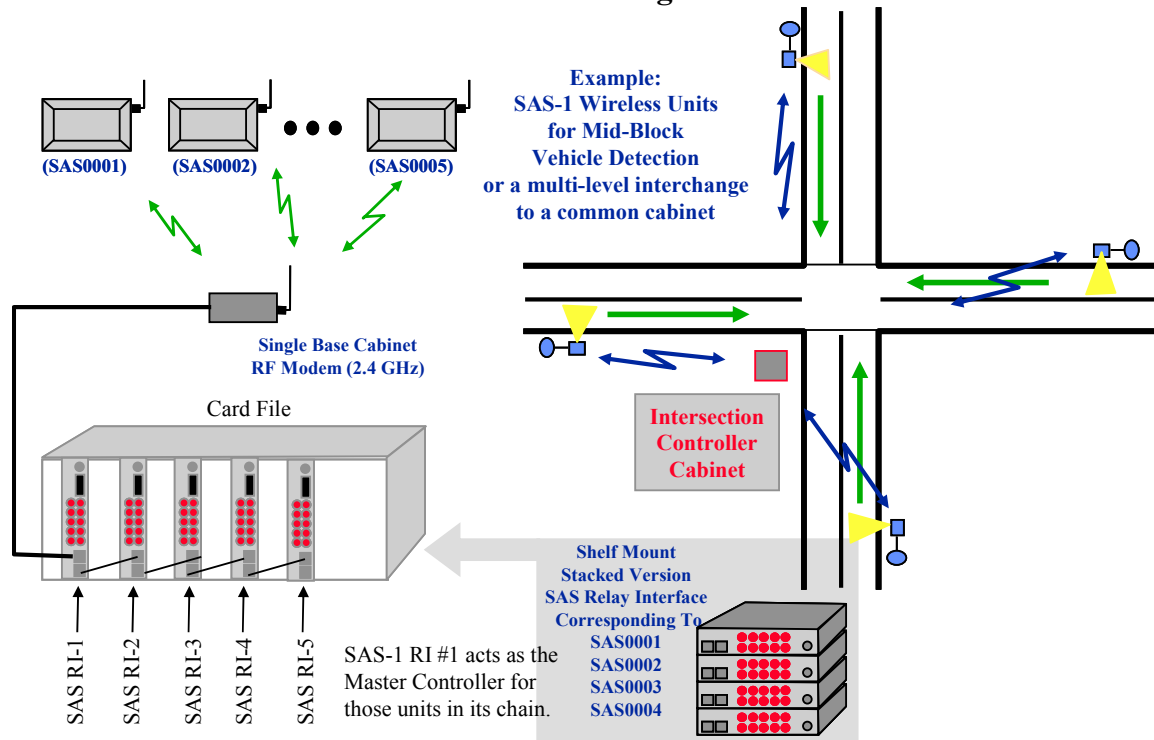


## System or Advance Detection

1. The SAS-1 detector can be used as a replacement for embedded loops from a side fire position in an urban environment. This allows sensors to be put into place without entering the road and tying up traffic.
2. The SAS-1 wireless capability enables the system to be installed on up to five approaches per intersection control base-station and still maintain a fast enough link for real-time operation into a controller with relay interfaces (Type 170, TS-1, TS-2.) (Increasing the number to 6 approaches causes the system to have greater than 50 msec latency which we think is unacceptable). This allows an intersection that is “non-standard” with more than the classic four approaches to be instrumented. The wireless capability coupled with a low power requirement of less than 3 watts per detector site enables solar power panels to supply the remote wireless detector, removing the need for homerun wires to the cabinet entirely. A diagram for this is shown here.

### Multiple System Vehicle Detectors Using The SAS-1 Traffic Sensor in a wireless configuration



Pictures of a typical installation of this type feeding an Econolite controller with Autoscope video detection at the stop line are here:



Typical mid-block and mid-ramp applications.

In this case, the simple 16 foot PED poles were used along side of road because the customer was not trying to get an accurate lane by lane count, just presence of passing vehicles regardless of the lane. For applications where vehicle count and per vehicle speed is important, an installation at heights higher than this will be necessary to remove the effects of occlusion as much as possible.

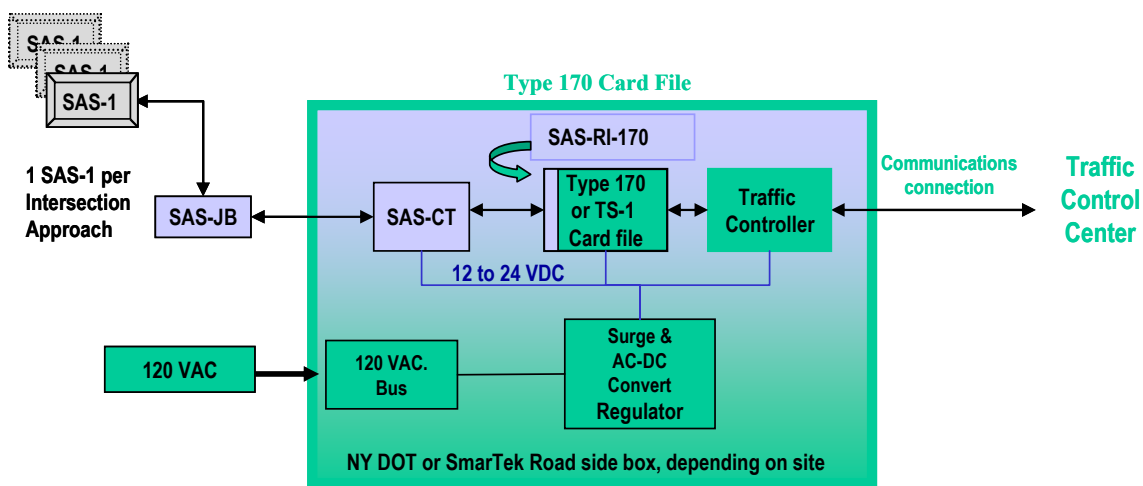
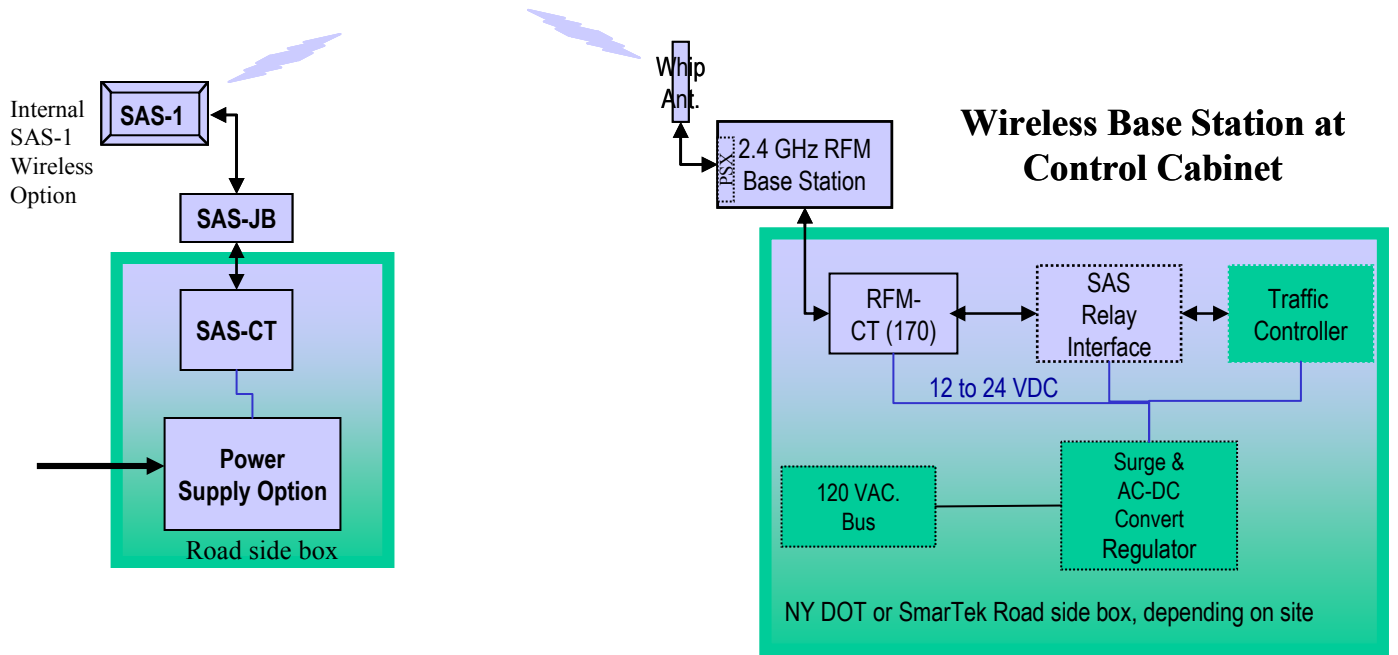
Required equipment

SAS-1

Wireless option per SAS-1 with base station and Base-CT and SAS-Relay

Configuration options

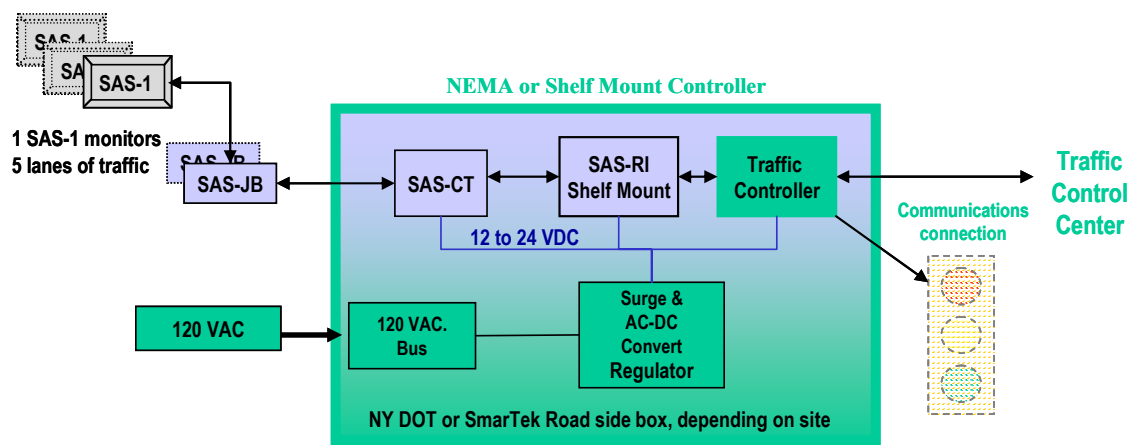
Direct input to controller if the controller is able to have SAS-1 Protocol in its system

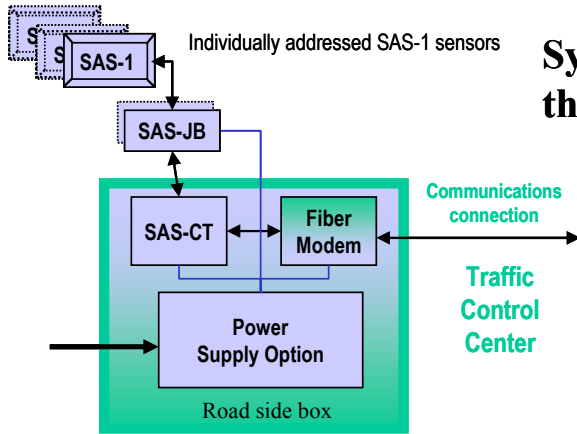


**General description:**

This is the general use site, where one or more SAS-1's are being used to replace traditional loops as inputs

to the controller either via hardware or wireless home run. In Each SAS-1 has a relay interface to the traffic controller. Variations allow SAS-1 to have either a card file input or a shelf mount interface into a NEMA type controller, just like a typical loop detector relay card. The traffic controller can be used in ITS applications to report traffic conditions, or as a controller at a signalized intersection. The SAS-1 is set up to provide a single or dual loop emulation in the ITS configuration, while it is used as a true presence detector in the configuration at traffic intersection stop lines.





## System Detector Only -- Eliminate the Traffic Controller Interface

Another variation on the ITS or System traffic monitoring site does away entirely with the cabinet controller and large cabinet. The SAS-1 reports either asynchronously or is polled for traffic information directly by the traffic control center, in this case via fiber modem, reducing the size and power requirements of the traffic monitoring site.