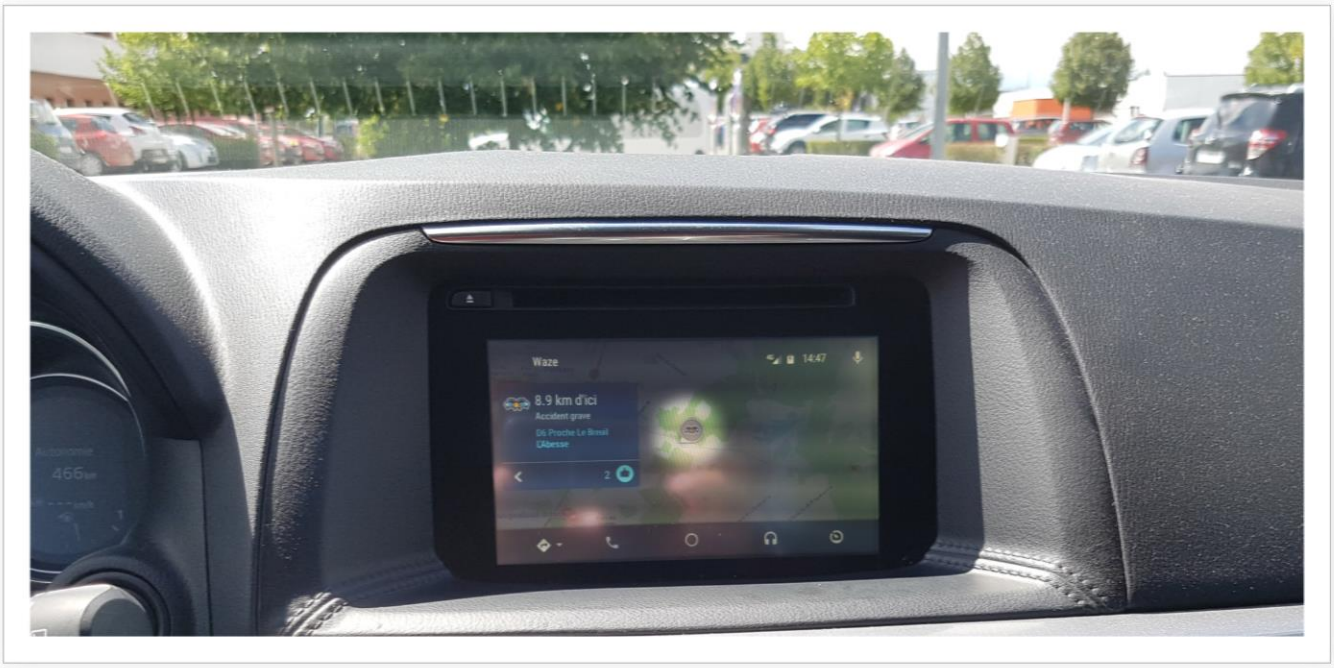
Final Report

Exploring the use of Waze for emergency response

A pilot project by Waze and EENA



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1 Introduction

1.1 The importance of time in emergency response

While many factors contribute to the effectiveness of an emergency response, the time has always been a determining criterion for the success of rescue operations. The time taken to answer an emergency call, the time to classify the call and determine the caller's location, the time to dispatch resources, and the time taken to reach the location, significantly impact the effectiveness of the response.

1.2 Technologies and data supporting emergency response

With the increasing number of emergency calls initiating from mobile phones, the time taken to identify the caller location has become an important topic during the past few years. The availability of high technology on our mobile devices has recently made it possible for emergency services to receive very accurate caller location data and in shorter time. The availability of this technology in mass consumer devices has raised the questions of why emergency services were not able to receive it since it is available on the device of the caller. The slow uptake of technology by emergency services when compared to other applications has been brought up many times.

The increasing availability of other technologies in mass used devices will bring more opportunities to help improve emergency responses. An increasing number of users drive their cars using navigation applications. While some years ago, navigation applications suggested only the shortest route between two locations, now they also offer live traffic information used by their route planners.

The availability of this technology in our everyday life has turned users into active contributors to the crowdsourcing of traffic related data and it also allows them to report incidents that may be of direct interest to emergency services, e.g. reported car accidents and their locations. Could this raise similar questions to the ones previously raised for the recently resolved mobile caller location paradox, being available for all apps but not for emergency services?

1.3 Project rationale

The rationale for this project is based on the availability of traffic related data and incident data on mobile devices. While the data is free in some cases and is used by numerous users, there have been no previous studies, in Europe, on how this data may impact emergency services. Could emergency services benefit by monitoring accidents reported on these applications, or by dispatching resources using route planners that take into account traffic data? Could emergency services inform the public about ongoing incidents and operations? Would this help reduce the resulting traffic and risk? Would it indirectly benefit response operations? How can emergency services use this data in their daily operations?

1.4 Using Waze to explore the impact of traffic data to emergency response

EENA and Waze entered into a partnership in April 2017 and launched a pilot project to understand if, and how, using traffic data could improve of emergency response operations. Waze provides real-time, anonymous, incident or delay-related information directly from the source, i.e. the drivers themselves.

Waze is the world's largest community-based traffic and navigation app. By connecting drivers to one another, Waze helps people create local driving communities that work together to improve the quality of everyone's daily driving. That might mean helping them avoid the frustration of sitting in traffic or shaving five minutes off of their regular commute by showing them new routes they never even knew about.

After typing in their destination address, users just drive with the app open on their phone and passively contribute traffic and other road data. But they can also take a more active role by sharing road reports on accidents, road closures or any other hazards along the way, helping to give other users in the area a 'heads-up' about what's to come.

Waze and EENA have partnered with four pilot sites to study the use of the Waze Connected Citizens Program (CCP) for emergency response. The Connected Citizens Program allows free exchange of anonymous and public data between Waze and the program partners[1]:

- **Waze provides** real-time, anonymous, proprietary incident and slow-down information directly from the source: drivers themselves.
- **Partners provide** real-time and advanced information about government-reported construction, crash and road closure data.

2 Pilot objectives

The main objective is to understand how the use of traffic and car accident related data in emergency management can improve response operations and gain experience from the piloting of the identified use cases. In more detail:

1. To understand the good practice regarding the integration and use of traffic and road incident data with CAD systems
2. To gain experience from the use-case scenarios and identify how the data exchange can be fully integrated in the command and control process and how it could be analysed in real-time or in a post-event review
3. To gain a deeper understanding of the impact of this data in emergency response

3 Pilot sites

Four pilot sites in Europe have been selected to participate in the project. They tested the defined use cases and share their experience to better understand how traffic related and car accident data can help improve response operations:

- Azienda Regionale Emergenza Urgenza (AREU), Italy, 112 and emergency medical service, www.areu.lombardia.it
- Notruf Niederösterreich (NNÖ), Austria, emergency medical service, www.144.at

[1] e.g. local and regional public authorities, first responders, emergency services, etc.

- Sapeurs pompiers des Bouches du Rhone (SDIS 13), France, fire brigade, www.sdis13.fr
- Sapeurs pompiers de la Vienne (SDIS 86), France, fire brigade, www.sdis86.net

Organizational descriptions of the pilot partners are available in section 10.

4 Project use cases

An initial analysis of the possible uses indicated that it could help reduce response times by reducing the time to identify and locate an incident and the time to select the most appropriate vehicle to dispatch. These uses are related to emergency services using crowdsourced data from Waze. On the opposite data flow, emergency services can provide incident information to Waze users and help reduce their driving time and traffic congestion around the accident. Based on these hypotheses, two possible use cases have been selected for the project:

Incident notification

When Waze users report an incident in Waze, emergency services could get the notification in their Computer Aided Dispatch (CAD) system via an integration to receive data from Waze.

Provide data to citizens via Waze

Emergency services can provide data to Waze about real time or planned incidents, e.g. road closure, accident, construction work or hazard. Waze uses this information to help affected users avoid delays and also aim to reduce the numbers of citizens being affected by the incident.

Figure 1: Use cases piloted in the project

5 Incident notification

5.1 Description

A user reports an incident, e.g. a car accident on Waze. The incident report becomes available on Waze in real-time. Waze allows other users to react to the report by using a "thumb up" button to indicate the report is accurate or a "not there" button to indicate it cannot be confirmed. Waze

collects this information from multiple users and calculates a confidence score for the incident based on the user reactions. An incident reliability score is also calculated according to the Waze users experience level. The user experience levels are based on the map contributions providing an indication of user trustworthiness. As several users may simultaneously report the same incident, Waze analyses and aggregates the data, contiguously providing the latest information.

The data is available in real-time to emergency services, either by receiving a data feed from Waze that can be used to display the data on an information system or by using the standalone online tools provided by Waze. Waze provides the crowdsourced data classified by incident type, including a geolocation and providing confidence and reliability scores. Receiving structured data can save time and better facilitate the work of emergency responders.

5.2 Locating an incident

One of the first steps of a call-taker is to establish the location of the caller. Callers do not always know where they are when they call 112. This is easier to happen when callers drive on a motor way. Locating a caller has been as one of the most interesting use cases in the pilots, when no other caller location information is available.

In the pilots with Waze integrated in their CAD systems, call-takers and dispatchers had direct access to the data on their screens and could switch to a map view containing the information from the Waze feed. Figure 2, Figure 3, and Figure 4 show examples of the integrations.

In pilots without this integration, operators asked the assistance of a member of the staff, such as the supervisor, to look at the Waze online tools. This setting was selected to avoid loading operators with a task of seeking information on a separate tool during call taking. The supervisor has more time than call-takers and is able to assist them. Additionally, the operators' terminals do not always have Internet access.

Regardless of how the data was accessed, pilot sites used Waze to check reported incidents and identify a more precise location. Their experience was positive and Waze helped reduce the time to locate accidents in many cases.

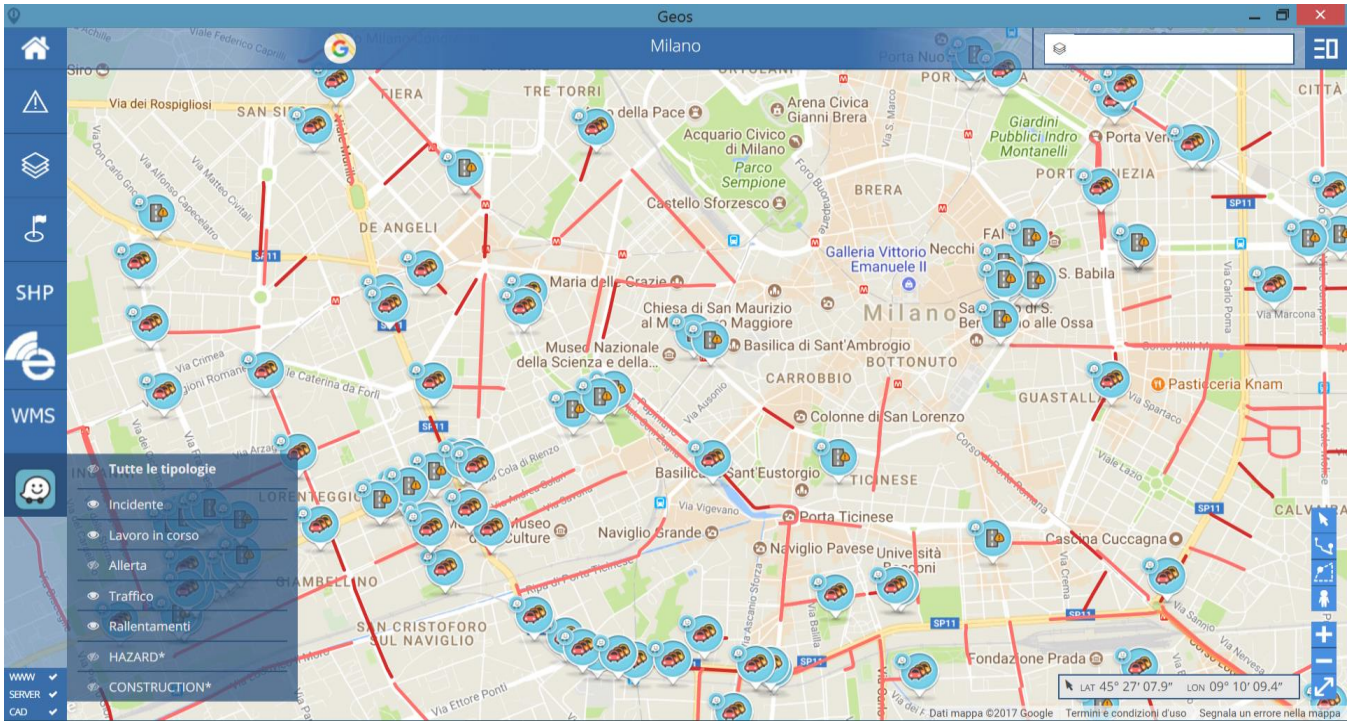

Figure 2: Traffic and incident map view used by AREU (implementation by Beta 80)

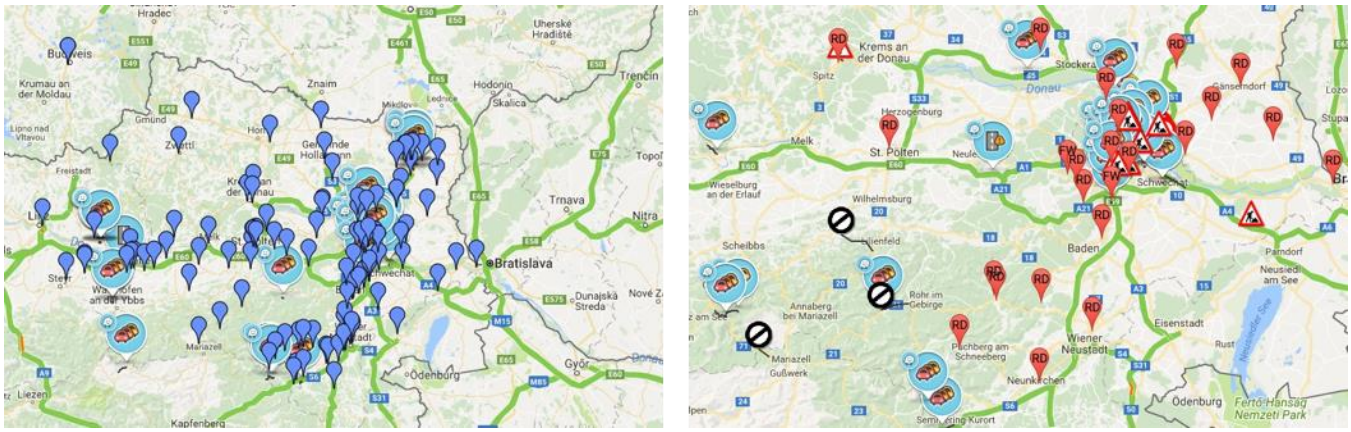

Figure 3: Traffic viewer NNÖ resources (left) and with NNÖ events used and implemented by NNÖ

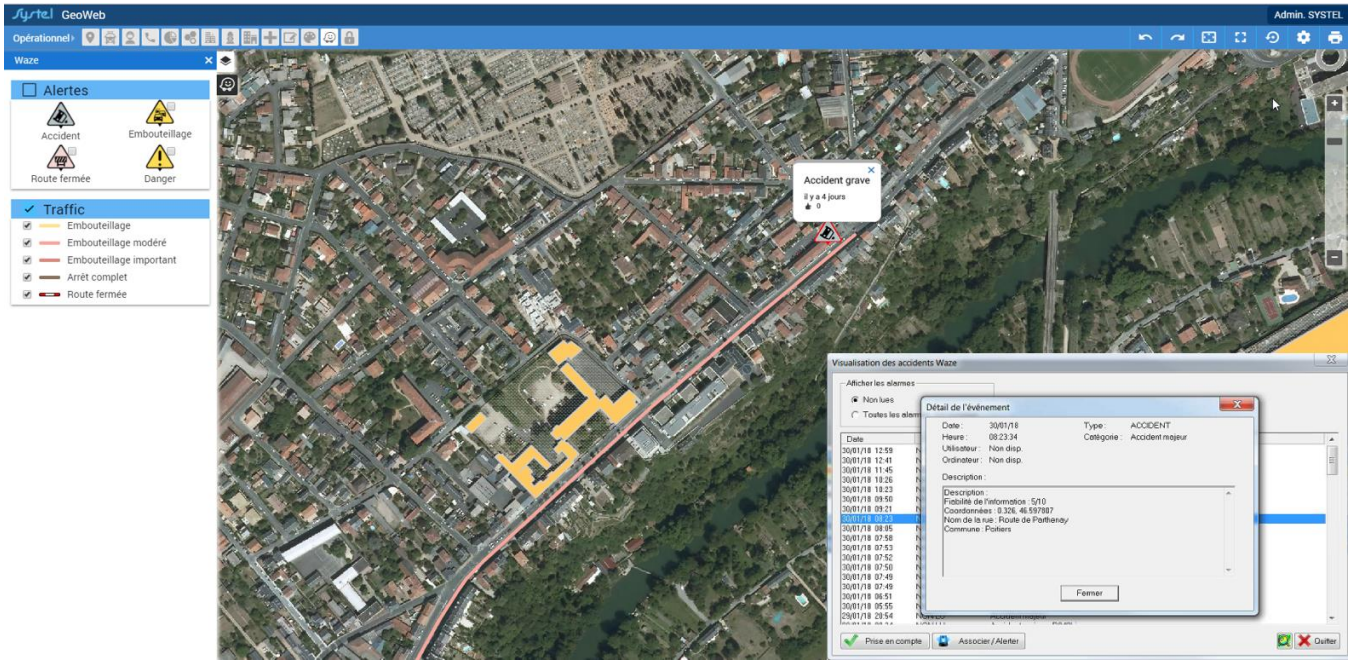

Figure 4: Traffic and incident map view used by SDIS 86 (implementation by Systel), accidents list and details (bottom right)

5.3 Identifying an incident

Reporting car accidents on Waze can allow emergency services to be notified as soon as the report is published. Previous case studies indicate that in some cases the reports on Waze are faster than emergency calls. Response times could be reduced by taking advantage of this time advance.

5.3.1 Barriers to dispatching based on Waze notifications

Some emergency services are allowed to dispatch resources only after an emergency call, resulting in not being able to test this use case. Even without this restriction, most emergency services in Europe today would raise important concerns to make a dispatch without an emergency call.

While dispatching based on a Waze notification may seem unlikely, other emergency services are more open to examine and become familiar with the data and evaluate dispatching with lower priority. The rationale is that units are already dispatched based on notifications from numerous sources that may be linked with a high number of false alerts, e.g. panic buttons, automatic alarms etc. Maybe the reports from Waze will not differ from someone making an emergency call to report that he/she can see smoke. Waze incidents could get lower dispatching priority at the beginning, but it may be possible to consider dispatching units from a Waze notification if it proves useful.

5.3.2 Waze notifications compared to posts on social media

During the project, we discussed if Waze notifications are similar to posts on social media. Emergency services are unlikely to make a dispatch based on such notifications because it does not yet reflect the way they operate. One of the pilot sites quoted that "*they may look at these notifications, maybe examine them but they would not make a dispatch without an emergency call*". In this respect, there is no difference in how they would treat data from Waze and social media or other crowdsourced data.

However, it is interesting to note that Waze could be considered more reliable due to the geolocation information of all incidents and the features allowing other users to validate the reports ("thumbs up", "not there", comments etc). If multiple drivers confirm an incident, it makes it more reliable, which is also reflected in the confidence and reliability scores.

5.3.3 A possible policy to dispatching based on Waze notifications

Becoming familiar with the Waze confidence and reliability scores, may help develop a dispatching policy for Waze notifications. Considering that the confidence and reliability scores range from 1 – 10, a dispatch may be decided when the rating is over 9, a confirmation by other means is needed for ratings between 7 and 9 and all notifications with a rating less than 7 are ignored. The numbers in this description are not suggestion and are only provided to demonstrate a possible methodology. Each emergency service should define the appropriate limits based on their experience with the data.

5.3.4 Differences between emergency services

The dispatching policy may differ per type of emergency response organization. Police, traffic police or police forces responsible for motorways, may react differently to such notifications from the fire services and the emergency medical services. An ambulance intervention is usually needed only when there are injuries, while police related responses would be required for a higher number of car accidents.

5.3.5 Comparing the time difference between Waze incidents and incidents reported by emergency calls

The main reason to monitor Waze incidents and consider dispatching based on this data is saving time in the response. The pilots in Austria and France were able to compare the time difference between the time an incident was reported on Waze and the time an emergency call was answered. It should be noted that the matching of incidents between Waze and the CAD system was done automatically by matching incidents based on their timestamps and location.

The data shows only a small number of incidents being reported on Waze before an emergency call. This may be affected by several reasons including the number of Wazers and the area and time of the accident. In some cases, the data analysis indicates a big difference in time when an incident was reported on Waze before an emergency call. The comparison of the results shows Waze being a lot faster in a few cases. The operators believe that this happens because the people involved in the accident primarily call the police or fire brigade and then they call the ambulance.

Due to the lack of thorough testing for a long period of time across a different number of pilots, the data is not presented in this report, as it may be misleading both in favour and against the project hypotheses.

6 Provide data to citizens via Waze

6.1 Description

Emergency services keep citizens informed, provide warnings, alerts and other safety related information. Sharing information about events that may affect their daily routines, on the tools they frequently use, can have a bigger impact than other communication channels.

Waze provides tools for emergency services to quickly provide incident information to citizens via the Waze app. Emergency services can use the tools to publish:

- real-time incidents, e.g. accidents or other emergency incidents that may affect road traffic
- planned incidents and road closures, e.g. construction work or other types of road closures

The information published is available to Waze users and it is used in route planning, allowing drivers to avoid delays and ease traffic congestion.

An incident type, e.g. accident, road closure or hazard, the coordinates of the affected location, a description and other related data are reported. Waze users can respond to the incident reported in a similar way to other user generated reports. They can react with a "thumbs up / not there" response or add a comment. The user reactions determine the confidence and reliability scores assigned to the incident. Figure 5: Examples of incidents provided by emergency services to Waze and how they are displayed on the Waze appFigure 5 shows examples of incidents provided by emergency services to Waze and how they are displayed on the Waze app. Waze can receive data from emergency services in different formats, including a data feed, using the Waze online tools, an online form and by email.

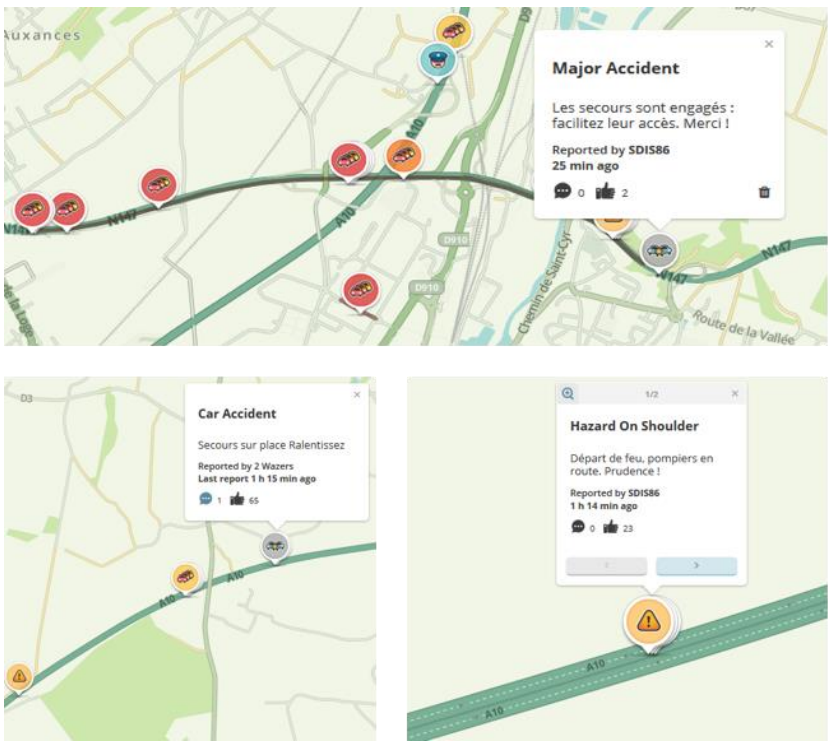

Figure 5: Examples of incidents provided by emergency services to Waze and how they are displayed on the Waze app

6.2 How was it used in the pilots?

All pilots considered Waze as an additional communication channel and used it to share information with their communities. The way the notifications were sent to Waze varied between the pilots. The pilots that used a data feed to provide their incidents, send their data from the CAD systems to Waze automatically based on a predefined range of rules. For example, the rules define that traffic related incidents, e.g. car crashes or car crashes with injured people should be published. CAD systems used predefined messages that were transferred to Waze together with the other data. In some cases, the messages were automatically generated by the CAD system, based on the incident attributes to generate a message easily readable for the public.

The pilots that manually published data using the online tools did not have such rules. Sending an incident to Waze was the decision of the PSAP operators. They decided to publish on Waze when they believed that an incident will affect near-by traffic after evaluating the incident severity, type of road, notification interest, traffic level and the level of the required operations. This process depends on the motivation of the operator and it was not as standardized as in the automatic case. The pilots report that they support the idea of having a protocol in place to reduce different approaches. When an incident was already reported to Waze by other users, the pilot operators did not publish a new notification but used the thumbs up reaction to confirm it.

6.3 Pilots experience and feedback

The pilots find Waze very useful for sharing information with drivers and it was used in a similar way they use Twitter, Facebook, radio or TV. The pilots appreciate that Waze reaches drivers that will be directly affected, at the time that this information is most useful to them.

Emergency services notifications received "thumbs up" and comments. The thumbs up metric is an indication of how useful the data for citizens is but it is difficult to follow this metric when several incidents have been reported. Comments were being followed by the pilots but no further information useful for the response operations was identified. Considering that drivers should not be using their mobile phones when driving, emergency services will not encourage drivers to confirm reports or add comments.

There was one incident during the summer of 2017 that caused heavy traffic disruptions due to a fire in the middle of motor way. SDIS86 was receiving a lot of calls and the information obtained by these calls was not useful. The PSAP operator decided to share the information on Waze and the the number of the received calls decreased.

Although, the pilot sites did not directly inform their communities that they are using Waze, people reached out to say they were very happy that such data is provided and that emergency services are open to such opportunities.

6.4 Feature requests

The pilot sites were enthusiastic with this use case and proposed some additional features as their wish list:

- Incidents reported or confirmed by emergency services should be displayed on Waze differently from user generated reports, e.g. by using different icons, different color or similar, as they are validated incidents and contain useful advice for citizens provided by the entity responsible for the responding response
- Pilot sites would like to be able to update the incident description to include up-to-date information during longer response operations

7 Other use cases and future studies

7.1 Route planning

One of the most interesting use cases is about planning the route of emergency vehicles taking into account traffic conditions. It can be used to help select the most appropriate vehicle to dispatch and also provide the route suggestion to the vehicle driver. Most CAD systems provide suggestions to dispatchers based on the shortest route and an estimated time of arrival maybe calculated using a nominal speed for the vehicle type. The contribution of traffic data to route planning can have an impact on response time but it is also the most challenging to test.

To study the impact of traffic data during dispatching, it is necessary to have the data available in the CAD tools already used in the PSAP. Waze includes traffic data in the feeds provided to emergency services, making the data available in the CAD systems and allowing CAD providers to use the data to implement route planners with traffic information. The use of traffic data in dispatching was not possible to be tested during the pilot project because the implementation of a new route planner with traffic information required a lot of effort, above the scope of the pilot project.

Including traffic data in route planning introduces new factors in the evaluation of their effectiveness. The accuracy of route planning will also depend on accurately modelling the driving behaviour of emergency vehicles. They do not always follow the traffic code, they can drive fast through congestion via emergency lanes, they can use visual and audio warnings (light bars and sirens) helping them bypass traffic, and lastly their driving behavior depends on the vehicle type.

A first step to validate this use case is to compare the route time duration estimated by the CAD system without traffic data, a route planned by considering traffic data and the real time needed by the vehicle to reach the destination. Figure 6 provides an example to demonstrate the route planning use case. Comparing the differences in the route duration of vehicle A with and without traffic data, will provide guidance on which route planning method is closer to the actual duration and to what extend does traffic data affect the route of emergency vehicles. The results of this analysis will validate the route planning with traffic data, which depends on accurately modelling driving characteristics of emergency vehicles as previously explained. It will identify if it is beneficial to use this information in dispatching and for example, select vehicle B to dispatch because although it is further away from the accident, it will reach the accident location sooner.

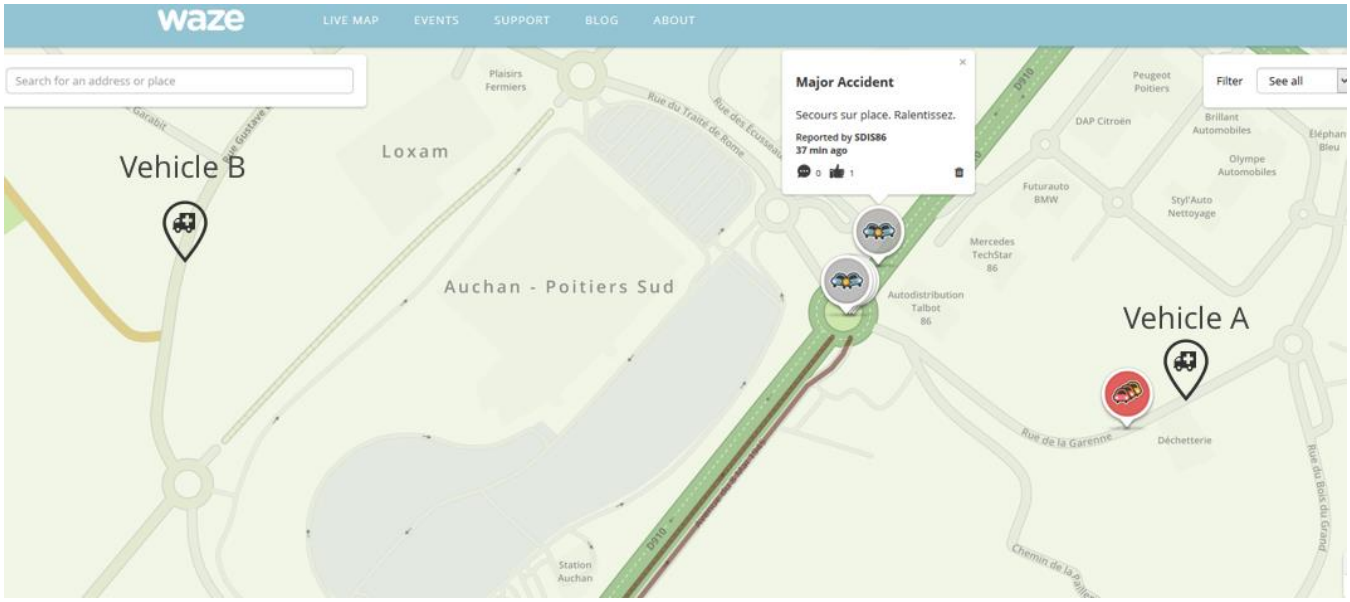

Figure 6: Example demonstrating the route planning use case

7.2 Using Waze to monitor unusual traffic

Emergency services staff cannot always afford to look at the traffic conditions while answering calls and dispatching. Waze provides a tool that can alert emergency services when unusual traffic is detected. Waze can send an automatic message when traffic in a given area is unusual compared to the normal traffic patterns for the given day of the week and time of day. Messages contain information about the cause of unusual traffic, insights, comments, and pictures based on real-time user road reports, trend to anticipate if the traffic expected to get better or worse. Studying the use of this alert type in emergency response is interesting to examine.

7.3 Waze feature: Assistance report

A new feature for Wazers allows them to create a map report indicating they need assistance. The user selects the type of assistance needed from a predefine list and is prompted to call emergency services or road assistance. The benefits of this new feature for emergency services should be studied.

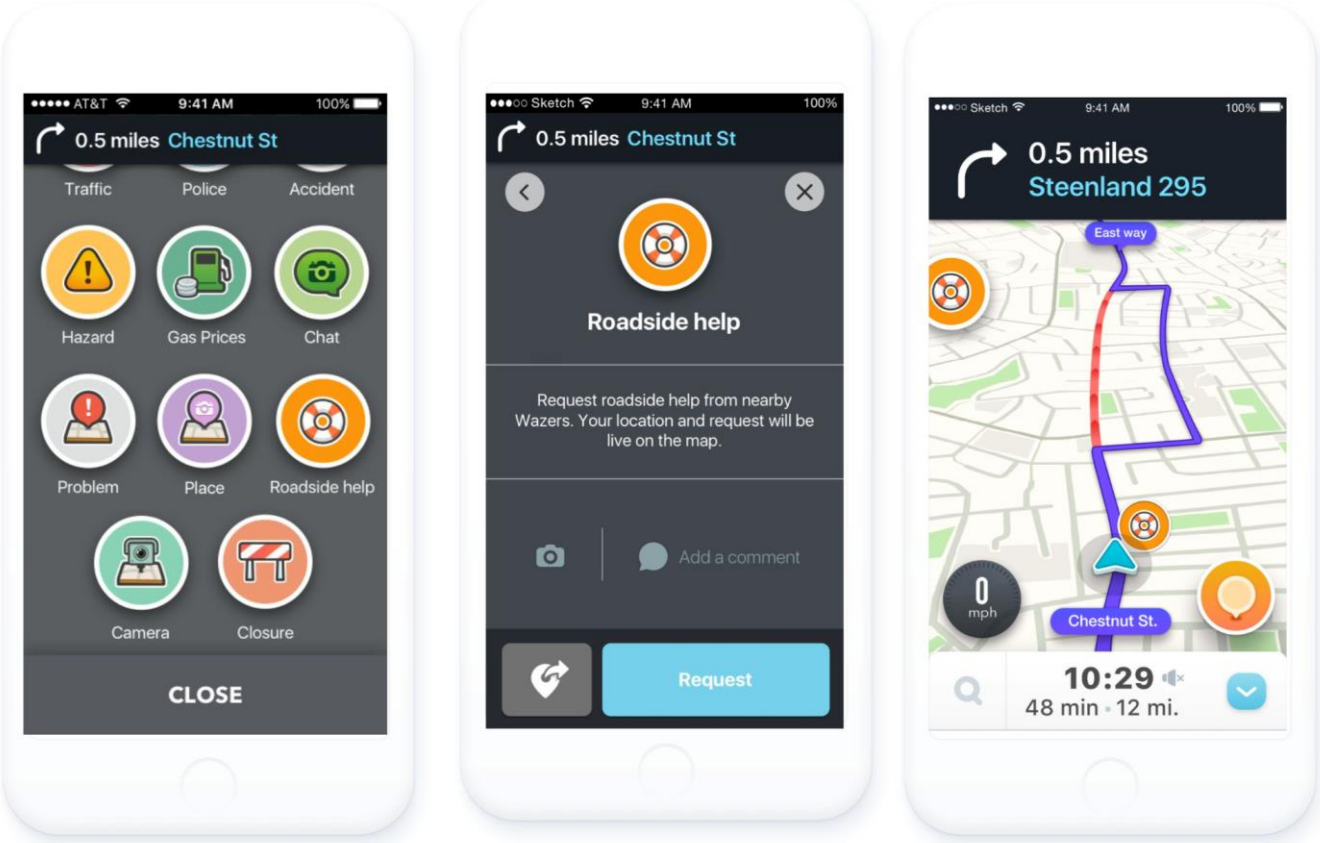

Figure 7: Waze Road assistance feature

8 Integration in the CAD vs using the Waze online tools

Waze provides its data for free to emergency services participating in CCP. The data is provided in a feed containing data for the area of operation of the emergency service. It includes the Waze-generated traffic information and the user-reported traffic incidents (including jams, accidents, hazards, construction, potholes, roadkill, stopped vehicles, objects on road, and missing signs).

Emergency services need to integrate the data from the Waze feed in their information systems, e.g. CAD, GIS etc in order to gain access and be able to view it. During the pilot project, the data integration was implemented by the technology providers of the pilot partners. The implementation is straightforward, although it should be noted that implementation complexity depends on the available system and technology.

In addition to the data feeds, Waze offers online tools, the Traffic View Tool, where partners have access to real-time, user-reported incidents and estimated travel time along pre-selected routes.

Similarly, emergency services can use the online reporting tools to send real-time incidents and planned road closures to Waze.

Three pilot sites evaluated the use of Waze by integrations and one pilot partner used the online tools. All pilot partners had access to same data and the same functionality regardless of the selected approach. Emergency services can participate in the CCP without any integration.

The project observations and recommendations of the pilot sites suggest that an integration is preferred to avoid adding additional tasks to operators and provide them with the needed functionality in the tools they already use. The integration is also strongly suggested for the use case of providing data to drivers via Waze, as the pilots show that it can operate without any intervention.

9 Recommendations

The pilot project offered insights on the use of traffic information for emergency response. Using traffic and incident information from Waze has been a positive experience for the pilot sites. All pilots will continue to use the integrations or the Waze online after the end of the pilot project.

The following recommendations are provided as a brief summary of lessons learnt and the conclusions of the project.

9.1 Recommendations for emergency services

1. **Consider using Waze to view traffic and incident data and provide data to citizens via Waze**
   By defining flexible protocols for these use cases, pilots report there is no high risk involved and no reason not to use it. Pilot operators were happy to use Waze, it was reported by some operators like a game and there were no difficulties encountered.
2. **Use Waze to locate traffic accidents when no other location information is available**
   The pilots have shown that in the lack of caller location information, Waze can help in locating a car accident. They observed that notifications in Waze are quick and a number of incidents appear in Waze before an emergency call is received.
3. **Send data to Waze and define protocols of when incident data should be sent to Waze**
   There is a growing need for authorities to reach citizens using new communication channels. Waze provides this channel to provide information to drivers when they need it most. Integration is needed in this case to make sure no operator intervention is needed. Manual reports on Waze are still possible but probably used only for larger incidents.
4. **Use the Waze online tools when no integration is available**
   The pilots using the online tools report that they are easy to use, efficient and do not require a lot of time.
5. **Experiment with monitoring car accidents notifications available on Waze to determine a policy appropriate for your organisation**
   While deciding to make a dispatch based only on crowdsourced information does not look possible for all emergency services, some emergency services show interest to further study

this possibility and determine their policy. Studying and using the Waze confidence and reliability scores can be helpful. Note, that legal considerations on the use of crowdsourced data for emergency response are raised, e.g. is it possible to decide to select a vehicle to dispatch based on publicly sourced data.

9.2 Recommendations for CAD providers

1. **Integrate Waze in the CAD system to receive traffic/incident data and allow emergency services to automatically send incidents to Wazers**
   A CAD implementation was preferred by pilot sites to be able to integrate the data as deep in the systems as possible and support the work of PSAP operators.

9.3 Recommendations for Waze

1. **Provide a mechanism to share route planning for emergency vehicles outside the Waze tools**
   Taking into account the importance of time in the work of dispatchers, having this information available in the CAD system seems the only way that dispatchers can benefit. The possibility to integrate this information in the CAD systems would initiate new studies on its benefits for dispatching and may raise a need to add emergency vehicles as a new vehicle type in the route planning tools.
2. **Consider the emergency services feature requests**
   Pilots have proposed two feature requests as their wish list: to visually distinguish incidents reported by emergency services and provide them with the functionality to edit the description of a reported incident.

The idea of a unique data store for this kind of data was suggested during the project. The rationale of this proposal is that many applications like Waze may collect traffic and incident data, which will allow emergency services to have a unique data repository from multiple sources. The opposite data flow from emergency services to other tools and applications should also be considered. This is the principle of the "OpenEventDatabase" project in France.

10 Annex A: Description of pilot partners

10.1 AREU (Italy)

Azienda Regionale Emergenza Urgenza (AREU) was instituted on April 2nd 2008, as the Regional Healthcare Agency aimed to the governance and operational management of all the extra-hospital emergency medical activities in the Region, to develop the integration of the intra- and extra-hospital healthcare emergency, to coordinate the organs and tissues transportation service and to coordinate the regional blood transfusion and hematic components activities. AREU has been appointed to define and implement the two stages 112 EEN model, develop the 116117 and the non-urgent healthcare patient transportation services. One of the AREU's main objective is to unify and to coordinate all the EMS activities carried out on the regional territory. This involves: people, processes, organization, technology and knowledge.

AREU's activity covers more than 10 million citizens over Lombardy and manages three stage one 112 EEN PSAPs and four EMS PSAPs. In 2016 the 3 stage one PSAPs received 5,300,000 calls while the EMS PSAPs processed 1,063,000 emergency calls and 859,511 missions were dispatched rescuing 794.671 patients.

AREU coordinates 1,400 full time equivalent technicians, nurses and doctors. Tens of thousands citizens from civil society and institutions serve as certified volunteers on ambulances.

The rescue fleet is composed by:

- 350 basic life support emergency vehicles (BLS ambulances),
- 50 intermediate life support emergency vehicles with nurse (ILS ambulance and light vehicles),
- 50 advanced life support emergency vehicles with doctors and medical equipment (ALS ambulances and light vehicles),
- 5 rescue helicopters.

AREU has developed and is distributing freely "112 whereARE U", a mobile App able to place an emergency call toward the 112 while sending the location of the phone (GPS, A-GPS based). This is a service completely integrated with the emergency management system used in the PSAPs.

During the HeERO project, AREU prepared the Varese PSAP for the pan-European eCall management. For three years, Varese is acting as the eCall ready PSAP for all the eCall testing activities carried out in Italy and cross border.

10.2 NNÖ (Austria)

144 Notruf Niederösterreich (NNÖ) handles different emergency agencies and dispatches services for the state of Lower Austria on a large scale. The main operation area is located in the north-east of Austria. It covers 7,403 square miles and a German-speaking population of about 1.6 million people.NNÖ has the largest area (19.186 km²) and the second largest population (after Vienna) of the nine Austrian federal states. The landscape combines rural urban and alpine areas. Lower Austria surrounds the federal capital city Vienna (which is a federal state itself). NNÖ was founded in 2003 to consolidate the former 90 autonomous emergency call centers in an up-to-date emergency network.

NNÖ is a non-profit limited liability company. The state of lower Austria holds the majority of the company, other parts belong to the major ambulance agencies. All major EMS and rescue organizations are integrated in NNÖ e.g. Emergency Medical Service, HelicopterRescue, WaterRescue, MountainRescue, CaveRescue, Psychosocial-Response-Teams, Non-Emergency-Transportation etc.

NNÖ staff dispatches around 850 EMS Units, 42 MICUs including 5 HEMS, 238 first- responder-groups etc., serves 211 rescue stations and dispatches about 4.000 events daily (around 700 are emergencies). NNÖ staff has a variety of qualifications (EMTs, paramedics, registered nurses, medical doctors), working in local teams in the decentral centers. NNÖ currently holds two external quality accreditations which are based on audits by external experts, and have to run reaccreditations regularly. NNÖ has also an in-house technical department with IT staff (programmers, app developers and mobile communication experts).

10.3 SDIS13 (France)

SDIS13 is a fire department in charge of organizing the emergency response in all risk domains, including paramedic, hazmat, fires, search and rescue and manage prevention. In 2016, Bouches-du-Rhône County had around 4500 voluntary fire fighters, 1192 professional fire fighters and 400 administrative, technical, and specialized personnel of the French Civil Service.The Bouches-du-Rhône Fire Department encompasses 62 fire stations divided into 5 territorial districts that carry out operational, administrative, and technical missions.

In 2016, the SDIS13 has coped about 130,000 missions. The fire department is run by an administrative board and a committee composed of representatives from the General Counsel, communities, and public organizations for the competent regional cooperation in matters of fire safety and response.

10.4 SDIS86 (France)

SDIS86 is the fire and rescue service of Vienne county (Département de la Vienne). It is located in west of France between Paris and Bordeaux. The fire and rescue service is composed by 1,500 firefighters among them 200 are professionals and 1,300 are volunteers. They intervene 18,000 times per year (2,000 fires, 2,000 road accidents, 12,000 emergency relief and 2,000 protections) on a covered area of 7,000 km² with 430,000 inhabitants. People can reach the emergency service through 18 or 112 PSAP.

Editors' Note:

We are grateful to the teams from the four different pilot sites for their time, commitment and professionalism during the course of the project. The teams from Austria, France and Italy were generous in sharing their expertise with each other and with the teams from EENA, Waze and the wider emergency service and first responder communities.

We are also grateful to the CAD providers of the pilot sites that implemented the integration between Waze and the CAD systems. Without this integration the studies of this project would not be possible.

The project could not have been successful without the expertise and support of Waze and the team involved directly in the day-to-day operation. We thank them also for their energy and enthusiasm since the project was first proposed and we look forward to further collaboration on the topic and to the sharing of knowledge and deeper understanding on the technology.