Transcript: Video 2 – Process Overview

Welcome to the Critical Infrastructure Assessment Tools - Overview video. This video will explain how to customize and complete the Critical Infrastructure Assessment Tool. This video will be useful to the community champion leading the assessment process as well as for any staff that will be using the Tool. As this video focuses on updating and using the Assessment Tool, the champion may find it useful to watch a few times before updating the Tool.

WHAT ARE THE FIRST STEPS A COMMUNITY SHOULD TAKE WHEN PERFORMING THIS ASSESSMENT?

Before using the Tool, there are a few steps the community needs to take. The first step is to identify a local champion who will be in charge of the process. This champion is usually a senior municipal employee who has some experience in asset management and emergency management. This champion should read through the support materials that accompany the Tool so that they have a good understanding of the process.

The second step is for the champion to schedule a 2-3 hour kick-off meeting and invite local government managers and directors from all departments to attend. This meeting is a venue for everyone to see the Tool and learn how to use it. The support materials provide more information about how to setup and structure this meeting.

Finally, the champion will need to customize the Tool and create a Hazard Scenario. The next portion of the video will provide an example of the Tool and Hazard Scenario in more detail and provide instructions on how to make these materials relevant to the community.

WHAT IS THE TOOL?

The Tool itself is an Excel spreadsheet that is organized into different sections. When using the Tool, the community is asked to fill in these sections. The first section lists the services a community offers residents; the second lists the equipment that a community uses to provide those services; and the third section lists the external goods-and-services that support the equipment. The Tool then highlights the relationship between each section.

HOW DO WE USE THE INTERNAL DEPENDENCIES WORKSHEET?

At first glance, the tool may look a little overwhelming. However, each part of the tool can help a community better organize information about its critical infrastructure.

The Tool contains three worksheets. The first worksheet is called Internal Dependencies. The second is called External Dependencies. And the third is called Parking Lot. The user can move between these spreadsheets by clicking on the sheet tabs at the bottom of the screen.

Let's start by looking at the first worksheet. The most important elements of the worksheet are a row along the top and a column along the left side. The row at the top lists all the goods and services offered by the local government to residents and for which the local government is responsible to provide. These can include goods and services the local government directly operates, like fire and rescue service, municipal roads, and issuing licenses and permits. They can also include services that are contracted by the local government, and could include garbage collection, snow clearing, and storm drains. Similar goods and services are grouped together in the spreadsheet.

The column at the left side lists all the assets that are owned by the local government. These assets are used to provide municipal goods and services and may include things like buildings, vehicles, roads, and staff. However, they do not include assets that are provided by outside agencies for the contract delivery of services. For example, a community may contract the Royal Canadian Mounted Police to provide local police services. The community would not include the RCMP assets because the RCMP is expected to provide these.

As a community uses the Tool, they would look at each service and list the assets needed to provide it. If an asset is critical to a service, the community will put a C meaning critical in the intersecting box. If an asset is important, the community will put an I meaning important in the intersecting box. These C's and I's will become important in a moment.

Along the bottom of the worksheet are two rows named Number of Critical Dependencies and Number of Important Dependencies. These rows add up the number of assets that are critical or important for a service. For example, a community may find there are 5 critical dependencies and 3 important dependencies for their Police Service. This means if the community loses one of those critical assets, they will not be able to offer Police services.

The column on the far right are also named Number of Critical Dependencies and Number of Important Dependencies. However, these columns add up the number of critical and important dependencies goods and services have on a specific asset. For example, a community may find there are 6 critical dependencies on their public works yard. This means if the works yard is unavailable, there will be 6 services that can no longer be offered to residents.

The number of Critical and Important Dependencies help reveal which assets are more heavily relied on as well as which services have a higher risk of becoming unavailable if assets are lost.

There are two other useful but optional parts on the Internal Dependencies worksheet. The first is the columns on the far left of the worksheet. These columns list a variety of hazards. The community should select one of these hazards to use as context for their discussions. There will be more detail on these hazards provided later in this video. The champion may choose to hide the hazards that aren't being discussed. This can be done by selecting the relevant columns, right clicking, and selecting Hide.

The second optional part of the worksheet are the first rows found at the top of the worksheet, listing Business & Organizations, Citizens, Local Authority Operations, and Other Local Authorities. When using the spreadsheet, a community may decide to indicate who has a dependency on each service. For example, Business & Organizations may have a Critical dependency on the Electrical Power Supply & Transmission Systems. This box would receive a C. Citizens, or local residents, may have an Important

dependency on this service. That box would receive an I. These dependencies are then tallied at the far right column, showing how each group might be impacted by the loss of the services. Again, both of these sections are optional and can be skipped the first few times a community uses the Tool.

HOW DO WE USE THE EXTERNAL DEPENDENCIES WORKSHEET?

We can now look at the second worksheet, External Dependencies. This worksheet will look familiar as it is setup similarly to the first worksheet but there is one key difference. While the column containing the assets is the same as the first worksheet, the goods and services row now describe services that are provided by an external agency. These are services that a community relies on to keep their equipment operating.

For example, a community using the first worksheet might have found their police service has a critical dependency on vehicles, regular staff, and police dispatch. On the second worksheet, the community will look at each asset and determine what services they rely on external to the local government. In this case, police vehicles will likely have a dependency on road networks, in the form of provincial roads. The community would mark the intersecting boxes the same way as the first worksheet - with C's for Critical dependencies and I's for Important dependencies.

As with the first worksheet, there are rows and columns calculating the Number of Critical Dependencies and Number of Important Dependencies. The bottom row will show how many assets depend on the same external service provider. The right hand column will show how many different service providers support an asset. These findings are important for understanding how reliant the community is on external services.

HOW IS THE TOOL CUSTOMIZED?

Each community will need to customize the spreadsheet to reflect their own situation. To do this, the champion will first need to create a list of goods and services they offer residents. The Tool provides examples of common services – hovering over the comment boxes will also provide some ideas of what goods and services could be included. At the far right of the services row is a section called Internal Assets That Are Services. This section is for items that are both assets and services at the same time. This could include public artwork, war memorials, and the municipal website.

Once the champion has finished creating a list of their goods and services, they can update this row. To delete a service, the user would right click on the column heading then select Delete. To add a good or service, the user has two options. They can either select one of the boxes that say Optional and type in the new good or service. Or they can add in a new column. To do this, the user would right click on the column heading beside where they would like the new column to appear and select "Copy". They would then right-click again and select "Insert Copied Cells". The new column would appear. The reason for doing the insertion this way is to maintain the formulas built into the spreadsheet.

Next, the champion will need to update the assets they own. The Tool provides an extensive list of assets and hovering over the comment boxes will also provide some ideas of what other assets would be included. However, it is important not to drill down too far into each type of asset. The Tool works best when assets are grouped based on how they are used. For example, hardware and tools can be grouped

as "Public Works Equipment"; fire hoses, axes and helmets can be grouped as "Firefighting Equipment", and so on. Also, there are a series of boxes that are highlighted in green. These green boxes are examples of goods and services that other communities added when customizing the tool. At the bottom of this column is a section called Internal Services That Support Internal Services. This section is for internal goods and services the local government uses to support other services. For example, Land-Use Planning and Permits may use GIS Services that are provided by another department of the local government.

Once the champion has finished creating a list of assets, they can update the Assets column. To delete an asset, the user would right click on the row heading then select Delete. To add an asset, the user can select one of the boxes that say Optional and type in the new asset. Or they can add in a new row by right-clicking on the row heading beside where they would like the new row to appear and select "Copy". They would right-click again and select "Insert Copied Cells". The new row would appear.

It is unlikely a community will offer every service listed on the Tool or own every asset. The champion will need to go through each good, service and asset in turn and update the Tool as needed.

Once the first worksheet has been customized, the champion will need to customize the second worksheet. To do this, the community will need to create a list of the goods and services they depend on to support their assets. The Tool provides examples of common services and hovering over the comment boxes will also provide some ideas of what goods and services could be included. The community may find it useful to use general terms such as water supply, 9-11 services, and hospitals as compared to naming specific service providers. This allows the community to think about the service that is needed, not just the agency they have contracted for the service. The champion should feel free to delete any goods or services that are not relevant to the community.

At the far right of the services row is a section called Internal Goods & Services That Support Internal Assets. This section is for goods and services that support locally-owned assets but which are actually provided by the local government. These may include amateur radio, municipal food inspection, and first responder radio networks. The user can add and delete services using the same process as the first worksheet.

Finally, the champion will need to update the assets column. These assets should be the same as the first worksheet, and can be updated by adding and deleting assets using the same process as the first worksheet. At the bottom of this column is a section called Internal Services Directly Supported By External Services. These should contain the same services that were found in the Internal Services That Support Internal Services in the first worksheet. This section may also include any internal services that rely directly on an external service. For example, a municipal website may be hosted on an external commercial server. This commercial service should appear in the Internal Services Directly Supported by External Services.

The Parking Lot worksheet is a place to record notes and ideas that don't fit into the first two worksheets. This might include inventory numbers, assumptions that were made in interpreting the scenario and items that need follow-up or clarification. This worksheet is for use by the champion as they see fit.

Once the customizations have been made to the first two worksheets, the Tool will be ready for use. However, the champion will still need to create a Hazard Scenario.

WHAT IS A HAZARD SCENARIO?

It is important to remember that not all infrastructure is critical all the time. Instead, specific assets, goods and services often become critical during certain emergencies. The Hazard Scenario is a written description of a hazard or emergency that is used to help participants think about what types of services would be needed during specific events.

Imagine a community that has chosen a flood as their hazard. As the participants work through the Tool, the champion should constantly be asking "does the community need this service during this particular emergency"? In the case of a flood, participants may find they need Police services to support an evacuation, Emergency Social Services to provide temporary housing and Debris Removal to help clear roads and property. With this in mind, participants would then look at the assets used to provide those services, and eventually the external services used to maintain those assets.

The Hazard Scenario is usually written as a one-or-two paragraph story. This story should provide just enough detail that participants can think about the impacts of the event on the community. The types of details that should be included are:

- The type of hazard or emergency,
- The time of year the event takes place in
- A ranking or measurement of the event, such as a magnitude 5.5 earthquake or a windstorm with 60 km/h winds
- Details about the types of damages that have occurred, and
- The specific timeframe of the scenario. For example, is the community looking at the first 12 hours, the first 48 hours, or even longer? This timeframe will give participants an understanding of when assets might become exhausted, such as fuel supplies being used up.

One of the community participants should write these details out into a brief narrative that can then be read out to the group. Here is an example narrative:

You should assume that a windstorm has arisen without warning. The storm had sustained winds of 100 km/h with gusts up to 120 km/h. The windstorm knocked down power lines on Main Street and First Avenue. Power is now out to the eastern half of the city and won't be back on for the next 12 hours. Older trees have fallen over and completely blocked the highway. Debris was blown into the reservoir and clogged the drinking water intakes. Cell phone reception is down. You should assume the storm just ended. We are going to look at the services the community will expect in the first 12 hours. If needed, we can add more detail to the scenario as we go along.

More instruction on how to write a Hazard Scenario is provided in the support materials.

HOW DOES THE COMMUNITY USE THE TOOL AND HAZARD SCENARIO?

Once the champion has customized the Tool and created a Hazard Scenario, they can organize the kick-off meeting. During the meeting, the champion would read out the Hazard Scenario. They would then

guide the participants in examining two or three services in order to learn how the worksheets function. Participants should begin on the Internal Dependencies worksheet and question if each service is necessary during the emergency. If the service is seen as necessary, the participants can then move through the list of assets and identify which are Critical and which are Important. They would then move onto the External Dependencies worksheet, examining only the assets that were seen as being Critical or Important on the Internal Dependencies worksheet. Once again, they would mark the appropriate boxes with Critical or Important. When needed, the champion would make notes in the Parking Lot.

WHAT ARE COMMON PROBLEMS COMMUNITIES RUN INTO WHEN USING THE TOOL?

Here are a few common problems that communities might run into on each worksheet:

INTERNAL DEPENDENCIES

There may be times when a service depends on a single asset but also another asset as a backup. For example, a fire hall may use electrical power as a primary asset but also use backup generators as a backup power supply. In cases like these, the community may choose to indicate primary assets are critical and backups are important - or vice-versa. What is important is they be consistent with this interpretation throughout the process.

EXTERNAL DEPENDENCIES

There may be times when it is hard to figure out what services each asset actually depends on. For example, can city hall function as an asset if it doesn't have access to water? Or power? Or phone service? Technically, the building is still standing and available, however without these services, it may not be useable. In cases like these, the community should think about the services that are being performed at or using the asset and consider whether the loss of that service makes the asset unusable.

Also, the community may find that some assets are actually accessed through other assets. For example, municipal vehicles may refuel at a pump located in the Public Works Yard. In these cases, the community should add fuel as a column in the Internal Goods & Services That Support Internal Assets section. This way, the relationship between the vehicles and the fuel isn't lost.

Above all, the community should try to be consistent in how they interpret each service and asset. This interpretation should be noted in the Parking Lot so that it can be referred to later in the meeting.

The next video will describe what happens once the kick-off meeting concludes.