ANPR Quick Guide via Web

Contents

1 Introduction

Vehicle Detection is available for the road traffic monitoring. The vehicle detection detects passing vehicles and captures the license plates. The detection triggers a series of actions, such as notifying the surveillance center, uploading the captured picture to FTP server, etc.

2 Web Configuration

Login IPC via web browser and make sure the firmware version supports ANPR.

2.1 Detection Configuration

1. Go to ***Advanced Configuration->Road Traffic*** option. Select the detection type from the list. ***Vehicle Detection*** can be selected.

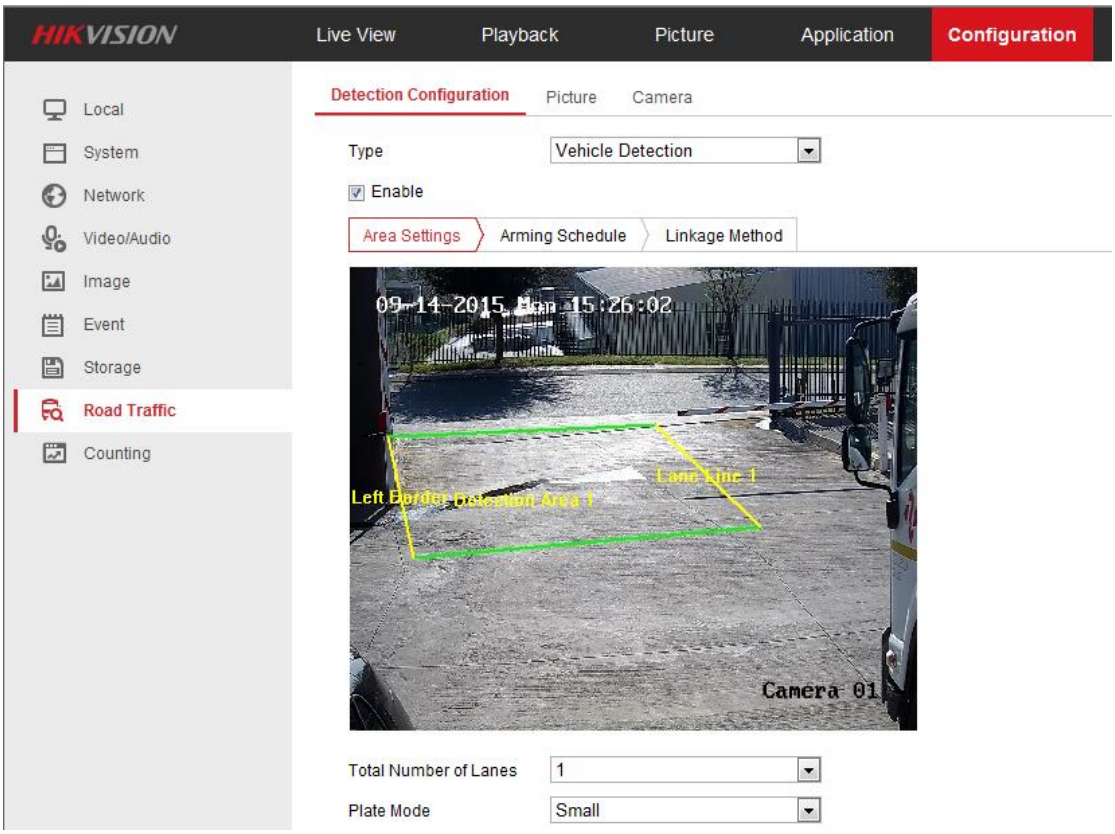

Fig.1 Enable Vehicle Detection

2. Enable the selected detection function.
3. Click and drag the lane line to set the position, or click and drag the line end to adjust the length and angle. The area surrounded by yellow and green lines stands for the detection area or the area of interest.
4. For high accuracy rate, it is necessary to set the right plate mode.
   Get some snapshots manually when the license plate appears in the detection area, and measure the height pixels as Fig.2 shows. If the height of effective characters is in

the range of 20 to 30 pixels, the small mode is preferred, and if between 31 and 40, the large mode is recommended.

In general, the large mode is suitable for the entrance application, and the small mode for the road application.

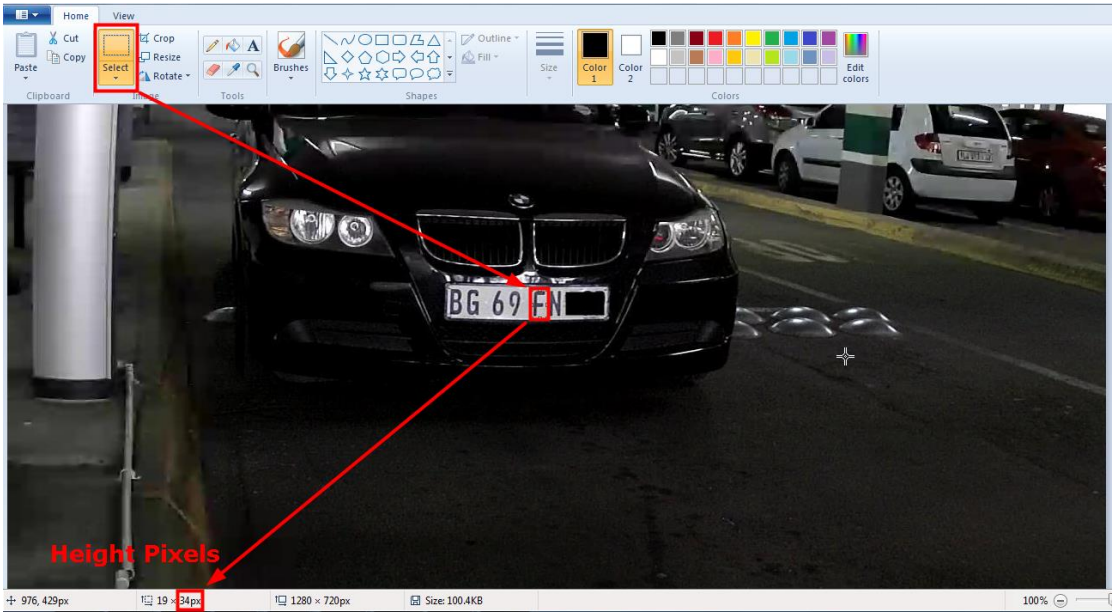

Fig.2 Measure the Plate Width

5. (***Optional***) Arming Schedule is set into 24/7 by default and can be modified if necessary.

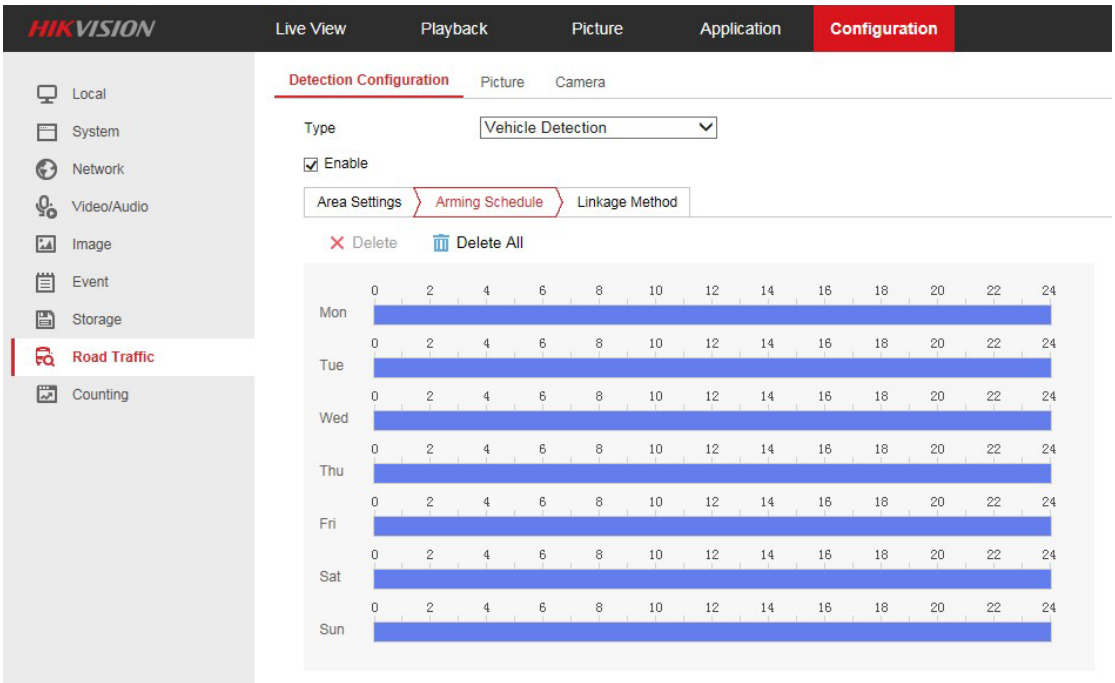

Fig.3 Arming Schedule Configuration

6. (***Optional***) "Notify Surveillance Center" is checked by default, and other linkage methods such as "Upload to FTP" and "Trigger Alarm Output" is selectable.

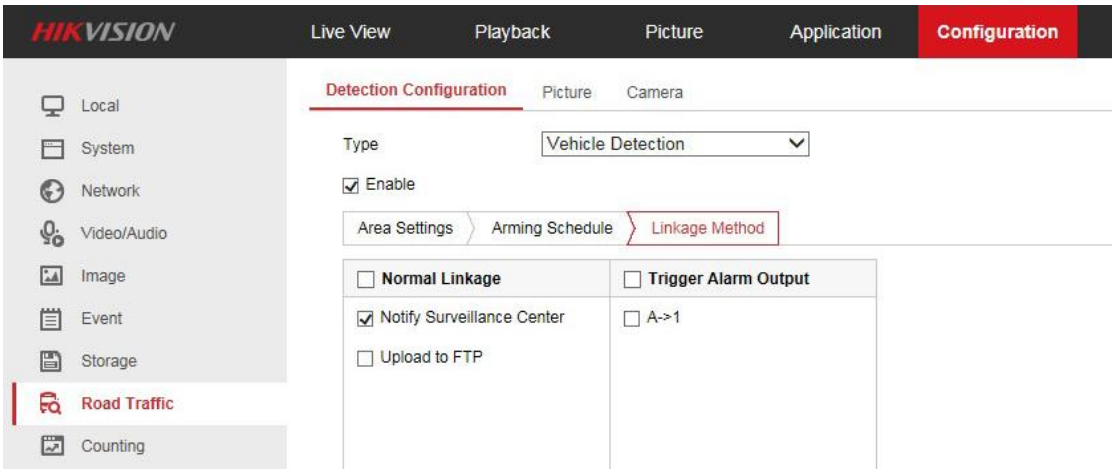

Fig.4 Linkage Method Configuration

Notify Surveillance Center:

Send an exception or alarm signal to remote management software when an event occurs.

2.2 *(Optional)* Uploaded Picture Configuration

1. Set the picture quality

Picture Quality can be set to specify the picture quality and size.

2. Enable and edit the text overlay on the uploaded picture.

You can set the font color and background color by clicking the desired color in the popup palette.

3. Select the information for the text overlay, including ***camera No.***, ***camera info***, ***device No.***, ***capture time***, ***plate No.***, ***vehicle color***, etc. You can also click the up and down direction buttons to adjust the sequence of the text.

4. Click ***Save*** to save the settings.

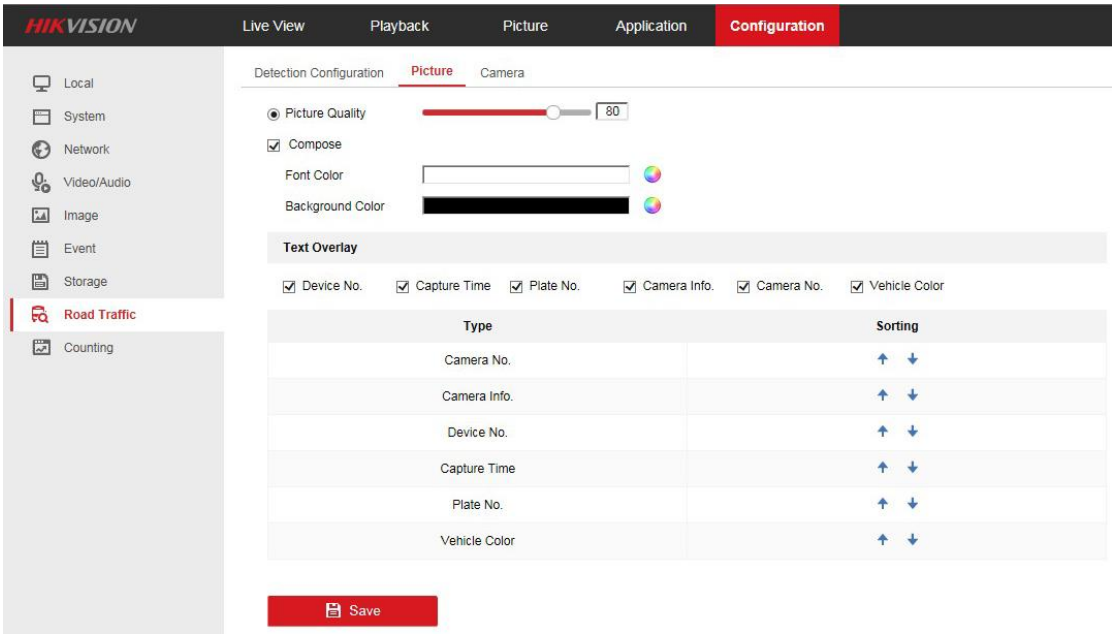

Fig.5 Uploaded Picture Configuration

2.3 *(Optional)* Overlay Content Configuration

1. Edit the content of the ***Device No.***, ***Camera No.*** and ***Camera Info.*** in the corresponding text filed.
   Enable and edit the text overlay on the picture to upload.
2. Click the ***Save*** button to activate the settings.

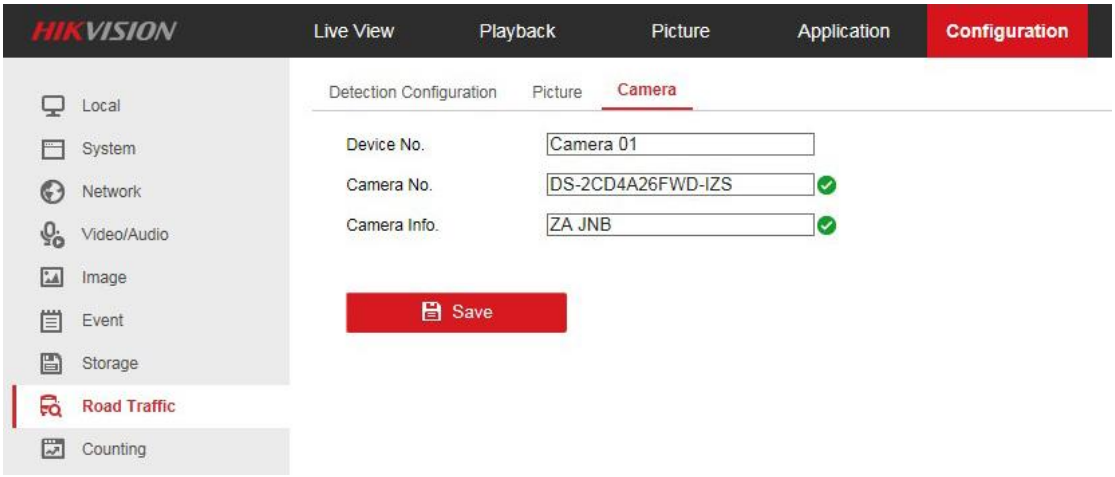

Fig.6 Overlay Content Configuration

3 Result Query

Go to ***Pictures***, and select ***Vehicle Detection*** option**.** You can search for the plate picture and information on the SD card.

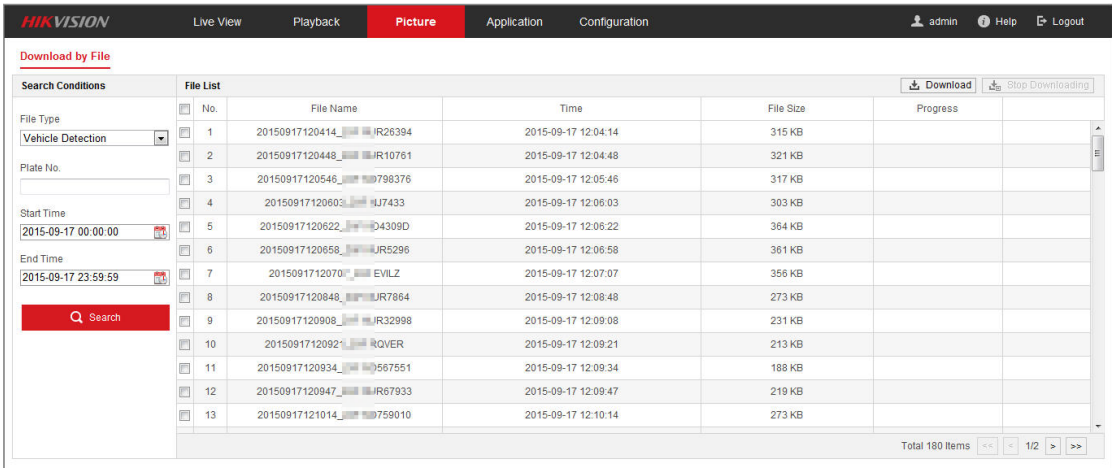

Fig.7 Search for License Plate Pictures

4 Parameter Recommendation

For the best ANPR performance, you need to set the suitable image parameters. Here are some parameter recommendations.

Exposure Time: 1/200, 1/250 or 1/500 (as long as there is no trailing in day or night)
Gain: From 20 to 30 (as long as the plate is not overexposed under the IR-light)
Focus Mode: Manual (only for motorized lens)
Smart IR: ON (when the lights of the vehicle is too strong)
BLC Area: OFF
WDR: OFF

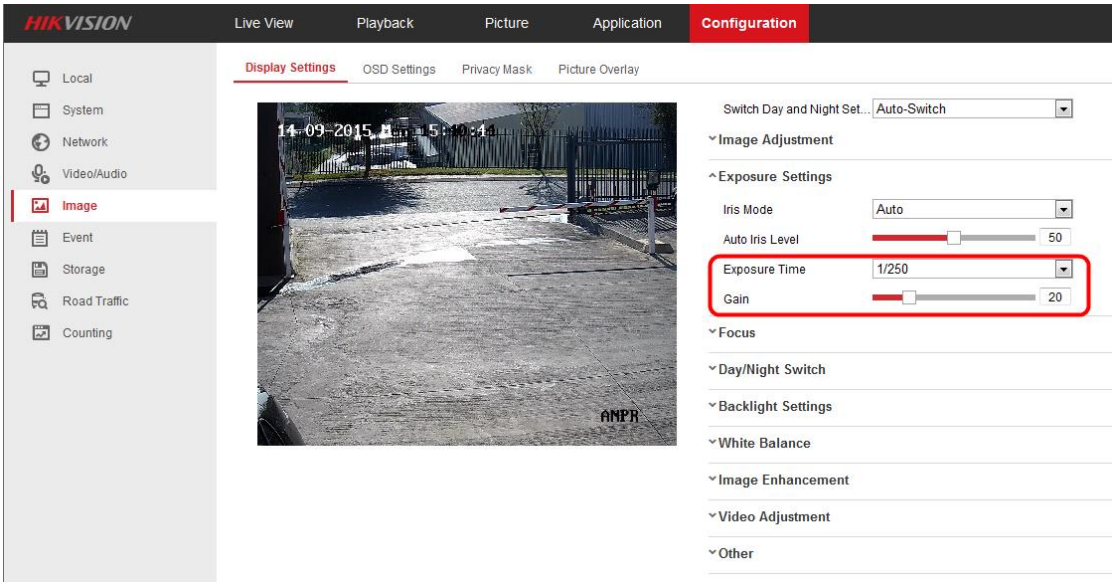

Fig.8 Recommended Exposure Time and Gain

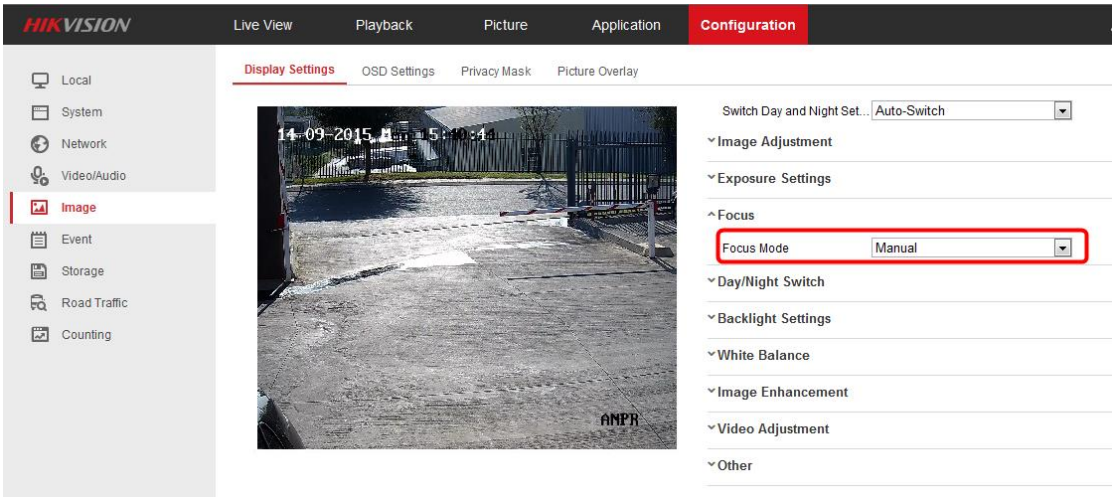

Fig.9 Recommended Focus Mode

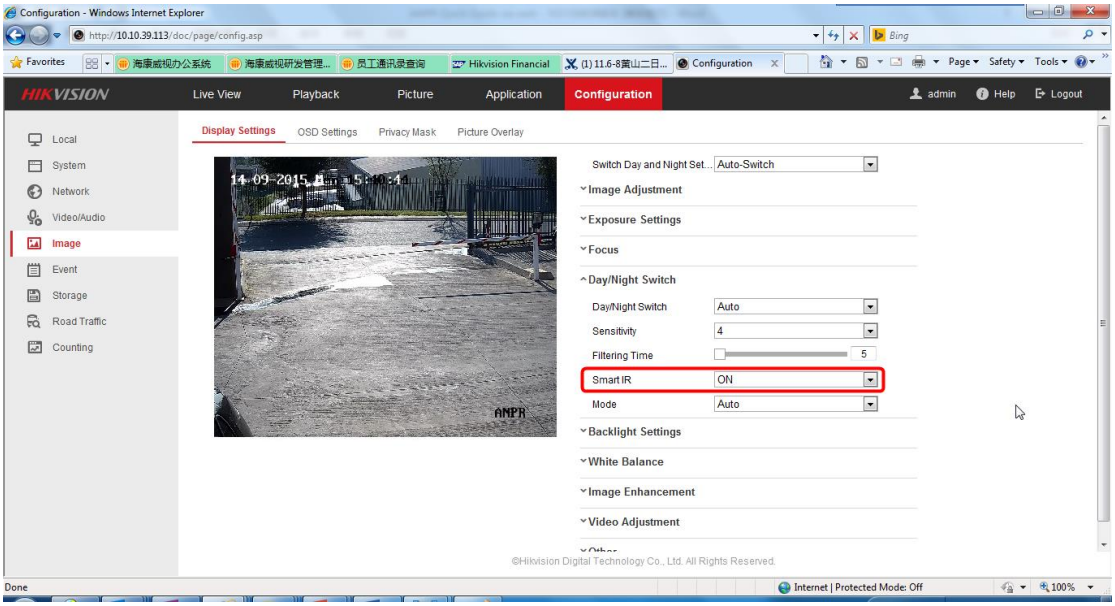

Fig.10 Recommended Smart IR

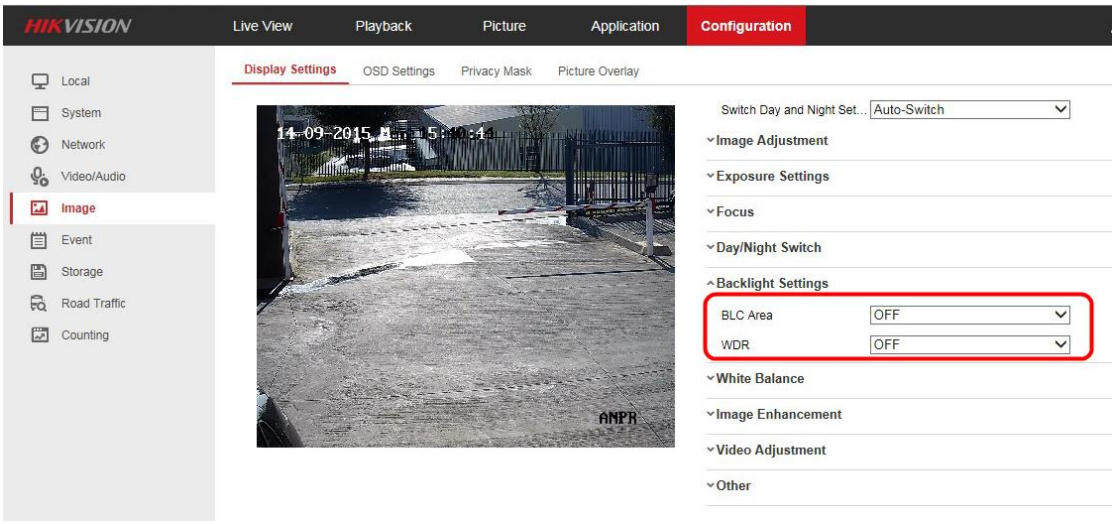

Fig.11 Recommended BLC and WDR

5 FAQ

5.1 License plate tilt angle

Solution: Notice the license plate tilt angle. License plate tilt angle must be within +/-5 degrees.

5.2 Depth of focus

Solution: Notice the focus distance of the camera. Car with a green frame will be detected, and other cars will not. Adjust the focus distance to a proper degree.

For these examples, you can adjust the focus distance or shutter speed.

5.3 Lighting

Solution: License plate is overexposed, image parameters should be adjusted. You can ether adjust the shutter speed, or disable the IR-Led(for the night)

5.4 License plate width

Solution: It seems that LP is well lit and readble by eye. However, if we measure full frame in photoshop, we will see that ANPR width is under 190px which is not enough. License plate width in the frame should be increased and be at least 90 pixels.

5.5 Low sharpness

Analysis: With proper sharpness value, license plate number can be clear.

5.6 Insufficient light

Analysis: Recognition performance is degraded with insufficient light. The camera must be set to night mode and infrared light should be used.

5.7 High Exposure time

Solution: Reduce the exposure time to 1/250 or 1/500 depending on vehicle speed and lighting.

6 Revision History

Revision History	Description	Reviser	Date
Version 1.0 Revision 1	Initial version	Shuixiu You	2015-10-23