTIEF = 14'
        -Delete cases:
            -PURPOSE = '.'
        -Delete variable:
            -MOTIEF
            -KMOTIEF

MAKE ABSOLUTE FASTEST GROUP BY THEORETICAL TIME
        -Make variable: FASTEST_ABS_T
            -Values:
                -1= 'CAR'
                -2= 'BICYCLE'
                -3= 'WALKING'
                -4= 'PT'
        -Use 'Compute Variable'
            -Target Variable: 'FASTEST_ABS_T'
            -Numeric Expression: '1'
            -If...: 'round_time_car <= round_time_bicycle AND
                        round_time_CAR <= round_time_walking AND
                        round_time_CAR <= round_time_PT'
        -Use 'Compute Variable'
            -Target Variable: 'FASTEST_ABS_T'
            -Numeric Expression: '2'
            -If...: 'round_time_bicycle <= round_time_car AND
                        round_time_bicycle <= round_time_walking AND
                        round_time_bicycle <= round_time_PT'
        -Use 'Compute Variable'
            -Target Variable: 'FASTEST_ABS_T'
            -Numeric Expression: '3'
            -If...: 'round_time_walking <= round_time_bicycle AND
                        round_time_walking <= round_time_car AND
                        round_time_walking <= round_time_PT'
        -Use 'Compute Variable'
            -Target Variable: 'FASTEST_ABS_T'
            -Numeric Expression: '4'
```

-If...: 'round_time_PT <= round_time_bicycle AND
round_time_PT <= round_time_walking AND
round_time_PT <= round_time_car'

MAKE SIMPLIFIED DISTANCE SUBGROUP
-Make variable:
-'DISTANCE'
-Values:
-1= '0-1'
-2= '1-5'
-3= '5-15'
-4= '15-50'
-5= '50+'

-Use 'Compute Variable'
-Target Variable: 'DISTANCE'
-Numeric Expression: '1'
-If...: 'KAFSTV = 1 OR KAFSTV = 2'
-Use 'Compute Variable'
-Target Variable: 'DISTANCE'
-Numeric Expression: '2'
-If...: 'KAFSTV = 3 OR KAFSTV = 4 OR KAFSTV = 5'
-Use 'Compute Variable'
-Target Variable: 'DISTANCE'
-Numeric Expression: '3'
-If...: 'KAFSTV = 6 OR KAFSTV = 7 OR KAFSTV = 8'
-Use 'Compute Variable'
-Target Variable: 'DISTANCE'
-Numeric Expression: '4'
-If...: 'KAFSTV = 9 OR KAFSTV = 10 OR KAFSTV = 11 OR KAFSTV = 12'
-Use 'Compute Variable'
-Target Variable: 'DISTANCE'
-Numeric Expression: '2'
-If...: 'KAFSTV = 13'

MAKE SIMPLIFIED TIME OF DAY SUBGROUP
-Make variable:
-'TOD'
-Values:
-1= 'PEAK'
-2= 'OFF-PEAK'

-Use 'Compute Variable'
-Target Variable: 'TOD'
-Numeric Expression: '2'
-Use 'Compute Variable'
-Target Variable: 'TOD'
-Numeric Expression: '1'
-If...: 'KVERTTIJD = 3 OR KVERTTIJD = 4 OR KVERTTIJD = 9 OR
KVERTTIJD = 10 OR KVERTTIJD = 11'

MAKE SIMPLIFIED OV-CARD SUBGROUP

-Make variable:
-'OV_CARD'
-Values:
-1= 'YES'
-2= 'NO'

-Use 'Compute Variable'
-Target Variable: 'OV_CARD'
-Numeric Expression: '1'
-Use 'Compute Variable'
-Target Variable: 'OV_CARD'
-Numeric Expression: '2'
-If...: 'BEZIT_OVKAART = 5'

CALCULATE SUMMARIES AND FORM AGGREGATES FOR GRAPHS MODEL CALCULATIONS
FOR GENDER
-Use 'Aggregate'
-Break Variable(s): 'GESLACHT'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'GESLACHT'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR AGE
-Use 'Aggregate'
-Break Variable(s): 'AGE'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'AGE'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR INCOME
-Use 'Aggregate'
-Break Variable(s): 'INCOME'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'INCOME'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR EDUCATION
-Use 'Aggregate'
-Break Variable(s): 'EDUCATION'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'EDUCATION'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR URBANISATION
-Use 'Aggregate'
-Break Variable(s): 'URBANISATION'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,

logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'URBANISATION'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR TRIP PURPOSE
-Use 'Aggregate'
-Break Variable(s): 'PURPOSE'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'PURPOSE'
-Summary...: 'Sum of values'
-Put the values per category in excel

FOR DISTANCE
-Use 'Aggregate'
-Break Variable(s): 'DISTANCE'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'DISTANCE'
-Summary...: 'Sum of values'
-Put the values per category in excel

TIME OF THE DAY
-Use 'Aggregate'
-Break Variable(s): 'TOD'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries

-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'TOD'
-Summary...: 'Sum of values'
-Put the values per category in excel

DAY OF THE WEEK
-Use 'Aggregate'
-Break Variable(s): 'DAGSOORT'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'DAGSOORT'
-Summary...: 'Sum of values'
-Put the values per category in excel

CAR AVAILABILITY WITHIN THE HOUSEHOLD
-Use 'Aggregate'
-Break Variable(s): 'HHAUTO'
-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'HHAUTO'
-Summary...: 'Sum of values'
-Put the values per category in excel

PT CARD POSSESSION
-Use 'Aggregate'
-Break Variable(s): 'OV_CARD'

-Summaries of Variables: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Function...: 'Mean'

-Make graph from variable summaries
-Delete 'logit_ratio_car_mean, logit_ratio_bicycle_mean, logit_ratio_walking_mean
, logit_ratio_PT_mean'.

-Use 'Report Summaries in Rows
-Data Column Variables: 'logit_ratio_car, logit_ratio_bicycle,
logit_ratio_walking, logit_ratio_PT'
-Summary...: 'Sum of values'
-Break Column Variables: 'OV_CARD'
-Summary...: 'Sum of values'
-Put the values per category in excel

MAKE THE TABLE FOR THE REAL CHI-SQUARED TEST IN EXCEL

-Use 'Crosstabs'
-Row(s): 'GESLACHT, AGE, INCOME, EDUCATION, URBANISATION, PURPOSE,
DISTANCE, TOD, DAGSOORT, HHAUTO,
OV_CARD'
-Column(s): 'KHVM_SIMPLE'

CALCULATE THE GJTC FOR CAR

-Make variable:
-'PRICE_car'
-Use 'Compute Variable'
-Target Variable: 'PRICE_car'
-Numeric Expression: 'Dist_driv * (0.49 / 1000)'
-Make variable:
-'gjtc_car'
-Use 'Compute Variable'
-Target Variable: 'gjtc_car'
-Numeric Expression: 'round_time_car + 1 / (7.5 / 60) * PRICE_car'

CALCULATE THE GJTC FOR PT

-Make variable:
-'PRICE_btm_1'

-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: '0'
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg1 / 1000'
-If...: 'vehicletype_alt1_leg1 = 'BUS' OR
vehicletype_alt1_leg1 = 'SUBWAY' OR
vehicletype_alt1_leg1 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'

-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg2 / 1000'
-If...: 'vehicletype_alt1_leg2 = 'BUS' OR
vehicletype_alt1_leg2 = 'SUBWAY' OR
vehicletype_alt1_leg2 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg3 / 1000'
-If...: 'vehicletype_alt1_leg3 = 'BUS' OR
vehicletype_alt1_leg3 = 'SUBWAY' OR
vehicletype_alt1_leg3 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg4 / 1000'
-If...: 'vehicletype_alt1_leg4 = 'BUS' OR
vehicletype_alt1_leg4 = 'SUBWAY' OR
vehicletype_alt1_leg4 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg5 / 1000'
-If...: 'vehicletype_alt1_leg5 = 'BUS' OR
vehicletype_alt1_leg5 = 'SUBWAY' OR
vehicletype_alt1_leg5 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg6 / 1000'
-If...: 'vehicletype_alt1_leg6 = 'BUS' OR
vehicletype_alt1_leg6 = 'SUBWAY' OR
vehicletype_alt1_leg6 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg7 / 1000'
-If...: 'vehicletype_alt1_leg7 = 'BUS' OR
vehicletype_alt1_leg7 = 'SUBWAY' OR
vehicletype_alt1_leg7 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg8 / 1000'
-If...: 'vehicletype_alt1_leg8 = 'BUS' OR
vehicletype_alt1_leg8 = 'SUBWAY' OR
vehicletype_alt1_leg8 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg9 / 1000'
-If...: 'vehicletype_alt1_leg9 = 'BUS' OR
vehicletype_alt1_leg9 = 'SUBWAY' OR
vehicletype_alt1_leg9 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_1'
-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg10 / 1000'
-If...: 'vehicletype_alt1_leg10 = 'BUS' OR
vehicletype_alt1_leg10 = 'SUBWAY' OR
vehicletype_alt1_leg10 = 'TRAM''

-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg11 / 1000'
	-If...: 'vehicletype_alt1_leg11 = 'BUS' OR
		vehicletype_alt1_leg11 = 'SUBWAY' OR
		vehicletype_alt1_leg11 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg12 / 1000'
	-If...: 'vehicletype_alt1_leg12 = 'BUS' OR
		vehicletype_alt1_leg12 = 'SUBWAY' OR
		vehicletype_alt1_leg12 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg13 / 1000'
	-If...: 'vehicletype_alt1_leg13 = 'BUS' OR
		vehicletype_alt1_leg13 = 'SUBWAY' OR
		vehicletype_alt1_leg13 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg14 / 1000'
	-If...: 'vehicletype_alt1_leg14 = 'BUS' OR
		vehicletype_alt1_leg14 = 'SUBWAY' OR
		vehicletype_alt1_leg14 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg15 / 1000'
	-If...: 'vehicletype_alt1_leg15 = 'BUS' OR
		vehicletype_alt1_leg15 = 'SUBWAY' OR
		vehicletype_alt1_leg15 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_1'
	-Numeric Expression: 'PRICE_btm_1 + 0.9 + 0.13 * distance_alt1_leg16 / 1000'
	-If...: 'vehicletype_alt1_leg16 = 'BUS' OR
		vehicletype_alt1_leg16 = 'SUBWAY' OR
		vehicletype_alt1_leg16 = 'TRAM''

-Make variable:
	-'PRICE_red_btm_1'

-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_btm_1'
	-Numeric Expression: '0'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_btm_1'
	-Numeric Expression: 'PRICE_red_btm1 -0.9'
	-If...: '(vehicletype_alt1_leg1 = 'BUS' OR
		vehicletype_alt1_leg1 = 'SUBWAY' OR
		vehicletype_alt1_leg1 = 'TRAM')
		AND (agency_alt1_leg1 = agency_alt1_leg2
		OR (agency_alt1_leg2 = 'Leg not transit'
		AND agency_alt1_leg1 = agency_alt1_leg3))'

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-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg2 = 'BUS' OR
                        vehicletype_alt1_leg2 = 'SUBWAY' OR
                        vehicletype_alt1_leg2 = 'TRAM')
                        AND (agency_alt1_leg2 = agency_alt1_leg3
                        OR (agency_alt1_leg3 = 'Leg not transit'
                        AND agency_alt1_leg2 = agency_alt1_leg4))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg3 = 'BUS' OR
                        vehicletype_alt1_leg3 = 'SUBWAY' OR
                        vehicletype_alt1_leg3 = 'TRAM')
                        AND (agency_alt1_leg3 = agency_alt1_leg4
                        OR (agency_alt1_leg4 = 'Leg not transit'
                        AND agency_alt1_leg3 = agency_alt1_leg5))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg4 = 'BUS' OR
                        vehicletype_alt1_leg4 = 'SUBWAY' OR
                        vehicletype_alt1_leg4 = 'TRAM')
                        AND (agency_alt1_leg4 = agency_alt1_leg5
                        OR (agency_alt1_leg5 = 'Leg not transit'
                        AND agency_alt1_leg4 = agency_alt1_leg6))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg5 = 'BUS' OR
                        vehicletype_alt1_leg5 = 'SUBWAY' OR
                        vehicletype_alt1_leg5 = 'TRAM')
                        AND (agency_alt1_leg5 = agency_alt1_leg6
                        OR (agency_alt1_leg6 = 'Leg not transit'
                        AND agency_alt1_leg5 = agency_alt1_leg7))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg6 = 'BUS' OR
                        vehicletype_alt1_leg6 = 'SUBWAY' OR
                        vehicletype_alt1_leg6 = 'TRAM')
                        AND (agency_alt1_leg6 = agency_alt1_leg7
                        OR (agency_alt1_leg7 = 'Leg not transit'
                        AND agency_alt1_leg6 = agency_alt1_leg8))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm1'
        -Numeric Expression: 'PRICE_red_btm1 -0.9'
        -If...: '(vehicletype_alt1_leg7 = 'BUS' OR
                        vehicletype_alt1_leg7 = 'SUBWAY' OR
                        vehicletype_alt1_leg7 = 'TRAM')
                        AND (agency_alt1_leg7 = agency_alt1_leg8
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                    OR (agency_alt1_leg8 = 'Leg not transit'
                    AND agency_alt1_leg7 = agency_alt1_leg9))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg8 = 'BUS' OR
                    vehicletype_alt1_leg8 = 'SUBWAY' OR
                    vehicletype_alt1_leg8 = 'TRAM')
                    AND (agency_alt1_leg8 = agency_alt1_leg9
                    OR (agency_alt1_leg9 = 'Leg not transit'
                    AND agency_alt1_leg8 = agency_alt1_leg10))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg9 = 'BUS' OR
                    vehicletype_alt1_leg9 = 'SUBWAY' OR
                    vehicletype_alt1_leg9 = 'TRAM')
                    AND (agency_alt1_leg9 = agency_alt1_leg10
                    OR (agency_alt1_leg10 = 'Leg not transit'
                    AND agency_alt1_leg9 = agency_alt1_leg11))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg10 = 'BUS' OR
                    vehicletype_alt1_leg10 = 'SUBWAY' OR
                    vehicletype_alt1_leg10 = 'TRAM')
                    AND (agency_alt1_leg10 = agency_alt1_leg11
                    OR (agency_alt1_leg11 = 'Leg not transit'
                    AND agency_alt1_leg10 = agency_alt1_leg12))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg11 = 'BUS' OR
                    vehicletype_alt1_leg11 = 'SUBWAY' OR
                    vehicletype_alt1_leg11 = 'TRAM')
                    AND (agency_alt1_leg11 = agency_alt1_leg12
                    OR (agency_alt1_leg12 = 'Leg not transit'
                    AND agency_alt1_leg11 = agency_alt1_leg13))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg12 = 'BUS' OR
                    vehicletype_alt1_leg12 = 'SUBWAY' OR
                    vehicletype_alt1_leg12 = 'TRAM')
                    AND (agency_alt1_leg12 = agency_alt1_leg13
                    OR (agency_alt1_leg13 = 'Leg not transit'
                    AND agency_alt1_leg12 = agency_alt1_leg14))'
-Use 'Compute Variable'
    -Target Variable: 'PRICE_red_btm1'
    -Numeric Expression: 'PRICE_red_btm1 -0.9'
    -If...: '(vehicletype_alt1_leg13 = 'BUS' OR
                    vehicletype_alt1_leg13 = 'SUBWAY' OR
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vehicletype_alt1_leg13 = 'TRAM')
AND (agency_alt1_leg13 = agency_alt1_leg14
OR (agency_alt1_leg14 = 'Leg not transit'
AND agency_alt1_leg13 = agency_alt1_leg15))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm1'
-Numeric Expression: 'PRICE_red_btm1 -0.9'
-If...: '(vehicletype_alt1_leg14 = 'BUS' OR
vehicletype_alt1_leg14 = 'SUBWAY' OR
vehicletype_alt1_leg14 = 'TRAM')
AND (agency_alt1_leg14 = agency_alt1_leg15
OR (agency_alt1_leg15 = 'Leg not transit'
AND agency_alt1_leg14 = agency_alt1_leg16))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm1'
-Numeric Expression: 'PRICE_red_btm1 -0.9'
-If...: '(vehicletype_alt1_leg15 = 'BUS' OR
vehicletype_alt1_leg15 = 'SUBWAY' OR
vehicletype_alt1_leg15 = 'TRAM')
AND agency_alt1_leg15 = agency_alt1_leg16'

-Make variable:
-'PRICE_btm_2'

-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: '0'
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg1 / 1000'
-If...: 'vehicletype_alt2_leg1 = 'BUS' OR
vehicletype_alt2_leg1 = 'SUBWAY' OR
vehicletype_alt2_leg1 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg2 / 1000'
-If...: 'vehicletype_alt2_leg2 = 'BUS' OR
vehicletype_alt2_leg2 = 'SUBWAY' OR
vehicletype_alt2_leg2 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg3 / 1000'
-If...: 'vehicletype_alt2_leg3 = 'BUS' OR
vehicletype_alt2_leg3 = 'SUBWAY' OR
vehicletype_alt2_leg3 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg4 / 1000'
-If...: 'vehicletype_alt2_leg4 = 'BUS' OR
vehicletype_alt2_leg4 = 'SUBWAY' OR

vehicletype_alt2_leg4 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg5 / 1000'
-If...: 'vehicletype_alt2_leg5 = 'BUS' OR
vehicletype_alt2_leg5 = 'SUBWAY' OR
vehicletype_alt2_leg5 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg6 / 1000'
-If...: 'vehicletype_alt2_leg6 = 'BUS' OR
vehicletype_alt2_leg6 = 'SUBWAY' OR
vehicletype_alt2_leg6 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg7 / 1000'
-If...: 'vehicletype_alt2_leg7 = 'BUS' OR
vehicletype_alt2_leg7 = 'SUBWAY' OR
vehicletype_alt2_leg7 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg8 / 1000'
-If...: 'vehicletype_alt2_leg8 = 'BUS' OR
vehicletype_alt2_leg8 = 'SUBWAY' OR
vehicletype_alt2_leg8 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg9 / 1000'
-If...: 'vehicletype_alt2_leg9 = 'BUS' OR
vehicletype_alt2_leg9 = 'SUBWAY' OR
vehicletype_alt2_leg9 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg10 / 1000'
-If...: 'vehicletype_alt2_leg10 = 'BUS' OR
vehicletype_alt2_leg10 = 'SUBWAY' OR
vehicletype_alt2_leg10 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg11 / 1000'
-If...: 'vehicletype_alt2_leg11 = 'BUS' OR
vehicletype_alt2_leg11 = 'SUBWAY' OR
vehicletype_alt2_leg11 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg12 / 1000'
-If...: 'vehicletype_alt2_leg12 = 'BUS' OR
vehicletype_alt2_leg12 = 'SUBWAY' OR
vehicletype_alt2_leg12 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_2'
-Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg13 / 1000'

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        -If...: 'vehicletype_alt2_leg13 = 'BUS' OR
                        vehicletype_alt2_leg13 = 'SUBWAY' OR
                        vehicletype_alt2_leg13 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_2'
        -Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg14 / 1000'
        -If...: 'vehicletype_alt2_leg14 = 'BUS' OR
                        vehicletype_alt2_leg14 = 'SUBWAY' OR
                        vehicletype_alt2_leg14 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_2'
        -Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg15 / 1000'
        -If...: 'vehicletype_alt2_leg15 = 'BUS' OR
                        vehicletype_alt2_leg15 = 'SUBWAY' OR
                        vehicletype_alt2_leg15 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_2'
        -Numeric Expression: 'PRICE_btm_2 + 0.9 + 0.13 * distance_alt2_leg16 / 1000'
        -If...: 'vehicletype_alt2_leg16 = 'BUS' OR
                        vehicletype_alt2_leg16 = 'SUBWAY' OR
                        vehicletype_alt2_leg16 = 'TRAM''

-Make variable:
        -'PRICE_red_btm_2'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg1 = 'BUS' OR
                        vehicletype_alt2_leg1 = 'SUBWAY' OR
                        vehicletype_alt2_leg1 = 'TRAM')
                        AND (agency_alt2_leg1 = agency_alt2_leg2
                        OR (agency_alt2_leg2 = 'Leg not transit'
                        AND agency_alt2_leg1 = agency_alt2_leg3))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg2 = 'BUS' OR
                        vehicletype_alt2_leg2 = 'SUBWAY' OR
                        vehicletype_alt2_leg2 = 'TRAM')
                        AND (agency_alt2_leg2 = agency_alt2_leg3
                        OR (agency_alt2_leg3 = 'Leg not transit'
                        AND agency_alt2_leg2 = agency_alt2_leg4))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg3 = 'BUS' OR
                        vehicletype_alt2_leg3 = 'SUBWAY' OR
                        vehicletype_alt2_leg3 = 'TRAM')
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AND (agency_alt2_leg3 = agency_alt2_leg4
OR (agency_alt2_leg4 = 'Leg not transit'
AND agency_alt2_leg3 = agency_alt2_leg5))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg4 = 'BUS' OR
vehicletype_alt2_leg4 = 'SUBWAY' OR
vehicletype_alt2_leg4 = 'TRAM')
AND (agency_alt2_leg4 = agency_alt2_leg5
OR (agency_alt2_leg5 = 'Leg not transit'
AND agency_alt2_leg4 = agency_alt2_leg6))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg5 = 'BUS' OR
vehicletype_alt2_leg5 = 'SUBWAY' OR
vehicletype_alt2_leg5 = 'TRAM')
AND (agency_alt2_leg5 = agency_alt2_leg6
OR (agency_alt2_leg6 = 'Leg not transit'
AND agency_alt2_leg5 = agency_alt2_leg7))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg6 = 'BUS' OR
vehicletype_alt2_leg6 = 'SUBWAY' OR
vehicletype_alt2_leg6 = 'TRAM')
AND (agency_alt2_leg6 = agency_alt2_leg7
OR (agency_alt2_leg7 = 'Leg not transit'
AND agency_alt2_leg6 = agency_alt2_leg8))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg7 = 'BUS' OR
vehicletype_alt2_leg7 = 'SUBWAY' OR
vehicletype_alt2_leg7 = 'TRAM')
AND (agency_alt2_leg7 = agency_alt2_leg8
OR (agency_alt2_leg8 = 'Leg not transit'
AND agency_alt2_leg7 = agency_alt2_leg9))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg8 = 'BUS' OR
vehicletype_alt2_leg8 = 'SUBWAY' OR
vehicletype_alt2_leg8 = 'TRAM')
AND (agency_alt2_leg8 = agency_alt2_leg9
OR (agency_alt2_leg9 = 'Leg not transit'
AND agency_alt2_leg8 = agency_alt2_leg10))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_2'
-Numeric Expression: 'PRICE_red_btm_2 -0.9'
-If...: '(vehicletype_alt2_leg9 = 'BUS' OR

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                    vehicletype_alt2_leg9 = 'SUBWAY' OR
                    vehicletype_alt2_leg9 = 'TRAM')
                    AND (agency_alt2_leg9 = agency_alt2_leg10
                    OR (agency_alt2_leg10 = 'Leg not transit'
                    AND agency_alt2_leg9 = agency_alt2_leg11))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg10 = 'BUS' OR
                    vehicletype_alt2_leg10 = 'SUBWAY' OR
                    vehicletype_alt2_leg10 = 'TRAM')
                    AND (agency_alt2_leg10 = agency_alt2_leg11
                    OR (agency_alt2_leg11 = 'Leg not transit'
                    AND agency_alt2_leg10 = agency_alt2_leg12))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg11 = 'BUS' OR
                    vehicletype_alt2_leg11 = 'SUBWAY' OR
                    vehicletype_alt2_leg11 = 'TRAM')
                    AND (agency_alt2_leg11 = agency_alt2_leg12
                    OR (agency_alt2_leg12 = 'Leg not transit'
                    AND agency_alt2_leg11 = agency_alt2_leg13))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg12 = 'BUS' OR
                    vehicletype_alt2_leg12 = 'SUBWAY' OR
                    vehicletype_alt2_leg12 = 'TRAM')
                    AND (agency_alt2_leg12 = agency_alt2_leg13
                    OR (agency_alt2_leg13 = 'Leg not transit'
                    AND agency_alt2_leg12 = agency_alt2_leg14))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg13 = 'BUS' OR
                    vehicletype_alt2_leg13 = 'SUBWAY' OR
                    vehicletype_alt2_leg13 = 'TRAM')
                    AND (agency_alt2_leg13 = agency_alt2_leg14
                    OR (agency_alt2_leg14 = 'Leg not transit'
                    AND agency_alt2_leg13 = agency_alt2_leg15))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg14 = 'BUS' OR
                    vehicletype_alt2_leg14 = 'SUBWAY' OR
                    vehicletype_alt2_leg14 = 'TRAM')
                    AND (agency_alt2_leg14 = agency_alt2_leg15
                    OR (agency_alt2_leg15 = 'Leg not transit'
                    AND agency_alt2_leg14 = agency_alt2_leg16))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_2'
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        -Numeric Expression: 'PRICE_red_btm_2 -0.9'
        -If...: '(vehicletype_alt2_leg15 = 'BUS' OR
                        vehicletype_alt2_leg15 = 'SUBWAY' OR
                        vehicletype_alt2_leg15 = 'TRAM')
                        AND agency_alt2_leg15 = agency_alt2_leg16'


-Make variable:
        -'PRICE_btm_3'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg1 / 1000'
        -If...: 'vehicletype_alt3_leg1 = 'BUS' OR
                        vehicletype_alt3_leg1 = 'SUBWAY' OR
                        vehicletype_alt3_leg1 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg2 / 1000'
        -If...: 'vehicletype_alt3_leg2 = 'BUS' OR
                        vehicletype_alt3_leg2 = 'SUBWAY' OR
                        vehicletype_alt3_leg2 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg3 / 1000'
        -If...: 'vehicletype_alt3_leg3 = 'BUS' OR
                        vehicletype_alt3_leg3 = 'SUBWAY' OR
                        vehicletype_alt3_leg3 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg4 / 1000'
        -If...: 'vehicletype_alt3_leg4 = 'BUS' OR
                        vehicletype_alt3_leg4 = 'SUBWAY' OR
                        vehicletype_alt3_leg4 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg5 / 1000'
        -If...: 'vehicletype_alt3_leg5 = 'BUS' OR
                        vehicletype_alt3_leg5 = 'SUBWAY' OR
                        vehicletype_alt3_leg5 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg6 / 1000'
        -If...: 'vehicletype_alt3_leg6 = 'BUS' OR
                        vehicletype_alt3_leg6 = 'SUBWAY' OR
                        vehicletype_alt3_leg6 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg7 / 1000'
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        -If...: 'vehicletype_alt3_leg7 = 'BUS' OR
                        vehicletype_alt3_leg7 = 'SUBWAY' OR
                        vehicletype_alt3_leg7 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg8 / 1000'
        -If...: 'vehicletype_alt3_leg8 = 'BUS' OR
                        vehicletype_alt3_leg8 = 'SUBWAY' OR
                        vehicletype_alt3_leg8 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg9 / 1000'
        -If...: 'vehicletype_alt3_leg9 = 'BUS' OR
                        vehicletype_alt3_leg9 = 'SUBWAY' OR
                        vehicletype_alt3_leg9 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg10 / 1000'
        -If...: 'vehicletype_alt3_leg10 = 'BUS' OR
                        vehicletype_alt3_leg10 = 'SUBWAY' OR
                        vehicletype_alt3_leg10 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg11 / 1000'
        -If...: 'vehicletype_alt3_leg11 = 'BUS' OR
                        vehicletype_alt3_leg11 = 'SUBWAY' OR
                        vehicletype_alt3_leg11 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg12 / 1000'
        -If...: 'vehicletype_alt3_leg12 = 'BUS' OR
                        vehicletype_alt3_leg12 = 'SUBWAY' OR
                        vehicletype_alt3_leg12 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg13 / 1000'
        -If...: 'vehicletype_alt3_leg13 = 'BUS' OR
                        vehicletype_alt3_leg13 = 'SUBWAY' OR
                        vehicletype_alt3_leg13 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg14 / 1000'
        -If...: 'vehicletype_alt3_leg14 = 'BUS' OR
                        vehicletype_alt3_leg14 = 'SUBWAY' OR
                        vehicletype_alt3_leg14 = 'TRAM''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg15 / 1000'
        -If...: 'vehicletype_alt3_leg15 = 'BUS' OR
                        vehicletype_alt3_leg15 = 'SUBWAY' OR
                        vehicletype_alt3_leg15 = 'TRAM''
-Use 'Compute Variable'
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        -Target Variable: 'PRICE_btm_3'
        -Numeric Expression: 'PRICE_btm_3 + 0.9 + 0.13 * distance_alt3_leg16 / 1000'
        -If...: 'vehicletype_alt3_leg16 = 'BUS' OR
                        vehicletype_alt3_leg16 = 'SUBWAY' OR
                        vehicletype_alt3_leg16 = 'TRAM''

-Make variable:
        -'PRICE_red_btm_3'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg1 = 'BUS' OR
                        vehicletype_alt3_leg1 = 'SUBWAY' OR
                        vehicletype_alt3_leg1 = 'TRAM')
                        AND (agency_alt3_leg1 = agency_alt3_leg2
                        OR (agency_alt3_leg2 = 'Leg not transit'
                        AND agency_alt3_leg1 = agency_alt3_leg3))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg2 = 'BUS' OR
                        vehicletype_alt3_leg2 = 'SUBWAY' OR
                        vehicletype_alt3_leg2 = 'TRAM')
                        AND (agency_alt3_leg2 = agency_alt3_leg3
                        OR (agency_alt3_leg3 = 'Leg not transit'
                        AND agency_alt3_leg2 = agency_alt3_leg4))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg3 = 'BUS' OR
                        vehicletype_alt3_leg3 = 'SUBWAY' OR
                        vehicletype_alt3_leg3 = 'TRAM')
                        AND (agency_alt3_leg3 = agency_alt3_leg4
                        OR (agency_alt3_leg4 = 'Leg not transit'
                        AND agency_alt3_leg3 = agency_alt3_leg5))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg4 = 'BUS' OR
                        vehicletype_alt3_leg4 = 'SUBWAY' OR
                        vehicletype_alt3_leg4 = 'TRAM')
                        AND (agency_alt3_leg4 = agency_alt3_leg5
                        OR (agency_alt3_leg5 = 'Leg not transit'
                        AND agency_alt3_leg4 = agency_alt3_leg6))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg5 = 'BUS' OR
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vehicletype_alt3_leg5 = 'SUBWAY' OR
vehicletype_alt3_leg5 = 'TRAM')
AND (agency_alt3_leg5 = agency_alt3_leg6
OR (agency_alt3_leg6 = 'Leg not transit'
AND agency_alt3_leg5 = agency_alt3_leg7))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'
-Numeric Expression: 'PRICE_red_btm_3 -0.9'
-If...: '(vehicletype_alt3_leg6 = 'BUS' OR
vehicletype_alt3_leg6 = 'SUBWAY' OR
vehicletype_alt3_leg6 = 'TRAM')
AND (agency_alt3_leg6 = agency_alt3_leg7
OR (agency_alt3_leg7 = 'Leg not transit'
AND agency_alt3_leg6 = agency_alt3_leg8))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'
-Numeric Expression: 'PRICE_red_btm_3 -0.9'
-If...: '(vehicletype_alt3_leg7 = 'BUS' OR
vehicletype_alt3_leg7 = 'SUBWAY' OR
vehicletype_alt3_leg7 = 'TRAM')
AND (agency_alt3_leg7 = agency_alt3_leg8
OR (agency_alt3_leg8 = 'Leg not transit'
AND agency_alt3_leg7 = agency_alt3_leg9))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'
-Numeric Expression: 'PRICE_red_btm_3 -0.9'
-If...: '(vehicletype_alt3_leg8 = 'BUS' OR
vehicletype_alt3_leg8 = 'SUBWAY' OR
vehicletype_alt3_leg8 = 'TRAM')
AND (agency_alt3_leg8 = agency_alt3_leg9
OR (agency_alt3_leg9 = 'Leg not transit'
AND agency_alt3_leg8 = agency_alt3_leg10))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'
-Numeric Expression: 'PRICE_red_btm_3 -0.9'
-If...: '(vehicletype_alt3_leg9 = 'BUS' OR
vehicletype_alt3_leg9 = 'SUBWAY' OR
vehicletype_alt3_leg9 = 'TRAM')
AND (agency_alt3_leg9 = agency_alt3_leg10
OR (agency_alt3_leg10 = 'Leg not transit'
AND agency_alt3_leg9 = agency_alt3_leg11))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'
-Numeric Expression: 'PRICE_red_btm_3 -0.9'
-If...: '(vehicletype_alt3_leg10 = 'BUS' OR
vehicletype_alt3_leg10 = 'SUBWAY' OR
vehicletype_alt3_leg10 = 'TRAM')
AND (agency_alt3_leg10 = agency_alt3_leg11
OR (agency_alt3_leg11 = 'Leg not transit'
AND agency_alt3_leg10 = agency_alt3_leg12))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_3'

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        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg11 = 'BUS' OR
                        vehicletype_alt3_leg11 = 'SUBWAY' OR
                        vehicletype_alt3_leg11 = 'TRAM')
                        AND (agency_alt3_leg11 = agency_alt3_leg12
                        OR (agency_alt3_leg12 = 'Leg not transit'
                        AND agency_alt3_leg11 = agency_alt3_leg13))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg12 = 'BUS' OR
                        vehicletype_alt3_leg12 = 'SUBWAY' OR
                        vehicletype_alt3_leg12 = 'TRAM')
                        AND (agency_alt3_leg12 = agency_alt3_leg13
                        OR (agency_alt3_leg13 = 'Leg not transit'
                        AND agency_alt3_leg12 = agency_alt3_leg14))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg13 = 'BUS' OR
                        vehicletype_alt3_leg13 = 'SUBWAY' OR
                        vehicletype_alt3_leg13 = 'TRAM')
                        AND (agency_alt3_leg13 = agency_alt3_leg14
                        OR (agency_alt3_leg14 = 'Leg not transit'
                        AND agency_alt3_leg13 = agency_alt3_leg15))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg14 = 'BUS' OR
                        vehicletype_alt3_leg14 = 'SUBWAY' OR
                        vehicletype_alt3_leg14 = 'TRAM')
                        AND (agency_alt3_leg14 = agency_alt3_leg15
                        OR (agency_alt3_leg15 = 'Leg not transit'
                        AND agency_alt3_leg14 = agency_alt3_leg16))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_btm_3'
        -Numeric Expression: 'PRICE_red_btm_3 -0.9'
        -If...: '(vehicletype_alt3_leg15 = 'BUS' OR
                        vehicletype_alt3_leg15 = 'SUBWAY' OR
                        vehicletype_alt3_leg15 = 'TRAM')
                        AND agency_alt3_leg15 = agency_alt3_leg16'



-Make variable:
        -'PRICE_btm_4'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_4'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_btm_4'
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-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg1 / 1000'
-If...: 'vehicletype_alt4_leg1 = 'BUS' OR
vehicletype_alt4_leg1 = 'SUBWAY' OR
vehicletype_alt4_leg1 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg2 / 1000'
-If...: 'vehicletype_alt4_leg2 = 'BUS' OR
vehicletype_alt4_leg2 = 'SUBWAY' OR
vehicletype_alt4_leg2 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg3 / 1000'
-If...: 'vehicletype_alt4_leg3 = 'BUS' OR
vehicletype_alt4_leg3 = 'SUBWAY' OR
vehicletype_alt4_leg3 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg4 / 1000'
-If...: 'vehicletype_alt4_leg4 = 'BUS' OR
vehicletype_alt4_leg4 = 'SUBWAY' OR
vehicletype_alt4_leg4 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg5 / 1000'
-If...: 'vehicletype_alt4_leg5 = 'BUS' OR
vehicletype_alt4_leg5 = 'SUBWAY' OR
vehicletype_alt4_leg5 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg6 / 1000'
-If...: 'vehicletype_alt4_leg6 = 'BUS' OR
vehicletype_alt4_leg6 = 'SUBWAY' OR
vehicletype_alt4_leg6 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg7 / 1000'
-If...: 'vehicletype_alt4_leg7 = 'BUS' OR
vehicletype_alt4_leg7 = 'SUBWAY' OR
vehicletype_alt4_leg7 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg8 / 1000'
-If...: 'vehicletype_alt4_leg8 = 'BUS' OR
vehicletype_alt4_leg8 = 'SUBWAY' OR
vehicletype_alt4_leg8 = 'TRAM''
-Use 'Compute Variable'
-Target Variable: 'PRICE_btm_4'
-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg9 / 1000'
-If...: 'vehicletype_alt4_leg9 = 'BUS' OR
vehicletype_alt4_leg9 = 'SUBWAY' OR
vehicletype_alt4_leg9 = 'TRAM''

-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_4'
	-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg10 / 1000'
	-If...: 'vehicletype_alt4_leg10 = 'BUS' OR
		vehicletype_alt4_leg10 = 'SUBWAY' OR
		vehicletype_alt4_leg10 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_4'
	-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg11 / 1000'
	-If...: 'vehicletype_alt4_leg11 = 'BUS' OR
		vehicletype_alt4_leg11 = 'SUBWAY' OR
		vehicletype_alt4_leg11 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_4'
	-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg12 / 1000'
	-If...: 'vehicletype_alt4_leg12 = 'BUS' OR
		vehicletype_alt4_leg12 = 'SUBWAY' OR
		vehicletype_alt4_leg12 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_4'
	-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg13 / 1000'
	-If...: 'vehicletype_alt4_leg13 = 'BUS' OR
		vehicletype_alt4_leg13 = 'SUBWAY' OR
		vehicletype_alt4_leg13 = 'TRAM''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_btm_4'
	-Numeric Expression: 'PRICE_btm_4 + 0.9 + 0.13 * distance_alt4_leg14 / 1000'
	-If...: 'vehicletype_alt4_leg14 = 'BUS' OR
		vehicletype_alt4_leg14 = 'SUBWAY' OR
		vehicletype_alt4_leg14 = 'TRAM''

-Make variable:
	-'PRICE_red_btm_4'

-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_btm_4'
	-Numeric Expression: '0'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_btm_4'
	-Numeric Expression: 'PRICE_red_btm_4 -0.9'
	-If...: '(vehicletype_alt4_leg1 = 'BUS' OR
		vehicletype_alt4_leg1 = 'SUBWAY' OR
		vehicletype_alt4_leg1 = 'TRAM')
		AND (agency_alt4_leg1 = agency_alt4_leg2
		OR (agency_alt4_leg2 = 'Leg not transit'
		AND agency_alt4_leg1 = agency_alt4_leg3))'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_btm_4'
	-Numeric Expression: 'PRICE_red_btm_4 -0.9'
	-If...: '(vehicletype_alt4_leg2 = 'BUS' OR
		vehicletype_alt4_leg2 = 'SUBWAY' OR
		vehicletype_alt4_leg2 = 'TRAM')

AND (agency_alt4_leg2 = agency_alt4_leg3
OR (agency_alt4_leg3 = 'Leg not transit'
AND agency_alt4_leg2 = agency_alt4_leg4))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg3 = 'BUS' OR
vehicletype_alt4_leg3 = 'SUBWAY' OR
vehicletype_alt4_leg3 = 'TRAM')
AND (agency_alt4_leg3 = agency_alt4_leg4
OR (agency_alt4_leg4 = 'Leg not transit'
AND agency_alt4_leg3 = agency_alt4_leg5))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg4 = 'BUS' OR
vehicletype_alt4_leg4 = 'SUBWAY' OR
vehicletype_alt4_leg4 = 'TRAM')
AND (agency_alt4_leg4 = agency_alt4_leg5
OR (agency_alt4_leg5 = 'Leg not transit'
AND agency_alt4_leg4 = agency_alt4_leg6))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg5 = 'BUS' OR
vehicletype_alt4_leg5 = 'SUBWAY' OR
vehicletype_alt4_leg5 = 'TRAM')
AND (agency_alt4_leg5 = agency_alt4_leg6
OR (agency_alt4_leg6 = 'Leg not transit'
AND agency_alt4_leg5 = agency_alt4_leg7))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg6 = 'BUS' OR
vehicletype_alt4_leg6 = 'SUBWAY' OR
vehicletype_alt4_leg6 = 'TRAM')
AND (agency_alt4_leg6 = agency_alt4_leg7
OR (agency_alt4_leg7 = 'Leg not transit'
AND agency_alt4_leg6 = agency_alt4_leg8))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg7 = 'BUS' OR
vehicletype_alt4_leg7 = 'SUBWAY' OR
vehicletype_alt4_leg7 = 'TRAM')
AND (agency_alt4_leg7 = agency_alt4_leg8
OR (agency_alt4_leg8 = 'Leg not transit'
AND agency_alt4_leg7 = agency_alt4_leg9))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg8 = 'BUS' OR

vehicletype_alt4_leg8 = 'SUBWAY' OR
vehicletype_alt4_leg8 = 'TRAM')
AND (agency_alt4_leg8 = agency_alt4_leg9
OR (agency_alt4_leg9 = 'Leg not transit'
AND agency_alt4_leg8 = agency_alt4_leg10))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg9 = 'BUS' OR
vehicletype_alt4_leg9 = 'SUBWAY' OR
vehicletype_alt4_leg9 = 'TRAM')
AND (agency_alt4_leg9 = agency_alt4_leg10
OR (agency_alt4_leg10 = 'Leg not transit'
AND agency_alt4_leg9 = agency_alt4_leg11))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg10 = 'BUS' OR
vehicletype_alt4_leg10 = 'SUBWAY' OR
vehicletype_alt4_leg10 = 'TRAM')
AND (agency_alt4_leg10 = agency_alt4_leg11
OR (agency_alt4_leg11 = 'Leg not transit'
AND agency_alt4_leg10 = agency_alt4_leg12))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg11 = 'BUS' OR
vehicletype_alt4_leg11 = 'SUBWAY' OR
vehicletype_alt4_leg11 = 'TRAM')
AND (agency_alt4_leg11 = agency_alt4_leg12
OR (agency_alt4_leg12 = 'Leg not transit'
AND agency_alt4_leg11 = agency_alt4_leg13))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg12 = 'BUS' OR
vehicletype_alt4_leg12 = 'SUBWAY' OR
vehicletype_alt4_leg12 = 'TRAM')
AND (agency_alt4_leg12 = agency_alt4_leg13
OR (agency_alt4_leg13 = 'Leg not transit'
AND agency_alt4_leg12 = agency_alt4_leg14))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_btm_4'
-Numeric Expression: 'PRICE_red_btm_4 -0.9'
-If...: '(vehicletype_alt4_leg13 = 'BUS' OR
vehicletype_alt4_leg13 = 'SUBWAY' OR
vehicletype_alt4_leg13 = 'TRAM')
AND agency_alt4_leg13 = agency_alt4_leg14'

-Make variable:
-'PRICE_train_1'

```
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg1 / 1000)'
        -If...: 'vehicletype_alt1_leg1 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg1 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg2 / 1000)'
        -If...: 'vehicletype_alt1_leg2 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg2 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg3 / 1000)'
        -If...: 'vehicletype_alt1_leg3 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg3 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg4 / 1000)'
        -If...: 'vehicletype_alt1_leg4 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg4 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg5 / 1000)'
        -If...: 'vehicletype_alt1_leg5 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg5 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg6 / 1000)'
        -If...: 'vehicletype_alt1_leg6 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg6 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg7 / 1000)'
        -If...: 'vehicletype_alt1_leg7 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg7 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg8 / 1000)'
        -If...: 'vehicletype_alt1_leg8 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg8 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg9 / 1000)'
        -If...: 'vehicletype_alt1_leg9 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg9 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg10 / 1000)'
        -If...: 'vehicletype_alt1_leg10 = 'HEAVY_RAIL' OR
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                    vehicletype_alt1_leg10 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg11 / 1000)'
        -If...: 'vehicletype_alt1_leg11 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg11 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg12 / 1000)'
        -If...: 'vehicletype_alt1_leg12 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg12 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg13 / 1000)'
        -If...: 'vehicletype_alt1_leg13 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg13 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg14 / 1000)'
        -If...: 'vehicletype_alt1_leg14 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg14 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg15 / 1000)'
        -If...: 'vehicletype_alt1_leg15 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg15 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_1'
        -Numeric Expression: 'MAX(1.63, PRICE_train_1 + 0.13 * distance_alt1_leg16 / 1000)'
        -If...: 'vehicletype_alt1_leg16 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg16 = 'HIGH_SPEED_TRAIN''

-Make variable:
        -'PRICE_red_train_1'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg1 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg1 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt1_leg1 = agency_alt1_leg2
                    OR (agency_alt1_leg2 = 'Leg not transit'
                    AND agency_alt1_leg1 = agency_alt1_leg3))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg2 = 'HEAVY_RAIL' OR
                    vehicletype_alt1_leg2 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt1_leg2 = agency_alt1_leg3
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OR (agency_alt1_leg3 = 'Leg not transit'
AND agency_alt1_leg2 = agency_alt1_leg4))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg3 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg3 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg3 = agency_alt1_leg4
OR (agency_alt1_leg4 = 'Leg not transit'
AND agency_alt1_leg3 = agency_alt1_leg5))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg4 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg4 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg4 = agency_alt1_leg5
OR (agency_alt1_leg5 = 'Leg not transit'
AND agency_alt1_leg4 = agency_alt1_leg6))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg5 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg5 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg5 = agency_alt1_leg6
OR (agency_alt1_leg6 = 'Leg not transit'
AND agency_alt1_leg5 = agency_alt1_leg7))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg6 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg6 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg6 = agency_alt1_leg7
OR (agency_alt1_leg7 = 'Leg not transit'
AND agency_alt1_leg6 = agency_alt1_leg8))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg7 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg7 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg7 = agency_alt1_leg8
OR (agency_alt1_leg8 = 'Leg not transit'
AND agency_alt1_leg7 = agency_alt1_leg9))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'
-Numeric Expression: 'PRICE_red_train_1 -1.63'
-If...: '(vehicletype_alt1_leg8 = 'HEAVY_RAIL' OR
vehicletype_alt1_leg8 = 'HIGH_SPEED_TRAIN')
AND (agency_alt1_leg8 = agency_alt1_leg9
OR (agency_alt1_leg9 = 'Leg not transit'
AND agency_alt1_leg8 = agency_alt1_leg10))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_1'

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        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg9 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg9 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg9 = agency_alt1_leg10
                        OR (agency_alt1_leg10 = 'Leg not transit'
                        AND agency_alt1_leg9 = agency_alt1_leg11))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg10 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg10 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg10 = agency_alt1_leg11
                        OR (agency_alt1_leg11 = 'Leg not transit'
                        AND agency_alt1_leg10 = agency_alt1_leg12))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg11 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg11 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg11 = agency_alt1_leg12
                        OR (agency_alt1_leg12 = 'Leg not transit'
                        AND agency_alt1_leg11 = agency_alt1_leg13))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg12 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg12 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg12 = agency_alt1_leg13
                        OR (agency_alt1_leg13 = 'Leg not transit'
                        AND agency_alt1_leg12 = agency_alt1_leg14))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg13 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg13 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg13 = agency_alt1_leg14
                        OR (agency_alt1_leg14 = 'Leg not transit'
                        AND agency_alt1_leg13 = agency_alt1_leg15))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg14 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg14 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt1_leg14 = agency_alt1_leg15
                        OR (agency_alt1_leg15 = 'Leg not transit'
                        AND agency_alt1_leg14 = agency_alt1_leg16))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_1'
        -Numeric Expression: 'PRICE_red_train_1 -1.63'
        -If...: '(vehicletype_alt1_leg15 = 'HEAVY_RAIL' OR
                        vehicletype_alt1_leg15 = 'HIGH_SPEED_TRAIN')
                        AND agency_alt1_leg15 = agency_alt1_leg16'
```

-Make variable:
	-'PRICE_train_2'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: '0'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg1 / 1000)'
	-If...: 'vehicletype_alt2_leg1 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg1 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg2 / 1000)'
	-If...: 'vehicletype_alt2_leg2 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg2 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg3 / 1000)'
	-If...: 'vehicletype_alt2_leg3 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg3 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg4 / 1000)'
	-If...: 'vehicletype_alt2_leg4 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg4 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg5 / 1000)'
	-If...: 'vehicletype_alt2_leg5 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg5 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg6 / 1000)'
	-If...: 'vehicletype_alt2_leg6 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg6 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg7 / 1000)'
	-If...: 'vehicletype_alt2_leg7 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg7 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg8 / 1000)'
	-If...: 'vehicletype_alt2_leg8 = 'HEAVY_RAIL' OR
			vehicletype_alt2_leg8 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_2'
	-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg9 / 1000)'
	-If...: 'vehicletype_alt2_leg9 = 'HEAVY_RAIL' OR

vehicletype_alt2_leg9 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg10 / 1000)'
-If...: 'vehicletype_alt2_leg10 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg10 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg11 / 1000)'
-If...: 'vehicletype_alt2_leg11 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg11 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg12 / 1000)'
-If...: 'vehicletype_alt2_leg12 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg12 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg13 / 1000)'
-If...: 'vehicletype_alt2_leg13 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg13 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg14 / 1000)'
-If...: 'vehicletype_alt2_leg14 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg14 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg15 / 1000)'
-If...: 'vehicletype_alt2_leg15 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg15 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_2'
-Numeric Expression: 'MAX(1.63, PRICE_train_2 + 0.13 * distance_alt2_leg16 / 1000)'
-If...: 'vehicletype_alt2_leg16 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg16 = 'HIGH_SPEED_TRAIN''

-Make variable:
-'PRICE_red_train_2'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_2'
-Numeric Expression: '0'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_2'
-Numeric Expression: 'PRICE_red_train_2 -1.63'
-If...: '(vehicletype_alt2_leg1 = 'HEAVY_RAIL' OR
vehicletype_alt2_leg1 = 'HIGH_SPEED_TRAIN')
AND (agency_alt2_leg1 = agency_alt2_leg2
OR (agency_alt2_leg2 = 'Leg not transit'
AND agency_alt2_leg1 = agency_alt2_leg3))'
-Use 'Compute Variable'

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        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg2 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg2 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg2 = agency_alt2_leg3
                        OR (agency_alt2_leg3 = 'Leg not transit'
                        AND agency_alt2_leg2 = agency_alt2_leg4))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg3 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg3 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg3 = agency_alt2_leg4
                        OR (agency_alt2_leg4 = 'Leg not transit'
                        AND agency_alt2_leg3 = agency_alt2_leg5))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg4 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg4 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg4 = agency_alt2_leg5
                        OR (agency_alt2_leg5 = 'Leg not transit'
                        AND agency_alt2_leg4 = agency_alt2_leg6))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg5 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg5 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg5 = agency_alt2_leg6
                        OR (agency_alt2_leg6 = 'Leg not transit'
                        AND agency_alt2_leg5 = agency_alt2_leg7))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg6 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg6 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg6 = agency_alt2_leg7
                        OR (agency_alt2_leg7 = 'Leg not transit'
                        AND agency_alt2_leg6 = agency_alt2_leg8))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg7 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg7 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt2_leg7 = agency_alt2_leg8
                        OR (agency_alt2_leg8 = 'Leg not transit'
                        AND agency_alt2_leg7 = agency_alt2_leg9))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg8 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg8 = 'HIGH_SPEED_TRAIN')
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                    AND (agency_alt2_leg8 = agency_alt2_leg9
                    OR (agency_alt2_leg9 = 'Leg not transit'
                    AND agency_alt2_leg8 = agency_alt2_leg10))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg9 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg9 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg9 = agency_alt2_leg10
                    OR (agency_alt2_leg10 = 'Leg not transit'
                    AND agency_alt2_leg9 = agency_alt2_leg11))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg10 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg10 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg10 = agency_alt2_leg11
                    OR (agency_alt2_leg11 = 'Leg not transit'
                    AND agency_alt2_leg10 = agency_alt2_leg12))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg11 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg11 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg11 = agency_alt2_leg12
                    OR (agency_alt2_leg12 = 'Leg not transit'
                    AND agency_alt2_leg11 = agency_alt2_leg13))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg12 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg12 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg12 = agency_alt2_leg13
                    OR (agency_alt2_leg13 = 'Leg not transit'
                    AND agency_alt2_leg12 = agency_alt2_leg14))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg13 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg13 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg13 = agency_alt2_leg14
                    OR (agency_alt2_leg14 = 'Leg not transit'
                    AND agency_alt2_leg13 = agency_alt2_leg15))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg14 = 'HEAVY_RAIL' OR
                    vehicletype_alt2_leg14 = 'HIGH_SPEED_TRAIN')
                    AND (agency_alt2_leg14 = agency_alt2_leg15
                    OR (agency_alt2_leg15 = 'Leg not transit'
                    AND agency_alt2_leg14 = agency_alt2_leg16))'
-Use 'Compute Variable'
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        -Target Variable: 'PRICE_red_train_2'
        -Numeric Expression: 'PRICE_red_train_2 -1.63'
        -If...: '(vehicletype_alt2_leg15 = 'HEAVY_RAIL' OR
                        vehicletype_alt2_leg15 = 'HIGH_SPEED_TRAIN')
                        AND agency_alt2_leg15 = agency_alt2_leg16'


-Make variable:
        -'PRICE_train_3'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg1 / 1000)'
        -If...: 'vehicletype_alt3_leg1 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg1 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg2 / 1000)'
        -If...: 'vehicletype_alt3_leg2 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg2 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg3 / 1000)'
        -If...: 'vehicletype_alt3_leg3 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg3 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg4 / 1000)'
        -If...: 'vehicletype_alt3_leg4 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg4 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg5 / 1000)'
        -If...: 'vehicletype_alt3_leg5 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg5 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg6 / 1000)'
        -If...: 'vehicletype_alt3_leg6 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg6 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg7 / 1000)'
        -If...: 'vehicletype_alt3_leg7 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg7 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_3'
        -Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg8 / 1000)'
        -If...: 'vehicletype_alt3_leg8 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg8 = 'HIGH_SPEED_TRAIN''
```

-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg9 / 1000)'
	-If...: 'vehicletype_alt3_leg9 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg9 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg10 / 1000)'
	-If...: 'vehicletype_alt3_leg10 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg10 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg11 / 1000)'
	-If...: 'vehicletype_alt3_leg11 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg11 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg12 / 1000)'
	-If...: 'vehicletype_alt3_leg12 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg12 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg13 / 1000)'
	-If...: 'vehicletype_alt3_leg13 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg13 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg14 / 1000)'
	-If...: 'vehicletype_alt3_leg14 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg14 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg15 / 1000)'
	-If...: 'vehicletype_alt3_leg15 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg15 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
	-Target Variable: 'PRICE_train_3'
	-Numeric Expression: 'MAX(1.63, PRICE_train_3 + 0.13 * distance_alt3_leg16 / 1000)'
	-If...: 'vehicletype_alt3_leg16 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg16 = 'HIGH_SPEED_TRAIN''

-Make variable:
	-'PRICE_red_train_3'

-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_train_3'
	-Numeric Expression: '0'
-Use 'Compute Variable'
	-Target Variable: 'PRICE_red_train_3'
	-Numeric Expression: 'PRICE_red_train_3 -1.63'
	-If...: '(vehicletype_alt3_leg1 = 'HEAVY_RAIL' OR
			vehicletype_alt3_leg1 = 'HIGH_SPEED_TRAIN')

AND (agency_alt3_leg1 = agency_alt3_leg2
OR (agency_alt3_leg2 = 'Leg not transit'
AND agency_alt3_leg1 = agency_alt3_leg3))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg2 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg2 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg2 = agency_alt3_leg3
OR (agency_alt3_leg3 = 'Leg not transit'
AND agency_alt3_leg2 = agency_alt3_leg4))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg3 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg3 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg3 = agency_alt3_leg4
OR (agency_alt3_leg4 = 'Leg not transit'
AND agency_alt3_leg3 = agency_alt3_leg5))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg4 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg4 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg4 = agency_alt3_leg5
OR (agency_alt3_leg5 = 'Leg not transit'
AND agency_alt3_leg4 = agency_alt3_leg6))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg5 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg5 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg5 = agency_alt3_leg6
OR (agency_alt3_leg6 = 'Leg not transit'
AND agency_alt3_leg5 = agency_alt3_leg7))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg6 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg6 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg6 = agency_alt3_leg7
OR (agency_alt3_leg7 = 'Leg not transit'
AND agency_alt3_leg6 = agency_alt3_leg8))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg7 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg7 = 'HIGH_SPEED_TRAIN')
AND (agency_alt3_leg7 = agency_alt3_leg8
OR (agency_alt3_leg8 = 'Leg not transit'
AND agency_alt3_leg7 = agency_alt3_leg9))'
-Use 'Compute Variable'

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        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg8 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg8 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg8 = agency_alt3_leg9
                        OR (agency_alt3_leg9 = 'Leg not transit'
                        AND agency_alt3_leg8 = agency_alt3_leg10))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg9 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg9 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg9 = agency_alt3_leg10
                        OR (agency_alt3_leg10 = 'Leg not transit'
                        AND agency_alt3_leg9 = agency_alt3_leg11))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg10 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg10 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg10 = agency_alt3_leg11
                        OR (agency_alt3_leg11 = 'Leg not transit'
                        AND agency_alt3_leg10 = agency_alt3_leg12))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg11 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg11 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg11 = agency_alt3_leg12
                        OR (agency_alt3_leg12 = 'Leg not transit'
                        AND agency_alt3_leg11 = agency_alt3_leg13))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg12 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg12 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg12 = agency_alt3_leg13
                        OR (agency_alt3_leg13 = 'Leg not transit'
                        AND agency_alt3_leg12 = agency_alt3_leg14))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg13 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg13 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt3_leg13 = agency_alt3_leg14
                        OR (agency_alt3_leg14 = 'Leg not transit'
                        AND agency_alt3_leg13 = agency_alt3_leg15))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_3'
        -Numeric Expression: 'PRICE_red_train_3 -1.63'
        -If...: '(vehicletype_alt3_leg14 = 'HEAVY_RAIL' OR
                        vehicletype_alt3_leg14 = 'HIGH_SPEED_TRAIN')
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AND (agency_alt3_leg14 = agency_alt3_leg15
OR (agency_alt3_leg15 = 'Leg not transit'
AND agency_alt3_leg14 = agency_alt3_leg16))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_3'
-Numeric Expression: 'PRICE_red_train_3 -1.63'
-If...: '(vehicletype_alt3_leg15 = 'HEAVY_RAIL' OR
vehicletype_alt3_leg15 = 'HIGH_SPEED_TRAIN')
AND agency_alt3_leg15 = agency_alt3_leg16'

-Make variable:
-'PRICE_train_4'
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: '0'
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg1 / 1000)'
-If...: 'vehicletype_alt4_leg1 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg1 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg2 / 1000)'
-If...: 'vehicletype_alt4_leg2 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg2 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg3 / 1000)'
-If...: 'vehicletype_alt4_leg3 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg3 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg4 / 1000)'
-If...: 'vehicletype_alt4_leg4 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg4 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg5 / 1000)'
-If...: 'vehicletype_alt4_leg5 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg5 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg6 / 1000)'
-If...: 'vehicletype_alt4_leg6 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg6 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'
-Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg7 / 1000)'
-If...: 'vehicletype_alt4_leg7 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg7 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
-Target Variable: 'PRICE_train_4'

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        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg8 / 1000)'
        -If...: 'vehicletype_alt4_leg8 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg8 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg9 / 1000)'
        -If...: 'vehicletype_alt4_leg9 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg9 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg10 / 1000)'
        -If...: 'vehicletype_alt4_leg10 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg10 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg11 / 1000)'
        -If...: 'vehicletype_alt4_leg11 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg11 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg12 / 1000)'
        -If...: 'vehicletype_alt4_leg12 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg12 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg13 / 1000)'
        -If...: 'vehicletype_alt4_leg13 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg13 = 'HIGH_SPEED_TRAIN''
-Use 'Compute Variable'
        -Target Variable: 'PRICE_train_4'
        -Numeric Expression: 'MAX(1.63, PRICE_train_4 + 0.13 * distance_alt4_leg14 / 1000)'
        -If...: 'vehicletype_alt4_leg14 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg14 = 'HIGH_SPEED_TRAIN''

-Make variable:
        -'PRICE_red_train_4'

-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_4'
        -Numeric Expression: '0'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_4'
        -Numeric Expression: 'PRICE_red_train_4 -1.63'
        -If...: '(vehicletype_alt4_leg1 = 'HEAVY_RAIL' OR
                        vehicletype_alt4_leg1 = 'HIGH_SPEED_TRAIN')
                        AND (agency_alt4_leg1 = agency_alt4_leg2
                        OR (agency_alt4_leg2 = 'Leg not transit'
                        AND agency_alt4_leg1 = agency_alt4_leg3))'
-Use 'Compute Variable'
        -Target Variable: 'PRICE_red_train_4'
        -Numeric Expression: 'PRICE_red_train_4 -1.63'
        -If...: '(vehicletype_alt4_leg2 = 'HEAVY_RAIL' OR
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vehicletype_alt4_leg2 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg2 = agency_alt4_leg3
OR (agency_alt4_leg3 = 'Leg not transit'
AND agency_alt4_leg2 = agency_alt4_leg4))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg3 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg3 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg3 = agency_alt4_leg4
OR (agency_alt4_leg4 = 'Leg not transit'
AND agency_alt4_leg3 = agency_alt4_leg5))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg4 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg4 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg4 = agency_alt4_leg5
OR (agency_alt4_leg5 = 'Leg not transit'
AND agency_alt4_leg4 = agency_alt4_leg6))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg5 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg5 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg5 = agency_alt4_leg6
OR (agency_alt4_leg6 = 'Leg not transit'
AND agency_alt4_leg5 = agency_alt4_leg7))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg6 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg6 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg6 = agency_alt4_leg7
OR (agency_alt4_leg7 = 'Leg not transit'
AND agency_alt4_leg6 = agency_alt4_leg8))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg7 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg7 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg7 = agency_alt4_leg8
OR (agency_alt4_leg8 = 'Leg not transit'
AND agency_alt4_leg7 = agency_alt4_leg9))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg8 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg8 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg8 = agency_alt4_leg9
OR (agency_alt4_leg9 = 'Leg not transit'
AND agency_alt4_leg8 = agency_alt4_leg10))'

-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg9 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg9 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg9 = agency_alt4_leg10
OR (agency_alt4_leg10 = 'Leg not transit'
AND agency_alt4_leg9 = agency_alt4_leg11))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg10 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg10 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg10 = agency_alt4_leg11
OR (agency_alt4_leg11 = 'Leg not transit'
AND agency_alt4_leg10 = agency_alt4_leg12))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg11 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg11 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg11 = agency_alt4_leg12
OR (agency_alt4_leg12 = 'Leg not transit'
AND agency_alt4_leg11 = agency_alt4_leg13))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg12 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg12 = 'HIGH_SPEED_TRAIN')
AND (agency_alt4_leg12 = agency_alt4_leg13
OR (agency_alt4_leg13 = 'Leg not transit'
AND agency_alt4_leg12 = agency_alt4_leg14))'
-Use 'Compute Variable'
-Target Variable: 'PRICE_red_train_4'
-Numeric Expression: 'PRICE_red_train_4 -1.63'
-If...: '(vehicletype_alt4_leg13 = 'HEAVY_RAIL' OR
vehicletype_alt4_leg13 = 'HIGH_SPEED_TRAIN')
AND agency_alt4_leg13 = agency_alt4_leg14'

CALCULATE TOTAL PRICE FOR PT ALTERNATIVES

-Make variable:
-'PRICE_alt_1'
-Use 'Compute Variable'
-Target Variable: 'PRICE_alt_1'
-Numeric Expression: 'PRICE_btm_1 + PRICE_red_btm_1
+ PRICE_train_1 + PRICE_red_train_1'
-Make variable:
-'PRICE_alt_2'
-Use 'Compute Variable'
-Target Variable: 'PRICE_alt_2'
-Numeric Expression: 'PRICE_btm_2 + PRICE_red_btm_2

+ PRICE_train_2 + PRICE_red_train_2'

-Make variable:
-'PRICE_alt_3'
-Use 'Compute Variable'
-Target Variable: 'PRICE_alt_3'
-Numeric Expression: 'PRICE_btm_3 + PRICE_red_btm_3
+ PRICE_train_3 + PRICE_red_train_3'
-Make variable:
-'PRICE_alt_4'
-Use 'Compute Variable'
-Target Variable: 'PRICE_alt_4'
-Numeric Expression: 'PRICE_btm_4 + PRICE_red_btm_4
+ PRICE_train_4 + PRICE_red_train_4'

CALCULATE GJTC FOR PT ALTERNATIVES

-Make variable:
-'wait_and_walk_time_1'
-Use 'Compute Variable'
-Target Variable: 'wait_and_walk_time_1'
-Numeric Expression: 'duration_alt1 - invehicle_duration_alt1'
-Make variable:
-'veh_and_hid_time_1'
-Use 'Compute Variable'
-Target Variable: 'veh_and_hid_time_1'
-Numeric Expression: 'invehicle_duration_alt1
+ (duration_incl_waiting_alt1 - duration_alt1)'

-Make variable:
-'wait_and_walk_time_2'
-Use 'Compute Variable'
-Target Variable: 'wait_and_walk_time_2'
-Numeric Expression: 'duration_alt2 - invehicle_duration_alt2'
-Make variable:
-'veh_and_hid_time_2'
-Use 'Compute Variable'
-Target Variable: 'veh_and_hid_time_2'
-Numeric Expression: 'invehicle_duration_alt2
+ (duration_incl_waiting_alt2 - duration_alt2)'

-Make variable:
-'wait_and_walk_time_3'
-Use 'Compute Variable'
-Target Variable: 'wait_and_walk_time_3'
-Numeric Expression: 'duration_alt3 - invehicle_duration_alt3'
-Make variable:
-'veh_and_hid_time_3'
-Use 'Compute Variable'
-Target Variable: 'veh_and_hid_time_3'
-Numeric Expression: 'invehicle_duration_alt3
+ (duration_incl_waiting_alt3 - duration_alt3)'

-Make variable:
-'wait_and_walk_time_4'
-Use 'Compute Variable'
-Target Variable: 'wait_and_walk_time_4'
-Numeric Expression: 'duration_alt4 - invehicle_duration_alt4'
-Make variable:
-'veh_and_hid_time_4'
-Use 'Compute Variable'
-Target Variable: 'veh_and_hid_time_4'
-Numeric Expression: 'invehicle_duration_alt4
+ (duration_incl_waiting_alt4 - duration_alt4)'

-Make variable:
-'gjtc_alt_1'
-Use 'Compute Variable'
-Target Variable: 'gjtc_alt_1'
-Numeric Expression: ' (veh_and_hid_time_1 + 2 * wait_and_walk_time_1) / 60
+ 10 * transfers_alt1 + 1/(6.5/60) * PRICE_alt_1'
-Make variable:
-'gjtc_alt_2'
-Use 'Compute Variable'
-Target Variable: 'gjtc_alt_2'
-Numeric Expression: ' (veh_and_hid_time_2 + 2 * wait_and_walk_time_2) / 60
+ 10 * transfers_alt2 + 1/(6.5/60) * PRICE_alt_2'
-Make variable:
-'gjtc_alt_3'
-Use 'Compute Variable'
-Target Variable: 'gjtc_alt_3'
-Numeric Expression: ' (veh_and_hid_time_3 + 2 * wait_and_walk_time_3) / 60
+ 10 * transfers_alt3 + 1/(6.5/60) * PRICE_alt_3'
-Make variable:
-'gjtc_alt_4'
-Use 'Compute Variable'
-Target Variable: 'gjtc_alt_4'
-Numeric Expression: ' (veh_and_hid_time_4 + 2 * wait_and_walk_time_4) / 60
+ 10 * transfers_alt4 + 1/(6.5/60) * PRICE_alt_4'

-Make variable: gjtc_pt
-Use 'Compute Variable'
-Target Variable: 'gjtc_pt'
-Numeric Expression: 'MIN(gjtc_alt_1, gjtc_alt_2, gjtc_alt_3, gjtc_alt_4)'

MAKING THE MODAL SPLIT BASED ON GJTC
-Make variable
-'logit_gjtc_car'
-'logit_gjtc_bicycle'
-'logit_gjtc_walking'
-'logit_gjtc_PT'
-Use 'Compute Variable'
-Target Variable: 'logit_gjtc_car'
-Numeric Expression: 'EXP(- (gjtc_car)) / (EXP(- (gjtc_car)) + EXP(-
(round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_bicycle'

-Numeric Expression: 'EXP(- (round_time_bicycle)) / (EXP(- (gjtc_car)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_walking'

-Numeric Expression: 'EXP(- (round_time_walking)) / (EXP(- (gjtc_car)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_PT'

-Numeric Expression: 'EXP(- (gjtc_pt)) / (EXP(- (gjtc_car)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

CALCULATE THE MODAL SPLIT FOR 'RUNNING COSTS ONLY'

-Make variable:

-'PRICE_car_cheap'

-Use 'Compute Variable'

-Target Variable: 'PRICE_car_cheap'

-Numeric Expression: 'Dist_driv * (0.19 / 1000)'

-Make variable:

-'gjtc_car_cheap'

-Use 'Compute Variable'

-Target Variable: 'gjtc_car_cheap'

-Numeric Expression: 'round_time_car + 1 / (7.5 / 60) * PRICE_car_cheap'

-Make variable

-'logit_gjtc_car_cheap'

-'logit_gjtc_bicycle_cheap'

-'logit_gjtc_walking_cheap'

-'logit_gjtc_PT_cheap'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_car_cheap'

-Numeric Expression: 'EXP(- (gjtc_car_cheap)) / (EXP(- (gjtc_car_cheap)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_bicycle_cheap'

-Numeric Expression: 'EXP(- (round_time_bicycle)) / (EXP(- (gjtc_car_cheap)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_walking_cheap'

-Numeric Expression: 'EXP(- (round_time_walking)) / (EXP(- (gjtc_car_cheap)) + EXP(- (round_time_bicycle))

+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

-Use 'Compute Variable'

-Target Variable: 'logit_gjtc_PT_cheap'

-Numeric Expression: 'EXP(- (gjtc_pt)) / (EXP(- (gjtc_car_cheap)) + EXP(-
(round_time_bicycle))
+ EXP(- (round_time_walking)) + EXP(- (gjtc_pt)))'

TO BUILD THE SECOND AND THIRD SANKEY DIAGRAM

LOW CAR COST SANKEY
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_car_cheap:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 5051.93, BICYCLE = 200.4,
WALKING = 85.44, PT = 649.86, Total = 5987.63
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_bicycle_cheap:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 14327.18, BICYCLE = 8261.62,
WALKING = 3540.97, PT = 580.15, Total = 26709.91
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_walking_cheap:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 831.59, BICYCLE = 144.98, WALKING = 831.59,
PT = 8.65, Total = 1105.04
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_PT_cheap:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 6.08, BICYCLE = 0, WALKING = 0,
PT = 32.33, Total = 38.42

NORM CAR COST SANKEY
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_car:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 7.67, BICYCLE = 4.79,
WALKING = 10.16, PT = 0.06, Total = 22.68
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_bicycle:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 19171.94, BICYCLE = 8456.74,
WALKING = 3611.30, PT = 1133.92, Total = 32373.89
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_walking:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 120.34, BICYCLE = 145.45, WALKING = 833.54,
PT = 8.66, Total = 1107.99
-Report: Summaries in Colums
-Data Columns: 'logit_gjtc_PT:sum'
-Break Columns: 'Simplified mode classification'
-Result: CAR = 193.06, BICYCLE = 0,02 WALKING = 3.00,
PT = 128.36, Total = 324.43

DO THE Mann-Whitney U test / KRUSKAL-WALLIS H test twice (FOR THE CAR-ONLY TEST ALL OTHER TRIPS EXCEPT FOR THE 'CAR' MODES
HAVE BEEN DELETED IN A SEPERATE FILE)

(x2) -Use '2 Independent-Samples...'
-Test Variable List: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'GESLACHT'
-Define groups: 'Group 1: 1, Group 2: 2'
-Check 'Mannn-Whitney U'
-Copy table into document

(x2) -Use 'K Independent Samples...'
-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'AGE'
-Define Range...: 'Minimum: 1, Maximum: 5'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use 'K Independent Samples...'
-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'INCOME'
-Define Range...: 'Minimum: 1, Maximum: 4'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use 'K Independent Samples...'
-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'EDUCATION'
-Define Range...: 'Minimum: 1, Maximum: 4'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use 'K Independent Samples...'
-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'URBANISATION'
-Define Range...: 'Minimum: 1, Maximum: 4'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use 'K Independent Samples...'
-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'PURPOSE'
-Define Range...: 'Minimum: 1, Maximum: 6'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use 'K Independent Samples...'

-Test Variable(s): 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'DISTANCE'
-Define Range...: 'Minimum: 1, Maximum: 5'
-Check 'Kruskal-Wallis H'
-Copy table into document

(x2) -Use '2 Independent-Samples...'
-Test Variable List: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'TOD'
-Define groups: 'Group 1: 1, Group 2: 2'
-Check 'Mannn-Whitney U'
-Copy table into document

(x2) -Use '2 Independent-Samples...'
-Test Variable List: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'DAGSOORT'
-Define groups: 'Group 1: 1, Group 2: 2'
-Check 'Mannn-Whitney U'
-Copy table into document

(x2) -Use '2 Independent-Samples...'
-Test Variable List: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'HHAUTO'
-Define groups: 'Group 1: 0, Group 2: 1'
-Check 'Mannn-Whitney U'
-Copy table into document

(x2) -Use '2 Independent-Samples...'
-Test Variable List: 'logit_ratio_car, logit_ratio_bicycle
, logit_ratio_walking, logit_ratio_PT'
-Grouping Variable: 'OV_CARD'
-Define groups: 'Group 1: 1, Group 2: 2'
-Check 'Mannn-Whitney U'
-Copy table into document