

Minimum Computer Specifications & Internet Connection Considerations for Online Delivery



- Pentium 11+;
- 128 Mb RAM+;
- Flash 6; *(this freeware can be downloaded from the CARM Training website www.carmtraining.com – go to the e-learning button and scroll to the bottom of the page for the link)*
- IE5.5+;
- W98+;
- Sound card;
- Adobe Acrobat Reader 5+ *(this freeware can be downloaded from the CARM Training website www.carmtraining.com – go to the e-learning button and scroll to the bottom of the page for the link)*
- **Internet connection**
 - ⇒ The best connection and download speed will be achieved through using either a Broadband or ADSL connection. This will allow the programs to be completed in the specified time frames. (i.e. Robber Safety 45 min and Customer Aggression 1hr 15min not including assessment).
 - ⇒ A Dial-Up connection using a 56kps modem with 40 - 50K available bandwidth will provide optimal Dial-Up access to the e-learning programs. *(The programs will take approximately double the recommended completion time using a Dial-Up connection)*. Please note that if you are connecting via a Dial-Up you should confirm with your ISP the available bandwidth you have for download the training. You can check your download connection through the connection wizard when dialing up and it will indicate your connection speed (e.g. *it should indicate something like connecting at 41kbs / second*). Depending upon the geographical location from where you are connecting to the internet, you will be impacted by the number of people in the area using the bandwidth to connect to the internet. *(In this case you may have to view the program at a time when there is less demand on the network, particularly if you experience delays in downloading the program)*.

System Testing Indicates the following:-

There are **two key factors** that will influence the delivery or download speed of the online training programs, they are:-

- a) The time it takes the CARM training Cold Fusion server to assemble a page from the database &
- b) The transmission rates of the network, for which there is no 'cut and dry' answer to delivery speed.

Download time a function of both file size and bandwidth.

The following is a guide to the **Download Times Using A Dial-Up Connection** at 40kb/s and 30kb/s for both online training programs :-

A sample of each training module was taken to assess the average file size (flash / video). In addition we identify the largest and smallest files used in the programs .

Workplace Violence – standard version (no low bandwidth version)			
File Type	File size	Approx Download Speed for 40kbs	Approx Download Speed for 30kbs
Average flash file size	200K	40 sec	53 sec
Largest flash file size	795K	2.6 min	3.5 min
Smallest flash file size	62K	12.4 sec	16.5 sec
There are 10 files above	500K	1.6 min	2.2 min

Robbery Safety - low bandwidth version (video is used)			
File Type	File size	Approx Download Speed for 40kbs	Approx Download Speed for 30kbs
Average flash file size	150K	30 sec	40 sec
Largest video file size	784K	2.6 min	3.5 min
Smallest flash file size	52K	10.4 sec	13.8 sec
There are 3 files above	500K	1.6 min	2.2 min
Robbery Safety - High bandwidth version			
Largest video file size 1,716K - Note this program should not be selected for Dial-Up connections only Broadband / ADSL connections as this file size will take to long to download on a Dial-Up connection.			

COMPARISON ASSESSMENT – Conducted between Dial-Up & Broadband connections

A recent comparison assessment was conducted using both a Dial-Up connection and Broadband connection so as to reasonably assess program delivery times and connection speeds. The dial up connection was made from a location that did not have access to Broadband facility and the following outcomes were identified:-

- The Dial-Up connection speed was 46.6kbs
- The **introduction module** of the **low bandwidth uncensored version** of the robbery safety program was completed online in **10 minutes** .

At the same time using a Broadband connection the following was identified: -

- The **introduction module** of the **high bandwidth uncensored version** of the robbery safety program was completed online in **5min 30 sec** .

The results indicate that with a reasonable Dial-Up connection you should be able to complete the programs in approximately double the time it takes using a high bandwidth (Broadband) connection. Obviously there are a number of variables that will impact achieving this result, which are not limited to the following: -

- The bandwidth of a network can vary from second to second.
- The number of users who are on the system at any one time.
- If the effective bandwidth is reasonable, say 30K or better, the download time will be acceptable.
- Dial-Up connections, or systems where access to the Internet is shared by client users (i.e. one Internet connection feeding a number of client computers) the effective rate can come down significantly.