National Alliance of State Animal and Agricultural Emergency Programs (NASAAEP)

> Animal Evacuation and Transportation Best Practices

> NASAAEP Evacuation and Transportation Best Practices Working Group

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Introduction

According to a study conducted in 2006, there are approximately 45 million household pets in the United States¹. Pets are often considered part of the family and the bond between humans and animals can reach a point where a family is reluctant to be separated from their pet in times of emergency.

Recent disasters have demonstrated that people may not evacuate if they cannot take their household pets and service animals with them. People may become upset if they do not receive assurances that they and their pets will be co-located when seeking shelter. Those who are forced to evacuate without their pets may attempt to re-enter the evacuated area and rescue their pets before it is safe to do so. In either case, this places a greater burden on the first responders that are tasked with the safety of people within the impacted area. Therefore, the need to be able to evacuate household pets and service animals is paramount and the ideal situation would be one where people and their animals are evacuated together.

The responsibility to safely evacuate household pets and service animals lies mainly with the owner. Regardless of the type or number of animals, the owner needs to have a plan in place to evacuate and shelter their animals. While most people will likely be able to evacuate with their pets, some of the population will not have the resources or capability to do so. Emergency management planners must consider this population to ensure that they and their pets and service animals will be included in emergency evacuation plans.

The Evacuation and Transportation Best Practices Working Group was tasked by the National Alliance of State Animal and Agricultural Emergency Programs (NASAAEP) to develop a document for emergency planners and animal relief groups that identified best practices associated with the evacuation and transportation of animals. The working group reviewed existing State and local evacuation plans, met with recognized subject matter experts, and collaborated with other groups and agencies to develop the following best practices. For the purpose of this document, *household pets* is defined using the language from the Pet Evacuation and Transportation Standards (PETS) Act²:

A domesticated pet, such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes and can travel in commercial carriers and be housed in temporary facilities. Household pets do not include reptiles (with the exception of turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes.

The working group recognizes that, in addition to household pets, service animals also need to stay with their owners. For the purpose of this document, it is assumed that emergency planners will include service animals in their evacuation, sheltering, and transportation plans. The Department of Justice recently amended its regulation implementing Title II rule of the Americans with Disabilities Act (ADA)³. Included in those revisions was a change in the definition of a service animal:

A dog that has been individually trained to do work or perform tasks for the benefit of an individual with a disability.

¹ AVMA 2007 U.S. Pet ownership & Demographics Sourcebook

² http://www.govtrack.us/congress/bill.xpd?bill=h109-3858

³ http://www.ada.gov/regs2010/factsheets/title2_factsheet.html

The regulation states that other animals, whether wild or domestic, do not qualify as service animals. Dogs that are not trained to perform tasks that mitigate the effects of a disability, including dogs that are used purely for emotional support, are not service animals. The regulation also clarifies that individuals with mental illness, a history of seizures or Post Traumatic Stress Disorder, among other nonphysical disabilities, who use service animals that are trained to perform a specific task are protected by the ADA. The regulations also permit the use of trained miniature horses as guide animals, subject to certain limitations.

This document is divided into two sections. The first section addresses the issues and considerations for developing an evacuation plan and includes suggestions for public messaging before, during, and after an event, and assisted evacuation for those who do not have the means to leave. It also covers the importance of co-located shelters so that people and animals can be housed near each other to minimize the separation of people and their pets, and to decrease the resources needed to evacuate and transport both. The guide also provides steps in developing an evacuation plan that incorporates household pets and service animals.

The transportation section is designed to give an emergency planner an overview of the vehicles commonly used in emergencies to transport household pets and service animals. Each vehicle type is followed by a description as well as advantages and disadvantages of each. It is the responsibility of the emergency planner to consider the merits of each transportation type and arrange for an appropriate means of transportation in advance of any event. With any transportation of large numbers of animals in an emergency, there is a potential risk of animal injury or death. No matter which method of transportation is chosen, the three crucial factors to consider are ventilation, climate control, and the ability to monitor animals during transport.

Evacuation Planning

Evacuation planning focuses on maximizing the number of people evacuated from a dangerous area, preferably prior to any incident. Orderly evacuation of animals concurrent with human evacuation will eliminate owners' resistance to evacuate or to abandon an animal pre-incident, and removes the motive to return to an unsafe incident site to rescue animals. Thus, planning for animal evacuation promotes public safety during incident response and recovery.

It is very important to have an evacuation plan for animals such as horses, livestock, research animals and exhibition animals, which, as already noted, are not included in the definition of household pets. Owners of animals not covered by the legislation are encouraged to create a contingency plan for their animals; jurisdictions with any of these animals are, in turn, encouraged to engage these stakeholders in developing contingency plans. However, defining best practices for animals not defined as household pets or service animals is not within the scope of this document.

Public Messaging

Public messaging at all stages of an evacuation should include planning for a family evacuation that includes their pets.

Pre-Event Public Messaging

Pet owners with transport and sheltering resources should be encouraged to prepare a comprehensive family evacuation plan that includes their pets. Pet owners who have transportation resources but do not have sheltering resources should be given a list of pet-friendly hotels and boarding facilities in sheltering communities or be directed to co-located shelters. Pet owners that have neither transport

nor sheltering resources should be identified in advance and directed to local pre-determined sites where they can be picked up and transported to co–located shelters. Pre-event public information should include which species are defined as household pets for the jurisdiction so pet owners with non-traditional pets know they must make alternate evacuation plans.

For example, in New Orleans, residents needing transportation assistance are asked to pre-register their family including listing their pets either on the internet or by phone. Before Hurricane Gustav in 2008, there were very few people who pre-registered themselves and their pets in the New Orleans City Assisted Evacuation Plan (CAEP). By July 2009, over 70% of the estimated 30,000 people that may need evacuation assistance had pre-registered, including over 2,000 pets.

All pet owners should be encouraged to prepare an emergency evacuation kit for their household pets and service animals that includes documentation of vaccinations, especially rabies; a list, as well as a supply, of the pet's medications; a supply of the pet's food; and a pet collar that has the pet ID tag with owner's name and contact information and current rabies tag. Pet owners should have a transport

carrier for their pet that is small enough to be put in a vehicle and a sheltering carrier big enough for the pet to stand up in and turn around.

Pet owners should also be encouraged to permanently identify their pet with a microchip and register the pet with a national database. Microchipping is the most widely accepted form of permanent identification for pets. Identifying pets with microchips requires a scanning device. Most microchip companies provide tags that include the microchip number and the company's toll free number, providing an additional method of identification if a scanner is not available.

One striking example of how well microchips work is the example of the horses removed from New Orleans and the surrounding area after Hurricane Katrina. Over four hundred horses were removed from the area after the levees were breached. In Louisiana, horses are required to be permanently Planning should include public information that encourages people to include their household pets and service animals in their family evacuation plans, providing co-located shelters where owners can be sheltered near their pets and are able to care for them and, in some cases, providing transportation for people and their pets to co-located shelters.

identified either with a microchip, brand, or lip tattoo when tested annually for Equine Infectious Anemia. Because all of the horses were permanently identified (the majority with microchips), over 95% were reunited with their owners. This is in marked contrast with the household pets rescued after the levee breeches. The majority of household pets were not microchipped and registered to their owners. According to the Louisiana Society for the Prevention of Cruelty to Animals (LASPCA), the highest estimates were only that 15% of household pets were reunited with their owners.

Each jurisdiction must identify what the laws and/or policies are pertaining to the implantation of microchips. For example, in Louisiana, a veterinarian is required to implant a microchip, whereas in California, the implantation of a microchip is not considered to be a veterinary procedure so it can be done by unlicensed persons and does not require the supervision of a licensed veterinarian.

Evacuation Event Public Messaging

Public messaging should be a coordinated, consistent message about the locations of co-located pet shelters. Throughout the evacuation event, public messaging should encourage people to evacuate with their pets. Coordination between all local, state, tribal and federal agencies to present the same message is essential. Pet owners that do not have transportation or sheltering resources should be

directed to pre-determined sites where they can be picked up and transported to co-located shelters. Pre-event public information should include which species are defined as household pets for the jurisdiction so pet owners with non-traditional pets know they must make alternate evacuation plans.

Post-Evacuation Public Messaging

Post-evacuation public messaging should inform pet owners on the process that will be used for retrieving pets left behind. Communicating with pet owners about the mechanisms in place to safely retrieve pets left behind will enhance public as well as first responder safety. Pet owners may put themselves in danger, along with responders who might have to rescue them, by returning to unsafe areas to retrieve their pets.

Additional safety messaging should include that animal retrieval will only be conducted by agencies with jurisdictional responsibility. During evacuations, if a pet owner leaves their home without their pet and, if it is safe to return, encourage them to go back and get their pets. If they leave home without their pet and it is unsafe for them to retrieve their pets or they arrive on the scene and are prevented from retrieving their pet, provide a mechanism to register those people and get permission (signed release) from the pet owner for the later entry into their property and rescue or care of their pets. This step will help prevent people trying to go back into dangerous areas to retrieve their pets. Communicating with these pet owners and giving them information will help keep everyone safe.

In the wildfires in San Diego County in 2003 and 2007, numerous people were away from their homes at the times of the fires and were prevented from entering the evacuation areas by law enforcement. In such cases, those people were directed to contact the local animal control agency who would dispatch an animal control officer to the owner's residence to rescue the pets. The animal control officer would then arrange to meet with the owner at a roadblock or assembly area to turn the pet over to the owner. Nonetheless, some people still ran the roadblocks or found other roads that were not barricaded and entered the evacuation area. These people not only endangered their own lives and those of the first responders who might be called upon to rescue them.

Co-located Facilities

Animal boarding facilities and pet friendly hotels should be identified in sheltering communities and a list of these facilities should be maintained by the agency with jurisdiction. This list should be updated annually.

As with human shelters, co-located owner-pet shelters should be identified in sheltering communities as an option for people who evacuate with their pets. Use of such shelters should be encouraged if other options are not possible and publicized as such. One of the main limiting factors in encouraging people with household pets to evacuate is the limited number of sites accepting both people and pets. Having an adequate number of co-located shelters with equipment and staffing, and informing the public about these shelters will encourage people to evacuate.

Co-located pet shelters may not be immediately adjacent to the human population shelter. In such cases, transportation to and from the shelters may need to be arranged.

Assisted Evacuation

For people that do not have a method of transportation out of the evacuation area, develop a plan that will address the transportation needs of the community, and their pets. Providing transportation for

people and their pets will enable more people to get out of harm's way and prevent people from trying to go back into unsafe areas after an event.

Separation of People and Pets

Separation of pets and owners should be avoided, if possible, but pets should not take the place of a person if resources are limited. Service animals should not be separated from their owners. Keeping people and pets together decreases the person's and the pet's stress and is less labor-intensive.

Experiences from evacuations from Hurricane Gustav demonstrated that limited resources to transport people may make it necessary to have separate transport of pets that cannot sit on the lap or fit in a carrier under the seat of an owner. During Hurricane Gustav, large pets were separated from their owners at the local parish collection sites. Each pet was identified with a unique animal ID that linked the pets to the owner. Large pets were then placed on pet transport trucks to be transported separately from their owners. Approximately 42% of the total pets evacuated were large pets transported in this manner.

Planning for household pets that may be separated from the medical special needs human population needs to be considered. Because pets may not be allowed in medical special needs shelters and it may be impracticable to set up co-located pet shelters near every human medical special needs shelter, these pets may have to be separated from their owners and cared for by shelter workers. For example, in Louisiana, one prison has been set up to have inmates shelter and care for the pets of the medical special needs human population. Prison labor is also used to assist in the set-up, cleaning, and breakdown of pet shelters across the state.

Service Animals

Service animals by law are allowed to accompany their owner on public transportation and in public facilities. Responders at all levels should be aware of the laws governing service animals and should not separate service animals from their owners. If responders are unsure if an animal is a service animal, two questions for responders are suggested:

- Is the animal required because of a disability?
- What tasks or a service has the animal been trained to perform?

Steps in Developing an Evacuation Plan for Pets

Define roles and responsibilities

At the local, state, tribal and federal level, identify the entity responsible for household pet issues. The responsible entity at the local level should be familiar with the jurisdiction's laws pertaining to animals, animal ownership, animal bites, and dangerous and aggressive animals. Most importantly, include the entity responsible for household pet issues in all phases of planning, training and exercising for human evacuations. Successful pet evacuation is a function of human and animal sheltering planners integrating their plans.

First and foremost, the evacuation, sheltering and protection of animals is the responsibility of the owner. In most cases, local animal control has jurisdictional authority for pets in non-emergency times and in many cases will be designated as the local authority for pets during an evacuation or emergency. At the state level, in many cases, the state Department of Agriculture, the state veterinarian's office or a board of animal health has been identified as a supporting agency for when local communities are

overwhelmed. At the federal level, FEMA has the overall responsibility for supporting the states in pet issues and the USDA Animal Care provides subject matter expertise.

Responsibilities that should be assigned include 1) which agency declares an emergency or disaster and initiates an evacuation, and 2) which agency or agencies are responsible for public messaging for pet owners (see public messaging section above).

Develop an animal evacuation planning committee

Ideally, an animal evacuation planning committee should consist of members with expertise in the following: animal welfare, veterinary medicine, transportation specialists, emergency services, and emergency management.

Estimate number of household pets that may need assistance in evacuating, as well as the number of household pets within the community and the number of those household pets that may need to be evacuated and/or sheltered.

Analyze the human population and determine:

- The number of people and pets expected to evacuate on their own without assistance from local state or federal government;
- The number of people and pets that will need assistance with sheltering; and
- The number of people and pets that will need evacuation and transportation assistance as well as sheltering.

At each jurisdictional level local, state, tribal and federal—the responsible entity for pet evacuation and sheltering should be clearly identified.

Various resources such as the AVMA demographics, local animal control estimations, local surveys, and special needs surveys, can be used to develop an estimation of the pet population in the area that needs evacuation assistance. Pre-registration of that population would facilitate an effective evacuation and transportation process.

Since enabling people with pets to evacuate is a relatively new concept there is limited data. Historical data from previous evacuations and disasters may be helpful for determining the number of pets needing assistance in evacuation. However, this assumes that people fit within the normal demographics of pet ownership. It does not account for hoarders, businesses, or other animal-related industries.

In Louisiana, animal planners have used the American Veterinary Medical Association's animal ownership formulas to estimate the number of pets associated with a population of people. Animal planners used this formula to plan for a coastal evacuation for Hurricane Gustav. This formula overestimated the number of pets actually requiring evacuation and sheltering assistance by 90%. A little over 37,000 people needed evacuation assistance for Hurricane Gustav and 12,000 animals were expected to be associated with this population of people and also need assistance. Only 1,200 pets actually accompanied their owners and required evacuation and sheltering assistance.

Identify locations of animal businesses such as animal shelters, humane organizations, veterinary offices, boarding kennels, breeders, grooming facilities, human hospitals, nursing hospitals, assisted-living facilities, schools, animal testing facilities or other animal related entities.

Encourage animal businesses such as animal shelters, humane organizations, veterinary offices, boarding kennels, breeders, grooming facilities, human hospitals, nursing hospitals, assisted-living facilities, schools, animal testing facilities or other animal related entities to have an evacuation plan in the event of an emergency.

These entities should be identified as to name of facility, mailing address, physical address, owner's name and mailing address, manager's name, facility phone and fax as well as other emergency numbers, types of facility, types of animals at facility, how the animals are identified, how the animals are transported out of emergency situations, destination of evacuated animals and how they are sheltered. Requesting this type of information annually encourages these animal-related entities to formulate and maintain up-to-date evacuation plans. Additionally, those in leadership positions have updated information to answer questions if the need arises.

Identify Embarkation/Collection Points within Jurisdiction

Emergency planners must take into consideration the following: adequate parking, traffic flow, easy access for large vehicles, convenient area for loading vehicles, weather-protected areas, security, and staffing including a veterinarian.

Identify points in the jurisdiction where people and pets will be picked up and taken either to local receiving shelters, if the evacuation is from a localized event, or to a designated collection point or embarkation point to be registered and transported out of the area and possibly across county or state lines if the event is regional in scope.

Identify Locations for Co-located Shelters

Identify multiple facilities within each jurisdiction that can be used as co-located pet shelters. These facilities should be identified and, depending upon the nature of the emergency, publicized so people know there is a place for their pets if they evacuate. For example, in San Diego County, the local animal control has numerous pre-approved sheltering locations but does not announce the locations until the wildfire threat has been assessed.

Develop a Pet Registration Program

Develop a pet registration system for pets that is integrated with the human registration. Whenever people are separated from their pets a system of identifying the pet as owned and linking the pet to the owner should be used to insure that the pet is reunited with the owner. The pet registration section, if possible, can be set up in conjunction with human registration. In many cases, jurisdictions have found it beneficial to register pets first as they come into the registration center. After pets are registered, pet owners are then registered through human registration.

Some jurisdictions have found it useful to separate pet and non-pet owners at registration to avoid conflicts, which will decrease the chance of pet allergy problems in non-pet owners and will facilitate transportation to co-located pet shelters.

Pet Evacuation Process

In planning for the evacuation process, consider the following:

- Adequate resources/supplies are pre-staged at embarkation point, including a supply of pet carriers for owners who do not bring their pets in a carrier;
- A veterinarian at the embarkation or collection point;

- Identify a local veterinary facility willing to accept pets if they become ill at the embarkation point;
- Identify veterinarians along the evacuation route willing to accept pets if they need medical attention during evacuation;
- A veterinarian at the receiving shelter when animals arrive; and
- Educate and prepare first responders to assist people who own pets.

Acceptable Transportation Methods

Determine the method of acceptable transportation for the entire evacuation process, which may include short and long hauls. (See "Modes of Transportation," below). Mass transit vehicles used to transport people can effectively be used to transport people and their household pets, resulting in less chance for people to become separated from their pets.

Make sure the human transportation agreements specify that pets can accompany their owners on the vehicle during evacuation. Ensure that your evacuation plan includes a return plan that ensures that all pet owners are reunited with their pets and returned to their homes or provided shelter within the jurisdiction until reunification can occur.

Special Planning Considerations

When preparing an evacuation/transportation plan, consider the following circumstances:

- Multiple pet households
- Animal-related business such as boarding facilities and clinics that may require assistance
- Service animals
- Vaccination requirements
- Aggressive animals
- Human bite cases
- Nontraditional and exotic pets
- Non-English-speaking households
- Special needs owners
- Abandoned pets
- Pets with medical special needs
- Veterinary medical emergencies during evacuations
- Deaths during evacuations

Modes of Transportation

Many potential modes of transportation exist for evacuation of animals, ranging from the cars of private citizens to specially outfitted trucks. When considering search and rescue operations, the list of vehicles becomes even longer.

The vehicles most commonly used in large-scale transportation operations are:

- Transport refrigeration units;
- Purpose-built animal transporters;
- Modified animal welfare units;
- Animal control units;
- Public transportation;
- Farm/agriculture vehicles;
- Box vans;
- Climate controlled cargo vans; and
- Personal occupied vehicles.

No mode of transportation guarantees animal health and safety and even the best transport vehicle will only be as good as its operators. The following strengths and weaknesses are based on collective experience and consultation with subject matter experts but weather, time, animal species/breed, terrain, airflow, accessibility, and vehicle operation, among other variables, can affect vehicle effectiveness.

The single most important issue facing transporters is the environmental conditions during transport. Adequate airflow, temperature control, ability to monitor air quality and presence of redundant systems are critical features when considering long-range animal transport options. However, the absence of environmental control systems in a vehicle does not preclude its use in an emergency, especially for short distances; every vehicle listed in this document has been used for emergency transport successfully in recent years because steps were taken to ensure adequate ventilation and airflow.

In summary, the single best practice for emergency planners during transportation is constant monitoring: when in doubt – check it out. In most cases, it is far better to add an hour to the trip than to lose an animal.

Transport Refrigeration Units



Commonly referred to as "reefers", transport refrigeration units (TRU) are commonly used to haul perishable freight at specific temperatures. A refrigeration unit at the front of the trailer circulates the air in the trailer. Cooling units are designed to maintain the entire cargo area at constant temperature. Trailers are available to cool at a wide range of temperatures, from slightly cool for transporting items like produce (and animals), to freezer units for keeping items frozen through transport.

Refrigerated trailers range from 28 to 53 feet in length and 96 to 102 inches in width. The most common units are 48-53' long. TRUs have been used extensively over the years for short hauls of animals. Current practice is to stack two rows of large crates along each side of the trailer and to stop every two hours to ventilate the trailer for thirty minutes, as animals produce gases, moisture, and heat. Most TRUs have front and rear ventilation doors which will assist in bringing in fresh air and removing "bad" air but they are not effective in maintaining ventilation with large loads. Typically, it is more expensive to haul animals than produce as the cooling and ventilation systems work overtime to deal with respired gases.

Advantages

- 1. Readily available from commercial sources (50 100 vehicles within 72 hours).
- 2. Ability to move large number of animals, primarily dogs and cats (average 90 100 dogs).
- 3. Cost-effective for large numbers of animals. Assuming 100 dogs/load and \$1.73/mile⁴, the average cost per animal/mile for refrigerated units is \$0.017.
- 4. Multi-purpose and easy to configure.
- 5. Ability to monitor temperature inside trailer from tractor.
- 6. Effective for large number of animals in hot weather.

Disadvantages

- 1. Not as suitable for birds, rabbits or pets with special needs that require consistent monitoring.
- 2. Inadequate ventilation is a concern and can be partially mitigated by loading only two stacks of crates and stopping the vehicle for thirty minutes every two hours to ventilate the trailer and check the animals.
- 3. Extended time to fill trailer with animals may require the closing of one or both doors to moderate temperature.
- 4. May have inadequate air-flow.
- 5. When idling, two motors will be running, decreasing efficiency and increasing carbon output.

⁴ http://www.truckinfo.net/trucking/stats.htm

- 6. Inability to monitor air quality in trailer from within cab.
- 7. Not cost-effective for small loads.
- 8. Requires a Commercial Driver's License to operate.
- 9. Can be difficult to safely secure crates without the correct equipment and/or tie-downs.
- 10. May be difficult to clean for trailers with wooden floors.
- 11. No direct access from cab to trailer.
- 12. May not be able to access remote areas due to height and length restrictions.
- 13. Will require loading ramps or docks or multiple people to lift crates due to height of trailer.
- 14. May not have communication capabilities that are interoperable with emergency services.
- 15. Heated units not readily available.
- 16. Noise from idling motors and cooling system may not be suitable for some neighborhoods.
- 17. Professional transport companies may not have any experience handling animals or be able to inspect animals while en route.

- 1. Request trailers with aluminum floors for easier cleaning/sanitizing.
- 2. Be aware of potential need for load bars, straps, etc.
- 3. Requires pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 4. Secure a transportation management contract prior to incident.
- 5. In cold climates, provide bedding/blankets to keep animals warm.
- 6. Ventilate trailer and check animals every two hours more frequently if transporting specialneeds pets.
- 7. In warm climates, close doors every 15 minutes to stabilize temperature in the trailer.
- 8. Have Safety Officer perform safety check of vehicles before and during operation.
- 9. Have contact information for emergency repair service in case vehicle breaks down.
- 10. Have contact information for veterinary services along projected route.
- 11. Establish two or three-deep contact information between drivers and senders and receivers.
- 12. Provide emergency food and water supplies.
- 13. Have Safety Officer ensure that crates are secured properly before and during trip.
- 14. When possible, identify loading and off-loading sites that offer loading docks suitable for height of trailer or sites where ramps will be usable.
- 15. When possible, provide handheld radio for driver to communicate with emergency services.
- 16. Have a dedicated team assigned to oversee animal loading, care, and inventory.
- 17. Have the transporter provide specifics on vehicles including: size, configuration, capacity, refrigeration settings, exterior lighting, etc.
- 18. Check ingress and egress routing and bridge heights to ensure vehicles will be able to access intake and export sites.

Purpose-Built Animal Transport Vehicles



These vehicles are custom built for the transportation of animals and currently are the best method of animal transport available. National non-governmental (HSUS, ASPCA), local/state animal rescue (Sumter DART, HSMO), and for-profit groups are putting custom-built units in service. Their biggest selling feature is the ability to maintain a constant temperature while providing the ventilation needed to avoid a build-up of toxic gases. Given their relatively large hauling capacity and controlled climate environment, they are the preferred choice of transport over the RTUs. Operating costs per mile may be slightly less to the RTUs as they have a smaller profile and tractors are generally more fuel-efficient.

Ventilation is through intake fans at the front of the trailer (usually on the ceiling) and exhaust fans in the floor area at the back of the trailer. These trailers can range in size from 20 to 53 feet and typically are 8' in width. Many of these custom-built units use a gooseneck hitch system that allows the tractors to be used for other purposes when disconnected.

Advantages

- 1. They are becoming more available (refer to resource guide for locations of vehicles).
- 2. Better ventilation than refrigerated trailers, provided vehicle has intake and exhaust fans.
- 3. Some of the units provide monitors and alarms to advise the driver if temperature, CO, CO_2 , or O_2 reach dangerous levels.
- 4. Relatively large numbers of animals (60-100) can be moved. The RTUs may have the advantage in terms of capacity if triple-stacked.
- 5. In most cases, it is easier and safer to load animals. Purpose-built vehicles typically have lower loading heights and drop-down rear doors that can be used as ramps.
- 6. Tractor can be used as a rescue vehicle when not towing trailer.
- 7. May be cost effective for larger loads (10-15 mpg, 400 mile range)
- 8. Typically have a side door that provides easier access and temperature control.
- 9. These units are often staffed with experienced animal welfare workers who will be able to assist in the loading and care of animals during transport.

Disadvantages

- 1. Not as available as RTUs.
- 2. In most cases will require a Commercial Driver's License (CDL). Some groups have been able to license their unit as a recreational vehicle, which does not require a CDL.
- 3. Most units do not have interoperability (radio communication) with local emergency services.
- 4. Steps must be taken to ensure adequate air exchange within trailer and that monitoring systems are working properly.
- 5. Due to design considerations, initial cost to "build" is high, ranging upward from \$200,000.

- 6. High cost precludes most local jurisdictions from owning.
- 7. Requires greater maintenance than refrigerated trailer due to more systems on board.
- 8. In cold winter climates, water lines may need to be drained to prevent freezing.
- 9. There is less ground clearance when compared to RTUs and other units and care must be taken to avoid situations where the trailer may "belly-up". Many of the custom-built units also have small living quarters and exposed plumbing under the trailer adding to clearance challenges.

- 1. Operators of vehicles exceeding 26,000 lb. GVWR should have commercial driver training.
- 2. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 3. Establish two or three-deep contact information between drivers and senders and receivers.
- 4. Have transporter provide specifics on vehicles including: size, configuration, capacity, built-in cages, generators, monitoring capability, water, exterior lighting, temperature control, etc.
- 5. Be aware of potential need for load bars, straps, etc.
- 6. Requires pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 7. Secure a transportation management contract prior to incident.
- 8. Have Safety Officer perform safety check of vehicles before and during operation.
- 9. Have contact information for emergency repair service in case vehicle breaks down.
- 10. Have contact information for veterinary services along projected route.
- 11. Provide emergency food and water supplies.
- 12. Have the Safety Officer ensure that crates are secured properly before and during trip.
- 13. When possible, identify loading and off-loading sites that offer loading docks suitable for rampstyle loading.
- 14. Assign a dedicated team to oversee animal loading, care, and inventory.
- 15. Check ingress and egress routing and bridge heights to ensure vehicles will be able to access intake and export sites.

Modified Animal Welfare Units



Louisiana State Animal Response Team

These vehicles are typically operated by local (CARTS), State (SART), and/or national animal welfare groups (VOADs). The trailer in the photo above is a multi-purpose rig used for a SART program and has been used for adoption fairs, sterilization clinics, outreach projects, equipment and animal transport, and housing for rescue workers. The unit is self-contained and has radio and satellite communication systems. The back end is open and can transport 30-40 animals depending on the configuration. The advantage to having an open cargo bay is that this same unit has hauled birds from an oil spill, domestic birds from a seizure case, stranded marine mammals, and even three tigers. Most of these vehicles come with multiple air conditioning units, heater, generator, interior and exterior lighting, drop-down ramp, and side-entry doors. They can be pulled easily with a one-ton vehicle and generally utilize a gooseneck hitch system.

Advantages

- 1. Becoming more available; refer to resource guide for locations of vehicles.
- 2. Vehicles typically come with personnel experienced in animal handling.
- 3. Some vehicles may have veterinary facilities/supplies/equipment onboard.
- 4. Tractor (pull vehicle) can used as a tow/rescue vehicle when not towing trailer.
- 5. Generally well ventilated and temperature controlled.
- 6. Generally easier to access difficult areas and tow vehicles are often 4WD.
- 7. Generally low profile and can access areas with overhead restrictions.
- 8. Generally multi-purpose and, as such, easier to configure cargo bay for different sized species and/or crates.
- 9. Generally more cost-effective to operate than RTU and custom-built units (12-15 mpg, 350-400 mile range).
- 10. Depending on configuration, may be able to transport 30-40 animals.
- 11. In most cases, it is easier and safer to load animals vs. RTUs. Modified animal welfare units typically have lower loading heights and drop-down rear doors that can be used as ramps.
- 12. Typically have side doors which provide easier access and temperature control.
- 13. Generally less expensive to construct and operate than custom-built units.
- 14. Tow vehicles typically have diesel engines which are more economical and provide greater torque than gasoline engines.

Disadvantages

- 1. Not readily available.
- 2. May be designated to serve as mobile veterinary hospital, thus precluding use as a transport vehicle.
- 3. May not have interoperability (radio communication) with local emergency services.

- 4. Expensive--upwards of \$150,000.
- 5. Depending on the GVWR, may require a Commercial Driver's License (CDL).
- 6. Steps must be taken to ensure adequate air exchange within trailer and that monitoring systems are working properly.
- 7. Requires greater maintenance than refrigerated trailer due to more systems on board.
- 8. In cold winter climates, water lines may need to be drained to prevent freezing.
- There is less ground clearance when compared to RTUs and other units and care must be taken to avoid situations where the trailer may "belly-up". Many of the modified animal welfare units also have small living quarters and exposed plumbing under the trailer – adding to clearance challenges.
- 10. Diesel fuel may be difficult to find in some communities.

- 1. Operators of vehicles exceeding 26,000 lb. GVWR should have commercial driver training.
- 2. Determine availability of vehicles from other agencies/jurisdictions prior to incident.
- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers and senders and receivers.
- 5. Have transporter provide specifics on vehicles including: size, configuration, capacity, built-in cages, generators, monitoring capability, water, exterior lighting, temperature control, etc.
- 6. Be aware of potential need for load bars, straps, etc.
- 7. Pre-plan at local level for numbers of animals to ensure cost-effectiveness.
- 8. Secure a transportation management contract prior to incident.
- 9. Have Safety Officer perform safety check of vehicles before and during operation.
- 10. Have contact information for emergency repair service in case vehicle breaks down.
- 11. Have contact information for veterinary services along projected route.
- 12. Provide emergency food and water supplies.
- 13. Have Safety Officer ensure that crates are secured properly before and during trip.
- 14. When possible, identify loading and off-loading sites that offer loading docks suitable for rampstyle loading.
- 15. Have a dedicated team oversee animal loading, care, and inventory.
- 16. Check ingress and egress routing and bridge heights to ensure vehicles will be able to access intake and export sites.

Animal Control Unit



San Diego Co. Animal Services

Animal control units are typically utilized by animal control agencies or humane societies. These vehicles come in a variety of styles and sizes, ranging from fully outfitted vehicles to vans with either built in or temporary caging. For the purpose of this document, pick-ups with or without a canopy and caging in the bed are not considered "animal control units".

Capacity for these units will range from 4 to 8 animals and storage bays will be ventilated and may come with climate control. The vehicles are typically on a 1/2T frame but may be available in 3/4T and 4WD. Many of these vehicles are outfitted with emergency lights, sirens, and communication equipment. In many cases, they are part of local government and thereby highly recognizable as an emergency vehicle. Some communities have typed and registered their vehicles and staff with State Emergency Management and may be available for an EMAC request.

Advantages

- 1. Usually available locally.
- 2. Immediately accessible.
- 3. May be available through mutual aid or intergovernmental agreements.
- 4. Recognized within jurisdiction and easily seen as an emergency vehicle outside jurisdiction.
- 5. Typically equipped with emergency lights and siren.
- 6. Normally come with an Animal Control Officer and animal control equipment.
- 7. Ideal for small numbers of animals and short distance trips.
- 8. For small numbers, more economical than trailered units (15-20 mpg, 400 mile range).
- 9. Animal cages may be climate controlled.
- 10. Most units have communication capabilities.
- 11. Cost is often borne by local jurisdiction. Units typically cost between \$35-\$60K depending on equipment and chassis.
- 12. May be able to pull a trailer.
- 13. Better accessibility than trailered units and typically not restricted on any roadways.

Disadvantages

- 1. Can only transport a small number of animals. For small animals, multiple crates can be stored in each bay.
- 2. May not be climate controlled and inappropriate for extreme weather and long hauls.
- 3. Typically cannot monitor conditions or animals in the animal cages. Some units may come equipped with sound monitoring.
- 4. May not be available in affected community due to involvement in the response efforts.

- 5. Communications equipment will have designated frequency that might not be compatible outside their jurisdiction.
- 6. In most cases, animals will need to be picked up and loaded into bays which may be challenging with large and/or fractious animals. Some vehicles will come with loading ramps.

- 1. Establish mutual aid agreements in advance for provision of vehicles and personnel.
- 2. Determine availability of vehicles from other agencies/jurisdictions prior to incident.
- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers and senders and receivers.
- 5. Have transporter provide specifics on vehicles including: size, configuration, capacity, monitoring capability, exterior lighting, temperature control, etc.
- 6. Require pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 7. Have Safety Officer perform safety check of vehicles before and during operation.
- 8. Have contact information for emergency repair service in case vehicle breaks down.
- 9. Have contact information for veterinary services along projected route.
- 10. Provide emergency food and water supplies.
- 11. Have a dedicated team assigned to oversee animal loading, care, and inventory. Due to the height of the bays, care should be taken when loading and off-loading animals.

Public Transportation



Public transportation includes a wide range of vehicles including local school and metropolitan buses, long-distance buses, planes and trains. A number of jurisdictions list these modes of transport in their emergency plans as they are generally easy to access, can hold large numbers of animals, and may allow animals to travel with their owners. The primary considerations for determining which of these modes would best fit a community's needs are configuration and loading. Public transportation is designed to hold large numbers of seated humans and is not generally configured in a way to handle crated animals. Doorways may provide limited access and aisle ways may offer challenges for moving large crates. Bench seats typically are not conducive for strapping down crates.

Some jurisdictions allow animals to board a vehicle with their owner which works reasonably well as long as animals are tightly reined in or on the owner's lap. It is not recommended to load animals in commercial vehicles tethered by their leash. Unexpected movement can cause the dog to be thrown off the bench seat and hung up by its leash.

Airplanes are typically not cost-effective but can move a reasonably large number of animals in the shortest period of time. Following Hurricane Katrina, approximately 125 animals could be transported on commercial airframes (727, 737, MD 80). Though expensive to operate and labor intensive to coordinate and load, the short flight time can reduce a cross-country trip by 40-50 hours. In most cases (the exception being some school buses), the environment within the "vehicle" can be controlled and ventilation (air exchange) is adequate for transporting animals.

Advantages

- 1. Readily available in most jurisdictions depending upon transportation type.
- 2. Recognizable in the jurisdiction.
- 3. May be climate-controlled.
- 4. Convenient for people and animals to travel together.
- 5. Can move large numbers of animals.
- 6. Easy to monitor climate and animals.
- 7. Comes with an experienced driver.
- 8. May have a local communications system.

Disadvantages

- 1. Due to the priority of evacuating people, public transportation may not be available.
- 2. School buses may not be climate-controlled and thus not suitable for hot climates and/or long hauls.
- 3. It is difficult to load large crates through doorways of most buses and airplanes.
- 4. Difficult to secure animal crates in seats.
- 5. Concerns over allergies may preclude animals being transported with people.
- 6. Vehicles may be privately owned and not cost-effective (commercial buses, airplanes, trains).
- 7. Planes and trains are limited to rail routes or flight paths and runways which will require another mode of transportation for loading and off-loading.
- 8. Requires additional planning/logistics.
- 9. May be cost-ineffective (planes, trains).
- 10. School buses are typically not suitable for long hauls (range, seat construction).
- 11. Buses may be restricted in access due to their length and/or height.
- 12. Diesel fuel may be difficult to find in some communities.

- 1. Investigate local availability of transportation types and any limitations pertaining to the transport of animals prior to incident.
- 2. Only licensed, qualified drivers should be permitted to operate vehicles.
- 3. Establish two or three-deep contact information between drivers and senders and receivers.
- 4. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 5. Have transporter provide specifics on vehicles including: size, configuration, capacity, water, exterior/interior lighting, temperature control, etc.
- 6. Be aware of potential need for crates, load bars, straps, etc.
- 7. Require pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 8. Secure a transportation management contract prior to incident.
- 9. Have Safety Officer perform safety check of vehicles before and during operation.
- 10. Have contact information for emergency repair service in case vehicle breaks down.
- 11. Have contact information for veterinary services along projected route.
- 12. Provide emergency food and water supplies.
- 13. Have Safety Officer ensure that crates are secured properly before and during trip.
- 14. When possible, identify loading and off-loading sites that are conducive for mode of transportation.
- 15. Assign a dedicated team to oversee animal loading, care, and inventory.
- 16. Check ingress and egress routing and bridge heights to ensure vehicles will be able to access intake and export sites (buses).

Farm/Livestock Vehicles



Farm/livestock vehicles are used to transport various types of livestock and can range from anything as small as a one-horse trailer to large livestock haulers. Commercial cattle transporters range from 48-53 ft. in length by 8.5 ft. in width. Other livestock (hogs, pigs) may be transported in 7 ft. X 32-40 ft. gooseneck trailers. Typically beds are open and have similar capacity to RTUs. They are not climate controlled though some come with sprinkler systems for summer transport. Ventilation is generally adequate, and as long as the vehicle is moving, conditions in the back are tolerable in summer. However, temperatures can quickly rise in the summer if the vehicle is stopped. Most often rear-loaded using a ramp/door system, these trailers are easier to load than the RTUs. Ground clearance and height and length issues may limit access to some areas.

Advantages

- 1. Readily and immediately available.
- 2. Cost-effective for transporting large number of animals (5-7 mpg).
- 3. May be used for a variety of species.
- 4. Horse and small livestock trailers will have better ground clearance than other trailers.
- 5. May come with an operator experienced with livestock and other animals.
- 6. Most effective in temperate settings (60-70 deg).
- 7. Easy to load and generally easy to secure crates through tie-downs and side slots.
- 8. Commercial haulers can hold approximately 100 large crates if double stacked.

Disadvantages

- 1. Maintenance records on vehicles may be unavailable.
- 2. May need to be cleaned/sanitized prior to use during incident.
- 3. Will likely not have any climate control capabilities.
- 4. May lack protection from the elements.
- 5. Possible traumatic ride conditions could cause stress on uncrated animals.
- 6. May require a special vehicle to tow the trailer.
- 7. Requires an experienced CDL driver.
- 8. Do not have communications capabilities.
- 9. Unable to monitor conditions of the animals while driving.

- 1. Investigate local availability of transportation types and any limitations pertaining to the transport of animals prior to incident.
- 2. Only licensed, qualified drivers should operate vehicles.

- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers and senders and receivers.
- 5. Have transporter provide specifics on vehicles including: size, configuration, capacity, exterior/interior lighting, etc.
- 6. Be aware of potential need for crates, load bars, straps, etc.
- 7. Require pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 8. Secure a transportation management contract prior to incident.
- 9. Have Safety Officer perform safety check of vehicles before and during operation.
- 10. Have contact information for emergency repair service in case vehicle breaks down.
- 11. Have contact information for veterinary services along projected route.
- 12. Provide emergency food and water supplies.
- 13. Have Safety Officer ensure that crates are secured properly before and during trip.
- 14. When possible, identify loading and off-loading sites that are conducive for ramp off-loading.
- 15. Assign a dedicated team to oversee animal loading, care, and inventory.
- 16. Check ingress and egress routing and bridge heights to ensure vehicles will be able to access intake and export sites.
- 17. When in doubt, thoroughly clean inside bay before hauling animals.
- 18. Be aware of weather forecasts for the projected route.

Box Vans



Box vans are typical rental vans commonly used when people are moving from one residence to another. They come in a variety of sizes and capacities, with most common lengths ranging from 14-26 feet. The interior cargo bay height typically runs between 7 and 8 ft. They have been used in disaster response as a last line of defense for short hauls. There is little to no ventilation in the cargo bay so doors must be opened frequently and transporter needs to shut down the motor when doors are open to avoid exhaust fumes entering bay. Some box vans have a driver pass-through door which allows for limited air circulation in the cargo area. This mode of transportation may be safe for small species and small loads over short time frames.

Advantages

- 1. Usually readily available (depending upon season and geographic area).
- 2. Easy to drive and do not require a special license to drive, unless it is a large commercial vehicle.
- 3. Some come with ramps for easier loading.
- 4. Generally cost-effective (10 mpg, range of 400 miles for 17 ft model).

Disadvantages

- 1. May have restrictions for use to transport animals.
- 2. Temperature/climate control varies by vehicle type.
- 3. Inability to monitor temperature and animals if no direct access from cab.
- 4. May lack adequate tie-downs.
- 5. Do not have communications capabilities.
- 6. Some have wooden floors which makes it difficult to clean/sanitize.
- 7. No ventilation doors.

- 1. Operator must stop regularly to monitor animals and ensure adequate air temperature and quality.
- 2. Investigate local availability of transportation types and any limitations pertaining to the transport of animals prior to incident.
- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers and senders and receivers.
- 5. Be aware of potential need for crates, load bars, straps, etc.
- 6. Require pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 7. Have Safety Officer perform safety check of vehicles before and during operation.
- 8. Have contact information for emergency repair service in case vehicle breaks down.

- 9. Have contact information for veterinary services along projected route.
- 10. Provide emergency food and water supplies.
- 11. Have a Safety Officer ensure that crates are secured properly before and during trip.
- 12. When possible, identify loading and off-loading sites that are conducive for ramp and dock off-loading.
- 13. Assign a dedicated team to oversee animal loading, care, and inventory.
- 14. Whenever possible, thoroughly clean inside bay before hauling animals.

Climate Controlled Cargo Vans



These vehicles are standard cargo vans or multi-passenger vans with the seating removed. Size will vary depending upon the amount of cargo space or passenger room. Most common dimensions for inside cargo area are 108" X 67" X 53" (LxWxH). It is the intent that the animals are within the climate controlled portion of the van. This mode of transportation has been used extensively for emergency transportation as they are readily available, easy to drive, and easy to control the air conditions in the cargo area. They are ideal for smaller species/crates but not ideal for double-stacking which reduces airflow. The van shown above was the type of vehicle used following the Deep Water Horizon oil spill for transporting birds. In that case, the number of animals needing transport was small and medium-to-large crates were used, making the cargo van the preferred, cost-effective vehicle.

Advantages

- 1. Readily available in most larger communities.
- 2. Easy to drive and does not require any special license.
- 3. Driver/passenger can easily monitor temperature and animals.
- 4. Ideal for small loads and typically "comfortable" for longer hauls.
- 5. Cost-effective for small loads (16 mpg, 500 mile range).
- 6. Easier to access most areas and generally not affected by height and length restrictions.

Disadvantages

- 1. Can only carry limited number of animals.
- 2. Driver exposed to animals.
- 3. Do not have communications capabilities.
- 4. May have to remove seats to increase cargo size.

- 1. Recommended for transport of animals with special needs that need to be monitored regularly.
- 2. Investigate local availability of transportation types and any limitations pertaining to the transport of animals prior to incident.
- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers, senders, and receivers.
- 5. Be aware of potential need for crates, load bars, straps, etc.
- 6. Require pre-planning at local level for numbers of animals to ensure cost-effectiveness.
- 7. Have Safety Officer perform safety check of vehicles before and during operation.
- 8. Have contact information for emergency repair service in case vehicle breaks down.
- 9. Have contact information for veterinary services along projected route.

- 10. Provide emergency food and water supplies.
- 11. Have Safety Officer ensure that crates are secured properly before and during trip.
- 12. Assign a dedicated team to oversee animal loading, care, and inventory.
- 13. Whenever possible, thoroughly clean inside bay before hauling animals.

Personally Operated Vehicles

These vehicles are personal cars or trucks called in to transport animals. The intent is that the animal is transported within the climate controlled cabin of the vehicle. Personal vehicles are used as a last resort given the limited capacity and inability to separate animals from driver. Since most personal vehicles have a bench-style back seat, it is difficult to load more than two medium to large crates.

Advantages

- 1. Readily available and usually comes with a driver.
- 2. Easy to drive.
- 3. Usually climate controlled.
- 4. Easy to monitor animals.
- 5. No special license required beyond driver's license.
- 6. Driver generally aware of maintenance records and vehicle limitations.
- 7. Easy access to most areas.
- 8. Generally fuel efficient.

Disadvantages

- 1. May not be adequately insured.
- 2. Proof of ownership may be lacking.
- 3. May not be climate controlled.
- 4. Inability to transport large numbers of animals.
- 5. Not cost-effective to transport large numbers of animals.
- 6. Drivers exposed to animals during transport.

Recommendations

- 1. Require proof of current driver's license, registration and insurance prior to use
- 2. Recommended for transport of small number of animals with special needs that need to be monitored regularly.
- 3. Provide transport groups with handheld radio so that they can communicate directly with emergency services.
- 4. Establish two or three-deep contact information between drivers and senders and receivers.
- 5. Have Safety Officer perform safety check of vehicles before and during operation.
- 6. Have contact information for emergency repair service in case vehicle breaks down.
- 7. Have contact information for veterinary services along projected route.
- 8. Provide emergency food and water supplies.

The majority of people, with their own transportation and a possible pet-friendly destination identified, will evacuate with their pets when directed by local officials, without assistance from local, state, tribal or federal governments.

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Appendices

The following appendices will appear in a later version of this paper:

- A. FEMA DAP policy on reimbursement.
- B. ADA Pamphlet
- C. PETS Act
- D. Stafford Act
- E. Public info pamphlets Ready.gov.
- F. AVMA: Saving the whole family.
- G. New Orleans CAEP Pamphlet and Questionnaire
- H. NARSC Request to Rescue Document
- I. Louisiana Regular Session, 2006, Act 615
- J. Mississippi Animal Response Team (MART) Animal Evacuation Annex.
- K. Louisiana State Animal Response Team(LSART) Evacuation and Sheltering Manual
- L. Sample Evacuation Scenarios and Sample Policies