One embodiment of a method 1900 under the general aspects described here is shown in Figure 19. The method commences at start block 1901 and control proceeds to block 1910 for determining one or more gradients for reference pixels surrounding a current video block. Control proceeds from block 1910 to block 1920 for determining an intra prediction mode to use for encoding the current video block based on said gradients Control proceeds from block 1920 to block 1930 for encoding the current video block using the determined intra prediction mode.

One embodiment of a method 2000 under the general aspects described here is shown in Figure 20. The method commences at start block 2001 and control proceeds to block 2010 for determining one or more gradients for reference pixels surrounding a current video block. Control proceeds from block 2010 to block 2020 for determining an intra prediction mode to use for decoding the current video block based on said gradients Control proceeds from block 2020 to block 2030 for decoding the current video block using the determined intra prediction mode.

Figure 21 shows one embodiment of an apparatus 700 for encoding, decoding, compressing, or decompressing video data using extended reference area for decoder intra mode derivation. The apparatus comprises Processor 710 and can be interconnected to a memory 720 through at least one port. Both Processor 710 and memory 720 can also have one or more additional interconnections to external connections.

Processor 710 is also configured to either insert or receive information in a bitstream and, either compressing, encoding, or decoding using any of the described aspects.

The embodiments described here include a variety of aspects, including tools, features, embodiments, models, approaches, etc. Many of these aspects are described with specificity and, at least to show the individual characteristics, are often described in a manner that may sound limiting. However, this is for purposes of clarity in description, and does not limit the application or scope of those aspects. Indeed, all of the different aspects can be combined and interchanged to provide further aspects. Moreover, the aspects can be combined and interchanged with aspects described in earlier filings as well.

The aspects described and contemplated in this application can be implemented in many different forms. Figures 22, 23, and 24 provide some