Operations

Unit Objectives

This unit discusses the operations of local damage assessment. It recommends potential members and responsibilities for first-in teams. It also outlines the process for local workers responding to an event as part of the Damage Assessment Response Team. Finally, reminders are included about how Response Team members have considerations beyond damage assessment.

By the end of this unit, you will be able to:

- Identify potential members of the local Damage Assessment Response Team.
- List types of information that should be included in pre-deployment briefings.
- Describe basic procedures for damage assessment.
- Assign damage level ratings based on visual inspection.
- Describe special considerations regarding the human impact of disasters.

Content Outline

<table>
<thead>
<tr>
<th>Unit Topics</th>
<th>Estimated Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Overview</td>
<td>5 Minutes</td>
</tr>
<tr>
<td>Response Teams</td>
<td>25 Minutes</td>
</tr>
<tr>
<td>Basic Procedures*</td>
<td>20 Minutes</td>
</tr>
<tr>
<td>Activity: Damage Assessment Practice</td>
<td>15 Minutes</td>
</tr>
<tr>
<td>Recording and Reporting</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>The Human Impact of Disasters</td>
<td>10 Minutes</td>
</tr>
<tr>
<td>Unit Summary</td>
<td>5 Minutes</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1 Hour, 30 Minutes</strong></td>
</tr>
</tbody>
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*The time estimate for this topic does not include the activity, which is listed separately.*
<table>
<thead>
<tr>
<th>Notes</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual 5-1</strong></td>
<td><strong>Unit Overview</strong> In this lesson, you will learn the operations of local damage assessment. This lesson recommends potential members and responsibilities for first-in teams. It also outlines the process for local workers responding to an event as part of the Damage Assessment Response Team. Finally, reminders are included about how Response Team members have considerations beyond damage assessment.</td>
</tr>
</tbody>
</table>
| **Visual 5-2** | **Unit Objectives** This unit will enable you to:  
• Identify potential members of the local Damage Assessment Response Team.  
• List types of information that should be included in pre-deployment briefings.  
• Describe basic procedures for damage assessment.  
• Assign damage level ratings based on visual inspection.  
• Describe special considerations regarding the human impact of disasters. |
| **Visual 5-3** | **Response Teams** **First-In Team** When a disaster or other emergency strikes a community, first responders are generally deployed to address life safety issues such as conducting search and rescue, clearing entrance and egress routes, extinguishing fires, and providing medical services.  
The “first-in team” can be a valuable asset to your community’s damage assessment program by conducting preliminary impact assessments and reporting on life safety issues, debris, and other damages observed out in the community. While a first-in team is not a required part of a damage assessment program, it can be a valuable source of field intelligence for damage assessment and is therefore a recommended resource. Those individuals are already out in the community, so it makes sense to use them to help gather information. |
Some potential members of the first-in team include:
- Firefighters
- Law enforcement
- Emergency Medical Services (EMS)
- Public works, utilities, and waste management

Even if the community does not have a formal first-in team, local agencies and certain members of the community can still be excellent sources of information. These sources of information can be a great start for the damage assessment process. This information can be invaluable to other local response or recovery agencies.

Keep in mind that these teams will need to be trained in a manner that is consistent with the training provided to the Damage Assessment Response Teams, including participation in drills and exercises.

Does your community use a first-in team approach? Who is on that team?

The Damage Assessment Response Team evaluates and documents the physical damage caused by an event and its potential impact on the community. Because input from varying perspectives allows for a more thorough assessment of the damage in a community, the Damage Assessment Response Team should be composed of members from various groups and functional areas within the community. Frequently, there is overlap with those who helped develop the community’s emergency management and damage assessment plans.
<table>
<thead>
<tr>
<th>Notes</th>
<th>Content</th>
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<tr>
<td>Visual 5-6</td>
<td><strong>Who is on your community’s local Damage Assessment Response Team?</strong></td>
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<td><strong>Damage Assessment Coordinator</strong></td>
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<td>Responsibilities should be clearly designated so that efforts are not duplicated. To effectively coordinate efforts and compile information, a Damage Assessment Coordinator should be designated as the facilitator/leader of the process. The individual selected to chair the Damage Assessment Response Team should be an individual who is familiar with the community as a whole and who would have the time and initiative to thoroughly complete the assessment. Keep in mind that it will likely be a full-time job for some period of time. The Coordinator role should also be filled by someone who has the ability to work well with the numerous individuals involved as a part of the Damage Assessment Response Team.</td>
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| **Visual 5-7**
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Data Collected by the Damage Assessment Response Team
- Life safety issues / immediate needs
- Date and time of assessment
- Location
- Type of structure / infrastructure
- Degree of damage / volume of debris
- Comments
```
| **Data Collected by the Damage Assessment Response Team**

When the Damage Assessment Response Team is out in the community, members will be recording a great deal of information, using the standards and procedures defined in the community’s damage assessment plan.

**Life Safety Issues/Immediate Needs**

Reporting life safety issues is paramount, not only to maintain the safety of the Damage Assessment Response Team members, but also that of individuals in the community. A life safety issue is any issue that presents an immediate hazard. Examples are power lines, leaking chemicals, gas leaks, and wild animals. Follow the community’s designated procedures for reporting life safety issues as soon as they are identified.

Any immediate needs issues should also be identified and reported. Examples of immediate needs include food, water, sanitation, shelter, and the need for Critical Incident Stress Management (CISM).

**Date and Time of Assessment**

It is important to note the date and time when the assessment is conducted. Multiple assessments may need to be conducted following an event, and certain conditions, such as continued hazardous weather, may contribute to further damage. Documenting dates and times on assessment forms helps document the timeline of damage.

**Location**

Details about the location of the assessment need to be included. This information helps determine the perimeter of damage and helps locate the areas which received the most damage. That information can be useful later when planning distribution of resources.

**Type of Structure/Infrastructure**

Categories of structures can include single-family dwellings, mobile homes, multi-family dwellings such as apartments or condominiums, public buildings, and commercial buildings.

Infrastructure includes lifeline systems such as utilities, roads, bridges, and public services.
<table>
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<th>Notes</th>
<th>Content</th>
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<tr>
<td><strong>Visual 5-7 (Continued)</strong></td>
<td><strong>Degree of Damage/Volume of Debris</strong></td>
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The degree of damage a structure has sustained should be assigned a category based on the standards established in your community. The goal at this phase is not merely assigning a dollar amount to the damage, but rather getting an accurate description of the scope and magnitude of the damage. In addition to providing an estimated repair cost, information about the impact on the community should be included. Describe how the damage will impede, threaten, or prevent the community from functioning as it normally would. The estimated duration of the disruption and assistance required for recovery should be included as well.

The volume of debris is a necessary measurement, as it is an integral part of the declaration process. It will also help determine the community’s ability to manage the event or disaster and help evaluate if managing the event or disaster is beyond the means of the community.

**Comments**

The team should also include any other observations that do not fit into any other category. For example:

- How damages will affect the provision of essential services such as potable water, sewer disposal, etc.
- How damages will affect the business community
- The potential economic impact of the damage
- The potential environmental impact of the damage
### Basic Procedures

#### Pre-Deployment Briefing

Prior to Damage Assessment Response Teams going out into the community, they should be briefed about the current situation and what they might expect in the field, based on available information. If teams have been pre-positioned, a briefing could be conducted over the phone, or via a web or video conference.

In particular, teams should be briefed about potential safety issues they may encounter. For example, if the power company has confirmed that all power in an area is off, team members need to have this information so that they know that downed power lines in that area are not dangerous.

They should also be reminded of their specific roles and responsibilities as well as the reporting procedures. A clear communication of roles and responsibilities will result in smoother relay of information about the extent of damage across the community.

Remember, zones should be defined as part of your community’s emergency management plan, and teams should already be familiar with their zones. This zone familiarization is important so the teams understand what “normal” is for their assigned zones so they can more readily assess the damage to those areas. In particular, teams should be aware of the hazards in the community and in their zones that have been identified in the THIRA.

During the pre-deployment briefings, the Damage Assessment Response Teams will be deployed based on which areas were affected by the event. Giving each team an assigned zone ensures that all areas are assessed and efforts are not duplicated.
### Safety Issues

All personnel assigned to the Damage Assessment Response Team should receive a safety briefing as part of the pre-deployment briefing.

Issues discussed should include:

- Weather forecast
- Known or expected hazards
- Cautionary statements regarding being properly hydrated, using seat belts, etc.
- Any personal protective requirements such as use of safety shoes, reflective vests, hats or helmets, sunscreen, layered clothing, etc.
- Identification requirements
- Use of vehicle lights/warning lights as needed
- Communications plan
- Any other issues specific to the area

### Visual Inspection

As part of the pre-deployment briefing, teams should understand the hazards they may face and what they should be looking for when conducting damage assessments. It is critical that life safety issues be reported to 911 right away, for the protection of the teams and the community’s citizens. Follow-up information should be reported to the EOC.

Damage Assessment Response Teams should determine the perimeter of the damaged area, remembering to report only disaster-related damages and life safety issues. Damage that is not disaster-related should not be reported as such. This is one reason it is important for teams to be familiar with their zones prior to a disaster. If teams are not familiar with their zones, damages may be misreported. To some degree, inspectors should know what’s in other zones, because they may need to fill in for someone else. Some zones may be so damaged that they require additional inspectors. For these reasons, cross-training on damage assessment zones is important. At this stage, the teams will use a “windshield survey” approach to verify the extent and impact of the damage.
### Structures

It is important to keep members of the community out of potentially unstable structures, so the Damage Assessment Response Team should identify buildings that could pose a potential life safety risk and report them immediately.

Your community should have a tagging system in place to identify buildings as safe to enter following an event. A detailed damage assessment can then be done by a qualified team to assess the structural integrity of the structure.

An important consideration for the community’s recovery and for determining whether or not the affected area will be eligible for state and Federal aid is the need for temporary housing. Thus, it is important for Damage Assessment Response Teams to provide information about the habitability of the homes that have been damaged. When conducting habitability assessments, teams should not focus on property value – only on whether residents can live in the structure.

### Debris

Following a hazard event, the community must determine how much waste will need to be managed. In addition to typical household waste, your community could be faced with disposing of additional solid waste, medical or industrial waste, hazardous waste, and construction materials. There may also be abandoned vehicles and damaged appliances that will need to be disposed of properly. Another component of storm debris can include vegetative waste such as tree limbs. While you are out conducting your damage assessment, be sure to note what type of waste/debris is present, where it is located, and approximately how much there is. Estimates of the volume of debris must be included in information that is submitted to the state as part of the declaration process. Information about the location of the debris should be included as well.

<table>
<thead>
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<th>Notes</th>
<th>Content</th>
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| **Visual 5-9**  
(Continued) | **Structures**  
It is important to keep members of the community out of potentially unstable structures, so the Damage Assessment Response Team should identify buildings that could pose a potential life safety risk and report them immediately.  
Your community should have a tagging system in place to identify buildings as safe to enter following an event. A detailed damage assessment can then be done by a qualified team to assess the structural integrity of the structure.  
An important consideration for the community’s recovery and for determining whether or not the affected area will be eligible for state and Federal aid is the need for temporary housing. Thus, it is important for Damage Assessment Response Teams to provide information about the habitability of the homes that have been damaged. When conducting habitability assessments, teams should not focus on property value – only on whether residents can live in the structure.  
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### Visual 5-9 (Continued)

**Utilities/Lifelines/Infrastructure**

While out assessing damage, teams should determine areas that need immediate assistance because of damage to utilities and other lifelines (e.g., water, sewer, power). Hazards that pose a serious life safety issue, such as downed power lines, must be reported as soon as they are identified.

If the community uses the recommended first-in team approach, you should already be aware of any power-related issues, because utilities crews should be on the first-in team. They can let others know that power is out and inform them when it is safe to enter the area.

**Additional Hazards**

Damage Assessment Response Teams need to be aware of additional hazards, such as those pre-identified in the THIRA, so that they can report back on the state of those hazards. Other hazards that may be present are dependent on the disaster type and could include water-borne and vector-borne diseases, chemical spills, fires, wild animals, snakes, rodents, and even domestic animals that can become dangerous after they’ve gone hungry for several days.

### Visual 5-10

**Assigning Damage Ratings**

As you learned, FEMA uses a 4-point system for assigning damage levels. We’re going to look at some photo examples of what those damage levels look like for residential structures, and then you’ll practice assigning damage levels using that system with your groups.

Keep in mind that damage assessment is not an exact science. When performing damage assessment, you should refer to the damage level descriptions used by your community (which should be in accordance with FEMA’s damage levels) and provide supporting information for why a particular rating was chosen.
<table>
<thead>
<tr>
<th>Notes</th>
<th>Content</th>
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<tr>
<td>Visual 5-11</td>
<td><strong>Affected</strong>&lt;br&gt;Because these homes are elevated, they survived Hurricane Ike’s 20-foot storm surge with minimal damage (while homes in the area that were not elevated no longer exist).&lt;br&gt;&lt;br&gt;These homes were affected with minimal damage to their structure and/or contents and are habitable without repairs.&lt;br&gt;&lt;br&gt;This category of damage includes homes that are inaccessible by normal means, due to disaster-related road closures (e.g., bridge out, road flooded or blocked by debris, landslide, mudslide, severe erosion, washed out, etc.).&lt;br&gt;&lt;br&gt;If a home or group of homes is inaccessible due to damage to a road or bridge, the number of affected households should be included. Once accessible, the homes can be evaluated for a more accurate determination of the level of damage.</td>
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<tr>
<td>Visual 5-12</td>
<td><strong>Minor Damage</strong>&lt;br&gt;The house shown in this photo was damaged by a tree falling on it. One room was impacted. The home is still habitable.&lt;br&gt;&lt;br&gt;This is minor damage. Minor damage encompasses a wide range of damage and is generally the most common type of damage. Minor damage exists when the home is damaged and uninhabitable, but may be made habitable in a short period of time with home repairs.</td>
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<tr>
<td>Visual 5-13</td>
<td><strong>Major Damage</strong>&lt;br&gt;Hurricane Frederick blew a tree down on this home. The difference between this one and the previous home is that more than 50% of the structure is damaged, making the home uninhabitable.&lt;br&gt;&lt;br&gt;This constitutes major damage. Major damage exists when the home has sustained structural or significant damages, is uninhabitable and requires extensive repairs.</td>
</tr>
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</table>
**Visual 5-14**

**Destroyed**

This is a photo of tornado damage to a townhouse in Birmingham, Alabama. As you can see, the roof is gone, the exterior walls are gone, a stone wall has collapsed, and the floor is cracked.

It is not economically feasible to repair this structure. This townhouse was destroyed. Destroyed means the structure is a total loss or damaged to such an extent that repairs are not economically feasible.

**Visual 5-15**

**Group Activity: Damage Assessment Practice**
Group Activity: Damage Assessment Practice

Instructions:
Show photos of homes damaged in a disaster. Discuss each photo with your group and determine a damage level rating based on the information below. Be prepared to justify the rating you chose.

Photo 1

Photo 2

Photo 3
FEMA Damage Levels
There are five degrees of damage levels: No Damage, Affected, Minor Damage, Major Damage, and Destroyed. Each level is described in detail in the following paragraphs.

No Damage
No damage is assigned when a structure has received no damage as a result of the hazard event.

Affected
This category includes dwellings with minimal damage to structure and/or contents and the home is habitable without repairs. This category of damage includes homes that are inaccessible by normal means, due to disaster-related road closures (e.g., bridge out, road flooded or blocked by debris, landslide, mudslide, severe erosion, washed out, etc.).

Minor Damage
Minor damage encompasses a wide range of damage and is generally the most common type of damage. Minor damage exists when the home is damaged and uninhabitable, but may be made habitable in a short period of time with home repairs. Some of the items that determine minor damage are listed below:

- Damages less than the maximum Housing Assistance Repair Grant.
- Windows or doors blown in.
- One foot or more of water/sewer backup in basement (i.e., furnace, water heater damage).
- Has less than 50% damage to structure.

Major Damage
Major damage exists when the home has sustained structural or significant damages, is uninhabitable and requires extensive repairs. Any one of the following may constitute major damage.

- Substantial failure of structural elements of the residence (e.g., walls, roof, floors, foundation, etc.).
- Damage to the structure that exceeds the Home Repair Grant maximum.
- Has more than 50% damage to structure.
- One foot or more of water on the first floor (of a home with basement).
Destroyed

Destroyed means the structure is a total loss or damaged to such an extent that repairs are not economically feasible. Any one of the following may constitute a status of destroyed:

- Structure is not economically feasible to repair.
- Structure is permanently uninhabitable.
- Complete failure of major structural components (e.g., collapse of basement walls/foundation, walls, or roof).
- Only foundation remains.
- Two or more walls destroyed and roof substantially damaged.
- House pushed off foundation.
- An unaffected structure that will require removal or demolition (e.g., homes in imminent danger due to impending landslides, mudslides, or sinkholes; beachfront homes that must be removed due to local ordinance violations as a result of beach erosion).

The purpose of differentiating levels of damage is to distinguish between the types of assistance required. Inspectors do not assess damage with the actual cost of the residence in mind but according to whether repairs are extensive or not. The feasibility of repairs and the condition of the unit determine whether or not repairs can be made under the Home Repair limits. The category of damage listed should be based on the type of assistance required.

Being able to accurately identify the level of damage that a structure sustains is important. Recording and reporting that information should be done using the procedures outlined in your damage assessment plan.
### Notes

#### Visual -5-19

![Recording Data for Reporting](fema-image)  
- Record type and location of damage  
- Map the damage  
- Take photos  
- Report to state officials

### Content

#### Recording Data for Reporting

Information about the type and location of damage should be recorded. This includes mapping the damage in addition to providing a description. It should also include videos and/or photographs, when possible. It is important to keep accurate and thorough documentation because inaccurate or incomplete damage assessment information can cause inappropriate distribution of resources due to inaccurate setting of priorities. There could be increased negative environmental impacts. It can even result in a delayed or denied Presidential declaration of disaster.

#### Methods for Recording and Reporting Data

During the planning phase, the community will have determined what forms will be used as part of its damage assessment procedures. These forms need to be completed correctly and efficiently so that information about the impact of the disaster can be reported in a timely manner. If the community is using an electronic method of recording data, there should be a backup plan in case of technological difficulties. It is advisable to have paper copies of the electronic forms available just in case.

The data recorded by local officials is then reported to state officials. The state compiles the local information into a report to be submitted to Federal officials often as part of a request for additional assistance via a declaration of disaster. Damage Assessment Response Team members need to be aware of the policies and procedures defined in your community’s plan so that all necessary data can be reported. The key to success is having an up-to-date damage assessment plan, the correct forms, and properly trained team members.
<table>
<thead>
<tr>
<th>Notes</th>
<th>Content</th>
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<tbody>
<tr>
<td>Visual -5-20</td>
<td>What are some benefits of using paper data records?</td>
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<td>Visual 5-21</td>
<td>What are some benefits of using electronic data records?</td>
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<tr>
<td>Visual 5-22</td>
<td>Do you have any experience with Hazus-MH or GIS?</td>
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<td>Notes</td>
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<tr>
<td><strong>The Human Impact of Disasters</strong></td>
<td><strong>Reach Out to the Community</strong>&lt;br&gt;Many times following an event, the Damage Assessment Response Team may be the first contact that the community has with any local government representative.&lt;br&gt;Members of the community may have many questions for you. While all questions must be referred to the Joint Information Center (JIC), Public Information Officer (PIO), or other designee, you can provide some answers for the community members by being prepared with any pamphlets, flyers, booklets, or handouts that may help them better understand what to do following this event in regards to Individual Assistance (IA), locations of Points of Distribution (PODs), or even just relevant phone numbers of organizations or help lines that could provide assistance or more information.</td>
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<td><strong>Visual 5-23</strong>&lt;br&gt;Reach Out to the Community&lt;br&gt;• You may be their first contact with local government&lt;br&gt;• Refer questions to JIC, PIO, or other designee&lt;br&gt;• Be prepared with information about available resources (e.g., IA, PODs)</td>
<td><strong>Looking Beyond Physical Impacts</strong>&lt;br&gt;Because the Damage Assessment Response Team members are on the &quot;front line&quot; of the disaster, you will be exposed firsthand to the human impact of the event. You may encounter community members who are injured, devastated by the loss of their property, or searching for friends, family members, or lost pets. Some may be mourning the death of a loved one. In addition, you or another member of the Disaster Response Team may have been personally affected by the event.&lt;br&gt;The human impact of disasters can be very unsettling and stressful for Disaster Response Team members and may become overwhelming, particularly if you have suffered losses yourself. You need to be educated about recognizing the signs of stress and how to manage it. By managing stress levels and taking time to take care of yourself, you will be better prepared to help others during the deployment.</td>
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<tr>
<td><strong>Visual 5-24</strong>&lt;br&gt;The Human Impact of Disasters&lt;br&gt;Team members must deal with...&lt;br&gt;• Grieving or angry community members&lt;br&gt;• Personal impacts from the disaster&lt;br&gt;• High stress levels&lt;br&gt;• Fatigue</td>
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<tr>
<td><strong>Visual 5-24</strong> (Continued)</td>
<td>When debriefing Disaster Response Teams to gain a better understanding of the physical impact of the disaster, supervisors should also be aware of the mental impact – both to the community and to the responders. Following an event, a community should be prepared for an increased demand for mental health services. The need for Critical Incident Stress Management (CISM) should be acknowledged in emergency plans, and providers of mental health services, such as voluntary agencies, faith-based groups, and private agencies, should be pre-identified with contracts in place for support after a disaster.</td>
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<td><strong>Visual 5-25</strong></td>
<td>How can your community and the Damage Assessment Response Team in particular be better prepared to deal with the human impact of disaster?</td>
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| **Visual 5-26** | **Unit Summary**  
In this lesson, you learned about local damage assessment operations, including the recommended members and responsibilities of first-in teams and Damage Assessment Response Teams, as well as some basic procedures for conducting local damage assessment. You also received reminders about considerations for Damage Assessment Response Team members that extend beyond assessing damage.  
Remember, because all communities are different, specific procedures for damage assessment should be defined in the community-specific damage assessment plan. |

Local Damage Assessment