6 STEPS
TO CHOOSE THE BEST MOBILE COMMAND VEHICLE

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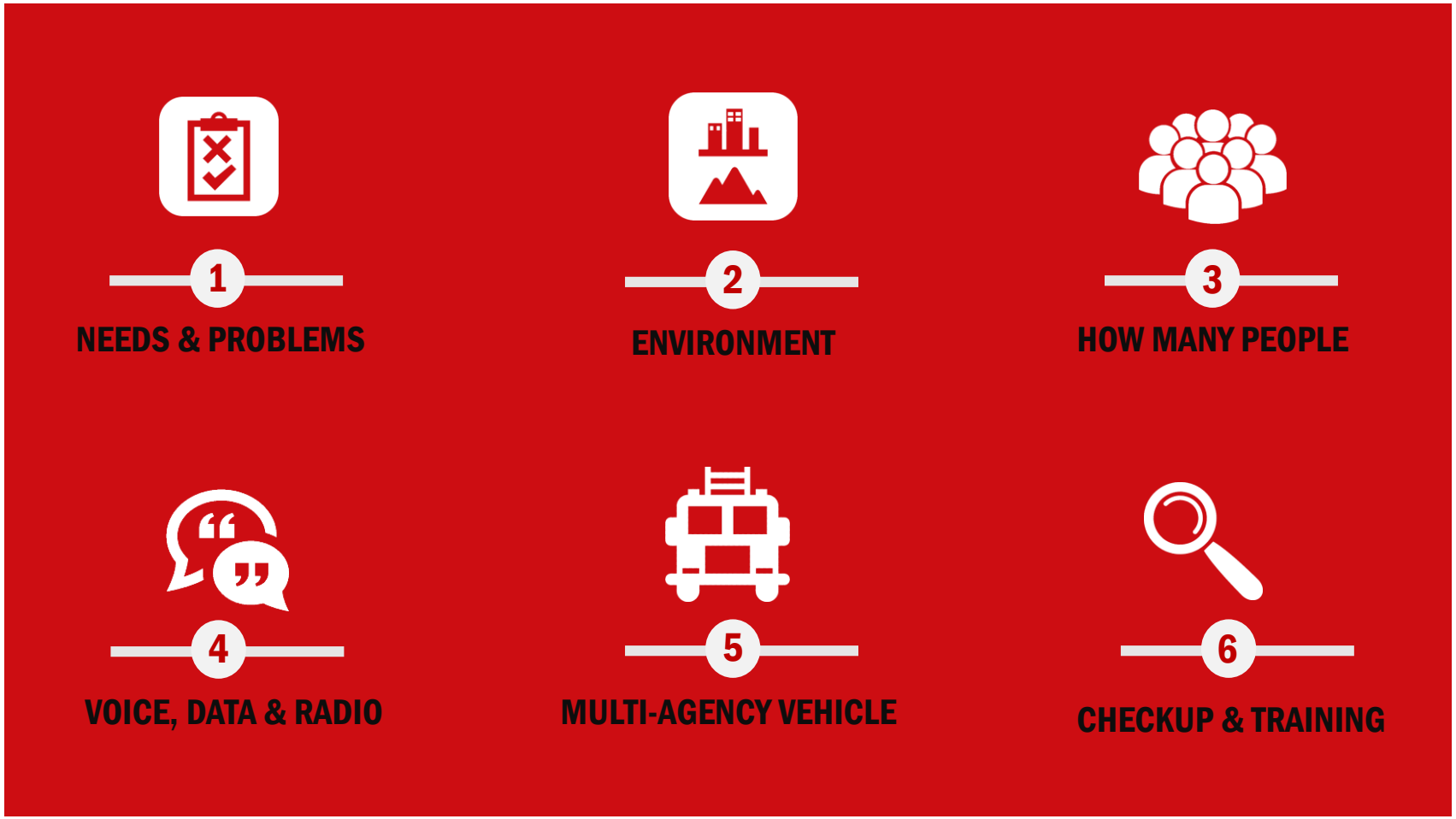
6 STEPS TO CHOOSE THE PERFECT MOBILE COMMAND VEHICLE

The purchase of a Mobile Command Vehicle requires a great deal of time and money. You certainly want to make the best possible decision because you know your agency will have it for several years. Every decision you take is decisive because in the end, the mobile command post will be deployed in the most critical situations.

With the multitude of possibilities, budget constraints and the speed with which technologies change and evolve, it's hard to find the right solution adapted to your specific needs.

Thus, to help you build the best mobile command unit in the world, we have drawn up a list of questions that should be answered in the acquisition process.



2 FEW INTERESTING STATS

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LIFE EXPECTANCY

For trailers and trucks, the average life expectancy is over 10 years and up to 15-20 years in certain cases.

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EQUIPMENT ASSESSMENT

We recommend that every 3 years, each vehicle's IT communications equipment is assessed.

6

DELIVERY

In average, from date of award to delivery, it can take between 6 and 12 months, but can be up to 24 months.

« Keep in mind the reason why you’re buying the vehicle and what kind of response you’re going into. This will help you choose the best possible equipment. Don’t forget that this set of technologies will serve you when you need it the most ! »

Alan Schmautz – IT Engineer at Nomad Global Communication Solutions

4 NEEDS AND PROBLEMS ?

As you know, there's a wide range of vehicles and trailers on the market. Before thinking about the design, establish the general functions of the unit. According to the Guidelines for the Design of Mobile Command Posts and Similar Emergency Response Vehicles, here are the functions you should consider:

- ✓ First line response
- ✓ Command and Control
- ✓ Decision making and planning
- ✓ Communications/Dispatch
- ✓ Conference

At this step, you will also have to **identify your current problems**. Here a frequent examples:

- ✓ Public safety agencies are working with different technologies and frequencies.
- ✓ Geography preventing responders to get constant cellular of radio coverage.
- ✓ Dead spots
- ✓ Etc.

Now that you've got a better idea of what are your problems and your needs, you're ready to move on to the next step !

WHAT ARE YOUR NEEDS AND PROBLEMS ?

Let’s talk about the mission of this command post vehicle that you want to have. In the first place, you should identify the problems you want the vehicle to solve. If you’re able to identify what kind of response the unit must be able to answer to, it will help you choose the equipment and the type of vehicle that is adapted to your needs.

Think beyond just strictly emergency response, also think about large scale events such as parades or football games where you may need to use the unit. Consider the fact that mobile networks can breakdown or become overloaded preventing responders to use their cellphones. In such cases, you might need to use a satellite dish or an RF network such as a microwave or a MESH network.

«A mesh network is a network topology in which each node relays data for the network. All mesh nodes cooperate in the distribution of data in the network» *Click here to learn more.*

Furthermore, you should ask yourself if you are in a location where in case of an emergency, there would be multiple organizations involved; local, state and federal resources. For example, if you’re near an airport, highway, railroad line, chemical storage facility then yes you may have a need to support a whole alphabet soup of agencies or private companies. You should also look at your history of past events to see what has happened, who responded, and what communications issues happened that you want to solve with your new MCP.

LAC MEGANTIC TRAIN DERAILMENT

City of **6 000** Citizens

1 000 firefighters from **80** departments (Canada and US)

Lac Megantic was not equipped for the scale of communications, hindering the emergency work.

Don’t ask yourself what you will do if it happens, ask yourself what you will do when it happens !

“The events of July 6, 2013, at Lac-Mégantic have opened a lot of people’s eyes. Flammable liquids transported by rail or by road have been increasing every year and fire/emergency services must respond to a growing number of calls and to situations previously unknown to them“.

- Denis Lauzon,
- Fire Chief, Lac-Mégantic -

7 ENVIRONMENT TYPE

The type of environment is a critical question because it will impact the height, width, length and weight of the vehicle. Remember, when talking about the size of the unit it should include the discussion of where you are going to park it and who will drive it.

According to the *Guidelines for the design and construction of mobile command post and similar emergency response vehicles,* here are the typical operational environments:

URBAN

Within large metropolitan area

Within small to mid-size urban area

RURAL

Linking two or more small communities

Off-road usage

HIGHWAY

Linking two or more small communities

Significant highway usage

AIRPORT

Paved and off-runway areas

Paved areas

HOW MANY PEOPLE WILL HAVE TO COMMUNICATE ?

Establish the number of people who must use the mobile command vehicle resources and communications. It will help you determine the size of the vehicle and the required equipment. For example, do you need a unit to handle a workgroup or you only need enough space for 1-2 people with a relative comfort?

If several agencies intend to use the unit, you should get the minimum operational requirements of every organization because each of them might have their own set of needs and communications systems.

Equally important, is the purpose of the vehicle. Will it be to support a specialized team like the hazardous materials response team, the Urban Search & Rescue team, the dive rescue team, the fire investigation team or an explosive ordinance (bomb squad) unit? Each of these specialized teams comes with their own set of needs and communications systems. For example, each of these team will need a dedicated radio frequency for the operations teams to operate on which will be off the main department radio.

Once you have think about all these aspects, it’s time to consider the environment.

HOW DO YOU WANT TO COMMUNICATE ?

VOICE, DATA AND RADIO

Perhaps the greatest benefit brought to the scene by mobile command centers is technology. As you know, communication technologies evolve rapidly, and interoperability of radio systems is not automatic. Radios might be the first way to communicate, but it’s far from being the only way to communicate! Hence, here are elements that should be reviewed when talking about communications.

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RADIO COMMUNICATIONS

In general, mobile command vehicles will have several mobile radios and frequencies to be able to talk with the different emergency services involved in a crisis. However, if the different agencies work with different technologies and frequencies, it's an operator into the mobile command center who will have to manage the conversations between departments. Consequently, the more you add intermediaries, the greater are the chance of having errors in the message besides the fact it might become confusing to manage all these radios.

You should not rely solely on the Emergency Communications Center (ECC) because it's not necessarily all the radio networks that are already interoperable. Connecting new radio networks takes programming, technicians, and time, which you don't necessarily have in emergency response. Apart from the fact that the ECC may have been affected by the crisis and are no longer able to assist you. Consider, as well, that if the radio towers are collapsed or out of reach, you probably won't be able to speak with anyone. Therefore, you might want to consider a solution that allows you to interconnect several agency networks in minutes without any technical assistance.

To counteract problems cited before, to avoid keeping a radio of every network, changing all the radios or swap them on the field, you should consider a radio interoperability gateway that will allow you to become completely independent on the field. Systems such as BCC-RI provides a communication bridge, or link, between up to 10 radio networks with otherwise incompatible radios. The radio gateway allows you to interconnect several agency networks such as municipal, state, federal, public safety, and military radios. Simply by plugging a radio of every network to the gateway through a cable, you will obtain interoperable communications between 100Mhz, 800Mhz, UHF, VHF, VoIP devices, and TETRA in minutes.

Unfortunately, not every responder and mutual aid partner have a radio to communicate. For this reason, the people in the command vehicle must have access to a phone to make and receive calls. Ideally, the telephone system should have a single inbound number to allow communications with every responder without knowing the number of everyone. The telephone system should also have the same single inbound number no matter what backbone is available (mobile networks, T1 lines or satellite). This line of communication must rely on as many networks as possible to ensure redundancy in case of communication network failure.

In a mobile command post, you should avoid the use of a hosted phone system. Using VoIP on a mobile connection is subject to fail in an emergency because the network risks of being overloaded. Everybody will try to send SMS, pictures and make calls at once. For this reason, you should consider using multiple mobile carriers to ensure redundancy. For example, if your primary network is Verizon and it becomes unavailable for any reason, you will need to rely on a secondary network such as AT&T.

It is equally important to consider standard landline, VoIP over a Satellite, microwave connection or linking an Iridium phone to your phone system in the Command Post. It will ensure that you have a least one line to communicate. Also, consider to get one desk phone per station as well as some cordless phones and long range cordless phones for some users who will not be permanently in the Mobile Command Post.

DATA COMMUNICATIONS

The vast array of data flowing is only limited by the technology available and connectivity to external networks. Connections to satellite, analog, and digital networks are a standard and provide your team with access to the feed of information and communications they need: ranging from live weather feeds, to networked incident management platforms, e-mails, telephones, video communications, drones, outside cameras, maps, and general Internet access.

As you know, data is critical to emergency response operations. When you will evaluate the alternatives, keep in mind that you cannot only rely on your agency's Virtual Private Network (VPN). You never know when your VPN will breakdown or become difficult to access and if that happens, you will still need to have access to data. As a result, you also need to consider a separate network that will allow you to access the public Internet network. Remember, as with the radio and voice communication, you need to have redundancy with other technologies (Satellite, Mesh/Microwave, DSL, LTE, Fiber and WiFi to WAN) and service providers.

We cannot repeat often enough that you need to be independent! In crisis situations, everything can happen so make sure to be ready for every kind of situation (power outage, overloaded cellular network, tower collapsed or out of reach, communication failure with your headquarter, etc.).

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EVEN BEFORE THE DELIVERY

YOU WILL HAVE TO THINK ABOUT THE VEHICLE INSPECTION, MAINTENANCE AND TRAINING

Fortunately, companies like Nomad GCS, provider of mobile command vehicles and advanced interoperable communication solutions, offers protection plans that allow you to keep peace of mind. The only thing you will have to think about is fuel and routine maintenance.

Consider a sustainment plan where the manufacturer will proceed to IT upgrades, annual physical inspection and will inform you of the products end of life. You need to know exactly how it would affect your deployment if one piece of equipment was out of date or not supported by the manufacturer anymore. Remember, to get the most from the unit, you will need constant maintenance!

Maintenance, repairs, and upgrades need to be planned because these are all elements that will impact your budget in the future. It's worth investing more in technologies and support because you will be thankful in the future. As already discussed above, technology changes quickly. If you don't keep your vehicle up to date, you may be in a situation where when you deploy your mobile command center, the satellite dish won't work because your modem needs a new firmware prior to communicating, or the SIM cards attributed to the unit have been deactivated for example.

It is also imperative that you conduct exercises as much as possible, to ensure continuity of knowledge should the staff change and obsolete technologies get replaced. It is not during an emergency response that it will be the proper time to explain how the vehicle and equipment works or to fix technical problems. We suggest that you **exercise the vehicle monthly** , or at least do a complete check, so you know it's going to work the way you would like to when the crisis or the deployment occurs.

CONGRATULATIONS ! YOU'RE READY TO MAKE AN INFORMED CHOICE

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BASE CAMP CONNECT

WWW.BASECAMPCONNECT.COM

WE BELIEVE THAT TECHNOLOGY MUST EMPOWER EMERGENCY MANAGERS ON SITE, NOT ADD TO THEIR CHALLENGES

Base Camp Connect is the only user-deployable communication system you can transport anywhere, making true interoperability possible between voice, data and radio equipment/technology in a 5-minute setup without the need of a technician.

Watch the video to discover how the Montreal Fire Department equipped their mobile command post

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