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Spatial Modelling of the Forest Rescue Chain – Prediction and Analysis of Rescue Vehicle Travel Times

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Statutory Declaration

I herewith declare that I have composed the present thesis myself and without use of any other than the cited sources and aids. Sentences or parts of sentences quoted literally are marked as such; other references with regard to the statement and scope are indicated by full details of the publications concerned.

The thesis in the same or similar form has not been submitted to any examination body and has not been published. This thesis was not yet, even in part, used in another examination or as a course performance.

Groß-Umstadt, 14.09.2022

Tobias Wiepcke

Preface

The manuscript published in this thesis is strictly prepared and written according to the specifications[1] of the *Croatian Journal of Forestry Engineering (CROJFE)*[2] and is ready to be submitted into a peer-review process. *CROJFE* is committed to disseminating high quality scientific articles on the theory and application of forestry technology and is therefore an excellent target for a scientific study in the field of process chain analysis in forest rescue operations.

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[1] http://www.crojfe.com/site/assets/files/1030/crojfe_template_new-1.docx - The journal expects a manuscript of approximately 10000 words.
[2] www.crojfe.com; Web of Science Impact Factor (2021): 2.542 (#25 of 60 journals in forestry)

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Abstract:

Forest areas as sites of rescue operations are comparatively complex. On the one hand, accidents are frequent due to high-risk professional tasks such as timber harvesting and the rising number of recreational and leisure accidents due to an increase in sports and leisure activities such as hiking and biking. On the other hand, sites of accidents are addressless and therefore not covered by common routing / navigation systems based on the public road network.

The problem of coordinating and guiding emergency rescue operations in forest areas in Germany has been addressed by establishing distinct rescue points as part of the so-called forestry rescue chain.

However, there is a lack of data on travel times of EMS to reach the site of accidents in forests. For the federal state of Baden-Württemberg, this study merges HERE public road network data with NavLog forest road data in order to develop a calculation tool in ArcGIS Pro for such travel times. In addition, this tool is used to a) determine which station can serve a particular rescue point the fastest and b) to check for potential regional disparities in travel times to forest rescue points generally.

This study has developed a GIS model to calculate the time needed for medical personnel to reach a scene of an emergency in the forest. EMS stations are ranked by their frequency of being the best option as an indicator for higher or lower importance regarding the forest rescue chain in Baden-Württemberg. Rescue points clusters in terms of EMS travel time are revealed and show considerable regional differences.

1. Introduction

1.1   The Forest as an Accident Site

The forest can be a dangerous place - not only in storybooks. In case of an accident, Emergency Medical Services (EMS) face certain challenges during operations in the forest.

The number of accidents in forestry labour in Germany has decreased slightly (SVLFG 2021) and, according to the latest official statistics, 26 deaths and 4.834 people with a degree of injury that caused a significant loss of working time for the year 2020 were registered (SVLFG 2020). For the federal state forest of Baden-Württemberg (323.585 hectares, 23.6 % of the total forest area in Baden-Württemberg (Kändler and Cullmann 2014)), official accident statistics (2008 – 2019) show a falling trend ending at the low with N = 96 in 2019 (KWF 2022b)[3]. Internal statistics from the administrative department for occupational safety at *ForstBW* include a total of 259 severe accidents in the period from 1 January 2020 until 30 June 2022 (ForstBW 2022). These include 118 reportable accidents of forest workers in 2020, 98 in 2021, and 43 by the middle of 2022[4]. Over the entire observation period, most of the accidents (76 %; N = 208) occurred inside of a forest. In the mean 6.93 accidents happened per month (SD = 3.72). For this reason, it is still essential for professional forestry work in Baden-Württemberg to ensure rescue concepts are adequate and as reliable as possible. However, the underlying statistical data only includes mandatory reportable incidents and generally no accidents during forest work performed by contractors or private individuals are officially reported. It must therefore be assumed that there is an unknown high number of unreported accidents during forestry work which require an EMS rescue operation.

The German forest law explicitly allows to enter the forest for recreational purposes (BWaldG; p.l. 790-18). While there is no official data on the actual number of leisure and sports accidents in Baden-Württemberg, it is possible to infer some general trends from of other statistical data. Results of the survey *Mikrozensus 2017* show that 26.78 % of accidents in Germany are recreational accidents that do not happen at home and are not related to road traffic (Statistisches Bundesamt 2017). Sports injuries are of great importance in recreational accidents, but in contrast to other countries such as Switzerland, there is no systematic recording of sports accidents in Germany (Robert Koch-Institut 2015). It is worth taking a closer look at our neighbours and the numbers of the survey *Status 2021*[5]. On average, 12.65 % of recreational accidents in the period between 2005 and 2018 occurred in natural areas (excluding bodies of water, coast, beach, shore; the study also does not consider ski resorts as nature areas) (Niemann et al. 2021).

According to the *Status 2021* survey, particularly relevant as accident events in nature areas are cycling (mountain bike and cycling on non-public roads) and hiking, with an increase in the recent years. While the number of accidents involving cycling did increase slightly, the number of accidents involving hiking doubled over the last decade (Niemann et al. 2021).

Hiking is the most popular sports activity in Switzerland: 57 % of the population (approx. 4 Mil.) aged 15 and over hike regularly and between 2013 and 2019, the proportion of hikers increased by 12.6 % - so it is possible to speak of a veritable hiking boom (ASTRA 2022). For the period of 2007 to 2019 the activity level in biking has risen from 41.7 % to 49.9 % and for hiking from 32.9 % to 56.9 % (Lamprecht et al. 2008, 2014, 2020).[6] Taking the development of the above-mentioned accidents into account, a correlation between the increased activity and the rise of the number of accidents in Swiss nature areas is conceivable.

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[3] For a good overview of accident statistics of federal forestry workers for Germany in the period from 2008 to 2020 see Purfürst (2022).

[4] Note: The underlying data originate from ForstBW internal databases. Figures between 6/30/2021 to 6/30/2022 are not yet consolidated, fully recorded, or processed at this time of the study ForstBW (2022, Datasheet). See appendix V for diagram

[5] Following statistics to be found visualised as diagrams in appendix V

[6] Percentage of population (age > 15)

The *VuMA[7] Touchpoint* survey includes random interviews on consumer behaviour of the German population aged 14 and over. The percentage of Germans who stated their intention to hike ($\bar{x}$ = 47.62 %) or bike ($\bar{x}$ = 69.24 %) in their free time remained constant on a high level (VuMa 2022)[8]. A high number of leisure accidents in natural areas in Germany due to a frequent practice of these activities, can therefore be assumed.

In addition to the forest as a site of accidents, other non-traumatic types of emergencies can occur also that rely on a rapid EMS as well. A significant increase in forest visitors of almost 40 % during the first wave of the Corona pandemic is evident (Suda et al. 2021). People not only go into forests for recreational purposes more often, but they also stay significantly longer (Palm et al. 2020).
There is under-reporting about recreation emergencies in the forests of Baden-Württemberg, as there are no statistics on EMS operations with this perspective available. It can only be presumed that operations are very frequent if the accident figures in nature areas from Switzerland are considered.

Time is the most critical factor in rescue missions. For addressless, but accident-prone forest areas, there is no possibility for best time calculation so far. When determining rescue points, location to the nearest station and travel time is not taken into consideration.

1.2 Rescue Operations in Forests

1.2.1 Classic Rescue Procedure for Accidents Involving Professional Foresters

In Germany, the organizational concepts for rescuing casualties in the forest are commonly summarized under the term *Rettungskette Forst* (forest rescue chain) (Schmidt-Baum 2008), which is a forestry specific extension of the term *Rettungskette* (rescue chain), which also defines uninterrupted processes in military rescue operations (Sanitätsdienst der Bundeswehr n.d.; Henning 2022) and in civilian rescue services (Deutscher Bundestag 2003). The metaphorical terminology describes the temporal and organizational (ideally) seamless interlocking of individual components and forces involved in the rescue operation process. The term does not stand for a single defined standard procedure, but summarizes different ones (Schmidt-Baum 2008), which include individual precautionary measures for regionally different framework conditions. A stationary forest rescue point system to mark secured access routes into the forest and, at the same time, operate as EMS meeting points, is an organisational action that is established and well proven in all federal states for today (KWF 2017). The following steps are the main steps (up to the arrival of EMS on scene) of most of the classic forest rescue chains (Schmidt-Baum 2008; Beruf Forstwirt 2019; Purfürst 2022):

General
1. Always work in pairs, preferably in threes (the variant with three persons is considered in this study)
2. Written work instruction is on hand before the start of work. Contains the identifier of the nearest rescue point and its spatial location

Emergency
3. Secure the accident site and eliminate existing hazard
4. Perform immediate life-saving measures
5. Emergency call. Naming the rescue point identifier according to the work instructions.
6. While first aid measures are being carried out, a second person drives to the rescue point and awaits the emergency services
7. Guiding the EMS to the scene of the incident

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[7] Verbrauchs- und Medienanalyse [Consumption and media analysis]

[8] Diagram in appendix V

In this process, it is obvious that the correct and identical information about the identifier and the spatial location of the rescue points at every instance (person requesting help, dispatch centre, EMS) is essential for the forces involved to be able to cooperate in an unobstructed and time-efficient manner. There is no law or commissioned authority in Germany that deals with the administration and quality control of rescue points - rather, this is done by the respective forest owners independently (Purfürst 2022). Representatives of most of the German federal states elaborated and agreed to an de facto quality standard that defines the requirements for installation and the management of rescue points designed for the use in the field of forestry labour (KWF 2017).

According to these regulations (KWF 2017), the main spatial requirements for the installation of a rescue point are:

- Rescue points shall be reached by EMS all year round and therefore be placed at a public road or publicly accessible place at a forest entrance
- If a placement in the forest is necessary, prominent points (such as road junctions, cabins) with year-round accessibility should be selected. Forest roads that meet this criterion correspond to *NavLog* road class 1 to 3 (NavLog 2021)
- The position must be safe regarding flowing traffic
- Mobile network reception should be available
- For the final location decision, the involvement of local EMS is recommended

Within these criteria, the distance or driving time to of rescue stations is not defined. Thus, it remains open whether the location of the rescue point is optimally chosen in this respect.

1.2.2 Rescue Procedures for Accidents Involving External Persons

In contrast to accidents involving internal forest workers, it cannot be assumed that a designated guide leads EMS personnel from a rescue point to the scene of the accident. The rescue point system was exclusively an internal strategy for emergencies during work and not available to the public (Wolf 2015; Purfürst 2022; StMELF 2022). Since 2013, the central office of the Kuratorium für Waldarbeit und Forsttechnik e.V. (KWF; Board of Trustees for Forest Work and Forest Engineering) collects rescue point information from various sources in Germany and makes them available to the public in various digital forms (KWF 2022c). The latest downloadable Version 2.12 contains 59.244 rescue points (KWF 2022a), which are also available to the public in the smartphone applications *Hilfe im Wald* (Intend Geoinformatik 2022) and *Resq Map* (Bejga 2022). This information can be used during an emergency call to communicate a spatial location in otherwise addressless areas. This task is increasingly being taken over by different mobile technologies that are able to transmit the caller's location coordinates to the dispatcher in the integrated control centre digitally (Kramarz - von Kohout and Thiele 2019). Today, 223 out of 234 control centres are able to receive GNSS location information transferred by the service Advanced Mobile Location (AML) and 95 % of emergency mobile calls in Germany include such data (Brambrink 2022). It can be assumed however, that in the event of an accident in the forest, the position of the emergency caller is only one part of the equation. The other being: which emergency vehicle will reach this location most effectively and which route is safe to enter the forest? The answer to the last question is provided by the forestry rescue points. Therefore, the rescue process involving external persons can be comparable with the procedure involving forestry professionals in regard of the assumed route taken by an EMS vehicle, that leads via a rescue point to the accident site. A survey of 30 control centres in Germany in 2011 confirmed that rescue points are more often used to rescue recreationists rather than forest workers (Schnitzler 2011).

1.2.3 Ambulance Travel Times

Time is one of the most important variables when an accident occurs. As soon as an emergency call is received by a control centre dispatcher, a legal help period begins that ends when the appropriate rescue personnel arrive at the next public road to the scene of the emergency (RDG; p.l. GBl. 2010,

285). In addition, research studies have shown that rapid assistance and a short prehospital time have an crucial positive effect on both non-traumatic (Bohn et al. 2017) and traumatic (Harmsen et al. 2015) patients outcome. Emergency medical services operating in rural areas have generally longer prehospital times, response times, on-scene times, transport times and as a result, lower performance measures in key areas and lower patient survival rates compared to EMS in urban areas (Alanazy et al. 2019). This is despite the fact that EMS in rural areas are much more effective at reducing travel time through the use of priority signals than in urban areas (Petzäll et al. 2011). The legal regulations of the state of Baden-Württemberg stipulate a maximum response time of 15 minutes for accidents near public roads and this given timeframe must be respected in 95 % of operations (RDG; p.l. GBl. 2010, 285; IM BW 2014). But according to *Schehadat et al. (2017)* this threshold is partially exceeded (Schehadat et al. 2017). The time needed to access the patient in the field is not considered in the official EMS planning - although only 10 % of accidents are situated in the immediate vicinity of a public road (Sefrin and Distler 2002). Overall, the maximum response time is a planning parameter and does not provide sufficient guarantee of reaching the patient as quickly as possible, but it rather defines the infrastructure of the rescue service (Sefrin and Schua 2021) based on certain parameters. When forestry rescue points are being installed, calculations of travel times between the locations of responsible rescue stations and the rescue points are not considered (KWF 2017).

The aim of present study is to provide a tool for analysing travel times of EMS personnel to accident locations within forest areas in Baden-Württemberg with the help of Geographic Information Systems (GIS).
In addition, it is analysed whether there are potentially more important and less important EMS locations regarding the forest rescue chain.
It is also investigated in which regions the amount of time needed to reach rescue points is significantly longer or shorter.

2. Material and Methods

2.1 Geodata

The forest rescue points in Baden-Württemberg are part of the German dataset provided by the KWF (Board of Trustees for Forest Work and Forest Engineering) and are available to download in different vector formats under the CC-BY-ND 3.0 license (KWF 2022c). A sub-sample of the points located in Baden-Württemberg in data version 2.12 is used in this study. This corresponds to a number of 6754 rescue points. To calculate travel times of ambulance vehicles to these rescue points, the locations of EMS stations in Baden-Württemberg are an essential information as these are being used as places of departure in the calculations. In Baden-Württemberg, these sites are not recorded centrally over the entire state area (IM BW 2021). This is why different publicly accessible platforms[9] and the OSM data repository (filter *tag: emergency = ambulance_station*) are used to derive and / or collect this data. This process results in a dataset of 348 ambulance station locations. Since the data sources are not official, and although the utmost care and effort was taken, completeness cannot be guaranteed. To model the driving manoeuvres in the context of the forestry rescue chain, it is necessary to determine random accident sites inside of forest areas. These areas have to be extracted out of the freely available OSM data with a corresponding query for *'forest'* located in Baden-Württemberg.

A basic requirement of this study is the construction of a continuous routable road network which includes forest and public roads but gives priority to the latter. To achieve this, the datasets containing public streets of *HERE* (155.205 km) and the forestry roads of *NavLog* (89.167 km) get digitally connected by a geographic data processing model in ESRI ArcGIS Pro. *HERE* and *NavLog* do not contain values which represent an impedance to pass the vector. In *HERE* the attribute *Speed Category* contains a possible speed range as a class. In the documentation of *HERE* data an overview about these classes is given (HERE 2018, p. 351). These classes represent a combination of various factors as legal speed limits, physical restrictions, access characteristics and more. *Speed Category* values differ from *Speed Limit* values, which represent the legal speed limit only (HERE 2018). For the *NavLog* dataset parameters used as vehicle driving speeds (*Table 2*) were approximately determined by 3 test drives before, in which simulated operations were carried out by a former paramedic with a Volkswagen T6.

Accident sites are geographically placed randomly by the tool *Create Random Points* in ArcGIS Pro. The tool was run inside of forest polygons only and created 2.000 casual locations all over Baden-Württemberg.

2.2 Hardware, Software and Tools

For this study a Windows 10 Workstation with an Intel(R) Xeon(R) W-2245 CPU and 128 GB RAM is used to run the processing model. Software ArcGIS Pro Version 2.8.2 (with Network Analyst and Spatial Statistics extensions) and additional Phyton scripts are applied for process modelling. ArcGIS Pro, R Studio 22.07.0 and Microsoft Excel are used for further data analysis. To find statistically significant spatial clusters of high time values and low time values in the calculated data of travel times per rescue point, the tool *Optimized Outlier Analysis*[10] using the Getis-Ord Gi* statistic is used in ArcGIS Pro.

2.3 Process Modelling

From a single EMS perspective, the forest rescue chain presents as the following process (*Figure 1* is to be considered):

1. The **first track** section is the drive from the station to a rescue point (in this scenario only a single rescue point is eligible for use). Only public streets are used to reach the rescue point.

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[9] https://BOS-Fahrzeuge.info/wachen BOS-Fahrzeuge.info (2022); maps.google.com
[10] https://pro.arcgis.com/en/pro-app/2.9/tool-reference/spatial-statistics/optimizedoutlieranalysis.htm

2. From there, the vehicle is guided into the forest until a point next to the scene of the accident is reached. This can involve the use of roads exclusively from *NavLog* or from *HERE*, or a mixture of both. This is the **second track** section.
3. The **third track** is final distance between the ambulance and the accident site must be covered on foot. In this study, a travel speed of 1 m/s in the field is presumed. Unlike the sketch in *Figure 1*, accessibility on the shortest path (dotted straight line) will be assumed in the modelled process.

Figure 1 - Route of an ambulance from the EMS station over a rescue point to an endpoint in the near of the accident. the last section must be covered on foot. [11]

2.3.1 Problems to be considered in the model

This process becomes increasingly complex when more than one ambulance and more than one rescue point need to be considered to calculate the optimal solution for each accident site. There are several logical decisions in this process that influence the total time required. These factors and conditions must be accounted to calculate an optimal result. *Figure 2* illustrates the following listing in addition.

1. An ambulance has many rescue points in its area of operation.
2. One rescue point can be accessed by several ambulances.
3. A forest area is often covered by several rescue points that could theoretically be used in case of an accident.
4. The closest road from an accident site does not have to be part of the road network leading to the optimal solution (*Figure 2*). It is possible that within the ideal solution a longer walking distance has to be accepted - as this results in the shortest overall time.
5. Different road types allow different travel times. The shortest path is mostly not an adequate solution. In the forest (on *NavLog* roads) the speed is comparatively lower than on public roads. The optimal ratio between the route proportions inside and outside of the forest must be found.
6. On the travel route of an ambulance, forest roads shall only be used to calculate a driving manoeuvre in that forest, where the accident site is - not for shortcuts trough different forest areas on the way to the rescue point.

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[11] Data sources: Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA; NavLog GmbH
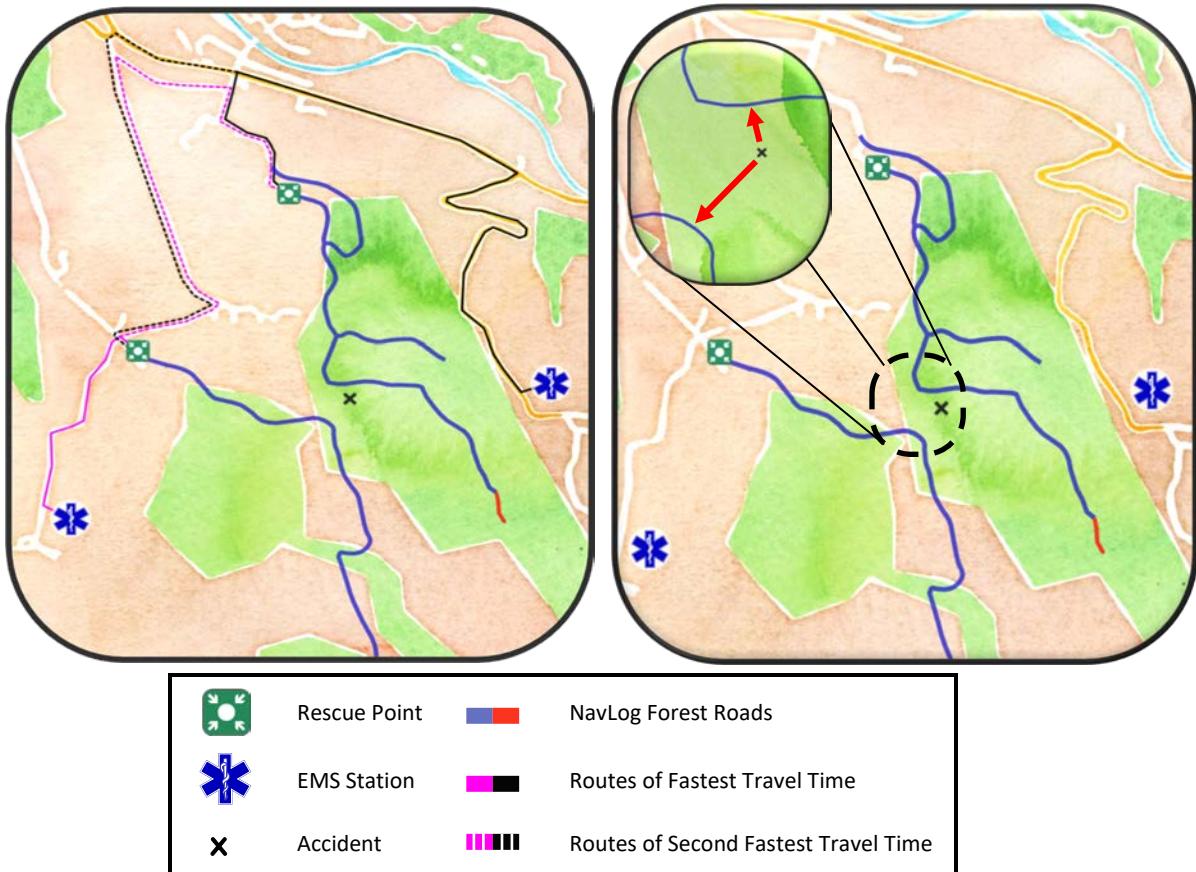
Figure 2 – Left: Many ambulances can serve many rescue points within different time periods. Dotted lines in black and pink represent the second fastest routes, straight lines the fastest to reach a rescue point. Right: The decision of which forest road should be used is dependent on the downstream network structure (resp. the resulting travel time) and not only on the distance.[12]

2.3.2   Modelling in GIS

The model was built in ArcGIS Pro using the model builder in combination with additional Python scripting. The task was implemented in such a way that the model can be run completely as a single application in ArcGIS Pro. The single steps in the process are as follows.

Merge HERE and NavLog data
To have a seamlessly connected road network, it is necessary to connect *HERE* with *NavLog*. To do this, roads unsuitable for connecting forest roads (e.g. motorways) are removed from the model. Then the *NavLog* roads are connected, and the removed roads are added back into the network again. The result is a one line vector feature class without gaps between public and forest roads. This is the basis for establishing topological connectivity in subsequent steps. The source of data is saved as an attribute (*src*) for deciding which route to prefer in routing algorithms.

Parametrize road data with speed variables and priority attributes, built Network Data Set
To calculate travel times in this study, the attended time to pass each road is a required information. *Table 1* shows the velocities in meters per second that were used to calculate a required time for each individual path segment (attribute *travelTime*). The *Speed Categories* 7 and 8 (traffic-calmed, play street, country roads) sometimes link the public road network to the forest road network. The speeds to expect on these roads were set to higher values as intended by *HERE* to take the faster driving speed of ambulances travelling with blues and twos into account. The limitations due to turning restrictions were also not taken into account in this study.

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[12] Data sources: Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA; NavLog GmbH

Table 1 - Speed ranges in HERE data as defined in NAVSTREETS V 10 (HERE 2018) and used values to parameterize routing algorithms.

HERE Speed Category	km/h	m/s (approx.)	m/s used
1	> 130	> 36	36
2	101 - 130	28 - 36	30
3	91 - 100	25 - 28	27
4	71 - 90	20 - 25	23
5	51 - 70	14 - 20	16
6	31 - 50	9 - 14	11
7	11 - 30	3 - 9	8
8	< 11	< 3	7

The attribute *Wayclass* in *NavLog* defines 9 road categories by preferred driving and suitability according to vehicle types (NavLog 2021). 6 of these classes are potentially suitable for usage by an ambulance vehicle. The following *Table 2* shows which speeds in metres per second have been assigned to the *Wayclasses* defined in the *GEODAT-Standard. GEODAT* consists out of the KWF Report (Hauck 2003) and the ShapeForst specification (NavLog 2021) and is the basis for the digitisation of forest roads in Germany.

Table 2 - Wayclasses in NavLog according to ShapeForst V3.3 (NavLog 2021) and the speed parameters used in the model.

GEODAT Wayclass	Max. vehicle class	m/s used
1	Truck	8
2	Truck	8
3	Truck	7
4	None	NA
5	Automobile [13]	7
6	Forestry machine	NA
7	Forestry machine	NA
9	Truck	8
91	Truck	8

Roads defined as *Wayclass* 3 and 5 are often not in the same condition or less well constructed (NavLog 2021) and therefore the driving speed on these tracks has been slightly reduced.

The attribute *Functional Class* (FUNC_CLASS) in *HERE* is used to generate an own hierarchy index in the road network (*prioClass*). The attribution in *HERE* includes five levels and *"defines a hierarchical network used to determine a logical and efficient route for a traveller"* (HERE 2018) [14]. The high-speed levels 1 and 2 are being transferred to *prioClass* 1 and 2. Level 3 – 5 in *prioClass* 3. Data from the source *NavLog* is assigned to class 4.

After parametrizing the feature class vectors the data is used to build a *Network Dataset* by the *Network Analyst* in *ArcGIS Pro* for further analysis. The previously generated hierarchy classes are respected. In addition, it is defined that public roads are always used in preference to *NavLog* routes

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[13] As being defined as *suitable for forest conditions* in ShapeForst NavLog (2021).

[14] For further details on *Functional Class* and the type of roads this classes represent, see HERE (2018) p. 29 of chapter 6 (p. 347).

to avoid shortcuts trough forest areas (using *src*). For *costs* of travelling along a vector the attribute *travelTime* is used.

Analysis of driving times between EMS stations and rescue points
In *ArcGIS Network Analyst* a *Nearest Facility Analysis* between the EMS stations and the rescue points is executed. For each rescue point, the station names and travel times of the fastest three ambulances are calculated, ranked, and stored with the rescue point features. This information is used in a separate data export that contains an extended rescue point dataset for further analysis outside of the model. Inside the model only the first rank stations are furtherly used.

Generate stop positions
For the forest roads and public streets leading through or next to forest areas, stopping points of the ambulances are systematically calculated in an interval of 100 metres along the line vectors. A higher density is not possible in follow-up processing due to hardware limitations. Only road geometries (without motorways) that are spatially connected to forest polygons are used. A total of 1.005.226 stopping points are generated.

Analysis of driving times between rescue points and stop positions
Driving time from the next 3 rescue points to each stop position is calculated in a *Nearest Facility Analysis*. For each stop point the ID of the rescue point and the travel time is saved as an individual point feature (n > 3 million).

Statistical analysis for each stop point
For each stop position the sum of ambulance driving time to the rescue point and the time needed to reach a stop position is calculated. The statistical minimum of the three available values for each point defines, which ambulance is the first at the specific location.

Multi ring buffers at stop points
50 buffer rings are calculated at each stop location. The width of 10 of corresponds to a walking time of 10 seconds between each ring. For a single ring, the sum out of travel time to reach the related stop point by the fastest vehicle and the buffer ring size is calculated, giving the fastest possible total travel time including a walking distance for up to 500 m from each stop point.

Calculate of shortest travel time for accident locations
The point features representing the accident locations are used as input data for a spatial join on the buffer rings layer, which contains several overlaying geometries (*Figure 3*) as a result of the previous step.
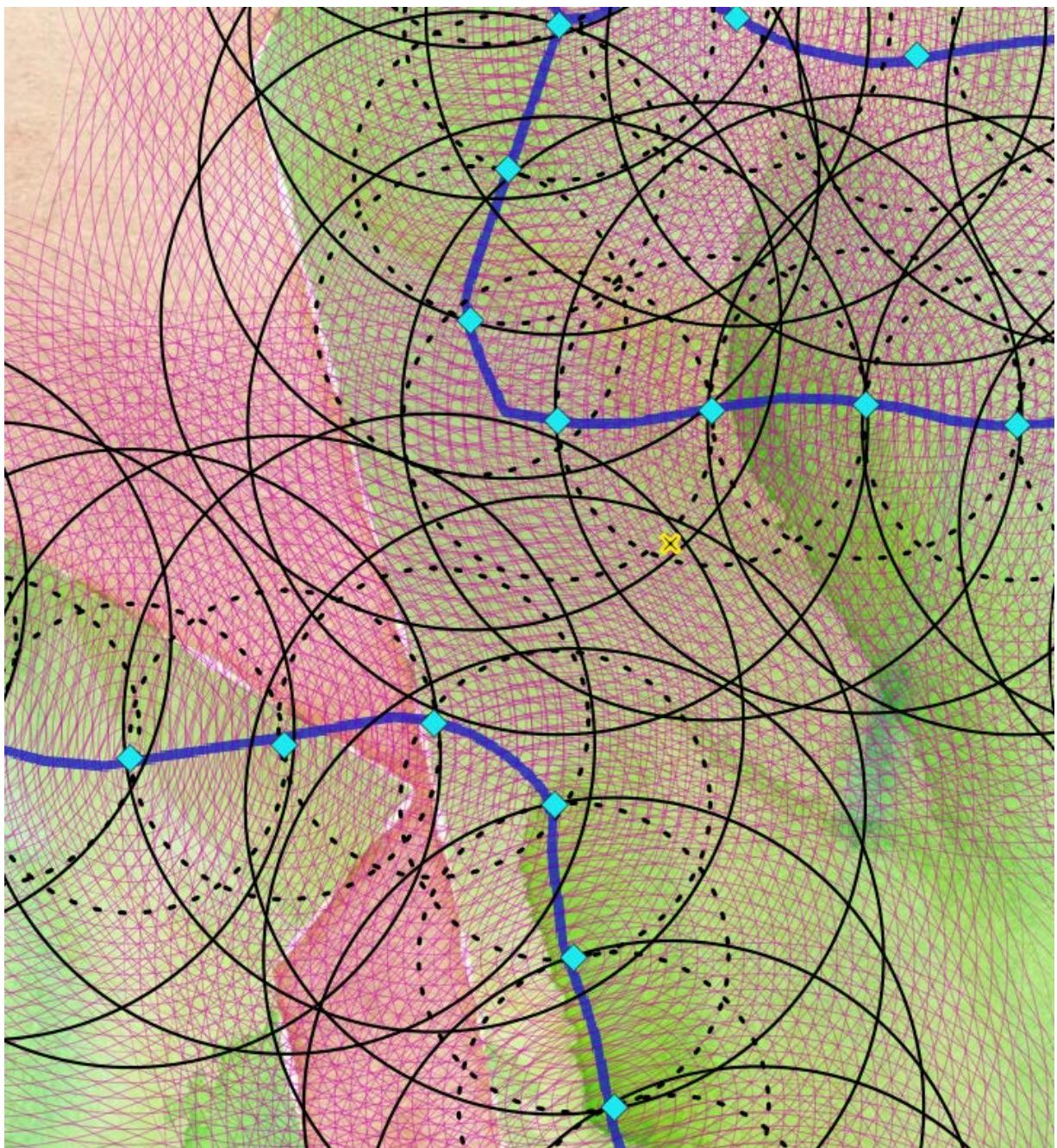
Figure 3 – For each stop position point as centre, 50 buffer rings are calculated (in pink; with aim to reach better visibility, the graphic only contains 30 rings per point. In addition, rings with a distance of 100 m are shown as dashed black lines, with a distance of 200 m as solid black lines). Each calculated ring represents 10 seconds of travel time by foot. The diameter of each ring spatially intersecting the accident site (black-yellow x) corresponds to the walking time needed to reach this point. A geographic statistical analysis of all intersecting buffer rings results in the minimal possible travel time. [15]

The attribute of total travel time of all intersecting buffer rings will only be joined to the accident point layer, if the criteria of being the statistical minima is fulfilled. This result is the fastest possible time needed by an EMS to be on scene of the accident.

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[15] Data sources: Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA; NavLog GmbH

3. Results

3.1 Rescue Stations and Rescue Points

If it would be a race to the rescue points, some ambulances would be more often on 1st place than others. *Figure 4* shows the distribution of the quantity of rescue points one ambulance can reach fastest after departing from the EMS station. The data range is 0 up to 86. In Baden-Württemberg, on average an ambulance departing from one rescue station can reach 19 (SD = 14) rescue points the fastest. The distribution is left skewed as there are 59 rescue stations with only 4 or less rescue points assigned. 17 stations can serve more than 50 rescue points (> 95th perc.) the quickest and are therefore of special interest in regard of the forest rescue chain.
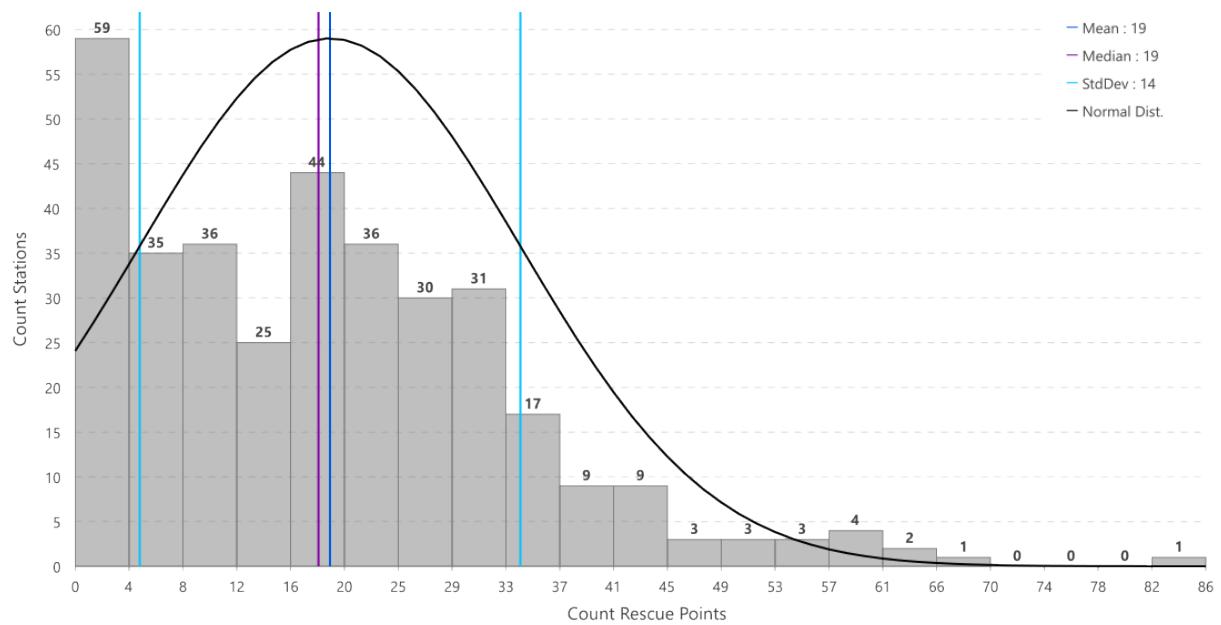
Figure 4 – Distribution of the number of rescue points (ordinate) per count of fastest EMS stations (abscissa). In the mean one EMS station can serve 19 rescue points the fastest (SD = 14).

Table 3 provides an overview of these stations and the number of rescue points they can reach as first. In addition, the average time needed and its standard deviation in seconds is shown. The station in Salem is the quickest to reach 64 rescue points within 383.64 seconds on average (SD = 179.28). In contrast, the ambulance in Hirschberg can reach 55 rescue points in $\overline{x}$ = 897.81 seconds, but with a standard deviation of 639.31 seconds. When an ambulance is called to one of the 6746 forest rescue points in Baden-Württemberg, the probability of being send into a forest rescue mission is 1.27 % for the crew at the station in Titisee-Neustadt – the highest chance for all stations.

Table 3 – First 17 stations of ambulances that are the fastest when travelling to a rescue point (> 95th perc.). Overview of count, average time needed and SD in seconds. A proportion value is also given - it indicates if an EMS is the 1st choice to be sent into action when one of the 6.746 rescue points in Baden-Württemberg is involved in the rescue mission.

Station	Count 1st	$\bar{x}$ time	SD	Prop.
DRK RW Titisee-Neustadt	86	503.52	209.48	0.0127
DRK RW Schoenau	69	619.69	255.77	0.0102
DRK RW Salem	64	383.64	179.28	0.0094
DRK RW Albstadt	63	477.66	199.74	0.0093
MHD RW Albstadt	61	465.40	188.74	0.0090
DRK RW Bad Wurzach	61	479.99	152.39	0.0090
DRK RW Leutkirch	59	504.14	234.38	0.0087
DRK RW Furtwangen	58	568.28	229.75	0.0085
DRK RW Engen	56	525.67	190.95	0.0083
DRK RW Riedlingen	56	562.36	200.16	0.0083
ASB RW Hirschberg	55	897.81	639.31	0.0081
DRK RW Segeten	53	459.31	183.52	0.0078
DRK RW St. Blasien	51	495.27	169.75	0.0075
DRK RW Schiltach	50	496.59	294.26	0.0074
DRK RW Zell am Harmersbach	48	770.40	396.75	0.0071
DRK RW Eberbach	47	502.99	237.78	0.0069
DRK RW Schoemberg	47	420.62	126.94	0.0069

These frequently preferred rescue stations are not evenly distributed spatially within the state area of Baden-Württemberg as the map in *Figure 5* shows. 14 of the 17 stations with high demand are in the south.
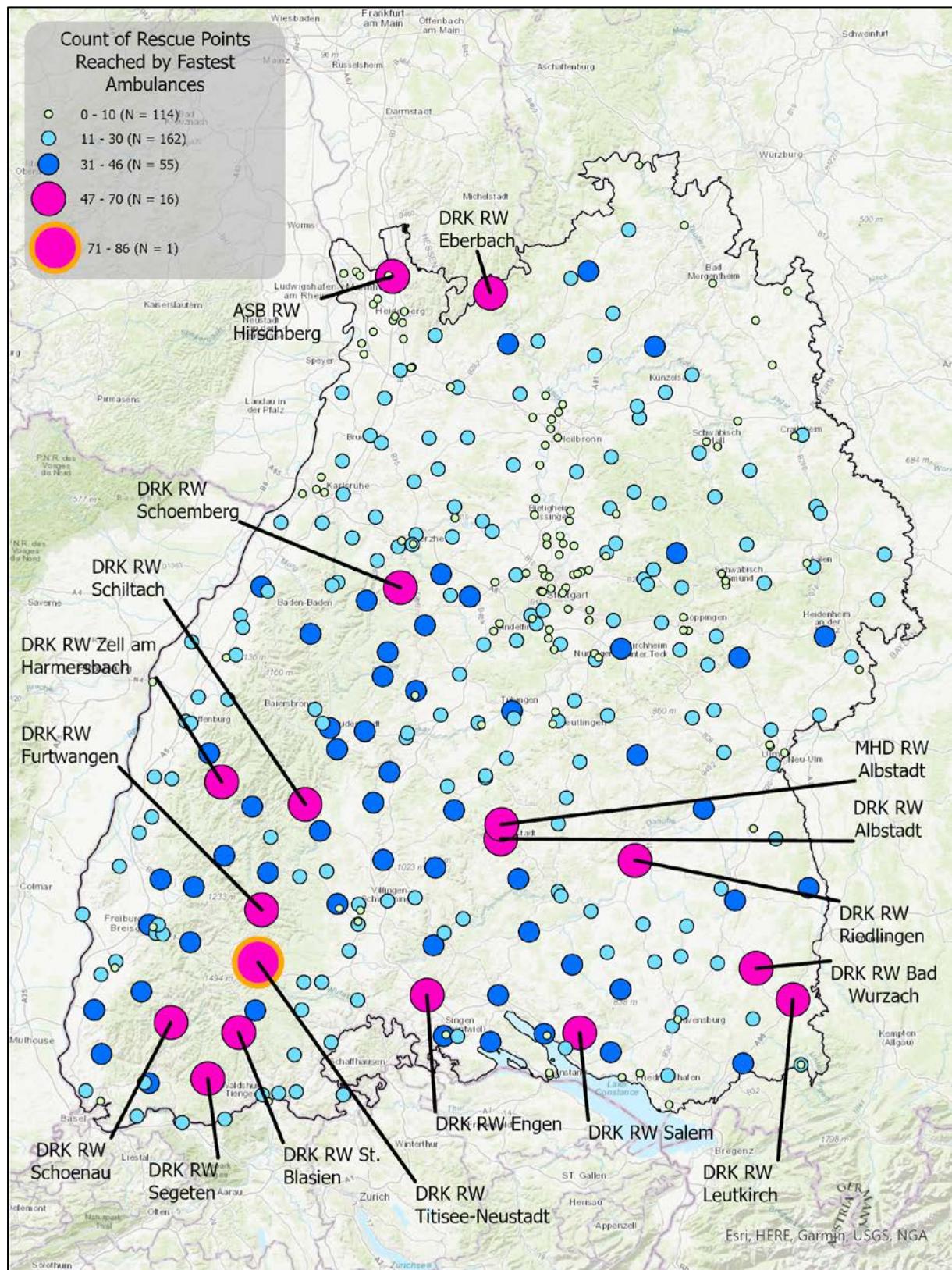
Figure 5 -The symbols in the map show how often a single station is the first choice to be called to a rescue point. [16] Small light green dots represent EMS stations that are the fastest in 0 to 10 cases when being sent into a rescue mission involving a rescue point (N = 114). EMS stations symbolised by light blue dots are fastest in 11 to 30 (N = 162), blue in 31 to 46 cases (N = 55). 16 EMS stations are the best option for 47 up to 70 rescue points – these are symbolised in pink with black edge. The pink dot with orange border shows the top ranked EMS station being the fastest option for 86 rescue points.

In contrast to the most frequented rescue stations, there are also 17 that are never the best possible option to be sent into a forest emergency operation. These stations are listed in *Table 4.* Although these EMS are never the first pick they are of varying relevance as second or third choices.

Table 4 – The result of the analysis also includes 17 EMS stations that can never reach a rescue point the fastest. The table lists their ranking as second or third. As a result, EMS station in Wertheim is never part of the second-best solution and only in two cases of the third best solution. EMS Station Medipart in Heddesheim is never the fastest, but second fastest in 54 missions involving rescue points.

Station	Count 2nd	Count 3rd
DRK RW Wertheim	0	2
DRK RW Creglingen	1	3
DRK RW Stuttgart-Robert-Bosch-Krankenhaus	1	2
MHD RW Ludwigsburg	4	3
DRK RW Heilbronn	5	7
SANI-Team Winkler RW Fellbach	6	5
DRK RW Bad Mergentheim	7	8
MHD RW 18 Heidelberg-Wieblingen	7	65
DRK RW Schwaebisch Hall	8	9
MHD RW Stuttgart-Diakonie-Klinikum	8	9
ASB RW Heilbronn-Neckargartach	9	15
DRK RW Tauberbischofsheim	12	7
DRK RW Schmittenau	15	23
DRK RW Bad Krozingen	16	50
DRK RW Freiburg	30	36
DRK RW Ravensburg	32	22
Medipart GmbH RW Heddesheim	54	2

From the perspective of forest rescue points, the time needed by an ambulance to arrive at the location is very dispersed. With a minimum of approx. 1 second (rescue point FR2/L/62006) and a linear distance of 10.19 m (next station is DRK RW Schluchsee) up to a maximum of 3363.59 seconds at rescue point HD - 137 with a linear distance of 19.2 km (next station available in this study is ASB RW Hirschberg). In *Figure 6* the map containing the result of an outlier analysis shows, in which areas of Baden-Württemberg the time span to arrive at a forest rescue point is statistically significant shorter or longer than normal.
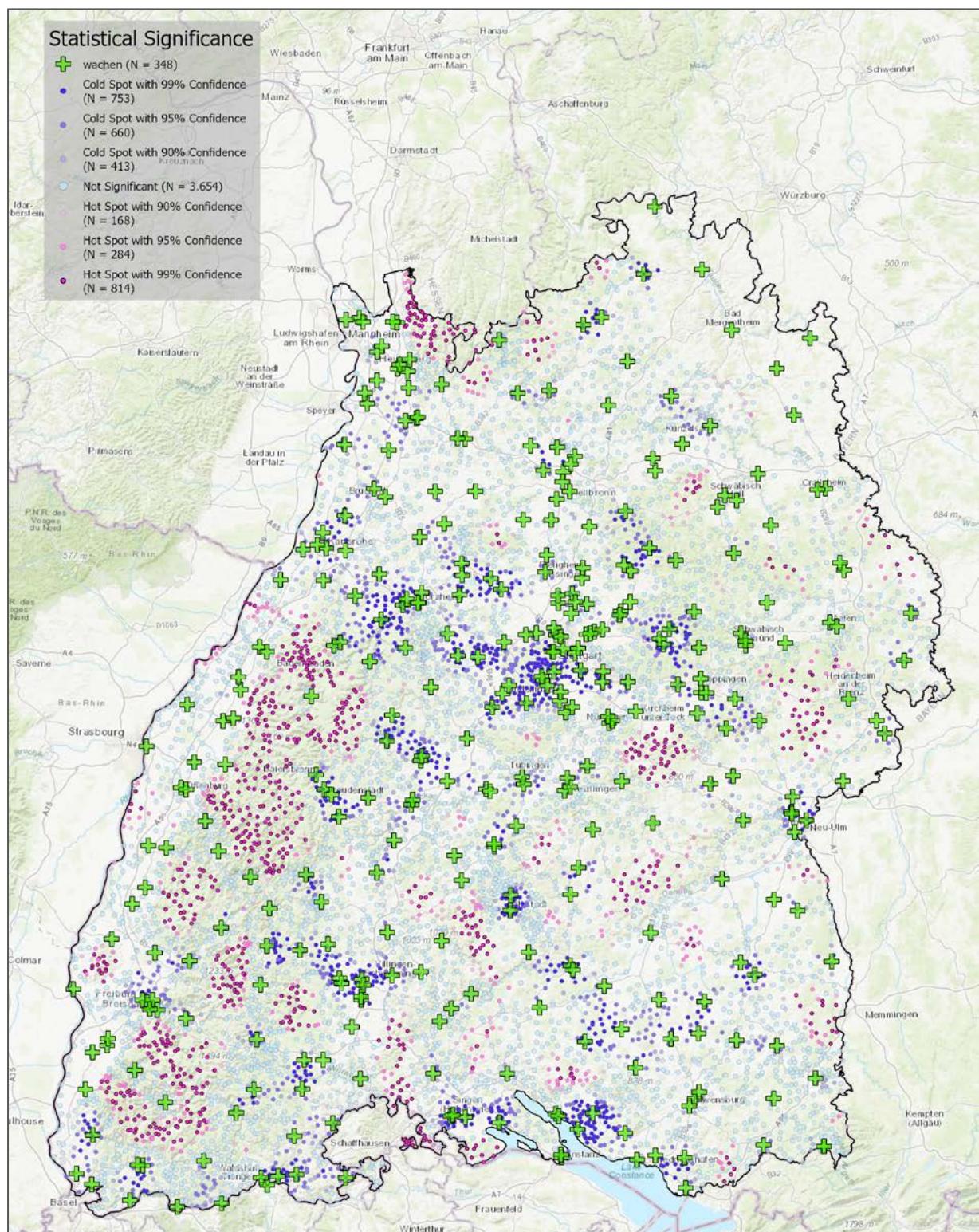
Figure 6 – Cartographic presentation of rescue points with statistically significant higher travel times (hot spots in red tones) and statistically significant shorter travel times (cold spots in blue tones) generated by the Anselin Local Moran's I statistic in ArcGIS Pro. [17]

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[17] Data sources: © GeoBasis-DE / BKG (2022); BOS-Fahrzeuge.info; maps.google.com; OpenStreetMap; Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, and the GIS User Community

3.2 Total Travel Times to Accident Sites

For the 2000 randomly generated accident locations, a best route was calculated for 1958 locations. 42 accident locations could not be processed in the model due to local conditions (for detailed discussion see chapter 4.2). The model calculated routes have a range of 2514 seconds (41:54 minutes) in total travel time with a minimum of 181 seconds and a maximum of 2695 seconds (this corresponds to approximately 3 - 45 minutes) as seen in *Figure 7*. The result shows an average time needed to reach an accident site by professional EMS personnel of 775 seconds with a standard deviation of 291 seconds. This corresponds to 12 minutes and 55 seconds with a standard deviation of 4 minutes and 51 seconds. The median is 737 seconds (12:16 minutes).
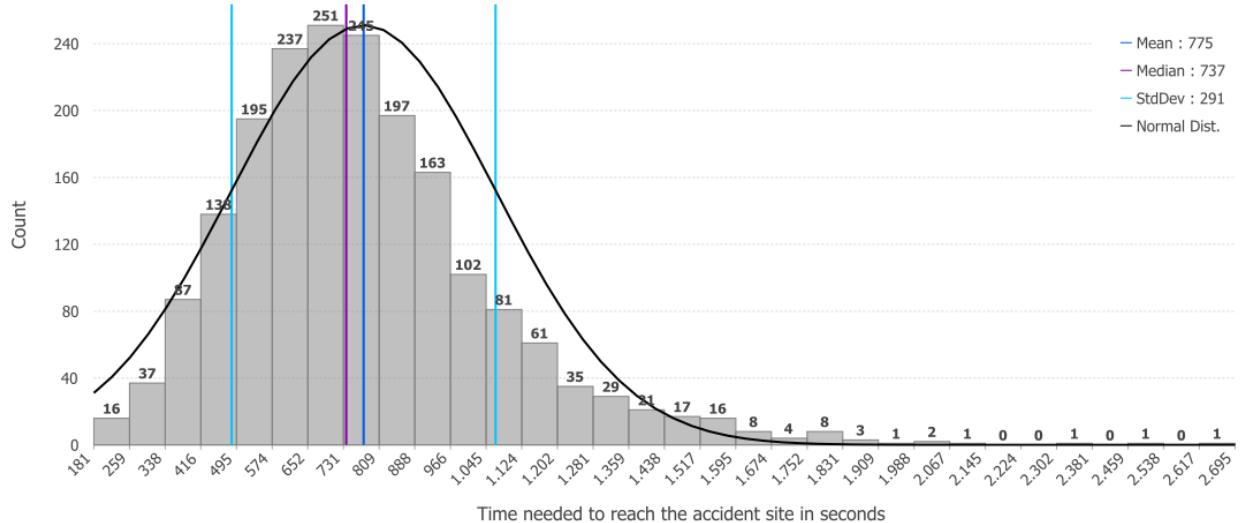
Figure 7 - Histogram showing the statistical distribution of the amount of time (seconds) needed to reach 1958 random accident sites in Baden-Württemberg. This would take 775 seconds (SD = 291) on average.

First track
The model calculated a travel time from EMS stations to the used rescue points of $\overline{x}$ = 421 seconds with a standard deviation of 230 seconds. This equals approximately 7 minutes (SD = 3:50 minutes). The result contains information of driving distances covered in that time. On average 6684 metres (SD = 3885) are travelled. The median is to be found as 6188 metres. If only the average values are considered, the average speed is approx. 15.9 metres per second ($\sim$ 57 km/h). For histogram see appendix III.

Second track
The model predicted an average time of 241 seconds with a standard deviation of 175 seconds of driving time inside the forest. This equals 4 minutes and 1 second (SD = 2 minutes and 55 seconds) on average. During the average time mentioned above, an ambulance drives an average distance of 2748 metres (SD = 2775) on public and forest roads in the woods. This corresponds to an overall average speed of approximately 41 km/h for the second track. The median is found at 2162 metres. For histogram see annex III.

First and Second Track
The calculated average travel time is 662 seconds (SD = 282; equals 11:12 minutes with a standard deviation of 4:42 minutes). For histogram see annex III.

Third track
From stop points on forest roads to the accident locations distances of 10 to 400 metres were calculated. The modus of the distances is 50 metres (n = 150) and the median 90 metres (n = 100). On

average 113.3 metres (SD = 81.9) have to be travelled by foot in this random accident site scenario. For histogram see annex III.

4. Discussion

As pointed out above, to provide fast professional medical service in case of an accident in the forest is essential. To make it possible for rescue personnel to reach an accident site in the shortest possible time, the forest rescue chain has been established in the German forestry sector (KWF 2017; Beruf Forstwirt 2019; StMELF 2022). Routing via one of the spatially fixed rescue points to access a forest area is part within the process flow.

In this study, the driving manoeuvres of ambulances departing from EMS stations to each rescue point in Baden-Württemberg were simulated in a GIS model, travel times calculated and analysed. In addition, the fastest possible combination of travel and access time was calculated for 2000 randomly generated accident locations in forest areas. The time needed to complete the computation on the machine given was approximately 23 hours.

4.1   Rescue Stations and Rescue Points

EMS station locations are defined in a strategic planning process on a superordinate level in regard of the statutory 15 minutes call-response interval (RDG; p.l. GBl. 2010, 285; IM BW 2014). Unrelated, rescue points are located with focus on covering the forest areas. The GIS model presented in this study was used to derive driving times from EMS stations for each rescue point. *Table 3* lists the EMS stations with the highest number of rescue points they could serve as fastest according to model calculations. The number of real use cases per rescue point are not available and therefor a statistical possibility of being sent into mission cannot be calculated for an EMS station. The knowledge of the number of rescue points served as the fastest EMS, can be used as a guideline for the acquisition and regional spatial distribution of ambulance vehicles suitable for off-road use or for special personnel training. As the map in *Figure 5* reveals, these EMS station are frequently located in rural, often mountainous regions where the density of stations is low and the number of rescue points often high. The difference values between two kernel density analyses (one for EMS stations and one for rescue points, scaled on a cell size of 300 metres) are shown classified as a map in *Figure 8.* It demonstrates that in areas with many rescue points and dispersed rescue stations, the stations that were most often part of the best solution in the model, are often located in these areas.

However, these criteria are not the only decisive variables that are sufficient to derive a ranking of the EMS stations in terms of deployment into missions in the forest, as the Pearson correlation (top right in *Figure 8*) between the count of 1st place and the difference in regional densities with R = 0.52 is noticeably present but also indicates density ratio is not the only explanatory variable. For some of the top 17 EMS stations this could possibly mean that these simply are solitary located in remote areas being surrounded by rescue points – and therefore without an alternative option. To determine the ranked relevance of rescue stations for the forestry rescue chain, the only way to get valid results is to use a method based on a travel time calculation approach, as performed in this study.
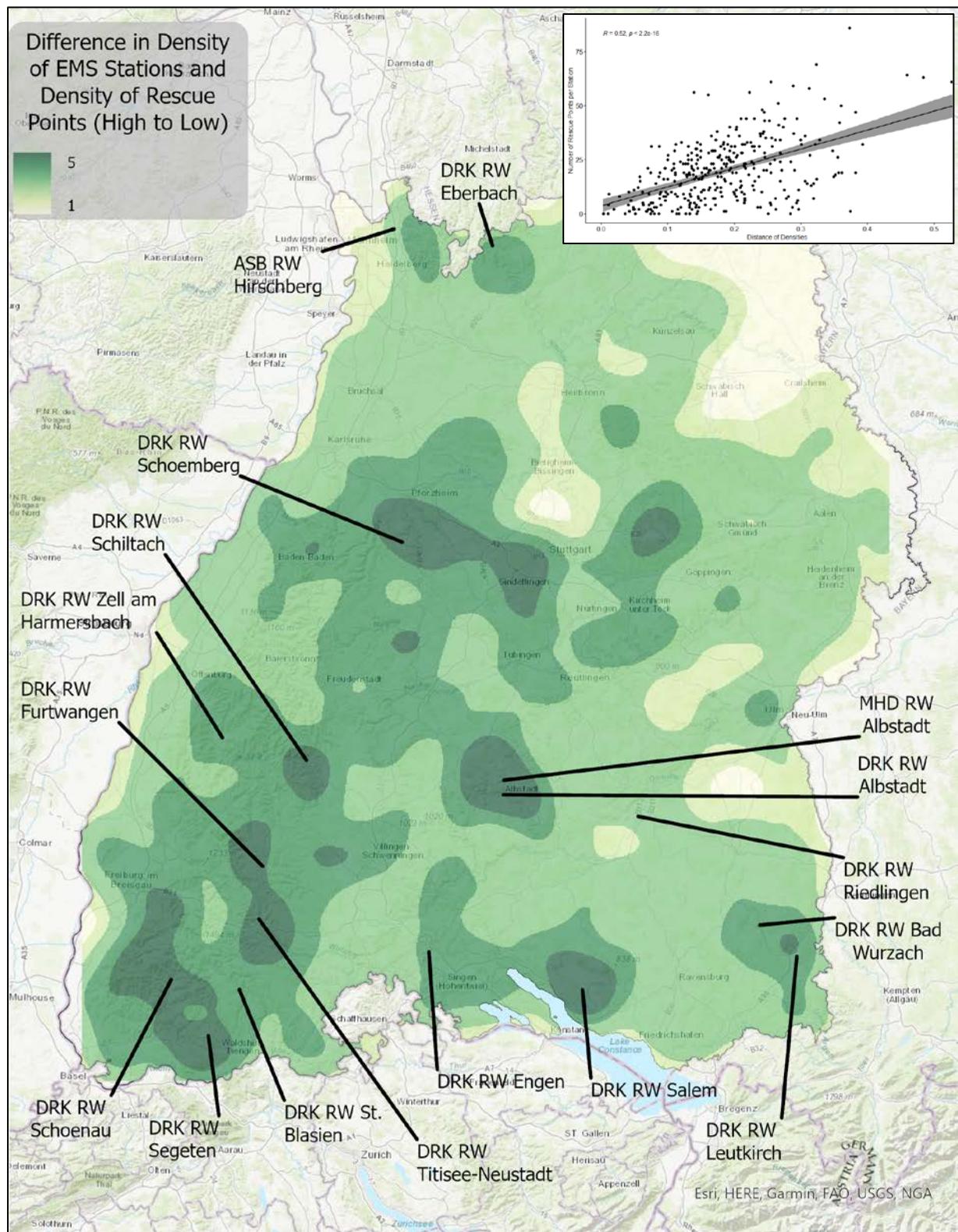
Figure 8 – Calculated differences between two Kernel density analysis of the rescue points / EMS stations with cell size of 300 m. The labels of the 17 most frequently fastest EMS stations as seen in Figure 5 are overlayed. Dark greens mark areas with a high difference (rescue points +, EMS stations -) and vice versa for brighter colours. [18] Top right: Person correlation between the EMS station ranking and the low to high differences between regional densities of rescue points and EMS stations.

Regarding the accessibility time of rescue points, the results showed that there are regions in Baden-Württemberg in which it takes statistically longer or shorter time periods to reach the locations. The result of Anselin Local Moran's I statistics performed in this study shows, where in Baden-Württemberg rescue points are clustered by their statistical confidence intervals. One could assume, purely from a visual interpretation and a comparison of the result in *Figure 6* and *Figure 8,* that this is due to the relationship between the density of rescue stations and rescue points, but according to Pearson correlation there is no general relationship in this respect (R = -0.06) regarding all rescue points in Baden-Württemberg. As the result in this study is based on road network calculations it can be assumed, that road network topology and physical driving speed limitations due to topographic realities is a possible explanation.

4.2   Travel Times to Accident Sites

In this study 2000 accident locations in forests were randomly determined, but for 42 no solution was found by the model. This is because no connection to the network data set could be established due to their special spatial location, e.g. border areas to Switzerland or France without *NavLog* data, distance to next road > 500 m, located in parcs (mapped as forest in OSM) without forest roads. In *Figure 7* outliers can be assumed among the resulting travel times to accident sites. With an 95 % confidence 20 calculated times are statistical outliers (1720 - 2695 seconds). 13 of these are located in the Black Forest, 7 in the north of Baden-Württemberg. While in the middle of the Black Forest very long driving times may well be plausible due to the topography, in the north this could rather be due to an edge effect and/or a lack of rescue points in that area.
A closer look on the situation in the north (*Figure 9*) reveals that these accident sites are in areas with high travel times to rescue points and/or at borders to Hesse or Bavaria. It can be assumed, that those rescue points also could be reached by the excluded neighbouring EMS – maybe in shorter time. Therefore, EMS stations and the road network outside of the study area must be integrated in future analysis to prevent a statistical bias. Removal of the 7 affected accident sites has only a minor impact on the overall result. The mean travel time is reduced by 5 seconds. The median, as an outlier robust indicator, is reduced by 1 second.

Additionally interesting: the map in *Figure 9* also shows low-high outliers at the beginning of the mountainous region *Odenwald*, where travel times are significantly higher than in the nearby flat area *Rhine Valley*. Therefore, topography seems to be a significant influencing factor. This can also be concluded from an interpretation of *Figure 6* (geographical knowledge of Baden-Württemberg required).
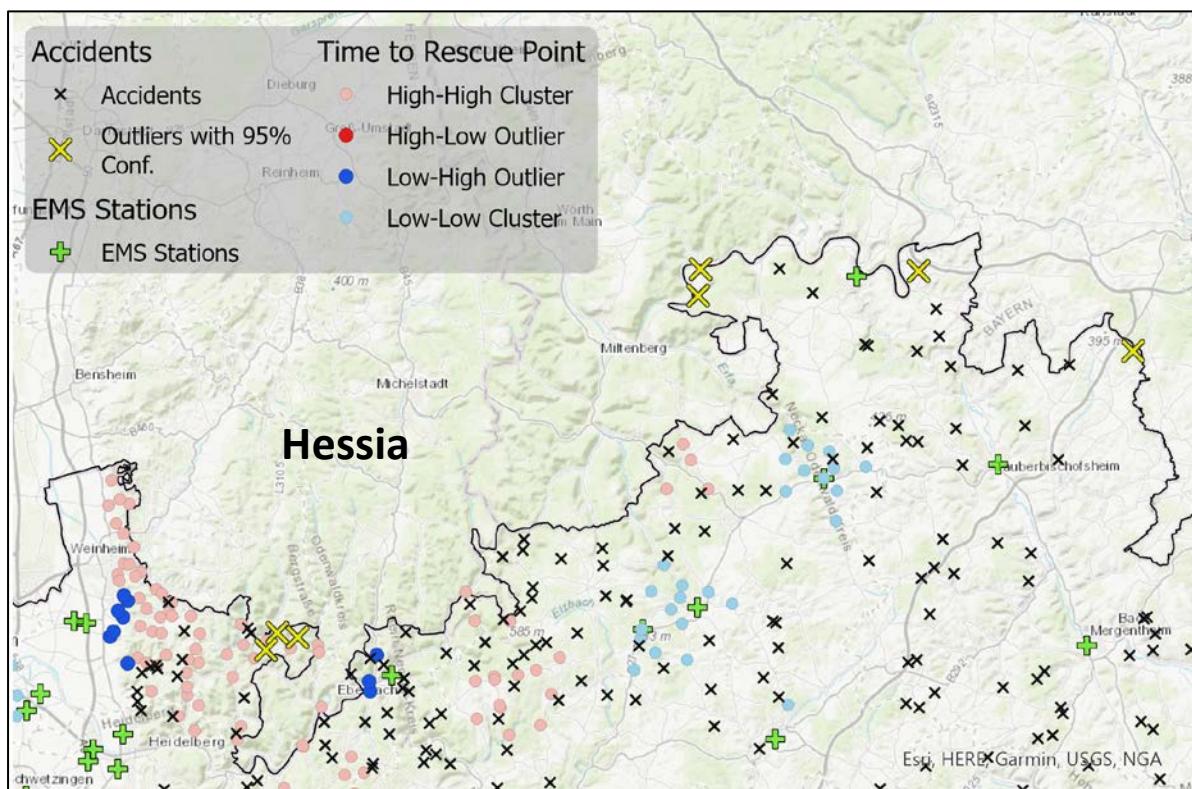
Figure 9 - Map with accident sites and their statistical outliers in respect of total travel time (result of ArcGIS Optimized Outlier Analysis), EMS station locations and cluster visualization of travel times to recue points in the north of Baden-Würt-temberg. [19]

The total travel time calculated in this study is the sum of the times required for the first, second and third track sections in the forest rescue chain. The computation of first track sections between EMS stations and rescue points is predominantly affected by speed variables (*Table 1 on p. - 13 -*) used for public roads. The data was defined according to the specifications of the data manufacturer *HERE* (with justified deviations for very small roads). Speed at which ambulances move is a very local phe-nomenon (Petzäll et al. 2011; Lupa et al. 2021) and is also influenced by unusual driving manoeuvres by using blues and twos compared to civil vehicles (Hunt et al. 1995; Ho and Casey 1998; Petzäll et al. 2011; Lupa et al. 2021). This is especially effective for faster arrival in rural areas (Petzäll et al. 2011). The determination of travel routes and travel time estimates on public roads is a frequent topic of discussion (Li et al. 2018; Wang et al. 2018; Yang et al. 2018; Aref 2019). However, driving manoeuvres on forest roads are not yet considered.

The computation of the second track section driving times based on *HERE* and parametrized *NavLog* data (*Table 2 on p. - 13 -*). The values were determined by a few test drives to obtain a rough indicator, as this has not been investigated in more detail so far. Further research is needed on driving speeds of rescue vehicles on forest roads.

Walking velocities for computation of the third track sections were defined as being constant at 1 metre per second. The *International Specification for Orienteering Maps* (*ISOM*) defines runnability parameters for 5 categories depending on the ground surfaces (International Orienteering Federa-tion 2019). The parameter used in this study lies in category 4 (1 m/s = 16.6 min/km), which is de-scribed as walking or limited running being possible locomotion types due to very stony ground, un-dergrowth or dense vegetation.

The values defined by *ISOM* do not consider heavy gear carried by paramedics. As many forest stands are converted nowadays, there is a lot of ground vegetation of different types. In this respect, the parameter of 1 m/s used as walking speed parameter in the terrain seems plausible.

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[19] Data sources: © GeoBasis-DE / BKG (2022); BOS-Fahrzeuge.info; maps.google.com; OpenStreetMap; Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, and the GIS User Community

A basic assumption for the third track in this study was that the route to approach the scene of the accident is always straight and flat. This part of the model does not meet realistic rescue mission conditions. A further development of the modelling could take slope inclinations and possibly existing paths into account. This would have an impact on the walking time and thus also on the sum of the upstream track sections – what could end in a different result of solving problem No. 4 in Chapter 2.3.1.

An approach to take the relief into account is the determination of the optimal cost path (GIS Wiki 2021). A slope raster derived from a digital terrain model is serving as a cost surface layer. Starting from a stop position on a forest road, a cost distance grid is created, which contains the cumulative cost of travelling to each raster cell from the source (stop position). Each cell contains the sum of the neighbouring lowest total cost value and its own cost. At the same time, a backlink grid is created that stores the direction from each cell to its neighbour with the lowest cost (ESRI 2021). For an accident location, this algorithm finds the corresponding cell in the backlink grid and then traces a path back to the stop position by following the direction of each cell to the least cost neighbour (GIS Wiki 2021). After the final walking route is found, the time has to be calculated regarding the elevation.

There are several attempts and discussions on hiking speed calculations considering track length and slope or hight differences to overcome. Appropriate approaches for this case could be the use of the *Naismith's rule* that contains a correction factor a = 7.92 for the hight, which is then added to the distance ($\Delta d + a\Delta h$) – this only applies to climbs (Naismith 1892). The experimentally derived formula of Davey et al. contains an exponential function of the slope [20] (α) a constant k (3.5) and speed in the plane (p_0) (Davey et al. 1994):

$$\mathrm{p} = p_0 \mathrm{e}^{k\alpha}$$

Tobler's Hiking Function is based on empirical data, takes inclines into account and was published in 1993 by Waldo Tobler (Tobler 1993):

$$W = 6\,e^{-3.5 \times |S + 0.05|}$$

W is the walking velocity; S is the slope $= \frac{\Delta\ \mathrm{hight}}{\Delta\ \mathrm{vertical\ distance}} = tan\,(\alpha)$; For off-path travel the result is to be multiplied by 0.6 [21].

More complex attempts can be found in Minetti et al. (2002) and Kay (2012), which have a stronger relation to sports and thus include physiological characteristics and skills of the runners.

More research on hiking velocity of EMS personnel in the terrain is needed to fit parameters for third track section calculations. As seen in the functions of Naismith and Tobler hiking velocity is not linear when slope is taken into account. It is also conceivable that the speed of EMS personnel decreases with distance.

Comparison with Empirical Studies: Travel Times and Third Track Parameters

The model calculations depend on different variables for travel time per road class and walking distances.
In addition to the driving time, the response time (or call-response interval) also includes processing of the emergency call with dispatching and launch of the vehicle (Hinkelbein et al. 2004). For Baden-Württemberg the median of time until an ambulance was dispatched into a mission in 2020 was 02:22 minutes (05:09 minutes 95 perc.) and the median time of turnout was 01:19 minutes (03:00 minutes 95 perc.) (SQR-BW 2020).

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[20] The descent is not considered here either.
[21] If it is ever necessary again, it is also noted here that the correction factor for horse riding is 1.25 Tobler (1993).

Wilhelm and *Lefering* (2021) compared data of prehospital times in airborne (N = 208) and ground-based (N = 16) rescue missions located outside of the public road network of *Baden-Baden* between January 1, 2007 and July 31, 2018. As no variables on ambulance travel times were available, these were calculated retrospectively using the *Logiball Business Navigator BOS Germany* software (*Logiball GmbH, Herne*). The mean response time calculated for the ground-based missions of the study was $\bar{x}$ = 14:18 minutes. The authors do not give any information about the net driving time. Taking the aforementioned median time intervals for dispatching and launching in Baden-Württemberg into account, the result of approx. 11 minutes driving time calculated by the model in this study is of comparable dimension. According to *Wilhelm* and *Lefering* it took 10 minutes on average to access the site of the accident - with a minimum of 1 minute and a maximum of 50 minutes. *Vogt* and *Wilhelm* (2020) analysed data of forest emergency missions from 2007 – 2017 (also from Baden-Baden) and concisely showed a median ambulance driving time of 13:21 minutes (N = 307; no measure of dispersion given). It is also noted that the sum of arrival and access times is less than 18:42 minutes.

In both studies the derivation of access time values is not presented, particularly questionable because the call-response interval ends with the stopping of the vehicle and an access time is not recorded as a standard control centre practice (Hinkelbein et al. 2004). Assuming the access times were correctly measured, no information of distances travelled is given and it is still in question if the optimal stop positions were reached and if the best route to the accident site was used. Therefore, the model parameters cannot be adjusted based on the level of information given in the studies.

According to *Wilhelm* and *Lefering* (2021) the response time of a hoist-capable helicopter can be calculated by:

$$T_{HHO} = \frac{Flight\ Distance\ [km]}{3,5\ \frac{km}{minute}} + 10\ minutes$$

Based on this formula, a GIS model for the forest rescue chain can be enriched by an multi modal attempt. This could help dispatch in decision making during operations in the terrain, concerning the optimal solution. Their work practice could be enriched by cartographic application or a map of the shortest travel times in Baden-Württemberg.

4.3   Conclusion

This study aimed to derive time values for EMS movement in total and for each track section travelled in context of the forest rescue chain. It was shown that the results depend on many variables which are subject to uncertainties. For the model used, these are especially speed parameters for forest roads and walking in the terrain. Future research should therefore aim at assessing valid speed parameters. As long as these parameters are not verified, the result is particularly suitable for obtaining an overview of the regional proportions. It could be determined, which EMS stations should undergo special trainings and preparations. The terrain relief represents an important factor when accessing the off-road terrain and was not considered in this study. Future models (especially if they are used by rescue coordination centres or in navigation system in vehicles) should take these factors into account, as it can be crucial for the spatial deployment of emergency forces in real operations. In addition, a multi modal transport approach involving helicopters as a first responding and/or alternative rescue vehicle should be implemented. Following this approach, a cartographic application or a map could be provided to support dispatch in making the best possible decisions.

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5. Supplemental Technical Report

The methodology was presented in chapter 2.3 of the manuscript. This chapter contains additional details.

5.1 Data Preparation

Before data was used in the model, it was checked for usability and plausibility. This is particularly important regarding the automated creation of spatial links between the data.

5.1.1 Connect NavLog with HERE

The line vector data sets of *HERE* and *NavLog* cover different spatial areas and must be connected at the transitions to create a coherent road network. An analysis of the required snap distances was previously carried out using the NEAR tool between *NavLog* endpoints and *HEREs* potential connection joint (without high velocity roads). The average distance was ~ 1.5 m. Most of the distances were smaller than 1 m according to the median of ~ 0.98 m (*Figure 10*).
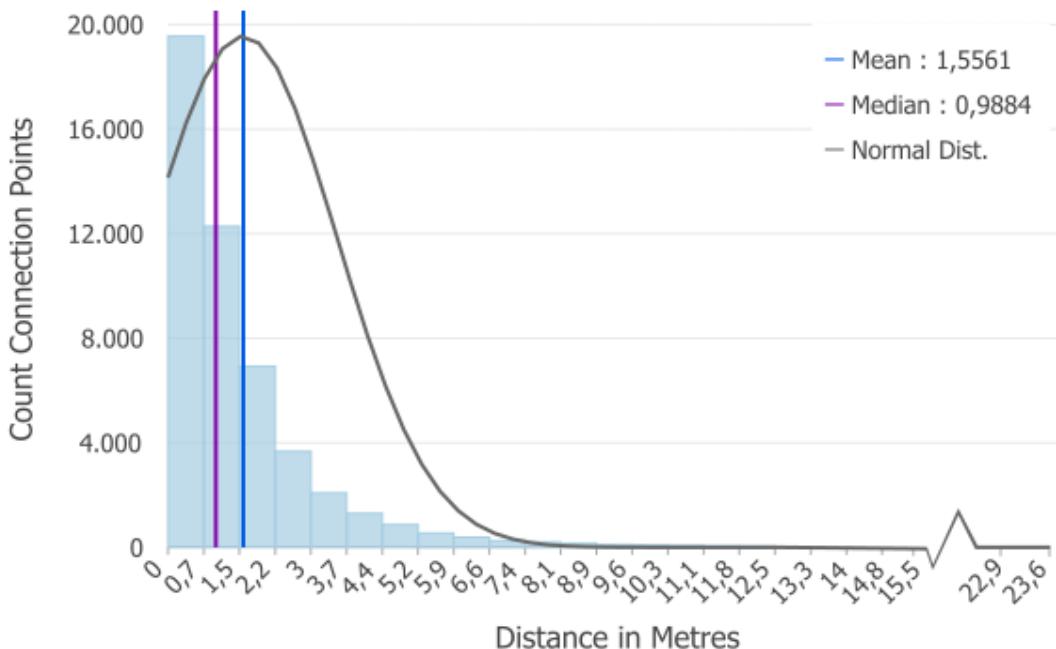
Figure 10 - Distribution of the Euclidian Distances between NavLog connection points and HERE line vectors.

For distances over 10 metres, a visual check was carried out using topographic map and orthophoto. As a result, a distance for the snap process implemented in the model was set to 20 metres, as otherwise some larger forest areas would not have been connected to the network data set.

5.1.2 Rescue Points - Snap on Road Network

The rescue points had to be connected to the road network in a controlled manner. This can be achieved automatically within a *Nearest Facility Analysis*, but there is no plausibility check. Manual editing was necessary to avoid errors where points could be moved across rivers or railway tracks by an automated process. An example is shown in *Figure 11*. The data of rescue points contains descriptions of the location, which could be used to evaluate those situations.
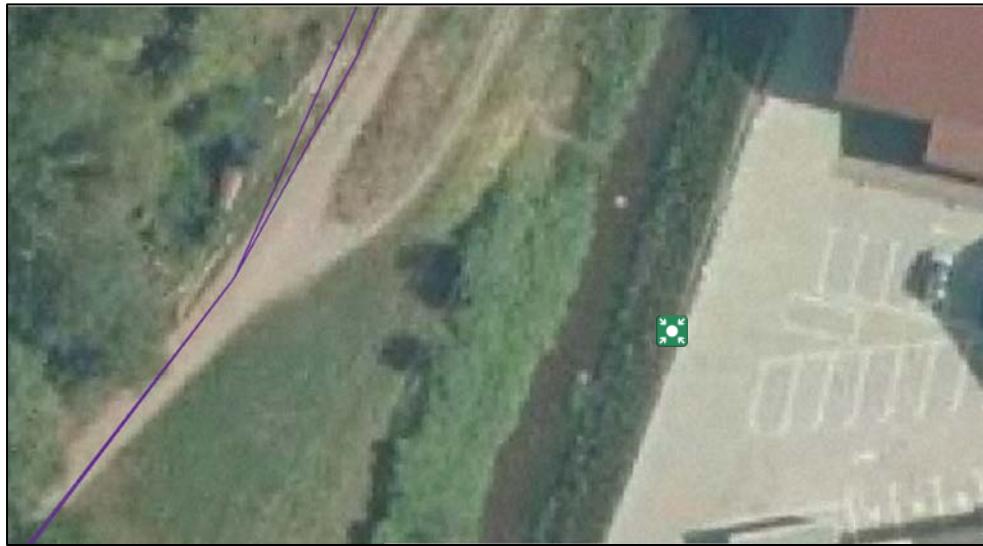
Figure 11 - Location of a Rescue Point in a parking area. A brook lays between the next forest roads.

Only rescue points that were established with the intention of forestry use were considered (query for forestry administrations as data sources). By analysing the distances using NEAR in ArcGIS Pro, particularly conspicuous distances could be checked.
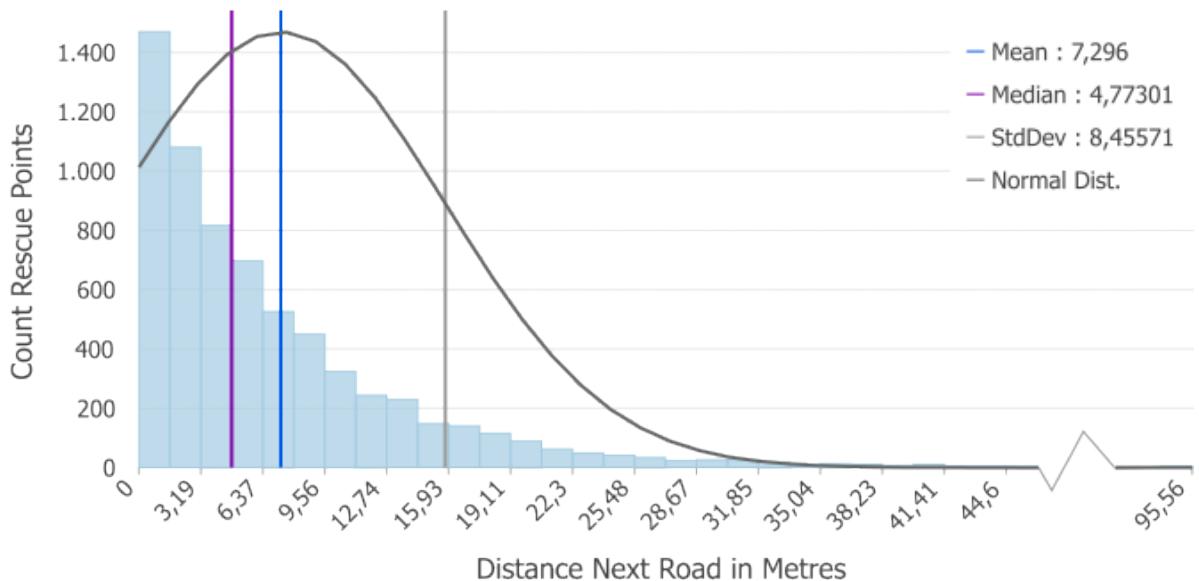
Figure 12 - Histogram of the Euclidian Distances between Rescue Points and next road vectors. Half of the Rescue Points are located closer than 4,78 metres to the next road. The strong positive skewness indicates significant impact of outliers.

There are rescue points that are located far away from a road as the histogram in *Figure 12* shows. These are landing sites for helicopters (N = 3) and one object which was located within an industrial complex without connection to a forest area. These were removed from the dataset. The geographic locations of points with more than 30 m distance (N = 163) to the nearest path geometry were verified by assessing them against an orthophoto and moved accordingly. The furthest distance was 95.56 m to the nearest road. Below 30 m distance, the points were snapped to the next nearest road vector without manual verification.

5.1.3 Forest Areas

The forest areas were extracted out of the current OSM data. The polygon sizes were calculated and only areas over 0.2 ha (minimum legal size to be considered a forest) were dissolved and used in this study.

5.2 Process Modelling

The process model was presented in chapter 2.3. The overall process carried out is complex and can be found as a detailed process model in Appendix I and as a Phyton script in Appendix VII. For easier traceability, the following *Figure 13* shows the main objectives of the summarised process steps.
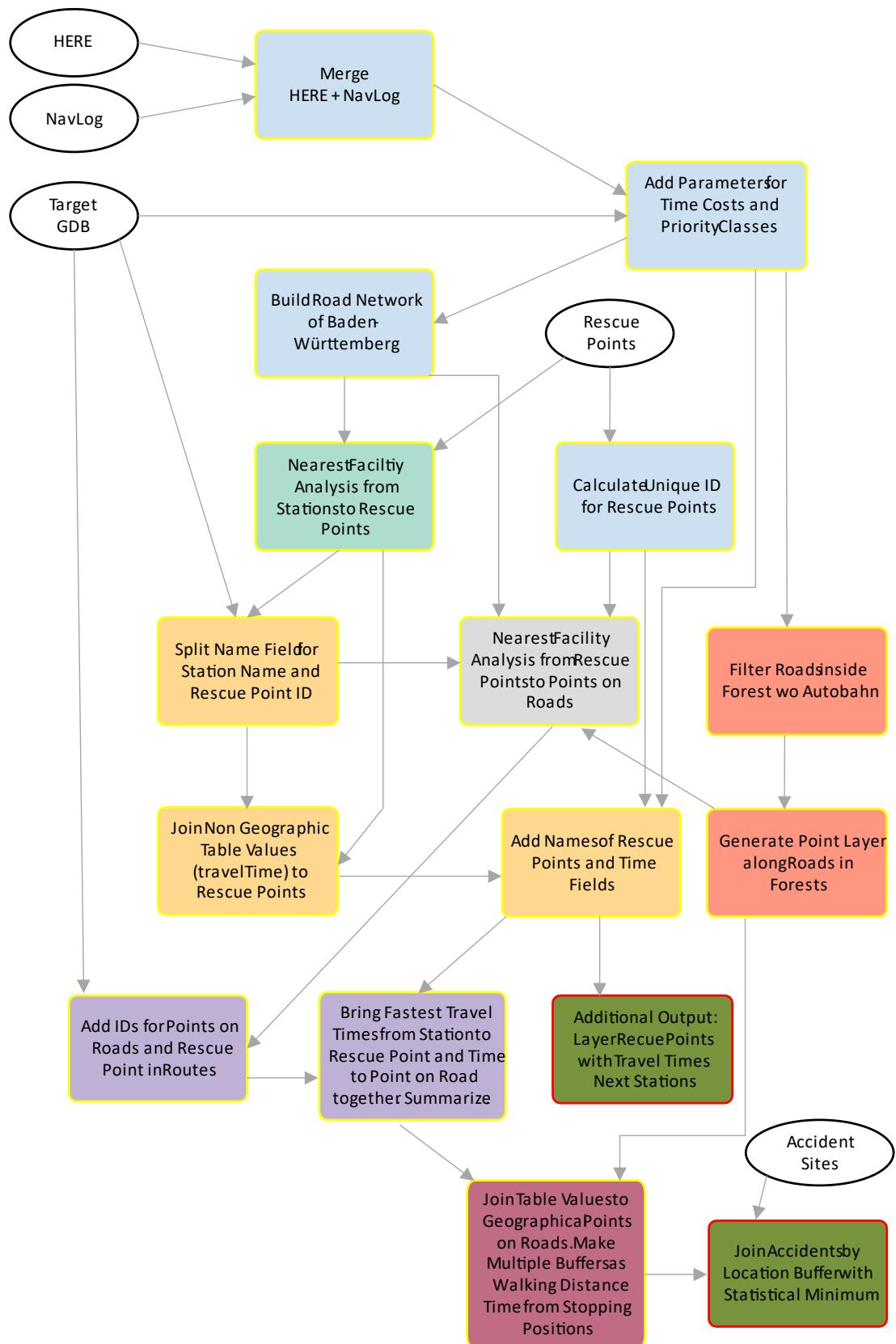
Figure 13 - Process Modell Notation. Green with red frame are processes ending in an output. Input data in ovals.

For the implementation of the project, mainly geoprocessing tools provided by ArcGIS Pro are used. In the following, these will be highlighted by capital letters. The process is conceptually divided into 8 stand-alone sub-processes, which are later chained together.

In the 1st step (light blue ■ in *Figure 13*) the main task aims on creating a topologically correct network according to the ArcGIS Topology Rules (ESRI 2011). The used data of *HERE* also includes large super-ordinate roads that are not suitable for connecting to a forest road, since they are structurally sepa-rated from their surroundings. The existing categories are not unambiguous in this context, as there are federal highways (*Bundesstraßen*) as one class with *Autobahns* although they are not always struc-turally separated (HERE 2018; 2. Bundesfernstraßengesetz (FStrG) 2020). Therefore, the here data is filtered by an inverted SELECT statement with the *Autobahns* of Baden-Württemberg before the SNAP of *NavLog* on edges and nodes of *HERE* is being performed. In a PAIRWISE INTERSECT point features for each intersection are generated as markings of cutting locations by the follow-up tool SPLIT LINE AT POINT. This step is necessary to break up *HERE* roads so that topologically a crossroads can be created. The *NavLog* and the *HERE* data and afterwards the *Autobahns* are MERGED into one road network. A new field (*src*) is calculated containing an attribute of the source as an attribute (*navlog* or *here*) before the data is written in a new feature class *RoadNetwork* in a previously created dataset *roads* in the geodatabase. To parametrize the data for transport travel time calculations additional attribute fields *travelTime* and *prioClass* are added and filled with the field calculator using the follow-ing statements in Python. For *travelTime* the velocities per speed class according to *Table 1* and *Table 2* is used a divisor of the vector length:

```python
travelTime =
  tr(!speed_cat!,!wayclass!,!Shape_Length!)

  def tr(speed,way,length):
    if speed == '1' and way is None:
      return length / 36
    elif speed == '2' and way is None:
      return length / 30
    elif speed == '3' and way is None:
      return length / 27
    elif speed == '4' and way is None:
      return length / 23
    elif speed == '5' and way is None:
      return length / 16
    elif speed == '6' and way is None:
      return length / 11
    elif speed == '7' and way is None:
      return length / 8
    elif speed == '8' and way is None:
      return length / 7
    elif speed is None and (way == 1 or way == 2 or
  way == 9 or way == 91):
      return length / 8
    elif speed is None and (way == 3 or way == 5):
      return length / 7
    else:
      return None
```

And for the *prioClass* a priority rank value is abbreviated from the attribute *func_class* as shown in the *HERE* handbook (HERE 2018). Major roads are ranked as 1, secondary roads are ranked as 2, all other roads from *HERE* receive rank 3 and *NavLog* always 4:

```
prioClass =

    pc(!func_class!)

 def pc(fun):
    if fun == '1':
       return 1
    elif fun == '2':
       return 2
    elif fun is None:
       return 4
    else:
       return 3
```

After the *RoadNetwork* is parametrized and upgraded with source and priority rank information, a *Network Dataset* is build, according to a programmed XML template (in annex VII) for further use with *Network Analyst* tools. The template contains the custom preferences for the use of the following:

- Define road hierarchy by the attribute *prioClass*
- Cost parameter considered while travelling through the network set to *travelTime*
- Restrictions set to avoid using NavLog and always prefer HERE (regarding attribute *Src*)

For later allocation, the rescue points are provided with an ID.

In the 2nd step of the model (turquoise ■), the previously generated data is used for route calculations in a *Closest Facility Analysis*. Considering certain constraints and objectives, this tool finds solutions for obtaining routes between starting positions and destinations (ESRI 2022). The task is performed with stations data as starting positions and rescue points as targets, where for each target, the next 3 stations must be found. The process parameters are set to a customized travel mode configuration with previously calculated *travelTime* as the cost to consider (vs. distance). For the route, *travelTime* and calculated distance of all travelled section of road must be summarized. The generated table will be used in following steps. *Figure 14* shows an exemplary visualized result. At this point it is emphasised that in the task of finding three solutions for each point, this tool also outputs 3 geographical objects individually, which is why there are 3 line vector features (routes) leading to one rescue point.
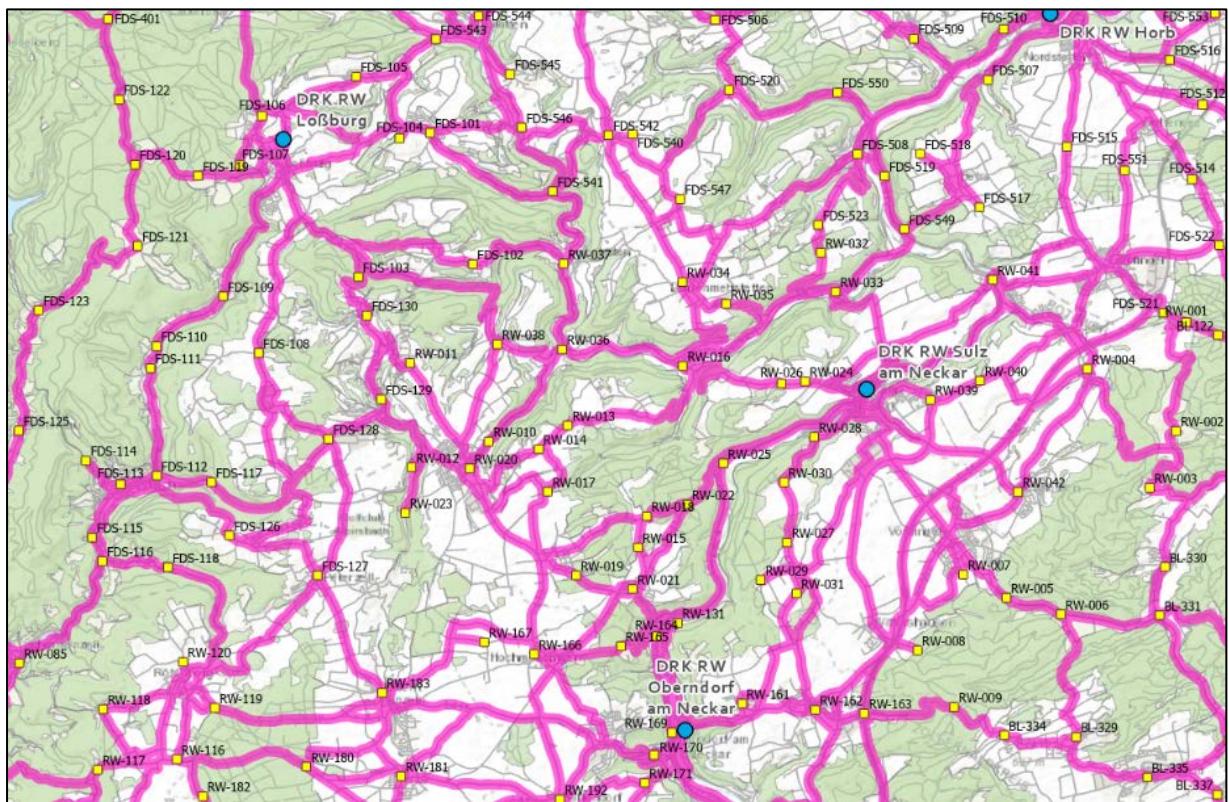
Figure 14 - Example of the result of a Closets Facility Analysis. Green-yellow squares symbolize rescue points, blue points EMS stations. Calculated routes in pink. [22]

The 3rd step (light orange ▢) leads to an output that contains a rescue point feature class with all distances, times and station names joined to each object. The *name* field in the resulting routes table of step 2 contains two pieces of information in one column: From where and to where. This information must be split by a phyton statement into two new columns, one for ID of the rescue points and one for the names of the EMS stations. By JOIN FEATURES on the field of rescue point IDs with the rescue points features, the information of 3 distances and travel times is allocated to 3 duplicate point vector objects (one-to-many). After the calculation of field containing time values and station ranking by this python/SQL code snippet:

```
from itertools import count, groupby
tbl = arcpy.GetParameterAsText(0)
out = arcpy.GetParameterAsText(0)

fields = ["POINT_ID", "Fastest_Travel", "Rank"]
sql = "ORDER BY POINT_ID, Fastest_Travel"
with arcpy.da.UpdateCursor(tbl,fields, sql_clause=(None,sql)) as cur:
    for k,g in groupby(cur, key=lambda x: x[0]):
        ctr = count(1)
        for row in g:
            cur.updateRow(row[:-1] + [next(ctr)])
```

the data is processed as a SPATIAL JOIN with summarizing fields for each rescue point. At this moment an additional output with time value enriched rescue point data is created.

In the 4th step of the model (rosé ▢), a new feature class containing stop points on roads intersecting forest areas is created. Autobahns are not considered as plausible options to use in a forest rescue mission and are filtered out of the SELECT LAYER BY LOCATION tool is executed. The roads intersecting forest areas are used in another tool GENERATE POINTS ALONG LINE, which creates point features in

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fixed intervals following along line features – in this model a distance of 100 metres, leading to N = 1.005.226 points. This is the maximum value the computation in following steps could be executed without a memory error. After the points are created, an ID is given, and a spatial index added.

The 5th step (grey ■) corresponds to the 2nd step in performing a *Closest Facility Analysis.* The Road-Network serves again as the routable network, the starting locations are the rescue points and the destinations the stop points generated in step 4. As there are 3 rescue points to find per stop point, the result contains N > 3 mil point objects in the table.

These are used in step 6 (lilac ■). After the *name* field containing the information from which rescue point to which stop point the route was calculated is separated on individual columns, the intermediate output oft step 3 (rescue point feature class with ranked stations by time needed) is filtered by rank 1 EMS stations only and then time and distance fields of these features are joined with the route layer objects. Only the 1st placed EMS are of interest because the aim of this study is to find the best possible solution regarding the sum of travel times on each track section – and the ranking of fastest ambulances per rescue point is a constant. This means, that after this intermediate step there are still approximately 3 mil point objects with 3 duplicate geometries per stop point. Therefore, the sum of travel time of track section 1 and the travel time calculated for track section two are summarized for each object and ranked. Three possible solutions are available for each stop position as intermediate data.

The 3rd track section time is calculated in step 7 (wine red ■). The intermediate data of step 6 and the point along lines generated in step 4 are input data for step 7. The tool MULTIPLE RING BUFFER is used to create 50 rings around each stop point with a distance of 10 metres between each of the rings (*Figure 15*). The distance equals the time needed to hike for EMS personnel in the terrain in seconds. For each of the 50 rings per stop points (3 duplicates per location) the sum of first, second and third (ring diameter) travel time and the sum of distance is calculated (N > 150 mil; cfr. *Figure 5*). The name of the EMS station and the name of the rescue point is also transferred.
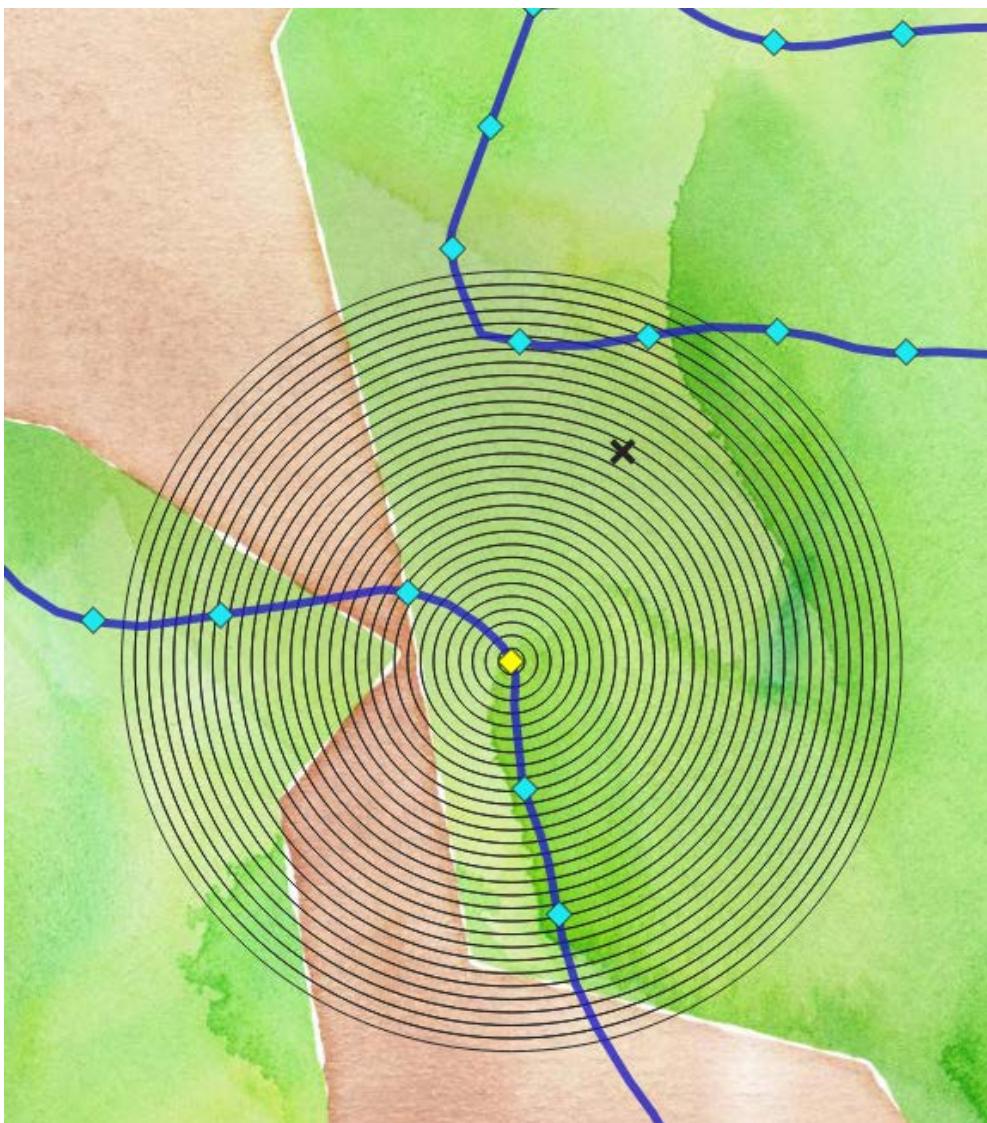
Figure 15 – With one stop position point as centre (yellow diamond), 50 buffer rings are calculated (for better visibility, the graphic only contains 30 rings). Each ring represents 10 seconds of travel time by foot. The diameter of the ring spatially intersecting the accident site (black x) corresponds to the walking time needed. [23]

The last step leads to the final result. The randomly generated accident sites inside the forest are spatially joined using statistical analysis of the minimum of the sum of times among the buffer rings intersecting at the specific location. The result is the best possible solution for the given accident location. The names of the involved rescue point and EMS station, the travel distances and times are written to the feature in the accident feature class.

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[23] Data sources: Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA; NavLog GmbH

5.3 Additional References

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6. Appendices

6.1 Appendix I - Complete Model in ArcGIS Pro Modelbuilder

Figure 16 - Complete model in ArcGIS Pro ModelBuilder. The aim of this model is to calculate times needed to reach defined accident sites inside of forests from EMS stations. As an input parameter, these are both expected as point data features. In order to calculate driving manoeuvres a road network is required and therefore will be topologically built out of NavLog and Here network data in the first step in the model, followed by parametrizing the data with velocity constraints. A Closest Facility Analysis finds solutions for obtaining routes and the driving time between EMS stations and rescue points. The result of this process is that each rescue point has time information of the three EMS stations closest to it. It is further necessary to calculate stopping points on forest roads, which are used to calculate the required travel time to the vicinity of an accident site. The tool Generate Points on Lines is used for this task. Another Closest Facility Analysis with route calculations between rescue points and stop points ends with the storage of three durations on each stop point. Starting from the stop positions, 50 buffer rings are calculated with 10 metres in between. A spatial statistic at the accident location is performed to find the minimal time needed out of every possible solution given by the next three rescue points and from these, the next three EMS stations. More details on the process can be found in Chapter 5.2. The model was designed to be fully automated for repeated use.

6.2 Appendix II- Ranking of All EMS Stations in Baden-Württemberg

Table 5 - Ranking table of all EMS Stations in Baden-Württemberg

Station	Count 1st
DRK RW Titisee-Neustadt	86
DRK RW Schoenau	69
DRK RW Salem	64
DRK RW Albstadt	63
MHD RW Albstadt	61
DRK RW Bad Wurzach	61
DRK RW Leutkirch	59
DRK RW Furtwangen	58
DRK RW Engen	56
DRK RW Riedlingen	56
ASB RW Hirschberg	55
DRK RW Segeten	53
DRK RW St. Blasien	51
DRK RW Schiltach	50
DRK RW Zell am Harmersbach	48
DRK RW Eberbach	47
DRK RW Schoemberg	47
Medi-Ambulance RW Freiburg	44
DRK RW Schluchsee	44
DRK RW Hausach	44
DRK RW Radolfzell	44
DRK RW Stockach	44
DRK RW Waldkirch	43
DRK RW Kandern	43
MHD RW Muenstertal	42
DRK RW Balingen	41
DRK RW Kirchheim u. Teck	40
ASB RW Baden-Baden/Oos	40
DRK RW Altensteig	40
DRK RW Rottweil	39
DRK RW Forbach	38
DRK RW Calw	38
DRK RW Bad Wildbad	37
DRK RW Elzach	37
DRK RW Schopfheim	37
DRK RW Asbach	36
DRK RW Villingen	36
DRK RW Singen	36
DRK RW Ummendorf	36
DRK RW Pfullendorf	36
DRK RW Kirchzarten	35
DRK RW Sulz am Neckar	35
DRK RW Welzheim	34
DRK RW Heidenheim	34
JUH RW Nagold	34
MHD/DRK RW Gegenbach	34

Station	Count 1st
DRK RW Schramberg	34
DRK RW Emmendingen	33
DRK RW Oberndorf am Neckar	33
DRK RW Wehingen	33
DRK RW Wangen	33
DRK RW Meßkirch	33
DRK RW Malmsheim	32
DRK RW Geislingen	32
DRK RW Westernhausen	32
JUH RW Martinsmoos	32
DRK RW Tiefenbronn	32
DRK RW Loßburg	32
MHD RW Freudenstadt	32
DRK RW Triberg	32
DRK RW Muensingen	32
DRK RW Stetten am kalten Markt	32
DRK RW Buchen	31
DRK RW Schopfloch	31
DRK RW Muellheim	31
DRK RW Tuttlingen	31
ASB RW Tuebingen	31
DRK RW Ehingen	31
DRK RW Erolzheim	31
DRK RW Markdorf	31
DRK RW Ueberlingen	31
DRK RW Wilhelmsdorf	31
DRK RW Osterburken	30
DRK RW Bammental	30
DRK RW Engstingen	30
ASB RW Schoenaich	29
JUH RW Ehningen	29
DRK RW Bopfingen	29
DRK RW Rheinau-Freistett	29
DRK RW Oberkirch	29
DRK RW Blumberg	29
DRK RW Bad Waldsee	29
DRK Bergwacht RW Isny	29
DRK/ASB RW Sueßen	28
DRK RW Loewenstein	28
DRK RW Kuenzelsau	28
MHD RW Lienzingen	28
DRK RW Loeffingen	28
ASB RW Muehlheim a.d.D.	28
DRK RW Dettighofen	28
DRK RW Eschach	27
DRK RW Mosbach	27
DRK RW Neuenbuerg	27
DRK RW Breisach	27
DRK RW Herbolzheim	27

Station	Count 1st
DRK RW Uehlingen-Birkendorf	27
DRK RW Gammertingen	27
SAG RW Weil der Stadt	26
DRK RW Vaihingen/Enz	26
DRK RW Wuermersheim	26
Medie Ambulanz RW Vimbuch	26
DRK RW Bad Urach	26
MHD RW Metzingen	26
JUH RW Kißlegg	26
DRK RW Bad Saulgau	26
MHD RW Sulzbach a.d.M.	25
DRK RW Gaildorf	25
DRK RW Neresheim	25
DRK RW Bad Herrenalb	25
DRK RW Binzen	25
DRK RW Blaubeuren	25
DRK RW Tettnang	25
DRK RW Ostrach	25
DRK RW Remchingen	24
DRK RW Baiersbronn	24
DRK RW St. Georgen	24
MHD RW Schopfheim	24
DRK RW Laufenburg	24
DRK RW Trochtelfingen	24
DRK RW Nuertingen	23
DRK RW Enzweihingen	23
DRK RW Brackenheim	23
DRK RW Moeckmuehl	23
DRK RW Bretten	23
DRK RW Blankenloch	23
DRK RW Oberneudorf	23
DRK RW Hornberg	23
DRK RW Koenigsfeld	23
DRK RW Donaueschingen	23
DRK RW Trossingen	23
DRK RW Lauchringen	23
DRK RW Bad Saeckingen	23
JUH RW Ravensburg	23
MHD RW Uhingen	22
ASB RW Neuenstein	22
DRK RW Bonndorf	22
DRK RW Eppingen	21
DRK RW Giengen	21
JUH RW Ellwangen	21
MHD RW Aalen	21
DRK RW Buehl	21
DRK RW Sinsheim	21
DRK RW Horb	21
DRK RW Lahr	21

ASB RW Haigerloch	21
ASB RW Ulm	21
ASB RW Merklingen	21
RTS Ulm RW Dornstadt	21
DRK RW Bad Schussenried	21
MHD RW Plochingen	20
DRK RW Bad Rappenau	20
DRK RW Hardheim	20
DRK RW Pforzheim	20
ASB RW Bad Herrenalb	20
DRK RW Spital Waldshut	20
DRK RW Ergenzingen	20
ASB RW Hechingen	20
DRK RW Hechingen	20
DRK RW Sigmaringen	20
JUH RW Stuttgart-Vaihingen	19
DRK RW Herrenberg	19
DRK RW Murrhardt	19
JUH RW Schorndorf	19
Rems Murr Ambulance RW Schorndorf	19
DRK RW Heubach	19
SAG Ambulanz GmbH RW Lorch	19
DRK RW Baden-Baden	19
ASB RW Karlsruhe	19
DRK RW Bruchsal	19
momeD RW Lahr	19
DRK RW Moessingen	19
DRK RW Laichingen	19
ASB RW Orsenhausen	19
MHD RW Weingarten	19
DRK RW Schorndorf	18
ASB RW SRH Klinikum Karlsbad-Langenstein-bach	18
DRK RW Ettlingen	18
DRK RW Phillipsburg	18
Medi-Ambulanz RW Bad Krozingen	18
DRK RW Ettenheim	18
Medie Ambulanz RW Sasbach	18
DRK RW Stuehlingen	18
DRK RW Mengen	18
DRK RW Leinfelden	17
MHD RW Bonlanden	17
ASB RW Ilsfeld-Auen-stein	17
DRK RW Crailsheim	17
DRK RW Ellwangen	17
DRK RW Wiesloch-Ziegelwiesen	17
DRK RW Endingen	17
ASB RW Offenburg	17
ASB RW Singen	17

DRK RW Rottenburg	17
ASB RW Ditzingen	16
ASB RW Untersteinbach	16
DRK RW Oehringen	16
DRK RW Oberderdingen	16
DRK RW Rheinfelden	16
DRK RW Biberach	16
JUH RW Uhldingen-Muehlhofen	16
DRK RW Altshausen	16
DRK RW Kraichtal-Men-zingen	15
DRK RW Freudenstadt	15
MHD RW Freiburg	15
DRK RW Schwenningen	15
ASB RW Tuttlingen	15
DRK RW Spaichingen	15
ASB RW Langenau	15
BF Stuttgart FRW 5 (RD)	14
ASB RW Duernau	14
JUH RW Freiburg	14
MediCare RW Eschbach	14
RW Löffingen	14
ASB RW Appenweier	14
DRK RW Kronau	13
ASB RW Pforzheim	13
RW ARBO Enzkreis	13
MHD RW Horb am Neckar	13
JUH RW Deggingen	12
JUH RW Aspach	12
MHD RW Obersontheim	12
DRK RW Wehr	12
DRK RW Reutlingen	12
MHD RW Aulendorf	12
DRK RW Winnenden	11
MHD RW Winnenden-Hertmannsweiler	11
DRK RW Schwaebisch-Hall West	11
MHD RW Bruchsal	11
GSP RW Pforzheim	11
Medicus RW Freiburg	11
DRK RW Offenburg	11
ASB RW Bad Duerrheim	11
DRK RW Tuebingen	11
MHD RW Sigmaringen	11
DRK RW Ruit	10
DRK RW Esslingen	10
ASB RW Besigheim	10
DRK RW Waiblingen	10
DRK RW Aalen	10
JUH RW Mannheim	10
JUH RW Singen	10
MHD RW Rottenburg	10
DRK RW Laupheim	10

DRK RW Kressbronn	10
DRK RW Bonlanden	9
BW Ambulance RW Heil-bronn	9
DRK RW Plattenwald	9
Audi AG Abteilung Ge-sundheitsschutz / Akut-medizin RW Neckarsulm	9
MHD RW Bad Wimpfen	9
DRK RW Niederstetten	9
ASB RW Hermaringen	9
DRK RW Mutlangen	9
DRK RW Achern	9
DRK Ulm Außenwache Oberer Eselsberg	9
DRK RW Leonberg	8
JUH RW Esslingen	8
DRK RW Goeppingen-Bartenbach	8
DRK RW Bietigheim	8
ASB RW Heilbronn	8
DRK RW Blaufelden	8
DRK RW Schwaebisch Gmuend	8
DRK RW Loerrach	8
DRK RW Friedrichshafen	8
Sanitaetsdienst Moegel RW Stuttgart	7
DRK RW Sindelfingen	7
MHD RW Sindelfingen	7
DRK RW Backnang	7
DRK RW Karlsruhe-Neu-reut	7
DRK RW Heidelberg	7
JUH RW 20 Heidelberg-Handschuhsheim	7
DRK RW Hockenheim	7
ASB RW Reutlingen	7
DRK RW Isny	7
DRK RW Murr	6
MHD RW Schwaebisch Gmuend	6
Streib Ambulanz RW Sin-sheim	6
DRK RW Kehl	6
MHD RW Villingen-Schwenningen	6
MHD RW Reutlingen	6
Bundeswehr RW Ulm	6
MHD RW Korntal-Muenchingen	5
Ambulanz Schuett RW Remseck	5
ASB RW Lauffen	5
KTS RW Schwetzingen	5
MHD RW Wiesloch	5
DRK RW Nagold	5
DRK RW Bad Duerrheim	5
JUH RW Schwenningen	5
JUH RW Friedrichshafen	5

KTS RW Stuttgart	4
MHD RW Nuertingen	4
MHD RW Landesmesse	4
ASB RW Wolpertshausen	4
MHD RW Karlsruhe	4
ASB RW Heidelberg-Rohrbach	4
DRK RW Mannheim	4
DRK RW Konstanz	4
MHD RW Konstanz	4
DRK RW 1 Ulm	4
JUH RW Stetten	3
KTS RW Goeppingen	3
DRK RW Marbach	3
DRK RW Crailsheim West	3
ASB RW Karlsruhe City	3
DRK RW Karlsruhe Staedtisches Klinikum	3
ASB RW Mannheim	3
DRK RW Wiesloch	3
JUH RW Ketsch	3
ASB RW Siloah St. Trudpert Klinikum	3
DRK RW Muehlacker	3
ASB RW Stuttgart	2
JUH RW Stuttgart-Zuffenhausen	2
MHD RW Stuttgart-Wangen	2
DRK RW Ludwigsburg	2
JUH RW Ludwigsburg	2
MHD RW Winnenden	2
JUH RW Heilbronn-Horkheim (RW 13)	2
JUH RW Hessental	2
MHD RW Mannheim	2
DRK RW Helios Pforzheim	2
MHD RW Ueberlingen	2
DRK RW Stuttgart Hauptrettungswache	1
DRK RW Stuttgart-Vaihingen	1
SAG Ambulanz GmbH RW Kornwestheim-Pattonville	1
DRK RW KH Nuertingen	1
DRK RW Goeppingen	1
ASB RW Ludwigsburg	1
ASB RW Waiblingen	1
DRK RW Fellbach	1
Streib Ambulanz RW Heidelberg	1
KTS RW Rhein-Neckar	1
DRK RW Stuttgart-Robert-Bosch-Krankenhaus	0
MHD RW Stuttgart-Diakonie-Klinikum	0
MHD RW Ludwigsburg	0
SANI-Team Winkler RW Fellbach	0

ASB RW Heilbronn-Neckargartach	0
DRK RW Heilbronn	0
DRK RW Schwaebisch Hall	0
DRK RW Tauberbischofsheim	0
DRK RW Wertheim	0
DRK RW Bad Mergentheim	0
DRK RW Creglingen	0
MHD RW 18 Heidelberg-Wieblingen	0
Medipart GmbH RW Heddesheim	0
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6.3   Appendix III – Additional Plots
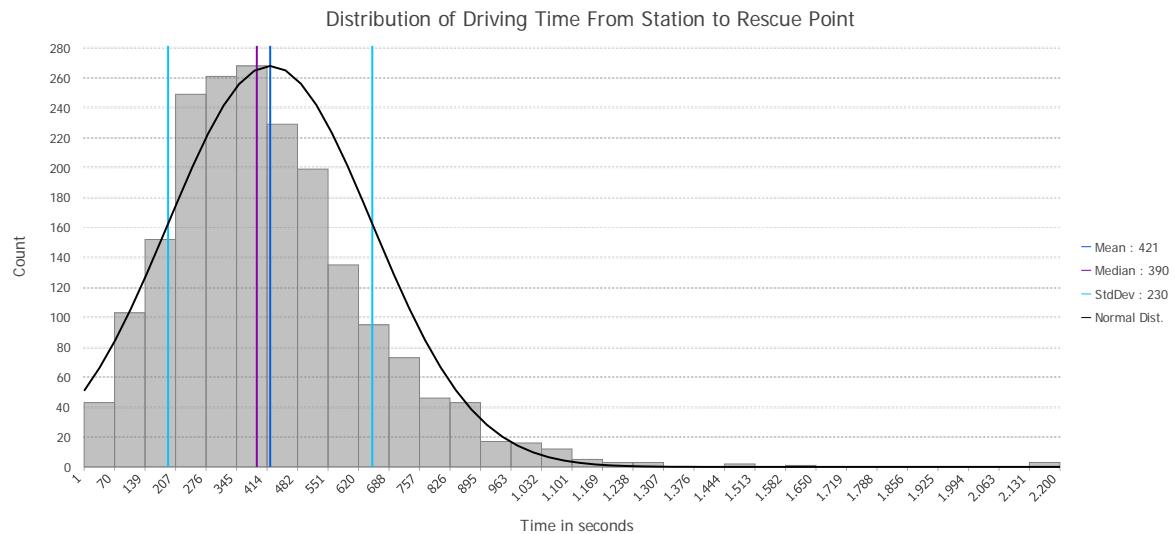
Figure 17- Histogram of driving time between EMS stations and rescue points calculated (Track 1)
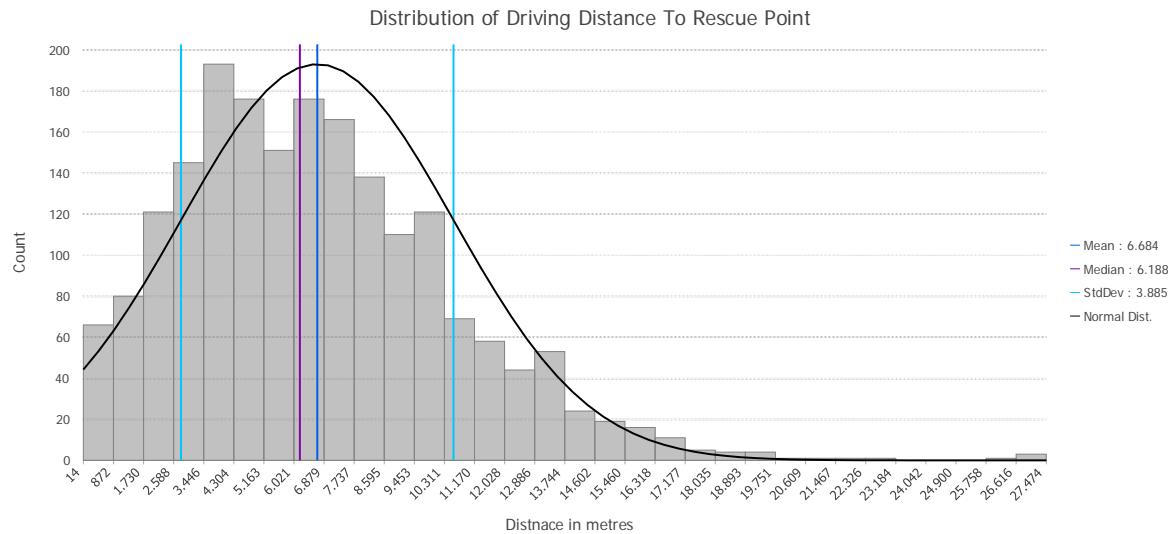
Figure 18 - Histogram of travel distances between EMS stations and rescue points calculated (Track 1)
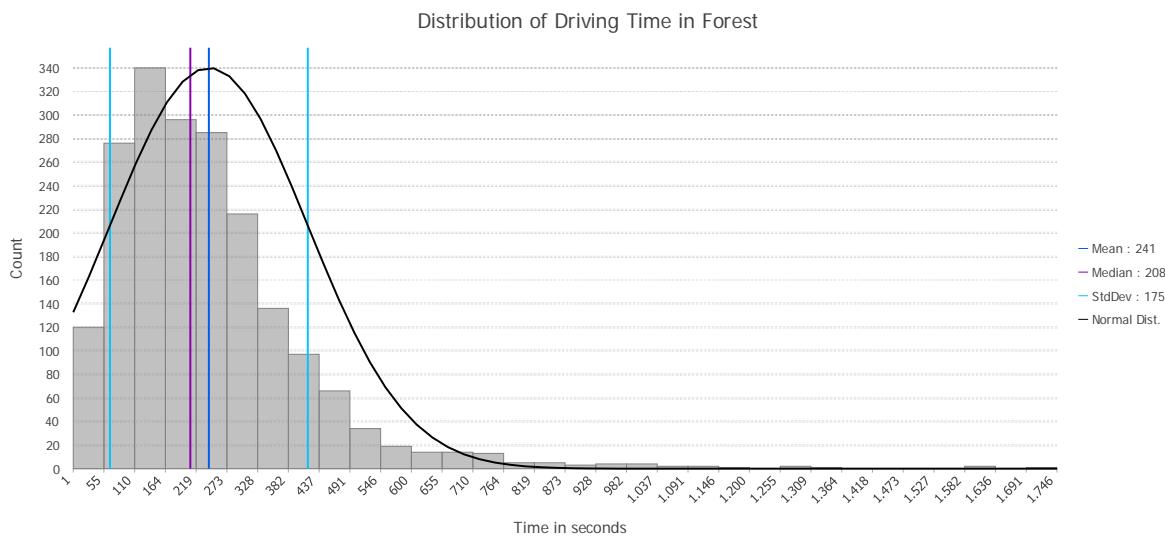
Figure 19 - Historgram of predicted travel times within the forest, i.e. between rescue points and stopping points on the forest road (Track 2)
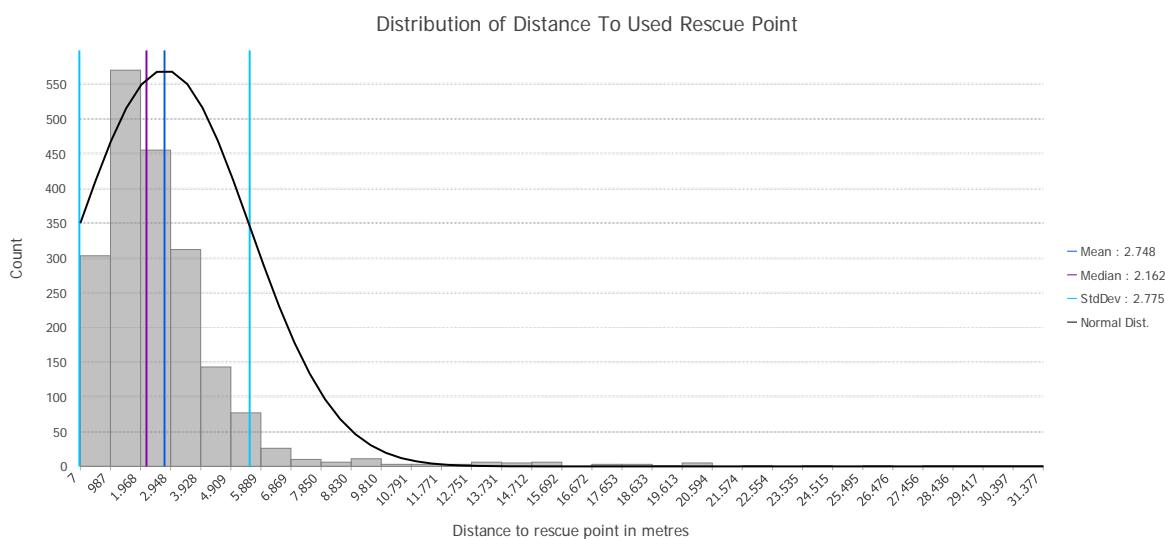
Figure 20 – Histogram of driving distance in forests (from rescue point to stop position near the accident) predicted by the model (Track 2).
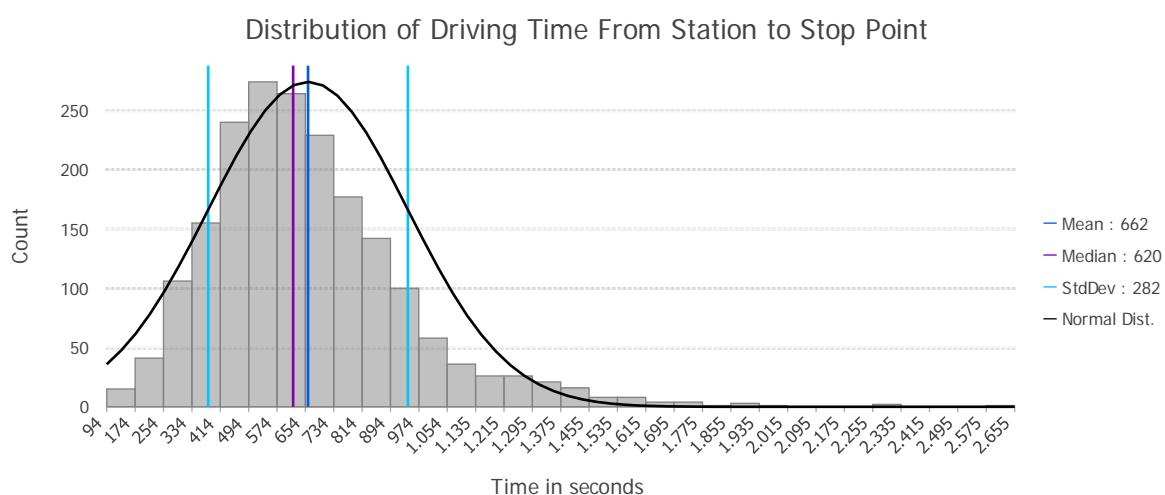
Figure 21 - Histogram of the sum of travel time from station to rescue point and the time needed to the stop point on the forest read next to the accident site. According to the model, on average it takes 11 minutes and 12 seconds for an ambulance to reach the target position. (Track 1 + Track 2)
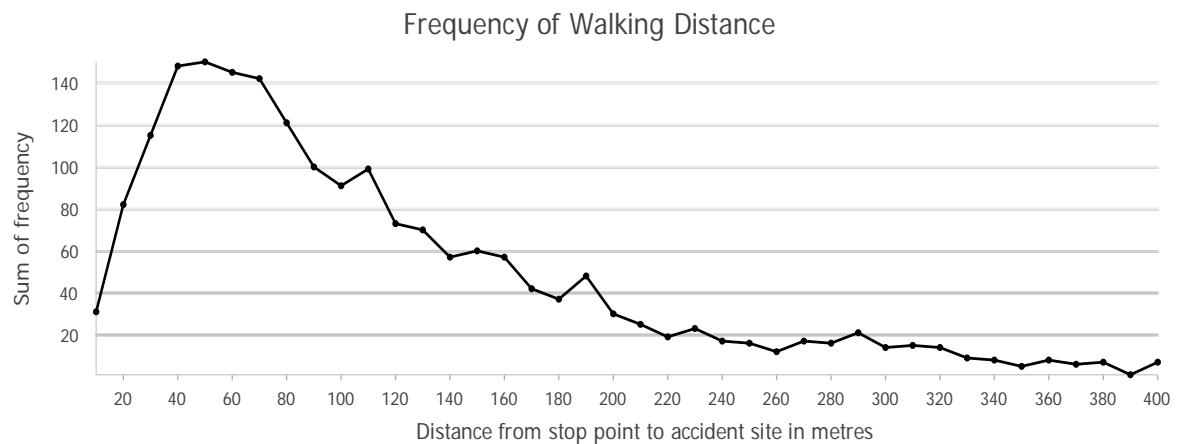
Figure 22 - Walking distances between the stop points on forest roads to the randomly created accident sites calculated by the model. The line plot shows the frequency of walking distances per 10 metre intervals. Since a walking speed of 1 metre per second was set when parameterising the model, the values on the abscissa can also be understood as walking time in seconds (Track 3)

6.4 Appendix IV – Maps Showing Spatial Distributions of Data Used in this Study
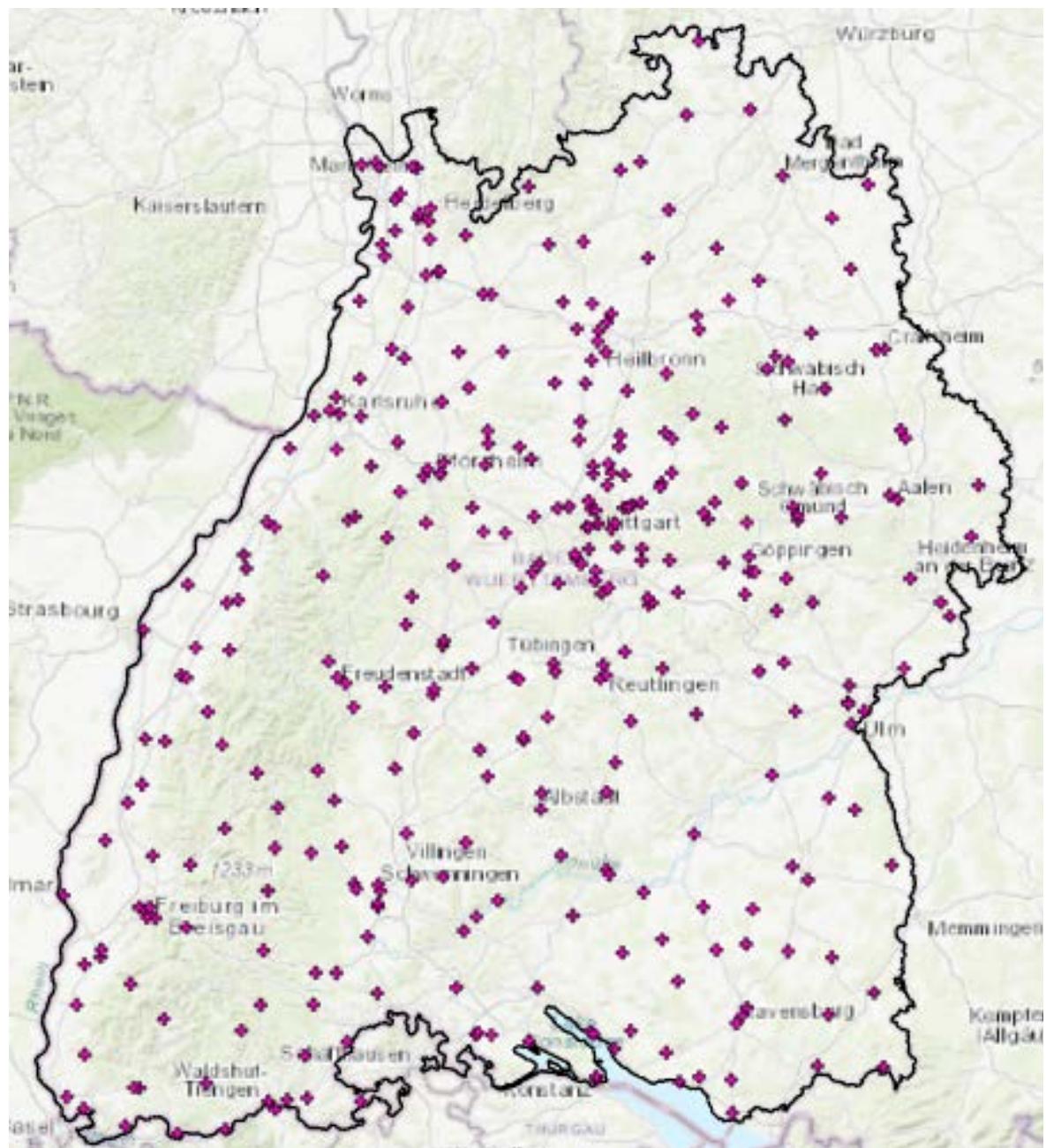
Figure 23 - Location data of 348 EMS bases in Baden-Württemberg used in this study
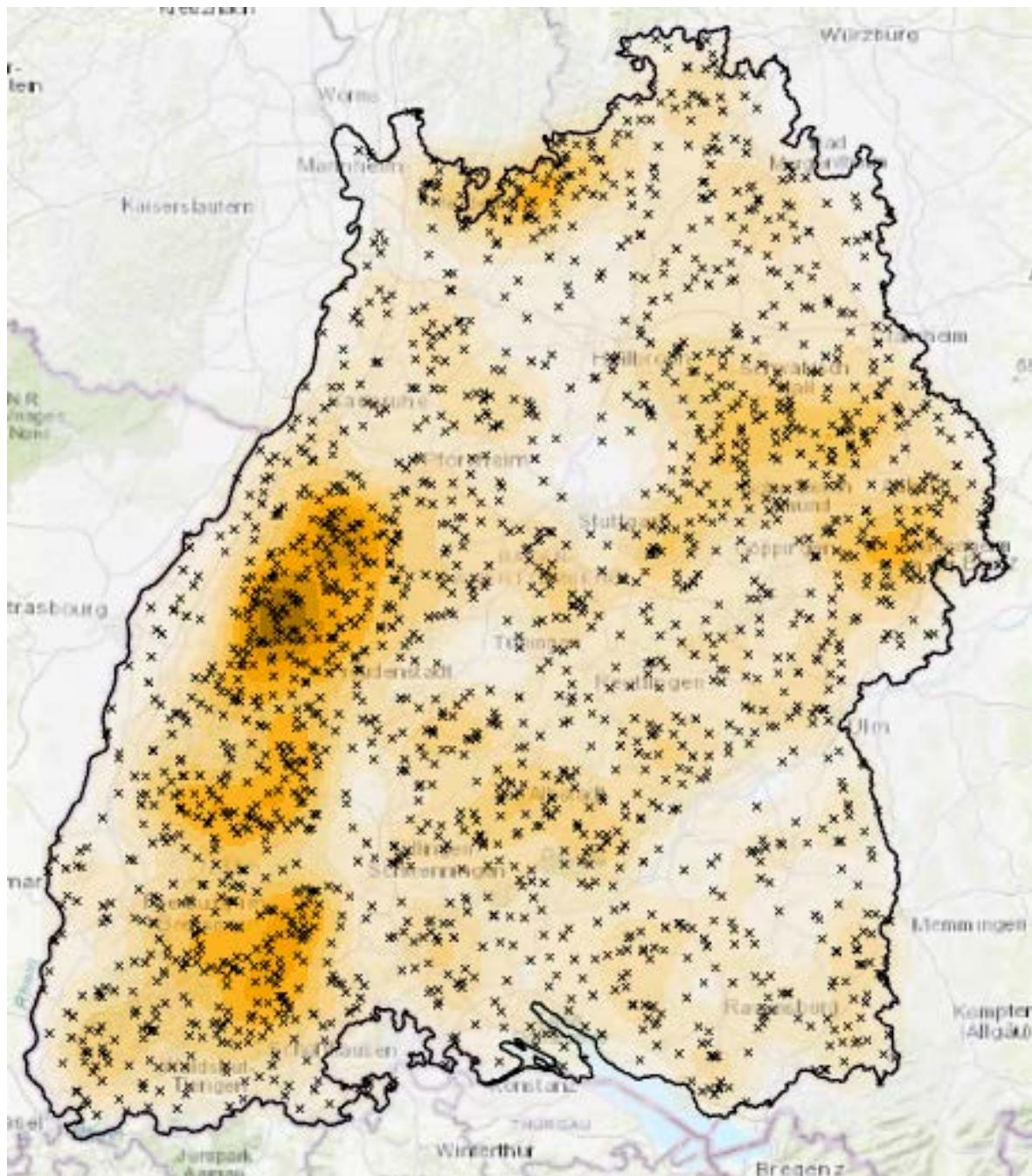
Figure 24 - Randomly calculated accident locations (black x) inside of forests in Baden-Württemberg used in this study. Kernel density shown in light orange (low) to brown (high): large forest areas are clearly more strongly represented
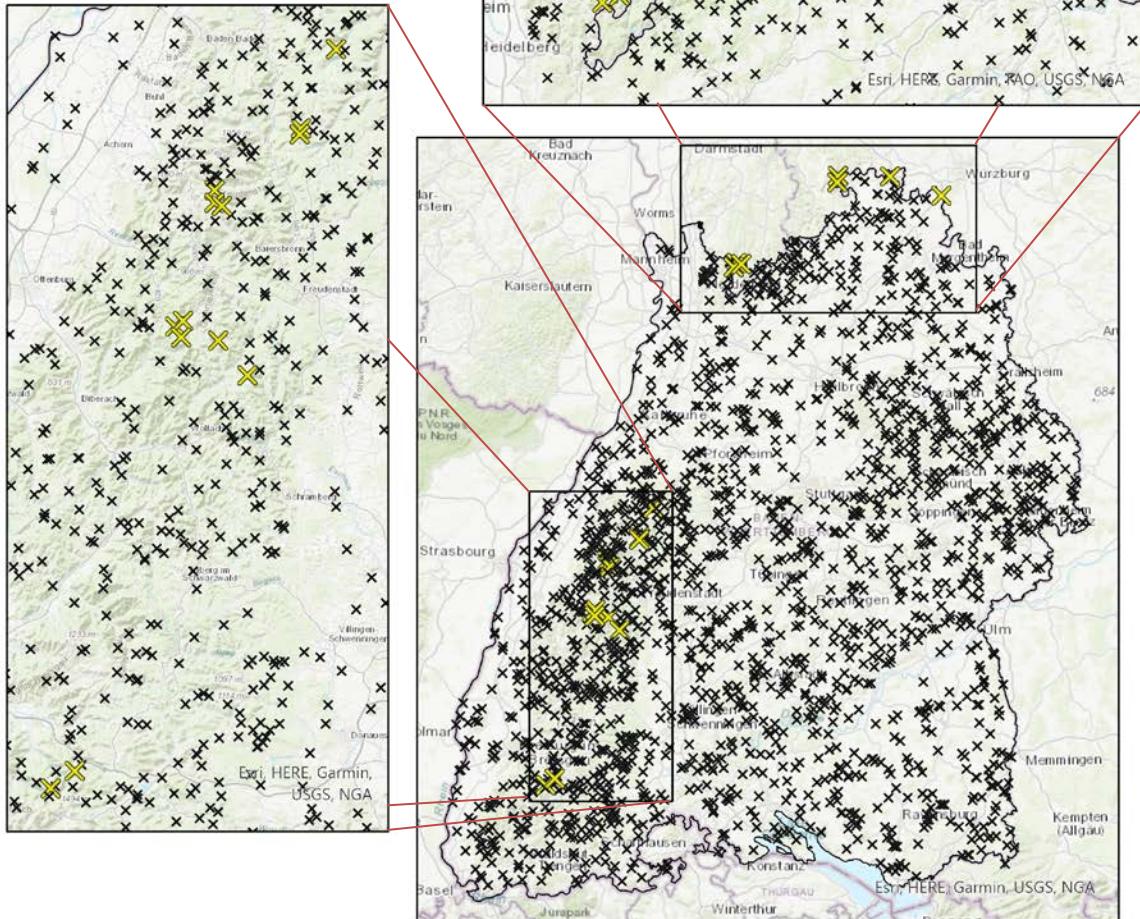
Figure 25 - Overview of statistical outliers (95 % confidence) of accident sites in respect of time needed to reach the point. 13 are in the Black Forest (left view) and 7 in the north (top view) of Baden-Württemberg

6.5   Appendix V – Plots of Accident Statistics

**Accidents of State Forest Workers
of Baden-Württemberg 2008-2019**

$y = 16682.46 + -8.21 * x$
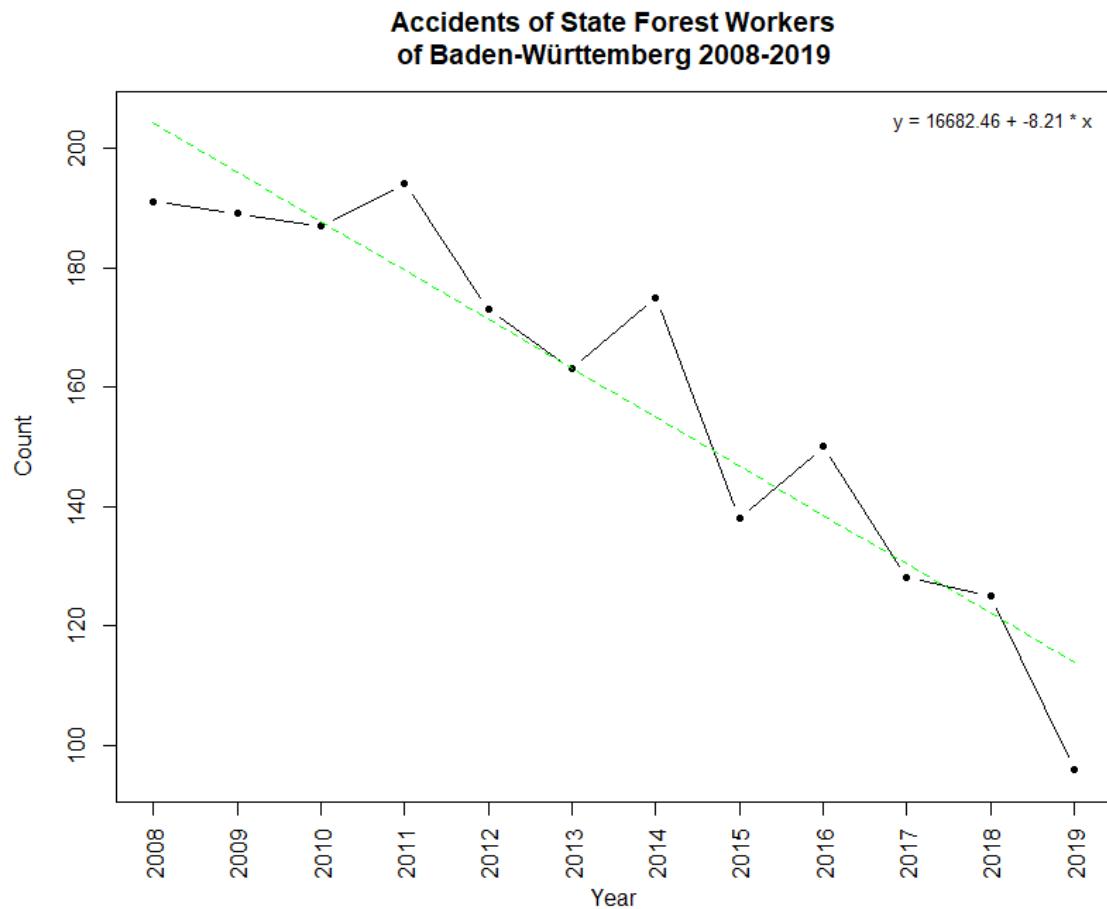
Figure 26 - Occupational accidents of forestry workers in the state forest of Baden-Württemberg from 2008 to 2019. A per-manent decreasing trend of casualties could be observed. Source of underlying data: (KWF 2022)
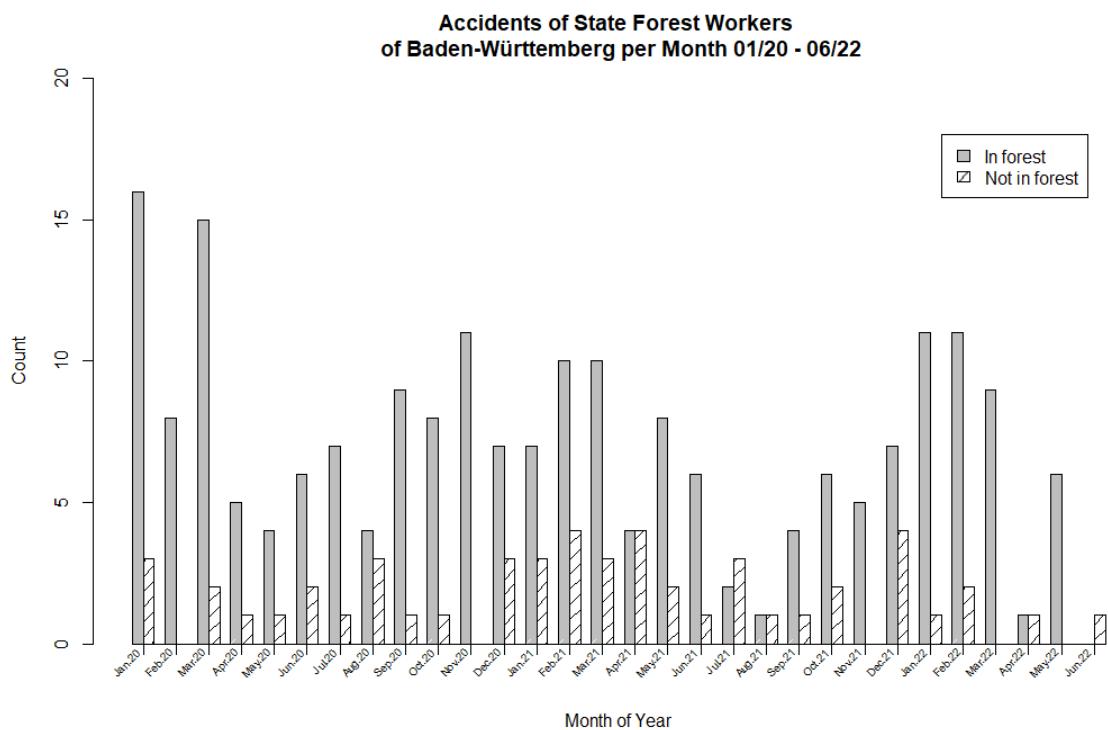
Figure 27 - Bar chart of forest worker incidents separated by accident location (in forest vs. not in forest) per month from January 2020 to June 2022. The accident sites were mainly located in the forest (76 %). Source of underlying data: ForstBW (2022)
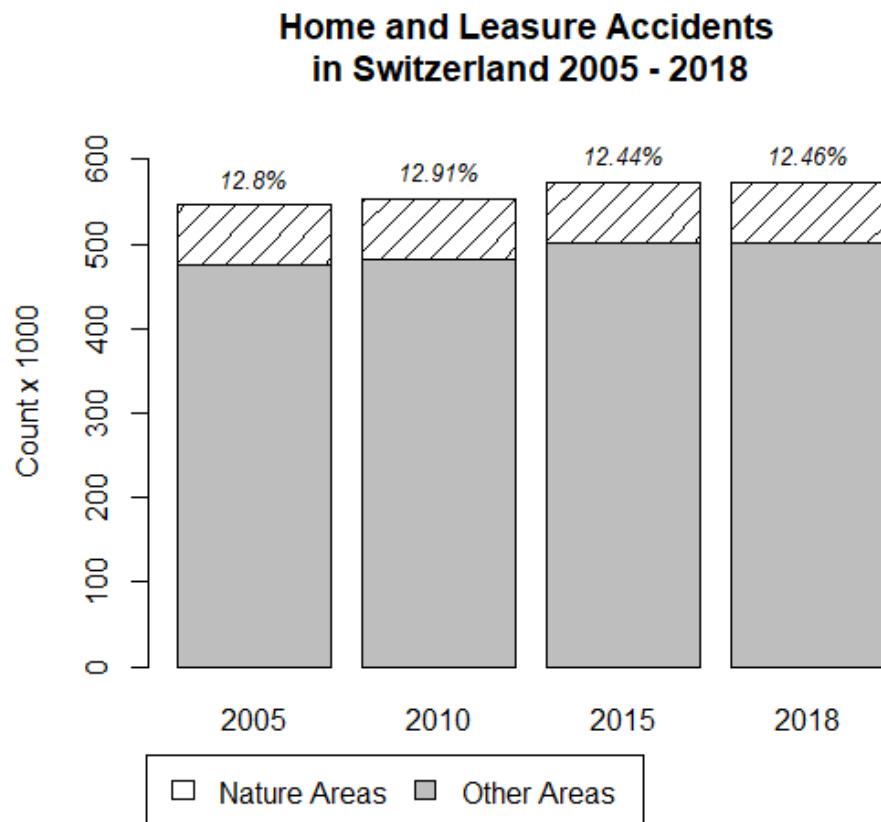
Figure 28 - Development of the number of injured persons at home and during leisure time by accident location in Switzerland from 2005 to 2018. The white-shaded areas of the bars show the percentages of accidents that occurred in a nature area. On average 12.65 %. Source of underlying data: Lamprecht et al. (2008, 2014, 2020)
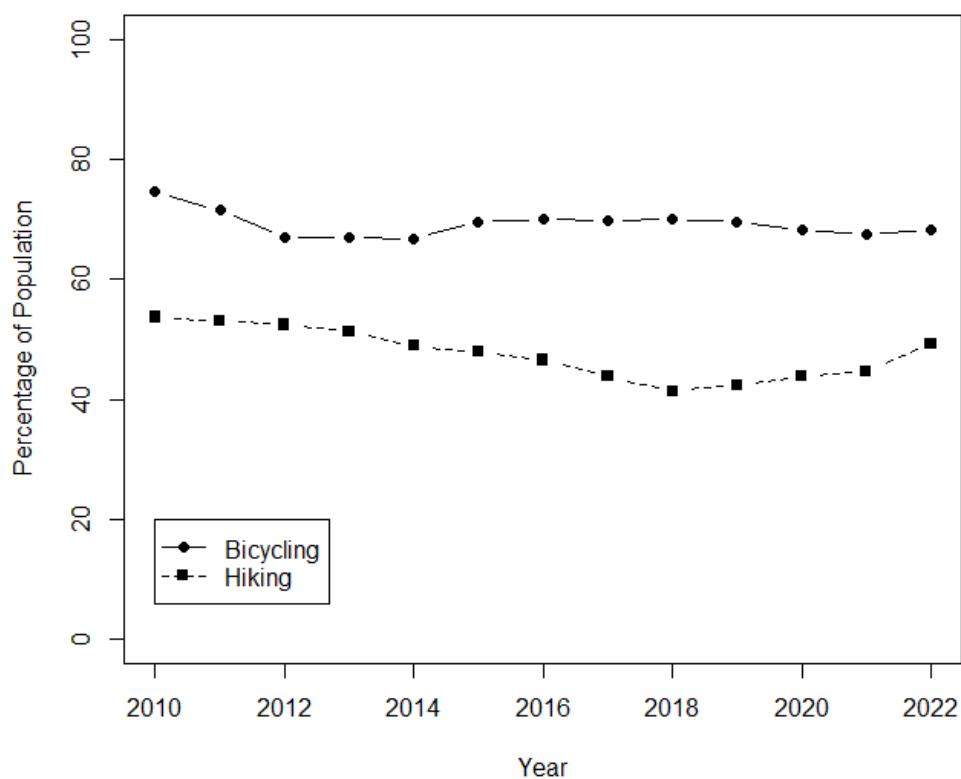
Figure 29 - The VuMA Touchpoint data from the period 2010 to 2022 [16] show that the proportion of Germans with intentions to pursue these leisure activities remained relatively constant on a high level. Source of underlying data: VuMa (2022)

Accidents in Nature Areas
of Switzerland 2005 - 2018
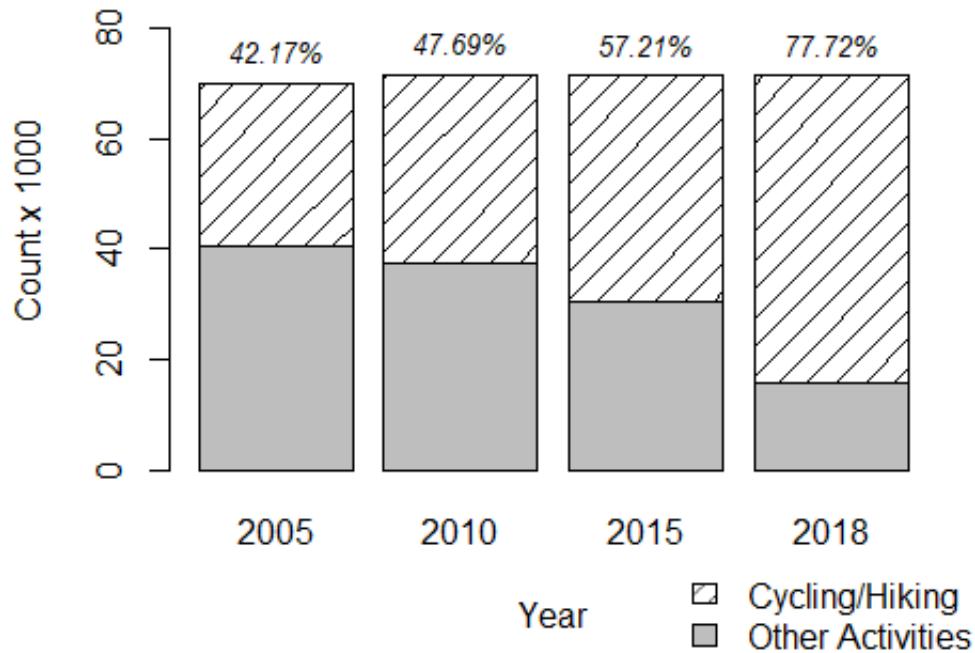
Figure 30 - Share of Hiking and Cycling Accidents. In recent years, the proportion has increased, while the total number has remained nearly constant. Source of underlying data: Lamprecht et al. (2008, 2014, 2020)

Accidents in Nature Areas of Switzerland 2005 - 2018
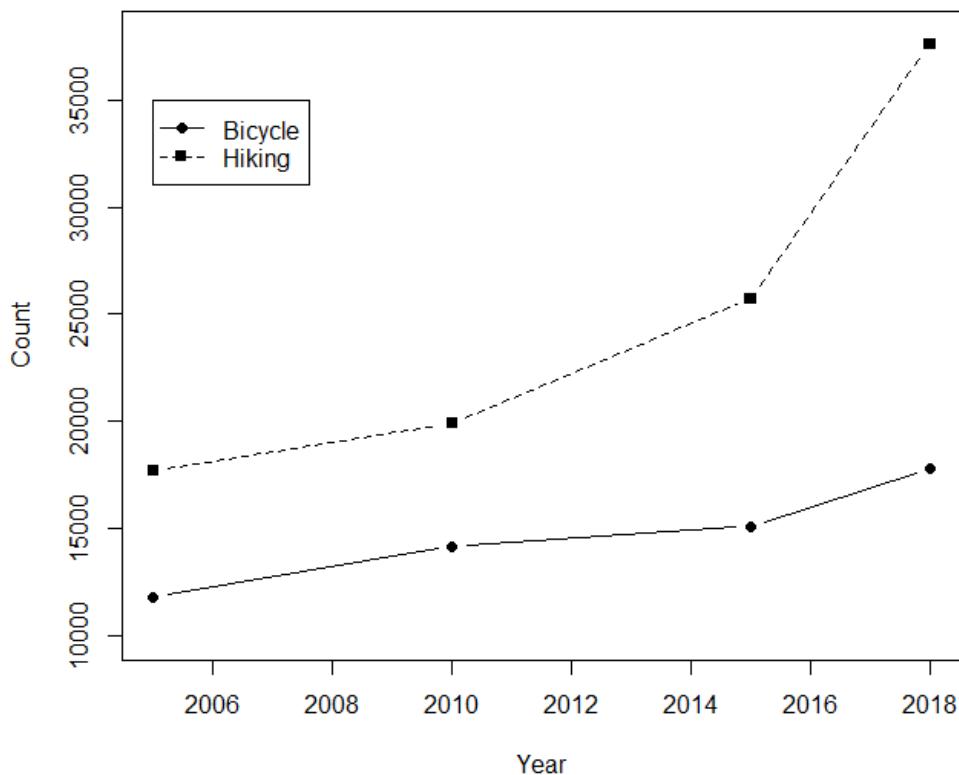
Figure 31 - The overall count of accidents of cyclists and hikers increased. Hikers are primarily affected by this development since 2010. Source of underlying data: Lamprecht et al. (2008, 2014, 2020)

6.6 Appendix VI – This XML Code is used to define the Network Dataset in ArcGIS Pro for automation

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that     are     allowed     on     the     network     and     how     the     actions     can     be
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6.7 Appendix VI - Python Code of the Used Model shown in Appendix 6.1

```python
#Authot: Tobias Wiepcke
#Date: 20.08.2022

import arcpy
from sys import argv

def FahrzeitanalyseRettung(RescuePoints, Here, NavLog, Target_GDB, Network_Template_XML_, Sta-
tions, Forest_in_BW, Distance="100 Meters", Accidents):  # FahrzeitanalyseRettung

    # To allow overwriting outputs change overwriteOutput option to True.
    arcpy.env.overwriteOutput = False

    # Check out any necessary licenses.
    arcpy.CheckOutExtension("Network")

    arcpy.ImportToolbox(r"c:\program   files\arcgis\pro\Resources\ArcToolbox\toolboxes\GeoAna-
lytics Desktop Tools.tbx")
    arcpy.ImportToolbox(r"c:\program files\arcgis\pro\Resources\ArcToolbox\toolboxes\Data Man-
agement Tools.tbx")
    arcpy.ImportToolbox(r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb\RescueTimes.tbx")
    arcpy.ImportToolbox(r"c:\program  files\arcgis\pro\Resources\ArcToolbox\toolboxes\Analysis
Tools.tbx")
    # Model Environment settings
    with arcpy.EnvManager(extent="DEFAULT"):

        # Process: Select Autobahnen (Select) (analysis)
        Autobahnen_Only = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_au-
tobahn"
        arcpy.analysis.Select(in_features=Here,              out_feature_class=Autobahnen_Only,
where_clause="st_name = 'A3' Or st_name = 'A5' Or st_name = 'A6' Or st_name = 'A7' Or st_name =
'A8' Or st_name = 'A61' Or st_name = 'A80' Or st_name = 'A81' Or st_name = 'A82' Or st_name =
'A83' Or st_name = 'A84' Or st_name = 'A85' Or st_name = 'A86' Or st_name = 'A87' Or st_name =
'A88' Or st_name = 'A89' Or st_name = 'A96' Or st_name = 'A98' Or st_name = 'A654' Or st_name =
'A656' Or st_name = 'A659' Or st_name = 'A828' Or st_name = 'A831' Or st_name = 'A833' Or st_name
= 'A834' Or st_name = 'A840' Or st_name = 'A860' Or st_name = 'A861' Or st_name = 'A862' Or
st_name = 'A863' Or st_name = 'A863' Or st_name = 'A864' Or st_name = 'A895' Or st_name =
'A655'")

        # Process: Select (Select) (analysis)
        Here_w_o_Autobahn = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select"
        arcpy.analysis.Select(in_features=Here,             out_feature_class=Here_w_o_Autobahn,
where_clause="st_name <> 'A3' And st_name <> 'A5' And st_name <> 'A6' And st_name <> 'A7' And
st_name <> 'A8' And st_name <> 'A61' And st_name <> 'A80' And st_name <> 'A81' And st_name <>
'A82' And st_name <> 'A83' And st_name <> 'A84' And st_name <> 'A85' And st_name <> 'A86' And
st_name <> 'A87' And st_name <> 'A88' And st_name <> 'A89' And st_name <> 'A96' And st_name <>
'A98' And st_name <> 'A654' And st_name <> 'A656' And st_name <> 'A659' And st_name <> 'A828'
And st_name <> 'A831' And st_name <> 'A833' And st_name <> 'A834' And st_name <> 'A840' And
st_name <> 'A860' And st_name <> 'A861' And st_name <> 'A862' And st_name <> 'A863' And st_name
<> 'A863' And st_name <> 'A864' And st_name <> 'A895' And st_name <> 'A655' Or st_name IS NULL")

        # Process: Snap NavLog on Here (Snap) (edit)
        Snapped_NavLog = arcpy.edit.Snap(in_features=NavLog, snap_environment=[[Here_w_o_Auto-
bahn, "END", "20 Meters"], [Here_w_o_Autobahn, "VERTEX", "15 Meters"], [Here_w_o_Autobahn,
"EDGE", "10 Meters"]])[0]

        # Process: Pairwise Intersect (Pairwise Intersect) (analysis)
        LineIntersections_as_Points = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\LineInter-
sections"
        arcpy.analysis.PairwiseIntersect(in_features=[Snapped_NavLog,      Here_w_o_Autobahn],
out_feature_class=LineIntersections_as_Points,  join_attributes="ALL",  cluster_tolerance="",
output_type="POINT")

        # Process: Split Here at NavLog Intersection (Split Line at Point) (management)
        Here_w_o_Autobahn_incl_NavLog_intersections         =         "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine"
        arcpy.management.SplitLineAtPoint(in_features=Here_w_o_Autobahn,         point_fea-
tures=LineIntersections_as_Points,   out_feature_class=Here_w_o_Autobahn_incl_NavLog_intersec-
tions, search_radius="2 Meters")

        # Process: Merge (Merge) (management)
        herenavlog_merge_inter       =       "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter"
        arcpy.management.Merge(inputs=[Here_w_o_Autobahn_incl_NavLog_intersections,
Snapped_NavLog], output=herenavlog_merge_inter, field_mappings="id \"id\" true true false 4 Long
0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,id,-1,-
1;source  \"source\"  true  true  false  4  Long  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,source,-1,-1;target  \"target\"  true  true
```

false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,target,-1,-1;start_id \"start_id\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,start_id,-1,-1;end_id \"end_id\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,end_id,-1,-1;traveltime \"traveltime\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,traveltime,-1,-1;e_speed \"e_speed\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,e_speed,-1,-1;shape_leng \"shape_leng\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,shape_leng,-1,-1;geom_Length \"geom_Length\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,geom_Length,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,geom_length,-1,-1;link_id \"link_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,link_id,-1,-1;st_name \"st_name\" true true false 120 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_name,0,120;feat_id \"feat_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,feat_id,-1,-1;st_langcd \"st_langcd\" true true false 3 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_langcd,0,3;num_stnmes \"num_stnmes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,num_stnmes,-1,-1;st_nm_pref \"st_nm_pref\" true true false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,st_nm_pref,0,6;st_typ_bef \"st_typ_bef\" true true false 50 Text 0 0,First,#,D:\\ArcGIS-Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_typ_bef,0,50;st_nm_base \"st_nm_base\" true true false 70 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_nm_base,0,70;st_nm_suff \"st_nm_suff\" true true false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_nm_suff,0,6;st_typ_aft \"st_typ_aft\" true true false 50 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,st_typ_aft,0,50;st_typ_att \"st_typ_att\" true true false 1 Text 0 0,First,#,D:\\ArcGIS-Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_typ_att,0,1;addr_type \"addr_type\" true true false 1 Text 0 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0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_nrefaddr,0,10;r_addrsch \"r_addrsch\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_addrsch,0,1;r_addrform \"r_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_addrform,0,2;ref_in_id \"ref_in_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ref_in_id,-1,-1;nref_in_id \"nref_in_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,nref_in_id,-1,-1;n_shapepnt \"n_shapepnt\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,n_shapepnt,-1,-1;func_class \"func_class\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,func_class,0,1;speed_cat \"speed_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,speed_cat,0,1;fr_spd_lim \"fr_spd_lim\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,fr_spd_lim,-1,-1;to_spd_lim \"to_spd_lim\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,to_spd_lim,-1,-1;to_lanes \"to_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,to_lanes,-1,-1;from_lanes \"from_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,from_lanes,-1,-1;enh_geom \"enh_geom\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,enh_geom,0,1;lane_cat \"lane_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGIS-Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,lane_cat,0,1;divider \"divider\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,divider,0,1;dir_travel \"dir_travel\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-Line,dir_travel,0,1;l_area_id \"l_area_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_area_id,-1,-1;r_area_id \"r_area_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_area_id,-1,-1;l_postcode \"l_postcode\" true true false 11 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_postcode,0,11;r_postcode \"r_postcode\" true true false 11 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_postcode,0,11;l_numzones \"l_numzones\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_numzones,-1,-1;r_numzones \"r_numzones\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_numzones,-1,-1;num_ad_rng \"num_ad_rng\"

```
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,num_ad_rng,-1,-1;ar_auto \"ar_auto\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ar_auto,0,1;ar_bus \"ar_bus\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_bus,0,1;ar_taxis \"ar_taxis\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ar_taxis,0,1;ar_carpool \"ar_carpool\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_carpool,0,1;ar_pedest
\"ar_pedest\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_pedest,0,1;ar_trucks \"ar_trucks\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ar_trucks,0,1;ar_traff \"ar_traff\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ar_traff,0,1;ar_deliv \"ar_deliv\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_deliv,0,1;ar_emerveh
\"ar_emerveh\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_emerveh,0,1;ar_motor \"ar_motor\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ar_motor,0,1;paved \"paved\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,paved,0,1;private \"private\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,private,0,1;frontage \"frontage\" true true false 1 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,frontage,0,1;bridge \"bridge\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,bridge,0,1;tunnel \"tunnel\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,tunnel,0,1;ramp \"ramp\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ramp,0,1;tollway \"tollway\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,tollway,0,1;poiaccess \"poiaccess\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,poiaccess,0,1;contracc \"contracc\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,contracc,0,1;roundabout \"rounda-
bout\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,roundabout,0,1;interinter \"interinter\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,interin-
ter,0,1;undeftraff \"undeftraff\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,undeftraff,0,1;ferry_type \"ferry_type\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ferry_type,0,1;multidigit \"multidigit\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,multi-
digit,0,1;maxattr \"maxattr\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,maxattr,0,1;spectrfig \"spectrfig\" true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,spectrfig,0,1;indescrib \"indescrib\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,indescrib,0,1;manoeuvre \"manoeu-
vre\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,manoeuvre,0,1;dividerleg \"dividerleg\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,divider-
leg,0,1;inprocdata \"inprocdata\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,inprocdata,0,1;full_geom \"full_geom\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,full_geom,0,1;urban \"urban\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,urban,0,1;route_type
\"route_type\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,route_type,0,1;dironsign \"dironsign\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,dironsign,0,1;explicatbl \"explicatbl\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,expli-
catbl,0,1;nameonrdsn \"nameonrdsn\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,nameonrdsn,0,1;postalname \"postalname\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,postalname,0,1;stalename \"stalename\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,stale-
name,0,1;vanityname \"vanityname\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,vanityname,0,1;junctionnm \"junctionnm\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,junctionnm,0,1;exitname \"exitname\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,exit-
name,0,1;scenic_rt \"scenic_rt\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,scenic_rt,0,1;scenic_nm \"scenic_nm\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,scenic_nm,0,1;fourwhldr \"fourwhldr\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,four-
whldr,0,1;coverind \"coverind\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,coverind,0,2;plot_road \"plot_road\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,plot_road,0,1;reversible \"reversible\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,reversi-
ble,0,1;expr_lane \"expr_lane\" true true false 1 Text 0
```

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,expr_lane,0,1;carpoolrd \"carpoolrd\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,carpoolrd,0,1;phys_lanes
\"phys_lanes\"    true    true    false  8   Double  0   0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,phys_lanes,-1,-1;ver_trans    \"ver_trans\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ver_trans,0,1;pub_access   \"pub_access\"  true   true    false   1   Text    0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,pub_ac-
cess,0,1;low_mblty \"low_mblty\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,low_mblty,0,1;priorityrd \"priorityrd\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,priorityrd,0,1;spd_lm_src   \"spd_lm_src\"   true    true    false    2   Text    0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,spd_lm_src,0,2;expand_inc \"expand_inc\" true true false 2 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,expand_inc,0,2;trans_area
\"trans_area\"   true    true    false   1   Text   0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,trans_area,0,1",
add_source="ADD_SOURCE_INFO")

        # Process: Add Autobahn (Merge) (management)
        RoadNetwork = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork"
        if herenavlog_merge_inter:
            arcpy.management.Merge(inputs=[Autobahnen_Only,   herenavlog_merge_inter],   out-
put=RoadNetwork, field_mappings="id \"id\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,id,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,id,-1,-1;link_id \"link_id\" true true false 8 Dou-
ble    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,link_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,link_id,-1,-1;st_name \"st_name\" true true false 120 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_name,0,120,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_name,0,120;feat_id \"feat_id\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,feat_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,feat_id,-1,-1;st_langcd \"st_langcd\" true true false 3 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_langcd,0,3,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_langcd,0,3;num_stnmes \"num_stnmes\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,num_stnmes,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,num_stnmes,-1,-1;st_nm_pref   \"st_nm_pref\"   true   true   false   6   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,st_nm_pref,0,6,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,st_nm_pref,0,6;st_typ_bef \"st_typ_bef\" true true false 50 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_bef,0,50,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_bef,0,50;st_nm_base
\"st_nm_base\"   true    true    false   70   Text   0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_nm_base,0,70,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_nm_base,0,70;st_nm_suff \"st_nm_suff\" true true
false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,st_nm_suff,0,6,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,st_nm_suff,0,6;st_typ_aft \"st_typ_aft\" true true false 50 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_aft,0,50,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_aft,0,50;st_typ_att
\"st_typ_att\"   true    true    false   1   Text   0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_att,0,1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_att,0,1;addr_type \"addr_type\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,addr_type,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,addr_type,0,1;l_refaddr \"l_refaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_refaddr,0,10,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_refaddr,0,10;l_nrefaddr
\"l_nrefaddr\"   true    true    false   10   Text   0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_nrefaddr,0,10,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_nrefaddr,0,10;l_addrsch \"l_addrsch\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,l_addrsch,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_ad-
drsch,0,1;l_addrform \"l_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_addrform,0,2,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_addrform,0,2;r_refaddr \"r_refaddr\" true true
false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,r_refaddr,0,10,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_re-
faddr,0,10;r_nrefaddr \"r_nrefaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,r_nrefaddr,0,10,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_nrefaddr,0,10;r_addrsch \"r_addrsch\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,r_addrsch,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,r_addrsch,0,1;r_addrform \"r_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,r_addrform,0,2,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_addrform,0,2;ref_in_id   \"ref_in_id\"
true              true              false              8              Double              0
```

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ref_in_id,-
1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ref_in_id,-1,-
1;nref_in_id \"nref_in_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,nref_in_id,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,nref_in_id,-1,-1;n_shapepnt \"n_shapepnt\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,n_shapepnt,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,n_shapepnt,-1,-1;func_class \"func_class\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,func_class,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,func_class,0,1;speed_cat \"speed_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,speed_cat,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,speed_cat,0,1;fr_spd_lim \"fr_spd_lim\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,fr_spd_lim,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,fr_spd_lim,-1,-1;to_spd_lim \"to_spd_lim\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,to_spd_lim,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,to_spd_lim,-1,-1;to_lanes \"to_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,to_lanes,-1,-1,D:\\ArcGISPro-
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false 1 Text 0

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false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,spd_lm_src,0,2;expand_inc \"expand_inc\" true true
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true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_Se-
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true true 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,geom_Length,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,geom_Length,-1,-1", add_source="ADD_SOURCE_INFO")

        # Process: Add Field Src (Add Field) (management)
        if herenavlog_merge_inter:
            RoadNetwork_3_ = arcpy.management.AddField(in_table=RoadNetwork, field_name="Src",
field_type="TEXT", field_precision=None, field_scale=None, field_length=10, field_alias="",
field_is_nullable="NULLABLE", field_is_required="NON_REQUIRED", field_domain="")[0]

        # Process: Add Source Info (Calculate Field) (management)
        if herenavlog_merge_inter:
            RoadNetwork_src_Info_ = arcpy.management.CalculateField(in_table=RoadNetwork_3_,
field="Src", expression="wc(!wayclass!)", expression_type="PYTHON3", code_block="""def wc(way-
class):
    if wayclass == None:
        return 'here'
    else:
        return 'navlog'""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]
```

```python
        # Process: Repair Geometry (Repair Geometry) (management)
        if herenavlog_merge_inter:
            Repaired_Input_Features = arcpy.management.RepairGeometry(in_features=RoadNet-
work_src_Info_, delete_null="DELETE_NULL", validation_method="ESRI")[0]

        # Process: Create Feature Dataset (Create Feature Dataset) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Roads = arcpy.management.CreateFeatureDataset(out_dataset_path=Target_GDB,
out_name="Roads",                      spatial_reference="PROJCS[\"ETRS_1989_UTM_Zone_32N\",GE-
OGCS[\"GCS_ETRS_1989\",DATUM[\"D_ETRS_1989\",SPHE-
ROID[\"GRS_1980\",6378137.0,298.257222101]],PRIMEM[\"Greenwich\",0.0],UNIT[\"De-
gree\",0.0174532925199433]],PROJECTION[\"Transverse_Mercator\"],PARAMETER[\"False_East-
ing\",500000.0],PARAMETER[\"False_Northing\",0.0],PARAMETER[\"Central_Meridian\",9.0],PARAME-
TER[\"Scale_Factor\",0.9996],PARAMETER[\"Latitude_Of_Origin\",0.0],UNIT[\"Meter\",1.0]];-
5120900 -9998100 10000;-100000 10000;-100000 10000;0.001;0.001;0.001;IsHighPrecision")[0]

        # Process: New FC for Network (Feature Class To Feature Class) (conversion)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer = arcpy.conversion.FeatureClassToFeatureClass(in_features=Re-
paired_Input_Features, out_path=Roads, out_name="RoadNetwork_Layer", where_clause="",
field_mapping="id \"id\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,id,-1,-1;link_id \"link_id\" true true false 8 Double 0
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0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,comment,0,128;MERGE_SRC
\"MERGE_SRC\"     true     true     false     255     Text     0     0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,MERGE_SRC,0,255;MERGE_SRC_1 \"MERGE_SRC\" true true false 255
Text        0        0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,MERGE_SRC_1,0,255;Shape_Length   \"Shape_Length\"   false   true   true   8   Double   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,Shape_Length,-1,-1;Src
\"Src\" true true false 512 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,Src,0,512", config_keyword="")[0]


        # Process: Calculate Field with traveltime (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Updated_Input_Table = arcpy.management.CalculateField(in_table=RoadNetwork_Layer,
field="traveltime",     expression="tr(!speed_cat!,!wayclass!,!Shape_Length!)",     expres-
sion_type="PYTHON3", code_block="""def tr(speed,way,length):
    if speed == '1' and way is None:
        return length / 36
    elif speed == '2' and way is None:
        return length / 30
    elif speed == '3' and way is None:
        return length / 27
    elif speed == '4' and way is None:
        return length / 23
    elif speed == '5' and way is None:
        return length / 16
    elif speed == '6' and way is None:
        return length / 11
    elif speed == '7' and way is None:
        return length / 8
    elif speed == '8' and way is None:
        return length / 7
    elif speed is None and (way == 1 or way == 2 or way == 9 or way == 91):
        return length / 8
    elif speed is None and (way == 3 or way == 5):
        return length / 7
    else:
        return None""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]


        # Process: Add Field prioClass (Add Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer_2_  =  arcpy.management.AddField(in_table=Updated_Input_Table,
field_name="prioClass",     field_type="SHORT",     field_precision=None,     field_scale=None,
```

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field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field prioClass (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer_3_    =    arcpy.management.CalculateField(in_table=RoadNet-
work_Layer_2_, field="prioClass", expression="pc(!func_class!)", expression_type="PYTHON3",
code_block="""def pc(fun):
    if fun == '1':
        return 1
    elif fun == '2':
        return 2
    elif fun is None:
        return 4
    else:
        return 3""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Create Network Dataset From Template (Create Network Dataset From Template)
(na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            RoadNetwork_2_   =   arcpy.na.CreateNetworkDatasetFromTemplate(network_dataset_tem-
plate=Network_Template_XML_, output_feature_dataset=Roads)[0]

        # Process: Build Network (Build Network) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            Updated_Input_Network_Dataset  =  arcpy.na.BuildNetwork(in_network_dataset=RoadNet-
work_2_)[0]

        # Process: Make Closest Facility Analysis Layer (Make Closest Facility Analysis Layer)
(na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP   =   arcpy.na.MakeClosestFacilityAnalysisLayer(network_data_source=Up-
dated_Input_Network_Dataset, layer_name="StationToRP", travel_mode="TravelTime", travel_direc-
tion="TO_FACILITIES",    cutoff=None,    number_of_facilities_to_find=3,    time_of_day="",
time_zone="LOCAL_TIME_AT_LOCATIONS",  time_of_day_usage="START_TIME",  line_shape="ALONG_NET-
WORK",  accumulate_attributes=["Length",  "Traveltime"],  generate_directions_on_solve="DIREC-
TIONS")[0]

        # Process: Add Facilities (Stations) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_2_    =    arcpy.na.AddLocations(in_network_analysis_layer=StationToRP,
sub_layer="Facilities", in_table=Stations, field_mappings="Name Name #", search_tolerance="5000
Meters",  sort_field="",  search_criteria=[],  match_type="MATCH_TO_CLOSEST",  append="CLEAR",
snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_restricted_elements="EX-
CLUDE", search_query=[])[0]

        # Process: Add Incidents (RP) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_3_  =  arcpy.na.AddLocations(in_network_analysis_layer=StationToRP_2_,
sub_layer="Incidents", in_table=RescuePoints, field_mappings="", search_tolerance="5000 Me-
ters",  sort_field="",  search_criteria=[],  match_type="MATCH_TO_CLOSEST",  append="APPEND",
snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_restricted_elements="EX-
CLUDE", search_query=[])[0]

        # Process: Solve (Solve) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_Layer, Solve_Succeeded = arcpy.na.Solve(in_network_analysis_layer=Sta-
tionToRP_3_, ignore_invalids="SKIP", terminate_on_solve_error="TERMINATE", simplification_tol-
erance="", overrides="")

        # Process: Select_Data_From_StationToRP_2_ (Select Data)
        # Select Data Utility is not implemented

        # Process: Calculate IncidentID (2) (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            Incidents_4_   =   arcpy.management.CalculateField(in_table=Incidents_StationToRP,
field="IncidentID", expression="!OBJECTID!", expression_type="PYTHON3", code_block="",
field_type="SHORT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select_Data_From_StationToRP (Select Data)
        # Select Data Utility is not implemented

        # Process: Make Table (Table To Table) (conversion)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes_3_       =       arcpy.conversion.TableToTable(in_rows=RoutesStationRP,
out_path=Target_GDB, out_name="RoutesTimes", where_clause="", field_mapping="FacilityID \"Fa-
cilityID\" true true true 4 Long 0 0,First,#,Closest Facility\\Routes,FacilityID,-1,-1;Facili-
tyRank     \"FacilityRank\"     true     true     true     4     Long     0     0,First,#,Closest
```

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Facility\\Routes,FacilityRank,-1,-1;Name \"Name\" true true true 1024 Text 0 0,First,#,Closest
Facility\\Routes,Name,0,1024;IncidentID \"IncidentID\" true true true 4 Long 0 0,First,#,Closest
Facility\\Routes,IncidentID,-1,-1;Total_Length \"Total_Length\" true true true 8 Double 0
0,First,#,Closest  Facility\\Routes,Total_Length,-1,-1;Total_Traveltime  \"Total_Traveltime\"
true true true 8 Double 0 0,First,#,Closest Facility\\Routes,Total_Traveltime,-1,-1;Shape_Length
\"Shape_Length\" false true true 8 Double 0 0,First,#,Closest Facility\\Routes,Shape_Length,-
1,-1", config_keyword="")[0]

        # Process: Add Field for Station ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RouteTimesTable_2_  =  arcpy.management.CalculateField(in_table=RoutesTimes_3_,
field="Wache", expression="!Name!.split(' - ')[1]", expression_type="PYTHON3", code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Add Field for Rescue Point ID (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes_5_  =  arcpy.management.AddField(in_table=RouteTimesTable_2_,
field_name="RP_ID",  field_type="LONG",  field_precision=None,  field_scale=None,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Fill Field for Rescue Point ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes  =  arcpy.management.CalculateField(in_table=RoutesTimes_5_,
field="RP_ID",  expression="!IncidentID!",  expression_type="PYTHON3",  code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Join Features (2) (Join Features) (gapro)
        RP_Times_Wachen_8_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen"
        if  Repaired_Input_Features  and  RoadNetwork_Layer_3_  and  RoutesTimes  and  Station-
ToRP_Layer and herenavlog_merge_inter:
            with  arcpy.EnvManager(extent="DEFAULT",  outputCoordinateSystem="PRO-
JCS["ETRS_1989_UTM_Zone_32N",GEOGCS["GCS_ETRS_1989",DATUM["D_ETRS_1989",SPHE-
ROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["De-
gree",0.0174532925199433]],PROJECTION["Transverse_Mercator"],PARAMETER["False_East-
ing",500000.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",9.0],PARAME-
TER["Scale_Factor",0.9996],PARAMETER["Latitude_Of_Origin",0.0],UNIT["Meter",1.0]]"):
                arcpy.gapro.JoinFeatures(target_layer=Incidents_4_,  join_layer=RoutesTimes,
output=RP_Times_Wachen_8_,  join_operation="JOIN_ONE_TO_MANY",  spatial_relationship="",  spa-
tial_near_distance="", temporal_relationship="", temporal_near_distance="", attribute_relation-
ship=[["IncidentID", "IncidentID"]], summary_fields=[], join_condition="", keep_all_target_fea-
tures="")

        # Process: If Field Exists (If Field Exists) ()
        True_260,  False_261  =  #  NOT  IMPLEMENTED(in_table=RescuePoints,
field_test_type="MUST_HAVE_AT_LEAST_ONE_FIELD", field=["RP_ID"])

        # Process: Add Field RP_ID (Add Field) (management)
        Rettungpunkte_Field_ID  =  arcpy.management.AddField(in_table=RescuePoints,
field_name="RP_ID",  field_type="LONG",  field_precision=None,  field_scale=None,
field_length=None,  field_alias="",  field_is_nullable=False_261,  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Write RP_ID (Calculate Field) (management)
        if True_260:
            Rettungpsunkte_mit_ID  =  arcpy.management.CalculateField(in_ta-
ble=Rettungpunkte_Field_ID, field="RP_ID", expression="!OBJECTID!", expression_type="PYTHON3",
code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Snap (Snap) (edit)
        if Repaired_Input_Features and RoadNetwork_Layer and True_260 and herenavlog_merge_in-
ter:
            RettungspunkteIDSnap = arcpy.edit.Snap(in_features=Rettungpsunkte_mit_ID, snap_en-
vironment=[[RoadNetwork_Layer, "VERTEX", "20 Meters"], [RoadNetwork_Layer, "EDGE", "15 Meters"],
[RoadNetwork_Layer, "END", "30 Meters"]])[0]

        # Process: Join Field of Rescue Point ID to get Name (Join Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_15_  =  arcpy.management.JoinField(in_data=RP_Times_Wachen_8_,
in_field="RP_ID", join_table=RettungspunkteIDSnap, join_field="RP_ID", fields=["nr"])[0]

        # Process: Delete Field (2) (Delete Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
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            RP_Times_Wachen_10_  =  arcpy.management.DeleteField(in_table=RP_Times_Wachen_15_,
drop_field=["Name", "TargetFacilityCount", "SourceID", "SourceOID", "SideOfEdge", "CurbAp-
proach", "Status", "SnapX", "SnapY", "SnapZ", "DistanceToNetworkInMeters", "Attr_Length",
"Attr_Traveltime", "Cutoff_Length", "Cutoff_Traveltime", "OBJECTID1", "join_Name", "join_Inci-
dentID"])[0]

        # Process: Add Field TimeMinutes (2) (Add Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_11_  =  arcpy.management.AddField(in_table=RP_Times_Wachen_10_,
field_name="TimeMinutes",    field_type="DOUBLE",    field_precision=6,    field_scale=2,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Add Field TimeSeconds (2) (Add Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_12_  =  arcpy.management.AddField(in_table=RP_Times_Wachen_11_,
field_name="TimeSeconds",    field_type="DOUBLE",    field_precision=6,    field_scale=2,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Seconds (2) (Calculate Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_13_   =   arcpy.management.CalculateField(in_table=RP_Times_Wa-
chen_12_,   field="TimeSeconds",   expression="round(float(!Total_Traveltime!),2)",   expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Calculate Minutes (2) (Calculate Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_14_   =   arcpy.management.CalculateField(in_table=RP_Times_Wa-
chen_13_, field="TimeMinutes", expression="round((float(!Total_Traveltime!) / 60),2)", expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select Rank 1 (2) (Select) (analysis)
        RP_Times_Wachen_Select_2_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_1"
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                 out_fea-
ture_class=RP_Times_Wachen_Select_2_, where_clause="FacilityRank = 1")

        # Process: Select Rank 2 (2) (Select) (analysis)
        RP_Times_Wachen_Select_4_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_2"
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                 out_fea-
ture_class=RP_Times_Wachen_Select_4_, where_clause="FacilityRank = 2")

        # Process: Spatial Join with Summarizing Fields (3) (Spatial Join) (analysis)
        RP_Fahrzeiten_join_3_   =   "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzei-
ten_join"
        if RP_Times_Wachen_Select_2_ and Repaired_Input_Features and RoadNetwork_Layer and Road-
Network_Layer_3_ and RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.SpatialJoin(target_features=RP_Times_Wachen_Select_2_,  join_fea-
tures=RP_Times_Wachen_Select_4_,    out_feature_class=RP_Fahrzeiten_join_3_,    join_opera-
tion="JOIN_ONE_TO_MANY", join_type="KEEP_COMMON", field_mapping="ObjectID \"ObjectID\" true
false false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,ObjectID,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,ObjectID,-1,-1;PosAlong \"PosAlong\" true false false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,PosAlong,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,PosAlong,-1,-1;IncidentID  \"Inciden-
tID\"   true   true   false   2   Short   0   0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,IncidentID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,IncidentID,-1,-1;Wache \"Wache\" true true false
10485758 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,Wache,0,10485758,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,Wache,0,10485758;RP_ID \"RP_ID\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,RP_ID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,RP_ID,-1,-1;nr \"nr\" true true false 25 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,nr,0,25,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,nr,0,25;FacilityID \"FacilityID\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,FacilityID,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,FacilityID,-1,-1;TimeSeconds
\"TimeSeconds\"       true       true       false       255       Text       0
```

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0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,TimeSec-
onds,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,TimeSeconds,-
1,-1;TimesMinutes \"TimesMinutes\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,TimeMinutes,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,TimeMinutes,-1,-1;Total_Traveltime
\"Total_Traveltime\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,Total_Traveltime,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,Total_Traveltime,-1,-1;Total_Length        \"To-
tal_Length\"    true    true    false    255    Text    0    0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,Total_Length,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,Total_Length,-1,-1;FacilityRank \"FacilityRank\"
true     true     false     255     Text     0     0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,FacilityRank,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,FacilityRank,-1,-1", match_option="INTERSECT",
search_radius="1 Meters", distance_field_name="")

        # Process: Select Rank 3 (2) (Select) (analysis)
        RP_Times_Wachen_Select1_2_              =              "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3"
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                out_fea-
ture_class=RP_Times_Wachen_Select1_2_, where_clause="FacilityRank = 3")

        # Process: Spatial Join with Summarizing Fields (4) (Spatial Join) (analysis)
        RP_Fahrzeiten_join_4_      =      "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Sin-
gle_RP_w_Times"
        if RP_Fahrzeiten_join_3_ and RP_Times_Wachen_Select1_2_ and RP_Times_Wachen_Select_2_
and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.SpatialJoin(target_features=RP_Fahrzeiten_join_3_,        join_fea-
tures=RP_Times_Wachen_Select1_2_,       out_feature_class=RP_Fahrzeiten_join_4_,    join_opera-
tion="JOIN_ONE_TO_MANY", join_type="KEEP_COMMON", field_mapping="Join_Count \"Join_Count\" true
true    false    4    Long    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,Join_Count,-1,-1;PosAlong    \"PosAlong\"   true   true   false   8   Double   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,PosAlong,-1,-
1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,PosAlong,-1,-1;Inci-
dentID \"IncidentID\" true true false 2 Short 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,IncidentID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,IncidentID,-1,-1;Wache \"Wache\" true true false
10485758    Text    0    0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,Wache,0,10485758,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_3,Wache,0,10485758;RP_ID \"RP_ID\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,RP_ID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,RP_ID,-1,-1;nr \"nr\" true true false 25 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,nr,0,25,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,nr,0,25;FacilityID  \"FacilityID\"
true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,FacilityID,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_3,FacilityID,-1,-1;TimeSeconds   \"TimeSeconds\"   true   true   false   255   Text   0
0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,TimeSec-
onds,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,TimeSeconds,-
1,-1;TimesMinutes \"TimesMinutes\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,TimesMinutes,0,255,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,TimeMinutes,-1,-1;Total_Traveltime
\"Total_Traveltime\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,Total_Traveltime,0,255,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,Total_Traveltime,-1,-1;Total_Length        \"To-
tal_Length\"    true    true    false    255    Text    0    0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,Total_Length,0,255,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,Total_Length,-1,-1;FacilityRank \"FacilityRank\"
true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,FacilityRank,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_3,FacilityRank,-1,-1", match_option="INTERSECT", search_radius="1 Meters", dis-
tance_field_name="")

        # Process: Delete Identical (2) (Delete Identical) (management)
        if RP_Fahrzeiten_join_3_ and RP_Times_Wachen_Select1_2_ and RP_Times_Wachen_Select_2_
and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
StationToRP_Layer and True_260 and herenavlog_merge_inter:
            Single_RP_w_Times_2_    =    arcpy.management.DeleteIdentical(in_dataset=RP_Fahr-
zeiten_join_4_, fields=["RP_ID"], xy_tolerance="", z_tolerance=0)[0]

        # Process: Select no Autobahn (Select) (analysis)
        Here_w_o_Autobahn_2_     =        "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work_wo_Autobahn"
        if Repaired_Input_Features and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RoadNetwork_Layer_3_,                out_fea-
ture_class=Here_w_o_Autobahn_2_, where_clause="st_name <> 'A3' And st_name <> 'A5' And st_name
```

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<> 'A6' And st_name <> 'A7' And st_name <> 'A8' And st_name <> 'A61' And st_name <> 'A80' And
st_name <> 'A81' And st_name <> 'A82' And st_name <> 'A83' And st_name <> 'A84' And st_name <>
'A85' And st_name <> 'A86' And st_name <> 'A87' And st_name <> 'A88' And st_name <> 'A89' And
st_name <> 'A96' And st_name <> 'A98' And st_name <> 'A654' And st_name <> 'A656' And st_name
<> 'A659' And st_name <> 'A828' And st_name <> 'A831' And st_name <> 'A833' And st_name <>
'A834' And st_name <> 'A840' And st_name <> 'A860' And st_name <> 'A861' And st_name <> 'A862'
And st_name <> 'A863' And st_name <> 'A863' And st_name <> 'A864' And st_name <> 'A895' And
st_name <> 'A655' Or st_name IS NULL")

        # Process: Select Roads Only in Forests (Select Layer By Location) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Roads_in_Forests, Output_Layer_Names, Count = arcpy.management.SelectLayerByLoca-
tion(in_layer=[Here_w_o_Autobahn_2_], overlap_type="INTERSECT", select_features=Forest_in_BW,
search_distance="", selection_type="NEW_SELECTION", invert_spatial_relationship="NOT_INVERT")

        # Process: Make Closest Facility Analysis Layer (2) (Make Closest Facility Analysis
Layer) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and herenavlog_merge_inter:
            RPToPOINTs = arcpy.na.MakeClosestFacilityAnalysisLayer(network_data_source=Up-
dated_Input_Network_Dataset, layer_name="RPToPOINTs", travel_mode="TravelTime", travel_direc-
tion="TO_FACILITIES", cutoff=None, number_of_facilities_to_find=3, time_of_day="",
time_zone="LOCAL_TIME_AT_LOCATIONS", time_of_day_usage="START_TIME", line_shape="NO_LINES", ac-
cumulate_attributes=["Length", "Traveltime"], generate_directions_on_solve="DIRECTIONS")[0]

        # Process: Add Facilities (RP) (2) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            RPToPOINTs_1_ = arcpy.na.AddLocations(in_network_analysis_layer=RPToPOINTs,
sub_layer="Facilities", in_table=Rettungpsunkte_mit_ID, field_mappings="", search_toler-
ance="5000 Meters", sort_field="", search_criteria=[], match_type="MATCH_TO_CLOSEST", ap-
pend="CLEAR", snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_re-
stricted_elements="EXCLUDE", search_query=[])[0]

        # Process: Generate Points Along Lines (Generate Points Along Lines) (management)
        PointsAlongLines = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlongLines"
        if Repaired_Input_Features and herenavlog_merge_inter:
            arcpy.management.GeneratePointsAlongLines(Input_Features=Roads_in_Forests, Out-
put_Feature_Class=PointsAlongLines, Point_Placement="DISTANCE", Distance=Distance, Percent-
age=None, Include_End_Points="")

        # Process: Add Field for permanent ID (Add Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_2_ = arcpy.management.AddField(in_table=PointsAlongLines,
field_name="StatID", field_type="LONG", field_precision=None, field_scale=None,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field with permanent ID (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_3_ = arcpy.management.CalculateField(in_table=PointsAlong-
Lines_2_, field="StatID", expression="!OBJECTID!", expression_type="PYTHON3", code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Delete Field (Delete Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_4_ = arcpy.management.DeleteField(in_table=PointsAlongLines_3_,
drop_field=["Shape_Length", "Shape_length_1", "ORIG_FID", "id", "link_id", "st_name",
"feat_id", "st_langcd", "num_stnmes", "st_nm_pref", "st_typ_bef", "st_nm_base", "st_nm_suff",
"st_typ_aft", "st_typ_att", "addr_type", "l_refaddr", "l_nrefaddr", "l_addrsch", "l_addrform",
"r_refaddr", "r_nrefaddr", "r_addrsch", "r_addrform", "ref_in_id", "nref_in_id", "n_shapepnt",
"func_class", "speed_cat", "fr_spd_lim", "to_spd_lim", "to_lanes", "from_lanes", "enh_geom",
"lane_cat", "divider", "dir_travel", "l_area_id", "r_area_id", "l_postcode", "r_postcode",
"l_numzones", "r_numzones", "num_ad_rng", "ar_auto", "ar_bus", "ar_taxis", "ar_carpool",
"ar_pedest", "ar_trucks", "ar_traff", "ar_deliv", "ar_emerveh", "ar_motor", "paved", "private",
"frontage", "bridge", "tunnel", "ramp", "tollway", "poiaccess", "contracc", "roundabout", "in-
terinter", "undeftraff", "ferry_type", "multidigit", "maxattr", "spectrfig", "indescrib", "ma-
noeuvre", "dividerleg", "inprocdata", "full_geom", "urban", "route_type", "dironsign", "expli-
catbl", "nameonrdsn", "postalname", "stalename", "vanityname", "junctionnm", "exitname", "sce-
nic_rt", "scenic_nm", "fourwhldr", "coverind", "plot_road", "reversible", "expr_lane", "car-
poolrd", "phys_lanes", "ver_trans", "pub_access", "low_mblty", "priorityrd", "spd_lm_src", "ex-
pand_inc", "trans_area", "source", "target", "start_id", "end_id", "traveltime", "e_speed",
"shape_leng", "geom_Length", "gid", "oid_1", "fid", "wayclass", "name", "concr", "tragf", "gra-
dient", "block", "clearwidth", "clearheigh", "lanewidth", "tonnage", "comment", "MERGE_SRC",
"MERGE_SRC_1", "Src", "prioClass"])[0]

        # Process: Add Spatial Index (Add Spatial Index) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
```

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        Updated_Input_Features = arcpy.management.AddSpatialIndex(in_features=PointsAlong-
Lines_4_, spatial_grid_1=0, spatial_grid_2=0, spatial_grid_3=0)[0]

        # Process: Add Incidents (POINTS) (2) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            RPToPOINTs_2_   =   arcpy.na.AddLocations(in_network_analysis_layer=RPToPOINTs_1_,
sub_layer="Incidents", in_table=Updated_Input_Features, field_mappings="Name StatID #;TargetFa-
cilityCount # #;CurbApproach # 0;Attr_Length # 0;Attr_Traveltime # 0;Cutoff_Length # #;Cut-
off_Traveltime  #  #",  search_tolerance="5000  Meters",  sort_field="",  search_criteria=[],
match_type="MATCH_TO_CLOSEST", append="CLEAR", snap_to_position_along_network="SNAP", snap_off-
set="0 Meters", exclude_restricted_elements="EXCLUDE", search_query=[])[0]

        # Process: Solve RPToPOINTS (Solve) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Network_Analyst_Layer_RPToPOINTS,   Solve_Succeeded_2_   =   arcpy.na.Solve(in_net-
work_analysis_layer=RPToPOINTs_2_,  ignore_invalids="SKIP",  terminate_on_solve_error="TERMI-
NATE", simplification_tolerance="", overrides="")

        # Process: Select_Data (Select Data)
        # Select Data Utility is not implemented

        # Process: Table To Table (Table To Table) (conversion)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            POINTTimes = arcpy.conversion.TableToTable(in_rows=RoutesRPToPOINTS, out_path=Tar-
get_GDB, out_name="POINTTimes", where_clause="", field_mapping="Name \"Name\" true true true
1024 Text 0 0,First,#,OD Cost Matrix 2\\Lines,Name,0,1024;Total_Length \"Total_Length\" true
true true 8 Double 0 0,First,#,OD Cost Matrix 2\\Lines,Total_Length,-1,-1;Total_Traveltime \"To-
tal_Traveltime\" true true true 8 Double 0 0,First,#,OD Cost Matrix 2\\Lines,Total_Traveltime,-
1,-1;Shape_Length  \"Shape_Length\"  false  true  true  8  Double  0  0,First,#,OD  Cost  Matrix
2\\Lines,Shape_Length,-1,-1", config_keyword="")[0]

        # Process: Add Field POINT_ID (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Updated_Input_Table_2_      =      arcpy.management.AddField(in_table=POINTTimes,
field_name="POINT_ID",     field_type="LONG",     field_precision=None,     field_scale=None,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Add Field RP_ID (2) (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Updated_Input_Table_3_    =    arcpy.management.AddField(in_table=Updated_Input_Ta-
ble_2_,   field_name="RP_ID",   field_type="LONG",   field_precision=None,   field_scale=None,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate RP_ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            with arcpy.EnvManager(extent="DEFAULT"):
            LinesTable_3_   =   arcpy.management.CalculateField(in_table=Updated_Input_Ta-
ble_3_,  field="RP_ID",  expression="(!Name!.split(' - ')[1]).split(' ')[1]",  expres-
sion_type="PYTHON3",  code_block="",  field_type="SHORT",  enforce_domains="NO_ENFORCE_DO-
MAINS")[0]

        # Process: Calculate  POINT_ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            with arcpy.EnvManager(extent="DEFAULT"):
            LinesTable_4_    =    arcpy.management.CalculateField(in_table=LinesTable_3_,
field="POINT_ID",     expression="!Name!.split(' - ')[0]",     expression_type="PYTHON3",
code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select (3) (Select) (analysis)
        RP_Times_WachenRP_Times_Wach                 =                 "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_WachenRP_Times_Wach2"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                 out_fea-
ture_class=RP_Times_WachenRP_Times_Wach, where_clause="FacilityRank = 1")

        # Process: Join Fields from RP_Incidents Table (Join Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
```

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        Updated_PointsAlongLines    =    arcpy.management.JoinField(in_data=LinesTable_4_,
in_field="RP_ID", join_table=RP_Times_WachenRP_Times_Wach, join_field="RP_ID", fields=["RP_ID",
"Total_Length", "Total_Traveltime", "nr", "Wache"])[0]

        # Process: Add Field Fastest_Travel (Add Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_2_    =    arcpy.management.AddField(in_table=Updated_PointsAlongLines,
field_name="Fastest_Travel",    field_type="DOUBLE",    field_precision=6,    field_scale=2,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field Fastest_Travel (sum of times) (Calculate Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_3_    =    arcpy.management.CalculateField(in_table=POINTTimes_2_,
field="Fastest_Travel",  expression="!Total_Traveltime!  +  !Total_Traveltime_1!",  expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Add Field for Ranking (Add Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_4_        =        arcpy.management.AddField(in_table=POINTTimes_3_,
field_name="Rank",        field_type="SHORT",        field_precision=None,        field_scale=None,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Fill new Field AddRank (AddRank) (NewToolbox)
        out = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\POINTTimes_AddRank"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            arcpy.NewToolbox.AddRank(tbl=POINTTimes_4_, out=out)

        # Process: Delete Fields not used (Delete Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_6_        =        arcpy.management.DeleteField(in_table=POINTTimes_4_,
drop_field=["Shape_Length", "RP_ID"])[0]

        # Process: Add Fields for Times (Add Fields (multiple)) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_5_ = arcpy.management.AddFields(in_table=POINTTimes_6_, field_descrip-
tion=[["ToRPLength", "DOUBLE", "ToRPLength", "", "", ""], ["ToRPTime", "DOUBLE", "ToRPTime",
"", "", ""], ["ToStationLength", "DOUBLE", "ToStationLength", "", "", ""], ["ToStationTime",
"DOUBLE", "ToStationTime", "", "", ""]])[0]

        # Process: Calculate Fields for Times (Calculate Fields (multiple)) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_8_ = arcpy.management.CalculateFields(in_table=POINTTimes_5_, expres-
sion_type="PYTHON3",  fields=[["ToRPLength",  "!Total_Length!"],  ["ToRPTime",  "!Total_Trav-
eltime!"], ["ToStationLength", "!Total_Length_1!"], ["ToStationTime", "!Total_Traveltime_1!"]],
code_block="", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Delete old Fields (Delete Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_7_        =        arcpy.management.DeleteField(in_table=POINTTimes_8_,
drop_field=["Total_Length", "Total_Traveltime", "Total_Length_1", "Total_Traveltime_1"])[0]

        # Process: Join Features (Join Features) (gapro)
        PointsAlongLines_Joined = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlong-
Lines_Joined"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            arcpy.gapro.JoinFeatures(target_layer=Updated_Input_Features,
join_layer=POINTTimes_7_,  output=PointsAlongLines_Joined,  join_operation="JOIN_ONE_TO_MANY",
spatial_relationship="",        spatial_near_distance="",        temporal_relationship="",
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        temporal_near_distance="", attribute_relationship=[["StatID", "POINT_ID"]], summary_fields=[],
        join_condition="", keep_all_target_features="")

        # Process: Select Fastest Solution Only (Select) (analysis)
        PointsAlongLines1stClass = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlong-
Lines1stClass"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            arcpy.analysis.Select(in_features=PointsAlongLines_Joined,                out_fea-
ture_class=PointsAlongLines1stClass, where_clause="Rank = 1")

        # Process: Multiple Ring Buffer (Multiple Ring Buffer) (analysis)
        MultipleBufferFromPoints = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\MultipleBuff-
erFromPoints"
        if PointsAlongLines1stClass and RP_Times_Wachen_14_ and Repaired_Input_Features and
RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter and out:
            arcpy.analysis.MultipleRingBuffer(Input_Features=PointsAlongLines1stClass,    Out-
put_Feature_class=MultipleBufferFromPoints, Distances=[10, 20, 30, 40, 50, 60, 70, 80, 90, 100,
110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290,
300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400], Buffer_Unit="Meters", Field_Name="dis-
tance", Dissolve_Option="NONE", Outside_Polygons_Only="FULL")

        # Process: Add Field for Sum of Times: Rescue_Time (Add Field) (management)
        if PointsAlongLines1stClass and RP_Times_Wachen_14_ and Repaired_Input_Features and
RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter and out:
            MultipleBufferFromPoints_2_   =   arcpy.management.AddField(in_table=MultipleBuff-
erFromPoints,       field_name="Rescue_Time",       field_type="DOUBLE",       field_precision=None,
field_scale=None, field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_re-
quired="NON_REQUIRED", field_domain="")[0]

        # Process: Calculate Field Rescue_Time (Calculate Field) (management)
        if MultipleBufferFromPoints_2_ PointsAlongLines1stClass and RP_Times_Wachen_14_ and
Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter and out:
            MultipleBufferFromPoints_3_   =   arcpy.management.CalculateField(in_table=Multi-
pleBufferFromPoints_2_, field="Rescue_Time", expression="!distance! + !Fastest_Travel!", ex-
pression_type="PYTHON3",  code_block="",  field_type="TEXT",  enforce_domains="NO_ENFORCE_DO-
MAINS")[0]

        # Process: Join Features (3) (Join Features) (gapro)
        AccidentsWithTimes = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\AccidentsWithTimes"
        if MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and RP_Times_Wachen_14_ and
Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and  RoutesTimes  and
RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter and out:
            arcpy.gapro.JoinFeatures(target_layer=Accidents,          join_layer=MultipleBuff-
erFromPoints_3_, output=AccidentsWithTimes, join_operation="JOIN_ONE_TO_ONE", spatial_relation-
ship="INTERSECTS",   spatial_near_distance="",   temporal_relationship="",   temporal_near_dis-
tance="",  attribute_relationship=[],  summary_fields=[["Rescue_Time",  "MIN"]],  join_condi-
tion="", keep_all_target_features="")

        # Process: Select Layer By Location (2) (Select Layer By Location) (management)
        if AccidentsWithTimes and MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and
RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_
and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter
and out:
            Layer_With_Selection_2_, Output_Layer_Names_2_, Count_2_ = arcpy.management.Select-
LayerByLocation(in_layer=[MultipleBufferFromPoints_3_], overlap_type="INTERSECT", select_fea-
tures=Accidents,  search_distance="",  selection_type="NEW_SELECTION",  invert_spatial_relation-
ship="NOT_INVERT")

        # Process: Join Field (Join Field) (management)
        if AccidentsWithTimes and MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and
RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_
and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter
and out:
            RESULT_AccidentsWithTimes = arcpy.management.JoinField(in_data=AccidentsWithTimes,
in_field="MIN_Rescue_Time",  join_table=Layer_With_Selection_2_,  join_field="Rescue_Time",
fields=["nr", "ToRPLength", "ToRPTime", "ToStationLength", "ToStationTime", "Wache"])[0]

if __name__ == '__main__':
    # Global Environment settings
    with  arcpy.EnvManager(scratchWorkspace=r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb",  work-
space=r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb"):
        FahrzeitanalyseRettung(*argv[1:])
# -*- coding: utf-8 -*-
"""
```

```python
"""
Generated by ArcGIS ModelBuilder on : 2022-08-20 08:49:16
"""
import arcpy
from sys import argv
def #  NOT  IMPLEMENTED# Function Body not implemented

def FahrzeitanalyseRettung(RescuePoints, Here, NavLog, Target_GDB, Network_Template_XML_, Sta-
tions, Forest_in_BW, Distance="100 Meters", Accidents):  # FahrzeitanalyseRettung

    # To allow overwriting outputs change overwriteOutput option to True.
    arcpy.env.overwriteOutput = False

    # Check out any necessary licenses.
    arcpy.CheckOutExtension("Network")

    arcpy.ImportToolbox(r"c:\program   files\arcgis\pro\Resources\ArcToolbox\toolboxes\GeoAna-
lytics Desktop Tools.tbx")
    arcpy.ImportToolbox(r"c:\program files\arcgis\pro\Resources\ArcToolbox\toolboxes\Data Man-
agement Tools.tbx")
    arcpy.ImportToolbox(r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb\RescueTimes.tbx")
    arcpy.ImportToolbox(r"c:\program   files\arcgis\pro\Resources\ArcToolbox\toolboxes\Analysis
Tools.tbx")
    # Model Environment settings
    with arcpy.EnvManager(extent="DEFAULT"):

        # Process: Select Autobahnen (Select) (analysis)
        Autobahnen_Only = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_au-
tobahn"
        arcpy.analysis.Select(in_features=Here,              out_feature_class=Autobahnen_Only,
where_clause="st_name = 'A3' Or st_name = 'A5' Or st_name = 'A6' Or st_name = 'A7' Or st_name =
'A8' Or st_name = 'A61' Or st_name = 'A80' Or st_name = 'A81' Or st_name = 'A82' Or st_name =
'A83' Or st_name = 'A84' Or st_name = 'A85' Or st_name = 'A86' Or st_name = 'A87' Or st_name =
'A88' Or st_name = 'A89' Or st_name = 'A96' Or st_name = 'A98' Or st_name = 'A654' Or st_name =
'A656' Or st_name = 'A659' Or st_name = 'A828' Or st_name = 'A831' Or st_name = 'A833' Or st_name
= 'A834' Or st_name = 'A840' Or st_name = 'A860' Or st_name = 'A861' Or st_name = 'A862' Or
st_name = 'A863' Or st_name = 'A863' Or st_name = 'A864' Or st_name = 'A895' Or st_name =
'A655'")


        # Process: Select (Select) (analysis)
        Here_w_o_Autobahn = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select"
        arcpy.analysis.Select(in_features=Here,             out_feature_class=Here_w_o_Autobahn,
where_clause="st_name <> 'A3' And st_name <> 'A5' And st_name <> 'A6' And st_name <> 'A7' And
st_name <> 'A8' And st_name <> 'A61' And st_name <> 'A80' And st_name <> 'A81' And st_name <>
'A82' And st_name <> 'A83' And st_name <> 'A84' And st_name <> 'A85' And st_name <> 'A86' And
st_name <> 'A87' And st_name <> 'A88' And st_name <> 'A89' And st_name <> 'A96' And st_name <>
'A98' And st_name <> 'A654' And st_name <> 'A656' And st_name <> 'A659' And st_name <> 'A828'
And st_name <> 'A831' And st_name <> 'A833' And st_name <> 'A834' And st_name <> 'A840' And
st_name <> 'A860' And st_name <> 'A861' And st_name <> 'A862' And st_name <> 'A863' And st_name
<> 'A863' And st_name <> 'A864' And st_name <> 'A895' And st_name <> 'A655' Or st_name IS NULL")


        # Process: Snap NavLog on Here (Snap) (edit)
        Snapped_NavLog = arcpy.edit.Snap(in_features=NavLog, snap_environment=[[Here_w_o_Auto-
bahn, "END", "20 Meters"], [Here_w_o_Autobahn, "VERTEX", "15 Meters"], [Here_w_o_Autobahn,
"EDGE", "10 Meters"]])[0]

        # Process: Pairwise Intersect (Pairwise Intersect) (analysis)
        LineIntersections_as_Points = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\LineInter-
sections"
        arcpy.analysis.PairwiseIntersect(in_features=[Snapped_NavLog,      Here_w_o_Autobahn],
out_feature_class=LineIntersections_as_Points,   join_attributes="ALL",   cluster_tolerance="",
output_type="POINT")

        # Process: Split Here at NavLog Intersection (Split Line at Point) (management)
        Here_w_o_Autobahn_incl_NavLog_intersections       =       "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine"
        arcpy.management.SplitLineAtPoint(in_features=Here_w_o_Autobahn,          point_fea-
tures=LineIntersections_as_Points,    out_feature_class=Here_w_o_Autobahn_incl_NavLog_intersec-
tions, search_radius="2 Meters")

        # Process: Merge (Merge) (management)
        herenavlog_merge_inter       =       "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter"
        arcpy.management.Merge(inputs=[Here_w_o_Autobahn_incl_NavLog_intersections,
Snapped_NavLog], output=herenavlog_merge_inter, field_mappings="id \"id\" true true false 4 Long
0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,id,-1,-
1;source  \"source\"  true  true  false  4  Long  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,source,-1,-1;target  \"target\"  true  true
false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,target,-1,-1;start_id     \"start_id\"     true     true     false     4     Long     0
```

0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,start_id,-
1,-1;end_id \"end_id\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,end_id,-1,-1;traveltime \"traveltime\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,traveltime,-1,-1;e_speed \"e_speed\" true true false 4 Long 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,e_speed,-
1,-1;shape_leng \"shape_leng\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,shape_leng,-1,-1;geom_Length \"geom_Length\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,geom_Length,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,geom_length,-1,-1;link_id \"link_id\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,link_id,-
1,-1;st_name \"st_name\" true true false 120 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_name,0,120;feat_id \"feat_id\" true true
false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,feat_id,-1,-1;st_langcd \"st_langcd\" true true false 3 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,st_langcd,0,3;num_stnmes \"num_stnmes\" true true false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,num_stnmes,-1,-1;st_nm_pref
\"st_nm_pref\" true true false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_nm_pref,0,6;st_typ_bef \"st_typ_bef\"
true true false 50 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,st_typ_bef,0,50;st_nm_base \"st_nm_base\" true true false 70 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,st_nm_base,0,70;st_nm_suff \"st_nm_suff\" true true false 6 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_nm_suff,0,6;st_typ_aft
\"st_typ_aft\" true true false 50 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,st_typ_aft,0,50;st_typ_att \"st_typ_att\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,st_typ_att,0,1;addr_type \"addr_type\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,addr_type,0,1;l_refaddr \"l_refaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_refaddr,0,10;l_nrefaddr
\"l_nrefaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_nrefaddr,0,10;l_addrsch \"l_addrsch\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,l_addrsch,0,1;l_addrform \"l_addrform\" true true false 2 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_ad-
drform,0,2;r_refaddr \"r_refaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_refaddr,0,10;r_nrefaddr \"r_nrefaddr\"
true true false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,r_nrefaddr,0,10;r_addrsch \"r_addrsch\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_ad-
drsch,0,1;r_addrform \"r_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_addrform,0,2;ref_in_id \"ref_in_id\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ref_in_id,-1,-1;nref_in_id \"nref_in_id\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,nref_in_id,-1,-1;n_shapepnt \"n_shapepnt\" true true false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,n_shapepnt,-1,-1;func_class
\"func_class\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,func_class,0,1;speed_cat \"speed_cat\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,speed_cat,0,1;fr_spd_lim \"fr_spd_lim\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,fr_spd_lim,-1,-1;to_spd_lim \"to_spd_lim\" true true false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,to_spd_lim,-1,-1;to_lanes
\"to_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,to_lanes,-1,-1;from_lanes \"from_lanes\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,from_lanes,-1,-1;enh_geom \"enh_geom\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,enh_geom,0,1;lane_cat \"lane_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,lane_cat,0,1;divider \"divider\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,divider,0,1;dir_travel \"dir_travel\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,dir_travel,0,1;l_area_id \"l_area_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_area_id,-1,-1;r_area_id
\"r_area_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_area_id,-1,-1;l_postcode \"l_postcode\"
true true false 11 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,l_postcode,0,11;r_postcode \"r_postcode\" true true false 11 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_post-
code,0,11;l_numzones \"l_numzones\" true true false 8 Double 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,l_numzones,-1,-1;r_numzones
\"r_numzones\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,r_numzones,-1,-1;num_ad_rng \"num_ad_rng\"
true true false 8 Double 0

0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,num_ad_rng,-1,-1;ar_auto \"ar_auto\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_auto,0,1;ar_bus   \"ar_bus\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ar_bus,0,1;ar_taxis \"ar_taxis\" true true false 1 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_taxis,0,1;ar_carpool
\"ar_carpool\"   true   true   false   1   Text   0   0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_carpool,0,1;ar_pedest \"ar_pedest\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ar_pedest,0,1;ar_trucks   \"ar_trucks\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ar_trucks,0,1;ar_traff \"ar_traff\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_traff,0,1;ar_deliv   \"ar_de-
liv\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,ar_deliv,0,1;ar_emerveh \"ar_emerveh\" true   true   false   1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,ar_emerveh,0,1;ar_motor \"ar_motor\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ar_motor,0,1;paved \"paved\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,paved,0,1;private \"private\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,private,0,1;frontage \"frontage\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,frontage,0,1;bridge \"bridge\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,bridge,0,1;tunnel \"tunnel\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,tunnel,0,1;ramp \"ramp\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,ramp,0,1;tollway \"tollway\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,tollway,0,1;poiaccess   \"poiaccess\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,poi-
access,0,1;contracc \"contracc\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,contracc,0,1;roundabout \"roundabout\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,roundabout,0,1;interinter   \"interinter\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,interin-
ter,0,1;undeftraff \"undeftraff\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,undeftraff,0,1;ferry_type   \"ferry_type\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ferry_type,0,1;multidigit   \"multidigit\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,multi-
digit,0,1;maxattr \"maxattr\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,maxattr,0,1;spectrfig \"spectrfig\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,spectrfig,0,1;indescrib \"indescrib\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,indescrib,0,1;manoeuvre \"manoeu-
vre\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_SplitLine,manoeuvre,0,1;dividerleg \"dividerleg\" true   true   false   1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,divider-
leg,0,1;inprocdata \"inprocdata\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,inprocdata,0,1;full_geom \"full_geom\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,full_geom,0,1;urban \"urban\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,urban,0,1;route_type
\"route_type\"   true   true   false   1   Text   0   0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,route_type,0,1;dironsign \"dironsign\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,dironsign,0,1;explicatbl   \"explicatbl\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,expli-
catbl,0,1;nameonrdsn \"nameonrdsn\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,nameonrdsn,0,1;postalname   \"postalname\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,postalname,0,1;stalename   \"stalename\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,stale-
name,0,1;vanityname \"vanityname\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,vanityname,0,1;junctionnm   \"junctionnm\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,junctionnm,0,1;exitname   \"exitname\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,exit-
name,0,1;scenic_rt \"scenic_rt\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,scenic_rt,0,1;scenic_nm \"scenic_nm\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,scenic_nm,0,1;fourwhldr   \"fourwhldr\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,four-
whldr,0,1;coverind \"coverind\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,coverind,0,2;plot_road   \"plot_road\"   true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,plot_road,0,1;reversible   \"reversible\"   true   true   false   1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,reversi-
ble,0,1;expr_lane   \"expr_lane\"   true   true   false   1   Text   0

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,expr_lane,0,1;carpoolrd \"carpoolrd\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,carpoolrd,0,1;phys_lanes
\"phys_lanes\"    true    true    false 8    Double  0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,phys_lanes,-1,-1;ver_trans     \"ver_trans\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,ver_trans,0,1;pub_access   \"pub_access\"   true   true   false 1   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,pub_ac-
cess,0,1;low_mblty \"low_mblty\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,low_mblty,0,1;priorityrd \"priorityrd\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_SplitLine,priorityrd,0,1;spd_lm_src   \"spd_lm_src\"   true   true   false 2   Text   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_Split-
Line,spd_lm_src,0,2;expand_inc \"expand_inc\" true true false 2 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,expand_inc,0,2;trans_area
\"trans_area\"    true    true    false 1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_SplitLine,trans_area,0,1",
add_source="ADD_SOURCE_INFO")


        # Process: Add Autobahn (Merge) (management)
        RoadNetwork = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork"
        if herenavlog_merge_inter:
            arcpy.management.Merge(inputs=[Autobahnen_Only,    herenavlog_merge_inter],    out-
put=RoadNetwork, field_mappings="id \"id\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,id,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,id,-1,-1;link_id \"link_id\" true true false 8 Dou-
ble    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,link_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,link_id,-1,-1;st_name \"st_name\" true true false 120 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_name,0,120,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_name,0,120;feat_id \"feat_id\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,feat_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,feat_id,-1,-1;st_langcd \"st_langcd\" true true false 3 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_langcd,0,3,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_langcd,0,3;num_stnmes \"num_stnmes\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,num_stnmes,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,num_stnmes,-1,-1;st_nm_pref  \"st_nm_pref\"  true  true  false 6  Text  0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,st_nm_pref,0,6,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,st_nm_pref,0,6;st_typ_bef \"st_typ_bef\" true true false 50 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_bef,0,50,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_bef,0,50;st_nm_base
\"st_nm_base\"    true    true    false    70    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_nm_base,0,70,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_nm_base,0,70;st_nm_suff \"st_nm_suff\" true true
false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,st_nm_suff,0,6,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,st_nm_suff,0,6;st_typ_aft \"st_typ_aft\" true true false 50 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_aft,0,50,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_aft,0,50;st_typ_att
\"st_typ_att\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,st_typ_att,0,1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,st_typ_att,0,1;addr_type \"addr_type\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,addr_type,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,addr_type,0,1;l_refaddr \"l_refaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_refaddr,0,10,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_refaddr,0,10;l_nrefaddr
\"l_nrefaddr\"    true    true    false    10    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_nrefaddr,0,10,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_nrefaddr,0,10;l_addrsch \"l_addrsch\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,l_addrsch,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_ad-
drsch,0,1;l_addrform \"l_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_addrform,0,2,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_addrform,0,2;r_refaddr \"r_refaddr\" true true
false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,r_refaddr,0,10,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_re-
faddr,0,10;r_nrefaddr \"r_nrefaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,r_nrefaddr,0,10,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_nrefaddr,0,10;r_addrsch \"r_addrsch\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,r_addrsch,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,r_addrsch,0,1;r_addrform \"r_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,r_addrform,0,2,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_addrform,0,2;ref_in_id   \"ref_in_id\"
true               true               false            8            Double          0
```

0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ref_in_id,-
1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ref_in_id,-1,-
1;nref_in_id \"nref_in_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,nref_in_id,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,nref_in_id,-1,-1;n_shapepnt \"n_shapepnt\" true
true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,n_shapepnt,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,n_shapepnt,-1,-1;func_class \"func_class\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,func_class,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,func_class,0,1;speed_cat \"speed_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,speed_cat,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,speed_cat,0,1;fr_spd_lim \"fr_spd_lim\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,fr_spd_lim,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,fr_spd_lim,-1,-1;to_spd_lim \"to_spd_lim\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,to_spd_lim,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,to_spd_lim,-1,-1;to_lanes \"to_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,to_lanes,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,to_lanes,-1,-1;from_lanes
\"from_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,from_lanes,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,from_lanes,-1,-1;enh_geom \"enh_geom\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,enh_geom,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,enh_geom,0,1;lane_cat \"lane_cat\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,lane_cat,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,lane_cat,0,1;divider \"divider\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,divider,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,divider,0,1;dir_travel \"dir_travel\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,dir_travel,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,dir_travel,0,1;l_area_id \"l_area_id\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,l_area_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,l_area_id,-1,-1;r_area_id \"r_area_id\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,r_area_id,-
1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,r_area_id,-1,-
1;l_postcode \"l_postcode\" true true false 11 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_postcode,0,11,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_postcode,0,11;r_postcode \"r_postcode\" true true
false 11 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,r_postcode,0,11,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,r_postcode,0,11;l_numzones \"l_numzones\" true true false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,l_numzones,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,l_numzones,-1,-1;r_numzones \"r_numzo-
nes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
network_Select_autobahn,r_numzones,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,r_numzones,-1,-1;num_ad_rng \"num_ad_rng\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,num_ad_rng,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,num_ad_rng,-1,-1;ar_auto \"ar_auto\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ar_auto,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ar_auto,0,1;ar_bus \"ar_bus\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,ar_bus,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ar_bus,0,1;ar_taxis \"ar_taxis\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ar_taxis,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ar_taxis,0,1;ar_carpool \"ar_carpool\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,ar_carpool,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ar_carpool,0,1;ar_pedest \"ar_pedest\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ar_pedest,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ar_pedest,0,1;ar_trucks \"ar_trucks\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,ar_trucks,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ar_trucks,0,1;ar_traff \"ar_traff\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ar_traff,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ar_traff,0,1;ar_deliv \"ar_deliv\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,ar_deliv,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ar_deliv,0,1;ar_emerveh \"ar_emerveh\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,ar_emerveh,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,ar_emerveh,0,1;ar_motor \"ar_motor\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,ar_motor,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ar_motor,0,1;paved \"paved\" true true false 1 Text 0

0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,paved,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,paved,0,1;private \"private\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,private,0,1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,private,0,1;frontage \"frontage\" true true false 1
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,frontage,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,front-
age,0,1;bridge \"bridge\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,bridge,0,1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,bridge,0,1;tunnel \"tunnel\" true true false 1 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,tun-
nel,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,tunnel,0,1;ramp
\"ramp\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
network_Select_autobahn,ramp,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,ramp,0,1;tollway \"tollway\" true true false 1 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,tollway,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,tollway,0,1;poiaccess \"poiaccess\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,poiaccess,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,poiaccess,0,1;contracc \"contracc\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,contracc,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,contracc,0,1;roundabout \"roundabout\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,roundabout,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,roundabout,0,1;interinter \"interinter\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,interinter,0,1;undeftraff \"un-
deftraff\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
network_Select_autobahn,undeftraff,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,undeftraff,0,1;ferry_type \"ferry_type\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,ferry_type,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,ferry_type,0,1;multidigit \"multidigit\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,multidigit,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,multidigit,0,1;maxattr \"maxattr\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,maxattr,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,maxattr,0,1;spectrfig \"spectrfig\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,spectrfig,0,1;indescrib \"indescrib\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,indescrib,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,indescrib,0,1;manoeuvre \"manoeuvre\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,manoeuvre,0,1;dividerleg \"dividerleg\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,dividerleg,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,dividerleg,0,1;inprocdata \"inprocdata\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,inprocdata,0,1;full_geom \"full_geom\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
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ter,full_geom,0,1;urban \"urban\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,urban,0,1;route_type \"route_type\" true true false
1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,route_type,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,route_type,0,1;dironsign \"dironsign\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,dironsign,0,1;explicatbl \"explicatbl\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,explicatbl,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,explicatbl,0,1;nameonrdsn \"nameonrdsn\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,nameonrdsn,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,nameonrdsn,0,1;postalname \"postal-
name\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,postalname,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,postalname,0,1;stalename \"stalename\" true true false 1 Text 0
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,vanityname,0,1;junctionm \"junctionm\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,exitname,0,1;scenic_rt \"scenic_rt\" true true
false 1 Text 0

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,sce-
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nic_rt,0,1;scenic_nm \"scenic_nm\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,scenic_nm,0,1;fourwhldr \"fourwhldr\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,fourwhldr,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,four-
whldr,0,1;coverind \"coverind\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,coverind,0,2,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,coverind,0,2;plot_road \"plot_road\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
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ter,plot_road,0,1;reversible \"reversible\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,reversible,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,reversible,0,1;expr_lane \"expr_lane\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,expr_lane,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,expr_lane,0,1;carpoolrd \"carpoolrd\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,carpoolrd,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,carpoolrd,0,1;phys_lanes \"phys_lanes\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
work_Select_autobahn,phys_lanes,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,phys_lanes,-1,-1;ver_trans \"ver_trans\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
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ter,ver_trans,0,1;pub_access \"pub_access\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,pub_access,0,1;low_mblty \"low_mblty\"
true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,low_mblty,0,1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,low_mblty,0,1;priorityrd \"priorityrd\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
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zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,spd_lm_src,0,2;expand_inc \"expand_inc\" true true
false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
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pand_inc,0,2;trans_area \"trans_area\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,trans_area,0,1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,trans_area,0,1;source \"source\" true
true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,source,-1,-1;target \"target\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,target,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,target,-1,-1;start_id \"start_id\" true true false
4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_auto-
bahn,start_id,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_in-
ter,start_id,-1,-1;end_id \"end_id\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,end_id,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,end_id,-1,-1;traveltime \"traveltime\"
true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenet-
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navlog_merge_inter,traveltime,-1,-1;e_speed \"e_speed\" true true false 4 Long 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,e_speed,-
1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,e_speed,-1,-
1;shape_leng \"shape_leng\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenetwork_Select_autobahn,shape_leng,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\herenavlog_merge_inter,shape_leng,-1,-1;geom_Length \"geom_Length\" false
true true 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\herenetwork_Se-
lect_autobahn,geom_Length,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\here-
navlog_merge_inter,geom_Length,-1,-1", add_source="ADD_SOURCE_INFO")


        # Process: Add Field Src (Add Field) (management)
        if herenavlog_merge_inter:
            RoadNetwork_3_ = arcpy.management.AddField(in_table=RoadNetwork, field_name="Src",
field_type="TEXT", field_precision=None, field_scale=None, field_length=10, field_alias="",
field_is_nullable="NULLABLE", field_is_required="NON_REQUIRED", field_domain="")[0]

        # Process: Add Source Info (Calculate Field) (management)
        if herenavlog_merge_inter:
            RoadNetwork_src_Info_ = arcpy.management.CalculateField(in_table=RoadNetwork_3_,
field="Src", expression="wc(!wayclass!)", expression_type="PYTHON3", code_block="""def wc(way-
class):
    if wayclass == None:
        return 'here'
    else:
        return 'navlog'""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]
```

```python
        # Process: Repair Geometry (Repair Geometry) (management)
        if herenavlog_merge_inter:
            Repaired_Input_Features = arcpy.management.RepairGeometry(in_features=RoadNet-
work_src_Info_, delete_null="DELETE_NULL", validation_method="ESRI")[0]

        # Process: Create Feature Dataset (Create Feature Dataset) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Roads = arcpy.management.CreateFeatureDataset(out_dataset_path=Target_GDB,
out_name="Roads", spatial_reference="PROJCS[\"ETRS_1989_UTM_Zone_32N\",GE-
OGCS[\"GCS_ETRS_1989\",DATUM[\"D_ETRS_1989\",SPHE-
ROID[\"GRS_1980\",6378137.0,298.257222101]],PRIMEM[\"Greenwich\",0.0],UNIT[\"De-
gree\",0.0174532925199433]],PROJECTION[\"Transverse_Mercator\"],PARAMETER[\"False_East-
ing\",500000.0],PARAMETER[\"False_Northing\",0.0],PARAMETER[\"Central_Meridian\",9.0],PARAME-
TER[\"Scale_Factor\",0.9996],PARAMETER[\"Latitude_Of_Origin\",0.0],UNIT[\"Meter\",1.0]];-
5120900 -9998100 10000;-100000 10000;-100000 10000;0.001;0.001;0.001;IsHighPrecision")[0]

        # Process: New FC for Network (Feature Class To Feature Class) (conversion)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer = arcpy.conversion.FeatureClassToFeatureClass(in_features=Re-
paired_Input_Features, out_path=Roads, out_name="RoadNetwork_Layer", where_clause="",
field_mapping="id \"id\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,id,-1,-1;link_id \"link_id\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,link_id,-1,-1;st_name
\"st_name\" true true false 120 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,st_name,0,120;feat_id \"feat_id\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,feat_id,-1,-1;st_langcd
\"st_langcd\" true true false 3 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,st_langcd,0,3;num_stnmes \"num_stnmes\" true true false 8 Dou-
ble 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,num_stnmes,-1,-
1;st_nm_pref \"st_nm_pref\" true true false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,st_nm_pref,0,6;st_typ_bef \"st_typ_bef\" true true false 50
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,st_typ_bef,0,50;st_nm_base \"st_nm_base\" true true false 70 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,st_nm_base,0,70;st_nm_suff \"st_nm_suff\" true
true false 6 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,st_nm_suff,0,6;st_typ_aft \"st_typ_aft\" true true false 50 Text 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,st_typ_aft,0,50;st_typ_att \"st_typ_att\" true
true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,st_typ_att,0,1;addr_type \"addr_type\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,addr_type,0,1;l_refaddr \"l_refaddr\" true true
false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_re-
faddr,0,10;l_nrefaddr \"l_nrefaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISProjects\\
Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_nrefaddr,0,10;l_addrsch \"l_addrsch\" true true
false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_ad-
drsch,0,1;l_addrform \"l_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,l_addrform,0,2;r_refaddr \"r_refaddr\" true true false 10 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,r_refaddr,0,10;r_nrefaddr
\"r_nrefaddr\" true true false 10 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,r_nrefaddr,0,10;r_addrsch \"r_addrsch\" true true false 1 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,r_addrsch,0,1;r_addrform
\"r_addrform\" true true false 2 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,r_addrform,0,2;ref_in_id \"ref_in_id\" true true false 8 Dou-
ble 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ref_in_id,-1,-
1;nref_in_id \"nref_in_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,nref_in_id,-1,-1;n_shapepnt \"n_shapepnt\" true true false 8
Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,n_shapepnt,-1,-
1;func_class \"func_class\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,func_class,0,1;speed_cat \"speed_cat\" true true false 1 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,speed_cat,0,1;fr_spd_lim
\"fr_spd_lim\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,fr_spd_lim,-1,-1;to_spd_lim \"to_spd_lim\" true true false 8
Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,to_spd_lim,-1,-
1;to_lanes \"to_lanes\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,to_lanes,-1,-1;from_lanes \"from_lanes\" true true false 8
Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,from_lanes,-1,-
1;enh_geom \"enh_geom\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,enh_geom,0,1;lane_cat \"lane_cat\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,lane_cat,0,1;divider \"di-
vider\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,divider,0,1;dir_travel \"dir_travel\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,dir_travel,0,1;l_area_id \"l_area_id\" true true
false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_area_id,-
1,-1;r_area_id \"r_area_id\" true true false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,r_area_id,-1,-1;l_postcode \"l_postcode\" true true false 11
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_post-
code,0,11;r_postcode \"r_postcode\" true true false 11 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,r_postcode,0,11;l_numzones \"l_numzones\" true true
false 8 Double 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,l_numzo-
nes,-1,-1;r_numzones \"r_numzones\" true true false 8 Double 0
```

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,r_numzones,-1,-1;num_ad_rng
\"num_ad_rng\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,num_ad_rng,-1,-1;ar_auto \"ar_auto\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_auto,0,1;ar_bus
\"ar_bus\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,ar_bus,0,1;ar_taxis \"ar_taxis\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_taxis,0,1;ar_carpool \"ar_carpool\"  true  true
false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_car-
pool,0,1;ar_pedest \"ar_pedest\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,ar_pedest,0,1;ar_trucks \"ar_trucks\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_trucks,0,1;ar_traff
\"ar_traff\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,ar_traff,0,1;ar_deliv \"ar_deliv\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_deliv,0,1;ar_emerveh
\"ar_emerveh\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,ar_emerveh,0,1;ar_motor \"ar_motor\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ar_motor,0,1;paved
\"paved\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,paved,0,1;private \"private\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,private,0,1;frontage \"frontage\" true true false 1
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,frontage,0,1;bridge
\"bridge\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,bridge,0,1;tunnel \"tunnel\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,tunnel,0,1;ramp \"ramp\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ramp,0,1;tollway    \"toll-
way\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,tollway,0,1;poiaccess \"poiaccess\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,poiaccess,0,1;contracc \"contracc\" true true false
1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,contracc,0,1;round-
about    \"roundabout\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,roundabout,0,1;interinter \"interinter\"  true  true  false  1
Text  0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,interinter,0,1;un-
deftraff \"undeftraff\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,undeftraff,0,1;ferry_type \"ferry_type\" true true false 1
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,ferry_type,0,1;mul-
tidigit  \"multidigit\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,multidigit,0,1;maxattr \"maxattr\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,maxattr,0,1;spectrfig
\"spectrfig\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,spectrfig,0,1;indescrib \"indescrib\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,indescrib,0,1;manoeuvre
\"manoeuvre\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,manoeuvre,0,1;dividerleg \"dividerleg\" true true false 1 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,dividerleg,0,1;inprocdata
\"inprocdata\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,inprocdata,0,1;full_geom \"full_geom\" true true false 1 Text
0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,full_geom,0,1;urban \"ur-
ban\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,urban,0,1;route_type \"route_type\" true true false 1 Text 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,route_type,0,1;dironsign \"dironsign\"  true  true
false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,diron-
sign,0,1;explicatbl \"explicatbl\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,explicatbl,0,1;nameonrdsn \"nameonrdsn\"  true  true  false  1
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,nameonrdsn,0,1;post-
alname  \"postalname\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,postalname,0,1;stalename \"stalename\" true true false 1 Text
0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,stalename,0,1;vanityname
\"vanityname\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,vanityname,0,1;junctionnm \"junctionnm\" true true false 1
Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,junctionnm,0,1;exit-
name  \"exitname\"  true  true  false  1  Text  0  0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,exitname,0,1;scenic_rt \"scenic_rt\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,scenic_rt,0,1;scenic_nm
\"scenic_nm\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,scenic_nm,0,1;fourwhldr \"fourwhldr\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,fourwhldr,0,1;coverind
\"coverind\"    true    true    false    2    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,coverind,0,2;plot_road \"plot_road\" true true false 1 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,plot_road,0,1;reversible
\"reversible\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,reversible,0,1;expr_lane \"expr_lane\" true true false 1 Text
0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,expr_lane,0,1;carpoolrd
\"carpoolrd\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,carpoolrd,0,1;phys_lanes \"phys_lanes\" true true false 8 Dou-
ble    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,phys_lanes,-1,-
1;ver_trans \"ver_trans\" true true false 1 Text 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,ver_trans,0,1;pub_access \"pub_access\" true true false 1 Text
0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,pub_access,0,1;low_mblty
\"low_mblty\"            true            true            false            1            Text            0
```

```
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,low_mblty,0,1;priorityrd
\"priorityrd\"    true    true    false    1    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,priorityrd,0,1;spd_lm_src \"spd_lm_src\" true true false 2
Text  0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,spd_lm_src,0,2;ex-
pand_inc \"expand_inc\"    true    true    false    2    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,expand_inc,0,2;trans_area \"trans_area\" true true false 1
Text         0         0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,trans_area,0,1;source  \"source\"    true    true    false    4    Long    0    0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,source,-1,-1;target \"target\" true true false 4
Long       0        0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,target,-1,-
1;start_id \"start_id\"    true    true    false    4    Long    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,start_id,-1,-1;end_id \"end_id\"    true true false 4 Long 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,end_id,-1,-1;traveltime
\"traveltime\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,traveltime,-1,-1;e_speed \"e_speed\" true true false 4 Long 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,e_speed,-1,-1;shape_leng
\"shape_leng\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,shape_leng,-1,-1;geom_Length \"geom_Length\" true true true 8
Double  0  0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,geom_Length,-1,-
1;gid   \"gid\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,gid,-1,-1;oid_1  \"oid\"    true    true    false    128    Text    0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,oid_1,0,128;fid      \"fid\"
true true false 128 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,fid,0,128;wayclass \"wayclass\"    true    true    false    4    Long    0    0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,wayclass,-1,-1;name \"name\" true true false 128
Text    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,name,0,128;concr
\"concr\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,concr,-1,-1;tragf \"tragf\" true true false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,tragf,-1,-1;gradient \"gradient\" true true false 8 Double 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,gradient,-1,-1;block
\"block\"    true    true    false    128    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,block,0,128;clearwidth \"clearwidth\" true true false 8 Double
0   0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,clearwidth,-1,-1;clear-
heigh  \"clearheigh\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,clearheigh,-1,-1;lanewidth \"lanewidth\" true true false 8
Double   0   0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,lanewidth,-1,-
1;tonnage \"tonnage\"    true    true    false    8    Double    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,tonnage,-1,-1;comment \"comment\" true true false 128 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,comment,0,128;MERGE_SRC
\"MERGE_SRC\"    true    true    false    255    Text    0    0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RoadNetwork,MERGE_SRC,0,255;MERGE_SRC_1 \"MERGE_SRC\" true true false 255
Text         0         0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work,MERGE_SRC_1,0,255;Shape_Length  \"Shape_Length\"    false    true    true    8    Double    0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNetwork,Shape_Length,-1,-1;Src
\"Src\" true true false 512 Text 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Road-
Network,Src,0,512", config_keyword="")[0]

        # Process: Calculate Field with traveltime (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Updated_Input_Table = arcpy.management.CalculateField(in_table=RoadNetwork_Layer,
field="traveltime",        expression="tr(!speed_cat!,!wayclass!,!Shape_Length!)",        expres-
sion_type="PYTHON3", code_block="""def tr(speed,way,length):
    if speed == '1' and way is None:
        return length / 36
    elif speed == '2' and way is None:
        return length / 30
    elif speed == '3' and way is None:
        return length / 27
    elif speed == '4' and way is None:
        return length / 23
    elif speed == '5' and way is None:
        return length / 16
    elif speed == '6' and way is None:
        return length / 11
    elif speed == '7' and way is None:
        return length / 8
    elif speed == '8' and way is None:
        return length / 7
    elif speed is None and (way == 1 or way == 2 or way == 9 or way == 91):
        return length / 8
    elif speed is None and (way == 3 or way == 5):
        return length / 7
    else:
        return None""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Add Field prioClass (Add Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer_2_  =  arcpy.management.AddField(in_table=Updated_Input_Table,
field_name="prioClass",    field_type="SHORT",    field_precision=None,    field_scale=None,
```

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field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field prioClass (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            RoadNetwork_Layer_3_         =         arcpy.management.CalculateField(in_table=RoadNet-
work_Layer_2_, field="prioClass", expression="pc(!func_class!)", expression_type="PYTHON3",
code_block="""def pc(fun):
    if fun == '1':
        return 1
    elif fun == '2':
        return 2
    elif fun is None:
        return 4
    else:
        return 3""", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Create Network Dataset From Template (Create Network Dataset From Template)
(na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            RoadNetwork_2_   =   arcpy.na.CreateNetworkDatasetFromTemplate(network_dataset_tem-
plate=Network_Template_XML_, output_feature_dataset=Roads)[0]

        # Process: Build Network (Build Network) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            Updated_Input_Network_Dataset = arcpy.na.BuildNetwork(in_network_dataset=RoadNet-
work_2_)[0]

        # Process: Make Closest Facility Analysis Layer (Make Closest Facility Analysis Layer)
(na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP   =   arcpy.na.MakeClosestFacilityAnalysisLayer(network_data_source=Up-
dated_Input_Network_Dataset, layer_name="StationToRP", travel_mode="TravelTime", travel_direc-
tion="TO_FACILITIES",    cutoff=None,    number_of_facilities_to_find=3,    time_of_day="",
time_zone="LOCAL_TIME_AT_LOCATIONS", time_of_day_usage="START_TIME", line_shape="ALONG_NET-
WORK", accumulate_attributes=["Length", "Traveltime"], generate_directions_on_solve="DIREC-
TIONS")[0]

        # Process: Add Facilities (Stations) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_2_   =   arcpy.na.AddLocations(in_network_analysis_layer=StationToRP,
sub_layer="Facilities", in_table=Stations, field_mappings="Name Name #", search_tolerance="5000
Meters", sort_field="", search_criteria=[], match_type="MATCH_TO_CLOSEST", append="CLEAR",
snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_restricted_elements="EX-
CLUDE", search_query=[])[0]

        # Process: Add Incidents (RP) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_3_   =   arcpy.na.AddLocations(in_network_analysis_layer=StationToRP_2_,
sub_layer="Incidents", in_table=RescuePoints, field_mappings="", search_tolerance="5000 Me-
ters", sort_field="", search_criteria=[], match_type="MATCH_TO_CLOSEST", append="APPEND",
snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_restricted_elements="EX-
CLUDE", search_query=[])[0]

        # Process: Solve (Solve) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            StationToRP_Layer, Solve_Succeeded = arcpy.na.Solve(in_network_analysis_layer=Sta-
tionToRP_3_, ignore_invalids="SKIP", terminate_on_solve_error="TERMINATE", simplification_tol-
erance="", overrides="")

        # Process: Select_Data_From_StationToRP_2_ (Select Data)
        # Select Data Utility is not implemented

        # Process: Calculate IncidentID (2) (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and herenavlog_merge_inter:
            Incidents_4_   =   arcpy.management.CalculateField(in_table=Incidents_StationToRP,
field="IncidentID", expression="!OBJECTID!", expression_type="PYTHON3", code_block="",
field_type="SHORT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select_Data_From_StationToRP (Select Data)
        # Select Data Utility is not implemented

        # Process: Make Table (Table To Table) (conversion)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes_3_         =         arcpy.conversion.TableToTable(in_rows=RoutesStationRP,
out_path=Target_GDB, out_name="RoutesTimes", where_clause="", field_mapping="FacilityID \"Fa-
cilityID\" true true true 4 Long 0 0,First,#,Closest Facility\\Routes,FacilityID,-1,-1;Facili-
tyRank    \"FacilityRank\"    true    true    true    4    Long    0    0,First,#,Closest
```

```
Facility\\Routes,FacilityRank,-1,-1;Name \"Name\" true true true 1024 Text 0 0,First,#,Closest
Facility\\Routes,Name,0,1024;IncidentID \"IncidentID\" true true true 4 Long 0 0,First,#,Closest
Facility\\Routes,IncidentID,-1,-1;Total_Length \"Total_Length\" true true true 8 Double 0
0,First,#,Closest   Facility\\Routes,Total_Length,-1,-1;Total_Traveltime \"Total_Traveltime\"
true true true 8 Double 0 0,First,#,Closest Facility\\Routes,Total_Traveltime,-1,-1;Shape_Length
\"Shape_Length\" false true true 8 Double 0 0,First,#,Closest Facility\\Routes,Shape_Length,-
1,-1", config_keyword="")[0]

        # Process: Add Field for Station ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RouteTimesTable_2_  =  arcpy.management.CalculateField(in_table=RoutesTimes_3_,
field="Wache", expression="!Name!.split(' - ')[1]", expression_type="PYTHON3", code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Add Field for Rescue Point ID (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes_5_       =      arcpy.management.AddField(in_table=RouteTimesTable_2_,
field_name="RP_ID",      field_type="LONG",      field_precision=None,      field_scale=None,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Fill Field for Rescue Point ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and StationToRP_Layer and here-
navlog_merge_inter:
            RoutesTimes        =        arcpy.management.CalculateField(in_table=RoutesTimes_5_,
field="RP_ID",    expression="!IncidentID!",    expression_type="PYTHON3",    code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Join Features (2) (Join Features) (gapro)
        RP_Times_Wachen_8_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen"
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes and Station-
ToRP_Layer and herenavlog_merge_inter:
            with   arcpy.EnvManager(extent="DEFAULT",   outputCoordinateSystem="PRO-
JCS["ETRS_1989_UTM_Zone_32N",GEOGCS["GCS_ETRS_1989",DATUM["D_ETRS_1989",SPHE-
ROID["GRS_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["De-
gree",0.0174532925199433]],PROJECTION["Transverse_Mercator"],PARAMETER["False_East-
ing",500000.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",9.0],PARAME-
TER["Scale_Factor",0.9996],PARAMETER["Latitude_Of_Origin",0.0],UNIT["Meter",1.0]]"):
                arcpy.gapro.JoinFeatures(target_layer=Incidents_4_,   join_layer=RoutesTimes,
output=RP_Times_Wachen_8_, join_operation="JOIN_ONE_TO_MANY", spatial_relationship="", spa-
tial_near_distance="", temporal_relationship="", temporal_near_distance="", attribute_relation-
ship=[["IncidentID", "IncidentID"]], summary_fields=[], join_condition="", keep_all_target_fea-
tures="")

        # Process: If Field Exists (If Field Exists) ()
        True_260,   False_261   =   #   NOT   IMPLEMENTED(in_table=RescuePoints,
field_test_type="MUST_HAVE_AT_LEAST_ONE_FIELD", field=["RP_ID"])

        # Process: Add Field RP_ID (Add Field) (management)
        Rettungpunkte_Field_ID      =      arcpy.management.AddField(in_table=RescuePoints,
field_name="RP_ID",     field_type="LONG",     field_precision=None,     field_scale=None,
field_length=None, field_alias="", field_is_nullable=False_261, field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Write RP_ID (Calculate Field) (management)
        if True_260:
            Rettungpsunkte_mit_ID           =           arcpy.management.CalculateField(in_ta-
ble=Rettungpunkte_Field_ID, field="RP_ID", expression="!OBJECTID!", expression_type="PYTHON3",
code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Snap (Snap) (edit)
        if Repaired_Input_Features and RoadNetwork_Layer and True_260 and herenavlog_merge_in-
ter:
            RettungspunkteIDSnap = arcpy.edit.Snap(in_features=Rettungpsunkte_mit_ID, snap_en-
vironment=[[RoadNetwork_Layer, "VERTEX", "20 Meters"], [RoadNetwork_Layer, "EDGE", "15 Meters"],
[RoadNetwork_Layer, "END", "30 Meters"]])[0]

        # Process: Join Field of Rescue Point ID to get Name (Join Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_15_    =    arcpy.management.JoinField(in_data=RP_Times_Wachen_8_,
in_field="RP_ID", join_table=RettungspunkteIDSnap, join_field="RP_ID", fields=["nr"])[0]

        # Process: Delete Field (2) (Delete Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
```

```python
        RP_Times_Wachen_10_  =  arcpy.management.DeleteField(in_table=RP_Times_Wachen_15_,
drop_field=["Name", "TargetFacilityCount", "SourceID", "SourceOID", "SideOfEdge", "CurbAp-
proach", "Status", "SnapX", "SnapY", "SnapZ", "DistanceToNetworkInMeters", "Attr_Length",
"Attr_Traveltime", "Cutoff_Length", "Cutoff_Traveltime", "OBJECTID1", "join_Name", "join_Inci-
dentID"])[0]

        # Process: Add Field TimeMinutes (2) (Add Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_11_  =  arcpy.management.AddField(in_table=RP_Times_Wachen_10_,
field_name="TimeMinutes",  field_type="DOUBLE",  field_precision=6,  field_scale=2,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Add Field TimeSeconds (2) (Add Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_12_  =  arcpy.management.AddField(in_table=RP_Times_Wachen_11_,
field_name="TimeSeconds",  field_type="DOUBLE",  field_precision=6,  field_scale=2,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Seconds (2) (Calculate Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_13_  =  arcpy.management.CalculateField(in_table=RP_Times_Wa-
chen_12_,  field="TimeSeconds",  expression="round(float(!Total_Traveltime!),2)",  expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Calculate Minutes (2) (Calculate Field) (management)
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            RP_Times_Wachen_14_  =  arcpy.management.CalculateField(in_table=RP_Times_Wa-
chen_13_, field="TimeMinutes", expression="round((float(!Total_Traveltime!) / 60),2)", expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select Rank 1 (2) (Select) (analysis)
        RP_Times_Wachen_Select_2_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_1"
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                out_fea-
ture_class=RP_Times_Wachen_Select_2_, where_clause="FacilityRank = 1")

        # Process: Select Rank 2 (2) (Select) (analysis)
        RP_Times_Wachen_Select_4_ = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_2"
        if  Repaired_Input_Features  and  RoadNetwork_Layer  and  RoadNetwork_Layer_3_  and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                out_fea-
ture_class=RP_Times_Wachen_Select_4_, where_clause="FacilityRank = 2")

        # Process: Spatial Join with Summarizing Fields (3) (Spatial Join) (analysis)
        RP_Fahrzeiten_join_3_  =  "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzei-
ten_join"
        if RP_Times_Wachen_Select_2_ and Repaired_Input_Features and RoadNetwork_Layer and Road-
Network_Layer_3_ and RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.SpatialJoin(target_features=RP_Times_Wachen_Select_2_,  join_fea-
tures=RP_Times_Wachen_Select_4_,   out_feature_class=RP_Fahrzeiten_join_3_,   join_opera-
tion="JOIN_ONE_TO_MANY", join_type="KEEP_COMMON", field_mapping="ObjectID \"ObjectID\" true
false false 4 Long 0 0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,ObjectID,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,ObjectID,-1,-1;PosAlong \"PosAlong\" true false false 8 Double 0 0,First,#,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,PosAlong,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,PosAlong,-1,-1;IncidentID  \"Inciden-
tID\"   true   true   false   2   Short   0   0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,IncidentID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,IncidentID,-1,-1;Wache \"Wache\" true true false
10485758 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,Wache,0,10485758,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,Wache,0,10485758;RP_ID \"RP_ID\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,RP_ID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,RP_ID,-1,-1;nr \"nr\" true true false 25 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_1,nr,0,25,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_2,nr,0,25;FacilityID \"FacilityID\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,FacilityID,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,FacilityID,-1,-1;TimeSeconds
\"TimeSeconds\"      true      true      false      255      Text      0
```

```
0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,TimeSec-
onds,-1,-1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,TimeSeconds,-
1,-1;TimesMinutes \"TimesMinutes\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,TimeMinutes,-1,-1,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,TimeMinutes,-1,-1;Total_Traveltime
\"Total_Traveltime\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,Total_Traveltime,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,Total_Traveltime,-1,-1;Total_Length         \"To-
tal_Length\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,Total_Length,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,Total_Length,-1,-1;FacilityRank \"FacilityRank\"
true    true    false    255    Text    0    0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_1,FacilityRank,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_2,FacilityRank,-1,-1", match_option="INTERSECT",
search_radius="1 Meters", distance_field_name="")

        # Process: Select Rank 3 (2) (Select) (analysis)
        RP_Times_Wachen_Select1_2_              =              "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3"
        if Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and
RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                out_fea-
ture_class=RP_Times_Wachen_Select1_2_, where_clause="FacilityRank = 3")

        # Process: Spatial Join with Summarizing Fields (4) (Spatial Join) (analysis)
        RP_Fahrzeiten_join_4_       =       "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\Sin-
gle_RP_w_Times"
        if RP_Fahrzeiten_join_3_ and RP_Times_Wachen_Select1_2_ and RP_Times_Wachen_Select_2_
and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.SpatialJoin(target_features=RP_Fahrzeiten_join_3_,      join_fea-
tures=RP_Times_Wachen_Select1_2_,    out_feature_class=RP_Fahrzeiten_join_4_,    join_opera-
tion="JOIN_ONE_TO_MANY", join_type="KEEP_COMMON", field_mapping="Join_Count \"Join_Count\" true
true    false    4    Long    0    0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,Join_Count,-1,-1;PosAlong   \"PosAlong\"   true   true   false   8   Double   0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,PosAlong,-1,-
1,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,PosAlong,-1,-1;Inci-
dentID \"IncidentID\" true true false 2 Short 0 0,First,#,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,IncidentID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,IncidentID,-1,-1;Wache \"Wache\" true true false
10485758    Text    0    0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,Wache,0,10485758,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_3,Wache,0,10485758;RP_ID \"RP_ID\" true true false 4 Long 0 0,First,#,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,RP_ID,-1,-1,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,RP_ID,-1,-1;nr \"nr\" true true false 25 Text 0
0,First,#,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,nr,0,25,D:\\ArcGIS-
Projects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,nr,0,25;FacilityID   \"FacilityID\"
true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,FacilityID,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Se-
lect_3,FacilityID,-1,-1;TimeSeconds   \"TimeSeconds\"   true   true   false   255   Text   0
0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,TimeSec-
onds,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,TimeSeconds,-
1,-1;TimesMinutes \"TimesMinutes\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,TimesMinutes,0,255,D:\\ArcGISPro-
jects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,TimeMinutes,-1,-1;Total_Traveltime
\"Total_Traveltime\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,Total_Traveltime,0,255,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,Total_Traveltime,-1,-1;Total_Length         \"To-
tal_Length\" true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Fahrzeiten_join,Total_Length,0,255,D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_Wachen_Select_3,Total_Length,-1,-1;FacilityRank \"FacilityRank\"
true true false 255 Text 0 0,Join,\";\",D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Fahr-
zeiten_join,FacilityRank,0,255,D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RP_Times_Wa-
chen_Select_3,FacilityRank,-1,-1", match_option="INTERSECT", search_radius="1 Meters", dis-
tance_field_name="")

        # Process: Delete Identical (2) (Delete Identical) (management)
        if RP_Fahrzeiten_join_3_ and RP_Times_Wachen_Select1_2_ and RP_Times_Wachen_Select_2_
and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
StationToRP_Layer and True_260 and herenavlog_merge_inter:
            Single_RP_w_Times_2_    =    arcpy.management.DeleteIdentical(in_dataset=RP_Fahr-
zeiten_join_4_, fields=["RP_ID"], xy_tolerance="", z_tolerance=0)[0]

        # Process: Select no Autobahn (Select) (analysis)
        Here_w_o_Autobahn_2_    =    "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\RoadNet-
work_wo_Autobahn"
        if Repaired_Input_Features and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RoadNetwork_Layer_3_,                out_fea-
ture_class=Here_w_o_Autobahn_2_, where_clause="st_name <> 'A3' And st_name <> 'A5' And st_name
```

```python
<> 'A6' And st_name <> 'A7' And st_name <> 'A8' And st_name <> 'A61' And st_name <> 'A80' And
st_name <> 'A81' And st_name <> 'A82' And st_name <> 'A83' And st_name <> 'A84' And st_name <>
'A85' And st_name <> 'A86' And st_name <> 'A87' And st_name <> 'A88' And st_name <> 'A89' And
st_name <> 'A96' And st_name <> 'A98' And st_name <> 'A654' And st_name <> 'A656' And st_name
<> 'A659' And st_name <> 'A828' And st_name <> 'A831' And st_name <> 'A833' And st_name <>
'A834' And st_name <> 'A840' And st_name <> 'A860' And st_name <> 'A861' And st_name <> 'A862'
And st_name <> 'A863' And st_name <> 'A863' And st_name <> 'A864' And st_name <> 'A895' And
st_name <> 'A655' Or st_name IS NULL")

        # Process: Select Roads Only in Forests (Select Layer By Location) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            Roads_in_Forests, Output_Layer_Names, Count = arcpy.management.SelectLayerByLoca-
tion(in_layer=[Here_w_o_Autobahn_2_], overlap_type="INTERSECT", select_features=Forest_in_BW,
search_distance="", selection_type="NEW_SELECTION", invert_spatial_relationship="NOT_INVERT")

        # Process: Make Closest Facility Analysis Layer (2) (Make Closest Facility Analysis
Layer) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and herenavlog_merge_inter:
            RPToPOINTs = arcpy.na.MakeClosestFacilityAnalysisLayer(network_data_source=Up-
dated_Input_Network_Dataset, layer_name="RPToPOINTs", travel_mode="TravelTime", travel_direc-
tion="TO_FACILITIES", cutoff=None, number_of_facilities_to_find=3, time_of_day="",
time_zone="LOCAL_TIME_AT_LOCATIONS", time_of_day_usage="START_TIME", line_shape="NO_LINES", ac-
cumulate_attributes=["Length", "Traveltime"], generate_directions_on_solve="DIRECTIONS")[0]

        # Process: Add Facilities (RP) (2) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            RPToPOINTs_1_ = arcpy.na.AddLocations(in_network_analysis_layer=RPToPOINTs,
sub_layer="Facilities", in_table=Rettungpsunkte_mit_ID, field_mappings="", search_toler-
ance="5000 Meters", sort_field="", search_criteria=[], match_type="MATCH_TO_CLOSEST", ap-
pend="CLEAR", snap_to_position_along_network="SNAP", snap_offset="0 Meters", exclude_re-
stricted_elements="EXCLUDE", search_query=[])[0]

        # Process: Generate Points Along Lines (Generate Points Along Lines) (management)
        PointsAlongLines = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlongLines"
        if Repaired_Input_Features and herenavlog_merge_inter:
            arcpy.management.GeneratePointsAlongLines(Input_Features=Roads_in_Forests, Out-
put_Feature_Class=PointsAlongLines, Point_Placement="DISTANCE", Distance=Distance, Percent-
age=None, Include_End_Points="")

        # Process: Add Field for permanent ID (Add Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_2_ = arcpy.management.AddField(in_table=PointsAlongLines,
field_name="StatID", field_type="LONG", field_precision=None, field_scale=None,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field with permanent ID (Calculate Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_3_ = arcpy.management.CalculateField(in_table=PointsAlong-
Lines_2_, field="StatID", expression="!OBJECTID!", expression_type="PYTHON3", code_block="",
field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Delete Field (Delete Field) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
            PointsAlongLines_4_ = arcpy.management.DeleteField(in_table=PointsAlongLines_3_,
drop_field=["Shape_Length", "Shape_length_1", "ORIG_FID", "id", "link_id", "st_name",
"feat_id", "st_langcd", "num_stnmes", "st_nm_pref", "st_typ_bef", "st_nm_base", "st_nm_suff",
"st_typ_aft", "st_typ_att", "addr_type", "l_refaddr", "l_nrefaddr", "l_addrsch", "l_addrform",
"r_refaddr", "r_nrefaddr", "r_addrsch", "r_addrform", "ref_in_id", "nref_in_id", "n_shapepnt",
"func_class", "speed_cat", "fr_spd_lim", "to_spd_lim", "to_lanes", "from_lanes", "enh_geom",
"lane_cat", "divider", "dir_travel", "l_area_id", "r_area_id", "l_postcode", "r_postcode",
"l_numzones", "r_numzones", "num_ad_rng", "ar_auto", "ar_bus", "ar_taxis", "ar_carpool",
"ar_pedest", "ar_trucks", "ar_traff", "ar_deliv", "ar_emerveh", "ar_motor", "paved", "private",
"frontage", "bridge", "tunnel", "ramp", "tollway", "poiaccess", "contracc", "roundabout", "in-
terinter", "undeftraff", "ferry_type", "multidigit", "maxattr", "spectrfig", "indescrib", "ma-
noeuvre", "dividerleg", "inprocdata", "full_geom", "urban", "route_type", "dironsign", "expli-
catbl", "nameonrdsn", "postalname", "stalename", "vanityname", "junctionnm", "exitname", "sce-
nic_rt", "scenic_nm", "fourwhldr", "coverind", "plot_road", "reversible", "expr_lane", "car-
poolrd", "phys_lanes", "ver_trans", "pub_access", "low_mblty", "priorityrd", "spd_lm_src", "ex-
pand_inc", "trans_area", "source", "target", "start_id", "end_id", "traveltime", "e_speed",
"shape_leng", "geom_Length", "gid", "oid_1", "fid", "wayclass", "name", "concr", "tragf", "gra-
dient", "block", "clearwidth", "clearheigh", "lanewidth", "tonnage", "comment", "MERGE_SRC",
"MERGE_SRC_1", "Src", "prioClass"])[0]

        # Process: Add Spatial Index (Add Spatial Index) (management)
        if Repaired_Input_Features and herenavlog_merge_inter:
```

```python
        Updated_Input_Features = arcpy.management.AddSpatialIndex(in_features=PointsAlong-
Lines_4_, spatial_grid_1=0, spatial_grid_2=0, spatial_grid_3=0)[0]

        # Process: Add Incidents (POINTS) (2) (Add Locations) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            RPToPOINTs_2_    =    arcpy.na.AddLocations(in_network_analysis_layer=RPToPOINTs_1_,
sub_layer="Incidents", in_table=Updated_Input_Features, field_mappings="Name StatID #;TargetFa-
cilityCount # #;CurbApproach # 0;Attr_Length # 0;Attr_Traveltime # 0;Cutoff_Length # #;Cut-
off_Traveltime # #", search_tolerance="5000 Meters", sort_field="", search_criteria=[],
match_type="MATCH_TO_CLOSEST", append="CLEAR", snap_to_position_along_network="SNAP", snap_off-
set="0 Meters", exclude_restricted_elements="EXCLUDE", search_query=[])[0]

        # Process: Solve RPToPOINTS (Solve) (na)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Network_Analyst_Layer_RPToPOINTS,    Solve_Succeeded_2_    =    arcpy.na.Solve(in_net-
work_analysis_layer=RPToPOINTs_2_, ignore_invalids="SKIP", terminate_on_solve_error="TERMI-
NATE", simplification_tolerance="", overrides="")

        # Process: Select_Data (Select Data)
        # Select Data Utility is not implemented

        # Process: Table To Table (Table To Table) (conversion)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            POINTTimes = arcpy.conversion.TableToTable(in_rows=RoutesRPToPOINTS, out_path=Tar-
get_GDB, out_name="POINTTimes", where_clause="", field_mapping="Name \"Name\" true true true
1024 Text 0 0,First,#,OD Cost Matrix 2\\Lines,Name,0,1024;Total_Length \"Total_Length\" true
true true 8 Double 0 0,First,#,OD Cost Matrix 2\\Lines,Total_Length,-1,-1;Total_Traveltime \"To-
tal_Traveltime\" true true true 8 Double 0 0,First,#,OD Cost Matrix 2\\Lines,Total_Traveltime,-
1,-1;Shape_Length \"Shape_Length\" false true true 8 Double 0 0,First,#,OD Cost Matrix
2\\Lines,Shape_Length,-1,-1", config_keyword="")[0]

        # Process: Add Field POINT_ID (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Updated_Input_Table_2_        =        arcpy.management.AddField(in_table=POINTTimes,
field_name="POINT_ID",     field_type="LONG",     field_precision=None,     field_scale=None,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Add Field RP_ID (2) (Add Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            Updated_Input_Table_3_    =    arcpy.management.AddField(in_table=Updated_Input_Ta-
ble_2_,    field_name="RP_ID",    field_type="LONG",    field_precision=None,    field_scale=None,
field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate RP_ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            with arcpy.EnvManager(extent="DEFAULT"):
                LinesTable_3_    =    arcpy.management.CalculateField(in_table=Updated_Input_Ta-
ble_3_, field="RP_ID", expression="(!Name!.split(' - ')[1]).split(' ')[1]", expres-
sion_type="PYTHON3", code_block="", field_type="SHORT", enforce_domains="NO_ENFORCE_DO-
MAINS")[0]

        # Process: Calculate  POINT_ID (Calculate Field) (management)
        if Repaired_Input_Features and RoadNetwork_Layer_3_ and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter:
            with arcpy.EnvManager(extent="DEFAULT"):
                LinesTable_4_    =    arcpy.management.CalculateField(in_table=LinesTable_3_,
field="POINT_ID", expression="!Name!.split(' - ')[0]", expression_type="PYTHON3",
code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Select (3) (Select) (analysis)
        RP_Times_WachenRP_Times_Wach                =                "D:\\ArcGISProjects\\Fahr-
zeiten_TW\\rpfz.gdb\\RP_Times_WachenRP_Times_Wach2"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and StationToRP_Layer and True_260 and herenavlog_merge_inter:
            arcpy.analysis.Select(in_features=RP_Times_Wachen_14_,                   out_fea-
ture_class=RP_Times_WachenRP_Times_Wach, where_clause="FacilityRank = 1")

        # Process: Join Fields from RP_Incidents Table (Join Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
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        Updated_PointsAlongLines    =    arcpy.management.JoinField(in_data=LinesTable_4_,
in_field="RP_ID", join_table=RP_Times_WachenRP_Times_Wach, join_field="RP_ID", fields=["RP_ID",
"Total_Length", "Total_Traveltime", "nr", "Wache"])[0]

        # Process: Add Field Fastest_Travel (Add Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_2_    =    arcpy.management.AddField(in_table=Updated_PointsAlongLines,
field_name="Fastest_Travel",    field_type="DOUBLE",    field_precision=6,    field_scale=2,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Calculate Field Fastest_Travel (sum of times) (Calculate Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_3_    =    arcpy.management.CalculateField(in_table=POINTTimes_2_,
field="Fastest_Travel",  expression="!Total_Traveltime!  +  !Total_Traveltime_1!",  expres-
sion_type="PYTHON3", code_block="", field_type="TEXT", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Add Field for Ranking (Add Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            POINTTimes_4_    =    arcpy.management.AddField(in_table=POINTTimes_3_,
field_name="Rank",    field_type="SHORT",    field_precision=None,    field_scale=None,
field_length=None,  field_alias="",  field_is_nullable="NULLABLE",  field_is_required="NON_RE-
QUIRED", field_domain="")[0]

        # Process: Fill new Field AddRank (AddRank) (NewToolbox)
        out = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\POINTTimes_AddRank"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter:
            arcpy.NewToolbox.AddRank(tbl=POINTTimes_4_, out=out)

        # Process: Delete Fields not used (Delete Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_6_    =    arcpy.management.DeleteField(in_table=POINTTimes_4_,
drop_field=["Shape_Length", "RP_ID"])[0]

        # Process: Add Fields for Times (Add Fields (multiple)) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_5_ = arcpy.management.AddFields(in_table=POINTTimes_6_, field_descrip-
tion=[["ToRPLength", "DOUBLE", "ToRPLength", "", "", ""], ["ToRPTime", "DOUBLE", "ToRPTime",
"", "", ""], ["ToStationLength", "DOUBLE", "ToStationLength", "", "", ""], ["ToStationTime",
"DOUBLE", "ToStationTime", "", "", ""]])[0]

        # Process: Calculate Fields for Times (Calculate Fields (multiple)) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_8_ = arcpy.management.CalculateFields(in_table=POINTTimes_5_, expres-
sion_type="PYTHON3",  fields=[["ToRPLength",  "!Total_Length!"],  ["ToRPTime",  "!Total_Trav-
eltime!"], ["ToStationLength", "!Total_Length_1!"], ["ToStationTime", "!Total_Traveltime_1!"]],
code_block="", enforce_domains="NO_ENFORCE_DOMAINS")[0]

        # Process: Delete old Fields (Delete Field) (management)
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            POINTTimes_7_    =    arcpy.management.DeleteField(in_table=POINTTimes_8_,
drop_field=["Total_Length", "Total_Traveltime", "Total_Length_1", "Total_Traveltime_1"])[0]

        # Process: Join Features (Join Features) (gapro)
        PointsAlongLines_Joined = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlong-
Lines_Joined"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            arcpy.gapro.JoinFeatures(target_layer=Updated_Input_Features,
join_layer=POINTTimes_7_,  output=PointsAlongLines_Joined,  join_operation="JOIN_ONE_TO_MANY",
spatial_relationship="",    spatial_near_distance="",    temporal_relationship="",
```

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        temporal_near_distance="", attribute_relationship=[["StatID", "POINT_ID"]], summary_fields=[],
        join_condition="", keep_all_target_features="")

        # Process: Select Fastest Solution Only (Select) (analysis)
        PointsAlongLines1stClass = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\PointsAlong-
Lines1stClass"
        if RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNet-
work_Layer_3_ and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and here-
navlog_merge_inter and out:
            arcpy.analysis.Select(in_features=PointsAlongLines_Joined,                out_fea-
ture_class=PointsAlongLines1stClass, where_clause="Rank = 1")

        # Process: Multiple Ring Buffer (Multiple Ring Buffer) (analysis)
        MultipleBufferFromPoints = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\MultipleBuff-
erFromPoints"
        if PointsAlongLines1stClass and RP_Times_Wachen_14_ and Repaired_Input_Features and
RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter and out:
            arcpy.analysis.MultipleRingBuffer(Input_Features=PointsAlongLines1stClass,    Out-
put_Feature_class=MultipleBufferFromPoints, Distances=[10, 20, 30, 40, 50, 60, 70, 80, 90, 100,
110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290,
300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400], Buffer_Unit="Meters", Field_Name="dis-
tance", Dissolve_Option="NONE", Outside_Polygons_Only="FULL")

        # Process: Add Field for Sum of Times: Rescue_Time (Add Field) (management)
        if PointsAlongLines1stClass and RP_Times_Wachen_14_ and Repaired_Input_Features and
RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and RoutesTimes_3_ and Station-
ToRP_Layer and True_260 and herenavlog_merge_inter and out:
            MultipleBufferFromPoints_2_    =    arcpy.management.AddField(in_table=MultipleBuff-
erFromPoints,     field_name="Rescue_Time",     field_type="DOUBLE",     field_precision=None,
field_scale=None, field_length=None, field_alias="", field_is_nullable="NULLABLE", field_is_re-
quired="NON_REQUIRED", field_domain="")[0]

        # Process: Calculate Field Rescue_Time (Calculate Field) (management)
        if MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and RP_Times_Wachen_14_ and
Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter and out:
            MultipleBufferFromPoints_3_    =    arcpy.management.CalculateField(in_table=Multi-
pleBufferFromPoints_2_, field="Rescue_Time", expression="!distance! + !Fastest_Travel!", ex-
pression_type="PYTHON3",    code_block="",    field_type="TEXT",    enforce_domains="NO_ENFORCE_DO-
MAINS")[0]

        # Process: Join Features (3) (Join Features) (gapro)
        AccidentsWithTimes = "D:\\ArcGISProjects\\Fahrzeiten_TW\\rpfz.gdb\\AccidentsWithTimes"
        if MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and RP_Times_Wachen_14_ and
Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_ and RoutesTimes and
RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter and out:
            arcpy.gapro.JoinFeatures(target_layer=Accidents,           join_layer=MultipleBuff-
erFromPoints_3_, output=AccidentsWithTimes, join_operation="JOIN_ONE_TO_ONE", spatial_relation-
ship="INTERSECTS",    spatial_near_distance="",    temporal_relationship="",    temporal_near_dis-
tance="",    attribute_relationship=[],    summary_fields=[["Rescue_Time",    "MIN"]],    join_condi-
tion="", keep_all_target_features="")

        # Process: Select Layer By Location (2) (Select Layer By Location) (management)
        if AccidentsWithTimes and MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and
RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_
and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter
and out:
            Layer_With_Selection_2_, Output_Layer_Names_2_, Count_2_ = arcpy.management.Select-
LayerByLocation(in_layer=[MultipleBufferFromPoints_3_], overlap_type="INTERSECT", select_fea-
tures=Accidents, search_distance="", selection_type="NEW_SELECTION", invert_spatial_relation-
ship="NOT_INVERT")

        # Process: Join Field (Join Field) (management)
        if AccidentsWithTimes and MultipleBufferFromPoints_2_ and PointsAlongLines1stClass and
RP_Times_Wachen_14_ and Repaired_Input_Features and RoadNetwork_Layer and RoadNetwork_Layer_3_
and RoutesTimes and RoutesTimes_3_ and StationToRP_Layer and True_260 and herenavlog_merge_inter
and out:
            RESULT_AccidentsWithTimes = arcpy.management.JoinField(in_data=AccidentsWithTimes,
in_field="MIN_Rescue_Time",    join_table=Layer_With_Selection_2_,    join_field="Rescue_Time",
fields=["nr", "ToRPLength", "ToRPTime", "ToStationLength", "ToStationTime", "Wache"])[0]

if __name__ == '__main__':
    # Global Environment settings
    with arcpy.EnvManager(scratchWorkspace=r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb", work-
space=r"D:\ArcGISProjects\Fahrzeiten_TW\rpfz.gdb"):
        FahrzeitanalyseRettung(*argv[1:])
```